

Agenda Including Addeds

Civic Works Committee

The 3rd Meeting of the Civic Works Committee

March 2, 2021, 12:00 PM

2021 Meeting - Virtual Meeting during the COVID-19 Emergency

Please check the City website for current details of COVID-19 service impacts.

Meetings can be viewed via live-streaming on YouTube and the City website

Members

Councillors E. Pelosa (Chair), J. Helmer, M. Cassidy, P. Van Meerbergen, S. Turner,
Mayor E. Holder

The City of London is committed to making every effort to provide alternate formats and communication supports for Council, Standing or Advisory Committee meetings and information, upon request. To make a request for any City service, please contact accessibility@london.ca or 519-661-2489 ext. 2425. To make a request specific to this meeting, please contact CWC@london.ca

	Pages
1. Disclosures of Pecuniary Interest	
2. Consent	
2.1. 1st Report of the Cycling Advisory Committee	6
2.2. Dingman Drive Improvements - Appointment of Consulting Engineer - Detailed Design and Tendering	8
2.3. Wharncliffe Road South Improvements: 100 Stanley Street Update	13
a. <i>(ADDED) K. McKeating, Architectural Conservancy Ontario</i>	20
2.4. Highway 401 / Dingman Drive Bridge Replacement - Agreement with Ministry of Transportation	22
2.5. Greenway and Adelaide Wastewater Treatment Plants Climate Change Resiliency Class Environmental Assessment Consultant Award	36
2.6. Contract Award: 2021 Watermain Cleaning and Relining Program, RFP 20-23	43
a. <i>(ADDED) Revised Maps</i>	52
2.7. Amendments to the Traffic and Parking By-law	55
2.8. Dundas Place - Temporary Bicycle Lanes and Revised Parking Limits	60
a. <i>(ADDED) A. Hunniford, By E-mail</i>	67
b. <i>(ADDED) D. Isaac, By E-mail</i>	69
c. <i>(ADDED) D. Pihlainen, By E-mail</i>	73
d. <i>(ADDED) M. Battista, By E-mail</i>	74
e. <i>(ADDED) S. Wright, By E-mail</i>	75

f.	(ADDED) B. Cowie, London Bicycle Cafe	76
g.	(ADDED) D. Vanden Boomen, By E-mail	78
2.9.	Award of Consulting Services for Detailed Design and Tendering for a New Landfill Gas Flaring Station	79
2.10.	Community Employment Benefits	86
a.	(ADDED) S. Middleton, United Way Elgin Middlesex - REQUEST FOR DELEGATION STATUS	101
b.	(ADDED) M. Courey, Inclusive Economy London and Region - REQUEST FOR DELEGATION STATUS	103
2.11.	2020 External Audit of London's Drinking Water Quality Management System and 2020 Management Review	106
2.12.	Public Transit Infrastructure Fund (PTIF): Approval of Amending Agreement	110
2.13.	Street Renaming Portion of Darlington Place (Plan 33M-773)	141
3.	Scheduled Items	
3.1.	Item not to be heard before 12:00 PM - Blue Community Program	
a.	Delegation - L. Brown, Blue Community Committee	
b.	Staff Report	147
3.2.	New Sidewalks in 2021 Infrastructure Reconstruction Projects	
a.	Delegations	
	(Note: Approved Delegations have been referred to a special meeting to be held on March 15, 2021.)	
b.	Related Communications:	
a.	J. Lucente	150
b.	F. Lucente	152
c.	A. and H. Spriet	154
d.	K. McCabe	155
e.	J. and S. Miller	156
f.	E. Craven	157
g.	D. McCagherty	158
h.	J. Stewart	159
i.	Petition for St. Anthony Road - J. Miller and J. Lucente	160
	(Note: A petition containing approximately 149	

signatures is on file in the City Clerk's Office.)

j.	M. and D. Kernohan	162
k.	B. Derksen	163
l.	Petition for Tarbart Terrace - W. Yovetich and R. Tribe	164
	(Note: A petition containing approximately 62 signatures is on file in the City Clerk's Office.)	
m.	H. Lightbody	166
n.	M. Judson	167
o.	E. Soares	168
p.	L. and B. McCauley	169
q.	L. Andrusiak	171
r.	S. Skaith	172
s.	M. and D. McKeown	173
t.	J. and G. Kafka	174
u.	E. Haddad	175
v.	L. Kari and S. Watt	176
w.	Petition for East Afton Place - T. McLeod	227
	(Note: A petition containing approximately 10 signatures is on file in the City Clerk's Office.)	
x.	G. Cervoni	228
y.	B. and M. Kelman	229
z.	G. and C. Alexander	230
aa.	J. Stock	231
ab.	G. O'Neill and H. Maxwell	232
ac.	S. and W. Handler	233
ad.	J. Brown	235
ae.	R. Tribe	236
af.	L. Dang	237
ag.	J. and S. Mitchell	238
ah.	P. Cobrin	240
ai.	Petition for Bartlett Crescent - D. Cuthbert	241

(Note: A petition containing approximately 62 signatures is on file in the City Clerk's Office.)

<i>aj.</i>	<i>(ADDED) C. Cartman and A. Lim</i>	<i>244</i>
<i>ak.</i>	<i>(ADDED) M. Mannering</i>	<i>245</i>
<i>al.</i>	<i>(ADDED) J., C., and J. Mount</i>	<i>248</i>
<i>am.</i>	<i>(ADDED) L. McColl</i>	<i>249</i>
<i>an.</i>	<i>(ADDED) G. Reid</i>	<i>250</i>
<i>ao.</i>	<i>(ADDED) P. Houghton</i>	<i>251</i>
<i>ap.</i>	<i>(ADDED) E. and J. Hoffman</i>	<i>252</i>
<i>aq.</i>	<i>(ADDED) R. and G. Stoddart</i>	<i>253</i>
<i>ar.</i>	<i>(ADDED) L. Seguin</i>	<i>254</i>
<i>as.</i>	<i>(ADDED) J. Madill</i>	<i>255</i>
<i>at.</i>	<i>(ADDED) J. Potter</i>	<i>256</i>
<i>au.</i>	<i>(ADDED) R. Frise</i>	<i>258</i>
<i>av.</i>	<i>(ADDED) M. Cole</i>	<i>259</i>
<i>aw.</i>	<i>(ADDED) C. Boydell</i>	<i>261</i>
<i>ax.</i>	<i>(ADDED) G. Morrow</i>	<i>262</i>
<i>ay.</i>	<i>(ADDED) I.A. Connidis</i>	<i>263</i>
<i>az.</i>	<i>(ADDED) L. Brooke</i>	<i>264</i>
<i>ba.</i>	<i>(ADDED) B. and V. Bradley</i>	<i>265</i>
<i>bb.</i>	<i>(ADDED) B. and L. McGarvey</i>	<i>266</i>
<i>bc.</i>	<i>(ADDED) A. J.</i>	<i>267</i>
<i>bd.</i>	<i>(ADDED) S. Connolly</i>	<i>268</i>
<i>be.</i>	<i>(ADDED) P. and J. Gonser</i>	<i>269</i>
<i>bf.</i>	<i>(ADDED) K. Haine</i>	<i>270</i>
<i>c.</i>	<i>(ADDED) Request for Delegation Status at the March 15, 2021 Special Meeting</i>	
<i>a.</i>	<i>(ADDED) E. Craven</i>	<i>271</i>
<i>b.</i>	<i>(ADDED) J. McColl</i>	<i>272</i>
<i>c.</i>	<i>(ADDED) A. Harris-Schulz</i>	<i>273</i>
<i>d.</i>	<i>(ADDED) M. Mannering</i>	<i>274</i>

4. Items for Direction

5. Deferred Matters/Additional Business

5.1. Deferred Matters List

6. Adjournment

Cycling Advisory Committee

Report

The 1st Meeting of the Cycling Advisory Committee

February 17, 2021

Advisory Committee Virtual Meeting - during the COVID-19 Emergency

Attendance PRESENT: J. Roberts (Chair), B. Cowie, C. DeGroot, B. Hill, J. Jordan, C. Pollett and O. Toth and H. Lysynski (Acting Committee Clerk)

ABSENT: E.L. Raftis

ALSO PRESENT: J. Ackworth, G. Dales, J. Dann, S. Harding, P. Kavcic, D. MacRae, L. Maitland, A. Miller, A. Pasqual, J. Patel, C. Saunders, K. Scherr, M. Schulthess, J. Stanford, S. Wilson and P. Yanchuk

The meeting was called to order at 4:05 PM

1. Call to Order

1.1 Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

1.2 Election of Chair and Vice-Chair for the remainder of the current term

That, the following actions be taken with respect to the election of Chair and Vice Chair, until the end of the current term:

a) it BE NOTED that the Cycling Advisory Committee elected J. Roberts as Chair; and,

b) it being noted that the election of Vice Chair BE POSTPONED to the next meeting.

2. Scheduled Items

None.

3. Consent

3.1 4th Report of the Cycling Advisory Committee

That it BE NOTED that the 4th Report of the Cycling Advisory Committee, from the meeting held on February 19, 2020, was received.

3.2 Letter of Resignation - R. Henderson

That it BE NOTED that the resignation of R. Henderson from the Cycling Advisory Committee, was received.

3.3 Notice of Planning Application - Draft Plan of Subdivision Official Plan and Zoning By-law Amendment - 14 Gideon Drive and 2012 Oxford Street

That it BE NOTED that the Notice of Planning Application, dated February 10, 2021, from S. Meksula, Senior Planner, Development Services, with respect to the Draft Plan of Subdivision Official Plan and Zoning By-law

Amendments for the properties located at 14 Gideon Drive and 2012 Oxford Street West, was received.

3.4 Ridout Street South and Upper Queen Street at the Commissioners Road Intersection

That it BE NOTED that the communication dated February 9, 2021, from D. MacRae, Director, Roads and Transportation and G. Dales, Division Manager, Transportation Planning and Design, with respect to Ridout Street South and Upper Queen Street at the Commissioners Road intersection, was received.

3.5 Adelaide Street North at CP Railway Grade Separation ("Adelaide Underpass")

That it BE NOTED that the presentation, appended to the agenda, from P. Kavcic, Transportation Planning and Design and J. Ackworth, Municipal Roads, WSP Canada Inc., with respect to the Adelaide Street North at CP Railway Grade Separation ("Adelaide Underpass"), was received.

4. Sub-Committees and Working Groups

None.

5. Items for Discussion

5.1 Service Area Work Plan for 2021

That it BE NOTED that the Service Area Work Plan for 2021 presentation, appended to the agenda, from K. Scherr, Managing Director, Environmental and Engineering Services & City Engineer, D. MacRae, Director, Roads and Transportation, J. Dann, Director, Major Projects and J. Stanford, Director, Environmental Fleet and Solid Waste, was received.

5.2 Respectful Workplace Policy

That it BE NOTED that the Respectful Workplace Policy document, as appended to the agenda, was received.

5.3 CAC Terms of Reference

That it BE NOTED that the Cycling Advisory Committee (CAC) held a general discussion with respect to the CAC Terms of Reference document, as appended to the agenda.

5.4 Advisory Committee Review

That it BE NOTED that the Cycling Advisory Committee held a general discussion with respect to the ongoing Advisory Committee Review; it being noted that a verbal update from C. Saunders, City Clerk, was received with respect to this matter.

6. Adjournment

The meeting adjourned at 5:18 PM.

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: Dingman Drive Improvements - Appointment of Consulting
Engineer - Detailed Design & Tendering

Meeting on: March 2, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions BE TAKEN with respect to the Appointment of a Consulting Engineer for the Dingman Drive Improvements Project:

- (a) AECOM Canada Ltd. BE APPOINTED Consulting Engineers to complete the detailed design and tendering services of the Dingman Drive Improvements Project, in the total amount of \$490,426.00, including contingency, excluding HST; in accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy;
- (b) the financing for this project BE APPROVED as set out in the Sources of Financing Report attached, hereto, as Appendix 'A';
- (c) the Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with this project;
- (d) the approvals given, herein, BE CONDITIONAL upon the Corporation entering into a formal contract with the consultant for the work; and,
- (e) the Mayor and the City Clerk BE AUTHORIZED to execute any contract or other documents, if required, to give effect to these recommendations.

Linkage to the Corporate Strategic Plan

Municipal Council's 2019-2023 Strategic Plan identifies "Building a Sustainable City" and "Growing our Economy" as strategic areas of focus. The following report supports the Strategic Plan by implementing and enhancing safe and convenient mobility choices for transit, pedestrians, cyclists and automobile users.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- May 21, 2019 - Strategic Priorities and Policy Committee - Approval of 2019 Development Charges By-Law and DC Background Study.
- February 5, 2019 - Civic Works Committee - Dingman Drive East of Wellington Road to Highway 401 and Area Intersections Improvements Environmental Assessment - Appointment of Consulting Engineer.
- June 23, 2020 - Civic Works Committee - Dingman Drive East of Wellington Road to Highway 401 and Area Intersections Improvements - Environmental Study Report.

1.2 Purpose

This report seeks the approval of the Municipal Council to appoint AECOM Canada Ltd as the consulting engineer to carry out the detailed design and tendering services for

the Dingman Drive Improvements from east of Wellington Road to the east of the Highway 401 overpass.

1.3 Background

Dingman Drive is an east-west Civic Boulevard and currently consists of a two-lane rural cross section with no sidewalks or cycling facilities. With future growth and increasing traffic forecasted in the area, this project will bring the corridor up to current design standards. An Environmental Study Report (ESR) for the Dingman Drive corridor and the Dingman Drive and White Oak intersection was approved by Council in June 2020. The ESR identified the transportation infrastructure needs for the Dingman Drive corridor, from east of Wellington Road to the east of the Highway 401 overpass (identified as Phase 1 in the ESR) and identified improvements to the intersection of Dingman Drive and White Oak Road (identified as Phase 2 in the ESR). The transportation improvements will result in improved safety for all road users including transit riders, pedestrians, cyclists and motorists. The improvements will enhance the overall road network and provide better connectivity to adjacent communities by following the City's Complete Streets Design Manual approach. These improvements were identified as a priority in the 2019 Transportation Development Charges Background Study due to the future redevelopment that is anticipated near Wellington Road and Highway 401. The anticipated developments will increase traffic and turning movements in the area significantly.

Subject to Council direction, the City will proceed with detailed design of Phase 1, which extends approximately 1.2 km along Dingman Drive from 150 m east of Wellington Road to the east of the Highway 401 overpass. The Phase 2 improvements to the nearby intersection of Dingman Drive and White Oak Road are scheduled for construction in 2027 and the detailed design will be initiated at a later date. See the map of project areas below.



Figure 1: Project Area Map

2.0 Discussion and Considerations

2.1 Project Description

This assignment will create the detailed design for improvements to Dingman Drive, between Wellington Road and the Highway 401 overpass. This is in response to future area development, and in particular, the London Gateway development, located near the northwest corner of Wellington Road and Dingman Drive,

The recommended improvements for this corridor will accommodate the existing and future travel demands and improve traffic safety. This is an important connection to serve residential, agriculture, and industrial transportation needs in London and the surrounding areas. The Dingman Drive improvements will also provide connectivity for users of the Murray Marr trail by connecting to the soon to be widened Dingman Drive Highway 401 overpass.

As recommended in the ESR, Dingman Drive from Wellington Road to the Highway 401 overpass will be widened to a four-lane urban cross-section that will include multi-use paths, sidewalks, localized turning lanes, curbs, and illumination improvements.

The consultant assignment will consist of providing detailed design and tendering services for the Dingman Drive corridor. Detailed design and tendering will consist of field investigations, approvals from associated agencies, preparation of drawings, contract documents, and cost estimates for review by City staff.

2.2 Construction Considerations

The funding for the reconstruction of Dingman Drive from east of Wellington Road to the Highway 401 overpass is available as early as 2021 as identified in the 2019 Development Charges Background Study. Considering the timing of adjacent development and the necessary timelines for approvals, design and property acquisition, the construction of the Dingman Drive improvements are likely anticipated to be completed in 2023. Coordination of municipal road improvements with the adjacent development will continue.

Coordination with property owners, London Hydro, and regulatory agencies is planned for early in the design process, providing ample time for consultation. Network traffic management and a communications plan will be developed during detailed design to inform road users, outline detours during closures and instruct local traffic movement. Access to commercial and industrial properties will be maintained during construction.

2.3 Procurement Process

AECOM Canada Ltd. was the City's consultant for this project environmental assessment (EA) and successfully completed the study. AECOM was selected to undertake the EA after a two-stage competitive consultant procurement process in accordance with the Procurement of Goods and Services Policy Section 15.2 (e) in which the assignment was publicly advertised and firms were subsequently invited to submit detailed proposals.

Due to AECOM's knowledge and experience on similar design projects, combined with the positive performance during the EA, AECOM was invited to submit a proposal to carry out the detailed design and tendering services of this project.

City staff have reviewed the fee submission in detail considering the hourly rates provided by each of the Consultant's staff members. City staff have confirmed that hourly rates are consistent with those submitted through the competitive process. City staff also reviewed the time allocated to each project related task. The amount of time allocated to each project task is consistent with prior projects of a similar nature that have been awarded through a competitive process.

Given the consultant's specific knowledge and understanding of the project, it is recommended, in accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy, that AECOM be awarded the consulting assignment for the detailed design and tendering services for the Dingman Drive improvements.

The continued use of AECOM Canada Ltd. on this project for detail design and tendering services is of financial advantage to the City due to the fact that the firm has specific knowledge of the project and has undertaken work for which duplication would be required if another firm were to be selected. AECOM Canada Ltd. is intimately familiar with City procedures through recent work on other multi-disciplinary assignments. Subject to successful completion of the design phase of this project, AECOM may be considered for the construction administration stage.

3.0 Financial Impact/Considerations

The funds for this assignment are available in the capital budget. There are no operating budget impacts associated with the award of this design assignment.

Conclusion

An Environmental Assessment (EA) was completed by AECOM Canada Ltd. for improvements to Dingman Drive, from east of Wellington Road to the Highway 401 overpass. These improvements are necessary as planned development in the vicinity will create growth along this corridor. The improvements include widening the road to a four-lane cross-section and provision of bike paths, sidewalks, localized turning lanes, curbs, and illumination improvements.

AECOM Canada Ltd. has demonstrated an understanding of the City's requirements for this project and it is recommended that this firm continue as the consulting engineer for the purpose of the detailed design and tendering service. It is recommended that the assignment be awarded to AECOM Canada Ltd. in the amount of \$490,426 excluding HST as it is in the best financial and technical interests of the City.

Prepared by: Garfield Dales, P. Eng. Division Manager,
Transportation Planning and Design

Submitted by: Doug MacRae, P. Eng., MPA
Director, Roads and Transportation

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Managing Director, Environmental and Engineering
Services and City Engineer

c: AECOM Canada Ltd.
Violetta Sypien, City of London

Appendix "A"

#21026

March 2, 2021

(Appointment of Consultant)

Chair and Members
Civic Work Committee

RE: Dingman Drive Improvements - Appointment of Consulting Engineer
Detailed Design & Tendering
(Subledger RD200008)
Capital Project TS1746 - Dingman Drive - HWY 401 Bridge to Wellington Road
AECOM Canada Ltd. - \$490,426.00 (excluding HST)

Finance and Corporate Services Report on the Sources of Financing:

Finance and Corporate Services confirms that the cost of this purchase can be accommodated within the financing available for it in the Capital Budget, and that, subject to the approval of the Managing Director, Environmental & Engineering Services, and City Engineer, the detailed source of financing is:

Estimated Expenditures	Approved Budget	Committed To Date	This Submission	Balance for Future Work
Engineering	991,950	112,284	499,057	380,609
Land Acquisition	500,000	469,950	0	30,050
Construction	8,641,300	0	0	8,641,300
Utilities	783,000	0	0	783,000
City Related Expenses	50,000	0	0	50,000
Total Expenditures	\$10,966,250	\$582,234	\$499,057	\$9,884,959

Sources of Financing

Capital Levy	9,215	9,215	0	0
Debenture Quota	879,051	37,946	40,424	800,681
Drawdown from City Services - Roads Reserve Fund (Development Charges) (Note 1)	2,136,629	535,073	458,633	1,142,923
Debenture Quota - Serviced through City Services - Roads Reserve Fund (Development Charges) (Note 1)	7,941,355	0	0	7,941,355
Total Financing	\$10,966,250	\$582,234	\$499,057	\$9,884,959

Financial Note:

Contract Price	\$490,426
Add: HST @13%	63,755
Total Contract Price Including Taxes	554,181
Less: HST Rebate	-55,124
Net Contract Price	\$499,057

Note 1: Development charges have been utilized in accordance with the underlying legislation and the approved 2019 Development Charges Background Study and the 2021 Development Charges Background Study Update.

Jason Davies

Manager of Financial Planning & Policy

km

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC, Managing Director,
Environmental and Engineering Services and City Engineer

Subject: Wharncliffe Road South Improvements: 100 Stanley Street
Update

Date: March 2, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following report regarding the Wharncliffe Road South Improvements project and the heritage dwelling at 100 Stanley Street **BE RECEIVED** for information.

Linkage to the Corporate Strategic Plan

The following report supports the Strategic Plan through the strategic focus area of Building a Sustainable City by building new transportation infrastructure to meet the long term needs of our community and the strategic focus area of Strengthening our Community by conserving London's heritage through investment.

Previous Reports Pertinent to this Matter

- June 19, 2012 - Civic Works Committee – London 2030 Transportation Master Plan
- June 23, 2014 – Strategic Priorities and Policy Committee – Approval of 2014 Development Charges By-Law and DC Background Study
- October 6, 2014 – Civic Works Committee – Environmental Assessment Appointment of Consulting Engineer
- November 29, 2016 – Civic Works Committee – Environmental Assessment Update
- January 11, 2017 – LACH – Municipal Class Environmental Assessment Study – Wharncliffe Road South from Becher Street to Commissioners Road West
- November 16, 2017 – LACH – Wharncliffe Road South Environmental Assessment – 100 Stanley Street
- February 6, 2018 – Civic Works Committee – Environmental Study Report
- June 19, 2018 – Civic Works Committee – Wharncliffe Road South Improvements, Wharncliffe Road Bridge Rehabilitation, Detailed Design & Tendering, Appointment of Consulting Engineer
- June 18, 2019 – Corporate Services Committee – Expropriation of Land, Wharncliffe Road Widening and Improvements Project
- January 28, 2020 – The Council of the Corporation of the City of London – Expropriation of Lands, Wharncliffe Road South Widening and Improvements Project (first report)
- January 28, 2020 – The Council of the Corporation of the City of London – Expropriation of Lands, Wharncliffe Road South Widening and Improvements Project (second report)
- February 10, 2021 – LACH – Wharncliffe Road South Improvements – 100 Stanley Street

Background

1.0 Purpose

This report provides an update on the status of the 100 Stanley Street property as it relates to the Wharncliffe Road South Improvements project. The existing location of the heritage dwelling located at 100 Stanley Street conflicts with the necessary work associated with the Wharncliffe Road South Improvements project. The 2018 Environmental Assessment (EA) for the project identified a mitigation recommendation to relocate the heritage dwelling. The project is now in the detailed design phase and this report provides an update on this mitigation item.

2.0 Project Description

The EA for the Wharncliffe Road South Improvements project was approved by Council on February 13, 2018. The EA recommended improvements to Wharncliffe Road South, from Becher Street to Commissioners Road, and suggested coordinating the improvements with rehabilitation work on the Wharncliffe Road Bridge across the Thames River. The near-term work includes improvements to Wharncliffe Road South, from north of the Thames River to Springbank Drive. The improvements will address the current road bottleneck at the CN Rail Bridge that currently creates safety and operational concerns for all road users, and results in increased traffic in the surrounding neighbourhoods.

With the EA phase complete, the project has moved to the detailed design phase, with WSP Canada Ltd. having been retained to complete the detailed design of the project. The detailed design phase carries forward and further refines the recommendations made during the EA phase. The detailed design phase includes studies and the design of above and below-ground infrastructure.

The upcoming construction phase will be the final phase of the project. Early works are currently being completed along the corridor and are anticipated to be completed in 2021. Completing early works in advance of the overall project's general contract allows the municipal works to be completed more efficiently. The advance work includes utility relocations, building demolitions, and building relocation. Construction of the overall project is anticipated to begin in 2022.

3.0 EA Recommendation – 100 Stanley Street

The EA recommendation with respect to conserving the cultural heritage value of 100 Stanley Street was to relocate the heritage dwelling. This recommendation was made on the basis that preserving 100 Stanley Street in-situ was determined not to be viable and relocation offered the best opportunity to protect the cultural heritage value of the dwelling. In addition, the London Advisory Committee on Heritage (LACH) did not support the potential demolition of the heritage dwelling. This recommendation is documented in the EA's Environmental Study Report (ESR) and is noted to be subject to review and confirmation during detailed design. The ESR materials that pertain to 100 Stanley Street include:

- Cultural Heritage Assessment Report (CHAR) prepared by Unterman McPhail Associates Heritage Resource Management Consultants (November 2016) – Appendix C of the ESR
- Heritage Impact Statement (HIS) for 100 Stanley Street completed during the EA (Appendix I of the ESR)
- Heritage Alternatives – Supporting Technical Review Materials (Appendix H of ESR)

The relocation of the heritage dwelling has continued to be explored by the project team and the new location is proposed to be city-owned property on the west side of Wharncliffe Road South, south of Evergreen Avenue. The proposed new location is located within close proximity of 100 Stanley Street. The feasibility of relocating the

heritage dwelling was confirmed by a contractor with experience in moving heritage buildings. The contractor's preliminary report is included in Appendix H of the ESR. An image of the heritage dwelling is included below.



Figure 1: Exterior view of heritage dwelling located at 100 Stanley Street (November 12, 2020)

3.1 Minister's Decision

100 Stanley Street, and other cultural heritage matters, were identified in two Part II Order requests during the filing of the EA Environmental Study Report. With EA approval in 2018, the Minister of Environment, Conservation and Parks gave the City direction to further consult with the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), the City's Heritage Planner, and the London Advisory Committee on Heritage.

4.0 Current Status of Property

A settlement agreement has been reached between the owner of 100 Stanley Street and the City of London. The City received vacant possession of the property on November 1, 2020. The City's Realty and Corporate Security teams have implemented measures to secure and maintain the vacant property.

5.0 Cultural Heritage Status

The City of London has designated the subject property of 100 Stanley Street under Part IV of the Ontario Heritage Act (OHA) with By-law No. L.S.P.-03414-272, dated November 1, 2010, which was registered as Instrument No. ER40074, November 26, 2010. The heritage designating by-law includes a Statement of Cultural Heritage Value of Interest (SCHVI) and a description of heritage attributes:

Statement of Cultural Heritage Value or Interest

100 Stanley Street is a building of cultural heritage interest recommended for designation under Section 29.2 (a) of the Ontario Heritage Act. Stanley Street was so named as it was the main route out of the city to Port Stanley. The land

along the south side of the street was originally named St. James Park, which extended the length of Stanley Street and abutted the railway tracks. Later it was a potato patch. In the 1870s the land was developed for residential use.

The building has a number of unusual architectural elements. Built in the Queen Anne style in 1893, it is one of three white brick houses built for John Taylor as rental properties. It is the most distinctive in style of the three. Its first tenant was Maria T. Arkell, widow of John Arkell, who established the New American Hotel on Ridout Street and then later the Revere House, not the Richmond Hotel, on the corner of Richmond Street at King Street.

Description of Heritage Attributes

Key exterior elements reflecting the Queen Anne style that are worthy of preservation include:

- Its steep roof with a varied roof line, gables at the front and on the sides and several long narrow windows.
- The front façade features two unusual windows, an elongated keyhole window on the main floor and a rectangular oriel window located on the west of the main floor window. This oriel window has small bracket detail above and rests on the decorated wood still with three distinct detail elements. The upper portion of the glass in the oriel window features a palette that includes yellow, mauve, pale yellow, green, pale gold and ruby colours in the glass. The keyhole has similar coloured glass detail on the upper portion of the double hung window. It is set within a brick voussoir.
- A front entrance is recessed within a wooden porch, possibly a later addition, on the front west façade. Its front door has a transom window with coloured glass. The wooden door has leaded glass in its upper portion.
- Located to the west of the doorway is a window of multi-coloured glass in geometric design of squares and diamonds.
- A single-hung window on the west facing façade has coloured glass similar to the window on the main floor.
- The east façade on the main floor at the front has a half window of leaded glass surmounted by a brick voussoir.

Key interior elements worthy of preservation:

- Elaborated wood work in the main rooms, including a rectangular wood newel post topped with a simplistic design of a King piece in a chess board. The woodwork surround of the key hole is also elaborately detailed with a wider upper portion tapering more narrowly. Woodwork throughout these rooms is similarly elaborate.
- The impressive woodwork is presented also in the detailing of the corner fireplace with its wood surround, a wood mantle, edged with beading and carved rosette corners. It also contains on each side a design element composed of three ceramic tiles featuring musical instruments. Tiles are separated by black and grey stripes.
- Beveled glass pocket doors connect the rooms in the gable portion of the main floor.
- French doors with beveled glass connect the front room to the hall.
- Original metal and glass light fixtures remain in the front room and hall.
- Wainscoting in the upstairs bathroom.

6.0 Public and Agency Consultation

Significant public and agency consultation regarding the project, including 100 Stanley Street, was completed during the EA. Two public meetings were held, in addition to individual meetings with community associations and the property owners who are expected to be most significantly impacted. The project team also presented to the London Advisory Committee on Heritage (LACH) on two occasions during the EA.

As the project is now in detailed design, the project team provided a report to LACH at their February 10, 2021 meeting which provided an update regarding the Wharncliffe Road South Improvements - 100 Stanley Street. The report was received by the committee and it was noted that the London Advisory Committee on Heritage is satisfied with how this project is progressing.

The corresponding LACH report will be on the agenda of the March 1, 2021 Planning and Environment Committee meeting.

Discussion

1.0 Relocation Process

The EA recommendation with respect to conserving the cultural heritage value of 100 Stanley Street, was to relocate the dwelling. With vacant possession of the property now secured, the project team has had greater access to the heritage dwelling. This greater access, combined with the overall project design having been progressed, has allowed for a more detailed understanding of the relocation staging in relation to the overall project staging, a more detailed understanding of the risks associated with damage during relocation, and a more thorough understanding of the improvements that would be required. Relocation of the heritage dwelling is anticipated to involve three processes, including planning approvals, heritage, and engineering. These processes will include several touch points with Council and the public. While distinct, some of these steps may occur concurrently.

1.1 Planning Approvals Process

The planning approvals process will first require the City to merge the receiving parcels and the property line to be adjusted based on the ultimate road allowance requirements. A Minor Variance application will be required for a reduction related to front, rear, and side yard setback requirements as well as parking requirements. This process is expected to take several months and includes public participation and approval by the City's Committee of Adjustment. As this process is subject to public participation, an objection from the public would be referred to the Local Planning Appeal Tribunal (LPAT). A Building Permit will also be required in advance of heritage dwelling relocation. Site plan approval and a zoning by-law amendment will not be required.

1.2 Heritage Process

A Heritage Impact Statement (HIS) and Conservation Plan will be prepared by a qualified heritage professional to address the relocation of the heritage dwelling. The Heritage Impact Statement will provide recommendations to mitigate adverse impacts and to ensure that the cultural heritage value and heritage attributes will be conserved in the relocation of the heritage dwelling to the new property. The Conservation Plan will provide a specific and technical plan to ensure the protection and conservation of the heritage dwelling before, during, and after the relocation. In addition, an Application for Removal under Section 34 of the *Ontario Heritage Act* (OHA) will be required for removal of the heritage dwelling from 100 Stanley Street. This process includes a review by the City's Heritage Planner, the public (through a public meeting), LACH, and Council, and is expected to take 90-days following receipt of a complete application. Following relocation, the heritage dwelling on the new property will be designated pursuant to Part IV of the *Ontario Heritage Act*.

1.3 Engineering Process

An engineering consultant will be retained to support the heritage dwelling relocation through the completion of condition studies and preparation of plans, drawings, and tender packages. Project partners, including London Hydro, will be engaged to temporarily relocate infrastructure in conflict with the relocation. In addition, a Traffic Management Plan will be prepared for the full closure of Wharncliffe Road and Stanley Street during the relocation of the heritage dwelling.

A contractor will complete site preparation and then complete the relocation of the heritage dwelling. The relocation is expected to take up to one year to complete, including site preparation, building preparation, relocation, and building restoration. A feasibility study was completed to evaluate the relocation of the heritage dwelling at 100 Stanley Street during the Environmental Assessment. Based on the information available at the time of the feasibility study, it was determined that relocating the heritage dwelling using conventional techniques is feasible. Some heritage attributes such as the fireplace are anticipated to be removed from the heritage dwelling and relocated separately in order to minimize potential damage. Following relocation of the heritage dwelling, the contractor will need to complete repairs, coordinate restoration of the dwelling's heritage attributes, and complete improvements to the property in preparation for reuse. Following construction of the overall project, the City will consider a future residential use for the property with the relocated heritage dwelling. Opportunities for future uses of the vacant parcel of 100 Stanley Street will be explored after engineering and construction needs are completed.

2.0 Financial Considerations

The cost of the dwelling relocation has been accounted for within the Wharnccliffe Road South project budget. The costs associated with relocation have increased from the estimate included in the EA. This increase is attributed to the project team now having a better understanding of the property and the processes involved. This better understanding is a result of the overall project design having been progressed and the project team now having greater access to the heritage dwelling. The EA estimated that relocation would cost approximately \$500,000 more than commemoration and demolition of the heritage dwelling. With more details about the property and the process now understood, it is estimated that the incremental cost of the move will be in the order of \$900,000 to \$1,100,000. This updated cost estimate reflects a more detailed understanding of the relocation staging in relation to the overall project staging, a more detailed understanding of the risks associated with damage during relocation, and a more thorough understanding of the dwelling improvements that would be required.

The 2018 EA estimated the total project cost for the Wharnccliffe Road South improvements, between Becher Street and Springbank Drive, to be \$38.9 M. The adjustment in this item will be managed within the context of the larger project and contingencies, with updates to Council as necessary.

Conclusion

This report provides an update on the status of the 100 Stanley Street property as it relates to the Wharnccliffe Road South Improvements project. The heritage dwelling is required to be removed from the property to support the Wharnccliffe Road South Improvements project.

This report also outlines the anticipated next steps in fulfilling the EA recommendation, including planning approvals, heritage process and approvals, and engineering processes. The project team will also further consult with the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), the City's Heritage Planner, and the London Advisory Committee on Heritage, in order to meet the requirements of the 2018 Minister's Decision.

The Wharnccliffe Road South Improvements project is now in the detailed design phase. Other activities include property acquisition and preparation, utility relocation, railway coordination and preparation of design and tender documents for capital construction beginning in 2022. The anticipated cost increase and associated risk factors associated with the dwelling relocation and restoration will be managed within the context of the larger project budget and schedule.

The project team will continue to progress the project and the relocation of the heritage dwelling, and will continue to engage with the community regarding the Wharnccliffe Road South Improvements project.

Prepared by: Garfield Dales, P. Eng., Division Manager,
Transportation Planning & Design

Reviewed by: Doug MacRae, P. Eng., MPA, Director, Roads and
Transportation

Reviewed by: Gregg Barrett, AICP, Director, City Planning

Recommended by: Kelly Scherr, P. Eng., MBA, FEC, Managing Director,
Environmental and Engineering Services and City
Engineer

February 22, 2021

c: London Advisory Committee on Heritage



Architectural Conservancy Ontario – London Region Branch
Grosvenor Lodge
1017 Western Road
London, ON N6G 1G5

February 28, 2021

Members of the Civic Works Committee:

Elizabeth Pelozo (Chair) – epelozalondon.ca
Maureen Cassidy – mcassidylondon.ca
Jesse Helmer – jhelmerlondon.ca
Stephen Turner – sturnerlondon.ca
Paul Van Meerbergen – pvanmeerbergenlondon.ca

Dear Councillors:

Re: 100 Stanley Street

On behalf of the London Region branch of Architectural Conservancy Ontario (ACO London), I am writing to express support for the continued preservation of the house at 100 Stanley Street and the plan to move it to city-owned land on the west side of Wharncliffe Road. After the move, we expect that the house will be sold. The proceeds of the sale, plus future property tax revenue from the house in its new location, will help to mitigate some of the associated short-term costs. In addition, the newly vacant lot at 100 Stanley Street may present a revenue opportunity to the city. We further understand that the infrastructure project budget has the capacity to absorb the expected cost of the move – even though the most recent cost estimates are higher than anticipated. We hope that the Civic Works Committee and City Council take the expected future revenue from the eventual sale of the two properties (and future property tax revenue) into account when granting any final approvals that may be necessary.

We continue to be mystified as to why the house has to be moved at all. It would seem – to a layperson – that the road widening could have proceeded without disruption to this lovely home.

100 Stanley Street is a particularly outstanding example of the Queen Anne style in both its interior and exterior design. It is designated under Part IV of the Ontario Heritage Act. Section 1.7.1(e) of the 2020 Provincial Policy Statement (PPS) states that “Long-term economic prosperity should be supported by ... conserving features that help define character, including built heritage resources and cultural heritage landscapes”. Section 2.6.1 of the PPS states that “Significant built heritage resources and significant cultural heritage landscapes shall be conserved”. Similarly, both the London Plan and the 1989 Official Plan encourage the protection, conservation, and enhancement of structures that have cultural heritage value.



The City of London is currently faced with many challenges. In particular, ACO London is concerned about the need for additional affordable housing. There are many underutilized heritage structures in the city, particularly near the core. A number of these were constructed as single-family or multi-family residences, but are currently vacant. We see opportunities for win-win situations where neglected heritage structures might be renovated and repurposed to provide cost-effective affordable housing. At the same time, we also believe that the city should make the investment required to preserve outstanding architectural gems such as Nan Finlayson's former home. As a community, we should strive to both give a leg-up to our neighbours who require assistance and also preserve beautiful homes like 100 Stanley Street for all Londoners to enjoy.

Thank you for considering our comments.

Yours truly,

Kelley McKeating
President, Architectural Conservancy Ontario – London Region

Copies: Cathy Saunders, City Clerk - csaunder@london.ca
CWC Committee Secretary - cwc@london.ca

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC, Managing Director, Environmental & Engineering Services and City Engineer

Subject: Highway 401 / Dingman Drive Bridge Replacement - Agreement with Ministry of Transportation

Date: March 2, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the attached proposed by-law (Appendix “A”) being a by-law to approve and authorize the Agreement between Her Majesty the Queen in right of the Province of Ontario represented by the Minister of Transportation for the Province of Ontario (the “Ministry”) and The Corporation of the City of London (the “City”) for the construction of the Dingman Drive bridge, BE INTRODUCED at the Municipal Council meeting to be held on March 23, 2021.

Linkage to the Corporate Strategic Plan

The following report supports the Strategic Plan through the strategic focus area of Building a Sustainable City and ensuring London’s infrastructure is built, maintained and operated to meet the long term needs of our community.

Executive Summary

This report seeks approval to enter into an Agreement with the Ministry of Transportation (MTO) for the construction of provisions to accommodate a future widening of Dingman Drive. MTO has completed the design phase for the replacement of the Dingman Drive bridge at Highway 401 and are preparing to construct. This agreement follows on a Memorandum of Understanding for the partnership undertaking executed in September 2020. City staff requested that MTO consider a wider bridge foundation at the median pier. This will lower City construction costs when widening the bridge in the future to accommodate potential additional lanes and active transportation facilities on Dingman Drive.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Strategic Priorities and Policy Committee – May 21, 2019 – Approval of the 2019 Development Charges By-Law and DC Background Study;
- Civic Works Committee – June 23, 2020 – Dingman Drive East of Wellington Road to the Highway 401 Overpass and Area Intersections Improvements Environmental Study Report; and,
- Civic Works Committee – August 11, 2020 – Replacement of Highway 401 / Dingman Drive Bridge Memorandum of Understanding for the Design and Construction of Provisions to Accommodate Future Widening of Dingman Drive.

2.0 Context

The Ministry of Transportation (MTO) has plans to replace the Dingman Drive bridge at Highway 401 in 2021/22 due to its poor structural condition. The new bridge is expected to be in service for the next 75 to 80 years, and it will include a wider and longer bridge to accommodate future improvements within the Highway 401 corridor. This new bridge will provide a wider travelled surface for Dingman Drive with two lanes and wider shoulders to improve safety.

Dingman Drive travels across the southern portion of the City in a relatively rural setting where future urban growth, including commercial and industrial development, is anticipated. Civic administration recommends for the protection and planning for widening of the Dingman Drive roadway and bridge in a 20 to 25 year horizon for increased capacity for motorized and non-motorized / active transportation use. While widening of the bridge to four lanes is not justified at this time, it is prudent to consider provisions in MTO's current project which will meet the City's needs in the future in a cost effective manner. This Agreement is to provide a wider bridge foundation at the median pier between the eastbound and westbound lanes of Highway 401. Completion of this work now as an incremental part of the MTO project will greatly reduce future costs and complexity for the City when the bridge is ultimately widened.

Through this Agreement, the MTO is looking for the City to share the cost of detailed design, environmental assessment, tendering, construction and contract administration directly related to the municipal works in accordance with this Agreement.

3.0 Discussion and Considerations

MTO has completed the design of a replacement for the Dingman Drive bridge with construction anticipated to start early in 2021 and continue into 2022. Staff have met with MTO and their design team to discuss their work program, impacts in the area and anticipated timing.

The new bridge being built by MTO will provide a wider platform for travel over Highway 401. Currently, the bridge has a width to accommodate two 3.2 m lanes and 1.68 m shoulders. The new structure proposed will include two 3.75 m lanes and two 3.0 m shoulders to better accommodate traffic in the coming years. The wider shoulders will improve safety for pedestrians and cyclists crossing this bridge and connectivity for users of the Murray Marr trail and future active transportation facilities along the yet to be improved Dingman Drive east of Highway 401. When Dingman Drive over Highway 401 is widened by the City in the longer-term future, the bridge will be anticipated to accommodate four lanes of traffic and connect into an active transportation network with two protected bike lanes and two sidewalks.

Considering the bridge replacement will be in place for the next 75 to 80 years in an area where ongoing growth is anticipated, a widening is likely to be necessary before the new underpass is replaced. Therefore, it is cost effective for the City to request MTO to provide a wider median bridge foundation at this time. The City-requested works have been estimated by MTO at \$400,000 plus HST. The source of funding is identified in the Development Charges Background Study. The negotiations leading to the current cost estimate are more favourable than that anticipated in the DC Background Study due to near-term active transportation improvements being realized through widened shoulders in MTO's project at no cost to the City.

Stability of the City's existing 750 mm watermain on the east side of the bridge did present some concerns for both the City and MTO. The new bridge and embankment is anticipated to have an impact on the existing watermain, so MTO has included a new replacement watermain through the limits of the new bridge including a new crossing under Highway 401 for the full extent of their project. These works have been coordinated with Water Engineering Division.

MTO is aware of the City's recently completed Environmental Study Report for improvements to Dingman Drive east of Highway 401 to Wellington Road, and MTO is prepared to coordinate project activities if necessary. Also, the City's Dingman Pumping Station which is located just west of the bridge replacement is planned for City construction starting in the spring of 2021. Coordination of these projects is planned. Related staff are aware of the MTO project, and MTO is aware of the City project to ensure coordination is achieved.

Conclusion

The replacement of the Dingman Drive Bridge over Highway 401 is necessary at this time for MTO to address the aging structure and provide additional vertical clearance for truck traffic on Highway 401. With growth anticipated in south London and along the Dingman Drive corridor, this agreement will provide good value for the City to include a widened bridge foundation within the Highway 401 median for a future widening of the bridge to accommodate future plans for Dingman Drive.

This partnership was established in a Council-approved Memorandum of Understanding executed in September 2020. The agreement with MTO will provide future benefits when a widening of Dingman Drive is necessary. At that time, the City-led bridge widening will have to be coordinated and approved by MTO, and the wider foundation median pier will be available to accommodate the City's widening needs and greatly reduce construction staging and costs.

The City financial commitment is to share the cost of detailed design, construction, contract administration and utility relocations. The City requested works have been estimated by MTO at \$400,000 + HST. These funds are identified in the Development Charges Bylaw.

This Agreement has been reviewed by Legal Department.

Prepared by: Garfield Dales, P.Eng., Division Manager, Transportation Planning and Design

Submitted by: Doug MacRae, P.Eng., MPA, Director, Roads and Transportation

Recommended by: Kelly Scherr, P.Eng., MBA, FEC, Managing Director and City Engineer

Attach: Appendix "A": By-Law

cc: Geddes Mahabir – MTO
Natalia Bartos – MTO
Aaron Rozentals
Kirby Ouderkerk
Karl Grabowski

Appendix A: By-Law

Bill No.

By-law No.

A by-law to approve and authorize the Agreement between Her Majesty the Queen in right of the Province of Ontario represented by the Minister of Transportation for the Province of Ontario (the "Ministry") and The Corporation of the City of London (the "City") for the construction of the Dingman Drive bridge.

WHEREAS section 5(3) of the *Municipal Act, 2001* S.O. 2001, c.25, as amended, provides that a municipal power shall be exercised by-law;

AND WHEREAS section 9 of the *Municipal Act, 2001* provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

AND WHEREAS it is deemed expedient for The Corporation of the City of London (the "City") to enter into a cost-sharing agreement (the "Agreement") with Her Majesty the Queen in Right of Ontario represented by the Minister of Transportation (the "Ministry") for the construction of the Dingman Drive bridge;

AND WHEREAS it is deemed appropriate to authorize the Mayor and City Clerk to execute the Agreement on behalf of the City;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. The Agreement attached as Schedule "A" to this by-law, being a cost-sharing Agreement between Her Majesty the Queen in Right of Ontario represented by the Minister of Transportation (the "Ministry") and The Corporation of the City of London (the "City") for the construction of the Dingman Drive bridge is hereby authorized and approved.
2. The Mayor and City Clerk are authorized to execute the Agreement authorized and approved under section 1 this by-law.
3. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council , 2021

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading
Second Reading
Third Reading

Schedule "A" to the City By-Law

THIS AGREEMENT made this _____ day of _____, 20 .

B E T W E E N:

**HER MAJESTY THE QUEEN in right of the Province of Ontario,
represented by the Minister of Transportation for the Province of Ontario
(hereinafter referred to as the "Ministry")**

- and -

**THE CORPORATION OF THE CITY OF LONDON
(hereinafter referred to as the "City")**

Individually a "Party" and collectively the "Parties"

WHEREAS:

- A. The Ministry is undertaking a detail design and environmental assessment for the replacement of the existing Dingman Drive Underpass structure (GWP 3103-18-00) as shown on Schedules "A", "B" and "C" attached to this Agreement ("MTO Project"). The existing structure has two 3.20-m lanes and 1.68-m shoulders. The new structure will provide two 3.75-m lanes with 3.0-m shoulders.;
- B. The underpass structure which carries Dingman Drive over Highway 401 is under the jurisdiction and control of the Ministry (the "Dingman Drive Underpass");
- C. The City's planning for the future includes the need to widen the Dingman Drive Underpass structure in the future to an ultimate cross-section of four lanes (two lanes in each direction) with multi-use paths on each side of the bridge. The time horizon for the widening of the Dingman Drive Underpass structure is not known at this time and it is anticipated to be beyond the 20-year long-range planning horizon.
- D. The City has requested the Ministry to design and construct a wider foundation at the median pier ("Municipal Works") to be included in the MTO Project. The purpose of the wider foundation is to take advantage of the upcoming structure replacement and accommodate future widening of the Dingman Drive Underpass structure to the ultimate cross-section.
- E. The City has agreed to pay the costs of the Municipal Works to the Ministry pursuant to the terms of this Agreement.
- F. It is deemed necessary that the City and the Ministry enter into this Agreement to

accommodate improvements to the Dingman Drive Underpass structure to accommodate future improvements to the same.

NOW THEREFORE THIS AGREEMENT WITNESSES that in consideration of the premises and the covenants contained herein the Parties hereto for themselves and their respective successors and permitted assigns mutually agree as follows:

DEFINITIONS:

1. In addition to those words and terms elsewhere defined in this Agreement,

“Construction Costs” shall mean those costs for the construction of the Municipal Works, being all related hard costs, including without limitation, costs for environmental remediation, surveys, utility relocations, geotechnical investigation, placement of fill, granular lifts, asphalt, traffic staging, illumination, zone painting and signing, and the cost for detail design and contract administration.

“cost” shall mean all the items of cost all howsoever styled inclusive of interest, inclusive of a cost sum or sums, and inclusive, but not limited to, out of pocket expenses, consultants, contractors, environmental remediation, surveyors, solicitor and their client costs. And includes the concept of expense and all the items of expense all howsoever styled, inclusive of an expense sum or sums, unless specified otherwise. The staff time of neither the City nor the Ministry shall be included as a cost and each party shall be responsible for the cost of their own staff time related to the Work.

"costs" shall mean the same as "cost", but in plural.

“Director” means the Director of the Ministry’s Design and Engineering Office or a nominee;

“Municipal Works” means the design and construction of a wider foundation at the median pier shown in Schedules “A”, “B” and “C” attached to this Agreement;

DESIGN:

2. The Ministry will undertake the design of the Municipal Works, at the cost of the City, in consultation with the City in accordance with Ministry design standards. The Ministry will rely upon and use the relevant standards and specifications contained in the Ontario Provincial Standards for Roads and Public Works: Provincial for the construction of the Municipal Works. The final decision of the structure type, span arrangements, pier and girder sizes, will be at the sole discretion of the Ministry.

3. The Ministry will incorporate the design of the Municipal Works into the MTO Project (GWP 3103-18-00).

4. The City will, at no cost to the Ministry, cooperate with the Ministry to pass all City by-

laws, provide all City permits required for the completion of the Municipal Work and provide timely feedback during the design and construction phases.

5. The Ministry will be responsible for obtaining any and all *Environmental Assessment Act* approval for the Municipal Works. The Ministry agrees to provide the City with a copy of the final engineering design and *Environmental Assessment* report.

6. The detail design will be carried out by the Ministry's selected consulting firm and Ministry staff assigned to the MTO Project.

7. The Ministry will undertake, at the cost of the City, any utility relocation work and property acquisition necessary for the Municipal Works.

TENDERING:

8. The Ministry will tender the Municipal Works, at the cost of the City, as part of the MTO Project (GWP 3013-18-00).

9. Following the close of the tender and before awarding the contract for the construction of the MTO Project, the Ministry will notify the City of the bid prices for the Municipal Works.

CONSTRUCTION:

10. The Ministry will construct and administer the Municipal Works at the cost of the City.

11. The Ministry will give the City at least thirty days written notice before construction of the Municipal Works is commenced.

12. The City shall allow the Ministry, including its servants, agents, employees, assigns and contractors, to enter upon the City's lands and right-of-way, as may be necessary to construct the MTO Project, including the Municipal Works, and until the completion of the MTO Project, including any warranty and maintenance periods that may be required and set out in the construction contract for the MTO Project.

13. The Ministry will be responsible for the construction administration associated with the MTO Project, including the Municipal Works, and other duties normally associated with the supervision and administration of the construction of the project of this type. It is understood and agreed by the City that the Ministry may retain a consulting engineering firm for the actual or day-to-day construction administration of the Municipal Works.

14. The Ministry will be responsible for the resolution of any and all construction liens or disputes in respect of the MTO Project, including the Municipal Works.

PAYMENT:

15. The City shall pay the Ministry for all the costs of the design, environmental assessment, tendering, Construction Costs and contract administration actual costs directly relating to the Municipal Works in accordance with this Agreement.

16. The City agrees to compensate the Ministry for any and all costs of the utility relocation work and property acquisition directly relating to the Municipal Works.

17. For purposes of budgeting, the City's costs are estimated to be \$400,000.00, plus applicable surcharges and the Harmonized Sales Tax ("HST"), that are based on parametric estimating as more particularly described in Schedule "D" attached to this Agreement. The Ministry agrees to provide a detailed estimate within three (3) months of commencement of Construction.

18. The City acknowledges and agrees that the said sum is an estimate only and that payment shall be made by the City to the Ministry for all costs associated with the design, tendering, construction and contract administration of the Municipal Works incurred by the Ministry in respect of the Municipal Work and any applicable surcharges and HST.

19. In addition, the liability of the Municipality to pay the Ministry for the costs for the design, tendering, construction and contract administration of the Municipal Works, includes the following:

a. to pay one hundred per cent of all increased costs incurred by the Ministry to complete any additional work beyond the scope of the Municipal Works, which is requested by the City and not included in the estimated cost provided to the City;

b. to pay one hundred per cent of all increased costs incurred by the Ministry to comply with any request of the City to change the Municipal Works;

c. to pay one hundred per cent of all increased costs incurred by the Ministry attributed to any delays attributed solely to the City with respect to the Municipal Works; and,

d. to pay one hundred per cent of all increased costs incurred by the Ministry attributed to unforeseen obstacles or other problems encountered during construction of the Municipal Works not foreseen in the tendered construction contract.

20. The Ministry agrees to notify the City of any extra work relating to the Municipal Works

identified during construction that is required for the completion of the Municipal Works upon becoming aware of this extra work. The Ministry will also notify the City of the additional cost for such extra work. The City agrees to pay the Ministry its share of the costs of any extra work related to the Municipal Works that was not included in the original estimate along with applicable HST thereon.

21. Upon substantial completion of the Municipal Works, the Ministry shall invoice the City for the actual cost of completing the Municipal Works. The City shall pay the Ministry the amount of the invoice within thirty days from the receipt of the invoice.

22. The City shall not acquire any title, right, easement, licence or any other interest in the lands of the Ministry, as a result of its payment to the Ministry of any amounts paid or owing pursuant to this Agreement.

GENERAL PROVISIONS:

23. Notices under this Agreement shall be in writing and sent by personal delivery, facsimile transmission ("Fax") or by registered mail. Notices by registered mail shall be deemed to have been received on the fourth business day after the date of mailing. Notices by personal delivery or by Fax shall be deemed to have been received at the time of the delivery or transmission, unless delivered or transmitted on a weekend or holiday, in which case such notice shall be deemed to have been received on the next business day. In the event of an interruption in postal service, notice shall be given by personal delivery or by Fax. The address, contact person and Fax of the parties under this Agreement, unless otherwise noted is:

The Ministry: Mr. Steven McInnis, P.Eng.
Director
Design and Engineering Branch
Ministry of Transportation
659 Exeter Rd
London, Ontario N6E
1L3
Telephone: (519) 871-9148

The Municipality: Mr. Doug MacRae, P.Eng
Director, Roads & Transportation City of
London
300 Dufferin Avenue
London, Ontario N6A 4L9

24. The City warrants that it has taken all necessary steps, done all acts, passed any necessary by-laws and obtained all approvals within its power legally required to give it the authority to enter into this Agreement.

25. The rights, duties and powers of the Minister under this Agreement may be exercised by the Director.

26. Any changes, alterations or amendments to this Agreement shall be made in writing signed by the City's authorized signing officers and by the Ministry's Director.

27. This Agreement constitutes the entire agreement between the Parties with respect to the subject matter contained in the Agreement and supersedes all prior oral or written representations and agreements, including the Memorandum of Understanding executed between the Parties September 10, 2020.

28. This Agreement shall be governed by the laws of the Province of Ontario and any applicable federal laws of Canada.

THIS AGREEMENT shall enure to the benefit of and be binding upon the Parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF contained in this Agreement.

SIGNED this _____ day of _____, 20____.

HER MAJESTY THE QUEEN in right of the
Province of Ontario, represented by the Minister
of Transportation for the Province of Ontario

MINISTER OF TRANSPORTATION (ONTARIO)

SIGNED AND SEALED this _____ day of _____, 20____.

THE CORPORATION OF THE CITY OF LONDON

Ed Holder, Mayor

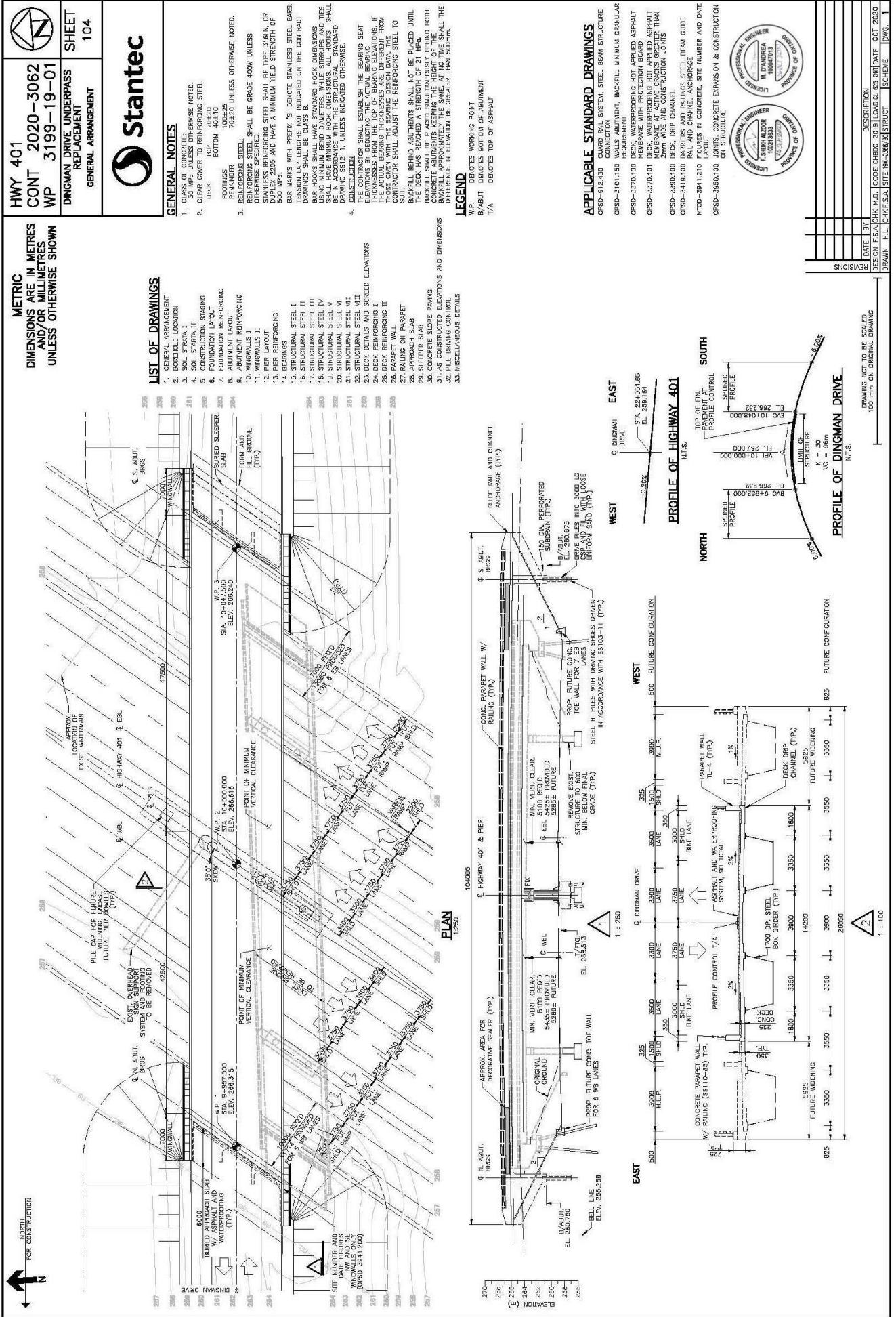
Catharine Saunders, Clerk

I/We have authority to bind the Corporation.

SCHEDULE A

To an Agreement between MTO and the City

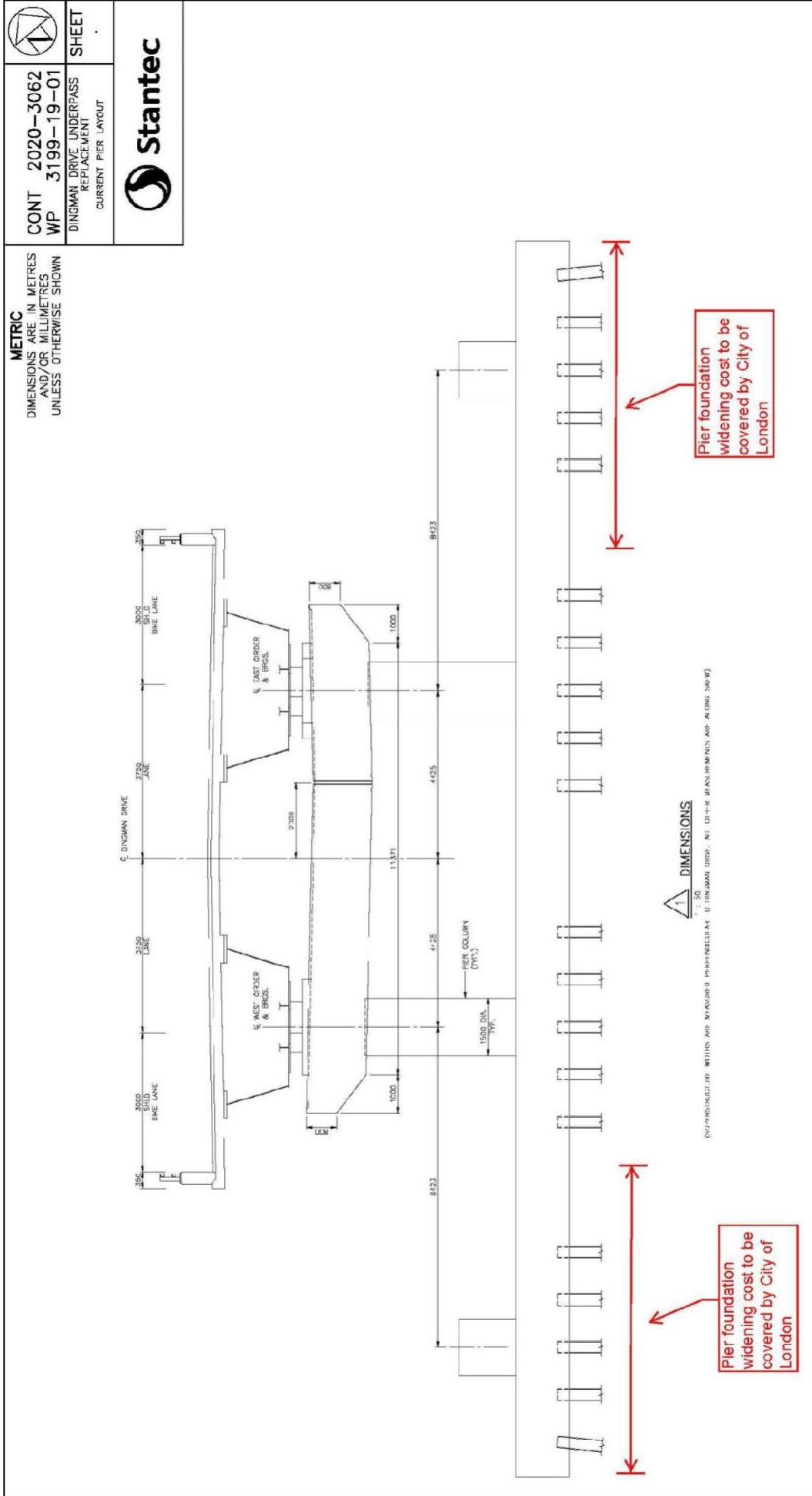
General Arrangement Drawing for Dingman Drive Replacement (to be constructed under GWP 3103-18-00)



SCHEDULE B

To an Agreement between the Ministry and the City

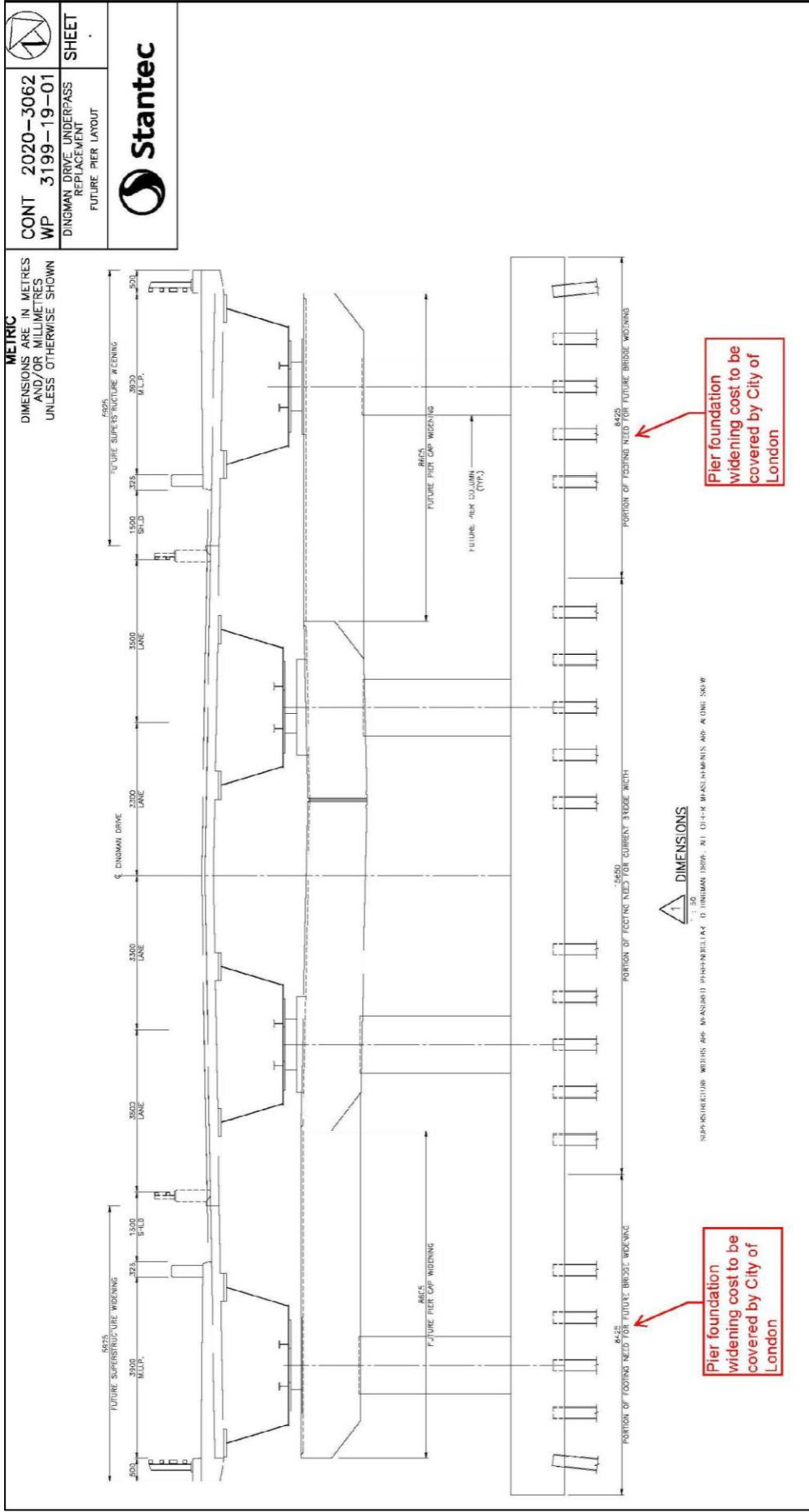
Interim Cross Section & Pier Layout (to be constructed under GWP 3103-18-00)



SCHEDULE C

To an Agreement between the Ministry and the City

Ultimate Cross Section & Pier Layout (to be constructed at a future date)



SCHEDULE D

To an Agreement between the Ministry and the City

Estimated Cost to be Paid by The City

Number	Item	Estimated Costs
1	Piling supply and installation	\$250,000
2	Concrete in footing	\$104,000
3	Reinforcng steel	\$36,000
4	Miscellaneous (excavation and mass concrete)	\$10,000
5	Total	\$400,000.00 + HST*

*Notwithstanding anything to the contrary, the costs of \$400,000 + HST stipulated herein is an estimate only. The City acknowledges and agrees that the actual costs payable to the Ministry shall be based on the terms of this Agreement.

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental and Engineering Services
and City Engineer

Subject: Greenway and Adelaide Wastewater Treatment Plants Climate
Change Resiliency Class Environmental Assessment
Consultant Award

Date: March 2, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions BE TAKEN with respect to the Disaster Mitigation and Adaptation Fund and the assignment of consulting services for the completion of the Climate Change Resiliency Class Environmental Assessments for the Greenway and Adelaide Wastewater Treatment Plants:

- a) Matrix Solutions Inc. BE APPOINTED Consulting Engineers in the amount of \$304,543.00, including 10% contingency, excluding HST, in accordance with Section 15.2 (e) of the City of London's Procurement of Goods and Services Policy;
- b) the financing for the project BE APPROVED in accordance with the "Sources of Financing Report" attached hereto as Appendix 'A';
- c) the Civic Administration BE AUTHORIZED to undertake all the administrative acts that are necessary in connection with this project;
- d) the approvals given herein BE CONDITIONAL upon the Corporation entering into a formal contract; and,
- e) the Mayor and City Clerk BE AUTHORIZED to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

Purpose

This report recommends that Matrix Solutions Inc. be appointed to carry out the Greenway and Adelaide Wastewater Treatment Plants Climate Change Resiliency Class Environmental Assessment.

Context

The City of London secured the opportunity for federal funding through the Disaster Mitigation and Adaptation Fund for improvements to the Greenway and Adelaide Wastewater Treatment Plants. This report provides the consultant award recommendation for the completion of Municipal Class Environmental Assessments, which is the first phase of the larger projects. The Environmental Assessments will identify the preferred flood protection measures for these two sites to improve asset resilience, enhance treatment capabilities, and enhance the safety of plant staff during extreme wet weather events.

Linkage to the Corporate Strategic Plan

This project supports the 2019-2023 Strategic Plan through Building a Sustainable City:

- build infrastructure to support future development and protect the environment; and
- conserve energy and increase actions to respond to climate change and severe weather.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Climate Emergency Action Plan – Update. Civic Works Committee. August 11, 2020.

London Pollution Prevention and Control Plan Final Master Plan. Civic Works Committee. April 17, 2018.

Vauxhall Wastewater Treatment Plant Flood Protection Construction Tender Award. Civic Works Committee. October 24, 2017.

Domestic Action Plan: London – Proposal Update. Civic Works Committee. September 26 2017.

Contract Award Pottersburg Pollution Control Plant Effluent Pumping Station Project No. ES5164. Civic Works Committee. June 13, 2011.

1.2 Context

Council declared a climate emergency in the City of London on April 24, 2019. The Climate Emergency Action Plan addresses the City's responsibility to reduce greenhouse gas emissions and increase resiliency in the face of climate change.

In December 2020 the City of London secured federal funding through the Disaster Mitigation and Adaptation Fund for upgrades to the Greenway and Adelaide Wastewater Treatment Plants. Potential improvement works at each plant site include a flood barrier, a pumping station and other upgrades to protect these critical infrastructure assets and reduce environmental impacts of flooding events. The federal funding will support the public consultation, design and construction of these works for the Greenway and Adelaide Wastewater Treatment Plants.

A Class Environmental Assessment for each plant will consider various flood mitigation alternatives and identify the preferred solution through consultation with the public, First Nations, and stakeholders, in accordance with the most recent revisions to the Municipal Class Environmental Assessment (Municipal Engineers Association).

2.0 Discussion and Considerations

2.1 Climate Change Resiliency for Wastewater Treatment Plants

The City of London owns and operates five wastewater treatment plants in the City. All five plants provide a minimum of secondary-level treatment. Wastewater generally flows by gravity to these plants for treatment prior to discharge to the Thames River, and as a result these plants are situated immediately adjacent to the river in low-lying areas. Many of the essential treatment plant components are located within the floodplain.

The Greenway Wastewater Treatment Plant, located at 109 Greenside Avenue, is the City's largest plant and treats approximately 60% of the wastewater produced in London. The Adelaide Wastewater Treatment Plant, located at 1157 Adelaide Street North, treats approximately 15% of the wastewater produced in London.

With climate change, the City of London and other communities are experiencing more frequent and intense wet weather events, which increases the potential for flooding. Flooding is a concern at the City's wastewater treatment plants for two main reasons:

- Damage of treatment plant components, including equipment and tanks, due to inundation of rising river levels at these sites and
- Environmental impacts associated with the bypass of untreated or partially treated wastewater for several days following an intense wet weather event.

A physical barrier, such as a berm or wall, would protect the plants from river flooding. A similar strategy was recently constructed at the Vauxhall Wastewater Treatment Plant.

Wastewater treatment plants either discharge water to an adjacent watercourse by gravity or by pumping. Wastewater treatment plants that only discharge water by gravity cannot function when the water level in the receiving watercourse is too high. When the river level is too high due to flooding, it impacts the ability of plant to fully treat wastewater.

An effluent pumping station allows treated flows to be discharged to the Thames River during a flooding event. Wastewater can then be fully treated through the various plant stages. Effluent pumping stations have been constructed for both the Pottersburg and Vauxhall Wastewater Treatment Plants.

The construction of flood mitigation improvements requires a Schedule 'B' Municipal Class Environmental Assessment to be completed, so separate studies are planned for both the Greenway and Adelaide Wastewater Treatment Plants.

Flood protection measures at the City's wastewater treatment plant will improve the resilience of these facilities and enhance staff safety during extreme wet weather events. Improving the resilience of the City's wastewater treatment plants to extreme wet weather events also improves treatment capabilities and supports the City's commitment to the Lake Erie Domestic Action Plan by reducing phosphorus discharged to the Thames River.

2.2 Disaster Mitigation and Adaptation Fund

The Government of Canada created a \$2 billion fund intended to support large infrastructure projects that, among other things, contribute to the resilience of critical infrastructure in the face of increased risks of damage due to climate change. The City proposed the construction of flood protection at Greenway and Adelaide Wastewater Treatment Plants as major projects that fit this description, and the City's proposal was accepted.

The overall project cost is estimated at \$49.5 million, with the maximum federal share of all project related expenses totalling \$19.8 million (40%). The Contribution Agreement required to access this funding is currently being negotiated, and the final version will be presented to Council for approval in a future report. All expenditures considered in this contract award are eligible for funding retroactively under the terms of the Government of Canada's acceptance of the City's application for funding.

2.3 Procurement Process

In order to proceed with the required Class Environmental Assessments involving public

engagement and technical analysis, the City undertook an open procurement process to retain a qualified consulting engineering firm. Due to the expected budget, a two-stage procurement process was undertaken in accordance with the City of London's Procurement of Goods and Services Policy, Section 15.2 (e).

Through the City's Purchasing Division and in compliance with CETA, and CFTA requirements, a Request for Qualifications (RFQUAL 20-20) was issued to evaluate the capability of interested firms to complete the required scope of work. Three firms were selected through that process to proceed to the RFP stage and were invited to submit bids in response to the subsequent Request for Proposals (RFP 20-77). All three firms submitted proposals including:

- AECOM Canada Ltd.;
- Matrix Solutions Inc.; and
- Wood Canada Limited.

The submissions were reviewed by staff from Wastewater Treatment Operations and Purchasing and Supply to ensure compliance with the City's Procurement of Goods and Services Policy. The City's evaluation team determined that the proposal provided by Matrix Solutions Inc. provided the best overall value to the City. The project team proposed by Matrix Solutions Inc. has extensive experience with climate change resiliency projects involving hydraulic and hydrologic modelling of rivers, Class Environmental Assessment consultation and engagement and wastewater treatment plant planning and design. Overall, their proposal met all of the key project requirements and their staff are qualified to undertake the required consulting engineering services.

2.4 Schedule and Budget Implications

These two Class Environmental Assessments are scheduled to be complete by the middle of 2022, although the final timing may be dependent on the level of interest from First Nations, review agencies and the public at large to be determined through the engagement process. Because of the importance of these Class Environmental Assessments and the projects that will be planned as a result, full engagement of all parties is the primary goal and the schedule will be modified, as required, to ensure that this goal is reached.

The upset limit proposed by Matrix Solutions Inc. aligns with budget expectations prior to issuing the Request for Proposals, and the funds required for this study are available in the City's approved capital budget.

Conclusion

The Disaster Mitigation and Adaptation Fund represents a significant opportunity to reduce the cost of incorporating flood protection into the Greenway and Adelaide Wastewater Treatment Plants. Public engagement through Class Environmental Assessments is the first step to completing these climate change resilience projects.

Matrix Solutions Inc. (Matrix) was found to provide the best value to the City through the two phase RFQUAL and RFP selection process for consulting services for the Greenway and Adelaide Wastewater Treatment Plants Climate Resiliency Class Environmental Assessments. The Matrix team has a demonstrated ability to complete flood mitigation studies, as well as successful consultation and engagement, and demonstrated a solid understanding of this project in their proposal. It is recommended that Matrix be awarded this assignment.

Prepared by: Kirby Oudekerk, P.Eng.
Division Manager, Wastewater Treatment Operations

Submitted by: Scott Mathers, MPA, P.Eng., Director, Water and Wastewater

Recommended by: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental and Engineering Services and City Engineer

cc: John Freeman
Steve Braun, Matrix Solutions Inc.
Chris Ginty
Gary McDonald
Alan Dunbar
Jason Davies

Appendix 'A' Sources of Financing

Appendix "A"

#21021

March 2, 2021

(Appoint Consulting Engineer)

Chair and Members

Civic Works Committee

RE: Greenway and Adelaide Wastewater Treatment Plants Climate Change Resiliency Class

Environmental Assessment

(Subledger FS210001)

Capital Project ES3230 - DMAF Greenway WWTP Flood Protection

Capital Project ES3231 - DMAF Adelaide WWTP Flood Protection

Matrix Solutions Inc. - \$304,543.00 (excluding HST)

Finance and Corporate Services Report on the Sources of Financing:

Finance and Corporate Services confirms that a portion of the cost of this project cannot be accommodated within the financing available for it in the Capital Budget but can be accommodated with a transfer of funding from Sewage Works Reserve Fund and with Federal funding applied to this project, and that, subject to the adoption of the recommendations of the Managing Director of Environmental and Engineering Services and City Engineer, the detailed source of financing for this project is:

Estimated Expenditures	Approved Budget	Revised Budget	This Submission
ES3230 - DMAF Greenway WWTP Flood Protection			
Engineering	0	185,942	185,942
ES3231 - DMAF Adelaide WWTP Flood Protection			
Engineering	0	123,961	123,961
Total Expenditures	\$0	\$309,903	\$309,903

Sources of Financing

ES3230 - DMAF Greenway WWTP Flood Protection			
Drawdown from Sewage Works Reserve Fund - Transfer from ES3098 - Greenway WWTP Capacity Improvements for Bypass Reduction and Flood Protection (Note 1)	0	111,565	111,565
Federal DMAF Funding (Note 2)	0	74,377	74,377
ES3230 Total	0	185,942	185,942
ES3231 - DMAF Adelaide WWTP Flood Protection			
Drawdown from Sewage Works Reserve Fund - Transfer from ES5234 - Adelaide WWTP Flood Protection & Capacity Improvements to reduce Sewage Bypasses (Note 1)	0	74,377	74,377
Federal DMAF Funding (Note 2)	0	49,584	49,584
ES3231 Total	0	123,961	123,961
Total Financing	\$0	\$309,903	\$309,903

Financial Note:	ES3230	ES3231	Total
Contract Price	\$182,726	\$121,817	\$304,543
Add: HST @13%	23,754	15,836	39,590
Total Contract Price Including Taxes	206,480	137,653	344,133
Less: HST Rebate	-20,538	-13,692	-34,230
Net Contract Price	\$185,942	\$123,961	\$309,903

Appendix "A"

#21021

March 2, 2021

(Appoint Consulting Engineer)

Chair and Members

Civic Works Committee

RE: Greenway and Adelaide Wastewater Treatment Plants Climate Change Resiliency Class

Environmental Assessment

(Subledger FS210001)

Capital Project ES3230 - DMAF Greenway WWTP Flood Protection

Capital Project ES3231 - DMAF Adelaide WWTP Flood Protection

Matrix Solutions Inc. - \$304,543.00 (excluding HST)

Note 1: The City's funding portion (60%) is available as a drawdown from Sewage Works Reserve Fund with a transfer from Capital Projects ES3098 - Greenway WWTP Capacity Improvements for Bypass Reduction and Flood Protection in the amount of \$111,565 and ES5234 - Adelaide WWTP Flood Protection & Capacity Improvements to Reduce Sewage Bypasses in the amount of \$74,377.

Note 2: The City's proposal for federal funding through the Disaster Mitigation and Adaption Fund (DMAF) has been accepted for upgrades to the Greenway and Adelaide Wastewater Treatment Plants. The overall project cost is estimated at \$49.5 million, with the maximum federal share of all project related expenses totaling \$19.8 million (40%).

Kyle Murray
Director, Financial Planning & Business Support

jg

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: Contract Award: 2021 Watermain Cleaning and Relining
Program, RFT 20-23

Date: March 2, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental & Engineering Services & City Engineer, the following actions **BE TAKEN** with respect to the award of contract for the 2020 Watermain Cleaning and Structural Lining Project:

- (a) the bid submitted by Fer-Pal Construction Ltd., 171 Fenmar Drive, Toronto, Ontario M9L 1M7, at its tendered price of \$6,000,869.51 (excluding H.S.T.), for the 2021 Watermain Cleaning and Structural Lining program, **BE ACCEPTED**; it being noted that this is the second year of a three year contract submitted by Fer-Pal Construction Ltd. And where unit prices were carried over from the original tendered contract plus a two percent increase plus an increase for CPI as stipulated in the original contract. The original bid submitted by Fer-Pal Construction Ltd. in 2020 was the lower of two bids received. The City has the sole discretion to renew the contract based on price and performance;
- (b) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached hereto as Appendix "A";
- (c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;
- (d) the approval given herein **BE CONDITIONAL** upon the Corporation entering into a formal contract or issuing a purchase order for the material to be supplied and the work to be done relating to this project (RFT 20-23); and
- (e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Linkage to the Corporate Strategic Plan

This report supports the Strategic Plan in the following areas:

- Building a Sustainable City:
 - Infrastructure is built, maintained and operated to meet the long-term needs of our community; and
 - Growth and development is well planned and sustainable over the long term.
- Leading in Public Service:
 - Trusted, open, and accountable in service of our community;
 - Exceptional and valued customer service; and
 - Leader in public service as an employer, a steward of public funds, and an innovator of service.

Analysis

1.0 Background Information

This report recommends the award of a tender to a contractor to undertake watermain cleaning and structural re-lining as shown on the location map in Appendix B.

Since 1989, the City has been rehabilitating watermains using innovative trenchless technologies which include cement mortar lining and more recently structural lining. These methods allow the City to eliminate water quality problems (red/rusty looking water), improve fire flows, gain additional years of life from the mains and delay the need for full replacement reconstruction projects which are both expensive and socially disruptive. The aesthetic water quality in these rehabilitated watermains is dramatically improved.

1.1 Previous Reports Related to this Matter

Contract Award: 2017 Watermain Cleaning and Structural Lining Tender No 16-105, March 7, 2017 Civic Works Committee, Agenda Item #7

Contract Award: 2018 Watermain Cleaning and Structural Lining Tender No 16-105, April 17, 2018 Civic Works Committee, Agenda Item # 2.9

Contract Award: 2019 Watermain Cleaning and Structural Lining Tender No 16-105, March 18, 2019 Civic Works Committee, Agenda # 2.11

Contract Award: 2020 Watermain Cleaning and Structural Lining RFT 20-23, March 10, 2020 Civic Works Committee, Agenda # 2.18

2.0 Discussion and Considerations

Currently the City focusses structural re-lining on areas of the City where there are no lead services, no other current infrastructure replacement needs (i.e. roads or sewers), and a high frequency of main breaks on cast iron watermains. In areas where structural lining has been performed, the occurrence of watermain breaks has dropped to zero in most cases. Structural lining also extends the life of watermains by 50 years or more when done on watermains that meet the criteria above, and costs 40% lower than traditional open-cut watermain replacement. In general, trenchless technologies, such as structural lining, have substantially lower social and environmental impacts when compared to traditional open-cut techniques.

The current project, involves the cleaning and structural lining of approximately 5200 metres of watermain on Atkinson Boulevard, Whitehall Drive, Kiwanis Park Drive, Borden Street, Cheapside Street, Kaladar Drive, Addison Drive, Nairn Avenue, Wadsworth Street, Pickwick Crescent, Pickwick Place, Kaladar Place, Stronach Crescent, Howland Avenue, Mardell Place, Rushland Avenue, Dixie Street, Dale Street, Hartlett Street and approximately 135 metres of 450mm watermain under the 401 right of way at White Oak Road and Westminster Drive.

The work is scheduled to take one hundred and thirty working days to substantially complete and will start this spring, following approval of this report.

A project location map is attached as Appendix B for reference.

The work in 2021 will be the second year of a potential three-year contract, where the City has the sole discretion to renew the contract for the additional years based on price and performance.

3.0 Financial Impact/Considerations

3.1 Tender Summary

The Tender total for the 2021 Watermain Cleaning and Structural Lining Program is \$6,000,869.51 (excluding HST). This includes a contingency allowance of \$550,000.00 (excluding HST).

Conclusion

Award of this contract to Fer-Pal Construction Ltd. will allow the City to achieve the objective of rehabilitating water infrastructure which has been subject to breaks. It is in the best financial and technical interests of the City to proceed with the award of this contract for Watermain Cleaning and Structural Lining.

Prepared by: Aaron Rozentals, GDPA, P.Eng., Division Manager,
Water Engineering

Submitted by: Scott Mathers, MPA, P. Eng., Director, Water And
Wastewater

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Managing Director, Environmental and Engineering
Services and City Engineer

cc: Dave Chromczak Pat Lupton
Chris Ginty John Simon
Alan Dunbar Fer Pal Construction Ltd.

Appendix 'A' – Sources of Financing

Appendix 'B' – Location Maps 2021 Watermain Cleaning and Lining

Appendix "A"

#21022

March 2, 2021
(Award Contract)

Chair and Members
Civic Works Committee

RE: RFT 20-23 - 2021 Watermain Cleaning and Relining Program
(Subledger WT210001)

Capital Project EW356319 - Main Rehabilitation

Capital Project EW356321 - Watermain Rehabilitation and Relining

Fer Pal Construction Ltd. - \$6,000,869.51 (excluding HST)

Finance and Corporate Services Report on the Sources of Financing:

Finance and Corporate Services confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the Managing Director, Environmental and Engineering Services and City Engineer, the detailed source of financing is:

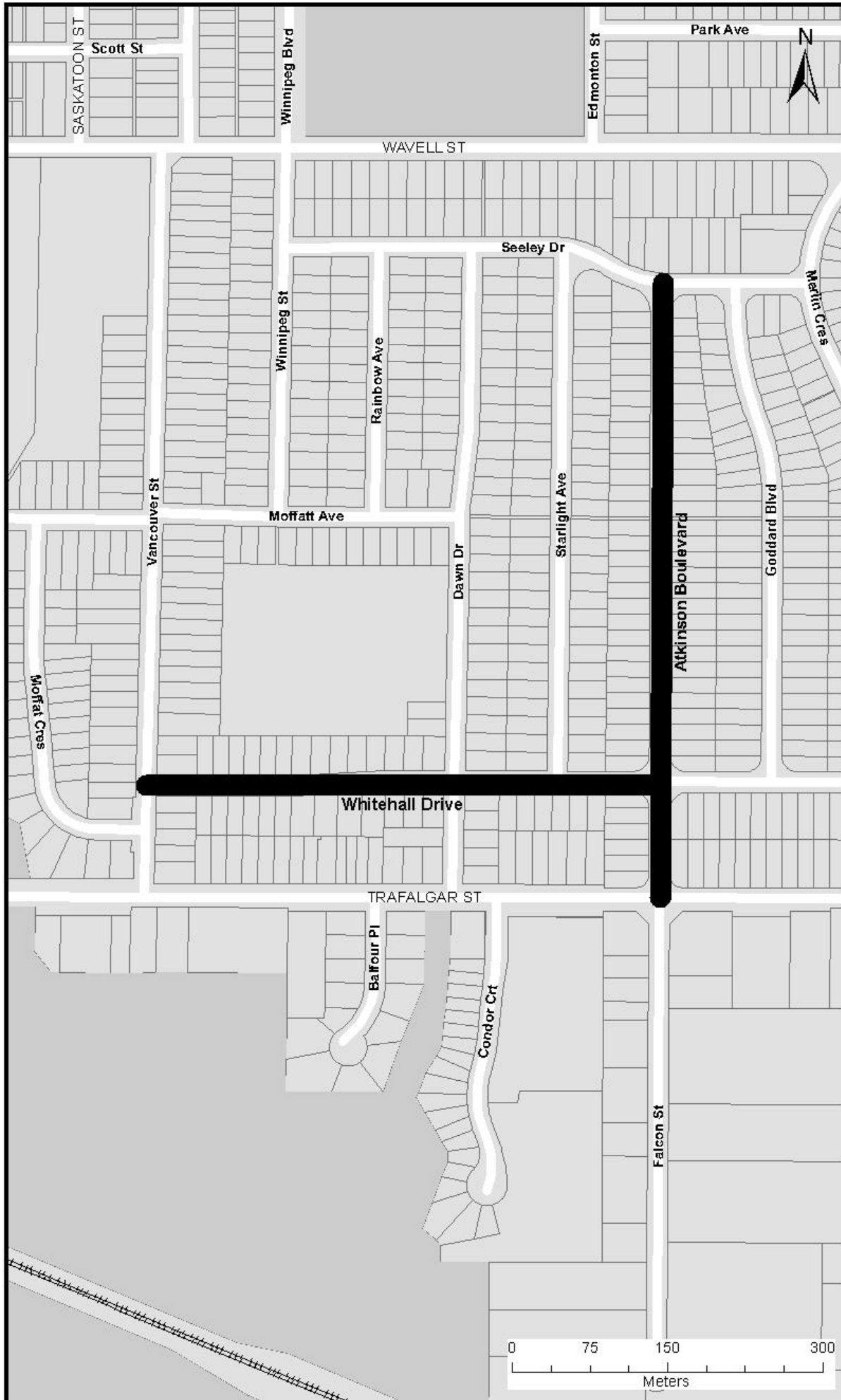
Estimated Expenditures	Approved Budget	Committed To This Date	This Submission	Balance for Future Work
EW356319 - Main Rehabilitation				
Construction	9,190,570	8,077,119	986,485	126,966
City Related Expenses	1,180	1,180	0	0
EW356319 Total	9,191,750	8,078,299	986,485	126,966
EW356321 - Watermain Rehabilitation and Relining				
Construction	5,120,000	0	5,120,000	0
Total Expenditures	\$14,311,750	\$8,078,299	\$6,106,485	\$126,966
Sources of Financing				
EW356319 - Main Rehabilitation				
Capital Water Rates	9,046,483	8,078,299	968,184	0
Drawdown from Capital Water Reserve Fund	145,267	0	18,301	126,966
EW356319 Total	9,191,750	8,078,299	986,485	126,966
EW356321 - Watermain Rehabilitation and Relining				
Capital Water Rates	5,120,000	0	5,120,000	0
Total Financing	\$14,311,750	\$8,078,299	\$6,106,485	\$126,966
Financial Note:				
	EW356319	EW356321	Total	
Contract Price	\$969,423	\$5,031,447	\$6,000,870	
Add: HST @13%	126,025	654,088	780,113	
Total Contract Price Including Taxes	1,095,448	5,685,535	6,780,983	
Less: HST Rebate	-108,963	-565,535	-674,498	
Net Contract Price	\$986,485	\$5,120,000	\$6,106,485	

Jason Davies
Manager of Financial Planning & Policy

Appendix B Location Maps 2021 Watermain Cleaning and Lining

Project Limits:

Whitehall Drive, Atkinson Boulevard



Appendix B Location Maps 2021 Watermain Cleaning and Lining

Project Limits:

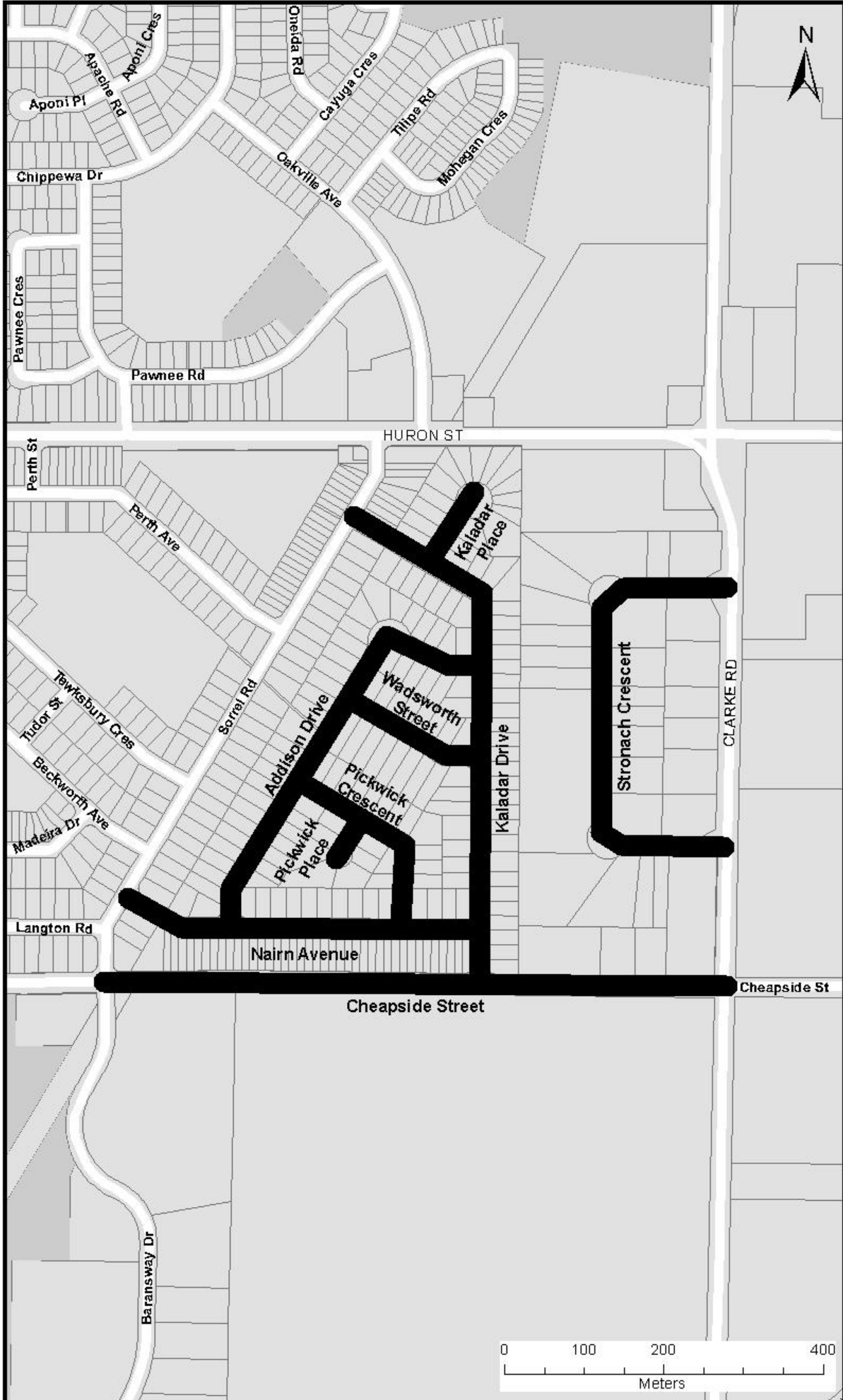
Kiwanis Drive, Borden Street



Appendix B Location Maps 2021 Watermain Cleaning and Lining

Project Limits:

Cheapside Street, Kaladar Drive, Addison Drive, Nairn Avenue, Wadsworth Street, Pickwick Crescent, Pickwick Place, Kaladar Place, Stronach Crescent



Appendix B Location Maps 2021 Watermain Cleaning and Lining

Project Limits:

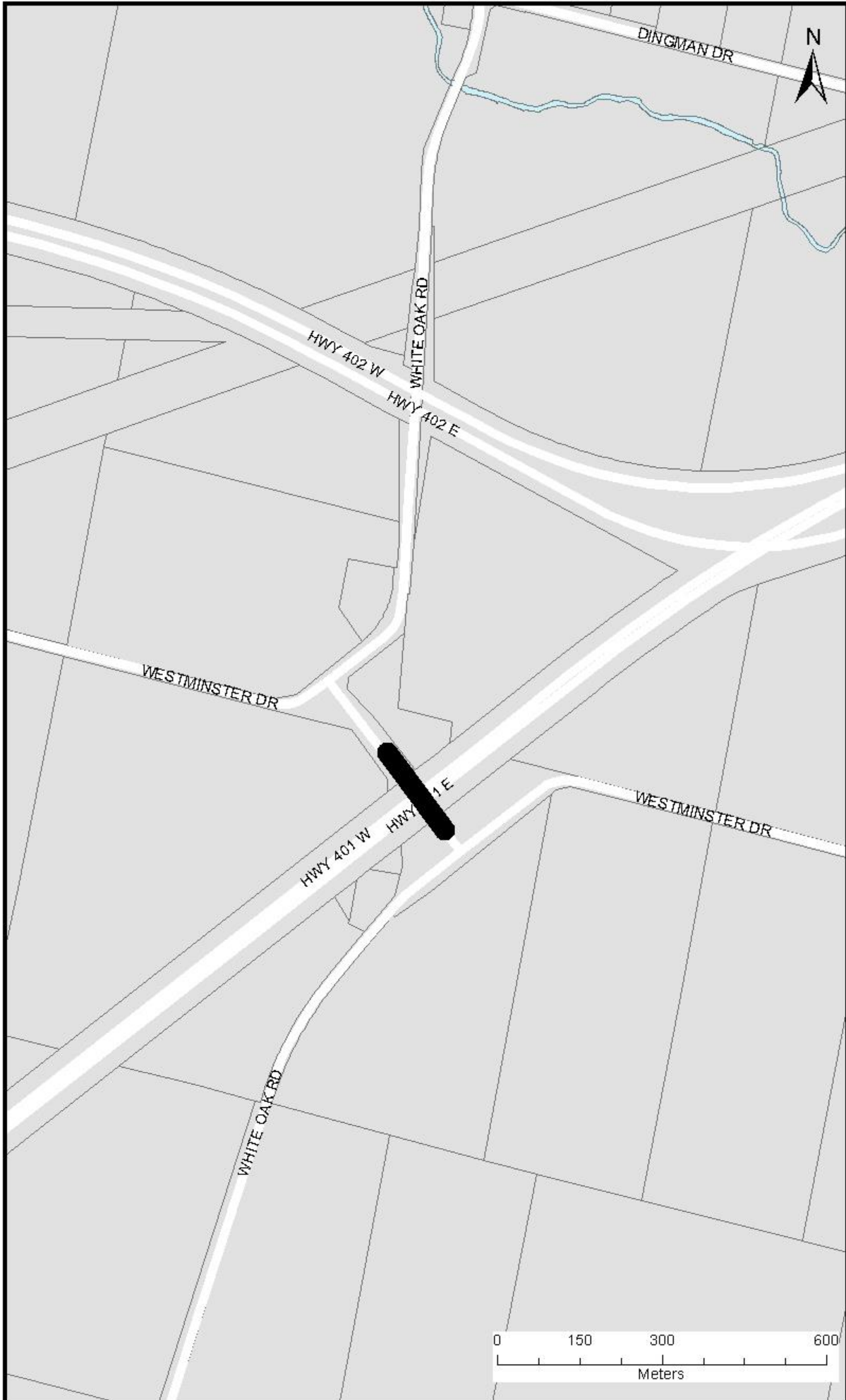
Howland Avenue, Mardell Place, Rushland Avenue, Dixie Street, Dale Street, Hartlett Street



Appendix B Location Maps 2021 Watermain Cleaning and Lining

Project Limits:

Highway 401 Right of Way at Westminster Drive and White Oak Road



Appendix B Location Maps 2021 Watermain Cleaning and Lining

Project Limits:

Whitehall Drive, Atkinson Boulevard



Appendix B Location Maps 2021 Watermain Cleaning and Lining

Project Limits:

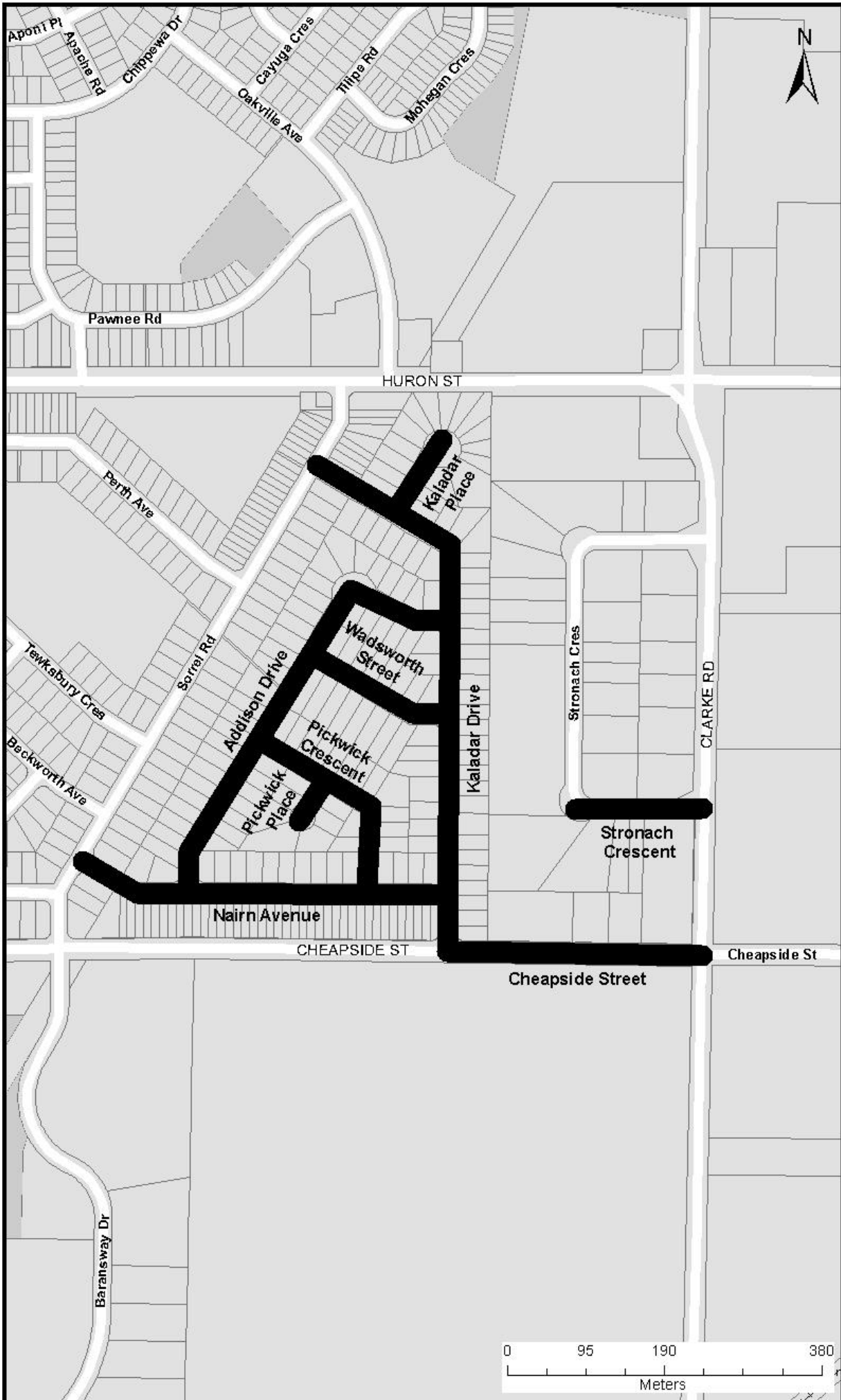
Kiwanis Drive, Borden Street



Appendix B Location Maps 2021 Watermain Cleaning and Lining

Project Limits:

Cheapside Street, Kaladar Drive, Addison Drive, Nairn Avenue, Wadsworth Street, Pickwick Crescent, Pickwick Place, Kaladar Place, Stronach Crescent



Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC, Managing Director,
Environmental and Engineering Services and City Engineer

Subject: Amendments to the Traffic and Parking By-law

Date: March 2, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the proposed by-law, attached as Appendix A **BE INTRODUCED** at the Municipal Council meeting to be held on March 23, 2021, for the purpose of amending the Traffic and Parking By-law (PS-113).

Linkage to the Corporate Strategic Plan

The following report supports the 2019 to 2023 Strategic Plan through the strategic focus area of **Building a Sustainable City** by improving safety, traffic operations and residential parking needs in London's neighbourhoods.

Analysis

1.0 Background Information

The Traffic and Parking By-law (PS-113) requires amendments (Appendix A) to address traffic safety, operations and parking concerns. The amendments in the following sections are proposed.

2.0 Discussion and Considerations

2.1 No Parking

Meadowridge Road

At the request of residents, a mail-back survey was sent to the property owners on Meadowridge Road where most respondents supported implementing a 'no parking anytime' zone on both sides of Meadowridge Road from 39 m north of Guildwood Boulevard, to 88 m north of Guildwood Boulevard to prohibit parking on the curve.

Louise Boulevard

Left-turn lanes were installed on the Louise Boulevard north and south of Fanshawe Park Road West to improve the operations of the intersection. To accommodate the left-turn lanes, the existing 'no parking anytime' zones on the east and west sides of Louise Boulevard require extending to prevent vehicles parking within the limits of the left turn lanes. Information letter to be sent to residents explaining the changes to the parking regulations.

2.2 Stop and Yield Signs

Lawson Meadows Subdivision

All road accesses within Lawson Meadows are open to traffic. It is recommended 'through highways' to include the extension of Lawson Road from Sandbar Street to Coronation Drive. This will result in stop signs being installed on all roads intersecting Lawson Road. In addition, it is recommended a 'stop sign' be installed at the intersection of Journey Cross and Sandbar Street.

Uplands Subdivision

Streets in the original Uplands Subdivision south-east of the Sunningdale Road East and Richmond Street intersection are comprised of yield and stop signs. To address operational and safety concerns raised by the residents it is recommended that all existing yield signs be replaced with stop signs.

Sunningdale West Phase 2 Subdivision

All road accesses within Sunningdale West Phase 2 Subdivision are open to traffic. It is recommended a 'stop sign' be installed on Warner Terrace at Wallingford Avenue and a 'yield sign' on Warner Terrace at Warner Terrace.

Conclusion

Amendments are required to Schedule 2 (No Parking), Schedule 10 (Stop Signs), Schedule 11 (Yield Signs) and Schedule 13 (Through Highways) to address the above changes.

Prepared by: Shane Maguire, P. Eng., Division Manager, Roadway Lighting and Traffic Control
Submitted by: Doug MacRae, P. Eng., MPA, Director, Roads and Transportation
Recommended by: Kelly Scherr, P. Eng., MBA, FEC, Managing Director, Environmental and Engineering Services and City Engineer

February 19, 2021/

Attach: Appendix A – By-law to Amend the Traffic and Parking By-law (PS-113)

cc: Parking Office

APPENDIX A By-law to amend the Traffic and Parking By-law (PS-113)

Bill No.

By-law No. PS-113

A by-law to amend By-law PS-113 entitled, “A by-law to regulate traffic and the parking of motor vehicles in the City of London.”

WHEREAS subsection 10(2) paragraph 7. Of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, provides that a municipality may pass by-laws to provide any service or thing that the municipality considers necessary or desirable to the public;

AND WHEREAS subsection 5(3) of the *Municipal Act, 2001*, as amended, provides that a municipal power shall be exercised by by-law;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. No Parking

Schedule 2 (No Parking) of the By-law PS-113 is hereby amended by **deleting** the following rows:

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
Louise Boulevard	West	A point 50 m north of Fanshawe Park Road W	A point 40 m south of said street	Anytime
Louise Boulevard	East	A point 60 m north of Fanshawe Park Road W	A point 55 m south of said street	Anytime

Schedule 2 (No Parking) of the By-law PS-113 is hereby amended by **adding** the following rows:

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
Louise Boulevard	West	A point 65 m north of Fanshawe Park Road W	A point 55 m south of Fanshawe Park Road W	Anytime

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
Louise Boulevard	East	A point 85 m north of Fanshawe Park Road W	A point 55 m south of Fanshawe Park Road W	Anytime
Meadowridge Road	Both	A point 39 m north of Guildwood Boulevard	A point 88 m north of Guildwood Boulevard	Anytime

2. Stop Signs

Schedule 10 (Stop Signs) of the By-law PS-113 is hereby amended by **adding** the following rows:

Column 1 Traffic	Column 2 Street	Column 3 Intersection
Westbound	Berkley Crescent	Redford Road
Westbound	Journey Cross	Sandbar Street
Westbound	Northcrest Drive	Northcrest Drive
Northbound	Northcrest Gate	Redford Road
Southbound	Northcrest Gate	Northcrest Drive
Westbound	Warner Terrace	Wallingford Avenue

3. Yield Signs

Schedule 11 (Yield Signs) of the By-law PS-113 is hereby amended by **deleting** the following rows:

Column 1 Traffic	Column 2 Street	Column 3 Intersection
Westbound	Berkley Crescent	Redford Road
Northbound	Northcrest Gate	Redford Road
Southbound	Northcrest Gate	Northcrest Drive

Schedule 11 (Yield Signs) of the By-law PS-113 is hereby amended by **adding** the following rows:

Column 1 Traffic	Column 2 Street	Column 3 Intersection
Eastbound	Warner Terrace	Warner Terrace

4. Through Highways

Schedule 13 (Through Highways) of the By-law PS-113 is hereby amended by **deleting** the following row:

Column 1 Street	Column 2 From	Column 3 To
Lawson Road	Sandbar Street except the intersection thereof with Aldersbrook Road, Brandy Lane, Limberlost Road, Wychwood Park (west intersection) and Longbow Road	Wychwood Park (east intersection)

Schedule 13 (Through Highways) of the By-law PS-113 is hereby amended by **adding** the following row:

Column 1 Street	Column 2 From	Column 3 To
Lawson Road	Coronation Drive except the intersection thereof with Aldersbrook Road, Brandy Lane, Limberlost Road, Wychwood Park (west intersection) and Longbow Road	Wychwood Park (east intersection)

This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on March 23, 2021

Ed Holder

Mayor

Catharine Saunders

City Clerk

First Reading – March 23, 2021

Second Reading – March 23, 2021

Third Reading – March 23, 2021

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC, Managing Director,
Environmental and Engineering Services and City Engineer

Subject: Dundas Place - Temporary Bicycle Lanes and Revised
Parking Limits

Date: March 2, 2021

Recommendation

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to Dundas Place:

- a) the Civic Administration **BE DIRECTED** to bring forward a report to the March 30, 2021 Civic Works Committee to amend the Traffic and Parking By-law to create a temporary bicycle lane pilot project on Dundas Place during the 2021 construction season; and,
- b) the proposed by-law, attached as Appendix A, **BE INTRODUCED** at the Municipal Council meeting to be held on March 23, 2021, for the purpose of amending the Traffic and Parking By-law (PS-113) to replace the two-hour paid parking with one-hour free parking.

Linkage to the Corporate Strategic Plan

The following report supports the 2019 to 2023 Strategic Plan through the strategic focus area of **Building a Sustainable City** and **Leading in Customer Service**. The report identifies a construction mitigation pilot project to support businesses and guide travellers through the core during the 2021 construction season and modifying parking limits in response to business and customer feedback.

Analysis

1.0 Background Information

Construction in 2021 will introduce changes in the downtown. Additionally, businesses and users of Dundas Place continue to provide feedback on how the Dundas Place flexible street can best help respond in the short and longer term. This report:

- describes a temporary construction mitigation pilot project for Council consideration; and,
- recommends parking changes in response to business and customer feedback.

2.0 Discussion and Considerations

2.1 Dundas Place Cycling Lane Pilot

2.1.1 Temporary Bicycle Lanes

The East-West Bikeway Evaluation and Feasibility Study and Cycling Master Plan identify Dundas Street as the main corridor for establishing a continuous bikeway

between Downtown and Old East Village. This year, the City is completing the installation of separated cycling facilities between Wellington Street and Old East Village and between Ridout Street and the Thames Valley Parkway at the Forks of the Thames to the west. The Dundas Place flexible street has been recognized as a lower speed, lower traffic, shared space for all road users and as well as the location of many key destinations for users of the East-West Bikeway.

Through recent public engagement, the City heard concerns that Dundas Place does not feel comfortable or safe for cyclists, despite the reduced speed limit. To prepare for 2021 construction projects, which includes significant work on King Street and temporary deflection of traffic to other routes, the City is planning a comprehensive traffic management plan to address potential transportation impacts for all modes visiting and travelling through the area. Motor vehicle traffic and transit that would normally use King Street to traverse through downtown between Ridout Street and Wellington Street will be detoured along York Street, while more local vehicle traffic and all eastbound cyclists will be directed to Dundas Street.

Aligned with the 2021 downtown construction traffic management plans, a pilot project is recommended for Dundas Place that will introduce cycling lanes between Ridout Street North and Wellington Street for the 2021 construction season. The pilot aims to provide safe connections for all road users while supporting downtown businesses through upcoming construction and provides the opportunity to try a different configuration for the flex street.

2.1.2 Cycling Pilot Street Layout

Cycling on Dundas Place is currently in a shared space configuration with a 30 km/h posted speed limit. To accommodate temporary bicycle-only lanes on Dundas Place, one lane of motor vehicle traffic must be reassigned to cycling use.

Eastbound vehicle travel is the predominant direction. Typical eastbound traffic volumes on Dundas Place are 50% to 133% higher than westbound traffic at various locations along the flex street, with the block between Ridout Street and Talbot Street having the largest difference.

Based on the above, the following is recommended for Dundas Street from Ridout Street North to Wellington Street during the 2021 construction season:

- i. Westbound motor vehicle traffic be prohibited;
- ii. Eastbound motor vehicle traffic be shifted to the centre of the road;
- iii. An eastbound bicycle lane be added south of the eastbound general traffic lane; and
- iv. A westbound bicycle lane be added to the north of the eastbound general traffic lane.

Figure 1 illustrates a schematic representation of the proposed configuration for the Dundas Place cycling pilot.

Dundas Place will be temporarily adjusted to help improve safety for all road users. Timing of this pilot will align with the 2021 construction season.

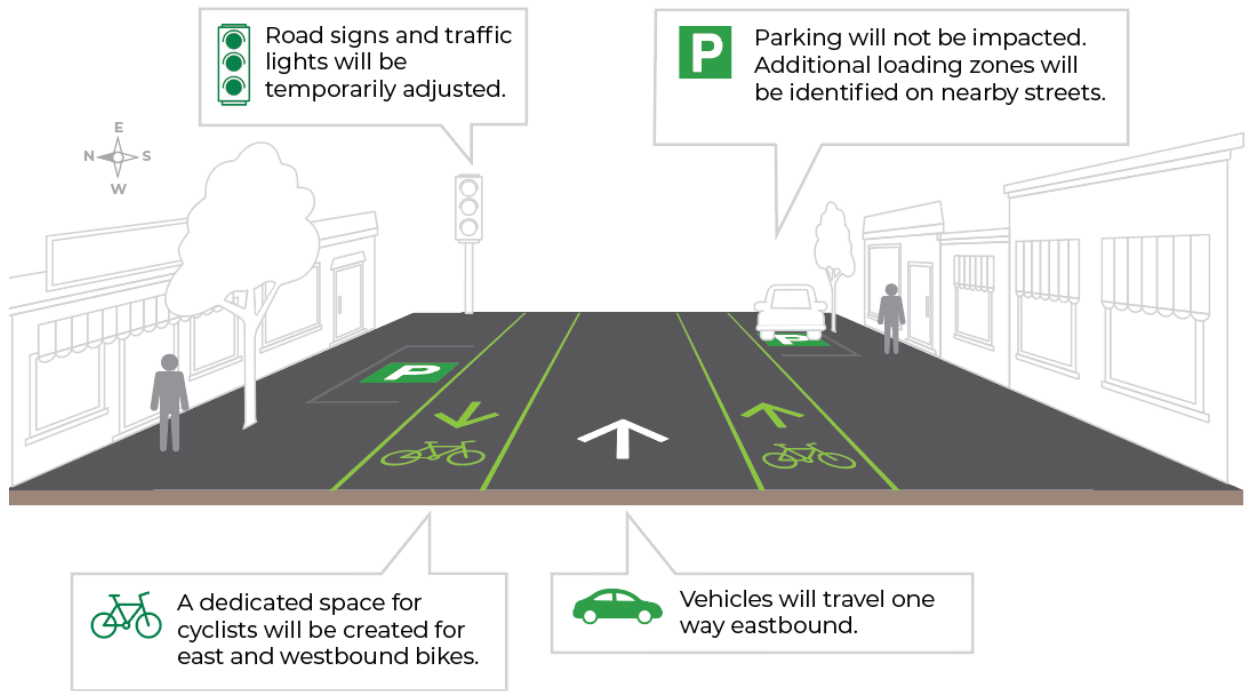


Figure 1: Schematic of Dundas Place Temporary Bicycle Lane Layout (note: this image is for illustrative purposes to assist with visualizing the new configuration of traffic).

If approved, the changes to the lane use and configuration will be accomplished with signage and temporary pavement markings that will preserve the long-term appearance and integrity of the special brick paving. Bicycle lane barriers would be limited based on traffic conditions and to retain the flexibility of the street for programming should events be permitted under Covid-19 restrictions. Where necessary, planters are being considered for this purpose.

These changes do not impact the on-street parking, loading zones or event planning. There would also be no impact to the implementation or capacity of patios.

With council direction, the temporary bicycle lane pilot would be introduced in late April, aligned with the start of 2021 construction in the core. The pilot will include monitoring and consultation throughout and supportive communications with businesses. Upfront communications with business owners and property owners will help raise awareness and allow the project team to make minor adaptations as needed. The communications plan would also include other partners such as emergency services, utilities and other services. Consultation with the relevant advisory committees would occur during the March cycle of meetings. Throughout the pilot, staff will monitor the safety and operational effectiveness of this street layout and conduct regular check-ins with business and cyclists to gather feedback on the effectiveness and to determine if further adjustments are required.

2.2 Dundas Place On-street Parking

Daytime paid parking on Dundas Place currently requires the use of the Honk application and is limited to two hours with the first hour free. To address concerns regarding payment options raised by the public and Downtown London, it is recommended that the two-hour paid parking on Dundas Street from Ridout Street North to Wellington Street be removed and replaced with one-hour free parking.

Reducing the length of time will create more turn-over of the parking, aligned with the flexible nature of Dundas Place. Longer-term paid parking remains available on nearby side streets and at off-street lots. Downtown London leadership has indicated support for offering free short-term parking on Dundas Place.

Conclusion

Temporary bicycle lanes along Dundas Place are recommended as a pilot project during the 2021 construction season when more deflected traffic is anticipated on Dundas Street. With Council direction arising from the next Civic Works Committee meeting, the temporary bicycle lanes will be implemented in alignment with the start of downtown construction. The pilot will be monitored to determine how the recommended configuration affects the operations and use of the flex street. The existing parking and loading zones are not impacted with this proposed configuration. Dundas Place event planning and patio opportunities are also unaffected.

Reducing the length of time vehicles can remain parked during the daytime along Dundas Place will increase parking turn-over when there are more businesses open. Appended amendments are recommended to Schedule 6 (Limited Parking) and Schedule 20 (2 Hour Metered Zone) of the Traffic and Parking By-law (PS-113) to implement this parking change.

Prepared by: Shane Maguire, P. Eng., Division Manager, Roadway Lighting and Traffic Control
Submitted by: Doug MacRae, P. Eng., MPA, Director, Roads and Transportation
Recommended by: Kelly Scherr, P. Eng., MBA, FEC, Managing Director, Environmental and Engineering Services and City Engineer

February 19, 2021/

Attach:

Appendix A – By-law to Amend the Traffic and Parking By-law (PS-113) to replace two-hour paid parking with one-hour free parking along Dundas Place

cc: Parking Office
Major Projects

APPENDIX A By-law to amend the Traffic and Parking By-law (PS-113) to replace two-hour paid parking with one-hour free parking along Dundas Place

Bill No.

By-law No. PS-113

A by-law to amend By-law PS-113 entitled, “A by-law to regulate traffic and the parking of motor vehicles in the City of London.”

WHEREAS subsection 10(2) paragraph 7. Of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, provides that a municipality may pass by-laws to provide any service or thing that the municipality considers necessary or desirable to the public;

AND WHEREAS subsection 5(3) of the *Municipal Act, 2001*, as amended, provides that a municipal power shall be exercised by by-law;

NOW THEREFORE the Municipal Council of the Corporation of the City of London enacts as follows:

1. Limited Parking

Schedule 6 (Limited Parking) of the By-law PS-113 is hereby amended by **adding** the following rows:

Column 1 Street	Column 2 Side	Column 3 Area	Column 4 Time	Column 5 Period
Dundas Street	North	A point 35 m east of Ridout Street N to a point 46 m east of Ridout Street N	8:00 a.m. to 6:00 p.m.	1 Hour
Dundas Street	North	A point 75 m west of Talbot Street to a point 19 m west of Talbot Street	8:00 a.m. to 6:00 p.m.	1 Hour
Dundas Street	North	A point 18 m east of Talbot Street to a point 38 m east of Talbot Street	11:00 a.m. to 6:00 p.m.	1 Hour
Dundas Street	North	A point 53 m east of Richmond Street to a point 86 m east of Richmond Street	8:00 a.m. to 6:00 p.m.	1 Hour
Dundas Street	North	A point 20 m east of Clarence Street to a point 40 m east of Clarence Street	8:00 a.m. to 6:00 p.m.	1 Hour

Column 1 Street	Column 2 Side	Column 3 Area	Column 4 Time	Column 5 Period
Dundas Street	South	A point 38 m east of Ridout Street N to a point 59 m east of Ridout Street N	8:00 a.m. to 6:00 p.m.	1 Hour
Dundas Street	South	A point 58 m west of Richmond Street to a point 51 m west of Richmond Street	8:00 a.m. to 6:00 p.m.	1 Hour
Dundas Street	South	A point 51 m west of Richmond Street to a point 38 m west of Richmond Street	11:00 a.m. to 6:00 p.m.	1 Hour
Dundas Street	South	A point 50 m west of Clarence Street to a point 30 m west of Clarence Street	8:00 a.m. to 6:00 p.m.	1 Hour
Dundas Street	South	A point 94 m east of Clarence Street to a point 121 m east of Clarence Street	8:00 a.m. to 6:00 p.m.	1 Hour

2. 2-Hour Metered Parking

Schedule 20 (2 Hour Metered Zones) of the By-law PS-113 is hereby amended by **deleting** the following rows:

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
Dundas Street	North	Ridout Street N	A point 18 m east of Talbot Street	8:00 a.m. to 6:00 p.m.
Dundas Street	North	A point 18 m east of Talbot Street	A point 38 m east of Talbot Street	11:00 a.m. to 6:00 p.m.
Dundas Street	North	A point 38 m east of Talbot Street	A point 31 m east of Richmond Street	8:00 a.m. to 6:00 p.m.
Dundas Street	North	A point 44 m east of Richmond Street	Colborne Street	8:00 a.m. to 6:00 p.m.

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
Dundas Street	South	Ridout Street N	A point 122 m east of Talbot	8:00 a.m. to 6:00 p.m.
Dundas Street	South	A point 122 m east of Talbot	A point 135 m east of Talbot	11:00 a.m. to 6:00 p.m.
Dundas Street	South	A point 135 m east of Talbot	A point 71 m east of Clarence Street	8:00 a.m. to 6:00 p.m.
Dundas Street	South	A point 71 m east of Clarence Street	Adelaide Street N	8:00 a.m. to 6:00 p.m.

Schedule 20 (2 Hour Metered Zones) of the By-law PS-113 is hereby amended by **adding** the following rows:

Column 1 Street	Column 2 Side	Column 3 From	Column 4 To	Column 5 Period
Dundas Street	North	Wellington Street	Colborne Street	8:00 a.m. to 6:00 p.m.
Dundas Street	South	Wellington Street	Adelaide Street N	8:00 a.m. to 6:00 p.m.

This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on March 23, 2021

Ed Holder

Mayor

Catharine Saunders

City Clerk

First Reading – March 23, 2021

Second Reading – March 23, 2021

Third Reading – March 23, 2021

Hello,

The initial designs made public for enhancement and accommodation of cycling on Dundas Place do not adhere to any standards or practices that can be found anywhere else that I am aware of. I am concerned this would be a dangerous experiment for Londoners. Having vehicles cross a painted lane to park and re enter traffic will result in someone being hit. We've heard the arguments that these spaces are required for third party delivery agents supporting businesses, that only raises the risk and concern for safety resulting from the frequent short use.

While it seems everything downtown is in a state of decline, cycling is not. The CoL counters on either side have shown that despite a lack of commuters cycling has increased dramatically. Leverage our strengths and opportunities against our weaknesses and threats.

<https://www.cbc.ca/news/canada/london/dundas-place-could-lose-vehicle-lane-bike-traffic-1.5926452>



Dooring never has to happen if we stop promoting it as a compromise. The real tragedy is that door zone riding is so heavily promoted, even after decades of observing the carnage it causes. A surprising number of people prefer to view bicycle crashes as either (a) completely random, or (b) the fault of someone else.

These beliefs fuel the society-wide opinion that bicycling has huge risks that can't be managed. Some bicyclists feel validated when they see a bike lane, but I know how dangerous it is if it's in the door zone first hand. But by gum, it's a bike lane, and that says the city must love bicyclists.

Door Zone BLs are a sanctioned known hazard for bicyclists. Bicycling advocates should make it known that Door Zone BLs are unacceptable. Traffic engineers should not install BLs that have inadequate clearance to lateral obstructions, and certainly not with obstructions that may without warning appear in the travel way (Doors, Mirrors and front quarter panels).

For decades it has been the conventional wisdom that crashes involving bicyclists and opening car doors are rare. This belief is based on motor vehicle crash reports, but these reports generally exclude this crash type by definition. More complete sources show that dooring crashes are **one of the most common causes of urban bicycle-motor vehicle collisions, accounting for 12%–27% of the total.** - Volume 120, November 2018, Pages 74-82 - Accident Analysis & Prevention

Additional Source:

References Harkey, D.L. and Stewart, J.R. "Evaluation of Shared-Use Facilities for Bicycles and Motor Vehicles," Transportation Research Record 1578, 1997, pp. 111-118. http://safety.fhwa.dot.gov/fourthlevel/design_b.htm

It boils down to this. If the street isn't wide enough for a safe bike lane. You could put in a very unsafe bike lane, like the one planned, remove the parking, or figure out some other way to tame the street for bike and pedestrian use.

Regards,

Andrew Hunniford

February 26, 2021

Civic Works Committee
300 Dufferin Ave
London, ON N6B 1Z2

Dear Chair and Members:

**Re: CWC Meeting of March 2, 2021
Item 2.8: Dundas Place - Temporary Bicycle Lanes and Revised Parking Limits**

I am writing to express my concern with the proposed layout of the temporary bicycle lanes found in the Engineering Report to the Civic Works Committee dated February 19, 2021 (“the Report”). There is clear evidence that biking alongside parked cars is dangerous. There is also clear evidence that protected bike lanes eliminate this danger, while also incentivizing cycling. I ask this Committee ensure that any bike lane—temporary or otherwise—built on Dundas Place be a protected lane, not a painted lane.

The Danger of Biking Beside Parked Cars

There is a wealth of evidence demonstrating that biking beside parked vehicles is dangerous for cyclists, primarily due to drivers opening door into the path of a cyclist.

One study of crash circumstances in Vancouver and Toronto found that

*Motor vehicle involvement in collisions and falls featured most prominently on major streets with parked cars, and almost not at all on routes separated from traffic... Major streets with parked cars had more crashes with vehicles than expected, including those with vehicle doors. In contrast, collisions with motor vehicles on routes separated from traffic were rare.*¹

Another study, which analyzed video footage from commuter cyclists to determine how frequently dooring incidents occurred, found that

- *The number of opened vehicle doors per trip ranged from 0 to 3 with a per trip rate of 0.59.*
- *All vehicle occupants/drivers who were observed entering the vehicles opened the door. None of the vehicle occupants/drivers made a head check in the direction of the oncoming traffic and none of them waited for the cyclist to pass before opening the door. All vehicles observed were non-commercial vehicles.*
- *It is likely that the most effective countermeasure would be a reconfiguration of the road space to shift cyclists away from the door zone.*²

A similar study found that cyclists riding alongside cars had to swerve or brake to avoid opened doors 2.3 times per hour while cycling.³

Furthermore, on-street parking is associated with cars passing closer to cyclists.⁴ Research shows that 1 out of every 17 car passes is a “close pass” of less than 1 m (which contravenes

¹ Teschke et al, 2014: “Bicycling crash circumstances vary by route type: a cross-sectional analysis”.

² Johnson et al, 2013: “Cyclists and open vehicle doors: Crash characteristics and risk factors”.

³ Lawrence et al, 2018: “Cyclist exposure to the risk of car door collisions in mixed function activity centers: A study in Melbourne, Australia”.

the *Highway Traffic Act*), and cars pass closer to cyclists where there are on-road bike lanes and parked cars.⁵

The roadway portion of Dundas Place is approximately 25 feet wide. Although it is not clear from the image in the Report how wide the parking lanes and bike lanes are, it should be noted that on average an open car door extends 11 feet from the curb.⁶ Unless there is a buffer zone of at least 3 feet between cars and a bike lane, 40%-60% of cyclists bike within the door zone of parked vehicles. Numerous road design guides (including AASHTO, NACTO, FHWA, MassDOT, and the OTM) recommend or require a significant buffer zone between parked cars and bike lanes. This buffer is not evident in the Report.

This means that with two parking lanes, nearly the entire road width must be set aside just for parking, if it is to be safe. Given the current and proposed design of the road, there is simply not enough room for cyclists to ride safely, let alone for two bike lanes and motor vehicle traffic. However, by introducing a protected bike lane, the City can avoid this situation.

The Benefit of Protected Bike Lanes

Painted bike lanes are not an effective way to protect cyclists, and have no significant effect on reducing collisions.⁷ Only lanes with a physical barrier provide meaningful protection to cyclists. The more protected a bike lane is, the greater the vehicle passing distance is, which is safer for cyclists.⁸ In addition to making cycling safer, introducing protected bike lanes reduces accidents for all road users – including drivers.⁹ In fact, as the number of cyclists increases, the fewer bike/car accidents there are.¹⁰

Cyclists correctly perceive protected bike lanes to be safe.¹¹ This applies to older cyclists¹² as well as children.¹³ As a result, where protected bike lanes are built, significantly more people use them. For instance, Seattle saw a 400% increase in cyclists after adding protected bike lanes.¹⁴ Mode share in areas of Montreal and Vancouver that have a protected bike network approaches 20%, but declines where no protected network exists.¹⁵

The Report states that

⁴ Evans et al, 2018: “Factors Affecting Vehicle Passing Distance and Encroachments While Overtaking Cyclists”.

⁵ Beck et al, 2019: “How much space do drivers provide when passing cyclists? Understanding the impact of motor vehicle and infrastructure characteristics on passing distance”.

⁶ Schimek, 2018: “Bike lanes next to on-street parallel parking”.

⁷ Bhatia et al, 2016: “Examining the impact of cycle lanes on cyclist-motor vehicle collisions in the city of Toronto”.

⁸ Evans et al, 2018: “Factors Affecting Vehicle Passing Distance and Encroachments While Overtaking Cyclists”.

⁹ Marshall & Ferenchak, 2019: “Why cities with high bicycling rates are safer for all road users”.

¹⁰ Hamra et al, 2020: “Motor Vehicle Crashes Involving a Bicycle Before and After Introduction of a Bike Share Program in Philadelphia, Pennsylvania, 2010–2018”.

¹¹ Hoglund, 2020: “Safety-oriented practices of adult bicycle riders in Brooklyn, New York USA: an interview study”.

¹² Scheper et al, 2020, “The perception of bicycle crashes with and without motor vehicles: Which crash types do older and middle-aged cyclists fear most?”.

¹³ Zhao et al, 2020: “Risk Perception Sensitivity of Cyclists Based on the Cox Risk Perception Model”.

¹⁴ Schmitt, 2019: “Ridership Jumped 400% When Seattle Protected a Bike Lane”.

¹⁵ Teschke et al, 2017: “Proximity to four bikeway types and neighborhood-level cycling mode share of male and female commuters”.

Bicycle lane barriers would be limited based on traffic conditions and to retain the flexibility of the street for programming... [w]here necessary, planters are being considered for this purpose.

Barriers should not be limited. Separating the motor vehicle and parking lanes from the bike lanes with a row of planters, similar to what is shown in the figure below, would retain flexibility while protecting cyclists. Separation would also prevent the perennial problem of drivers using the bike lanes for parking.



A potential objection to this design is that drivers would be opening their doors into traffic. The response is that with the current design, drivers would be opening their doors into people. This Committee should carefully consider whether it values the potential of minor property damage over the life and limb of cyclists. There is simply no cogent reason to limit the protections offered to cyclists.

The Benefits of Incentivizing Cycling

Cities experience significant economic, health, and environmental benefits when they build protected bike infrastructure. These benefits are not available from painted bike lanes.

Research shows that building protected cycling infrastructure is good for businesses near that infrastructure. When Salt Lake City replace car parking with bike lanes, sales in adjacent shops increased by 8.8%.¹⁶ When Toronto did the same thing on Bloor street, it found that monthly customer spending and the number of customers served increased.¹⁷ In fact, studies show that cyclists spend more on average than drivers at shops in central business districts.^{18 19} In terms of a benefit-to-cost ratio, one study found that “per square metre, cycle parking delivers 5 times higher retail spend than the same area of car parking ... [cycling infrastructure schemes] have benefit-to-cost ratios in the in the range of 5:1 to 19:1 – some as high as 35.5:1.”²⁰

Aside from the direct economic benefits of protected bike lanes, there are significant indirect benefits through better public health. Recent research indicates that building protected cycling infrastructure may be helpful for combating the spread of infectious diseases.²¹ Active

¹⁶ Anderson, 2015: “Salt Lake City Cuts Car Parking, Adds Bike Lanes, Sees Retail Boost”.

¹⁷ Arancibia et al, 2019: “Measuring the Local Economic Impacts of Replacing On-Street Parking With Bike Lanes”.

¹⁸ Clifton et al, 2012: “Business Cycles Catering to the Bicycling Market”

¹⁹ Kastrop, 2013: “Are Cyclists Good Customers?”.

²⁰ Raje & Saffrey, 2016: “The Value of Cycling”.

²¹ Adlakha & Sallis, 2020: “Activity-friendly neighbourhoods can benefit non-communicable and infectious diseases”.

commuting is associated with reduction in cardiovascular disease, cancer and mortality.^{22 23} As a result, even a small increase (as little as 2 percentage points) in cycling mode share is associated with significant economic benefits due to reduced morbidity and mortality.²⁴

Finally, increased cycling is good for the environment. A single person shifting from driving to biking or walking saves 7.1 kg of CO₂ per day.²⁵ Canadian data shows that increasing protected cycling network length by 7% reduces greenhouse gas emissions by 2% due to increased cycling mode share.²⁶

There is no evidence to suggest that the Report's proposal for Dundas Place will incentivize cycling. It may actually dissuade cyclists who rightly fear being doored. However, building protected bike lanes will support the City's goals for increasing active transportation mode share.

Conclusion

While I am happy that this Committee is open to reconsidering the configuration of Dundas Place, the Report's proposed layout does not comply with evidence-based standards for bike lanes adjacent to parking spaces. If the Report's layout is implemented, it will put the health and safety of cyclists at risk. On the other hand, if protected bike lanes are built, cyclists will be kept safe from dooring incidents, and more people will be likely to come to Dundas Place. There are significant economic, health, and environmental benefits to building protected cycling infrastructure that the City would not obtain using the Report's proposed layout. I ask that this Committee ensure that the bike lanes built on Dundas Place are protected lanes.

Yours truly,



David Isaac
DTI/

cc: Councillor Arielle Kayabaga

²² Celis-Morales et al, 2017: "Association between active commuting and incident cardiovascular disease, cancer, and mortality: prospective cohort study".

²³ Dutheil et al, 2020: "Protective Effect on Mortality of Active Commuting to Work: A Systematic Review and Meta-analysis".

²⁴ Whitehurst et al, 2021: "An economic analysis of the health-related benefits associated with bicycle infrastructure investment in three Canadian cities".

²⁵ Brand et al, 2020: "The Climate Change Mitigation Effects of Active Travel".

²⁶ Zahabi et al, 2016: "Exploring the link between the neighborhood typologies, bicycle infrastructure and commuting cycling over time and the potential impact on commuter GHG emissions".

Hi There,

Just would like to chime in with my perspective on the proposed changes to Dundas Place. I think the design, which lack any barriers between cars and pedestrians/bicycles, is a dangerous one. Also, having the bike lane go directly beside parked cars, where they are liable to get "doored" is not a smart design. Honestly, the idea of this proposal is great, but the execution is terrible. I would love to see the "best practices" that the designer referred to when coming up with this.

Best,

--

Drew Pihlainen

Hi there,

You'll probably get a lot of feedback on this, so I'll keep mine brief:

- Bike lane on Dundas Place = great! That connection could make a huge difference in how I get around between Old North, Old East, and Downtown. Even if I drive, it's nice to have a pleasant destination that is more bike and pedestrian friendly.
- But the implementation proposed is problematic. Paint will not protect cyclists from drivers who are not used to monitoring for bikes on both sides. And those bike lanes look like they're right where car doors will open after parking.

So it's potentially worse than nothing. I know other cities have had a single two-way bike lane separate from car traffic and parking with concrete curbs, like on Colborne, which seems like a good idea to me, but I'm sure there's plenty of expert research to draw on to find a better solution.

Thanks for listening, and for all your hard work.

All the best,

Mike Battista, Ph.D.

Hi,

I write to express my dismay at your plans regarding temporary bike lanes on Dundas Place. Having ridden all my life (60 years) I can tell you with authority that cycling alongside parked cars is NOT safe! Cyclists are at great risk of "dooring".

A better solution would be to remove parking from one side of the street and have 2 directional bike lanes on that side of the road and then have a central divider and a car lane one-way on the other side of the road.

I know that you will say "we cannot lose any parking" but there are thousands of parking spaces downtown and virtually no bike lanes!

I implore you to provide a safe option for us cyclists to ride east-west across town.

Thanks

Steve Wright

Centre St, London ON.

March 1, 2021

Ben Cowie
Owner/Operator, London Bicycle Café
355 Clarence Street
London, ON N6A 3M4
Phone: 226-289-2670
E-mail: ben@londonbicyclecafe.com
Web: www.londonbicyclecafe.com

DUNDAS PLACE CYCLING CONFIGURATION

Councillor Elizabeth Pelozo, Chair
City of London, Civic Works Committee

Dear Councillor Pelozo and Civic Works Committee,

The purpose of this letter is to share concerns regarding the recent staff proposal to accommodate cycling on Dundas Place. I appreciate staff's acknowledgement that the current configuration is unsafe for cycling, and accept their willingness to listen to the community as an invitation to find a design that is safe for users of all ages and abilities. It is my view that when designing any street, **the safety of any user group cannot be prioritized below the convenience of another**. This guiding principle should provide all the direction required to create a safe, and attractive street for all users.

There are three considerations at play before thinking about what a design should look like during the 2021 construction season and beyond:

1. Traffic on Dundas Place will increase substantially in 2021 due to the closure of all eastbound lanes on King Street, and the resumption of usual activities toward the end of the summer once Covid vaccines are widely available.
2. Illegal parking is a serious concern today. Many of the drivers parked illegally are employees of food delivery services, which have increased dramatically in number due to Covid-19. However, the concerns about illegal parking and illegal stopping pre-date the pandemic, and were visible on opening day of the flex space. Illegal parking will continue to be a major issue in 2021 and beyond if not addressed.
3. Vehicle speeds regularly exceed the posted 30 km/h limit in the present two-way configuration.
4. Steel bollards that line the road presently are a danger to cyclists. They aren't particularly visible, and there are high consequences if accidentally contacted. They also prevent safe egress to the sidewalk if a driver makes an error.

The proposed design does little to change the streetscape from a safety point of view, and does not invite the thousands of daily users of the Thames Valley Parkway into downtown. In many ways, the proposed changes make the street more dangerous. Below are my concerns.

The proposed design ...

- does not separate motor vehicle traffic from cyclists with any physical barrier.
- does not lower motor traffic volumes to near-zero levels required for all-ages-and-abilities mixed traffic riding (e.g. like a residential street).
- requires drivers to cross the bike lane to park. This has the subsequent challenge of allowing drivers to enter the bike lane for other reasons, such as illegal stopping or illegal parking. As illegal parking is a serious concern today, it is my view that the bike lanes would be used for even more illegal parking in the new design.
- attempts to increase available parking by time-limiting parking to one hour. Increased frequency of parking/pulling out of a parking space means increased conflict with cyclists, as motorists must cross the bike lane to park.
- places the cycling lane in the “door-zone” of parked vehicles on both sides of the street. The consequences of a door zone collision, in the westbound direction in particular, would result in a cyclist being knocked into oncoming traffic, giving the driver little to no reaction time, and a likely catastrophic outcome.
- leaves no margin for error, if a child was using the bike lane and deviated a few centimetres outside the lane, they may be at risk for a collision. While driving a motor vehicle requires licensing, testing, and adult judgment, a child does not possess the same skills and training. We must not exclude children by design from our cycling facilities.
- increases the driver’s field of vision, and perceived space to operate their vehicle, therefore it is likely that drivers will travel faster given their wider position in the center of the street, free and clear of physical barriers.
- changes a two-way street into a one-way street. Two-way streets are superior for business, safer for pedestrians, cyclists, and drivers. For example (<https://www.cnu.org/publicsquare/2019/07/09/cities-benefit-one-way-two-way-conversions>)

Any street design for Dundas Place (or any downtown street) should invite users of all ages and abilities to cycle, wheel, scooter, or use an assistive device to access the core of our city. Cars can be permitted, too, but must only be permitted when safety of other users is prioritized first.

Sincerely yours,



Ben Cowie

Dear Members and Chair of the Civic Works Committee,

I'm writing to express my disappointment in the proposed cycling lane design for Dundas Place. As a regular cyclist, I can only look at the image and see a space in which I'd feel incredibly unsafe cycling. I can tell you right now: I won't use it.

Since Dundas Place opened, it's become evident that the lack of physically-separated sidewalks has created a misconception that drivers can park wherever they like on this stretch of road. I can only assume that these painted lanes (which, surely, we should know by now are unacceptable in 2021), will serve as a welcome mat for parked cars, idling cars, and the seemingly endless amount of drivers that "will only be stopped here for a minute!"

Moreover, to put cyclists in the direct path of opening car doors can be fatal. To put cyclists moving against one way traffic can be fatal. To not provide cyclists with AAA cycling infrastructure can be fatal.

Please, let's stop trying to reinvent the wheel on cycling infrastructure in London. There are so many proven solutions we could implement here in lieu of poorly-thought out street designs and meaningless feedback rounds.

If you can't give cyclists physically-separated lanes on Dundas Place, then remove cars from Dundas Place. If you can't remove cars from Dundas Place, then admit the flex street isn't working and keep Dundas Place as it is: don't waste my tax dollars on paint, as it will only maintain the status quo and will not offer any sort of meaningful improvement.

In the meantime, I'll take my bike, and the money I'd like to spend at the small businesses along this road, elsewhere. Dundas Place is simply too dangerous for road users like me.

Devan Vanden Boomen

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: Award of Consulting Services for Detailed Design and
Tendering for a New Landfill Gas Flaring Station

Date: March 2, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental and Engineering Services & City Engineer, the following actions BE TAKEN with respect to the award of consulting engineering services for the *Environmental Protection Act* approval, detailed design and tendering for a new landfill gas flaring station at the W12A Landfill:

- a) Comcor Environmental Ltd. **BE APPOINTED** to carry out the *Environmental Protection Act* approval, detailed design and tendering for a new landfill gas flaring station, in the total amount of \$221,029, including contingency of \$28,830, excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;
- b) The flaring station be designed assuming that the landfill expansion proceeds **BE APPROVED**;
- c) Design and tendering for the new flaring station be initiated prior to receiving *Environmental Protection Act* approval for the project **BE APPROVED** noting that the tender will include clauses that the award is subject to *Environmental Protection Act* approval;
- d) the financing for the work identified in (a), above, **BE APPROVED** in accordance with the "Sources of Financing Report" attached hereto as Appendix "A";
- e) Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with these purchases; and
- f) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

Executive Summary

The existing W12A Landfill Gas (LFG) collection and flaring system has a designed maximum gas burning capacity of 1,700 standard cubic feet per minute (scfm) and was expected to reach capacity by approximately 2027. Since the completion of the most recent LFG collection system expansion in Spring 2020, the observed LFG flow has increased almost 50% and reached the maximum designed capacity of the flare system earlier than expected.

The increased gas collection has contributed to a reduction in odour at the W12A Landfill. It also provides further evidence of the gas supply for conversion into renewable natural gas (RNG) as part of upcoming negotiations for the establishment of an RNG facility at the landfill. These negotiations have been on hold due to the pandemic and the impacts and uncertainties occurring in energy markets.

The construction of a new flaring station will need to proceed sooner than planned in the existing 10-year capital budget. The current station was constructed in 2004 and minor upgrades were completed in 2013 to meet Technical Standards and Safety Authority (TSSA) compliance changes for digester-gas, bio-gas and landfill gas installations.

The required adjustments to the capital budget to accommodate the construction portion of this project will be addressed as part of the budget update process and brought forward as a budget amendment in 2022 for Committee and Council approval as part of the annual budget update.

This report seeks approval from Committee and Council to retain Comcor Environmental Inc. to carry out the EPA approval, detailed design and tendering of a new larger LFG flaring station. Funds for the initial engineering assignment for this project are available within the 2021 Solid Waste Management capital budget.

Linkage to the Corporate Strategic Plan

Municipal Council continues to recognize the importance of solid waste management and the need for a more sustainable and resilient city in the development of its 2019-2023 - Strategic Plan for the City of London. Specifically, London's efforts in solid waste management address three Areas of Focus, at one level or another:

- Building a Sustainable City
- Growing our Economy
- Leading in Public Service

On April 23, 2019, the following was approved by Municipal Council with respect to climate change:

Therefore, a climate emergency be declared by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change.

The LFG collection and flaring system at the W12A Landfill is a key component of London's upcoming Climate Emergency Action Plan. LFG is approximately 50% methane gas which is 25 times more potent greenhouse gas (GHG) than carbon dioxide. In 2020, the existing LFG collection and flaring system captured and destroyed 151,000 tonnes CO_{2eq} of GHG. This GHG reduction is equivalent to removing 38,000 cars from the streets of London for the year.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Relevant reports that can be found at www.london.ca under City Hall (Meetings – Council and Standing Committees) include:

- Environmental Assessment – Updates and Preferred Method to Expand the W2A Landfill (September 22, 2020 meeting of the Civic Works Committee (CWC), Item #2.11)
- Landfill Gas (LFG) Utilization: Next Steps in the Development of a Renewable Natural Gas (RNG) Facility (September 24, 2019 meeting of the CWC, Item #2.4)

1.2 Existing Landfill Gas Generation

The W12A Landfill operates an enclosed LFG flare system that is sized to combust a maximum of approximately 1,700 scfm of LFG. The LFG collection system and flare are approved under ECA No. A042102.

The flare began operation on June 30, 2004 and initially burned approximately 500 scfm of LFG. The amount of LFG that is captured has increased over the years as the area of completed landfill within the approved waste disposal footprint has increased and new LFG wells were installed. In 2019, an average of approximately 1,200 scfm of LFG was captured and flared. This is approximately 60% of the LFG generated which is a

typical capture rate for a landfill. The increase in LFG from 500 scfm in 2004 to 1,200 scfm in 2019 translates into an average increase of approximately 45 scfm per year.

Analysis undertaken for the environmental assessment (EA) for the proposed expansion of the W12A Landfill in early 2020 concluded that the capacity of the flare would be exceeded by about 2027. This was based on the expected future LFG collection system efficiency and the proposed timeline for future LFG collection system expansions. The estimated LFG being captured was estimated to increase from approximately 1,200 scfm in 2019 to approximately 1,700 scfm in 2027 for an average increase of approximately 60 scfm per year.

Prior to 2020, the LFG collection system relied mainly on vertical extraction wells to capture LFG being generated in the waste. In the spring of 2020, the latest LFG collection system expansion was completed. This expansion included horizontal collection pipes as well as vertical collection wells. This is the type of LFG collection system that is proposed for the landfill expansion and is expected to be able to capture a higher percentage of LFG in the areas where it is installed.

By June 2020 the amount of LFG being collected increased to approximately 1,500 scfm. By October 2020 the amount of LFG being collected increased to approximately 1,700 scfm which is the maximum capacity of the existing flare. In total the amount of LFG being collected increased almost 50% (500 scfm) in one year.

The increase in the amount of landfill gas being collected appears to have had a direct effect on reducing odours from the landfill. Total verified odour complaints were 45 in 2019. Verified complaints in 2020 were 19 with only 3 in the second half of the year. A verified odour complaint is a complaint received either directly by the City or forwarded to the City from the MECP where the wind direction and speed as observed from the landfill's onsite weather station indicate the landfill is the likely source of odour.

There have been no complaints since October 2020 when the maximum capacity of the flare was reached. It is recognized that one complaint may represent more than one person experiencing an odour episode. Verbal and written comments shared with City staff have also supported a noticeable reduction in odour episodes. Any concerns or comments raised by MECP regulatory staff have been addressed. There are no outstanding concerns.

1.3 Future Landfill Gas Generation

Often the increase in the amount of LFG being collected is initially higher in the first few months after an expansion than in the longer term. That notwithstanding, the amount of LFG currently being collected has not been observed to decrease and the flare continues to run at its maximum capacity of 1,700 scfm. It is assumed that the use of horizontal collectors in addition to the traditionally used vertical extraction wells in the most recent LFG collection system expansion has increased the collection efficiency of the collection system. This may explain a portion of the unexpected increase in LFG volumes being collected.

LFG generation modelling was completed as part of the EA for the proposed expansion of the W12A Landfill. The modelling estimates that the amount of LFG to be flared will peak in 2049 at approximately 3,700 scfm.

1.4 Status of Renewable Natural Gas (RNG) Negotiations

On October 1, 2019, Council directed staff to potentially supply renewable natural gas (RNG) to FortisBC Energy Inc. through a future facility at the landfill, subject to the outcome and Council approval through a request for proposal (RFP) process. Further discussions with FortisBC have been on hold due to regulatory discussion in British Columbia, the pandemic and the impacts and uncertainties occurring in energy markets. These discussions are scheduled to resume in March or April.

2.0 Discussion and Considerations

2.1 The Need to Expedite Project

The existing LFG flaring station is at capacity and will not be able to destroy more landfill gas until a new larger flaring station is constructed. It would normally takes up to three years to get approvals and construct a larger flaring station.

The next LFG collection system expansion will likely need to occur no later than early 2022, possibly sooner assuming existing volumes of waste received for disposal do not change. Although the LFG flaring system has reached its current volumetric capacity, the well field can be rebalanced after the next expansion to maximize odour control until the new flaring station is available. This can be accomplished by maximizing LFG capture in the waste tipping area and other areas with newer waste.

Changes to the existing flaring station or installation of a new flaring station will require the City to amend the Waste Disposal Site Environmental Compliance Approval No. A042101 (Waste ECA) under Part 5 of the of the EPA and ECA No. 4183-78XHLX (Air ECA) for the W12A landfill site under Part 9 of the EPA. It is expected it will take two to three months to prepare the applications to amend the ECAs including the supporting documentation.

The expected time for the MECP to approve any amendments to the landfill's ECAs is approximately one year or longer.

Detailed design and tendering of the project would normally begin after MECP approval and is expected to take six to eight months to complete.

Construction of a new flaring station cannot occur until after the amendments to the landfill's ECAs have been approved. The time to construct the new flaring station, including fabrication of equipment, will take eight to 12 months.

The total time of the above tasks to have a new larger flaring station operational is 28 to 35 months from the time work starts on preparing the ECA amendment applications. Since the LFG collection system will be expanded in less than 12 months, the City should undertake all reasonable actions to expedite the installation of a larger flaring station.

Awarding the engineering services contract in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy (see Section 2.3) allows engineering work to begin immediately.

It is proposed the detailed design and tendering process be initiated prior to receiving the amended waste and air ECAs for the project. Design of LFG flaring stations is specialized work and it is expected that the MECP review of the waste and air ECA applications will only have minor comments. The tender will include clauses noting that the award is subject to MECP approval of the waste and air ECA applications. This action is expected to shorten the time to get the new LFG flaring station operational by six to eight months.

Other actions to expedite the process could include:

- asking the local MECP office to approach the Approvals Branch to prioritize the ECA approval process for this project; and,
- approach the local MECP office to see if they would issue a Preventative Measures Order which potentially could allow for construction of the larger flaring station prior to ECA approval.

Subject to Committee and Council direction on this report, City staff will meet with MECP local staff to discuss these opportunities and will take all appropriate actions that are expected to assist in expediting the process based on these discussions.

2.2 Design Capacity

The City is nearing completion of the technical studies as part of the EA for the proposed expansion of the W12A Landfill and is currently preparing the draft Environmental Assessment Study Report which will document the EA process and be submitted to the MECP for approval.

The EA recommends that the W12A Landfill be expanded vertically over the existing waste footprint. The vertical expansion will increase the maximum height of the landfill by 26 metres and the disposal volume of the landfill by 13,800,000 m³. It is expected the landfill expansion will accommodate 9,800,000 tonnes of waste and take 25 years to fill.

As noted previously, the LFG collection and flaring station is expected to require a maximum capacity of approximately 3,700 scfm if the expansion is approved.

It is recommended that the flaring station be designed assuming that the landfill expansion will be approved.

2.3 Appointment of Comcor Environmental Ltd.

Comcor Environmental Limited (Comcor) has specialized experience in the field of design, installation and operation of LFG flaring stations. The firm has provided these specialized services since 1985 and is located in Cambridge, Ontario with operations staff also based out of satellite offices in Mississauga, Niagara Falls, Ottawa and Moose Creek, Ontario and Winnipeg, Manitoba. Comcor currently operates and maintains over 20 landfill gas collection, flaring and/or utilization facilities across Canada, with 16 of these projects being located in Ontario. Comcor has also completed design work, on-site supervision and commissioning as associated with the majority of these facilities.

Comcor Environmental Ltd. completed the design and oversaw installation of the existing LFG collection and flaring system and several LFG collection system expansions at the W12A landfill site. Comcor Environmental Ltd. is also currently under contract by the City to operate and maintain the existing LFG flaring station.

Using Comcor Environmental Ltd. will expedite the project because the work can commence immediately. No time will be lost seeking and reviewing alternative proposals. Comcor has specific knowledge of this project whereas other consultants would need time to review the W12A landfill site specific details.

Considering the above, Comcor Environmental Ltd. was invited to submit a proposal to carry out the EPA approval, detailed design and tendering process for the project. Staff have reviewed the fee submission in detail considering the various activities, time allotted to each project task and related hourly rates provided. The review supports the hiring of Comcor Environmental Ltd. on this project.

The continued use of Comcor Environmental Ltd. on this project for the detailed design and tendering process is of financial advantage to the City because the firm has specific knowledge of the project and has undertaken work for which duplication would be required if another firm were to be selected.

In accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy, Civic Administration is recommending Comcor Environmental Ltd. be authorized to carry out the EPA approval, detailed design and tendering process for this project for a fee estimate of \$221,029 (excluding HST). The fee includes a 15% contingency of \$28,830.

For this type of work, there is uncertainty as to the duration of construction prior to the start of detailed design. Due to this, construction administration fees are not included in this award and will be awarded at a future Civic Works Committee meeting.

3.0 Financial Impact/Considerations

3.1 Capital Budget

A new larger flaring station would be required as part of the landfill expansion if approved. The estimated cost of the new flaring station in the EA was \$2.3 million including contingencies. It should be noted that much of the existing flaring station, including the enclosed flare, is reaching the end of its useful life and would have to be replaced even if the landfill was not expanded as the landfill will continue to generate LFG for many years after the landfill is closed.

As discussed in Section 2.0, the rapid increase in the amount of LFG being collected means this project will need to proceed sooner than anticipated. The required adjustments to the capital budget to accommodate the construction portion of this project will be addressed as part of the budget update process and brought forward as a budget amendment in 2022 for Committee and Council approval as part of the annual budget update.

Funds for the initial engineering assignment for this project are available within the 2021 Solid Waste Management capital budget. The Sources of Financing Report” to pay for the initial engineering assignment is attached hereto as Appendix “A”.

3.2 Operating Budget

It is expected there will be no increases in annual operating costs for the landfill associated with operation of the new LFG flaring station. This is expected as the installation of new equipment such as centrifugal fans and variable frequency drives will be more efficient even though the overall system will have more volumetric capacity.

Conclusion

Comcor Environmental Ltd. has demonstrated an understanding of the City requirements for this project and hiring Comcor Environmental Ltd. will expedite completion of the project. It is recommended that this firm be authorized to carry out the Environmental Protection Act approval, detailed design and tendering for a new larger LFG flaring station at the W12A Landfill site as it is in the best financial, community and technical interests of the City.

Prepared by: Mike Losee, B.SC
Division Manager, Solid Waste Management

Submitted by: Jay Stanford, MA, MPA
Director, Environment, Fleet & Solid Waste

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Managing Director, Environmental and Engineering Services and City Engineer

Appendix A – Source of Financing

Appendix "A"

#21027

March 2, 2021

(Appointment of Consultant)

Chair and Members

Civic Works Committee

RE: Award of Consulting Services for Detailed Design and Tendering for a New Landfill Gas Flaring Station

(Subledger LF210001)

Capital Project SW604016 - Landfill Gas Collection

Comcor Environmental Ltd. - \$221,029.00 (excluding HST)

Finance and Corporate Services Report on the Sources of Financing:

Finance and Corporate Services confirms that the cost of this purchase can be accommodated within the financing available for it in the Capital Budget, and that, subject to the approval of the Managing Director, Environmental and Engineering Services, and City Engineer, the detailed source of financing is:

Estimated Expenditures	Approved Budget	Committed To This Date	This Submission	Balance for Future Work
Engineering	399,751	174,832	224,919	0
Construction	695,182	617,273	0	77,909
Total Expenditures	\$1,094,933	\$792,105	\$224,919	\$77,909

Sources of Financing

Federal Gas Tax	1,043,358	740,530	224,919	77,909
Other Contributions	51,575	51,575	0	0
Total Financing	\$1,094,933	\$792,105	\$224,919	\$77,909

Financial Note:

Contract Price	\$221,029
Add: HST @13%	28,734
Total Contract Price Including Taxes	249,763
Less: HST Rebate	-24,844
Net Contract Price	\$224,919

Jason Davies

Manager of Financial Planning & Policy

km

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC
Managing Director, Environmental & Engineering
Services & City Engineer

Subject: Community Employment Benefits

Date: March 2, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following summary of Community Employment Benefits requirements under the Investing in Canada Infrastructure Program (ICIP) **BE RECEIVED** for information.

Executive Summary

Community Employment Benefits (CEB) programs are created to encourage economic benefit for communities in which large infrastructure is being built. The federal CEB initiative for ICIP projects aims to support underrepresented groups through employment pathways.

With the support of Purchasing and Supply and Major Projects, the City of London's Rapid Transit and Municipal Infrastructure Improvement projects and the Adelaide Street Underpass will include London's first CEB program. CEB requirements will be outlined to contractors during the tendering stage of each construction contract. The CEB program for these projects will include a cash allowance for the successful contractor to use to hire individuals from federally targeted equity-seeking groups.

Linkage to the Corporate Strategic Plan

The following report supports the Strategic Plan through the strategic focus area of "Growing Our Economy" by leveraging infrastructure investments to achieve social and economic value and employment opportunities in the community.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Strategic Priorities and Policy Committee – March 25, 2018 – Investing in Canada Infrastructure Program - Public Transit Stream Transportation Projects for Submission;
- Strategic Priorities and Policy Committee – March 25, 2019 – Investing in Canada Infrastructure Program, Public Transit Stream, Transportation Projects for Submission;
- Strategic Priorities and Policy Committee – October 28, 2019 – Investing in Canada Infrastructure Program, Public Transit Infrastructure Stream, Approved Projects;
- Civic Works Committee – March 14, 2019 – London’s Rapid Transit Initiative;
- Civic Works Committee – January 7, 2020 - Downtown Loop and Municipal Infrastructure Improvements Appointment of Consulting Engineer; and
- Civic Works Committee – February 9, 2021 – Contract Award: Tender No. 21-01 – Downtown Loop and Municipal Infrastructure Improvements

2.0 Discussion and Considerations

2.1 Investing in Canada Infrastructure Program Requirement

As required by the Investing in Canada Infrastructure Program (ICIP) funding, all projects with over \$10 million in federal contributions are required to participate in the Community Employment Benefits (CEB) initiative. This initiative provides community benefits by incorporating local opportunities for employment through the infrastructure projects. The community benefits that are created include employment, training, apprenticeship, local supplier selection, and social procurement for federally targeted equity-seeking groups.

The goal of the initiative is to leverage infrastructure investments to achieve social and economic value for the community in which the infrastructure is built.

Compliance with the ICIP’s requirements involves projects selecting a minimum of three equity-seeking groups to target and to provide annual reporting on the efforts and outcomes. As determined by the federal government, the applicable equity-seeking groups are:

- Youth
- Women
- Indigenous Peoples
- Veterans
- Apprenticeships
- Social enterprises
- People with disabilities
- Recent immigrants

The City of London recognizes that the groups listed by the Federal Government are not the only groups in the community who face barriers to employment, while also facing other inequality and oppression and that intersectionality for people who are part of multiple groups can further increase barriers and discrimination. In June 2020, Municipal Council reaffirmed its commitment to eradicating racism and oppression faced by Black, Indigenous, and People of Colour and the mandate of the Strategic Priorities and Policy Committee was amended to include anti-racism, diversity, inclusion and anti-oppression as a strategic initiative. In September, 2020, Municipal Council reaffirmed its commitment by unanimously approving the creation of the Anti-Racism and Anti-Oppression Division. While all groups are not specifically indicated in the list provided by the federal government, contractors are encouraged to hire diversely and create opportunities to support the entire community. In addition, the City will formally request that the Federal Government expand its criteria to also include Black and racialized people and apply an intersectional lens to that criteria.

2.2 London’s CEB Framework for ICIP Project

CEB initiatives and social procurement are new to the City of London. For support, staff researched and consulted with other municipalities as well as organizations that provide guidance in implementing effective social procurement programs. To help understand the employment needs of our community, staff worked with United Way Elgin Middlesex, Employment Sector Council, and Inclusive Economy London. Staff also met with local construction industry representatives from London District Heavy Construction Association (LDHCA); Ontario Sewer and Watermain Construction Association (OSWCA); and spoke with LiUNA 1059 with the goal of creating a program that would be successful for contractors.

Using this research, a CEB strategy was created that fits with the City of London’s Request for Tender procurement process. It is the intent that the rapid transit projects will be procured as a series of traditional design-bid-build contracts. This strategy allows the City to pilot a social procurement process for capital projects and then build on successes while allowing the opportunity to make adjustments through future tenders where needed.

As ICIP funded projects, London’s three rapid transit projects and the Adelaide Street Underpass are required to report on a selection of three CEB target groups. Rather than limiting reporting to just three, staff has decided to track all eight equity-seeking groups as a way to acknowledge and support as many of the targeted groups as possible. Tracking all groups provides insight into which of our community groups are seeing CEB support success, and which are still facing barriers to sustainable employment and recognizes that individual characteristics may intersect with one another and overlap.

Creation of London’s CEB program involved the following components:

- Identify existing workforce pathway opportunities that contractors can use to connect with targeted labour groups
- Establish a cash allowance to ensure the CEB position is an incremental increase to the employers’ complement

- Embed CEB clauses in construction tender documents to establish targets and methods for monitoring and reporting
- Develop a CEB appendix to include in the contract Tender documents, it will provide background, direction, and resources for contractors bidding on the projects

2.3 CEB Cash Allowance

CEB employees are to be incremental hires that create new job opportunities for people looking to gain practical on-the-job experience and build their resumes. The cash allowance approach will be applied as a line item in the contract with the contractor being responsible and accountable to demonstrate that they are using the allowance for a new hire.

The federal CEB program requires participating municipalities to set a target for the value of wages paid to identified individuals as a percentage of all wages paid on the project. Based on our findings from other municipalities, 5% was determined as a reasonable goal.

An estimate of the anticipated payroll burden of an entry level position for one construction season was used to create the allowance value. Based on several sources, we found base hourly wages to be in the range of \$21-\$35 plus fringe costs in the range of 52%-63%. Working within those ranges, and assuming a 50 hour work week with a 35 week construction season, a cash allowance of approximately \$85,000 was established for one individual.

Based on the Downtown Loop and Municipal Infrastructure Improvements Phase 1 construction contract estimate, a CEB allowance would need to cover the salary of one individual. The CEB cash allowance value may change given the complexity and duration of each subsequent rapid transit contract. More and more employees will be hired through contractors as the construction contracts progress for each of the rapid transit projects, increasing the overall community impact of the CEB framework.

Contractors are encouraged to go beyond the cash allowance and find additional ways to support the local community when hiring. The hope is that the CEB framework and cash allowance will provide a good start in this direction.

2.4 CEB Special Provisions Tender Clauses

With the support of the rapid transit design consultant, CEB has been incorporated into the Special Provisions section of the Tender documents which outlines and explains to the bidding contractors what documentation is required.

The City is required to report what employment opportunities have been created through the CEB program to upper levels of government. To support this, the contractor is required to identify to the project team what targeted equity-seeking group(s) they have hired from as well as the hours and wages. To receive the assigned cash allowance, the contractors must indicate the wages as a separate line item on their invoices.

2.5 CEB Appendix

The CEB appendix provides contractors with information about Community Employment Benefits as well as contact information for community organizations who are able to assist with hiring from the targeted equity-seeking groups. These organizations offer support at no additional cost to the contractor and can provide a wealth of knowledge. The list is not exhaustive and will continue to grow as the City's experience using a CEB to support employment pathways in the community grows.

2.6 Annual Reporting

CEB reporting is to be quantitative and qualitative as both measures will provide a narrative that will the federal government inform municipalities across Canada of the successes and challenges experienced implementing the CEB initiative. This information will help in forming diversity employment and procurement opportunities.

Annual reports to MTO will include the total value of wages paid to targeted equity-seeking individuals, number of employees hired who identify with one of the targeted groups, and total number of hours worked by the hired individuals. All of these will also be reported as a percent relative to the contractor's total numbers. Quantitative information will be collected through the contractor's invoices with the support of the project consultant. The project team will also work with the contractor and community partners to also include qualitative context to CEB reporting.

2.7 Community Employment Benefits and City Projects

The City has taken a pilot approach to its first efforts at a CEB strategy with the intention that lessons will be learned and carried into other projects. It is possible that this approach could inform the creation of a city-wide framework for Community Employment Benefits and Social Procurement to further support equity-seeking groups and social enterprise. It will be important to provide time to implement and evaluate this initial CEB strategy before undertaking a city-wide framework.

The City must also be cognizant of public procurement regulations when seeking to better the community's employment opportunities. Public procurement policies require purchases to be completed in an open, fair, and transparent manner and, typically, have included rules surrounding the inability to award based on criteria like local preference, for example. If extending the CEB beyond federally funded projects, external consultation will be required to ensure the City is still adhering to federal and provincial procurement regulations and outlined in legislation, like the Broader Public Sector Procurement Directive and the Municipal Act.

Creation of a city-wide framework would require support from internal groups including Purchasing and Legal as well as external resources not limited to social procurement consultants and fairness monitoring consultants.

The above notwithstanding, staff are evaluating using the CEB model described in this report to other large capital projects that are not funded under ICIP where the existing budgets are sufficient to provide incremental employment opportunities with the contractor.

Conclusion

While the CEB initiative for federally funded projects is a federal requirement, the City recognizes and supports the value that additional employment opportunities add to the community. The CEB works to create employment pathways for those that often face barriers to employment, which results in experience and income that can help community members find future employment opportunities. The CEB program will benefit more and more community members as the rapid transit program continues to roll out.

Prepared by:	Sarah Denomy, Procurement Officer
Submitted by:	Jennie Dann, Director Major Projects
Recommended by:	Kelly Scherr, Managing Director Environmental & Engineering Services and City Engineer

CC: Anna Lisa Barbon, Managing Director, Corporate Services
and City Treasurer, Chief Financial Officer
Ted Koza, Division Manager, Major Projects
John Freeman, Manager Purchasing & Supply
Steve Mollon, Manager Purchasing & Supply, Operations
Grace Smith, Solicitor 1
Lisa MacInnis, Financial Business Administrator
John Millson, Senior Financial Business Administrator
Doug MacRae, Director Roads & Transportation
Kevin Dickins, Acting Managing Director Social Services
Rosanna Wilcox, Director, Service, Innovation and
Performance

Appendix A – Community Employment Benefits Resources for Employers



London
CANADA

**Community Employment Benefits
Resources for Employers**



London
CANADA



Community Employment Benefits Resources for Employers

The City of London (the City) recognizes that through the procurement of construction, goods, and services we can achieve additional community benefits. Some of the benefits to the community include registered apprenticeships (as defined in the Ontario College of Trades and Apprenticeship Act, 2009); targeted workforce opportunities for disadvantaged groups; and supply chain opportunities for small, medium-sized, and social enterprises.

To support our community and to meet federal funding requirements, the City will be incorporating community employment benefits with this project, as described in the Request for Tender (RFT) documents. In accordance with federal requirements, the RFT's Successful Bidder shall hire resources from the identified groups as well as monitor and provide reports to the City that demonstrate the Successful Bidders' participation with the community employment benefit program.

The City will provide a cash allowance, identified in the RFT documents, to support the hiring from the Community Employment Identified Groups, as listed below and as identified by [Infrastructure Canada](#):

- Apprenticeships
- Indigenous peoples
- Women
- Persons with disabilities
- Veterans
- Youth
- Recent immigrants
- Social enterprises

In June 2020, City of London Municipal Council affirmed the City's commitment to help eradicate anti-Black, anti-Indigenous, and people of colour oppression and implement a Community Diversity & Inclusion Strategy. Black people and people of colour are not specifically identified as federally targeted groups under the CEB initiative; still, the City will also include commentary on inclusion efforts for these groups as part of annual reporting in keeping with our commitment to address systematic racism and oppression in our community.

The Successful Bidder will be required to identify community employment resource information as a separate line item with each invoice submitted for payment. The Successful Bidder will work with the City to track resource utilization for federal reporting. The City requires the Successful Bidder to provide details of their participation with the requirement such as, but not limited to, the number of resources and the quantity of hours worked. The City encourages contractors to go beyond the cash allowance and find additional ways to support the local community when hiring.

Community Employment Benefit Resources for Employers

Working with United Way Elgin London, Employment Sector Council, and Inclusive Economy London, the City has provided hiring and resource information to assist contractors in understanding community employment benefits and locating employees that self-identify with the Community Employment Identified Groups.

Contractors are encouraged to work with the community employment organization(s) in their area to access no-fee, professional, and high-quality assistance with recruiting, hiring, and training. Below is a list of local consultants who can help with developing and tracking the impact of a community employment benefits strategy with contractors.

This resource list includes:

1. London and Region Community Employment Organizations
2. London Region Employment Resource Networks: providing streamlined access to services for employers
3. Subcontracting Social Enterprises
4. Background and Best Practices in Community Employment Benefits

1. Community Employment Organizations in London and surrounding Region

Community employment organizations provide pre-screened, qualified candidates from a pool of motivated, skilled, job-ready applicants, for a customized fit. These organizations provide individualized supports to employers, including access to government resources and funding to provide on-the-job training to ensure that employees transition smoothly into their new role. Other services include advanced employment support and job coaching, including an employee mentorship program for employers who want it. These services are entirely free of charge.

Some of the organizations can be found below; this is not a complete list as there are additional resources in our community. Contractors are encouraged to use resources

they are familiar with and should seek pre-approval from the contract administrator to ensure the resource meets the requirements.

If you are unsure which organization is right for you? Contact the Job Developers Network: info@esc.network or 519-663-0774 x224.

Location	Organization	Contact Information
London (Downtown)	ATN Access Inc. (Persons with a Disability)	London: Room 509, 141 Dundas St. www.atn.ca (519) 433-7950
Elgin County (St. Thomas and Aylmer)	Career & Employment Services - Fanshawe (St. Thomas and Aylmer)	St. Thomas: Elgin Centre, 417 Wellington St. www.fanshawec.ca/cesstt (519) 637-9876 Aylmer: 25 Centre St www.fanshawec.ca/cesayl
Huron & Perth Counties (Clinton, Exeter, Goderich, Listowel, Seaforth, Stratford, Wingham)	Centres for Employment & Learning (AMDSB)	Exeter: 349 Main St. (519) 235-0471 www.thecentreforemploymentandlearning.ca See website for services and phone numbers in: Clinton, Goderich, Listowel, Seaforth, Stratford, Wingham
London (East)	Centre for Lifelong Learning (Adult Students)	London: 1230 King St. www.cfl.ldcsb.ca (519) 675-4436
London and Area	CNIB London Community Hub (Persons with Sight Loss)	London: 171 Queens Ave., Unit 101 www.cnib.ca/en?region=on_west 1-800-265-4127
London (Downtown)	Collège Boréal (Services in French and English)	London: Citi Plaza, 142-355 Wellington St. www.1job.ca (519) 672-1562
Middlesex County (Strathroy, Dorchester, Lucan, Parkhill, Glencoe)	Community Employment Choices	Strathroy: Main Office, 16B Second St. www.communityemploymentchoices.ca See website for services in: Dorchester, Lucan, Parkhill, Glencoe (519) 245-4500
London (East)	Community Employment Services - Fanshawe (London)	London: Nelson Plaza, 155 Clark Rd. www.fanshawec.ca/ces (226) 268-5122
Oxford County (Woodstock, Ingersoll, Norwich)	Community Employment Services Oxford	Woodstock: 40 Metcalfe St. www.cesoxford.ca/ (519) 539-8161

& public library branches)		See website for services in: Ingersoll, Norwich, Princeton, Tavistock, Plattsville, & Thamesford
London (Downtown)	Community Living London (Persons with a Disability)	London: 379 Dundas St., Suite 120 www.cl.on.ca/services/employment-services 519-673-5600
Elgin County (St. Thomas & West Lorne)	Employment Services Elgin	St. Thomas: 400 Talbot St. (519) 631-5470 West Lorne: 160 Main Street (519) 768-0401 www.employmentserviceselgin.ca
London and Middlesex County	Ontario Works – employment supports for ongoing clients	London: (519) 661-4520 socialservices@london.ca Middlesex County: (519) 434-7321 socialservices@middlesex.ca
London (Downtown)	Goodwill Industries	London: 255 Horton St., 2nd Fl. www.goodwillindustries.ca (519) 850- 9000
London (West)	Hutton House (Persons with a Disability)	London: 654 Wonderland Rd. N London: Cherryhill Mall, 301 Oxford St W www.huttonhouse.com/ 519-472-1541 Ext 232
London & Elgin, Middlesex, Oxford, Huron-Perth, Grey-Bruce & Lambton Counties	Leads Employment Services (Persons with a Disability)	London: 171 Queens Ave. Suite. 410 www.leadsservices.com (866) 955-3237 See website for services in Elgin, Middlesex, Oxford, Huron-Perth, & Grey-Bruce Counties
London (Downtown)	London Employment Help Centre	London: 150 Dufferin Ave., Suite 100 www.lehc.ca (519) 439-0501
London (South)	London Training Center	London: 317 Adelaide St. S, Unit 110 www.londontraining.on.ca (519) 685-4331
London (South)	March Of Dimes Canada (Persons with a Disabilities)	London: 920 Commissioners Rd. E www.marchofdimes.ca (866) 496-8603
Oxford, Norfolk & Elgin Counties	Multi-Service Centre	Tillsonburg: 96 Tillson Avenue (in The Livingston Centre) (519) 842-9000 www.multiservicecentre.com
London (Downtown)	N’Amerind Friendship Centre (Indigenous People)	London: 260 Colborne St. (519) 672-0131 www.namerind.on.ca/

London (South)	Nokee Kwe (Indigenous People)	London: 104-1069 Wellington Rd. S www.nokeekwe.ca (519) 667-7088
Middlesex County	Oneida Nation of the Thames Employment and Training (Oneida Community)	Southwold: 2110 Ball Park Rd, Unit 2 www.oneida.on.ca/employment-training/ (866) 460-4278
London (Downtown)	Pathways	London: 205 Horton St. E. Unit 1 www.pathways.on.ca/ (519) 667-7795
London (South)	Prevention and Early Intervention Program for Psychoses (PEPP), LHSC	London: Victoria Hospital, 800 Commissioners Rd. East Door A, Zone A (519) 685-8500 ext. 71680 www.lhsc.on.ca/About_Us/PEPP/
Sarnia-Lambton County (Aamjiwnaang, Kettle & Stony Point) Chatham-Kent County (Delaware Nation) Middlesex County (Chippewas of the Thames, Muncey/Delaware)	Stepping Stones Support Services (Indigenous People)	Moraviantown: Head Office: 22268 Centre Rd http://www.ssssp.ca (519) 692-5050 See website for services in: Aamjiwnaang FN, Chippewas of the Thames FN, Delaware FN, Kettle & Stony Point FN, and Munsee - Delaware FN
London (North)	Western University (Students and Alumni)	London: 1151 Richmond St, Western University, University Community Centre, Room 210. http://hirewesternu.ca/ (519) 661-3619
London (Downtown)	WIL Employment Connections (Immigrants and Newcomers)	London: 141 Dundas St., 4th Floor www.wil.ca (519) 663-0774
London (Downtown) & Windsor	YMCA of Southwestern Ontario	London: 382 Waterloo St. www.ymcawo.ca (519) 667-3300 ext. 2037
London (Downtown) Middlesex County (Strathroy)	Youth Opportunities Unlimited (YOU) (Young People)	London: 333 Richmond Street (519) 432-1112 Strathroy: Next Wave Youth Centre 32 Front St W www.you.ca

2. London Region Employment Resource Networks: providing streamlined access to services for employers

Job Developers Network

<https://esc.network/jd-network/>

A single point access to Southwestern Ontario community employment organizations, providing access to the London area's largest and most diverse talent pool of individuals who are actively seeking employment. The JDN is a one-stop-shop for employers, providing customized recruitment assistance, and pre- and post-employment supports, including funding for employee training. The organizations listed above are members of the JDN: by working with one organization, you are accessing talent at all JDN members.

Southern First Nations Secretariat

<https://sfnsgetset.com/>

A tool to find procurement and employees from Indigenous communities in Southwestern Ontario

The Apprenticeship Network

<https://www.theapprenticeshipnetwork.com/>

Organizations and professionals working collaboratively to support apprenticeship for employers, youth, and job seekers in Elgin, Middlesex, and Oxford.

Partners in Employment (PIE)

<https://abilityfirst.ca/>

A coalition of service providers in London and area who work together to achieve a person-centred employment and training service system for people with disabilities. Their objective is to increase the number of people with disabilities who obtain and retain meaningful employment.

3. Subcontracting Social Enterprises

Procuring services from businesses which use labour from target employment groups and/or create social impact as part of their mission is encouraged as one way to meet Community Employment Benefits targets.

Below is a list of some of the London social enterprises that work with employees who experience barriers to the labour market and can provide services that may be helpful for construction projects. If you would like assistance in finding a social enterprise supplier, contact Julie Forrester from Pillar Nonprofit Network,

jforrester@pillarnonprofit.ca.

- [Clean Works](#): Full service interior and exterior commercial cleaning, operated by Pathways Skills Development
- [Over 55](#): mature, reliable, and pre-screened contractors and entrepreneurs to meet your home maintenance and service needs.
- [YOU Made It Enterprises](#): Catering, recycling, and other professional services which focuses on young people who are becoming independent adults. Operated by Youth Opportunities Unlimited.
- [Edgar and Joe's](#): A social purpose enterprise of Goodwill Industries, providing catering, meeting space rental, and event planning.
- [Momos At The Market](#); a social enterprise caterer serving Nepalese food starting while improving newcomer lives through job opportunities and training.
- [Impact Junk Solutions](#): A social enterprise of Canadian Mental Health Association Middlesex that provides junk removal and cleaning services
- [Innovation Works](#), a social enterprise coworking office, meeting and event space operated by Pillar Nonprofit Network

4. Background and Best Practices for Community Employment Benefits

Government Background:

Government of Ontario (July 2019). *Ontario Investing in Canada Infrastructure Program: Public Transit Stream*.

www.grants.gov.on.ca/prodconsum/groups/grants_web_contents/documents/grants_web_contents/prdr019920.pdf

Infrastructure Canada (June 2018). *Community Employment Benefits General Guidelines*. www.infrastructure.gc.ca/alt-format/pdf/guidelines-lignes-directrices/ceb-general-guidance-2018-06-21.pdf

Step-by-Step Guide to Formulating and Tracking Community Employment Benefits:

Buy Social Canada (2020). *Social Value Menu: Community Employment Benefit Templates for Implementation*. https://prismic-io.s3.amazonaws.com/buy-social-canada/65e0d863-a518-4983-b5c7-9877028fc58c_CEB+Menu-+Final+Web.pdf

Other Background Reports on Community Benefits Generally

Thirgood, Jordan; Alwani, Kiran and Erich Hartmann (2018). *Empower & Engage*:

Defining and engaging community in Ontario's community benefits initiatives.
Mowat Centre: University of Toronto

Hebb, T. and; Hachigian, H. (2017). *Social Value Procurement Measurement and Evaluation. A Global Review and Assessment of Social Value Procurement.*
Carleton Centre for Community Innovation.

Canadian Community Economic Development Network (CCED-NET) Community
Benefits Resource Page: <https://ccednet-rcdec.ca/en/page/community-benefits>

Ms. Elizabeth Pelosa, Chair
Civic Works Committee
City of London
300 Dufferin Ave
London, ON N6B 1Z2

1 March 2021

Dear Ms Pelosa:

I am writing on behalf of United Way Elgin Middlesex and as a Co-lead of the Community Benefits Action Table with Inclusive Economy London and Region. I want to commend the City of London on moving forward a plan for Community Employment Benefits as part of upcoming infrastructure projects, I also want to highlight the growing local interest and support for this work. Outcomes achieved through community benefits agreements support strategic goals shared by the Council and United Way including reducing poverty, increasing access to affordable housing and increasing access to job opportunities for equity seeking populations.

Inclusive Economy London and Region is a network of organizations and community members who are organizing to activate community economic development practices that will address poverty reduction, social exclusion, and sustainability. We believe this work is an important part of our community's recovery from the COVID-19 pandemic and have made several submissions to the London Community Recovery Network including one on developing a Community Benefits Framework with the City of London and other local anchor Institutions. The London Community Recovery Network has positioned economic recovery side by side with social recovery and tools like Community Employment Benefits are a powerful means for our city to achieve both social and economic outcomes.

Inclusive Economy London formed in 2019, developed an Action Plan in 2020 - and in 2021 is implementing that plan. While there are over 30 organizations engaged with the network in various ways, the leadership team is made up of representatives from Pillar Non Profit Network, Goodwill, United Way Elgin Middlesex, the Sisters of St. Joseph, and the London Poverty Research Centre at King's.

Our most recent activity regarding community benefits started in January 2021 when we began to host a four conversation series with key stakeholders about community benefits agreements. The conversations have included representation from the employment sector, organized labour, the construction industry, advocates and other local organizations. The goal of these meetings is to develop a common local understanding of community benefit opportunities in the city and a stronger voice in our community to inform and support community benefits work moving forward.

This group represents a great cross section of stakeholders and reflects the types of actors who are part of Community Benefit Networks in other cities. We believe that this group has much to offer the future of community benefits in London including the Community Employment Benefits proposal being considered by the Civic Works committee.

What we have learned speaking with groups across the province and country, is that community benefits require external stakeholders to make them effective. That is to say that there should be a community group convened specifically to help inform and build capacity to implement community benefits agreements in the city and provide information about needs and opportunities as well as ongoing insight about evaluation and metrics of success.

United Way Elgin Middlesex
unitedwayem.ca

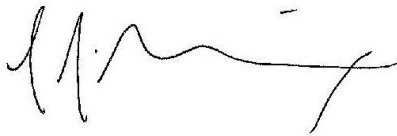
Middlesex office
409 King Street,
London ON N6B 1S5
Ph: 519 438 1721

Elgin office
103-10 Mondamin Street,
St. Thomas ON N5P 2V1
Ph: 519 631 3171

The report being considered by the Civics Work committee on March 2, 2021 highlights that city staff has consulted with several groups in developing this strategy. United Way Elgin Middlesex and our Inclusive Economy London partners are thankful to have been part of that consultation and to have provided input in developing the CEB process and appendix that is part of this agenda item. We also acknowledge that consideration has been given to existing employment pathways and networks within London including the Job Developers Network.

Thank you to city staff and council members who have supported London's efforts to embed Community Employment Benefits in upcoming large infrastructure projects such as Rapid Transit. We are encouraged to see that there is a willingness to consider additional aspects of community benefits such as a city-wide Community Employment Benefits framework and social procurement. We look forward to continuing our work together, seeking additional projects where CEB could and should be incorporated. We encourage you to consider Inclusive Economy London and its members, including United Way Elgin Middlesex, as willing partners along with the growing base of organizations interested in this work.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Middleton', with a stylized flourish at the end.

Sara Middleton
Director, Community Impact

cc: Kelly Ziegner, President & CEO, United Way Elgin Middlesex

Ms. Elizabeth Pelozo, Chair
Civic Works Committee
City of London
300 Dufferin Ave
London, ON N6B 1Z2

1 March 2021

Dear Ms Pelozo:

I am writing on behalf of the Inclusive Economy London Community Benefits Action Table. Inclusive Economy London and Region is a network of organizations collaborating to initiate economic development practices that are designed to address poverty, sustainability, and local economic resilience. Our work on community benefits includes an examination of best practices across the country, learning from other municipalities and social procurement practitioners, and building knowledge and capacity across sectors in London to respond to community benefits as they come forward.

We are excited to see forward momentum on the Community Employment Benefits (CEB) portfolio at the City of London and to see that there is an intention to apply community benefits to a range of projects in the future. Through community benefits there is a real opportunity to create good jobs and strengthen local businesses here in London by changing the way that the City awards contracts for projects, goods and services.

We are thankful for being consulted in the creation of the strategy, specifically around the creation of the CEB appendix. The commitment of staff and council to leveraging infrastructure opportunities for greater social and economic impact is greatly appreciated.

In this submission we outline several recommendations to consider for strengthening the approach to CEBs outlined in consent item 2.10.

Recommendation 1: Increase the target set for hiring through the CEB program closer to 20% of total wages. We believe that the current target of 5% of total wages does not reflect national best practices for CEBs and Community Benefit Agreements. It is important to note that currently working employees that fit in the equity seeking groups will count toward this target.

City of Surrey, BC - target of 20-30% of wages going to CEB identified groups
Gordie Howe International Bridge CBA - target of 20% of new hires being from identified groups
Woodbine Casino CBA - target 40% of new hires through social hiring practices

Recommendation 1a: Increase the emphasis on social procurement among bidders in the CEB process. A component of CEB policy is to increase purchasing from small businesses and social

enterprises. At this point there are no requirements for the RT project to measure this aspect of CEBs. We believe that with a small adjustment to the RFX questions and weighting, that subcontracting to small businesses and social enterprises in London would be encouraged.

Recommendation 2: Structure qualification/tender/bid documents and evaluation criteria so that they include scoring systems that award points to proponents for how they respond to community employment benefit outcomes. Buy Social Canada, a national expert on social procurement, recommends a minimum of 10% of evaluation points being awarded for social value.

For example one of the questions evaluated on an RFP could read: Explain how through this project you will maximize community employment benefits? How will procurement and subcontracting from SMEs/Social Enterprises and hiring/training programs be incorporated into this project?

With the current proposal there are no points awarded to bidders based on their enthusiasm/capacity for fulfilling community benefit agreements. Therefore there is little incentive to change industry practices in ways that create longer term transformations and benefits.

Recommendation 3: Fund the development of a community benefits network or other capacity building activities for CEBs in the city. A community benefits network would be a group external to the City Administration for the purposes of informing community benefit practices, building capacity to implement, and ensuring a strong community voice in CEB activities. There is fairly wide consensus among community benefit advocates that without such a community group the impact of CEBs will be limited.

Recommendation 3a: Consider reallocating the Cash Allowance connected to CEBs to the formation of a community benefits network.

Through our work we've identified existing employment pipelines that would be able to provide on-site support for hires through the CEB program (i.e. employment sector organizations). The cash allowance idea, as per the staff report, appears to be a duplication of existing funding and resources already allocated to employment organizations to assist job seekers and employers. The cash allowance may also undermine the importance of encouraging contractors/industry to build relationships with employment sector organizations.

In closing, I would again like to thank staff and council for setting London on the journey of figuring out how to best do community benefits. Without your leadership on this work, London would be missing a massive opportunity to create good jobs and build a better city - literally.



Action: we request that the Committee ask staff to continue to work with Inclusive Economy London to address these 3 recommendations for implementing a Community Employment Benefits program at the City of London

Sincerely,

A handwritten signature in black ink, appearing to read "m. Courey", is positioned below the word "Sincerely,".

Michael Courey, PhD
Lead Organizer, Inclusive Economy London and Region
Director, London Poverty Research Centre at King's

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: 2020 External Audit of London's Drinking Water Quality
Management System and 2020 Management Review

Date: March 2, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following report on the 2020 External Audit of London's Drinking Water Quality Management System, and the subsequent 2020 Management Review, **BE RECEIVED** for information.

Executive Summary

Purpose

Ontario's Safe Drinking Water Act, 2002, requires that operators of municipal drinking water systems conduct annual Management Reviews of their Quality Management Systems. The results of these reviews are required to be reported to the system owner.

This report satisfies that regulatory requirement and provides a summary of the June, 2020 On-site Verification Audit completed on London's drinking water quality management system.

Context

Ontario's municipal drinking water systems may only be operated by accredited Operating Authorities. Accreditation is achieved and maintained through the implementation of Quality Management Systems that comply with the provincial standard. Annual third-party external audits verify compliance, and annual Management Reviews are required in order to evaluate the continuing suitability, adequacy, and effectiveness of the Quality Management System.

Linkage to the Corporate Strategic Plan

This report supports the 2019 – 2023 Strategic Plan through the strategic focus area of Leading in Public Service, by demonstrating leadership and accountability in the management and provision of quality programs and services.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

2019 External Audit of London's Drinking Water Quality Management System and 2019 Management Review, Civic Works Committee, February 19, 2020.

1.2 Context

Quality Management Systems (QMSs) can be defined as sets of interrelated elements (e.g. policies and procedures) that direct and control the way a facility operates with regard to quality. A QMS is a way of ensuring that an organization is consistently in

control of the quality of the product or services that it supplies. The QMS for London's drinking-water system is documented in an Operational Plan.

In June 2020, an Off-site Surveillance Audit was conducted on London's Drinking Water Quality Management System by SAI Global Assurance Services. In November 2020, the Top Management of the Operating Authority for London's drinking-water system conducted the annual Management Review for the system.

2.0 Discussion and Considerations

2.1 Audit Findings

If auditors find instances where the water system is not being operated according to the approved Operational Plan, these are reported as either major or minor non-conformances. When non-conformances are identified in an audit report, the water system operators are required to submit Non-conformance Reports to the auditor, detailing the root cause of the non-conformance, the action(s) taken to correct the incident and contain the problem, and the systemic (long term) corrective action(s) planned or taken to eliminate the root cause in order to prevent recurrence.

No issues of non-conformance were identified in London's 2020 external audit.

In addition to instances of non-conformance, auditors also draw upon their expertise and experience to report Opportunities for Improvement (OFIs), which are suggestions as to how the Operational Plan might be improved. The 2020 audit report suggested three OFIs as follows:

- QMS-07 Risk Assessment – Consider summarizing changes associated with each annual review and 36-month assessment within QMS Table 08-01.
- QMS-08 Risk Assessment Outcomes – There is an opportunity to review QMS Table 08-02 to confirm the Re-chlorination Facilities at SM4 CCP which is not identified in QMS Table 08-01.
- QMS-20 Management Review – There is an opportunity to identify target completion dates for open actions identified on the 2019 Management Meeting Action Items Tracking Sheet.

The Operational Plan was subsequently updated to incorporate these suggested improvements.

2.2 Management Review

On November 3, 2020, the Top Management team for London's water system (the Director - Water and Wastewater, and the Division Managers of Water Engineering and Water Operations) held the annual Management Review for London's Drinking Water Quality Management System. The results of the Management Review are summarized in Appendix 'A'.

Conclusion

In June 2020, an Off-site Surveillance Audit was completed by a third-party auditor for the quality management system of London's drinking-water system. No incidents of non-conformance were identified in the audit report.

The Top Management team for London's water system held the required annual Management Review for London's Drinking Water Quality Management System in November 2020.

Prepared by: John Simon, P.Eng.
 Division Manager, Water Operations

Submitted by: Scott Mathers, MPA, P. Eng., Director, Water And
 Wastewater

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
 Managing Director, Environmental and Engineering
 Services and City Engineer

CC: Dan Huggins, Water Quality Manager

Appendix A

RESULTS OF THE 2020 MANAGEMENT REVIEW	
Summary of Management Review	<p>The 2020 Management Review meeting was held on November 3, 2020. The meeting was attended by Scott Mathers, Director – Water and Wastewater, Aaron Rozentals, Division Manager – Water Engineering, John Simon, Division Manager – Water Operations, and Dan Huggins, Water Quality Manager and QMS Representative. The agenda items discussed were, a) Incidents of regulatory non-compliance, b) Incidents of adverse drinking water tests, c) Deviations from critical control point limits and response actions, d) Efficacy of the risk assessment process, e) Results of audits (internal and external), and effectiveness of recent corrective and preventive actions, f) Results of relevant emergency response testing, g) Operational performance, h) Drinking water quality trends, i) Follow-up action items from previous management reviews, j) Status of management action items identified between reviews, k) Changes that could affect the QMS, l) Summary of consumer feedback, m) Resources needed to maintain the QMS, n) Results of the infrastructure review, o) Operational Plan currency, content and updates, p) Summary of staff suggestions, and q) New Business.</p>
Action Items Identified	<p>1) Water Operations to develop a standardized form to record all of the required information prescribed by Section 4 of Ontario’s Watermain Disinfection Procedure relating to new watermain installations. These forms should clearly identify the disinfection methods employed, disinfection start and stop times, chlorine readings, percentage drop of chlorine concentration, and all other required elements. In addition, for pipe repairs, tapping etc., documentation related to the concentration of sodium hypochlorite used for these types of activities should be clearly noted (minimum 1%).</p> <p>2) In 2021, the rechlorination facility at Springbank Reservoirs #1 & 2 to be upgraded to provide inflow chlorination capacity in addition to the current outflow chlorination</p>

	<p>capacity to further improve the ability to provide stable chlorine levels.</p> <p>3) The City of London valve exercising program to be enhanced through incorporation into the anticipated Computerized Maintenance Management System.</p> <p>4) Coordinate with Corporate Security to discuss how the Alert London system could be used in the event of a drinking-water advisory or requests for reduction of water consumption in the event of a supply interruption.</p>
--	---

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P. Eng., MBA, FEC Managing Director,
Environmental & Engineering Services & City Engineer

Subject: Public Transit Infrastructure Fund (PTIF): Approval of
Amending Agreement

Date: March 2, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the attached proposed by-law (Appendix “A”) **BE INTRODUCED** to:

- (a) approve Amending Agreement No. 2 to the Public Transit Infrastructure Fund (PTIF) Phase One (Ontario) Transfer Payment Agreement between Her Majesty the Queen in Right of Ontario as represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London (Amending Agreement No. 2).
- (b) authorize the Mayor and the City Clerk to execute Amending Agreement No. 2; and,
- (c) delegate authority to the Managing Director Environmental and Engineering Services & City Engineer to approve further Amending Agreements to the Public Transit Infrastructure Fund (PTIF) Phase One (Ontario) Transfer Payment Agreement between Her Majesty the Queen in Right of Ontario as represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London.

Executive Summary

On May 30, 2017, Municipal Council resolved to authorize and approve the Transfer Payment Agreement with respect to the Public Transit Infrastructure Fund Phase One and authorized the Mayor and the City Clerk to execute the Agreement.

On February 5, 2021 the City of London received notification from the Ministry of Transportation that the Public Transit Infrastructure Fund program had been extended to March 31, 2023 to support projects which had requested extensions and provided an Amending Agreement to the Transfer Payment Agreement to enact the extension.

This report introduces a by-law to authorize the Mayor and the City Clerk to execute the Amending Agreement to the Transfer Payment Agreement and any future Amending Agreements between Her Majesty the Queen in Right of Ontario as represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London with respect to the Public Transit Infrastructure Fund Phase One program.

Linkage to the Corporate Strategic Plan

The following report supports the Strategic Plan through the strategic focus area of “Building a Sustainable City”, under the outcome of ensuring London’s infrastructure is built, maintained and operated to meet the long-term needs of our community.

Federal investments supporting public transit infrastructure in London represent important contributions to maintaining and improving the quality of life of all Londoners.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

Civic Works Committee, May 24, 2017, Agenda Item 2.7 Infrastructure Canada – Phase One Investments Public Transit Infrastructure Fund. The report can be found on the City’s website by visiting:

<https://pub-london.escribemeetings.com/Meeting.aspx?Id=782028ea-7286-4c90-9015-fefc3baa3288&Agenda=Agenda&lang=English>

2.0 Financial Impact/Considerations

On May 30, 2017, Municipal Council resolved to authorize and approve the Transfer Payment Agreement with respect to the Public Transit Infrastructure Fund Phase One and authorized the Mayor and the City Clerk to execute the Agreement.

On February 5, 2021 the City of London received notification from the Ministry of Transportation that the Public Transit Infrastructure Fund program had been extended to March 31, 2023 to support projects which have been granted extension and included the Amending Transfer Payment Agreement to enact the extension.

Infrastructure Canada has approved the extension of the PTIF program to allow eligible cost to be incurred between April 1, 2021 and July 31, 2021 as listed in Sub-schedule C.2 (Extended Program Funding Request). The extension was requested by the City of London in order to allow additional time to substantially complete the approved projects and to allow eligible cost of the extended projects to be reimbursed by up to 50%.

The budget for the PTIF program is currently held within the 2020-2023 Multi-Year Capital Budget therefore no additional changes will be required upon execution of this amending agreement.

The purpose of this report is to introduce a by-law to authorize the Mayor and the City Clerk to execute Amending Agreement No. 2 to the Public Transit Infrastructure Fund (PTIF) Phase One (Ontario) Transfer Payment Agreement and any future Amending Agreements between Her Majesty the Queen in Right of Ontario as represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London in the attached as Schedule “1”.

Conclusion

This report introduces a by-law to authorize the Mayor and the City Clerk to execute Amending Agreement No. 2 to the Transfer Payment Agreement and any future Amending Agreements between Her Majesty the Queen in Right of Ontario as represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London with respect to the Public Transit Infrastructure Fund Phase One program.

Submitted by:	Doug MacRae, P. Eng., MPA, Director, Roads and Transportation
Recommended by:	Kelly Scherr, P. Eng., MBA, FEC Managing Director, Environmental & Engineering Services & City Engineer
Attach:	Appendix “A” – Proposed By-Law London and Ontario PTIF TPA - Amending Agreement No. 2
cc:	Anna Lisa Barbon, Managing Director, Corporate Services and City Treasurer, Chief Financial Officer

Appendix “A”

Bill No.
2021

By-law No.

A by-law to approve and authorize the execution of Amending Agreement No. 2 to the Public Transit Infrastructure Fund (PTIF) Phase One (Ontario) Transfer Payment Agreement between Her Majesty the Queen in Right of Ontario as represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London.

WHEREAS subsection 5(3) of the *Municipal Act, 2001*, S.O. 2001, c. 25, as amended, provides that a municipal power shall be exercised by by-law;

AND WHEREAS section 9 of the *Municipal Act, 2001* provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

AND WHEREAS subsection 10(1) of the *Municipal Act, 2001* provides that a municipality may provide any service or thing that the municipality considers necessary or desirable for the public;

AND WHEREAS subsection 10(2) of the *Municipal Act, 2001* provides that a municipality may pass by-laws respecting, among other things: i) economic, social and environmental well-being of the municipality, including respecting climate change; and ii) financial management of the municipality;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. Amending Agreement No. 2 to the Public Transit Infrastructure Fund (PTIF) Phase One (Ontario) Transfer Payment Agreement between Her Majesty the Queen in right of Ontario, as represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London (“Amending Agreement No. 2”) attached as Schedule “1” to this by-law is hereby authorized and approved.
2. The Mayor and the City Clerk are hereby authorized to execute Amending Agreement No. 2 authorized and approved under section 1 of this by-law.
3. The Managing Director Environmental and Engineering Services & City Engineer is hereby authorized to approve future Amending Agreements to the Public Transit Infrastructure Fund (PTIF) Phase One (Ontario) Transfer Payment Agreement between Her Majesty the Queen in right of the Province of Ontario, as represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London provided it does not increase the indebtedness or liabilities of The Corporation of the City of London.
4. The Mayor and City Clerk are hereby authorized to execute any Amending Agreement to the Public Transit Infrastructure Fund (PTIF) Phase One (Ontario) Transfer Payment Agreement between Her Majesty the Queen in right of the Province of Ontario, as represented by the Minister of Transportation for the Province of Ontario and The Corporation of the City of London approved by the Managing Direct Environmental and Engineering Services & City Engineer under section 3 of this bylaw.
5. The Managing Director, Corporate Services & City Treasurer and Chief Financial Officer and City Manager (or delegate) are hereby authorized to execute any financial reports required as a condition under Amending Agreement No. 2 and such further Amending Agreements as may be approved under section 3 of this by-law.
6. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council on March 23, 2021

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – March 23, 2021
Second Reading – March 23, 2021
Third Reading – February 23, 2021

**AMENDING AGREEMENT No. 2
TO THE PUBLIC TRANSIT INFRASTRUCTURE FUND (PTIF) PHASE ONE (ONTARIO)
TRANSFER PAYMENT AGREEMENT**

This Amending Agreement No. 2 to the Public Transit Infrastructure Fund (PTIF) Phase One (Ontario) Transfer Payment Agreement (this “Amending Agreement No. 2”) is effective as of the date of signature by the last signing party to it.

B E T W E E N:

Her Majesty the Queen in right of Ontario
as represented by the Minister of Transportation for the Province of Ontario

(the “**Province**”)

- and -

Corporation of the City of London

(the “**Recipient**”)

BACKGROUND

The Province and the Recipient entered into the Public Transit Infrastructure Fund (PTIF) Phase One (Ontario) Transfer Payment Agreement effective as of February 22, 2018 (the “Agreement”).

The Agreement, pursuant to Article 3.0 (Amending the Agreement) of the Agreement, may be amended from time to time on written agreement of the Parties.

The Parties wish to amend the Agreement as set out in this Amending Agreement No. 2.

CONSIDERATION

In consideration of the mutual covenants and agreements contained in this Amending Agreement No. 2, and for other good and valuable consideration, the receipt and sufficiency of which is expressly acknowledged, the Parties agree as follows:

1. **Capitalized Terms.** Capitalized terms used in this Amending Agreement No. 2, unless defined in section 2 of this Amending Agreement No. 2, have the meanings ascribed to them in the Agreement.

2. **Definition.** In this Amending Agreement No. 2, the following term has the following meaning:

“Amending Agreement No. 2” means this Amending Agreement No. 2 and the appendices attached to this Amending Agreement No. 2.

3. Section 1.1 of the Agreement is amended by adding the following after “Sub-schedule “C.1” - Program Funding Request”:

“Sub-schedule “C.2” - Extended Program Funding Request

4. Section A.1.2 (Definitions) of the Agreement is amended by adding the following after “Sub-schedule “C.1” (Program Funding Request)” to the definitions of the terms **“Budget”**, **“Project”**, **“Sub-Projects”** and **“Timelines”**:

and, unless otherwise specified in the Agreement, Sub-schedule “C.2” (Extended Program Funding Request)

5. Schedule “B” (Project Specific Information) of the Agreement is deleted and replaced with the schedule attached as Appendix A to this Amending Agreement No. 2.

6. Sections C.1.1 (Project Description) and C.1.2 (Budget and Timelines) of the Agreement are amended by adding the following after “Sub-schedule “C.1” (Program Funding Request)”:

and Sub-schedule “C.2” (Extended Program Funding Request)

7. Sub-schedule “C.1” (Program Funding Request) of the Agreement is deleted and replaced with the schedule attached as Appendix B to this Amending Agreement No. 2.

8. Schedule “C” (Project Description, Budget and Timelines) of the Agreement is amended by adding the new Sub-schedule “C.2” (Extended Program Funding Request) attached as Appendix C to this Amending Agreement No. 2.

9. Schedule “E” (Eligible Expenditures and Ineligible Expenditures) of the Agreement is deleted and replaced with the schedule attached as Appendix D to this Amending Agreement No. 2.

10. Schedule “H” (Disposal of and Revenues from Assets) of the Agreement is deleted and replaced with the schedule attached as Appendix E to this Amending Agreement No. 2.

11. Schedule “J” (Requests for Payment and Payment Procedures) of the Agreement is deleted and replaced with the schedule attached as Appendix F to this Amending Agreement No. 2.
12. Except for the amendments provided for in this Amending Agreement No. 2, all provisions of the Agreement remain in full force and effect.
13. This Amending Agreement No. 2 may:
 - (a) be executed and delivered by scanning the manually signed Agreement as a PDF and delivering it by email to the other Party; or
 - (b) subject to the Province’s prior written consent, be executed and delivered electronically to the other Party.

The respective electronic signature of the Parties is the legal equivalent of a manual signature.

- SIGNATURE PAGE FOLLOWS -

The Parties have executed this Amending Agreement No. 2 on the dates set out below.

HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO as
represented by the Minister of Transportation for the
Province of Ontario

Date

Name: Caroline Mulroney
Title: Minister

THE CORPORATION OF THE CITY OF LONDON

Date

Name: Ed Holder
Title: Mayor

I have authority to bind the Recipient.

Date

Name: Catharine Saunders
Title: City Clerk

I have authority to bind the Recipient.

**APPENDIX A
TO THE PUBLIC TRANSIT INFRASTRUCTURE FUND (PTIF) PHASE ONE
(ONTARIO) TRANSFER PAYMENT AGREEMENT**

SCHEDULE “B” (PROJECT SPECIFIC INFORMATION)

Maximum Funds	\$36,236,909.00
Expiry Date	March 31, 2023
Contact information for the purposes of Notice to the Province	<p>Address: Strategic Investments Office Municipal Programs Branch Ontario Ministry of Transportation 777 Bay Street, 30th Floor Toronto ON M7A 2J8</p> <p>Phone: 416-585-7637</p> <p>Email: MTO_PTIF@ontario.ca</p>
Contact information for the purposes of Notice to the Recipient	<p>Position: Managing Director & City Engineer</p> <p>Address: 300 Dufferin Avenue, London, ON., N6A 4L9</p> <p>Phone: 519-661-2489 x 2391</p> <p>Email: kscherr@london.ca</p>
Authorized Representative of the Province for the purpose of sections C.2.2 (Amending Agreement for Minor Changes to the Project Description, Budget and Timelines) and D.7.2 (Amending Agreement for Minor Changes to the Reporting)	<p>Position: Director, Municipal Programs Branch; or Director, Capital Project Oversight Branch</p>
Authorized Representative designated by the Recipient for the purpose of sections C.2.2 (Amending Agreement for Minor Changes to the Project Description, Budget and Timelines) and D.7.2 (Amending Agreement for Minor Changes to the Reporting)	<p>Position: Managing Director, Corporate Services & City Treasure, Chief Financial Officer</p>
Contact Information for the authorized representative of the Recipient to respond to requests from the Province related to the Agreement	<p>Position: Director, Roads & Transportation</p> <p>Address: 300 Dufferin Avenue, London, ON., N6A 4L9</p> <p>Phone: 519-661-2489 x 4936</p> <p>Email: dmacrae@london.ca</p>

APPENDIX B
TO THE PUBLIC TRANSIT INFRASTRUCTURE FUND (PTIF) PHASE ONE (ONTARIO) TRANSFER PAYMENT AGREEMENT
SUB-SCHEDULE "C.1"
PROGRAM FUNDING REQUEST

Project Information										Federal Land	Financial Information							Project Objectives			Incrementality	Risk Assessment
Unique Project ID	Ultimate Recipient	Project Location	Actual Project Site (Civic Address or Geo Coordinates)	Project Title	Project Description	Eligible Investments Category	Project Nature	Forecasted Start Date (YYYY/MM/DD)	Forecasted End Date (YYYY/MM/DD)	Project Located on Federal Land (Y/N)	Total Project Cost	Total Eligible Cost	Program Contribution (Eligible Expenditures)	Other Federal Contributions (Eligible Expenditures)	Provincial Contribution (Eligible Expenditures)	Municipal Contribution (Eligible Expenditures)	Other Contribution (Eligible Expenditures)	Increased Capacity or Lifespan of the Asset (Y/N)	Enhanced Service (Y/N)	Improved Environmental Outcomes (Y/N)	Evidence of Incrementality (Y/N)	Risk Factors
LON-001	London, City of	London, City of	300 Dufferin Avenue, London ON	Shift Rapid Transit Environmental Assessment (EA) / Transit Project Assessment Process (TPAP)	Shift is London's Bus Rapid Transit Initiative. Project is the completion of the Shift Environmental Assessment / Transit Project Assessment Process for London's Rapid Transit Initiative.	III. Expenditures to support the design and planning for the expansion and improvements to public transit systems, including transportation demand management measures and studies and pilot projects related to innovative and transformative technologies	Planning	2016-04-01	2019-06-30	N	\$3,000,000.00	\$3,000,000.00	\$1,500,000.00	\$0.00	\$0.00	\$1,500,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-004	London, City of	London, City of	42°59'01.4"N 81°14'58.9"W	Dundas Place Transit Improvements	Transit routing modifications in the downtown in the area of Dundas Place will improve the overall transit system and coordination with the Shift Rapid Transit implementation. The bus route reconfiguration is estimated to require three additional buses and infrastructure relocation such as wayside service information signage, stops, shelters, and transit priority measures.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Expansion	2017-04-01	2020-03-31	N	\$2,000,000.00	\$2,000,000.00	\$1,000,000.00	\$0.00	\$0.00	\$1,000,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-005	London, City of	London, City of	300 Dufferin Avenue, London ON	New Accessible Transit Pads and Sidewalks	Construction of new transit pads and sidewalks (multiple City wide locations) to make local transit more accessible and functional. Project modification request to extend timeline to September 1, 2018 due to delays starting project and contractor capacity to finish the work within the original timeline.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	New	2017/06/15	2018/09/15	N	\$2,000,000.00	\$2,000,000.00	\$1,000,000.00	\$0.00	\$0.00	\$1,000,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-006	London, City of	London, City of	300 Dufferin Avenue, London ON	Installation of 25 (minimum) New Pedestrian Crossings	**Modified project** Modifications to title and description. See key notes for details. Construction of twenty five (minimum) pedestrian crossings to provide safer pedestrian road crossings and make public transit more accessible, crossing are compliant with the recent Ontario Traffic Manual Book 15 and Highway Traffic Act Amendments	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2016/10/15	2018/12/31	N	\$690,000.00	\$690,000.00	\$345,000.00	\$0.00	\$0.00	\$345,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-008	London, City of	London, City of	42°59'08.2"N 81°10'55.6"W	Kiwanis Park Pathway Connection	Construction of an active transportation connection across the Canadian National Railway line that will improve neighbourhood connections to transit. (Provincial contribution funded through the Ontario Municipal Cycling Infrastructure Program). Project modification request to extend timeline to September 1, 2018 due to delays starting project and contractor capacity to finish the work within the original timeline.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2017/06/15	2018/09/30	N	\$2,100,000.00	\$2,100,000.00	\$1,050,000.00	\$0.00	\$325,000.00	\$725,000.00	\$0.00	Y	Y	Y	Y	N/A

LON-009	London, City of	London, City of	42°59'15.9"N 81°14'25.3"W	Construct New Downtown Cycle Tracks	**Modified project** Modifications to description and funding. See key notes for details. Construction of cycle tracks on Colborne Street to promote active transportation and improve connections to the transit system. This project is an important feature in London ON Bikes, the new Cycling Master Plan. The cycle track will integrate with the local transit services along the corridor. Project modification request to extend timeline to May 31, 2018 due to delays starting project and contractor capacity to finish the work within the original timeline.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2017/06/01	2019/09/30	N	\$1,750,000.00	\$1,750,000.00	\$875,000.00	\$0.00	\$0.00	\$875,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-010	London, City of	London, City of	42°57'08.0"N 81°20'31.7"W	Byron Baseline and Wonderland Road Sidewalk and Bicycle Facilities	Bicycle facility and sidewalk construction along transit routes on Byron Baseline and Wonderland Road in coordination with other works.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2016/10/01	2019/06/30	N	\$1,750,000.00	\$1,750,000.00	\$875,000.00	\$0.00	\$0.00	\$875,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-011	London, City of	London, City of	42°59'01.8"N 81°17'33.5"W	Separated Bicycle Lane Renewal	Rehabilitation of the separated bicycle lanes on Wonderland Road, Fanshawe Park Road and Adelaide Street to provide improved active transportation links and road crossings to London's Transit Villages.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2016/10/01	2017/12/30	N	\$1,290,000.00	\$1,290,000.00	\$645,000.00	\$0.00	\$0.00	\$645,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-012	London, City of	London, City of	42°55'59.3"N 81°16'21.1"W	Construct Bradley Avenue Extension Transit and Active Transportation Features	Implementation new active transportation and transit stops on the Bradley Avenue Extension from Wonderland Road to Wharncliffe Road, a new transportation corridor in Southwest London.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2016/05/01	2018/01/30	N	\$500,000.00	\$500,000.00	\$250,000.00	\$0.00	\$0.00	\$250,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-013	London, City of	London, City of	42°59'55.0"N 81°13'19.0"W	Sidewalk and Bicycle Lane Improvements on the Field Marshall Wolseley Bridge	Widening of the sidewalks and installation of bollard separation for the bicycle lanes on the bridge over the Canadian Pacific Railway line, providing better pedestrian accessibility along an existing transit route.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2016/05/01	2017/10/30	N	\$190,000.00	\$190,000.00	\$95,000.00	\$0.00	\$0.00	\$95,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-014	London, City of	London, City of	42°59'20.3"N 81°15'25.9"W	Rehabilitate & Upgrade Blackfriars Bridge Active Transportation Components	***Modified Project*** See timeline history and key notes for original information. Blackfriars Bridge provides an important active transportation connection across the Thames River but is currently partially closed. Rehabilitation of the Blackfriars Bridge sidewalk and creation of a new bicycle lane will improve the active transportation network and provide connectivity to nearby major transit corridors. Project completion date extended to March 28, 2019 due to magnitude of construction and also due to delays receiving Ministry of Environment and Climate Change (MOECC) approval to proceed to implementation.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2016/05/01	2019/06/30	N	\$1,500,000.00	\$1,500,000.00	\$750,000.00	\$0.00	\$0.00	\$750,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-015	London, City of	London, City of	42°59'23.6"N 81°13'48.6"W	Old East Village Shift Rapid Transit Route Parking Lot Improvements	Improvements to the parking lots in the Old East Village are part of the first phase of the Shift Rapid Transit project that will mitigate the loss of on-street parking as a result of the adjacent Dundas Street rapid transit route and station.	III. Expenditures to support the design and planning for the expansion and improvements to public transit systems, including transportation demand management measures and studies and pilot projects related to innovative and transformative technologies	New	2016/05/01	2019/01/31	N	\$1,300,000.00	\$1,300,000.00	\$650,000.00	\$0.00	\$0.00	\$650,000.00	\$0.00	Y	Y	Y	Y	N/A

LON-019	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Upgrade Automatic Vehicle Location/Communication System utilized at London Transit	Upgrade of system software and hardware will resolve a number of outstanding software issues and provide the opportunity for enhanced data integration going forward	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2018/03/31	N	\$242,000.00	\$242,000.00	\$121,000.00	\$0.00	\$121,000.00	\$0.00	\$0.00	Y	Y	N	Y	N/A
LON-021	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Upgrade of on-board bus audio/video recording system	Upgrade of on-board audio/video recording system including system software and replacement of on-board hard drives, noting current drives are subject to frequent failure. Replacements will provide a more stable and reliable system.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/05/01	2020/03/31	N	\$350,000.00	\$350,000.00	\$175,000.00	\$0.00	\$175,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-022	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement of current telephone system in use at London Transit	Replacement of telephone switching system for both conventional and specialized transit operations. Current system relies on old technology and is subject to frequent failure. Replacement will provide expanded feature set as well as a more reliable platform. Project modification request is to extend timelines to May 31, 2018 due to resource availability during remainder of 2017 given extent of PTIF projects underway.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2018/01/01	2020/03/31	N	\$300,000.00	\$300,000.00	\$150,000.00	\$0.00	\$150,000.00	\$0.00	\$0.00	Y	Y	N	Y	N/A
LON-023	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Retrofit current bus fleet (110 buses) with perimeter seating to increase accessibility	Retrofit existing fleet (approximately 110 buses) with perimeter seating in the front of the bus to provide for increased capacity for strollers and mobility devices, resulting in increased accessibility fleet wide. Project modification request is to extend timelines to March 31, 2019 due to inability of seat manufacturer to deliver seating within original timeframe.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2018/01/01	2019/06/30	N	\$1,125,000.00	\$1,125,000.00	\$562,500.00	\$0.00	\$562,500.00	\$0.00	\$0.00	Y	Y	N	Y	N/A
LON-024	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2 and 3508 Wonderland Rd, London, ON N6L 1A7	Asphalt repairs at both transit facilities	Repair of asphalt at both transit facilities including bus access rights of way, public access ways and employee parking, improving safety at both sites.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/05/01	2017/12/31	N	\$400,000.00	\$400,000.00	\$200,000.00	\$0.00	\$200,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A

LON-025	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2 and 3508 Wonderland Rd, London, ON N6L 1A7	Upgrade lighting to Light-emitting diodes (LED) at both transit facilities	Replacement of existing lighting in bus storage barns at Highbury transit facility as well as all exterior lighting at both facilities, improving safety as well as environmental impacts	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/02/01	2018/03/31	N	\$325,000.00	\$325,000.00	\$162,500.00	\$0.00	\$162,500.00	\$0.00	\$0.00	Y	Y	Y	Y	N/A
LON-026	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement of (2) hoists at Highbury transit facility	Replacement of 2 hoists in the Highbury transit facility, noting the approximate age of those being replaced is 22 years	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2017/12/31	N	\$400,000.00	\$400,000.00	\$200,000.00	\$0.00	\$0.00	\$200,000.00	\$0.00	Y	N	N	Y	N/A
LON-028	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Upgrade of Fuel Cardlock system at Highbury Transit Facility	Upgrade of the fuel cardlock system in use at the Highbury transit facility noting the current system has been in use for 16 years. Upgrade will provide for integration with the system in use at the Wonderland facility	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2017/12/31	N	\$115,000.00	\$115,000.00	\$57,500.00	\$0.00	\$0.00	\$57,500.00	\$0.00	Y	N	N	Y	N/A
LON-029	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement of 10 engines and related ancillary equipment in buses that have surpassed the planned 6 year replacement cycle	**Modified project** Modifications made to title and description. See key notes for details. Replacement of 10 engines and related ancillary equipment in a number of buses that have extended past the planned 6 year engine replacement. Engines being replaced are between 7 and 8 years old, and related buses are subject to ongoing maintenance issues. Replacement will result in a more reliable fleet.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2019/06/30	N	\$900,000.00	\$900,000.00	\$450,000.00	\$0.00	\$450,000.00	\$0.00	\$0.00	Y	Y	N	Y	N/A
LON-030	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement of all 380 bus shelters currently in place in the City of London	Fast track of shelter replacement for all 380 transit shelters noting the average age of the shelters being replaced is 20 years. Original project was to take place over a 7 year period, project will be fast tracked and completed in 1 year. New shelters will include lighting to improve rider safety. Project modification request is to extend timelines to June 30, 2018 due to requirement to pour cement pads for some remaining shelters which cannot be completed until spring.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2016/10/01	2020/03/31	N	\$2,639,000.00	\$2,639,000.00	\$1,319,500.00	\$0.00	\$1,319,500.00	\$0.00	\$0.00	Y	Y	N	Y	N/A

LON-031	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Upgrades to file server and network switching infrastructure in use at the Highbury Transit Facility.	Upgrades to current file server and network switching infrastructure supporting transit IT software. Upgrades will provide required flexibility going forward for future planned software upgrades and implementations.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/05/01	2018/03/31	N	\$203,000.00	\$203,000.00	\$101,500.00	\$0.00	\$0.00	\$101,500.00	\$0.00	Y	Y	N	Y	N/A
LON-032	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement of bus wash infrastructure at Highbury Transit Facility	Replacement of bus wash infrastructure at Highbury transit facility (2 bus washes), noting current infrastructure is 12 years old. New infrastructure will include ability to wash buses equipped with bike racks.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/05/01	2018/03/31	N	\$736,000.00	\$736,000.00	\$368,000.00	\$0.00	\$0.00	\$368,000.00	\$0.00	Y	Y	N	Y	N/A
LON-034	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement batteries for 8 Hybrid buses currently in fleet	Purchase and installation of replacement batteries for the 8 Hybrid buses in the fleet, noting the buses have exceeded the 5 year age mark where replacement is recommended by the manufacturer. Replacement will result in a more reliable fleet going forward.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2020/03/31	N	\$745,000.00	\$745,000.00	\$372,500.00	\$0.00	\$372,500.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-035	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement Dual Power Inverter Modules for 8 Hybrid buses	Purchase and installation of replacement Dual Power Inverter Modules for the 8 Hybrid buses in the fleet, noting the buses have exceeded the 6 year age when replacement is suggested. Replacement will result in a more reliable fleet	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2018/03/31	N	\$400,000.00	\$400,000.00	\$200,000.00	\$0.00	\$200,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-036	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement of transmissions for 8 Diesel buses	**Modified project** Modifications made to title and description. See key notes for details. Purchase and installation of replacement transmissions for the 8 Diesel buses in the fleet, noting the buses have exceeded the 6 year age when replacement is suggested. Replacement will result in a more reliable fleet of buses.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2019/06/30	N	\$828,000.00	\$828,000.00	\$414,000.00	\$0.00	\$414,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A

LON-037	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement of the Autotechnik Joints for 9 articulated buses in the fleet	Purchase and installation of replacement Autotechnik Joints for 9 articulated buses in the fleet, noting buses are reaching the age where replacement of these components is required to ensure the bus remains reliable and available for service.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2019/06/30	N	\$552,000.00	\$552,000.00	\$276,000.00	\$0.00	\$276,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-039	London, City of	London, City of	3508 Wonderland Rd, London, ON N6L 1A7	Complete construction to enclose existing structure at Wonderland transit facility to provide for additional storage	Complete construction required to enclose a current structure at the Wonderland transit facility which will provide opportunity for alternate use including bus/equipment storage.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2017/12/31	N	\$60,000.00	\$60,000.00	\$30,000.00	\$0.00	\$30,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-040	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replace/repair existing perimeter fencing at Highbury Transit Facility	Replace and/or repair existing perimeter fencing at the Highbury transit facility resulting in increased safety and security of the facility	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2017/12/31	N	\$80,000.00	\$80,000.00	\$40,000.00	\$0.00	\$40,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-041	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replace security gate infrastructure at Highbury Transit Facility	Replace all security gates and supporting infrastructure at Highbury transit facility resulting in increased safety and security at the facility	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2018/12/31	N	\$150,000.00	\$150,000.00	\$75,000.00	\$0.00	\$75,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-042	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement of all (25) man doors at Highbury Transit Facility	Replacement of all (25) steel man doors at Highbury transit facility due to significant rust/failure of doors and frames resulting in a safer and more secure facility.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/05/01	2018/03/31	N	\$30,000.00	\$30,000.00	\$15,000.00	\$0.00	\$15,000.00	\$0.00	\$0.00	Y	N	Y	Y	N/A

LON-043	London, City of	London, City of	3508 Wonderland Rd, London, ON N6L 1A7	Completion of concrete repair at Wonderland Transit Facility	Completion of concrete repair on public and employee walkways at Wonderland transit facility resulting in improved safety	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2017/01/01	2018/03/31	N	\$150,000.00	\$150,000.00	\$75,000.00	\$0.00	\$75,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-044	London, City of	London, City of	3508 Wonderland Rd, London, ON N6L 1A7	Replacement of sewage pump infrastructure at the Wonderland Transit Facility	Replacement of sewage pump at Wonderland transit facility, noting current pump has reached its useful life and can be expected to be failing. Replacement will result in a safer work environment.	III. Expenditures to support the design and planning for the expansion and improvements to public transit systems, including transportation demand management measures and studies and pilot projects related to innovative and transformative technologies	Rehabilitation	2017/01/01	2018/12/31	N	\$69,000.00	\$69,000.00	\$34,500.00	\$0.00	\$0.00	\$34,500.00	\$0.00	Y	N	N	Y	N/A
LON-045	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Renovation of reception area at Highbury transit facility to provide greater security	Renovation of the reception area at the Highbury transit facility to provide for enhanced safety and security for employees working alone during off hours	III. Expenditures to support the design and planning for the expansion and improvements to public transit systems, including transportation demand management measures and studies and pilot projects related to innovative and transformative technologies	Rehabilitation	2017/01/01	2017/12/31	N	\$23,000.00	\$23,000.00	\$11,500.00	\$0.00	\$11,500.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-047	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Completion of a Facility needs Assessment and detailed plan for Highbury Transit facility	Completion of a Facility Needs Assessment and Detailed Plan for the teardown/reconstruction of the Highbury transit facility. Facility is in excess of 50 years old and is not a purpose built transit facility. Replacement consideration has been identified in long-term asset management plan	III. Expenditures to support the design and planning for the expansion and improvements to public transit systems, including transportation demand management measures and studies and pilot projects related to innovative and transformative technologies	Study	2017/01/01	2019/03/31	N	\$300,000.00	\$300,000.00	\$150,000.00	\$0.00	\$150,000.00	\$0.00	\$0.00	Y	N	N	Y	N/A
LON-048	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Purchase and installation of 72 Automatic Passenger Counters for remainder of bus fleet	Purchase and installation of automatic passenger counters (APC) for 72 remaining buses in London Transit Commission (LTC) fleet. The addition of APC's enhances the data availability for system planning purposes.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Expansion	2017/01/01	2019/12/31	N	\$575,000.00	\$575,000.00	\$287,500.00	\$0.00	\$287,500.00	\$0.00	\$0.00	Y	Y	N	Y	N/A
LON-050	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Increased bus replacement program in 2017 to include 7 buses planned for 2018 replacement	Fast track bus replacement program in 2017 to include 7 buses from the planned 2018 replacement program. Fast tracking will result in reducing the time required to attain the desired average fleet age of 6 years.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	Rehabilitation	2017/01/01	2017/12/31	N	\$4,000,000.00	\$4,000,000.00	\$2,000,000.00	\$0.00	\$850,000.00	\$1,150,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-051	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Increased bus replacement program in 2018 to include 7 buses planned for 2019 replacement	Fast track bus replacement program in 2018 to include 7 buses from the planned 2019 replacement program. Fast tracking will result in reducing the time required to attain the desired average fleet age of 6 years. This project requires extended timelines given that the bus replacement process is completed with inhouse resources. The process requires the removal of all ancillary equipment from the bus being retired and the install of same equipment on the new bus. This process has to occur over the summer months when reduced service levels result in a greater number of spares to allow for this transition without impacting service.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	Rehabilitation	2018/01/01	2019/03/31	N	\$4,000,000.00	\$4,000,000.00	\$2,000,000.00	\$0.00	\$850,000.00	\$1,150,000.00	\$0.00	Y	Y	Y	Y	N/A

LON-052	London, City of	London, City of	1139 Hamilton Road, London ON	Rehabilitation of Thames Valley Parkway (TVP), South Branch	Rehabilitation & expansion of approx. 4.5km of south branch Thames Valley Parkway (TVP). The TVP is the backbone of London's 166km recreational pathway system and is an important component of the City's active transportation network. The TVP provides critical active transportation access to transit stops.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	Rehabilitation	2017/05/01	2018/02/21	N	\$1,000,000.00	\$1,000,000.00	\$500,000.00	\$0.00	\$0.00	\$500,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-053	London, City of	London, City of	1205 Commissioners Road West, London ON	Rehabilitation of Thames Valley Parkway (TVP), Main Branch	Rehabilitation & expansion of approx. 1.5km of pathway and approx. 1km of interior park roads on the TVP Main Branch in Springbank and Greenway Park. The active transportation network in these parks sees over 400,000 user trips per year. The cycling networks connect to transit stops, encouraging cyclists from across the City to take transit. Project modification request to extend timeline to July 31, 2018 due to delays starting project and contractor capacity to finish the work within the original timeline.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	Rehabilitation	2018/01/01	2018/09/28	N	\$750,000.00	\$750,000.00	\$375,000.00	\$0.00	\$0.00	\$375,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-054	London, City of	London, City of	650 Windermere Road, London ON	Rehabilitation of 3 Pedestrian Bridges	***Modified Project*** See timeline history for original information. Rehabilitation of four pedestrian bridge structures along the Stoney Creek Recreational Pathway System. This recreational pathway and associated bridges provide critical connections between London neighbourhoods and major destinations such as hospitals, the University of Western Ontario, the Thames Valley Parkway, and the City's transit network.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	Rehabilitation	2017/05/01	2020/03/31	N	\$600,000.00	\$600,000.00	\$300,000.00	\$0.00	\$0.00	\$300,000.00	\$0.00	Y	Y	Y	Y	N/A
LON-055	London, City of	London, City of	300 Dufferin Avenue	12 Audible Pedestrian Signal Upgrades	This project will upgrade twelve (12) traffic signals with audible pedestrian signal push buttons and tactile plates as per the Accessibility for Ontarians with Disabilities Act requirements. This project will target traffic signals that are not currently scheduled for reconstruction. Improved accessibility at the traffic signals will benefit all users but in particular, it will provide visually impaired pedestrians a safe and comfortable access to transit stops.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2017/01/01	2018/07/31	N	\$390,000.00	\$390,000.00	\$195,000.00	\$0.00	\$0.00	\$195,000.00	\$0.00	Y	Y	N	Y	N/A
LON-056	London, City of	London, City of	300 Dufferin Avenue	Installation of 60 Pedestrian Countdown Signal Heads	**Modified project** Modifications to funding. See key notes for details. This project involves the installation of pedestrian countdown signal heads at sixty (60) signalized intersections. Pedestrian countdown signals assist pedestrians utilizing active mobility infrastructure. Positive feedback is provided with respect to how much time is available to cross the intersection. Improved pedestrian crossings at signalized intersections improves access to transit stops.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	New	2017/01/01	2017/10/30	N	\$200,000.00	\$200,000.00	\$100,000.00	\$0.00	\$0.00	\$100,000.00	\$0.00	Y	Y	N	Y	N/A
LON-057	London, City of	London, City of	300 Dufferin Avenue	Bicycle Detection Improvements at 4 intersections	The standard induction loop vehicle detection works well for automobiles but does not consistently detect bicycles. This project would upgrade four (4) intersections with improved bicycle detection thereby improving the City's cycling network and facilitating additional active transportation trips that connect cyclists to the City's transit network.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	New	2017/01/01	2017/10/30	N	\$100,000.00	\$100,000.00	\$50,000.00	\$0.00	\$0.00	\$50,000.00	\$0.00	Y	Y	Y	Y	N/A
											\$40,807,000.00	\$40,807,000.00	\$20,403,500.00	\$0.00	\$7,112,000.00	\$13,291,500.00	\$0.00					

APPENDIX C

TO THE PUBLIC TRANSIT INFRASTRUCTURE FUND (PTIF) PHASE ONE (ONTARIO) TRANSFER PAYMENT AGREEMENT

**SUB-SCHEDULE "C.2"
EXTENDED PROGRAM FUNDING REQUEST**

Project Information										Federal Land	Financial Information							Project Objectives			Incrementality	Risk Assessment
Unique Project ID	Ultimate Recipient	Project Location	Actual Project Site (Civic Address or Geo Coordinates)	Project Title	Project Description	Eligible Investments Category	Project Nature	Forecasted Start Date (YYYY/MM/DD)	Forecasted End Date (YYYY/MM/DD)	Project Located on Federal Land (Y/N)	Total Project Cost	Total Eligible Cost	Program Contribution (Eligible Expenditures)	Other Federal Contributions (Eligible Expenditures)	Provincial Contribution (Eligible Expenditures)	Municipal Contribution (Eligible Expenditures)	Other Contribution (Eligible Expenditures)	Increased Capacity or Lifespan of the Asset (Y/N)	Enhanced Service (Y/N)	Improved Environmental Outcomes (Y/N)	Evidence of Incrementality (Y/N)	Risk Factors
LON-002	London, City of	London, City of	300 Dufferin Avenue, London ON	Shift Rapid Transit Pilot Project & Implementation	Shift is London's Bus Rapid Transit Initiative. Project is the advancement of further engineering studies and design for the rapid transit initiative. Engineering studies will include risk assessment, design of stations, field investigations and detail design of corridors. Project scope requires an extension into year 3 due to magnitude of construction and includes the implementation of a potential quick start rapid transit program and initial construction/utility relocation.	III. Expenditures to support the design and planning for the expansion and improvements to public transit systems, including transportation demand management measures and studies and pilot projects related to innovative and transformative technologies	Studies/ Planning/ Asset Management	2016-04-01	2021-07-31	N	\$14,750,818.00	\$14,750,818.00	\$7,375,409.00	\$0.00	\$0.00	\$7,375,409.00	\$0.00	Y	Y	Y	Y	Low risk - standard work
LON-003	London, City of	London, City of	42°59'01.4"N 81°14'58.9"W	Rehabilitation of Dundas Place	Dundas Place is the conversion of a portion of downtown Dundas Street from an auto oriented street into an active transportation friendly area that includes the reconfiguration of transit service routes/stops and relocation of the primary transit hub in the downtown. Project is being accelerated to help implement transit reorganization of routes and project scope requires an extension into year 3 due to magnitude of construction.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	Expansion	2016-04-01	2021-07-31	N	\$16,000,000.00	\$16,000,000.00	\$8,000,000.00	\$0.00	\$0.00	\$8,000,000.00	\$0.00	Y	Y	Y	Y	Coordination with Utilities & Downtown businesses.
LON-016	London, City of	London, City of	300 Dufferin Avenue, London ON	Feasibility Study for a Downtown Transportation Alliance	A Downtown Transportation Alliance (working title) in London would be modelled after a traditional Transportation Management Association (TMA) which is a formal organization of businesses, institutions, agencies and a local government dedicated to providing transportation solutions to meet the needs of its members (or geographic area). A key aspect of the Downtown Transportation Alliance will be raising awareness of the fundamental role the future Bus Rapid Transit (BRT) will play in moving Londoners and employees in and out of the core. The benefits of Downtown Transportation Alliance TMA include but are not limited to: <ul style="list-style-type: none"> pooling the resources of many employers, thereby increasing their impact (e.g., often reducing cost, increasing environmental benefit, providing certainty in commuter travel, encouraging positive transportation behaviours) providing a way for businesses to help solve local transportation challenges for their employees allowing public and private entities to work together implementing programs to alleviate traffic congestion, improve air quality and reduce greenhouse gas generation Project completion date extended to March 28, 2019 due to delays starting project and contractor capacity to finish the work within the original timeline.	IV. Projects for system expansion, which may include active transportation, if they can be completed within the program timeframe.	Studies/ Planning/ Asset Management	2017/05/01	2021/07/31	N	\$150,000.00	\$150,000.00	\$75,000.00	\$0.00	\$0.00	\$75,000.00	\$0.00	N	Y	Y	Y	Increased pressure on project participants (community engagement)

LON-017	London, City of	London, City of	300 Dufferin Avenue, London ON	Neighbourhood Bike Parking Infrastructure Preliminary Concepts Study	Within London's future Transit Villages and neighbourhoods along Bus Rapid Transit (BRT) Corridors, bike parking infrastructure will be required. The goal is to develop a base package of bike lockup facility needs and amenities located in common footprint designs or placed near BRT stations. The designs will be customizable to meet the design needs of the local neighbourhood; however many common elements will remain unchanged to ensure consistency across the city. Project completion date extended to September 30, 2018 due to delays starting project and contractor capacity to finish the work within the original timeline.	III. Expenditures to support the design and planning for the expansion and improvements to public transit systems, including transportation demand management measures and studies and pilot projects related to innovative and transformative technologies	Studies/ Planning/ Asset Management	2017/05/01	2021/07/31	N	\$50,000.00	\$50,000.00	\$25,000.00	\$0.00	\$0.00	\$25,000.00	\$0.00	N	Y	Y	Y	Increased pressure on project participants (community engagement)
LON-020	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Replacement of existing 8-line wayside transit information signs	Replacement of current 8-line wayside information signs given assets are in excess of 8 years old and are subject to frequent failure. Newer signs will provide increased reliability and also provide enhanced technology features. Project modification request is to extend timelines to March 31, 2019 due to extended delivery requirements of 12 months as indicated in RFP response.	I. Capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility and/or safety of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations, or other public transit capital assets; refurbishment of existing rolling stock; intelligent transportation systems and replacement or enhancements of transit stations).	Rehabilitation	2018/01/01	2021/07/31	N	\$391,000.00	\$391,000.00	\$195,500.00	\$0.00	\$195,500.00	\$0.00	\$0.00	Y	Y	N	Y	Product delivery lead time and installation.
LON-046	London, City of	London, City of	450 Highbury Avenue North, London ON N5W 5L2	Supply and installation of 35 wayside transit information signs at identified locations across the City	Purchase and installation of 35 wayside transit information signs across London at key locations identified through service planning process, resulting in better access to transit information for customers. Project modification request is to extend timelines to March 31, 2019 due to extended delivery requirements of 12 months as indicated in RFP response.	III. Expenditures to support the design and planning for the expansion and improvements to public transit systems, including transportation demand management measures and studies and pilot projects related to innovative and transformative technologies	New	2018/01/01	2021/07/31	N	\$325,000.00	\$325,000.00	\$162,500.00	\$0.00	\$162,500.00	\$0.00	\$0.00	Y	Y	N	Y	Product delivery lead time and installation.
											\$31,666,818.00	\$31,666,818.00	\$15,833,409.00	\$0.00	\$358,000.00	\$15,475,409.00	\$0.00					

**APPENDIX D
TO THE PUBLIC TRANSIT INFRASTRUCTURE FUND (PTIF) PHASE ONE
(ONTARIO) TRANSFER PAYMENT AGREEMENT**

**SCHEDULE “E”
ELIGIBLE EXPENDITURES AND INELIGIBLE EXPENDITURES**

E.1.0 DEFINITIONS

E.1.1 **Definitions.** For the purposes of this Schedule “E” (Eligible Expenditures and Ineligible Expenditures):

“**Eligible Investments**” means the Eligible Investments described in section E.2.2 (Eligible Investments).

“**Ineligible Expenditures**” means the costs of the Project that are ineligible for contribution by the Province under the terms and conditions of the Agreement, and that are described in this Schedule “E” (Eligible Expenditures and Ineligible Expenditures).

E.2.0 ELIGIBLE EXPENDITURES AND ELIGIBLE INVESTMENTS

E.2.1 **Eligible Expenditures Date of Effect.** Eligible Expenditures can begin to accrue as of April 1, 2016.

E.2.2 **Eligible Investments.** The following are Eligible Investments:

- (a) capital projects for the rehabilitation, optimization and modernization of public transit infrastructure, or that improve the efficiency, accessibility or safety, or both, of public transit infrastructure (including rehabilitation or enhancement of existing guide ways, maintenance and storage facilities, transit stations or other public transit capital assets, refurbishment or

- replacement of existing rolling stock, intelligent transportation systems and replacement or enhancement of transit stations);
- (b) expenditures to support the asset management capacity of a public transit system;
 - (c) expenditures to support the design and planning for the expansion and improvements to public transit systems, including transportation demand management measures and studies and pilot projects related to innovative and transformative technologies; and
 - (d) projects for system expansion, which may include active transportation, if they can be completed within the PTIF timeframe.

E.2.3 Scope of Eligible Expenditures. Eligible Expenditures are the direct costs which are, in the Province’s opinion, properly and reasonably incurred by the Recipient between April 1, 2016 and March 31, 2020 for the Sub-projects described in Sub-schedule “C.1” (Program Funding Request) and July 31, 2021 for the Sub-projects described in Sub-schedule “C.2” (Extended Project Funding Request), and are Eligible Investments. Eligible Expenditures include only the following:

- (a) all costs considered by the Parties to be direct and necessary for the successful implementation of the Project, excluding the costs identified under Article E.3.0 (Ineligible Expenditures);
- (b) costs of Aboriginal consultation and, where appropriate, accommodation;
- (c) costs of construction carried out in-house by the Recipient;
- (d) and other costs that, in the opinion of the Province, are considered to be necessary for the successful implementation of the Project and have been approved in writing prior to being incurred.

E.3.0 INELIGIBLE EXPENDITURES

E.3.1 Scope of Ineligible Expenditures. Unless a cost is considered an Eligible Expenditure pursuant to section E.2.3 (Scope of Eligible Expenditures), such cost will be considered an Ineligible Expenditure. Without limitation, the indirect costs listed in section E.3.2 (Indirect Costs), the costs that are over and above the Project scope listed in section E.3.3 (Costs Over and Above Project Scope), and the following costs will be considered Ineligible Expenditures:

- (a) costs incurred prior to April 1, 2016 and after March 31, 2020 for the Sub-projects described in Sub-schedule “C.1” (Program Funding Request), unless otherwise approved pursuant to paragraph E.2.3(d);
- (b) costs incurred prior to April 1, 2016 and after July 31, 2021 for the Sub-projects described in Sub-schedule “C.2” (Extended Program Funding Request) unless otherwise approved pursuant to paragraph E.2.3 (d);
- (c) except as otherwise specified in the Agreement and at the Province’s sole discretion, costs incurred for a cancelled Sub-project;
- (d) land acquisition;
- (e) leasing land, buildings and other facilities;
- (f) leasing equipment other than equipment directly related to the construction of a Sub-project;
- (g) real estate fees and related costs;
- (h) financing charges;
- (i) legal fees and loan interest payments, including those related to easements (e.g., surveys);
- (j) any goods and services costs which are received through donations or in kind;
- (k) taxes for which the Recipient is eligible for a rebate, and any other costs eligible for rebates;
- (l) costs associated with operating expenses and regularly scheduled maintenance work;
- (m) costs incurred by the Recipient for the purpose of the Project Evaluation; and
- (n) other costs which are not specifically listed as Eligible Expenditures under

Article E.2.0 (Eligible Expenditures and Eligible Investments) and which, in the opinion of the Province, are considered to be ineligible.

E.3.2 Indirect Costs. Without limitation, the following indirect costs are Ineligible Expenditures:

- (a) costs of developing the business case for the purposes of applying for provincial funding for a Sub-project;
- (b) costs related to Project evaluation, including the Project Evaluation, and audit, unless otherwise approved by the Province in writing;
- (c) costs associated with obtaining necessary approvals, licenses or permits where the Recipient is the entity providing the approval, license or permit;
- (d) costs associated with general planning studies, including the Recipient's Official Plan and Transportation Master Plan;
- (e) salaries and other employment benefits of any employees, overhead costs as well as other direct or indirect operating or administrative costs of the Recipient, and more specifically these costs as related to planning, engineering, architecture, supervision, management and other services provided by the Recipient's permanent staff and funded under the Recipient's operating budget, unless used specifically towards the Project and only for the portion of time that they are used to work on the Project;
- (f) costs of any activities that are part of the regular operation and maintenance of municipal assets, including operation and maintenance costs related to the Project;
- (g) carrying costs incurred on the funding share of any funding partner other than the Province;
- (h) costs associated with municipal staff travel and any Third Party;
- (i) litigation costs incurred by the Recipient in proceedings against the Province or the Recipient;
- (j) legal costs incurred by the Recipient; and
- (k) Recipient's upgrades not expressly approved by the Province.

E.3.3 **Costs Over and Above Project Scope.** Activities undertaken as part of the Project that are over and above the scope of the Project will not be funded under the Agreement. These costs include, but are not limited to:

- (a) upgrading of municipal services and utilities that is over and above relocation or replacement that is necessitated for the Project;
- (b) upgrades to materials and design beyond existing municipal standards; and
- (c) corridor and urban design enhancements over and above those that are described for the Project.

**APPENDIX E
TO THE PUBLIC TRANSIT INFRASTRUCTURE FUND (PTIF) PHASE ONE
(ONTARIO) TRANSFER PAYMENT AGREEMENT**

**SCHEDULE “H”
DISPOSAL OF AND REVENUES FROM ASSETS**

H.1.0 DEFINITIONS

H.1.1 **Definitions.** For the purposes of this Schedule “H” (Disposal of and Revenues from Assets):

“**Fiscal Year**” means the period beginning April 1 of a year and ending March 31 of the following year.

“**Local Government**” means a single-tier, lower-tier or upper-tier municipality established by or under an Ontario provincial statute, and also includes a municipal service corporation established by such a single-tier, lower-tier or upper-tier municipality.

H.2.0 DISPOSAL OF ASSETS

H.2.1 **Gas Tax Funds Implications.** Despite section H.2.2 (Repayment) and unless the Province otherwise requires in writing, the Recipient agrees that the terms and conditions under the Ministry of Transportation Dedicated Gas Tax Funds for Public Transportation Program (the “Dedicated Gas Tax Program”) will apply to any Asset purchased, acquired, constructed, repaired, rehabilitated, renovated or improved, in whole or in part, with funds from the Dedicated Gas Tax Program, in addition to the Funds, if the Recipient proposes to sell, lease, encumber or use in a manner other than described in the Agreement, or otherwise dispose of, directly or indirectly, any such Asset.

H.2.2 **Repayment.** Subject to sections H.2.1 (Gas Tax Funds Implications) and H.2.3 (Reinvestment), the Recipient undertakes to notify the Province in writing, 180

days in advance if, at any time prior to March 31, 2026 for the Sub-projects described in Sub-schedule “C.1” (Program Funding Request) and prior to July 31, 2027 for the Sub-projects described in Sub-schedule “C.2” (Extended Program Funding Request), the Recipient proposes to sell, lease, encumber or use any Asset in a manner other than described in the Agreement, or otherwise dispose of, directly or indirectly, any Asset purchased, acquired, constructed, repaired, rehabilitated, renovated or improved, in whole or in part, with Funds, other than to Canada, the Province, a Crown agent of the Province or Canada, or a Local Government or, with the Province’s written consent, any other entity. Upon disposition, unless the Province otherwise consents in writing, the Recipient hereby undertakes to reimburse the Province, forthwith on demand, a proportionate amount of the Province’s contribution, in the proportion set out below:

Where Asset sold, leased, encumbered, used in a manner other than described in the Agreement, or otherwise disposed of for the Sub-projects described in Sub-schedule “C.1” (Program Funding Request):	Where Asset sold, leased, encumbered, used in a manner other than described in the Agreement, or otherwise disposed of for the Sub-projects described in Sub-schedule “C.2” (Extended Program Funding Request):	Return of Funds (in current dollars)
On or before March 31, 2026	On or before July 31, 2027	100%
After March 31, 2026	After July 31, 2027	0%

H.2.3 **Reinvestment.** Notwithstanding the foregoing, if the Recipient disposes of any Asset, directly or indirectly, during the period noted in section H.2.2 (Repayment) for the return of Funds and replaces it with an asset of equal or greater value, the Recipient may, in lieu of the repayment provided for in section H.2.2

(Repayment) and with the Province's prior written consent, reinvest the proceeds from the disposal into the replacement asset.

H.3.0 REVENUES FROM ASSETS

H.3.1 **Revenues.** The Parties acknowledge that their contributions to the Project are meant to accrue to the public benefit. The Recipient will notify the Province in writing, within 90 days of the end of a Fiscal Year, if any Asset is used in a way that, in the Fiscal Year, revenues generated from the Asset exceeded the Recipient's operating expenses. In such instance, the Province may require the Recipient to pay to the Province immediately a portion of the excess, in the same proportion as the Province's contribution is to the total cost of the Asset.

H.3.2 **Period for Revenue Disclosure and Payment.** The Recipient's notification and payment obligations in section H.3.1 (Revenues) for the Sub-projects included:

(a) in Sub-schedule "C.1" (Program Funding Request), will apply only to the first three complete Fiscal Years following the Expiry Date.

(b) in Sub-schedule "C.2" (Extended Program Funding Request), will apply to the first five complete Fiscal Years following the Expiry Date.

H.4.0 DEDUCTION FROM FINANCIAL ASSISTANCE

H.4.1 **Deduction by Province.** The Province may deduct any amount of funds to be repaid by the Recipient under this Schedule "H" (Disposal of and Revenues from Assets) from the financial assistance payable on any other current or future project(s) of the Recipient under any other provincial program(s).

**APPENDIX F
TO THE PUBLIC TRANSIT INFRASTRUCTURE FUND (PTIF) PHASE ONE
(ONTARIO) TRANSFER PAYMENT AGREEMENT**

**SCHEDULE “J”
REQUESTS FOR PAYMENT AND PAYMENT PROCEDURES**

J.1.0 DEFINITION

J.1.1 **Definition.** For the purposes of this Schedule “J” (Requests for Payment and Payment Procedures):

“**Final Payment**” means the final payment by the Province to the Recipient for each Sub-project as described in and to be paid in accordance with Article J.8.0 (Final Payment).

J.2.0 PROCEDURES AND TIMING FOR REQUESTS FOR PAYMENT

J.2.1 **Procedures.** The Recipient agrees that the procedures provided for in Article J.3.0 (Procedures for Requests for Payment for Eligible Expenditures) will apply to requests for payment the Recipient submits to the Province under the Agreement.

J.2.2 **Diligent and Timely Manner.** The Recipient agrees to submit its requests for payment to the Province in a diligent and timely manner.

J.3.0 PROCEDURES FOR REQUESTS FOR PAYMENT FOR ELIGIBLE EXPENDITURES

J.3.1 **Timing, Reports and Documents.** The Recipient agrees to submit each Sub-project request for payment for Eligible Expenditures to the Province semi-annually and on a date to be specified by the Province at its sole discretion, and,

subject to paragraph K.4.1 (f), after review by the Committee. The Recipient agrees to submit, for each of the circumstances listed below, the following reports and documents:

- (a) for each request for payment, including the Final Payment, a Request for Payment Form, using the form provided in Sub-schedule “J.1” (Form of Request for Payment Form), fully and accurately completed by an authorized representative of the Recipient;
- (b) for each request for payment, except for the Final Payment, a Progress Report and an Outcomes Progress Report, acceptable to the Province, for the period to which the request for payment relates;
- (c) for each request for payment, except for the Final Payment, a certification, using the form of certificate provided in Sub-schedule “J.2” (Form of Certificate from Recipient), by an authorized representative of the Recipient;
- (d) for each request for Final Payment, a Declaration of Sub-project Completion, using the form provided in Sub-schedule “J.3” (Form of Declaration of Sub-project Completion), by an authorized representative of the Recipient;
- (e) for each request for Final Payment, the Final Progress Report and last Outcomes Report, acceptable to the Province, for the period to which the request for payment relates;
- (f) for each request for Final Payment for new and expansion Sub-projects, if applicable in the opinion of the Province and in addition to the Declaration of Sub-project Completion, a certification, using the form of certificate provided in Sub-schedule “J.4” (Form of Certificate from Professional Engineer), by a professional engineer;
- (g) if the Province so requests, a copy of all documentation provided to the Recipient by the authorized representative of the Recipient or professional engineer, or both, for the certification or declaration, as applicable, in

paragraphs J.3.1 (c), (d) and (f); and

(h) such other information as the Province may request.

J.4.0 PAYMENTS

J.4.1 Payment by the Province. Subject to the terms and conditions of the Agreement, including the Province receiving the necessary annual appropriation from the Ontario Legislature or funds from Canada, or both, upon receipt of a request for payment fully completed in accordance with this Schedule “J” (Requests for Payment and Payment Procedures), the Province will use its reasonable efforts to make a payment to the Recipient, if due and owing under the terms of the Agreement, in a timely manner. The Province will under no circumstances be liable for interest for failure to make a payment within the time limit provided for in this Article J.4.0 (Payments).

J.5.0 TIME LIMITS FOR REQUESTS FOR PAYMENTS

J.5.1 Timing. The Recipient will submit:

- (a) all requests for payment prior to September 1, 2020 for the Sub-projects described in Sub-schedule “C.1” (Program Funding Requests); and
- (b) all requests for payment prior to December 31, 2021 for the Sub-projects described in Sub-schedule “C.2” (Extended Program Funding Request).

J.5.2 No Obligation for Payment. The Province will have no obligation to make any payment for a request for payment submitted after:

- (a) September 1, 2020 for the Sub-projects described in Sub-schedule “C.1” (Program Funding Requests); and
- (b) December 31, 2021 for Sub-projects described in Sub-schedule “C.2” (Extended Program Funding Requests).

J.6.0 FINAL RECONCILIATION AND ADJUSTMENTS

J.6.1 **Final Reconciliation and Adjustments.** For each Sub-project, following delivery of the completed Declaration of Sub-project Completion, confirming achievement of Sub-project Completion, the Final Progress Report and last Outcomes Progress Report, the Parties will jointly carry out a final reconciliation of all requests for payments and payments in respect of the Sub-project and make any adjustments required in the circumstances.

J.7.0 HOLDBACK

J.7.1 **Holdback.** For each Sub-project, the Province may pay to the Recipient up to 90% of its contribution under the Agreement prior to final adjustments in accordance with Article J.6.0 (Final Reconciliation and Adjustments).

J.8.0 FINAL PAYMENT

J.8.1 **Final Payment.** Subject to paragraph A.4.2 (c) and up to the Maximum Funds, the Province agrees to pay to the Recipient the remainder of its contribution under the Agreement, including the Holdback, after all of the conditions under section A.4.14 (Retention of Contribution) have been met.

Report to Chair and Members Civic Works Committee

To: Chair and Members
Civic Works Committee
From: George Kotsifas, Managing Director, Development and Compliance Services & Chief Building Official
Subject: Street Renaming portion of Darlington Place (Plan 33M-773)
Date: March 2, 2021

Recommendation

That, on the recommendation of the of the Director, Development Services, the following actions be taken with respect to the application by Sifton Properties Limited for the proposed renaming of Darlington Place:

- a) to approve a By-law to permit the portion of “Darlington Place” from Kettering Place southward to Lot 9, Concession 1, Part 2 of Reference Plan 33R-19902, within Registered Plan 33M-773, **BE RENAMED** to “Barn Swallow Place.”
- b) the Mayor and the City Clerk **BE AUTHORIZED** to execute this Agreement, any amending agreements and all documents required to fulfill its conditions.

Executive Summary

Sifton Properties has requested that “Darlington Place” in the approved subdivision 33M-773 be renamed to “Barn Swallow Place.” Darlington Place was intended to be a north-south street serving as a connection between two subdivisions. With the lands to the immediate south of the registered subdivision proceeding to Draft Plan Approval and eventual registration, the renaming would align with the developer’s requested street name for the lands under review.

This report provides the By-law to effect the renaming of Darlington Place to Barn Swallow Place.

Linkage to the Corporate Strategic Plan

Building a Sustainable City - London’s growth and development is well planned and sustainable over the long term.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

A Draft Plan application for the “Victoria on the River” subdivision was accepted on July 31, 2009. A revised plan was submitted on September 23, 2010 and the statutory public meeting was held on March 28, 2011. Council adopted the corresponding Official Plan Amendment on April 4, 2011 and it came into effect on May 10th as there were no appeals. The plan was Draft Approved on January 19, 2012, subject to conditions and red line revisions.

Further revisions to the Draft Plan, including technical amendments required as a result of the final design of the stormwater management pond and outlets were considered at a public participation meeting on September 10, 2013 and a revised Draft Approval was granted on December 10, 2013 for the plan of subdivision consisting of 152 single family lots as well as several blocks for medium and low density residential development, stormwater management and open space uses, and one commercial block.

Phase 1, being the Stormwater Management Pond, was registered on July 26, 2013. Phase 2, which consisted of 59 single detached residential lots, one multi-family block and several park/open space blocks, was registered as Plan 33M-672 on July 31st, 2014. Phase 3 of the subdivision, which consists of 60 single detached residential lots and one park block, was registered as Plan 33M-688 on November 19, 2015.

In April 2016, the Approval Authority granted a further revision to the Draft Plan to Divide a Multi-Family Block and create 20 single detached lots. Phase 4 consisted of 48 single family detached lots, 3 multi-family medium density blocks, 1 walkway block and 1 reserve block.

On December 16, 2019, Phase 5 was registered as 33M-773 as one phase, consisting of 5 single detached lots, one multi-family block and 5 single detached family blocks, all served by two new streets, being Kettering Place and Constance Avenue. On December 19, 2019, a Final Addressing Plan approving the street names of Constance Avenue, Kettering Place and Darlington Place and registered as such on the face of the Registered Plan 33M-773.

An application to change the street name was accepted by The Corporation of the City of London on September 14, 2020 from Sifton Properties Limited, requesting that the street name be changed from Darlington Place to Barn Swallow Place. Sifton Properties Limited have a subdivision plan submitted for the lands to the south, as a result of a request from the former property owner, Sifton's are proposing that Darlington Place be renamed to Barn Swallow Place as it has a connection to the original owners and history / attributes of the site.

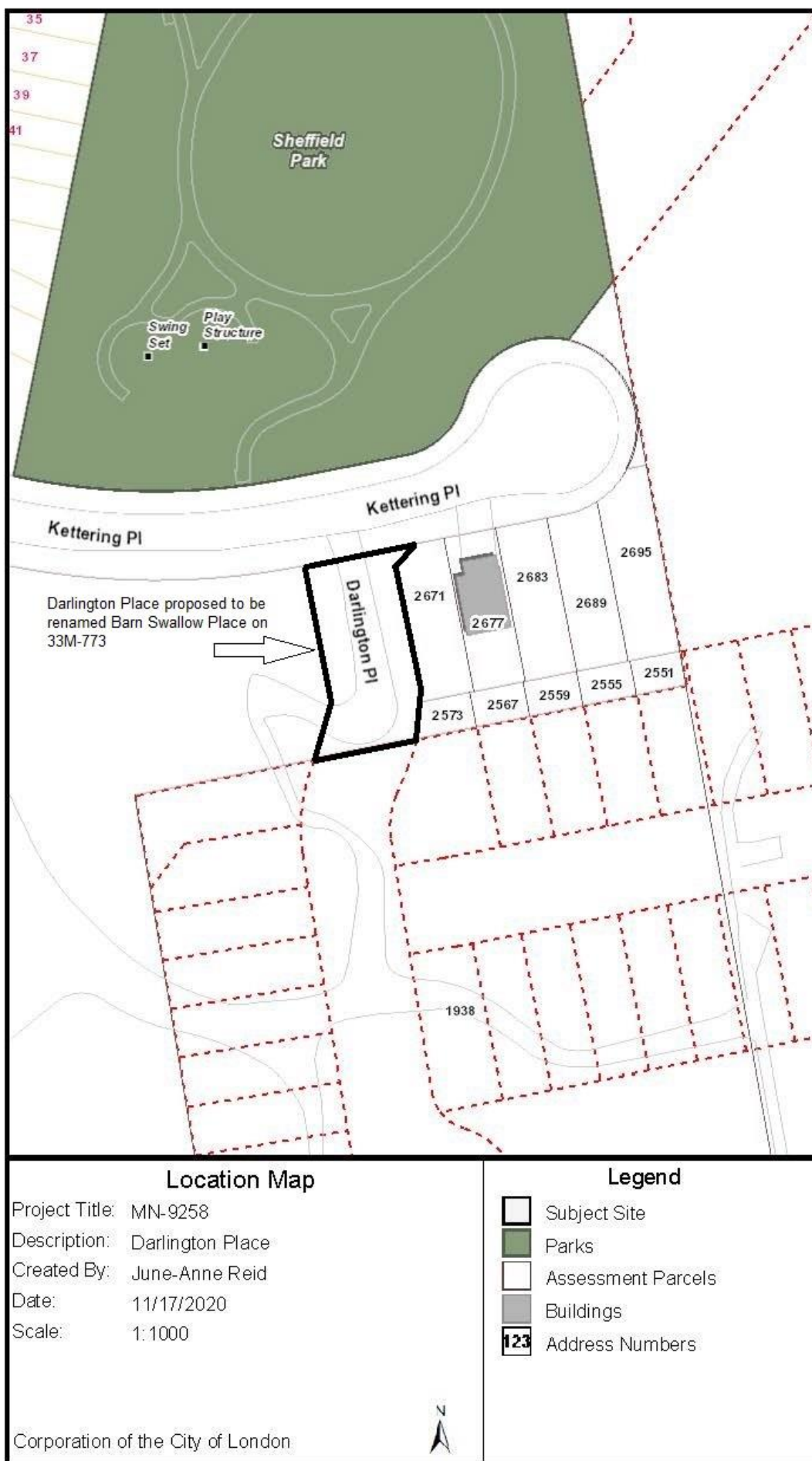
On January 19, 2021, a report was considered by the Civic Works Committee for the requested renaming, which was approved on January 19, 2021. No public were in attendance and no concerns were received. Council approved the renaming on February 2, 2021 as Resolet 3.1-1-CWC.

2.0 Discussion and Considerations

The requested renaming conforms to the City's Street Naming Guidelines and no objections have been noted by the Municipal Addressing Advisory Group (MAAG).

To date, no addresses have been created for Darlington Place and street signs have not been installed. Approval of the request would effectively result in a technical amendment to the established street name and no costs are required for signage or compensation for property owners.

Figure 1 below, Location map of Darlington Place to be renamed to Barn Swallow Place.



3.0 Financial Impact/Considerations

Per the Street Naming Guidelines, the applicant is required to fully cover the costs and provide compensation to residents affected by the street renaming.

There are no residents or street signs installed, therefore there is no direct financial impact to the applicant or the City.

4.0 Key Issues and Considerations

There are no key issues or considerations with this application.

Conclusion

With the approval of the recommended Street Renaming, as directed by Council, Civic Administration will proceed to rename Darlington Place on Plan 33M-773 to Barn Swallow Place.

Prepared by:	June-Anne Reid, Development Documentation Coordinator
Recommended by:	Paul Yeoman, RPP, PLE, Director, Development Services
Submitted by:	George Kotsifas, P.Eng., Managing Director Development & Compliance Services and Chief Building Official

SCHEDULE "A"

Bill No. _____

2021

By-law No. S - _____

A by-law to rename the the portion of "Darlington Place" from Kettering Place southward to Lot 9, Concession 1, Part 2 of Reference Plan 33R-19902, within Registered Plan 33M-773 to "Barn Swallow Place".

WHEREAS the Municipal Council of The Corporation of the City of London deems it expedient to rename the portion of Darlington Place from Kettering Place southward to Lot 9, Concession 1, Part 2 of Reference Plan 33R-19902, within Registered Plan 33M-773 to Barn Swallow Place;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. That portion of Darlington Place lying south of Kettering Place to Lot 9, Concession 1, Part 2 of Reference Plan 33R-19902 within Registered Plan 33M-773 shall hereinafter be called and known as Barn Swallow Place, and the name of the said street is hereby changed accordingly:
2. This by-law comes into force and effect on the day it is passed.

PASSED in Open Council on March 23, 2021.

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading – March 23, 2021
Second Reading – March 23, 2021
Third Reading March 23, 2021

Report to Civic Works Committee

To: Chair and Members
Civic Works Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Managing Director, Environmental & Engineering Services
and City Engineer

Subject: Blue Community Program

Date: March 2, 2021

Recommendation

That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following report regarding the Blue Community Program be received for information.

Executive Summary

Purpose

This report confirms that the objectives and requirements of the Blue Community Program are in close alignment with the existing operation of London's water and wastewater systems. London becoming a Blue Community would bring recognition to our ongoing efforts to be inclusive and good stewards of the environment.

Context

In 2019, members of the Council of Canadians approached the City of London about the possibility of London becoming a "Blue Community". Initially, staff had some uncertainty about the implications of the program and what impact it could have on the City's water and wastewater systems and this was communicated to the Civic Works Committee in a report on March 18, 2019.

Since that time, staff have been communicating with the Blue Communities group to clarify the interpretation of the resolutions and other particulars to better define any impact to the City's water system. Staff have concluded the program is aligned with London's priorities with respect to the operation of its water and wastewater systems.

Linkage to the Corporate Strategic Plan

This recommendation supports the following 2019-2023 Strategic Plan areas of focus:

- Leading in Public Service:
 - Trusted, open, and accountable in service of our community;
 - Exceptional and valued customer service; and
 - Leader in public service as an employer, a steward of public funds, and an innovator of service.
- Building a Sustainable City:
 - London's infrastructure is built, maintained, and operated to meet the long-term needs of our community

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

March 18, 2019 – Civic Works Committee – Blue Communities Program Feasibility

2.0 Discussion and Considerations

There are three main resolutions that are required to become a Blue Community. The following subsections describe how these resolutions align with the existing objectives and operations of London's water and wastewater systems.

2.1 Water as a Human Right

The key portion of this resolution is that it requires the City to state that it will not shut off water to customers that have an inability to pay.

When the existing water and wastewater rate structure was created, a 25 cent "Customer Assistance Charge" was established on the bills of all single family residential customers. Part of these funds were directed to the leak allowance program which helps customers pay unusually large bills due to leaks. Another use of these funds is helping the most vulnerable members of our community through the Salvation Army Center of Hope's Housing Stability Bank which pay towards the water bills for customers in significant financial distress. We also offer flexible payment plans to customers that have fallen behind on their bills.

Each of these programs help different customers in different ways. The leak allowance program could help a customer that might normally be able to afford their water bill but would struggle to pay a large one-time bill due to a leak. Payment plans help customers who may have gone through a time of temporary financial stress catch back up. Finally, our finding through the Salvation Army is designed to assist the most vulnerable of our customers and is part of a broader program designed to help prevent people that are currently housed from becoming homeless.

The Blue Communities group has evaluated these programs and has determined that based on these, the City already does not shut off water to residential customers that do not have the ability to pay. This resolution is therefore in alignment with the existing operation of the water and wastewater systems.

2.2 Restricting the Sale of Bottled Water in City Facilities

On this resolution, the City of London was ahead of the curve, passing restrictions on the sale of bottled water in City Facilities more than a decade ago. The Blue Communities group was amenable to adjusting this resolution so Council is simply reaffirming their original restrictions. This resolution is therefore in alignment with the existing policies of the City of London and will not have an effect on the operation of the water and wastewater systems nor civic facilities.

2.3 Publically Owned and Operated Water and Wastewater System

The City of London's water and wastewater systems are currently fully publically owned and operated so this resolution is in alignment with the operation of the water and wastewater systems.

It should be noted that the two regional supply systems that treat and supply London with water are publicly-owned by the member municipalities. The water treatment and primary supply systems use a contracted operator under the oversight of by Regional Water Supply staff at the direction of the two regional water supply boards. Since these systems are separate legal entities from the City of London, London becoming a Blue Community will not have any effect on the existing operation of those systems.

3.0 Financial Impact/Considerations

There is no financial impact from this report

Conclusion

Given the programs and policies already in place, there is close alignment between the

objectives and requirements of the Blue Community Program and the existing operation of London's water and wastewater systems. London becoming a Blue Community would bring recognition to these efforts especially those designed to make our City more inclusive while being good stewards of the environment while not adding additional costs to the operation of the systems.

Prepared by: Aaron Rozentals, GDPA, P.Eng, Division Manager, Water Engineering

Submitted by: Scott Mathers, MPA, P. Eng., Director, Water And Wastewater

Recommended by: Kelly Scherr, P. Eng., MBA, FEC
Managing Director, Environmental and Engineering Services and City Engineer

CC: J. Simon, Daniel Hsia, Lynn Brown (Council of Canadians)

I am writing to express my concern and strong opposition to the proposed sidewalk which would run on the south side of St Anthony Road between Hyde Park and Hampton Crescent.

My neighbourhood, sometimes referred to as Hazelden South, or Old Hazelden, is an entirely residential subdivision with fewer than 180 homes, and a road network consisting of 5 small local roads. The subdivision is very quiet, with extremely low traffic volumes, and no identifiable Destination Points or Points of Interest, like schools, churches or stores. Traffic within the neighborhood is strictly generated to and from the homes within the neighbourhood, with little, if any "pass through/cut through traffic". St Anthony Road is not used as a "short cut" to anywhere, and the neighbourhood does not facilitate a municipal bus route.

While I understand that the consideration of sidewalks in City projects is in accordance with the City's Transportation Master Plan, The London Plan, and Vision Zero Principles, it is my concern that implementing sidewalks in a blanket manner, without a comprehensive review of the actual need for such in each specific area is a waste of taxpayer dollars. Just because a need may exist in some areas, does not mean the need exists in all areas, and I believe it is irresponsible for the City to introduce sidewalks (or any additional infrastructure) in any area without clearly demonstrating that it is something that a specific neighbourhood wants and needs.

While accessibility is certainly something to give serious consideration, I do not believe that there is an existing accessibility problem on St Anthony Road. While there may not be sidewalks, pedestrians with and without mobility issues, cyclists, and scooter users share the road with the motorists, without incident. Local residents walk and cycle frequently through the entire neighbourhood day and evening, and they do so along the curb. As a quiet pedestrian neighbourhood, traffic moves at slower speeds. All residents know and expect there will be people walking along the side of the road and operate their vehicles accordingly.

I do not believe that the installation of sidewalks on St Anthony Road will increase the safety or accessibility within the neighbourhood, and believe that a sidewalk along one block, through one short segment of the neighbourhood will receive little use, as people will likely remain on the street regardless.

Additionally, winter maintenance of the proposed sidewalks creates a significant concern, as the winter maintenance of municipal sidewalks within smaller residential subdivisions in the City of London is given low priority, and is often poor at best. In nearby residential areas with sidewalks, pedestrians often choose to walk on the road due to the poor and icy conditions of the sidewalks in the winter, rendering these sidewalks useless. Further to this, there are often many issues in the spring in regard to displaced sod and grass adjacent to residential properties, due to less than diligent sidewalk winter maintenance.

The installation of sidewalks along St Anthony Road will also significantly adversely impact the parking capacity of our driveway, reducing our four car driveway to a two car driveway. As a multi-generational home with 3 (soon to be 4) vehicles, as well as 2 boats, the reduction in our parking will pose a significant issue, as we will be forced to store our boats off property, paying storage fees, as well as being inconvenienced by not having them easily available for our use. One of the main reasons we purchased this home over 20 years ago was the ample on site parking availability provided by a driveway unobstructed by sidewalks. This loss will not only be costly and inconvenient for our family, but I believe it will also adversely impact the property value of my home.

Further to this, it is my understanding that retrofitting a sidewalk through my existing concrete driveway may actually cause premature deterioration, as saw-cutting through the steel reinforcement will reduce longevity, and create potential for excessive heave and cracking.

We, just as everyone in this neighbourhood, take great pride in our property and I am frustrated that the City has planned to implement a feature without having a clear and

concise understanding of the specific need for such in this neighbourhood. There was no comprehensive consultation for this feature - simply a blanket approach applied.

I remain convinced that the proposed sidewalk would not significantly increase the safety or accessibility for people within our community, and would instead result in significant environmental and social impact with little to no benefit to the community as a whole.

I firmly object to the City of London imposing unnecessary and unrequested infrastructure upon myself and my neighbourhood, and as a rate-payer, I believe that funds would be better allocated towards repairing failing municipal infrastructure elsewhere, such as repaving or reconstructing Hyde Park Road south of Riverside.

Regards,

Jodie Lucente

1096 St Anthony Road

Hello Mayor Holder and Counselor Lehman,

I received the project notice for the proposed work on St Anthony Road late last week and although I understand the need to complete necessary works on the aging infrastructure, I am writing to oppose the installation of new sidewalks and to raise my concerns.

I have lived on St. Anthony Road for the last 21 years and raised two energetic boys here. I have never felt that their safety was at risk because of the lack of sidewalks.

This small neighbourhood consists of about 175 homes within 5 smaller streets tucked into the area between Riverside Drive and the Thames River. There is no destination point like a school, church or community center and the area does not facilitate a municipal bus route. The low volume of traffic is limited to the residents that live in the area, many of which are original to the subdivision.

The inclusion of sidewalks into an older neighbourhood is not the same as new construction and I have learned that the original design of this neighbourhood intentionally excluded sidewalks and street lighting.

There does not appear to be a comprehensive design plan for sidewalks in this neighbourhood, or even within this project, and the addition of sidewalks would not increase safety as suggested. The short length of sidewalk does not link anything; it goes from nowhere to nowhere. Adding sidewalks to this small stretch gives the illusion of safety in this segment, however pedestrians would have to revert to the road at the end of the section, if they even use the sidewalk at all. Speeds are currently slower as drivers expect pedestrians to be on the road and conduct themselves accordingly. In the 21 years that I have lived in this neighbourhood, I am aware of no incidents with pedestrians being struck. Adding sidewalks simply to check off a box as part of the planning process is an absolute waste of tax dollars in an already constrained budget.

If safety and accessibility is the city's concern, focus and proper engineering of Hyde Park from Riverside Drive to St Anthony would be more of a priority and a better use of tax dollars. The only controlled crossing for the entire neighborhood is at this intersection, yet Hyde Park Road lacks proper curb and gutter, positive drainage and the road condition would be an impediment to anyone with mobility issues. The vertical grade alone would make it a candidate for repair and use of limited tax dollars, and an engineering assessment would clearly prioritize this work above any unnecessary sidewalk.

Furthermore, the environmental impact of the loss of trees is of concern and does not appear to have been thoroughly reviewed. Has the city conducted even the simplest of an Environmental Assessment for the project? The notice suggests 10 trees will be cut, but this fails to address any of the mature trees in very close proximity to the work area for the sidewalk. Root damage is a certainty and would result in greater tree and vegetation loss in a short period of time. This loss will take decades to mitigate, and the character of the neighbourhood will be changed forever.

With millions of dollars being spent to combat COVID 19, it is an insult to add sidewalks where there is no proven need. It is extremely irresponsible and lacks social and economical constraint in a time when the focus should be government programs to help people through these unprecedented times. Although the city plan suggests that a sidewalk be considered when performing road works, the specific and local needs must be considered. The city plan allows for mitigation in older neighbourhoods, however, it appears that no mitigation has been considered, nor has any consultation occurred with the residents of this small neighbourhood. It would be prudent for city staff to conduct a thorough review and mitigate this unnecessary expenditure.

I understand that a petition has been circulated, and this tight knit community is unified in our position to stop the installation of the unwarranted sidewalks which are a clear waste of tax dollars.

I trust you understand the concerns raised and will carry this information forward at the city meeting. You are welcome to share my concerns with anyone involved in order to allow for reasonable and prudent spending to occur.

Regards Frank Lucente

Subject: Sidewalks Hazelden Park Subdivision

Apparently the City as part of reconstructing the easterly portion of St Anthony Road is planning to install a sidewalk on the south side of the road. The entire neighbourhood is without any sidewalks and street lights and the residents prefer it that way. I have personally lived on the west end of St Anthony Road for 52 years. At this time reconstruction of the westerly half is not anticipated and would only happen some time in the future. In front of our place we have a beautiful set of mailboxes and adjacent to that is a large above ground transformer. If a sidewalk was mandated in the future it would have to snake in behind these obstructions cutting our front yard in half. Similar issues occur on the easterly portion of St Anthony Road where residents are objecting. When contacted the City indicated that the sidewalk was necessary to meet accessibility standards. The simple solution is to phase the project, the roadwork now and the sidewalk as phase 2 sometime in the future. In other words phase 2 will never happen because there will always be more pressing needs. An alternative would be to construct a sidewalk on the west side of Hyde Park Road from St Anthony Road to Riverside Drive. There would be no objections from residents and it would serve the entire subdivision leading to the main artery which is Riverside Drive. In other words don't spend our money where the residents do not want it and spend it in more needy areas of our great city.

Respectfully Submitted.

Andy and Helen Spriet

Hi Steve,

Just read your letter regarding the Tarbart Terrace sidewalk. Although my house is on the north side of the street and I'm not impacted by this, I think it's completely unnecessary as we live on a very quiet street, with little to no traffic. I feel for my neighbours as they'll be losing a great deal of their front yards as well as some majestic trees. Personally, I think there's much better use of taxpayer money that to put in sidewalks that are unnecessary and will more than likely not be desired by most neighbours on the south side.

Just my opinion.

Thanks for the letter to allow us an easy way to provide comment.

Kevin McCabe
81 Tarbart Terrace

Dear Mr. Lehman,

I am writing you this letter to strongly oppose the implementation of sidewalks on our street, St. Anthony Road, in Old Hazelden. My parents bought our family home in 1970. My dad carefully chose the lot and the perfect neighbourhood to raise his family. Sadly, my parents, Dennis and Catherine Donohue, have passed away. I know how important it was for my dad to know that I would continue to raise my family here at 1102 St. Anthony.

Old Hazelden was built by the original homeowners with a clear vision of living in a quiet, quaint, charming, and suburban community. Many of the original homeowners continue to reside here in their homes. After petitioning today, it is very clear that sidewalks are not a welcome addition to this neighbourhood. Residents, young and old, feel very secure walking, strolling, and biking throughout the neighbourhood. Many mentioned that when walking in Hazelton North they feel that the sidewalks are treacherous and move to the road as a safer choice.

I have many concerns regarding the installation of sidewalks, aside from my sentiment for Old Hazelden. The project proposed makes absolutely no sense to me. I do not understand why the project would begin in the middle of a street that leads to no other sidewalks. There are no sidewalks on Hyde Park Road or Hartson Road that connect to St. Anthony Road. There are no churches, schools, stores, or transit lines in our neighbourhood. Sidewalks are not necessary and are a colossal waste of taxpayers' money. Trees the city just planted a few years ago would have to be cut down as well as long existing mature trees. This is not good for the environment and again, a waste of taxpayers' money. Not to mention the cable/internets boxes that were installed in 2019. Our lawn was dug up for months! Is a sidewalk going to be installed over the green cable box on our front lawn? We just finished re-landscaping it last spring after the city left such a mess. It was very costly.

I strongly urge the City of London to cancel this unwanted and unnecessary project. As ratepayers, my husband and I believe that funds would be better allocated towards repairing failing municipal infrastructure elsewhere.

Sincerely,

Jacqueline Miller (Pardo) and Scott Miller

Mr Lehman and Mr Holder

I live on Hampton Cres. We have just received word of plans to remove many of the mature trees in our neighbourhood for sidewalks. The trees in our very small neighbourhood are THE defining characteristic of Old Hazelden. It is the sole reason we purchased a home in this neighbourhood. I find it shocking that in response to our concerns we are hearing the city say "we will replace with new trees". I will never live long enough to see these "new trees" become the mature trees that exist here today.

The value and beauty of these trees is priceless. But have you ever considered the other benefits.

Our neighbourhood stays cool in the summer. We actually don't need to run our AC like people do in neighbourhoods without mature trees. It is a huge benefit among so many others to keeping our incredible mature trees. It has taken decades and decades...lifetimes...to achieve the maturity we so deeply love in our neighbourhood. You are going to destroy this.

A change like this throughout Hazelden will impact our property values. The trees are why people want to live here. We have done just fine without sidewalks. Traffic is calm because the majority of people who drive through our tiny neighbourhood are those who live here. We share the road calmly. We respect our neighbours who are out walking. Personally I walk to enjoy the trees, and I'm not alone. Neighbours all share stories of which trees are their favourite. We watch them change throughout the year and we adore the canopy they create over us in the heat of the summer. You cannot simply take that from us? You will destroy what defines Old Hazelden. The people who live here should get to decide what happens here.

I vehemently oppose a single tree being removed and ask that you advise how my concerns can be represented at council.

Erin Craven
CEO UROSPOT

Councillor Lehman,

I strongly oppose the proposal put forward by the city in regards to the addition of a sidewalk on St. Anthony Road. Please share my information with the civic committee.

Dave McCagherty
21 Hampton Cres

From: Juliann Stewart
Sent: Wednesday, February 17, 2021 8:19 AM
To: CWC <cwc@london.ca>
Subject: [EXTERNAL] No Sidewalks On Tarbart Terrace

Hello Council,

Tarbart Terrace is not a street that requires sidewalks.

Almost every resident on this street has spoken up to sign the petition saying we do not want sidewalks.

These houses are approximately 60 years old, and there are residents that have lived here for 40+ years and have never needed sidewalks, and do not need sidewalks now.

This street is very quiet in terms of traffic and pedestrians, thus sidewalks are not necessary.

We feel that the money and effort to install and upkeep sidewalks could be put to better use somewhere else in the city.

I give permission for this to be placed on a public agenda and the City of London website.

February 16, 2021

Mayor Ed Holder

email: eholder@london.ca

City of London

314 - 300 Dufferin Ave

London, Ontario N6B 1Z2

Councillor Steve Lehman

email: slehman@london.ca

Ward 8 Councillor

City of London

314 - 300 Dufferin Ave

London, Ontario N6B 1Z2

We the undersigned are writing to voice our concerns and opposition to the proposed sidewalk which would run on the south side of St Anthony Road between Hyde Park and Hampton Crescent.

Our neighbourhood, sometimes referred to as Old Hazelden or South Hazelden, is located between Riverside Drive and the Thames River, west of Hyde Park Road. It is an entirely residential subdivision with fewer than 180 homes, and a road network consisting of 5 small local roads. The subdivision is very quiet, with extremely low traffic volumes, and no identifiable Destination Points or Points of Interest, like schools, churches or stores. Traffic is generated strictly to and from the homes within the neighbourhood, with little, if any "pass through/cut through traffic", due to the configuration of the neighbourhood in conjunction with adjacent secondary collector roads. St Anthony Road is not used as a "short cut" to anywhere and the neighbourhood does not facilitate a municipal bus route.

Many local residents walk and cycle frequently through the entire neighbourhood day and evening, and they do so along the curb. As a quiet pedestrian neighbourhood, traffic moves at slower speeds. All residents know and expect there will be people walking along the side of the road and operate their vehicles accordingly.

We do not believe that the installation of sidewalks on St Anthony Road will increase the safety or accessibility for pedestrians within the neighbourhood, and discussion with residents and pedestrians has identified that people do not feel at risk when walking or cycling on the road. Additionally the installation of the sidewalk on only a small segment of one street within the entire neighbourhood lacks continuity and becomes almost redundant, as people are just as likely to remain walking on the road. The design limits of this proposal will essentially create a sidewalk along one block, connecting nothing to nothing.

The overall character of our neighbourhood is appealing because of its large mature trees, large lots, and the fact that it is a pedestrian neighbourhood without sidewalks. People purchased homes in this area because of this aesthetic and charm. The proposal identifies the loss of 10 out of 35 trees, and it is likely that the remaining 25 trees will suffer stress related to the cutting of roots. Furthermore, there is no guarantee that there will be no damage in the months and years following the proposed installation. Our concern does not only pertain to trees on city property, but also to trees

and vegetation within our own properties which will be affected by the proposed installation. The loss of any mature vegetation in this area is a loss that will affect the neighbourhood aesthetic for years to come.

The installation of sidewalks along St Anthony Road will also adversely impact the parking capacity of individual residential driveways, reducing many existing four car driveways to two car driveways. Many homes within the neighbourhood house larger, multi-generational and/or blended families, maintaining 3 or more vehicles, and the reduced parking capacity may not only pose significant issues and hardship, but also a perceived loss in property value.

Additionally, winter maintenance of the proposed sidewalks creates a significant concern, as the condition of municipal sidewalks within smaller residential subdivisions in the City of London during the winter is not made a priority, and is often poor at best. In nearby residential areas with sidewalks, pedestrians often choose to walk on the road due to the poor and icy conditions of the sidewalks in the winter, rendering these sidewalks useless. Further to this, there are often many issues in the spring in regard to displaced sod and grass adjacent to residential properties, due to less than diligent sidewalk winter maintenance.

In conclusion, we are strongly opposed to the installation of the proposed sidewalk and believe that it will adversely impact the aesthetic appeal and character of the neighbourhood in addition to having a detrimental impact to the individual property values of affected homes. We take great pride in our properties and our neighbourhood, and we are convinced that the proposed sidewalk would not significantly increase the safety or accessibility of our community, and would instead result in significant environmental and social impact with little to no benefit to the community as a whole.

We strongly object to the City of London imposing unnecessary and unrequested infrastructure upon our neighbourhood, and as tax-payers, we believe that funds would be better allocated towards repairing failing municipal infrastructure elsewhere, such as repaving or reconstructing Hyde Park Road south of Riverside.

Attached please find a petition in opposition to the installation of sidewalks within Old Hazelden - we authorize its use within the public agenda to be presented to the Civic Works Committee meeting of March 2, 2021, and we trust it will be granted serious regard and consideration.

Thank you.

Jacqueline Miller (Pardo)

and

Jodie Lucente

on behalf of Concerned Citizens of Old Hazelden

Steve,

We've just learned the City is planning a road reconstruction project on St Anthony Rd. The Project Notice indicates water mains and catch basins are to be replaced, and a sidewalk installed.

We are opposed to the installation of sidewalks in the neighbourhood as they are not needed, they will negatively impact the character of the neighbourhood and will have a negative impact on the environment. Sidewalk installation is counter to the intent of the City's August 2016 Tree Protection Bylaw and its April 2019 Climate Emergency declaration.

Neighbourhood impact

Over thirty years ago we chose Hazelden South for our home because of the "look and feel" of the neighbourhood. It is small and quiet with mature trees everywhere, streets light at night by front yard pole lights instead of streetlights, and no sidewalks. It doesn't look or feel like most city subdivisions. Installation of sidewalks replaces mature trees, grass and other greenery with concrete eliminating one of the features that make the neighbourhood unique.

Need

There is no through traffic in the neighbourhood so, with the exception of the occasional tennis player headed to St Anthony Park, road users live here. Road traffic is light. The road surface is in good condition with few cracks or potholes. And in the winter months the road surface is comparable to the sidewalks in Hazelden North (north of Riverside Dr) for being ice and snow free.

Day and night people of all ages are comfortable walking on the streets in the neighbourhood. This includes people using canes, walkers and wheelchairs. One resident who moved into the neighbourhood a couple of years ago uses canes or a wheelchair. Clearly she, like I and every other neighbourhood resident do not feel sidewalks are needed or we would not have moved here.

Environmental Impact

Installation of a sidewalk will negatively impact the environment at installation and ongoing. Per the project documentation ten trees need to be removed for just the first phase of the project. While we don't know which trees will be removed it is safe to assume many will be at least as old as the neighbourhood, if not older. Even if new trees are planted in their place this still represents a significant loss of tree cover for many years. This is inconsistent with the City's stated goal of increasing tree cover in the Forest City. It will also have a clear and immediate negative impact on neighbourhood appeal.

The City has also declared a climate emergency and is looking to reduce environmental impact including reducing greenhouse gases. The initial phase of the project will eliminate a number of mature trees that today absorb carbon dioxide. It will pave over carbon dioxide absorbing lawns and gardens with concrete.

And once installed the City will plow the sidewalk each time it snows. An ongoing generation of additional greenhouse gas and expense to the city.

Steve, for the reasons noted we are opposed to the installation of sidewalks in the Hazelden South neighbourhood. We hope you agree and will work to eliminate the sidewalk component of the St Anthony Road reconstruction project.

Mike and Denise Kernohan

Good evening gentlemen,

I'm certain you have heard from many people residing on St Anthony Road regarding the proposed new sidewalks due to the planned infrastructure improvements.

Please add me to the list of residents that really doesn't want to see trees removed from our neighbourhood. We moved to St Anthony ten years ago, attracted by the mature trees.

While we appreciate the "London plan" and support the accessibility goals, we believe the removal of trees for a sidewalk does not support ecology and lifestyle goals. St. Anthony Road is a private residential street with virtually no traffic. We have a wide main road, slow cars and fantastic views with lovely mature trees. We do not want them removed and replaced with tiny new trees.

With money being extremely tight, I'm certain you can find other projects requiring work in London rather than proceeding with a plan that will attract very little or no appreciation.

Thank you for your time.

Best regards,
Bennoe Derksen
1183 St Anthony Road

February 16, 2021

Councillor Steve Lehman
London City Hall,
London, Ontario

Councillor Lehman:

Please find attached, a petition against the installation of a new sidewalk on Tarbart Terrace during the watermain replacement project. This petition contains 62 homeowners' signatures and clearly demonstrates the overwhelming support for the cancellation of the proposed sidewalk.

Respectfully submitted on behalf of those who have signed the petition.

William S. Yovetich PhD
Richard B. Tribe, P Eng

Cc:

Mayor Ed Holder
Project Manager, Gage Gonyou

PETITION

PROJECT NOTICE:

TARBART TERRACE WATERMAIN REPLACEMENT DATED JANUARY 25, 2021

The proposed work detail includes a new sidewalk on Tarbart Terrace where one did not exist before. In discussion with Mr. Gage Gonyou, Project Manager, we have now learned that the sidewalk will be on the side of the road with even house numbers, crossing 32 homes. The sidewalk will be located approximately 1.5 meters in from the inside of the curb and will be approximately 1.5 meters wide making the inside edge of the sidewalk (house side) 3 meters from the curb.

The following are concerns with regard to the construction of a new sidewalk:

1. **Safety.** There is very little traffic on Tarbart Terrace therefore safety concerns are not an issue. Most students use the path through the park to get to school. Those walking dogs or out for exercise use Tarbart Terrace because it is safe.
2. **Environmental assessment.** The Federal Government continues to promote the planting of trees yet the construction of a sidewalk would require the removal of many mature trees which could not be replaced. In addition, many trees would suffer damage to the root structure leading to potential problems down the road. Surely the objective should be to preserve as many trees as possible.
3. **Streetscape improvements.** One of the objectives on the proposed work detail was streetscape improvements. With the removal of shrubs, trees and substantial regrading, the overall streetscape of Tarbart Terrace would not be improved. Most homes have installed curbs or retaining walls at the edge of the driveway. In many cases the wall is used to facilitate elevation difference between the driveway and the lawn or neighbouring properties. Any installation of a sidewalk would require substantial rework and grading.
4. **Construction timeline.** With the addition of a sidewalk, the project would take longer, adding further frustration to home owners and result in an increase in cost.
5. **Other.** There are many streets in the area that are far busier than Tarbart Terrace which do not have sidewalks.

To proceed with installation of a sidewalk when it is not necessary and not supported by the homeowners would be, in our opinion inconsiderate if not irresponsible. Therefore, we would strongly request that the installation of a new sidewalk on Tarbart Terrace be cancelled.

We the undersigned are in agreement with this petition.

Mr Steve Lehman
Councillor Ward 8

Mr Lehman I wish to register my opposition to the construction of sidewalks on our street. I have lived on Tarbart Terrace for many years, use a motorized wheel chair and, see no benefits for me or other residents of the street. There are many elderly living on the street and the addition of the walks would pose the burden of maintaining both the walks and "boulevard" proposed. Please leave our beautiful street as is!

Respectfully,

A handwritten signature in cursive script that reads "Helen Lightbody". The signature is written in black ink and is positioned to the right of the word "Respectfully,".

Helen Lightbody
177 Tarbart Terrace

Councillor S Lehman
Ward 8.

Dear Steve,

Just three days ago I learned of the intent by the City to install a side walk on St. Anthony Road. I must say it was announced surreptitiously late on a Friday before a long weekend: No doubt deliberately as a pandemic is a good time to bury bad news. Indeed it is bad news.

I have signed the petition to oppose this work and will not labour the reasons and arguments for so doing but suffice it to say that I am totally, completely and utterly against this sidewalk. It will be costly at a time when the City is in financial difficulties, besides it is not needed nor wanted by local residents. It will destroy the natural beauty and ambience of Hazelden. I ask what more damage must the City do to this area. We have already lost our recreational river as a result of citizens not being consulted . They must be heard this time.

I am trusting you, please to do all you can to not only halt this project but commit it to obliteration once and for all.

Martyn Judson

From: Eduarda Soares
Sent: Wednesday, February 17, 2021 10:32 AM
To: Lehman, Steve <slehman@london.ca>
Subject: [EXTERNAL] Tarbart Terrace sidewalk

Good morning,

My name is Eduarda Im a home owner on Tarbart Terrace
I have heard the city is building a sidewalk on the on Tarbart Terrace
There is NO need for a sidewalk no one walks on this street except those that live here,
such a waste of money

Im totally against this, save taxpayers money for where a sidewalk is needed or any
other city repairs

thanks
Eduarda

Dear Councillor Lehman,

I hope you are well. I am writing to voice our opposition to the installation of sidewalks on St. Anthony Road between Hyde Park Road and Hampton Crescent, scheduled to take place this summer. While we are residents of St. Anthony Road, please note that our property is not on the stretch slated for sidewalks this summer. We are west of Hampton Crescent but stand with our neighbours in opposition of this project.

While there are many reasons to be opposed to the project, we are opposed for the following reasons: Need, Cost, Safety, Trees and Community

Need

We understand that the London Plan has provisions for sidewalks in all future street development as well for streets without sidewalks when infrastructure work is to be done. Our street is a residential street that is not en route to anywhere. No one comes onto this street unless they are going to a specific address here. One cannot gain access to any other destination (businesses) with more efficiency by going down our street. As such, vehicular traffic is confined to residents and people visiting residences for personal or professional purposes.

Additionally, people in this community have walked on the street since its initial development in the early 60s. No one living here will use these sidewalks, for reasons that will be expanded upon below.

Councillor Jesse Helmer has been quoted as saying *"Generally speaking, people who live on the street don't really want a sidewalk and people who don't live there and walk down the street do want a sidewalk."* I don't think Councillor Helmer has a good understanding of these neighbourhoods. Our neighbourhood is flanked by two condo developments. Many residents of both of those developments walk down our street for exercise and fresh air. They could easily choose other areas, which are just as close and have established sidewalks, but choose to walk in our neighbourhood. I have never heard them complain of the lack of sidewalks.

Cost

Given the year we have had and the pressures on the multi year budget as a result of the pandemic, we feel that taxpayers' money should be directed to more important projects. Given the needlessness of this project, eliminating the cost will allow for that money to be redirected, in future years, to more meaningful and necessary city work such as low cost housing.

Safety

Safety is an issue that is important to everyone. It is argued that sidewalks will improve the safety of pedestrians due to creating a separation between the pedestrian and the road. Our road is travelled by all types of pedestrians heavily. We have seniors and others who need mobility devices such as walkers, canes and scooters who travel our road daily. The road is flat and safe for people requiring mobility devices. Sidewalks offer changes in height and, over time, sections of sidewalks shift to create trip hazards that are especially dangerous to those who require assistance with mobility. I doubt the City wants to assume that liability. I am personally aware of individuals in our community who have significant challenges with mobility and are opposed to the sidewalks for this very reason.

Trees

This is a mature neighbourhood, close to the river that has many mature trees. These trees are host to many birds and animals with whom we coexist. The "Forest City" has had a declining canopy for many years. At a time when climate change is becoming increasingly important, it is not the time to be removing mature trees, which help to absorb Carbon Dioxide and provide cooling shade to homes, thus reducing their

summer cooling requirements. This project will be removing 30% of the trees that currently exist along that stretch, an action that will take decades to reverse.

Community

The heart of the London Plan is to create a community for everyone. In Hazelden, our community is defined by the street. The street is where we gather. We learn about each others' families, health, celebrations and challenges. It is where we get to know each other. The street is the place that creates a sense of community and a need, desire and obligation to support each other. Sidewalks will not add to that. We will still gather on the street to live and learn and to laugh and console. We urge you and City Council to not take this away from our neighbourhood for the sake of policy in the London Plan.

Respectfully,

Lynda and Bill McCauley

1180 St. Anthony Road

Hello Mr. Lehman

This is my first communication to you and it is about the proposal to install a sidewalk on St Anthony Rd between Hyde Park Rd and Hampton Cres.

My husband Steve and I are vehemently opposed to this proposal. We live at 1105 St Anthony Rd and purchased our property here as we loved the mature neighbourhood with the huge trees, tucked away from the hustle and bustle of busier areas.

We walk our neighbourhood every day. It is quiet with only local traffic from residents. Sidewalks would not enhance our street. We would deplore the loss of mature trees in the Forest City that would happen with sidewalk construction.

This would not be a good and proper use of our taxpayers money.

Thank you for your attention in this matter.

Larysa Andrusiak

1105 St Anthony Rd.

1122 St Anthony Road,
London, ON
N6H 2P6
February 19, 2021

Civic Works Committee,
City of London, Ontario,
300 Dufferin Avenue,
London, Ontario.

Dear Committee Members,

I am writing to you regarding my objections to the proposed construction of a sidewalk on the south side of St. Anthony Road between Hyde Park Road and the west end of Hampton Crescent.

A neighbourhood should have a consistent look and feel to its streets. This neighbourhood was designed on purpose without sidewalks in the 1970s. What is the planning logic of introducing an isolated stretch of sidewalk in the middle of a low density and low traffic residential neighbourhood?

Sidewalks do provide safe accessible routes, especially for people using mobility devices, but how does it promote safe walking when essentially only one block on one side of one street would have a sidewalk?

There is a neighbourhood tradition of walking safely facing the oncoming traffic. In these times of Covid-19 I feel particularly safe walking in my neighbourhood as I do not have to come face to face with someone on a sidewalk which is much too narrow for my comfort these days. I agree with my neighbours that the installation of a sidewalk would be disruptive to the sense of community in the neighbourhood.

Please reconsider your vision for the future of the Old Hazelden neighbourhood. We like it just the way it is without sidewalks.

Sincerely,
Sophie Skaith

cc. Councillor Steve Lehman: slehman@london.ca
Mayor Ed Holder: eholder@london.ca
Rosemary Dickinson: sdickins@uwo.ca
Jacqueline Miller (Pardo): mimistanthony@hotmail.com
Jodie Lucente: jllucente@gmail.com
Betsy Haddad: elizabethahaddad@gmail.com

Dear Mr Lehman and Mr Holder:

We live at 1188 St. Anthony Rd and we have been following the proposed removal of trees and installation of sidewalks on our beautiful, tree lined street.

We are writing you to let you know that we are against the removal of any trees on our street.

Many of these trees have been lovingly cared for for many years and it would be an error to remove any trees. If the street needs to be resurfaced, certainly we can do so without damaging the trees.

Yours Truly,
Maureen and Doug McKeown

Ladies and Gentlemen:

This is in response to a letter on this subject dated February 10, 2021, that we received from Councillor Lehman.

Please be advised that we are opposed to the installation of sidewalks in this neighbourhood, whether independently or as part of larger construction, as is currently proposed. In our view, the cost of the new sidewalk, in damage to trees and other prior installations, will greatly exceed any value a sidewalk might add to the status quo.

In our opinion traffic considerations do not require the sidewalk.

We have no objection to what we understand to be the remainder of the proposed project.

Regards,
Jeff & Gloria Kafka
1091 St. Anthony Place
London, ON, N6H 2R4

To Mayor Holder, Councillor Lehman, and all members of the City Works Committee:

I am writing in response to the proposed construction of a sidewalk on St. Anthony Rd.

I am strongly opposed to the plan and see it as a misuse of tax money. It is not something the residents in the neighbourhood want or feel they need. This is a quiet, small, low traffic neighbourhood with lots of trees and spacious lots. People choose to live here for those reasons. Adding a sidewalk is not only unnecessary and expensive, it will steal from us something that we enjoy and value.

I trust that you are will hear our concerns with an open mind and with a willingness to alter the proposed plan accordingly.

Thank you,
Elizabeth Haddad
1106 St. Anthony Rd.

56 Doncaster Place
London, Ontario N6G 2A5
February 19, 2021

Civic Works Committee
City of London Ontario
By Email to: cwc@london.ca

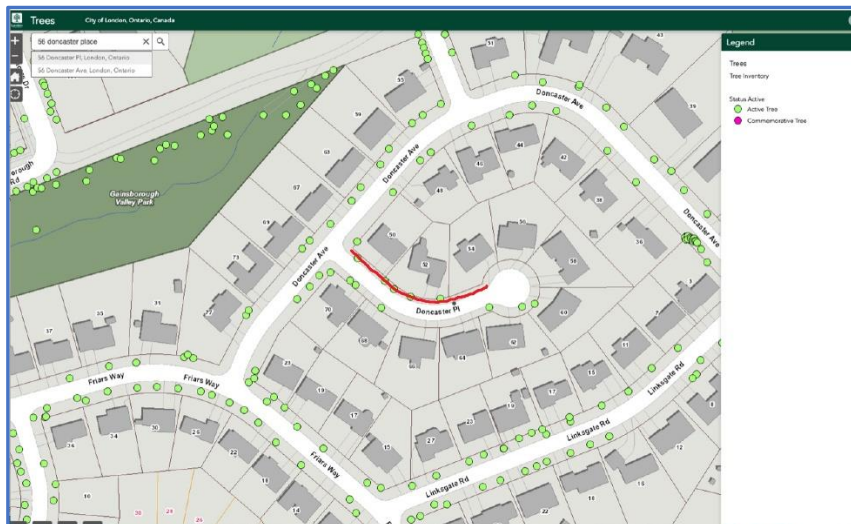
Dear Members of the *City of London Civic Works Committee*,

We, as a family of four residing on Doncaster Place, are writing in opposition to the installation of a sidewalk on Doncaster Place. We are especially in opposition to the proposed removal of trees to accommodate this sidewalk or any un-necessary tree removal for any projects whatsoever.

Below we first outline why a sidewalk on Doncaster Place is not justified, and indeed is a waste of taxpayer money. We then provide justification for the preservation of mature trees on Doncaster Place and neighbourhood. Based on these arguments, we conclude with our view that this sidewalk project with its requisite tree removal must not go forward.

(A) Reasons why a sidewalk on Doncaster Place is neither justified, nor useful:

- 1) Doncaster Place is a 11-house cul-de-sac with absolutely no traffic outside of its residents and their visitors. The amount of traffic is almost certainly only a small fraction of that of Runnymede Crescent, a street in the same neighbourhood for which we understand an exemption has been warranted. We estimate the vehicular traffic to be less than 10 minutes per day in total.
- 2) The proposed sidewalk would provide at best *marginally improved access to only 3 houses* of the 11 houses on the street, and the residents in all three of those houses oppose the sidewalk project. This proposed project could actually be argued as *decreasing* the quality of access to those houses, by virtue of no longer having the solar protection provided by the mature trees' shade. For most houses it would now require two street crossings.



Doncaster Place sidewalk would destroy half of the city trees while providing no benefit.

Pedestrian and wheel chair traffic would require as much time on the road as not having a sidewalk due to street crossings required for use.

- 3) The use of the proposed sidewalk would require crossing the road twice for the majority of the houses on the street. Because the street is so short compared to its width, these street crossings would make up to 50% of the distance.
- 4) The removal of the trees would negatively impact the residents of all 11 of the houses. From the notice we received one week ago, on February 11, 2021, it appears that the only reason for tree removal is for sidewalks. Tree removal is not necessary for the other aspects of the proposed project.
- 5) The expenditures incurred by sidewalk construction are wasteful, and do not meet any present need, outside that of the construction contractors and tree-removal contractors involved.

(B) Reasons why preservation of mature trees is crucial and should be prioritized

(on Doncaster Place and on the adjacent Friar's Way, see map)

1) *Who bears the financial, inclusivity, health, and ecosystem costs of tree removal?*

- Mature trees are irreplaceable in the short and medium term. A 50-year tree cannot be replaced with a sapling, and ***transplanting a mature tree can cost upwards of \$500,000 per 50-inch caliper tree.***
(<https://www.parksandrecbusiness.com/articles/2015/01/30/moving-large-trees>)
- A mature tree cannot be replaced with a single young tree, but rather would require planting of "2,000 saplings, each with a tree top volume of 1 cubic metre in order to compensate fully for ***the loss of the tree. The cost of this would amount to roughly \$150,000.***"
(from <https://citygreen.com/blog/how-much-is-one-mature-tree-worth/>)
- Mature tree removal has consistently been found to decrease property values. One study shows property tax impact of 15 million USD from street trees in Portland, Oregon (see attached pdf document, page 23, right, and its reference [78]). It is understandable that we homeowners object to actions that will decrease our property values.
- Removal of trees from one neighbourhood not only affects that neighbourhood's homeowner property values and therefore property taxes, it unfairly shifts the municipal tax burden to other neighbourhoods.
- The effect of mature trees on air quality is well documented, and their removal would negatively impact air quality measures, including the particulate matter level, ***disproportionately affecting those with respiratory disabilities and the elderly.***

- Trees have a significant effect on physical health and on people’s physical activity levels: A study showed that residents of eight European cities were found to be three times more likely to be physically active, and about 40% less likely to be overweight and obese, if they lived in green areas (see attached document, page 33 left, and its reference [159]).
- The presence of mature trees has been found to enhance mental health (for a popular article see <https://treecanada.ca/blog/trees-our-natural-ally-for-living-longer-healthier-and-happier-lives/>). With London’s mental health support strained to its maximum (<https://www.cbc.ca/news/canada/london/london-ontario-mental-health-1.5436476>), taking action that is correlated to worsen mental health is ill advised.
- Trees have measurable beneficial effects on social activities: One study showed that residents in a US public housing estate with good access to green common areas were found to have more social activities and visitors, know more of their neighbours, and report that their neighbours offer more help to each other, than people living near barren areas (see attached document, page 36, left, and its reference [178]).
- Aside from the human health impact of air quality, mature trees perform important ecological functions. Not only do they provide habitats for native fauna, they serve as major contributors to carbon capture.

For example, Chicago’s 157 million trees remove an estimated 677,000 tons of carbon from the atmosphere each year, worth around US\$14.0 million per annum, while storing about 16.9 million tonnes of carbon valued at US\$349 million (see attached document, page 28, left, and its reference [116]). Will the city of London be purchasing carbon offset credits to compensate for the removed mature trees, and if so, what will be the cost to the taxpayer?

2) ***Incompatibility with London as a “Forest City”***

Removal of mature trees, in spite of significant public opposition, is directly at odds with the goals of London’s “Million Tree Challenge” initiative (<https://www.reforestlondon.ca/million-tree-challenge>), and it would have a negative impact to the reputation and public image of London as the “Forest City”,

3) ***Incompatibility with United Nations Sustainable Development Goals***

Cutting mature trees is in direct opposition to the *United Nations 17 Sustainable Development Goals* (Goals 13 and 15), in which the City of London is involved (<http://unitedwayem.ca/wp-content/uploads/2020/04/London-Ontario-SDG-Indicators-report-LPRC-2020.pdf>)

Based on the above arguments, we conclude with our view that the Doncaster Place sidewalk project should not go forward, and that removal of mature trees on Doncaster Places and environs (Friar's Way) should not proceed. We hereby request an exemption from sidewalks for Doncaster Place. If an exemption is not granted immediately, then we request a traffic survey be conducted to justify the sidewalk project. In any case, we request that no trees be removed or endangered.

Finally, we wish to express our disappointment in the governance processes surrounding this project. Information relating to this project has not been shared in a timely manner with the London citizens directly affected, despite multiple direct requests for that information. Moreover, it is not sufficient to simply inform the stakeholders of a *fait accompli* — we expect to be consulted and for our opinions to matter in the future of our neighbourhood, if not for our city.

We are hopeful that we may have a dialog, albeit belated, that will result in a satisfactory outcome.

Respectfully Submitted,

Handwritten signature in blue ink, consisting of the names 'Lila kari' and 'SMW' written in a cursive style.

Lila Kari & Stephen Watt
56 Doncaster Place

lila@uwaterloo.ca
Stephen.Watt@uwo.ca

lkari@uwo.ca
smwatt@gmail.com

Valuing Trees: What Is Nature Worth?

national tree day
PLANET ARK TOYOTA

\$3,700
The average amount
Australians would give up for a
more natural workplace

Learn more at treeDay.PlanetArk.org #NationalTreeDay

Get into nature
the payoffs are priceless

National Tree Day Sunday 27 July
Schools Tree Day Friday 26 July

national
tree day

PLANET ARK



TOYOTA

A research report commissioned by Planet Ark and sponsored by Toyota Australia.

About This Report

In the lead up to National Tree Day over the last three years, Planet Ark has released the research reports focusing on Australians' contact with nature and outdoor play / recreation. The reports include:

- 2011 - *Climbing Trees: Getting Aussie Kids Back Outdoors* highlighted the dramatic changes in children's play and interaction with nature that have taken place in just one generation.
- 2012 - *Planting Trees: Just What The Doctor Ordered* included a comprehensive summary of the intellectual, psychological, physical, and mental health benefits of contact with nature for children and Australians parents' understanding of these benefits.
- 2013 - *Missing Trees: The Inside Story of an Outdoor Nation* explored Australians' current relationship with the backyard and the great outdoors in general.

For the most part, these reports focused on the health and wellbeing benefits of contact with nature for children. This year's report, *Valuing Trees: What is Nature Worth?*, takes a broader focus and looks at the economic, environmental, health, and social benefits of nature in the workplace, at home, in neighbourhoods, and in schools.

The report includes the results of an independent survey commissioned by Planet Ark and conducted by research consultancy Pollinate in March 2014. A nationally representative sample of one thousand Australians aged 14-64 years participated in the online survey. In addition to the survey results, the *Valuing Trees* report draws together the findings of a wide range of relevant international and local research.

Planet Ark Environmental Foundation

Planet Ark is an Australian not-for-profit organisation with a vision of a world where people live in balance with nature. We were established in 1992, with the aim of creating positive environmental actions that everyone can undertake.

More than 20 million trees, shrubs and grasses have been planted since Tree Day began in 1996. Each year, over 200,000 people get into nature as part of National Tree Day.

Toyota

In 2014, Toyota is celebrating its 15th continuous year of involvement with Planet Ark and National Tree Day.



Actively engaged in a wide variety of global programs that aim to improve the environment, Toyota provides on-ground support for National Tree Day at local community tree planting sites Australia wide.

Mobilising its national dealer network, as well as its roster of ambassadors who appear at National Tree Day and Schools Tree Day planting events, Toyota is able to give something back to local Australian communities, encouraging nature care as part of its genuine global commitment to sustainability.

Social Soup

The independent survey was made possible through the support of Social Soup.

"Social Soup is an influential community of thousands and thousands of people who love loads of different things. We like to talk about brands, products and new ideas. We discuss. Test. Try. And most of all we share it with our friends. Online and in the real world. We're Australia's leading social innovations community. The most influential way to develop and launch new ideas. Real results from real people sharing real experiences."

Acknowledgements

Planet Ark would like to gratefully acknowledge the funding support of Toyota Australia, the research and report writing work of Planet Ark staff member Jodie Lewin, and the advice, research, and editing assistance of Brad Gray, Debbie Agnew, Sara McGregor, and Jess McCallum, also from Planet Ark. Attitudinal research was managed by Bernard Visperas from Pollinate.



CONTENTS

Introduction	4
Key findings of the Valuing Nature Survey	5
Valuing nature at work	7
Greening the grey: The benefits of plants in the workplace	13
A room with a view: The benefits of views of nature at work	18
A picture says a thousand works: The benefits of simulated nature at work	19
How to invite nature into the workplace	20
Valuing nature at home	21
Money does grow on trees: The economic benefits of a natural home and neighbourhood	23
A green planet is a healthy planet: The environmental benefits of nature	26
Glowing green: The health benefits of a natural home and neighbourhood	29
Growing a stronger community: The social benefits of nature	35
How to invite nature into your home and neighbourhood	37
Valuing Nature at school	38
How to invite nature into schools	41
Get into Nature. Grow.	42
References	43
Previous Planet Ark Research	44



INTRODUCTION

Many of us are instinctively drawn to natural settings – parks, gardens, rivers, mountains, the ocean, and even the backyard – both because we appreciate their beauty and because we simply feel better there. While we may appreciate some of the aesthetic and practical benefits of trees and plants, such as the colour and life they bring to our homes and workplaces, the privacy they offer, and the relief they provide from the intense summer sun, most of us are probably unaware of the vast array of financial, environmental, health, and social benefits provided by trees and nature. Most of us, too, would rarely, if ever, reflect on what nature is worth to us.

Assigning a value to nature

We live in a world that mostly assigns value to things by putting a price on them. As a result, it is easy to overlook and undervalue the things we cannot put a price on. Many of the less tangible benefits provided by trees, plants, and other forms of nature fall into this category, including:

- Their positive impact on our health, productivity, and ability to learn;
- The ecological services they provide, such as air and water filtration and the reduction of temperatures; and
- Their ability to help mitigate climate change.

This, combined with the fact that we now spend the vast majority of our time indoors, often in front of a screen, means it is all too easy for individuals and society to view nature as something we can live without. In turn, this leads to the tendency to dispense with, or mismanage, nature in ways that are detrimental, not only to the planet, but also to our own health and wellbeing, and indeed, to our long-term survival as a species.

Slowly though, things are changing. As the world faces the huge challenges of population growth, environmental destruction, and climate change, a growing body of research is revealing the many ways nature benefits individuals, communities, the economy, and the environment. Scientific and technological advances are now allowing us to put a price tag on an increasing number of these benefits.

Urban forests

Across the world, more and more cities are taking this knowledge on board and introducing urban forestry strategies to help them mitigate the impacts of climate



Nearly 4 out of 5 Australians agree that “green” neighbourhoods are better places for children to grow up than those with little nature.

change and growing populations, and maintain and improve their liveability. In Australia, for example, the City of Sydney aims to increase the city’s average total canopy cover from its current level of just over 15% to 27% by 20501, while the City of Melbourne is working to increase its canopy cover from 22% to 40% by 20402. The urban forest strategies of both cities also focus on increasing species diversity.

This report

The main goal of Planet Ark’s Valuing Nature Survey, conducted by Pollinate in March this year, was to find how much Australians value nature at work, at home, in their neighbourhoods, and in their children’s schools. This report, *Valuing Trees: What is Nature Worth?*, presents the results of this survey, and outlines the findings of national and international research that shines a light on the many benefits of nature in these settings, as well as various studies that have aimed to put a financial value on some of these benefits.



KEY FINDINGS OF THE VALUING NATURE SURVEY

In March 2014, Planet Ark commissioned research consultancy Pollinate to conduct an independent online survey to explore Australians' attitudes, behaviours, and preferences in regards to nature at work, at home, in their neighbourhood, and at school. The survey also aimed to find out how much Australians value being able to connect with nature in these settings. A nationally representative sample of one thousand Australians aged 14-64 years participated in the survey. Outlined below are the key findings.

Valuing nature at work

- A quarter of Australian indoor workers (25%) do not take breaks – even short ones – outside in a natural setting.
- Around 7 in 10 indoor workers (69%) would like to spend more of their working day outside in a natural setting.
- When asked what was stopping them from spending more time outdoors, the most commonly chosen barrier from a list of ten, was that they were too busy (selected by 40% of respondents).
- Only 1 in 10 indoor workers (10%) prefer to be inside rather than outside during breaks.
- The indoor workers who do spend time outside in a natural setting during their working day, whether to take a short break, eat a meal or exercise, do so every day, demonstrating its importance to them.
- Nearly two-thirds of indoor workers (63%) would prefer a job in a workplace where they can see natural elements like indoor pot plants or a view of trees or a garden. However, from their primary workspace:
 - Half of indoor workers (50%) cannot see a window that leads to the outside;
 - Over half of indoor workers (52%) cannot see the sky;
 - Around 1 in 4 indoor workers (26%) cannot see live plants or flower arrangements;
 - Nearly half of indoor workers (45%) cannot see a tree;
- Around 1 in 5 indoor workers (21%) cannot see any indoor or outdoor natural elements from their workspace.
- Around 4 in 5 indoor workers (79%) cannot see any artwork, such as photographs or paintings, depicting natural scenes.
- Assuming a base annual salary of \$70,000, Australians would be willing to give up an average of \$3,700 (5% of base salary) in order to connect with nature regularly during their working day. More than 1 in 5 Australians (22%) would be willing to give up \$10,000 or more.
- People who are very or extremely concerned about the environment would give up more than the average – up to 6.5% of the nominated base salary – while older people, specifically “empty nesters” and those aged 50-64 years – would sacrifice an average of around 7% of a \$70,000 annual salary.
- Survey respondents were asked to think about their ideal workplace and rank how important a number of workplace features are to them:
 - More than half of Australians (55%) consider having a window with views of nature to be important;
 - More than half of Australians (54%) view having an outdoor break area with natural elements to be important;
 - Australians consider having a window with views of nature and an outdoor break area to be as important as having easy access to shops and banks;
 - One in three people (31%) consider having a window with views of nature to be even more important than having good cafes in the area;
 - Nearly 1 in 2 people (47%) consider having an indoor break area with plants and views of nature to be important;
 - Only around one quarter of Australians (28%) think having easy access to a gym or pool is an important feature of their ideal workplace.
- Around two-thirds of Australian workers (64%) agree that having regular contact with nature at work would reduce their stress levels.
- Around two-thirds of Australian workers (65%) agree that having regular contact with nature at work would make them happier.
- Around 3 in 5 Australian workers (61%) agree that having regular contact with nature at work would



make them feel more positive about going to work and doing their job.

- Nearly 3 in 5 Australian workers (59%) agree that Australian employers should focus more on providing opportunities for employees to have regular contact with nature.

Valuing nature at home

- Nearly 4 out of 5 Australians (78%) would prefer to live in a home with many natural elements, such as trees, plants, and a garden, over one that does not have these features.
- Assuming a base house cost of \$500,000, Australians would be willing to pay an average of \$35,000 more (about 7% of base cost) for a home in a green neighbourhood than for the same kind of home in an area with little surrounding nature. Around one third of Australians (34%) would pay an extra \$100,000 (20% of base cost), while 15% of people would pay an extra \$120,000 or more.
- Three-quarters of Australians (73%) report that a backyard is an important feature of their ideal home. Out of 14 different natural and non-natural home features, a backyard is the one considered by Australians to be the most important.
- When asked to consider their ideal home and rank the importance of 14 natural and non-natural features to them, Australians rated having a home with a backyard and living in a “green” neighbourhood with many trees, parks, and gardens even higher than:
 - being close to work;
 - having easy access to public transport; and
 - having good shops or a shopping centre nearby.
- Nearly 3 in 5 Australians (57%) say that having a park within 5-10 minutes walk of their home is important to them, while a similar proportion (56%) report that having views of nature, such as a park, bushland, or paddocks, is important.
- Compared to the general population, the preference for a “green” home is higher among women, people with children, Australians who are concerned about the environment, and people in the later stages of their life, specifically those with older children and “empty nesters”.
- More than two-thirds of Australians (68%) agree that living in a neighbourhood with lots of trees, gardens, and parks would reduce their stress levels.

- Two-thirds of Australians (66%) agree they would be more likely to do outdoor exercise if they lived in a green neighbourhood.
- Nearly 3 out of 5 Australians (56%) value having neighbours with well-kept gardens featuring trees and plants.
- More than two-thirds of Australians (68%) agree that neighbourhoods with lots of trees, gardens, and parks feel safer and more welcoming than those without nature.
- Around 4 out of 5 Australians (78%) agree that nature-filled neighbourhoods are better places for children to grow up.

Valuing nature at school

- When asked to consider the ideal school for their child, three-quarters of Australian parents (79%) rated natural school grounds with real grass, trees, and gardens as important.
- Parents consider green school grounds to be as important as good academic outcomes and reputation.
- Parents rate spacious school grounds and excursions to natural places as highly as modern classroom facilities and closeness to home.



Photo by Sandra Moloney

Australians consider living in a nature-filled neighbourhood to be even more important than being close to work, having easy access to public transport, and having good shops nearby.



VALUING NATURE AT WORK

The changing nature of work

Beginning in the 18th Century, the Industrial Revolution ushered in significant and rapid changes in the way people lived and worked. The revolution sparked the creation of factories, which saw large numbers of workers move to cities in search of employment. In places like Britain, Western Europe, and America, agrarian societies, in which people relied on farming for their survival, began to decline. With the growth in manufacturing and urbanisation, people began spending more and more time indoors and became increasingly disconnected from the natural world.

The growth of urbanisation has continued unabated into the 21st Century. The World Health Organisation estimates that by 2050, 7 out of 10 people will live in a city³. In Australia, over two-thirds of the population currently live in capital cities and other major cities⁴. The increasing urbanisation of Australia has coincided with significant changes in the nature of work in this country. In 1911, the most common occupations for Australian men were farmer and farm labourer⁵. Today, indoor workers dominate, with retail and health care / social assistance now the biggest industries by employment⁶. Technological advancements and the growth of an information-based economy has resulted in growing numbers of “knowledge workers”, a term coined by Peter Drucker in the 1960s to describe workers who are paid to acquire, analyse, and manipulate information⁷. Knowledge workers largely work indoors. In 2004, the Australian Bureau of Statistics (ABS) found that knowledge workers made up nearly 40% of the Australian workforce, up from around 28% in 1997⁸.

The move to indoor work, and the fact that Australians work some of the longest full-time hours in the world⁹, mean the environment we work in can have a significant impact on our performance and productivity, our attitude towards our job, and our overall health and wellbeing.

Planet Ark’s Valuing Nature Survey was designed to get an understanding of how much Australians value working in a greener and more natural workplace and the opportunity to connect with nature during work hours. It also examined the level of interaction that Australian indoor workers have with nature and whether they are happy with that interaction.

Can’t stop, too busy

Results from the Valuing Nature survey show that many workers would like to spend more time outside during their working day but struggle to find the time. Indoor workers were asked how often in a typical working week they undertook various activities outdoors in a natural setting and whether they were happy with the amount of time they spent outside:

- A quarter of indoor workers (25%) said they do not take breaks – even short ones – outside in a natural setting (Figure 2);
- Around 7 in 10 indoor workers (69%) said they would like to spend more work-time outside (Figure 1).

 **Around 7 in 10 indoor workers would like to spend more time outside in a natural setting during their working day.**

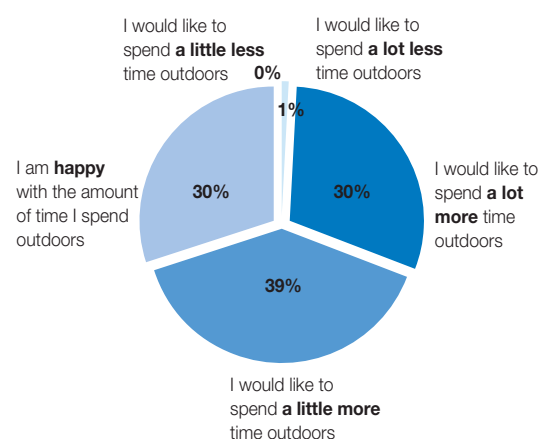


Figure 1. Preferences of indoor workers for time spent outside in natural settings during work hours.





A quarter of Australian indoor workers do not take any breaks outside in a natural setting during their working day.

Interestingly, the results show that those who do spend time outside in a natural setting during their working day, whether to take a short break, eat a meal, or exercise, do so every day, demonstrating its importance to them.

When asked what was stopping them from spending more time outdoors, the most commonly chosen reason (selected by 2 in 5 respondents) was that they were too busy (Figure 2). Only 1 in 10 respondents said they prefer to be inside rather than outside during breaks (Figure 2).

These findings support research commissioned by Beyond Blue and The Australia Institute in 2013¹⁰, which found that 3.8 million Australian workers regularly do not take a lunch break. Half of these workers said they are too busy to take a lunch break and nearly 3 in 4 people (72%) said they often eat lunch at their desk, cut lunch short, or take their lunch break in the mid-afternoon. Four out of five respondents (79%) believe that taking a break makes them more productive, but about 1 in 4 (26%) said they are not able, or not usually able, to take a short break to clear their head if they are finding it difficult to concentrate.

The cost of a stressed out workforce

Work-related stress is a serious and costly problem in Australian workplaces. A 2013 survey by health insurance company Medibank¹¹ found that 85% of Australians experience severe stress at work, with half of full-time workers feeling seriously pressured most weeks of the year. It also found that 40% of employees feel their work negatively impacts on their mental health. A recent Australian Psychological Society study¹² found that working Australians report significantly lower overall workplace wellbeing compared with workers in Europe.

The Medibank study found that 15% of workers take sick days at least every month due to stress, resulting in more than 20 million days off per year. Work-related stress can often result in not only absenteeism, but also presenteeism, where an employee comes to work but is not fully functioning. Medibank estimated that, in 2008,

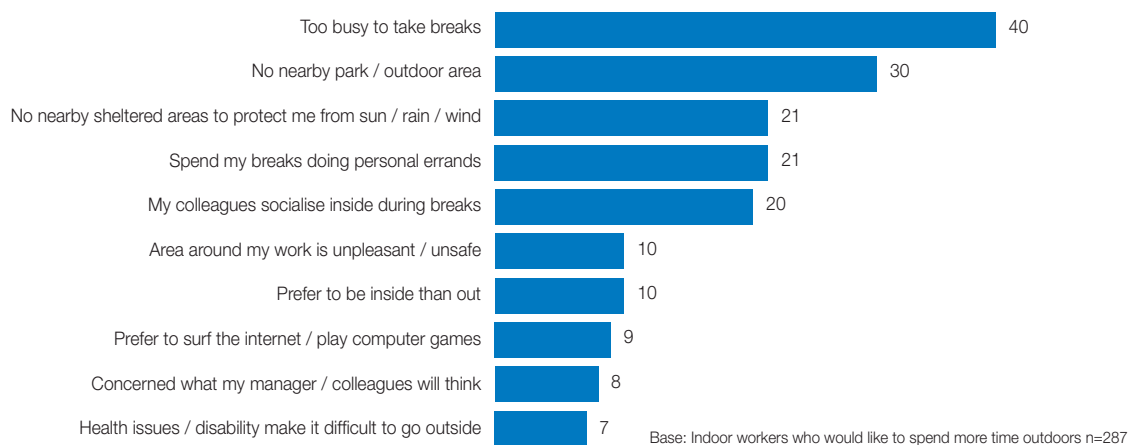


Figure 2. Percentage of the indoor workers wanting to spend more time outside in natural settings who said the barriers listed prevent them from doing so.





A recent Medibank study found that half of Australia’s full-time workers feel seriously pressured at work most weeks of the year.

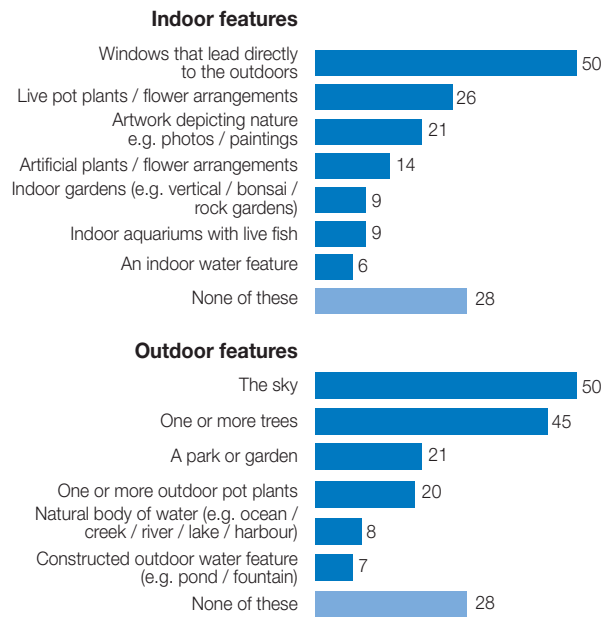
absenteeism and presenteeism resulting from workplace stress cost the Australian economy A\$14.81 billion per year and directly cost employers A\$10.11 billion per year¹³. These figures do not include the hidden cost of re-staffing and re-skilling, when stress results in staff turnover.

An unnatural place to work

In Planet Ark’s Valuing Nature survey, respondents who work indoors were provided with a list of indoor and outdoor natural features and asked which ones they could see from their primary workspace (Figure 3):

- Half of indoor workers (50%) cannot see a window that leads to the outside;
- Over half (52%) cannot see the sky;
- Around 1 in 4 (26%) cannot see live plants or flower arrangements;
- Nearly half (45%) cannot see a tree;
- Around 1 in 5 (21%) cannot see any indoor or outdoor natural elements from their workspace.

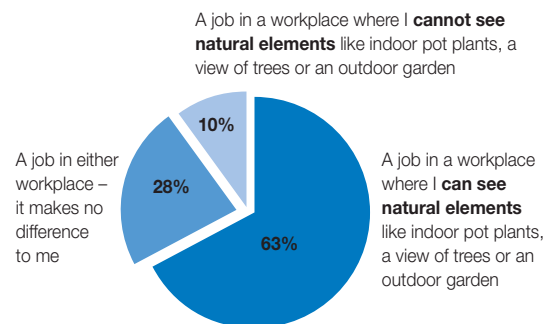
 **Half of Australia’s indoor workers cannot see a window that leads to the outside and over half cannot see the sky.**



Base: Indoor workers n=418.

Figure 3. Percentage of indoor workers who can see the listed indoor and outdoor natural features when they are at their primary workspace.

However, when asked what type of work environment they would prefer, nearly two-thirds of indoor workers (63%) said they would prefer a job in a workplace where they can see natural elements like indoor pot plants or a view of trees or a garden (Figure 4). Nearly 3 in 5 (59%) Australian workers agree that Australian employers should focus more on providing opportunities for employees to have regular contact with nature (Figure 7).




Base: Total sample, n=1000.

Figure 4. Percentage of Australians who would prefer a job in the different workplaces listed.



What is nature at work worth to Australians?

One of the key aims of Valuing Nature Survey was to find out how much being able to connect with nature at work is worth to Australians. The survey measured how much salary Australians would be willing to sacrifice in order to have regular contact with nature. Assuming a base annual salary of \$70,000, results showed that Australians would be willing to give up an average of \$3,700 (5% of base salary) in order to connect with nature regularly during their working day (Figure 5). More than 1 in 5 Australians (22%) would be willing to give up \$10,000 or more (Figure 5). Perhaps unsurprisingly, those who are very or extremely concerned about the environment would give up more than the average – up to 6.5% of the nominated base salary – while older people, specifically “empty nesters” and those aged 50-64 years – would sacrifice an average of around 7% of a \$70,000 annual salary.

 **Australians would be willing to give up an average of \$3,700* in salary to get a regular dose of nature during their working day. More than 1 in 5 people would be willing to give up \$10,000 or more*.**

*Assuming a base annual salary of \$70,000.

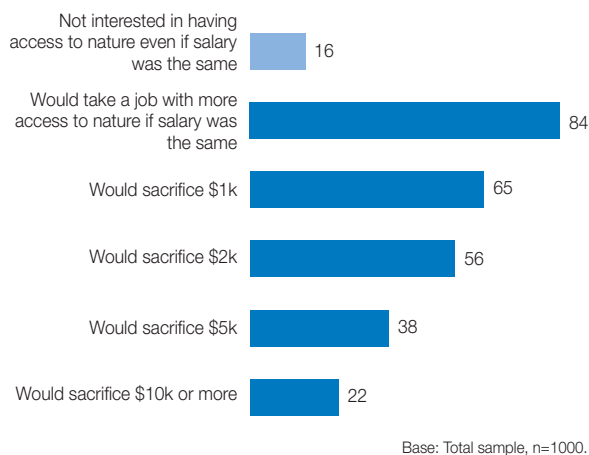


Figure 5. Percentage of total sample who would be prepared give up the salary amounts listed* to take a job that offered them regular access to nature.

*Assuming a base annual salary of \$70,000.

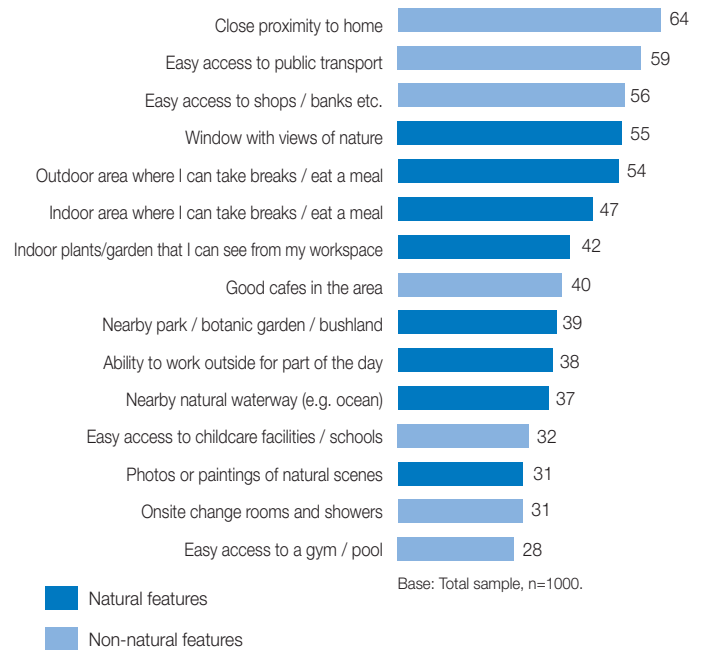


Figure 6. Percentage of total sample who consider the listed features to be important qualities of their ideal workplace.

Survey respondents were also asked to think about their ideal workplace and rank how important a number of workplace features are to them (Figure 6). The survey found that:

- More than half of Australians (55%) consider having a window with views of nature to be important;
- More than half of Australians (54%) view having an outdoor break area to be important, while nearly 1 in 2 (47%) consider having an indoor break area with plants and views of nature to be important;
- Australians consider having a window with views of nature and an outdoor break area to be as important as having easy access to shops and banks;
- One in three people (31%) consider having a window with views of nature to be even more important than having good cafes in the area;
- Only around a quarter of Australians (28%) think having easy access to a gym or pool is an important feature of their ideal workplace.

 **Having a window with views of nature and an outdoor break is as important to working Australians as having easy access to banks and shops.**




 **1 in 3 Australians consider having a window with views of nature at work to be even more important than having good cafes in the area.**

These results clearly indicate that Australians value having access to nature at work. They also suggest that employers wanting to introduce workplace health programs and staff benefits should consider “greening” their workplace and offering outdoor activities like regular lunches or walks in the park, in addition to, or instead of, things like gym memberships.

The importance of a good working environment to employees has been highlighted in a number of international studies. A British Council for Offices’ report included a quote from a survey carried out for a large commercial property developer, which suggested that as many as 45% of employees would change their job for one with a better working environment, even if their role, salary, and benefits remained the same¹⁴. A US study found that nearly three quarters of workers (73%) consider office surroundings to be important when weighing up potential employers¹⁵.

The impact of poor working environments


In a large US survey¹⁶, 9 out of 10 respondents admitted their attitude about work is affected by the quality of their workplace environment. The nicer the environment, the better they felt about their job. In a similar study of full-time workers in the US¹⁷, 1 in 4 respondents described their workplaces as cramped and noisy with no natural light, greenery, or ventilation. It found that three quarters (75%) of those who worked in a gloomy or depressing work environment had taken at least one sick day in the previous year compared to only 60% of employees who worked in a stimulating or relaxing environment.

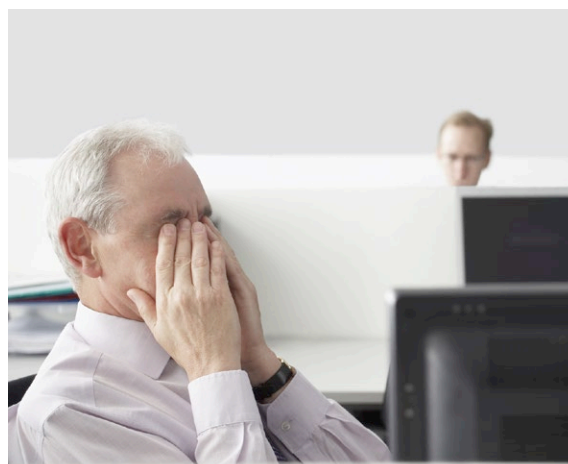
 **In the US, 75% of people who worked in a gloomy or depressing work environment had taken at least one sick day in the previous year compared to only 60% who worked in a stimulating or relaxing environment.**

One of the most serious and widespread issues affecting indoor work environments is poor air quality. Generally, air pollution is worse indoors than outdoors¹⁸. In a typical office, workers are exposed to a cocktail of volatile organic compounds (VOCs), such as formaldehyde, benzene, toluene, and xylene, that are emitted by building materials, furniture, carpets, paints, coatings, sealants, office equipment, and consumer products. Carbon dioxide (CO₂), mainly resulting from human respiration, is another major indoor pollutant, resulting in “stuffy” rooms when levels are high.

Poor indoor air quality is a major contributor to “Sick Building Syndrome” (SBS). SBS describes a range of non-specific symptoms that affect a significant number of building occupants but fade when the occupants leave the building¹⁹. SBS is mainly associated with office buildings and other non-industrial buildings like schools. Symptoms include:

- irritated eyes, nose, throat, and skin;
- general health problems like headaches, mental fatigue, reduced capacity to concentrate, dizziness, and nausea;
- hypersensitivity reactions, such as running nose or eyes, or asthma-like symptoms; and
- respiratory issues.

 **Air pollution is generally worse inside buildings than outside.**



Poor indoor air quality can cause a range of health issues, including irritated eyes, nose or throat, respiratory issues, mental fatigue, headaches, and nausea.



In 1998, the CSIRO estimated that, based on data from US studies, indoor air pollution could be costing Australia A\$12 billion per year²⁰.

A committee of the World Health Organization (WHO) estimated that as many as 30% of buildings in the developed world may have problems that can lead to occupant complaints and illness²¹. A Harvard School of Public Health survey of 56 US buildings²² found that nearly a quarter of office workers reported two or more frequent SBS symptoms that improved when they were away from the workplace. Based on this figure, the researchers estimated that, in 2000, 15 million workers in the US were frequently affected by at least two SBS symptoms and the annual cost of SBS in the US was US\$60 billion.

The link between work environments and productivity

Staff salaries and benefits are the biggest cost for most businesses. As such, even a small improvement in employee productivity will have a major impact on an organisation's bottom line, whether it is a for-profit business, a not for profit organisation, or a government-funded institution like a school or hospital. Although worker productivity can be difficult to define and measure, and can be impacted by a wide range of factors, considerable research now exists showing that improving indoor environments for workers can lead to increased performance and productivity.



Improving indoor work environments can lead to increased staff performance and productivity.

In a US workplace survey²³, 90% of respondents said that better workplace design and layout could result in better overall employee performance, and 88% of workers believed their working environment was very important to their sense of job satisfaction. Nearly half of respondents (49%) agreed they would be willing to work an extra hour a day if they had a better working environment.

A recent meta-analysis of 75 worldwide academic studies found that environmental conditions such as temperature, lighting, ventilation, and noise have a 1-3.5% impact on occupant performance, and that office refurbishments improve performance by 4%-8%²⁴. Other studies indicate that the physical office environment may account for changes in employee productivity of 5%-15%²⁵. Focusing on air quality alone, a Danish study found that for every 10% reduction in workers reporting dissatisfaction with air quality, there was a 1.5% rise in performance in text typing, addition, and proofreading activities²⁶.

Various Australian studies have found that employees working in green buildings are more satisfied and productive than employees in non-green buildings. Green buildings in this instance are offices that have a Green Star certification in accordance with the rating system of the Green Building Council Australia (GBCA). These workplaces differ from non-green workplaces in a number of ways, for example, in their fresh air intake, amount of daylight, and use of non-toxic materials²⁷. A number of pre- and post-occupancy studies have shown improvements in perceived productivity of up to 13% after employees have moved to a new green building or after a workplace has been refurbished to a high Green Star level^{28, 29, 30}. In one refurbished building in Melbourne, a tenant also reported a 44% drop in the monthly average cost of sick leave³¹.

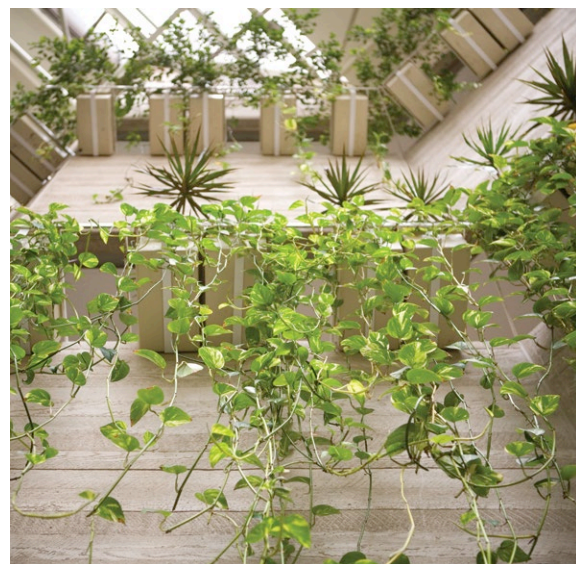


Photo courtesy of Ambius Indoor Plants.

Australian studies have found that employees working in green buildings are more satisfied and productive than employees in non-green buildings.



In 2009, an Australian study comparing ten green office buildings (Green Star-rated in accordance with GBCA standards) with 11 non-green office buildings³² found that green workplace environments scored higher employee satisfaction levels in the areas of thermal comfort, natural light, views, air quality, and individual controllability. Employees in green buildings also experienced fewer instances of asthma, headache, muscular pain, fatigue, and poor concentration.



For most organisations, only a small increase in staff productivity is needed to pay for the cost of improving work environments.

For most businesses, the costs of salaries and benefits far outweigh the costs of providing and maintaining a workplace. Therefore, only a small increase in staff productivity is needed to pay for a much larger percentage increase in building costs, and the payback time is generally quite short³³. Changes aimed at improving indoor environment quality (IEQ) in a workplace do not always have to be costly. A simple change, such as introducing more plants and other natural elements into the workplace, can significantly improve IEQ with minimal outlay.

Greening the grey: The benefits of plants in the workplace

While plants have long been incorporated into office buildings for their aesthetic appeal, research has shown that having plants and other natural elements in a building, and providing opportunities for workers to connect with nature both inside and outside the workplace, can boost an organisation's outcomes by improving the physical and mental health of employees, increasing productivity, and reducing operational costs.

Plants improve indoor air quality and reduce worker illnesses

With their large surface area and ability to exchange water and gases with their surroundings, plants can tackle a multitude of indoor environment issues. Indoor plants are essentially living air conditioning and purification systems, as a number of studies have shown:

- Some of the earliest research on the ability of plants to purify air was carried out at NASA's Stennis Space Centre in the 1970s³⁶. The researchers found that, upon entering a tightly sealed building constructed entirely of synthetic materials, participants experienced SBS symptoms, such as burning

Reaping the rewards of a better work environment

Some employers in Australia are recognising the financial and other benefits of providing staff with healthy and productive work environments. In late 2014, health insurer **Medibank Private** will move its Melbourne staff from six older buildings to one new tower at Docklands, a building Medibank describes as being "hard wired for health"³⁴. About 10% of the building's facade will be covered by plants, which will provide the building with extra shade and leafy views for staff. Much of the building's return on investment is expected to come from improved productivity and efficiencies resulting from staff who are physically and mentally healthy, as well as from a well-designed workspace.

Also in Melbourne, building services and sustainability consulting company **Umow Lai** focused heavily on providing a better working environment for staff when

it was fitting out its new building in 2006³⁵. The interior of the building, which achieved a 6 Star Green Star – Office Interiors rating, includes five bio-filtration walls covered in plants designed to break down VOCs from the air, improving its quality before being re-circulated back into the office. Other features include: openable windows; large balconies that staff can access during breaks; energy recovery ventilators that boost outside air volumes, thus improving indoor air quality; local control of air conditioning; use of materials with low VOC content; and a bike storage facility with showers and change rooms. Independently conducted pre- and post-occupancy surveys found a strong increase in satisfaction among staff for the workspace and indoor environment quality, along with a perceived productivity increase of 13%.



eyes and respiratory difficulties. After installing a large number of commonly used houseplants in the building, the VOCs and the participants' SBS symptoms disappeared.

- Commonly used indoor potted-plant species, such as Peace Lily and Kentia Palm, have been found to eliminate repeated high doses of VOCs in 24 hours in a closed chamber with no ventilation³⁷.

 **Three floor-standing pot plants have been found to reduce the levels of VOCs in a standard-sized office by up to 75%.**

- Australian office studies have found that three floor-standing pot plants can reduce the levels of VOCs in a standard-sized office by 75%³⁸ and that potted plants can reduce CO₂ levels by 25% and carbon monoxide (CO) levels by 90%³⁹.
- A Norwegian study of 59 office workers⁴⁰ found that introducing plants to the office resulted in a:
 - 30% drop in fatigue;
 - 20% drop in headaches;
 - 23% drop in dry / hoarse throat;
 - 37% drop in coughing; and
 - 23% drop in dry facial skin.
- A further 5-year study in Norway⁴¹ found that introducing plants and full spectrum lighting to a hospital resulted in a 25% decrease in overall health complaints by staff. Eleven months after the plants and lighting improvements were introduced, health and discomfort complaints remained at a lower level than before the intervention⁴².

 **Introducing plants and full-spectrum lighting into a Norwegian hospital resulted in a 25% reduction in overall staff health complaints.**

- Tests conducted in the US and UK have shown that plants can increase humidity levels in an unventilated room by up to 15% and in a ventilated room by 3-5%⁴³. The humidifying quality of plants is important because many indoor environments suffer from low

air humidity, which can result in issues like dry throat and dry skin, and increase the risk of respiratory illnesses. Plant species with a high transpiration rate increase humidity the most.

Plants improve productivity and boost creativity

Good evidence now exists showing an association between plants in a workplace and improved employee performance and productivity:

- In the UK, people working in “enriched” environments (those decorated with plants and pictures) were found to be 17% more productive than those working in “lean” environments that were bare and functional⁴⁴.




Photo courtesy of Snack Bang Designs.

People working in environments decorated with plants and pictures have been found to be 17% more productive than those in bare and functional environments.



- Dutch employees with plants in their work area were found to be more productive and better able to concentrate than employees with no plants present⁴⁵. They also rated their wellbeing and the quality of their working environment more favourably. The strongest link between the presence of plants and improved productivity was found in employees who worked at computer terminals for more than four hours per day.

 **The indoor workers who get the biggest boost in productivity from plants in the workplace are those who spend more than four hours per day at computer terminals.**

- In the US, study participants in a windowless computer room with plants achieved a 12% faster reaction time on a simple, timed activity than participants in a similar room without plants⁴⁶. The participants with plants present also reported feeling more attentive after they completed the task.
- Another US study⁴⁷ looked at creative problem solving tasks in three office environments, one with flowers and plants, one with abstract sculpture, and one with no decorative embellishments. In the presence of plants, both women and men generated more ideas and original solutions to problems, with male participants generating 30% more ideas and female participants generating more creative, flexible solutions.

Plants reduce stress and boost mood


In the Planet Ark Valuing Nature Survey, around two-thirds of Australian workers (64%) agree that having regular contact with nature at work would reduce their stress levels, while a similar proportion (65%) agree that it would make them happier (Figure 7). There is considerable research now showing that having plants in indoor workplaces can reduce stress and improve mood among employees:

- A Sydney study⁴⁸ found that workers with plants in their offices experienced a 30-60% reduction



Around two-thirds of Australian workers agree that having regular contact with nature at work would make them happier.

in feelings of stress, anxiety, depression, fatigue, confusion, and overall negativity during the study period, and just one plant was enough to make the difference. In contrast, participants with no plants experienced a trend towards increased feelings of stress (by 20%).

 **Australian workers with plants in their offices were found to experience a 30-60% drop in stress, anxiety, depression, anger, fatigue, confusion, and overall negativity, and just one plant was enough to make the difference.**




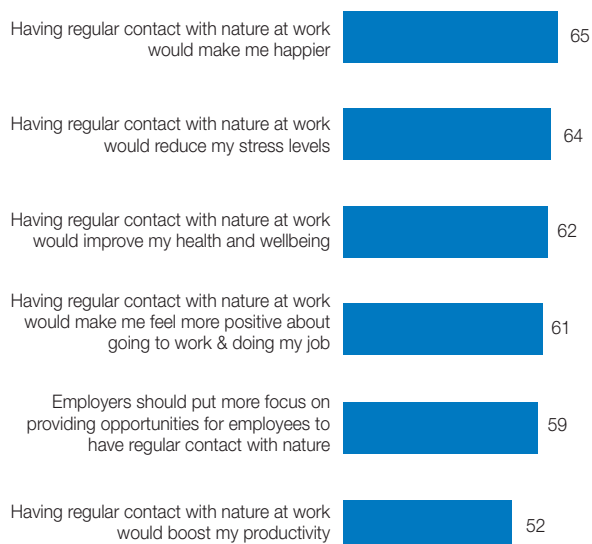
- In the UK, study participants in a heavily planted office undertaking a complex addition task in the presence of distracting noises were found to have lower stress levels during the task, and to recover from their stress more quickly after the test, than those in the unplanted office⁴⁹.
- Similar results were found in a US study where participants in a windowless computer room with plants had lower systolic blood pressure readings (indicating lower stress levels) during and after the computer task than those in a similar room with no plants⁵⁰.
- Also in the US, workers in offices with plants were found to be more likely than those in plant-free offices to describe their work environment as stimulating or relaxing, and as a pleasant and enjoyable place to be with happy and motivated employees⁵¹.



Photo courtesy of Ambius Indoor Plants

The presence of just three potted plants can help employees recover from the mental fatigue associated with screen-based work.

 **About two-thirds of Australian workers agree that having regular contact with nature at work would reduce their stress levels, while 65% agree it would make them happier.**




Base: Total sample, n=523.

Figure 7. Percentage of Australian workers who agree with the listed statements.

Plants restore attention

A number of studies have shown that interaction with nature can restore attention and help people recover from both visual and mental fatigue:

- In Japan, viewing plants while operating a visual display terminal not only helped study participants recover from visual fatigue but also helped prevent it⁵².
- Another Japanese study, this one focusing on mental fatigue, found that worker performance of screen-based tasks in a room with plants was higher than it was for participants undertaking the same task in a plant-free room⁵³. The researchers concluded that the presence of plants helped improve the participants' recovery from mental fatigue and that three plants between 15 to 30 centimetres in size were enough to have an effect.


 **The presence of three 15-30 centimetre pot plants has been shown to improve recovery from mental fatigue after screen-based tasks.**

- Mentally fatigued people who walked in a natural environment for 40 minutes were found to perform better on proofreading tasks than those who spent either 40 minutes walking in an urban environment or 40 minutes reading and listening to music in a



quiet room⁵⁴. The researchers concluded that natural environments have a more positive effect on attention restoration.

- People have been found to perform better on a working memory task, that is, they are better able to direct attention, after walking in a park versus walking in an urban area⁵⁵.

 **In a typical week at work, 1 in 4 Australian indoor workers do not take any breaks outside in a natural setting.**

Despite the well-documented benefits of taking breaks in natural settings for attention restoration and recovery from fatigue, the Planet Ark Valuing Nature survey found that, in a typical week, 1 in 4 Australian indoor workers do not take any breaks outside in a natural setting. Of the



Having access to an outdoor break area with natural features at work is as important to Australians as having easy access to shops, banks, and other services.

69% of indoor workers who would like to spend more time outdoors, nearly a third (30%) said they cannot do so because there is no park or natural outdoor area nearby (Figure 2).

Plants improve job satisfaction

The Planet Ark Valuing Nature Survey found the 61% of Australian workers agree that having regular contact with nature at work would make them feel more positive about going to work and doing their job (Figure 7). Academic research indicates that the presence of plants in a workplace improves employee perceptions of job satisfaction:

- A large US study found that people who worked in offices with plants or windows overlooking green spaces, reported higher job satisfaction and higher overall quality-of-life than those who did not⁵⁶.
- During focus group discussions with UK office workers on the topic of workplaces, job satisfaction, and work performance, all participants associated plants and views of outside green spaces with satisfying aspects of their workplace and with having a positive impact on their job satisfaction⁵⁷.

Plants reduce noise

In an indoor environment, plants help control noise by absorbing, diffracting, and reflecting sound. Research has proven that plants can affect the acoustics of a room:

- The results of four trials by UK researchers showed that, particularly at higher frequencies, plants reduce reverberation time and, hence, make a room quieter⁵⁸. The plants achieved better results in 'live' rooms with hard surfaces, such as marble walls, exposed concrete, and stone floors.

The same researchers outlined the best ways to use plants to help control indoor noise levels⁵⁹:

- Use plants that are efficient at absorbing high frequency sounds, for example, *Spathiphyllum wallisii* (Peace Lily), *Philodendron scandens* (Sweetheart Plant), *Dracaena marginata* (Madagascar Dragon Tree), and *Ficus benjamina* (Weeping Fig);
- Use big, full-bodied, and healthy plants;
- Group three or more plants together and place the grouped plants around the edges and in the corners of the room.



A room with a view: The benefits of views of nature at work

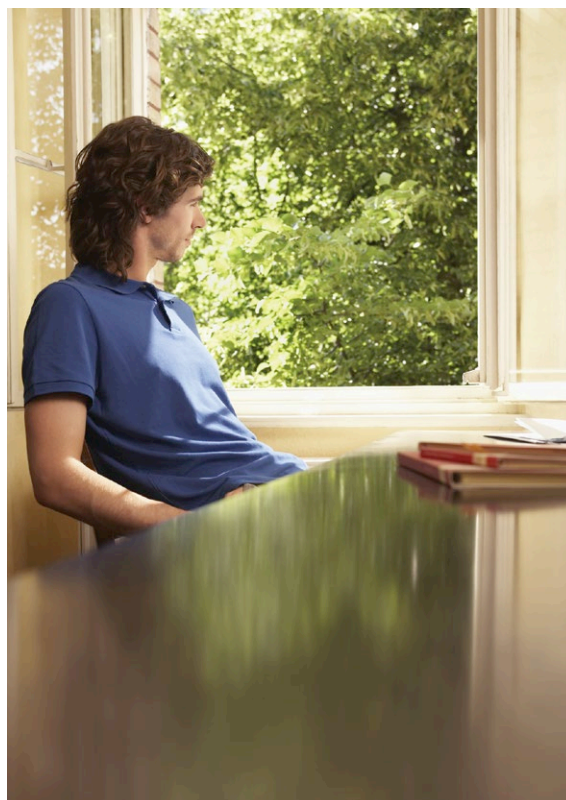
The Planet Ark Valuing Nature Survey found that around two-thirds of Australians (63%) would prefer to work in an environment where they can see natural elements, such as indoor pot plants or a view of trees or a garden (Figure 4). However, the results showed that half of Australian indoor workers cannot see a window that leads directly to the outdoors from their primary workspace, over half (52%) cannot see the sky, and more than a quarter (28%) cannot see any natural outdoor features at all (Figure 3).



Around two-thirds of Australians would prefer to work in an environment where they can see natural elements, such as indoor pot plants or a view of trees or a garden.

Numerous studies have shown that having views of outdoor nature from windows provides many of the same health, wellbeing, and productivity benefits for employees offered by indoor natural features like plants:

- A study comparing three groups of workers, each with a different outside view, found that the employees with views of trees and landscaping took an average of 11 hours less sick leave per year than employees with no view⁶⁰. The quality of a person's view was found to be the primary predictor of absenteeism.
- In the US⁶¹, researchers exposed three groups of participants to one of three conditions: a glass window with a view to nature; a plasma screen with a high-definition view of the same nature setting; or a curtained wall. They then investigated heart rate recovery from low-level stress. The study found that the restorative qualities of the view to nature were significantly higher than both the plasma screen and the curtained wall. The results also show that while, static nature like indoor plants and artwork depicting nature is preferable to no nature at all, it is dynamic nature such as trees swaying or moving water, that reduce stress the most.



Half of Australian workers cannot see a window that leads to the outside and over half (52%) cannot see the sky.



US call centre employees who had views of nature through large windows were found to handle calls 6-12% faster than those with no views, and perform 10-25% better on mental function and memory recall tests.

- Another US study quantified the value of workers having a view to nature⁶². The study found that call centre employees with views of vegetation through large windows from their cubicles handled calls 6-12% faster than those with no views. They also performed 10-25% better on tests of mental function and memory recall, and reported better health and sense of wellbeing. The study found that the costs for the organisation of providing each employee with a window view to nature came to US\$1,000 per employee, while the annual productivity savings averaged US\$2,990 per employee. The initial



investment payback was achieved within four months, with long-term productivity improvements producing increased profits.

- Computer programmers in offices with windows were found to spend 15% more time on work-related tasks than programmers in interior offices with no windows⁶³.

A picture says a thousand words: The benefits of simulated nature at work

Findings from the Planet Ark Valuing Nature Survey show that only about 1 in 5 indoor workers (21%) can see artwork (i.e. photos, paintings, or drawings) depicting natural scenes (Figure 3). However, research has shown that virtual nature can be effective in reducing stress and improving mood:

- A Canadian study investigated the effects on stress of immersing an individual into three virtual settings – a virtual nature setting, a virtual urban cityscape, and a neutral environment comprised of solid geometric shapes⁶⁴. Participants who explored the virtual nature environment were found to have significantly lower stress levels and higher levels of happiness, friendliness, affection, and playfulness, compared with those who explored the virtual urban and geometric environments.

 **Study participants who viewed pictures of nature were better able to direct attention during tasks than those who viewed pictures of urban areas.**

- In the US, study participants who viewed pictures of nature were better able to direct attention during two different tasks than those who viewed pictures of urban areas⁶⁵.
- Other studies^{66,67} have shown that viewing photographs and videos of nature scenes can lead to significant reductions in physiological stress and improvements in emotional states of individuals.

Money well spent: The case for bringing nature into the workplace

While it is difficult to place an absolute economic value on connecting employees with nature during their working day, the studies outlined in this report overwhelmingly confirm that having live plants or simulated nature in the workplace and providing workers with views to outdoor nature have significant benefits for employee health and wellbeing, productivity, and job and employee satisfaction. Results from the Planet Ark Valuing Nature Survey also show that Australians value having access to nature and the outdoors while at work. Nearly 3 in 5 (59%) workers agree that employers should put more emphasis on providing opportunities for employees to have regular contact with nature while at work (Figure 7).



Nearly 3 in 5 Australian workers agree that employers should provide more opportunities for staff to have regular contact with nature at work.

In recent years, workplace health programs, such as stress management workshops, access to gyms, and education programs addressing issues like nutrition have become increasingly common in many workplaces. While these may benefit employees' health and wellbeing, and boost job satisfaction, improving the environment where employees spend many hours of their working day, is likely to have a much greater impact on their ability to maintain and restore attention, manage stress, and perform well at their jobs. In turn, it is likely to have a greater impact on an organisation's outcomes and bottom line.



Positive Action: Invite nature into the workplace

There are a number of simple and low-cost ways that organisations and employees can use nature to boost health and wellbeing, productivity, and satisfaction:

Bring the outdoors in

Place leafy plants around the workplace, including in offices and communal spaces like kitchens, meeting rooms, and break areas. Just one plant is enough to have an impact on stress levels and mood⁶⁸ and three plants can help employees recover from mental fatigue⁶⁹.

Breathe easy

Improve indoor air quality with three large floor-standing pot plants or six table-sized pot plants for every 10-12 square metres of space⁷⁰. If budget allows, installing a green wall in a workplace can significantly improve air quality.

Changing nature

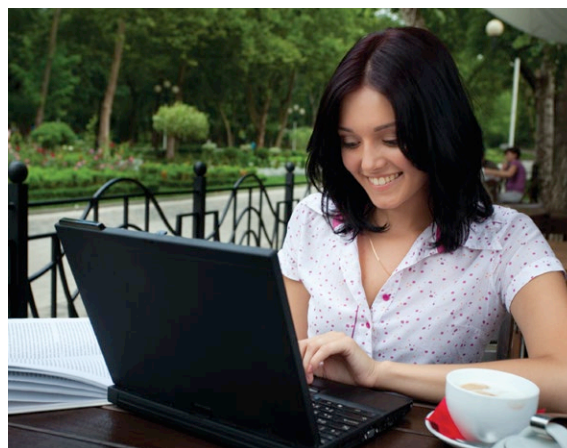
Install a water feature or place plants near open windows – dynamic, or changeable, nature has even greater benefits than static nature.

A room with a view

Arrange workstations and meeting rooms so they allow the greatest amount of natural light from windows into the space and so staff can see outside nature as easily as possible.

Take it outside

Create an attractive courtyard or other outdoor area, complete with plants and flowers, that is accessible to staff for breaks and meals, and even for meetings. Use the area for social events like morning teas and ask volunteers to help establish a vegetable or herb garden, along with worm farm or compost system, and run regular garden maintenance sessions.



Taking a laptop to an outdoor courtyard, park or café to do work is a great way for staff to get into nature during work hours.

Take nature breaks

Develop a culture of outdoor socialising by encouraging employees to eat their meals outside every day, preferably in a courtyard, park, or other natural area, and organise regular outdoor group lunches. Remind staff to take a short break outside when their concentration is flagging. Taking a laptop to a park or outdoor café to do some work is another great way for staff to get a dose of green and stimulate their brain.

Mix business with nature

Host outdoor meetings in a plant-filled courtyard, park, or garden café. Get creativity flowing in meetings and brainstorming sessions by holding “walk and talk” sessions with staff in a park. Organise a lunchtime walk a few times a week or a weekly outdoor exercise session.

Take a virtual break

Hang photos or artwork of natural elements around the workplace and encourage staff to load images of nature as their computer wallpaper. (Free images are available from [PlanetArk.org/nature](https://www.planetark.org/nature))

Take part in National Tree Day

Planet Ark’s National Tree Day is a great opportunity to connect employees with nature and make a positive contribution to the environment. The [Workplace Activity Guide](#) has ideas on how to get involved.



VALUING NATURE AT HOME

Trees and other natural elements in the home and neighbourhood provide a wide range of economic, environmental, health, and social benefits. They can:

- increase property values;
- reduce home and business costs;
- boost business profits;
- tackle environmental issues, such as the urban heat island effect, climate change, air pollution, and flooding;
- improve biodiversity;
- improve residents' health;
- help make communities safer and more pleasant places to live.

It is common knowledge that the “leafy” suburbs in a city – those with an abundance of trees, parks, and gardens – are generally the most desirable, and most expensive, areas in which to live. One of the aims of the Planet Ark Valuing Nature Survey was to investigate Australians’ views on living in a nature-filled home and neighbourhood, and how important it is to Australians to have nature on their doorstep.

Give me a home among the gum trees

The results of Planet Ark’s Valuing Nature Survey show that people value having access to nature at home and in their neighbourhoods. Around four out of five Australians (78%) said they would prefer to live in a home with many natural elements, such as trees, plants, and a garden, over one that does not have these features (Figure 8). Australians are also prepared to dig deeper to live in a nature-filled neighbourhood. Assuming a base house cost of \$500,000, Australians would be willing to pay an average of \$35,000 more (about 7% of base cost) for a home in a green neighbourhood than for the same kind of home in an area with little surrounding nature. Around one third of Australians (34%) would pay an extra \$100,000 (20% of base cost), while 15% of people would pay an extra \$120,000 or more (Figure 9).

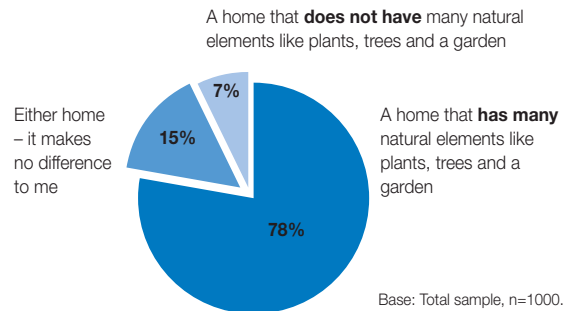


Figure 8. Percentages of total sample who chose the different types of homes listed as their preferred home.

Australians would be willing to pay an average of \$35,000* more to buy a home in a “green” neighbourhood. More than 1 in 3 people would be willing to pay an extra \$100,000*.
 *Assuming a base house cost of \$500,000.

When asked to consider their ideal home and rank the importance of 14 different home features to them, Australians rated having a home with a backyard and living in a “green” neighbourhood with many trees, parks, and gardens even higher than (Figure 10):

- being close to work;
- having easy access to public transport; and
- having good shops or a shopping centre nearby.

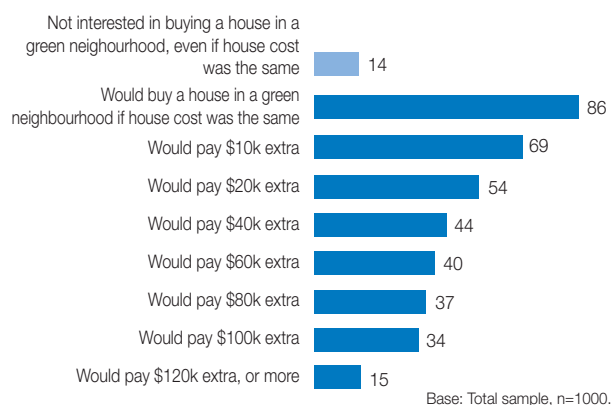


Figure 9. Percentage of total sample who would pay the extra amounts listed* to buy a home in a neighbourhood with lots of trees, parks, and gardens, compared with an identical house in an area with little nature.
 *Assuming a base house cost of \$500,000.

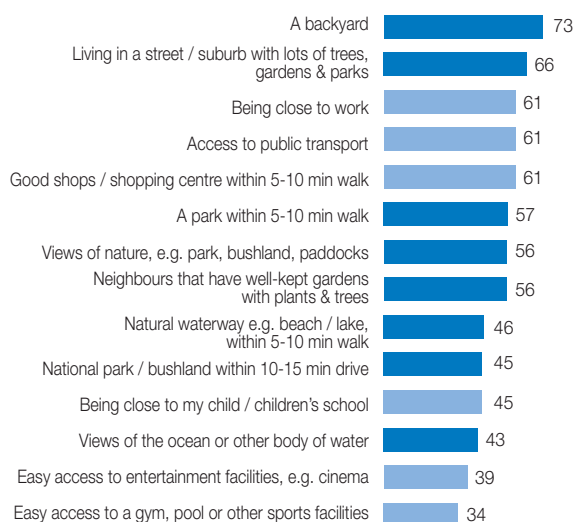




A backyard is considered by Australians to be the most important feature of their ideal home.

Australians consider having a home with a backyard and living in a nature-filled neighbourhood to be even more important than living close to work, having easy access to public transport, and having good shops nearby.

Compared to the general population, the preference for a “green” home is higher among women, people with children, Australians who are concerned about the environment, and people in the later stages of their life, specifically those with older children and “empty nesters”.



Base: Total sample, n=1000.

Figure 10. Percentage of total sample who consider the listed features to be important qualities of their ideal home.

What is a tree worth?

Over the past decade, many cities in the US have used economic modelling to quantify the economic benefits of urban trees. Online modelling tools, such as i-Tree, allow communities to quantify environmental and other benefits, and justify investments in urban greening projects. For example, a 2007 study found that New York City's street trees return US\$5.60 to the community for every US\$1 spent on management⁷¹. The annual net benefit the trees provide to residents is about US\$122 million. Over half the annual benefits (57%) are environmental services, such as stormwater runoff reduction, energy savings, air quality improvement, and CO2 reductions, while 43% is comprised of annual increases in property value.

A typical Adelaide street tree generates an estimated \$424 per year in gross environmental and property benefits.

In recent years, similar studies have been done to value trees in a number of Australian cities:

- In Adelaide, researchers estimated that a typical street tree generates gross annual benefits of A\$424, made up of energy savings from reduced air conditioning use, air quality improvements, storm water management, aesthetics, capital appreciation, carbon sequestration, and other benefits⁷².
- In Canberra, the city's trees have been estimated to have an annual economic value of more than A\$23 million through energy reduction, pollution mitigation, and storm water reductions⁷³.
- In Melbourne, researchers compared the economic benefits of street trees in the City of Melbourne and the City of Hume⁷⁴. For the environmental benefits of carbon sequestration, water retention, energy saving, aesthetics, and air pollution removal, the trees in two City of Melbourne suburbs were found to provide ecosystem services worth about A\$1 million, while in the City of Hume, trees were found to provide services of A\$1.5 million. At an individual level, each tree in the two City of Melbourne suburbs provides ecosystem services to the value of A\$163, while each tree in Hume provides A\$89 worth of services.





Brisbane's half a million street trees provide an estimated annual benefit of \$1.65 million for air pollutant removal, carbon sequestration, and rainfall interception.

- Brisbane's more than half a million street trees provide an estimated annual benefit of A\$1.65 million for air pollutant removal, carbon sequestration, and rainfall interception⁷⁵.

The primary costs associated with planting and maintaining trees or other vegetation include purchasing materials, initial planting, and ongoing maintenance activities such as pruning, pest and disease control, and irrigation. While the benefits of urban forests can vary considerably between communities and tree species, they almost always outweigh the costs.

Money does grow on trees: The economic benefits of a natural home and neighbourhood

Trees and other vegetation can increase the value of most people's biggest asset – their home. They can also boost the profits of local business, and save homeowners, businesses, and governments money.

Nature lifts property prices and increases tax revenues

The finding from the Valuing Nature Survey that Australians would be happy to pay more (an average of \$35,000 more on a \$500,000 house) to buy a home in a "leafy" neighbourhood (Figure 9) mirrors the findings of a number of national and international studies:

 **Broad-leaved trees in suburban streets of northern Perth have been found to increase the median property value in the street by \$16,889.**

- Utilising data from 23 northern Perth suburbs, researchers from Western Australia found that broad-leaved trees on suburban street verges increase the median property value in the street by A\$16,889⁷⁶.
- According to a Real Estate Institute of Queensland survey, the value of Brisbane homes in "leafy" streets was up to 30% higher than those in streets with few trees⁷⁷.
- Looking at more than 2600 real estate transactions in Portland, Oregon, researchers found that homes with street trees sold for an average of US\$8,870 more, and 1.7 days more quickly, than homes without street trees⁷⁸. The effect stretched to neighbouring homes within 30 metres of street trees, which sold for an average of US\$1,688 more. It was estimated that street trees could contribute an additional US\$15.3 million in property tax revenue to the city.



Australians are willing to pay on average \$35,000* more for a home in a neighbourhood with lots of trees, parks, and gardens. *Assuming a base house cost of \$500,000.



- Being located within around 150 metres of a park in Washington, D.C., increased the value of property by approximately 5%⁷⁹. This equated to a total value increase for all properties near parks of US\$1.2 billion in 2006, which in turn added almost US\$7 million in property tax returns to the city.
- A study in British Columbia, Canada, found that having access to a suburban riparian greenway (i.e. a protected corridor along a waterway) was second only to affordability in the factors people considered when choosing to live in one of the study areas⁸⁰. Access to a greenway was found to increase property values by 10-15%.

Nature boosts business

Research has shown that nature can boost the viability of businesses by drawing shoppers into business districts and encouraging them to spend more:

 **US shoppers have been found to pay 9-12% more for goods sold in business districts with high quality tree canopy.**

- Not surprisingly, US research found that customers prefer shopping in well-tended streets with large trees⁸¹. The study also found they would pay 9-12% more for goods sold in central business districts with high quality tree canopy, and would travel further to, visit more often, pay more for parking, and stay longer in a shopping district with plenty of trees.
- Daylight has also been shown to boost retail sales in shopping centres. Researchers studied a chain of 73 retail stores throughout California – 24 stores had significant daylight illumination, while the remaining 49 relied on artificial light⁸². The study found that after installing skylights, stores enjoyed a 40% increase in gross sales, along with a reduction in energy costs. It was estimated that installing skylights in retail buildings across California would increase sales by US\$47.5 million and reduce energy costs by US\$2.5 million.

Trees and landscaping also impact positively on office rental rates. A study of 85 office buildings comprising 270 individual leases in Cleveland, Ohio, found that aesthetically pleasing landscaping added about 7% to the average rental rate of a building⁸³.




Shoppers have been found to stay longer and spend 9-12% more for goods in shopping districts with high quality tree canopy.

Trees, parks, and gardens can contribute to local economies in a variety of other ways, for example, by providing free recreation services to residents and visitors, encouraging recreational tourism, and providing green industry jobs like park rangers, tourist guides, landscapers, and planners⁸⁴.

Nature reduces energy and water costs

Since 1910, climate change has seen Australia's annual average temperature increase by 0.9°C⁸⁵. As temperatures increase, so too is our use of air conditioners. For every 1°C increase in temperature, air conditioning use increases by about 5%⁸⁶. Between 1994 and 2004, ownership of air conditioning units in Australia almost doubled.

 **In a hot, dry climate, the cooling effect from transpiration of a large tree has been estimated to be the same as running five air conditioners for 20 hours.**


Trees and plants act as natural air conditioners. In summer, trees cool and reduce the energy use of a building in two ways: firstly, by providing direct shade to windows, walls, roofs, and the soil surrounding a building (which acts as a heat sink); and secondly, by transpiration, the process by which plants release moisture in the form of water vapour⁸⁷. In a hot, dry



climate, the cooling effect from transpiration of a large tree has been estimated to be equivalent to that of running five air conditioners for 20 hours⁸⁸. A tree shading an outdoor air conditioner can also increase its efficiency, thereby lowering its running costs. In winter, the presence of trees can help reduce the cooling effect of cold winds⁸⁹. The actual benefits received from trees are influenced by the climatic conditions, the type of tree shade, and the properties of the building they shade.

In recent years, an increasing number of studies have measured and modeled the climate and energy benefits of urban trees:

- It has been estimated that each shade tree over a house in an Australian city could save ~30 kilowatt-hours (kWh) per year in energy used for air conditioning⁹⁰. Based on this figure, 100,000 mature shade trees in an Australian city could save approximately half a million Australian dollars in energy costs⁹¹.

 **A home in Auburn, Alabama, with 50% dense shade coverage during the day was found to use nearly 20% less energy than a home with no shade, saving around US\$42 a month.**

- A study in Auburn, Alabama, estimated that a house with 50% dense shade coverage during the day uses nearly 20% less energy than a home with no shade, saving around US\$42 per month⁹².
- In Sacramento, California, having trees on the west and south sides of a house was found to reduce summertime electricity use by 5.2%⁹³. Furthermore, having a London plane tree planted on the west side of a house was estimated to reduce carbon emissions from summertime electricity use by an average of 31% over 100 years.

By casting their shade over buildings, trees and shrubs help reduce energy use, as well as demand for water required by cooling towers, air conditioners, and even for personal cooling like showers. In the garden, planting hardy, drought-tolerant native species can also reduce water use. Many trees, once established, may not require additional watering as the roots will absorb water from the groundwater table. Trees also shade a garden, helping other plants stay cool, further reducing household water use.

Nature lowers food costs and improves food security

With the increasing loss of agricultural land on urban fringes to development, and rising concerns about peak oil and the impact of climate change and extreme weather events on food prices, local councils, businesses, and individuals are becoming more and more concerned with integrating food production into urban areas.

One of the motivations for people to grow their own food is to reduce food costs. A recent Australian survey⁹⁴ found that more than half of Australian households (52%) are growing some of their own food, mostly in home gardens, with a further 13% intending to start. Of those growing their own food, 62% said they did so to save money.



If the lawn space of an average suburban garden was converted to food production, it could provide enough produce to meet a typical household's annual fruit and vegetable needs.



More than half of Australian households are growing some of their own food, with a further 13% intending to start. One of the main reasons people grow food at home is to save money.



A number of studies have estimated the value to a household of growing food at home:

- It has been estimated that if the lawn space of the average Australian suburban garden was converted to food production (leaving a 20 metre square open space area), it could produce between 800 and 1100 kilograms of fresh produce a year, enough to provide a typical household with a year's supply of vegetables and some fruit⁹⁵.
- In the US, a study estimated that a 97 square metre home garden could produce almost all the vegetables required for two people for a year⁹⁶.

While installing and managing a large food garden may be unrealistic for many people, even the produce from a small plot or a few pots could save gardeners money by supplementing one or two meals a week, and supplying produce that is expensive to buy commercially, such as berries and “greens” like spinach and herbs.

In addition to saving money, food gardens can also reduce food waste, because gardeners can pick small amounts of produce as they need it, rather than having to buy large quantities from the supermarket or store. Gardens can also provide the opportunity for people to compost any food waste they do produce.

A green planet is a healthy planet: The environmental benefits of nature

Trees and other vegetation in urban areas – sometimes referred to as “green infrastructure” – provide an extensive range of ecological services. They reduce the urban heat island effect, clean air and water, improve soil health, reduce stormwater runoff and flooding, help communities mitigate and adapt to climate change, and increase biodiversity. In this era of worsening climate change, the roles of reducing the urban heat island effect and helping communities tackle and adapt to climate change are particularly important.

Nature cools hot cities

The summer of 2012 /13 saw Australia experience its worst heatwave on record⁹⁷. As climate change continues, Australia is likely to experience more frequent, more intense and longer-lasting heatwaves⁹⁸.



Due to the urban heat island effect, temperatures in a city's central business district can be 1–3°C warmer than surrounding areas and up to 12°C warmer at night.

Since 1890, heatwaves have caused 2887 deaths in Australia – more deaths than bushfires, floods, earthquakes, cyclones, and severe storms combined⁹⁹. Heatwave-related deaths in Australian cities are predicted to more than double in the next 40 years as a result of climate change, population growth, and an ageing population¹⁰⁰. Groups most at risk of adverse health effects from heatwaves include the elderly, the socially disadvantaged, people with underlying physical and mental health conditions, and those living alone¹⁰¹.

Major heatwaves are a particularly deadly hazard for cities because of the urban heat island effect – the phenomenon where the air and surface temperatures of cities are significantly higher than the surrounding vegetated and rural areas, particularly at night¹⁰². During the day, heat-absorbing materials that dominate cities, including concrete buildings and pavements, bitumen roads, and dark-coloured roofs, store heat energy, which is then slowly released during the night. Other factors contributing to the urban heat island effect include the burning of fuel for transportation and heating, urban canyons that trap hot air, and a lack of green space and vegetation.




During the 2009 summer heatwave, the Melbourne CBD experienced night-time temperatures up to 5°C higher than non-CBD areas. Increasing urban green cover is one of the best ways to reduce the urban heat island effect.



The annual mean air temperature of a city with 1 million people or more can be 1–3°C warmer than its surrounding areas¹⁰³. In the evening, the difference can be as high as 12°C¹⁰⁴. During the major heatwave in the summer of 2009, Melbourne CBD areas experienced night-time temperatures up to 5°C higher than non-CBD areas¹⁰⁵. In cities, the urban heat island effect robs people of the ability to recover overnight from high daytime temperatures, which can result in increased heat-related illnesses and deaths. During the 2009 heatwave, there were 374 more deaths in Victoria between 26 January and 1 February than there had been in the same period of 2008 – a 62% increase¹⁰⁶. Most of those who died lived in Melbourne and were aged 65 years and older.

One of the best ways to reduce the urban heat island effect is by increasing the amount of vegetation in a city. Public parks, remnant woodlands, residential gardens, nature strips, street trees, green roofs, green walls, and rain gardens all play a part in keeping the temperatures of a city down and improving its liveability. Thermal mapping in Melbourne shows that, on average, a 10% increase in urban green cover could reduce the daytime surface temperature in cities during heatwaves by around 1°C¹⁰⁷. Thermal imaging of a plane tree on a day when the air temperature was 32.4°C showed the surface temperature below the tree to be 42°C lower than surrounding hard surfaces with no shade cover¹⁰⁸. In Shanghai, China, increasing the urban green area from 19% to about 35% played a significant role in reducing the number of heatwave deaths in the city¹⁰⁹.

 **The temperature under a plane tree in Melbourne on a 32°C day was shown to be 42°C lower than the surrounding hard surfaces with no shade cover.**

Not only does urban vegetation help reduce the risk of death and illness from heatwaves, it also helps reduce energy use, CO₂ emissions, air pollution, demand for water, and anti-social behaviour.

Nature helps tackle climate change

Green infrastructure, particularly trees, plays a critical role in helping communities mitigate, as well as adapt to, climate change.

Increasing concentrations of CO₂ in the atmosphere is the main cause of climate change¹¹⁰. One of the ways trees reduce the level of CO₂ in the atmosphere is by capturing and storing carbon, also known as carbon sequestration. On average, trees absorb 1 tonne of CO₂ for every cubic metre of growth, producing 727 kilograms of oxygen¹¹¹.

While mature forests with continuous canopies store the most carbon, urban trees, though smaller and generally more short-lived, also play an important role. For example, it has been estimated that 100,000 public trees in Melbourne sequester about 1 million tonnes of carbon¹¹². In 2000, a Brisbane study estimated that the city's residential tree cover absorbed the equivalent amount of CO₂ emitted by 30,000 cars per year¹¹³.

 **The 30,500 urban trees along a 19 km stretch of the Pacific Highway in Sydney have been estimated to store around \$1.65 million of carbon.**

In recent years, a growing number of studies using the i-Tree modeling tool have investigated and placed a value on the ability of urban forests to store carbon and avoid carbon emissions:

- The 30,500 urban trees located along a 19 kilometre stretch of the Pacific Highway in northern Sydney have been shown to deliver a combined annual benefit of A\$97,770 from carbon sequestration, air pollution removal, building energy savings, and avoided carbon emissions, while storing an estimated A\$1.65 million of carbon (at A\$23 per tonne¹¹⁴).



Trees and other vegetation in urban areas can help communities mitigate and adapt to climate change.



- New York's urban forest removes an estimated 42,300 tonnes of carbon from the atmosphere each year (valued at US\$779,000 per year) and stores about 1.35 million tonnes of carbon, worth around US\$24.9 million¹¹⁵.
- Chicago's 157 million trees remove an estimated 677,000 tons of carbon from the atmosphere each year, worth around US\$14.0 million per annum, while storing about 16.9 million tonnes of carbon valued at US\$349 million¹¹⁶.

Trees and other vegetation also help communities adapt to climate change. In addition to higher temperatures across the country, and reduced rainfall and extended periods of drought across southern Australia, climate change is also likely to lead to increased bushfire risk and more extreme weather events like severe storms¹¹⁷. Not only can trees and other vegetation help cool towns and cities, they can also reduce runoff and flooding during severe storms, lower wind speeds, and provide protection during certain weather events, such as hail storms¹¹⁸.

A green revolution

Green roofs and green walls are now a common sight in many cities around the world and have become a growth industry. Just like trees and other green infrastructure, green roofs and walls provide a range of ecosystem services in urban areas, including improving air quality, cooling buildings, mitigating the urban heat island effect and stormwater run off, and improving the amenity of cities.

Green roofs and walls also:

- Insulate a building from the weather and noise;
- Improve the efficiency of solar panels by maintaining the surrounding temperature at an optimum level;
- Increase the lifespan of a roof by limiting exposure to the sun and elements;
- Utilise previously unused space for recreation, gardening, and food growing.

Green roofs and walls have been shown to have many potential benefits:

- It has been estimated that if all available roofs in Chicago had green roofs installed, they would remove 2046 metric tonnes of pollutants¹¹⁹.
- If the same was done in Toronto, the city would reap initial savings of CAD\$313 million and an annual cost saving of CAD\$37 million (in 2004 dollars)¹²⁰.
- In Singapore, research found that a green wall provided a temperature difference of 3.6°C between the external and internal building environments¹²¹.

The City of Sydney has adopted Australia's first green roofs and walls policy. The city has more than 80 green roofs and walls, with another 70 in the pipeline¹²². In the CBD, No. 1 Bligh Street features a green wall covering 377 square metres, while in Surry Hills, Prince Alfred Park Pool has the largest green roof in the city, with over 35,000 plants. Sydney also has the tallest vertical garden in Australia. Covering 1200 square metres, the garden at One Central Park, Chippendale, features 2700 planter boxes, and the greenery will eventually cover 50% per cent of the building's façade. Green roofs and walls are on the rise in a number of other Australian cities, including Melbourne, Brisbane, Adelaide, and Perth.

Choosing the right plants is critical for making a green roof or wall work, with factors like available sun and shade, requirements for water and light, soil depth, and plant durability and longevity all important considerations.



Green roofs and walls provide a range of ecosystem services, including improving air quality, cooling buildings, and reducing and cleaning stormwater runoff.





Our sedentary and largely indoor lifestyles are contributing to a range of health issues, including rising rates of obesity, heart disease, diabetes, and mental illness.

Glowing green: The health benefits of a natural home and neighbourhood

Not only have our working lives moved indoors, our leisure time is now also largely spent inside. Research commissioned by Planet Ark in 2013 found that, on average, Australians spend just 4.7 hours per week doing outdoor recreational activity¹²³. In contrast, we spend over 32 hours of our leisure time each week watching television or on the internet¹²⁴. Our sedentary and largely indoor lifestyles are contributing to soaring rates of obesity, heart disease, diabetes, mental illness, and a range of other health issues. Nature, in the form of trees, plants, parks, gardens, wilderness, and even agricultural land, has the power to help redress many of these issues.

More than two-thirds of Australians agree that living in a “green” neighbourhood would reduce their stress levels.

Many Australians appear to value the health and wellbeing benefits of living in a home and neighbourhood with lots of nature. According to the Planet Ark Valuing Nature Survey, more than two-thirds of Australians (68%) agree

that living in a neighbourhood with lots of trees, gardens, and parks would reduce their stress levels, and 2 out of 3 Australians (66%) agree they would be more likely to do outdoor exercise if they lived in a green neighbourhood (Figure 11). Australians identify having a backyard and living in a neighbourhood with lots of trees, gardens, and parks as even more important than having easy access to work, shops, and public transport (Figure 10). Nearly 3 in 5 Australians (57%) say that having a park within 5-10 minutes walk of their home is important to them, while a similar proportion (56%) report that having views of nature, such as a park, bushland, or paddocks, is important (Figure 10).

Two-thirds of Australians agree they would be more likely to do outdoor exercise if they lived in a nature-filled neighbourhood.

Access to nature has been linked to better health and lower mortality. A Dutch study of 17,000 people found that those living within 3 kilometres of nature or green spaces reported fewer medical symptoms, as well as better perceived general health and mental health, than those living in densely urbanised areas with little or no access to green space¹²⁵. Assuming that green space actually causes better health, the study indicates that a 10% increase in green space in a neighbourhood could lead to a decrease in the number of symptoms that is on par with a decrease in age by five years.



Base: Total sample, n=1000.

Figure 11. Percentage of total sample who agree with the listed statements.



In 2012, Planet Ark produced the report, *Planting Trees – Just What The Doctor Ordered?*¹²⁶, which detailed the intellectual, psychological, physical, and mental health benefits for children of regular contact with nature. These include:

- Reducing stress and depression;
- Reducing the risk of being overweight or obese;
- Reducing symptoms of ADHD;
- Increasing self-esteem and confidence;
- Improving creativity and imagination.

While more and more people are becoming aware of the benefits of contact with nature for kids, the benefits for adults are less well known.

Nature helps clear the air at home


Given the amount of leisure time we now spend indoors, the quality of air in our homes is an important health and wellbeing issue. Sources of indoor air pollutants in typical homes include: fabric and furnishings; paints; surface finishes like stains, varnishes and wood coatings; sealants and adhesives; carpets; construction materials; appliances, such as computer equipment, televisions, air conditioners, and unflued heaters and cookers; personal care products; and pesticides¹²⁷.



Photo courtesy of Sneak Bang Designs.

Plant-filled rooms have been shown to have 50-60% less airborne microbes than similar rooms without plants.

Poor indoor air quality can lead to a range of health issues, including irritation of the eyes, nose, and throat, headaches, dizziness, fatigue, and respiratory issues like asthma¹²⁸. Other more serious health issues may show up years after exposure or only after long or repeated exposures, including some respiratory diseases, heart disease, and cancer¹²⁹. The people who happen to spend the most time indoors are also the people most at risk of developing health issues as a result of indoor air pollution¹³⁰, namely young children, the elderly, and the chronically ill, especially those suffering from respiratory or cardiovascular disease.

 **Plant-filled rooms have been found to have 50-60% less airborne microbes than rooms with no plants, as long as the soil is covered with a porous material.**


As outlined earlier in this report (see Valuing Nature at Work), potted plants can significantly reduce the indoor concentrations of toxic air pollutants, such as VOCs and particulate matter, and reduce the symptoms and health risks associated with air pollution. Plants can also help rid a home of illness-causing microbes. A US study found that plant-filled rooms have 50-60% less airborne microbes than similar rooms without plants, provided the soil is covered with a layer of gravel or other porous material¹³¹. The study found the plants transpired mineral-free moisture that appears to contain substances that inhibit the growth of airborne microbes, while increasing the humidity in a room. Plants in a home may help to reduce health issues triggered by dry air, such as asthma and nasal congestion, and lower the incidence of colds, particularly during winter when the air is naturally drier.

Nature lowers stress and improves wellbeing

Stress is a growing issue in Australian society. In 2013, the Australian Psychological Society found that Australians had significantly lower levels of stress and distress, as well as higher levels of depressive and anxiety symptoms, and significantly lower levels of wellbeing, than in the previous two years¹³². Half of Australians surveyed identified finances as a source of stress, with women also identifying family issues as a



leading source of stress. Chronic stress can lead to a range of serious health issues, including heart disease, high blood pressure, diabetes, depression, and anxiety disorder¹³³.

 **Compared with walking in urban areas, walking in forests has been found to result in around 13-15% lower levels of the stress hormone salivary cortisol, a 4-6% lower pulse rate, and reduced blood pressure.**

Australians on the whole understand the benefits of living in a neighbourhood with lots of trees, gardens, and parks. The results of the Planet Ark Valuing Nature Survey show that more than two-thirds of respondents (68%) agree that living in a green neighbourhood would reduce their stress levels (Figure 11). Many academic studies clearly demonstrate the power of nature for reducing stress:



Walking through forests has been shown to significantly reduce people's stress levels.

- A study of “Shinrin-yoku”, the ancient Japanese practice of restorative walks through natural settings, mostly forests, found that, compared to people walking through built-up urban areas, those who walked through a forest had, on average, around 13-16% lower levels of salivary cortisol (a stress hormone), a 4-6% lower pulse rate, and lower systolic and diastolic blood pressure. Most significantly, in subjects who walked through a forest, overall parasympathetic activity—which occurs when we feel relaxed—increased by about 56%, whereas sympathetic activity—which occurs when we feel stressed—decreased by just over 19%¹³⁴.
- A Swedish survey¹³⁵ found that people who visited green spaces more often had lower levels of stress. Unsurprisingly, distance to green spaces determined the frequency of visits, with people living closer to green spaces visiting them more often.
- The restorative benefits of contact with nature can be felt after just two visits to an urban forest or a park, as shown by a Swiss study¹³⁶. Participants experienced an average stress recovery rate of 87% and an average reduction in headaches of 52%. The study concluded that attractive design of parks is important, as there appears to be a link between aesthetics and environmental preference, as well as aesthetics and expected and experienced restoration.
- Nature has a positive effect even when it is not real, with research showing that slides of urban scenes with vegetation create a positive effect on people's cognitive and emotional experiences of the urban setting, and their expectations of quality of life in the area¹³⁷.

Nature improves mental health

According to a 2009 Australian Bureau of Statistics survey¹³⁸, one in five (20%) Australians aged 16–85 years experienced one of the more common mental illnesses in the previous 12 months. The annual cost of mental illness in Australia has been estimated at A\$20 billion, which includes the cost of loss of productivity and labour force participation¹³⁹.

Nature has the power to help lower the effects of poor mental health:





Adelaide residents who perceived their neighbourhoods to be very green were 1.37 to 1.6 times more likely to report better physical and mental health.

- Research found that Adelaide residents¹⁴⁰ who perceived their neighbourhoods to be very green were 1.37 to 1.60 times more likely to report better physical and mental health respectively than those who perceived their neighbourhoods to be lower in “greenness”. Perceived greenness was also correlated with recreational walking and social factors, which in turn were associated with mental health.
- A study of data from 195 general practitioners investigated the relationship between green space close to people’s homes and their morbidity (rate of incidence of a disease) for 24 selected diseases¹⁵⁰. People who lived within 1 kilometre of green space were less likely than those who lived further away to have 15 of the 24 diseases, with the relationship being strongest for anxiety disorder and depression. It was also strong for children and people with lower socio-economic statuses, who tend to spend more time closer to home. The researchers concluded that green spaces closer to home appear to play a major role in disease prevention.
- Residents who had plants installed in their apartment in Seoul, Korea, were found to display less psychosomatic symptoms, hostility, anxiety, obsessive-compulsive disorder, and depression than those living in apartments without plants¹⁵¹.

Nature is linked to more exercise and lower obesity

Regular physical activity has significant health benefits¹⁵². It can:

- Reduce the risk of, or help manage, type 2 diabetes;
- Reduce the risk of, or help manage, cardiovascular disease (CVD);
- Maintain and / or improve blood pressure, cholesterol and blood sugar levels;
- Reduce the risk of, and assist with rehabilitation from some cancers;
- Prevent unhealthy weight gain and assist with weight loss;



Two out of three Australians agree they would be more likely to do outdoor exercise if they lived in a green neighbourhood.

- Build strong muscles and bones;
- Create opportunities for socialising and meeting new people;
- Help prevent and manage mental health problems;
- Help develop and maintain overall physical and mental wellbeing.


The Australian Government Department of Health recently doubled the recommended amount of physical activity adults should get each week¹⁵³. The new guidelines recommend that adults aged 18-65 years do 150 to 300 minutes (2 ½ to 5 hours) of moderate intensity physical activity or 75 to 150 minutes (1 ¼ to 2 ½ hours) of vigorous intensity physical activity, or an equivalent combination of both¹⁵⁴. It also recommends that adults be active on most, preferably all, days of the week, and that they minimise the amount of time they spend sitting for long periods.

Worryingly, the Australian Bureau of Statistics found that in 2007 / 08, 6 out of 10 Australians did not meet the Department’s previous recommended levels of activity, that is, 30 minutes of moderate exercise on most days of the week¹⁵⁵. It is likely that an even greater proportion of Australians would not meet the new recommended levels. Australian research showed that, in 2010, the median annual health care cost for inactive middle-aged women was A\$741 per year, versus A\$689 per year for active women, a difference of A\$52¹⁵⁶. Extrapolated to a



national level, the study estimated that a lack of exercise is costing the Australian healthcare system A\$40 million a year for women alone.

The Planet Ark Valuing Nature Survey shows that two-thirds of Australians (66%) agree they would be more likely to do outdoor exercise, such as walking, running, and cycling, if they lived in a neighbourhood with lots of trees, gardens, and parks (Figure 11). Nearly 3 out of 5 Australians (57%) say that having a park within 5-10 minutes walk of their home is important to them (Figure 10).

 **Perth residents who had good access to large, attractive public open space with many natural elements were found to be 50% more likely to undertake high levels of walking than those with poor access.**

A number of studies show links between access to green space, such as urban parks, and increased physical activity, as well as lower levels of reduced obesity:

- Perth residents who had very good access to large, attractive public open space, such as a park with trees, water, and birdlife, were found to be 50% more likely to undertake high levels of walking than those with poor access¹⁵⁷.
- The amount of green space in Australian residential areas has been shown to influence whether people undertake moderate to vigorous physical activity. People aged over 45 years who lived in areas with high levels of green coverage were found to be significantly more likely to both walk and undertake moderate to vigorous physical activity than those living in areas with less than 20% green coverage¹⁵⁸.

 **Residents of eight European cities were found to be three times more likely to be physically active, and about 40% less likely to be overweight and obese, if they lived in green areas.**

- Residents of eight European countries were found to be three times more likely to be physically active, and about 40% less likely to be overweight and obese, if they lived in areas with high levels of greenery.¹⁵⁹




Surgery patients who can see nature from their hospital bed have been shown to recover faster, have less stress, and require less pain medication than those who look at brick walls.

Nature promotes healing

According to the National Health Performance Authority¹⁶⁰, in 2011 / 12, there were more than 5.7 million stays in public hospitals across Australia. Of these, 2.9 million stays lasted one or more nights, accounting for 16.3 million bed days. The length of hospital stays varies considerably depending on the health issue being treated. For example, in 2011 / 12, patients being treated for heart failure without complications stayed an average of 5.1 days in public hospitals, while those who had their gallbladder removed spent on average 1.9 days in hospital¹⁶¹.

Reducing the length of hospital stays, without compromising quality of care and patient outcomes, frees up beds for the treatment of other patients and reduces the cost per patient. A shorter hospital stay is also beneficial for the patient, enabling them to return home and recommence their normal life activities more quickly.

 **A hospital was able to release surgery patients who had views of nature 0.74 days earlier than those who had views of brick walls.**

Research has shown that nature can help people heal after surgery and reduce the length of hospital stays:

- Being able to see greenery from bed while recovering from gallbladder surgery resulted in patients who recovered faster, had less stress, received fewer negative evaluative comments in nurses' notes, and took fewer potent pain-killers, than those who had



a view of a brick wall¹⁶². On average, the patients who looked at brick walls stayed for 8.70 days, while patients whose windows overlooked a natural scene were released after 7.96 days, a difference of 0.74 days or 8.5%. When the average per day cost of a hospital stay after surgery in the US (\$5,059 in 2004) is applied to the 46 patients in this study, it is found that the cost of patient care could have been reduced by about US\$161,000 if the patients had been able to be released just one day sooner¹⁶³.

- Patients who were able to look at pictures of nature had reduced levels of post-operative anxiety than those who looked at abstract pictures¹⁶⁴.

Gardening grows a healthier life

According to the Planet Ark Valuing Nature Survey, out of 14 different natural and non-natural features, a backyard is the one considered by Australians to be the most important. Three-quarters of Australians (73%) report that a backyard is an important feature of their ideal home (Figure 10). Having a backyard and living in a street or suburb with lots of trees, gardens, and parks are the most important home features to Australians, even more important than having easy access to work, shops, and public transport (Figure 10). Nearly 3 out of 5 Australians (56%) value having neighbours with well-kept gardens featuring trees and plants (Figure 10).



In an Australian survey, 86% of Australians said the main reason they spend time in their backyards is because of the health, wellbeing, and relaxation benefits their garden provides.

In a Nursery and Garden Industry Association survey, 86% of Australians reported that the health, wellbeing, and relaxation benefits their garden provides is the main reason they spend time in their backyards¹⁶⁵. Having a garden at home, and participating in gardening, either at home, in the community, or as part of a therapy program, have been shown to have a wide range of health benefits, including a reduction in stress, anxiety, and depression, improved cardiovascular health, and reduced risk of stroke:

- Having a garden of one's own, or immediately adjacent to one's home, has been found to have a significantly positive impact on stress, as does

visiting the garden frequently. The more lush the garden greenery, the more positive the impact¹⁶⁶.

- Domestic activity, such as gardening, was found in a Scottish study to be associated with a 13–20% reduction in the risk of psychological distress¹⁶⁷, while in Australia, a study found that physical activity, such as gardening, may cause a reduction in anxiety and depression in the elderly¹⁶⁸.
- A review of evidence regarding physical activity and cardiovascular disease (CVD) shows that light to moderate physical activity, such as gardening or walking, in middle or older age significantly reduces the risk of coronary heart disease (CHD) and cardiovascular mortality in both men and women¹⁶⁹. It suggests that physical activity is also associated with reduced risk of stroke.



Gardening has been shown to reduce stress, anxiety and depression, as well as a number of physical health issues, including cardiovascular disease.



Gardening has also been shown to be beneficial for people with a range of diseases and health issues, including diabetes, dementia, Alzheimer's, brain injury, and mental illnesses like schizophrenia and post-traumatic stress disorder¹⁷⁰.

Growing a stronger community: The social benefits of nature

Nature influences our perception of a neighbourhood, as well as our behaviour. It can: help build a sense of identity; foster strong social bonds within a community; and help people feel safe, supported, and more positive about where they live. A person's social ties are linked to health outcomes – people with strong social relationships tend to live longer¹⁷¹ and be physically and mentally healthier¹⁷².



More than two-thirds of Australians agree that neighbourhoods with lots of trees, gardens, and parks feel safer and more welcoming than those with little nature.

Australians, particularly women and older people, understand the community benefits of a nature-filled neighbourhood. In the Planet Ark Valuing Nature Survey, more than two-thirds of Australians (68%) agree that neighbourhoods with lots of trees, gardens, and parks feel safer and more welcoming than those without nature (Figure 11). Around 4 out of 5 Australians (78%) agree that nature-filled neighbourhoods are better places for children to grow up (Figure 11).



More than two-thirds of Australians agree that neighbourhoods with lots of trees, gardens and parks feel safer and more welcoming than those with little nature.





Being actively involved in community environmental groups can build people's sense of belonging in their community and help them feel more supported, which in turn reduces their stress levels.

Nature connects neighbours

Having social relations with neighbours is one of the strongest predictors of a sense of community, and a sense of community has been shown to improve life satisfaction, reduce loneliness, increase social support, and act as a protective factor against psychological distress^{173,174,175}.

 **Residents in a US public housing estate with good access to green common areas were found to have more social activities and visitors, know more of their neighbours, and report that their neighbours offer more help to each other, than people living near barren areas.**

An attractive neighbourhood filled with trees and green spaces has been shown to foster stronger social bonds and engender a sense of community:

- The presence of trees and gardens in a public housing estate in Chicago was found to encourage people of all ages to spend more time outside and to gather around the trees. The more trees there were, and the closer they were to the residential building, the greater the number of people who gathered around them and the more time they spent there¹⁷⁶.
- In a similar vein, research showed that Dutch residents from low socio-economic backgrounds

felt less lonely and experienced less social isolation when they lived in areas with more green space¹⁷⁷.

- And finally, residents in US public housing who had access to green common areas were found to have more social activities and more visitors, know more of their neighbours, and report that their neighbours were more interested in helping and supporting each other, than people who lived near barren areas¹⁷⁸.

Group green activities have been shown to improve both health and social outcomes:

- Groups like "Friends" groups and Landcare groups are a common form of Australian civic environmentalism, that is, where citizens volunteer together to solve an environmental problem in their community. Membership of these types of groups have been shown to increase people's sense of belonging and provide them with social help and support, which in turn lowers their stress levels¹⁷⁹. Clearly, these groups, many of whom participate in National Tree Day, benefit both their members and the environment.

Community gardens have also been shown to foster social interaction and help develop and strengthen community ties. A study of a community garden scheme in a high-rise public housing estate in Sydney¹⁸⁰ found that the scheme increased opportunities for local residents to socialise and develop cross-cultural ties. It also developed a sense of peace and relaxation, and promoted happiness and personal renewal among residents.



Positive Action: Invite nature into your home and neighbourhood

Get a dose of nature every day and reap the financial, environmental, and health and wellbeing rewards that nature offers:

Clear the air

Use plants to clear toxins from the air in your house. One plant can clear the air in an average size room¹⁸¹.

Stay cool

Use plants and trees to shade walls and windows from direct sunlight, and use ground cover and potted plants to reduce reflected heat from hard surfaces. Use trees to shade outdoor air conditioning units and improve their efficiency.

Grow a greener view

Plant trees, gardens, and planter boxes outside windows and glass doors so you can get the health and wellbeing benefits of views to nature.



Get the health benefits of views to nature at home by creating a beautiful garden you can see from your windows.



Even a few plants on your window sill can have a calming influence.

Plant a veggie patch

Grow a veggie garden in your backyard, on your balcony, or, if council permits, on your verge. Even growing some herbs on the window sill has benefits.

Get green with your neighbours

Get together with your neighbours to look after the streets, parks, or beaches – it will improve the environment, as well as your social life.

Create nature on the inside

Install plants around the house and decorate with cut flowers and artwork of natural scenes. Relax to recorded sounds of nature like birdsong or waves.

Get outside

Spend more time outside – on the balcony, in the yard, or at a park. Play with the kids, have a picnic, or work in your garden or at your local park.

Commute though nature

Green up your commute by parking the car, or getting off the bus, train, or tram a few stops early, and walking along some tree-lined streets or through a park.



VALUING NATURE AT SCHOOL

There is an ever-growing body of evidence demonstrating how beneficial – and indeed, essential – regular contact with nature is for children’s health, wellbeing, and mental and physical development. In 2012, Planet Ark explored this evidence in its report, *Planting Trees – Just What The Doctor Ordered*¹⁸².

With children spending a large proportion of their day at school, there is an increasing focus on how school environments impact on students and how connecting students with nature at school can help them perform at their best and get the most from their education experience.

The changing nature of school environments


In recent years, Australian schools have become increasingly vigilant about ensuring school grounds are as risk-free as possible. Litigation concerns have seen the removal of traditional play equipment like sandpits, swings, roundabouts, and see-saws, and more often than not, kids at school are discouraged or forbidden from doing activities freely enjoyed by previous generations of children, such as tree climbing, playing in the dirt, and even running, handstands and cartwheels¹⁸³. Many school grounds, especially those with limited space, have removed or fenced off natural features like trees and gardens. Even grass is disappearing, with an increasing number of schools replacing grassed areas with artificial turf in a bid to reduce costs and extend playing time¹⁸⁴.

There are growing concerns though that the focus on creating risk-free school grounds and discouraging outdoor play may be hindering children’s development and contributing to the rise of a range of problems in schools, such as bullying and other anti-social behaviour, and even physical injuries¹⁸⁵. A recent Western Australian study found that primary school children are at increased risk of wrist and arm fractures in the schoolyard because a lack of play means they are missing out on important motor skills development¹⁸⁶.



Kids have been found to be at increased risk of fractures because a lack of play means they are missing out on critical motor skills development.

Despite the move away from more natural grounds and free play opportunities in many schools, research shows that, given a choice, children prefer to play in natural areas. An Australian study found that the natural / green area of a school’s grounds attracted on average a higher number of students than manufactured play equipment and other constructed areas like paved sport courts and the canteen courtyard¹⁸⁷. The natural / green area was also the only area to attract equal numbers of girls and boys.

 **Australian parents consider natural school grounds with real grass, trees and gardens to be as important as good academic outcomes and reputation.**

It is not only students who prefer greener grounds; parents also value natural grounds at their child’s school. The Planet Ark Valuing Nature Survey found



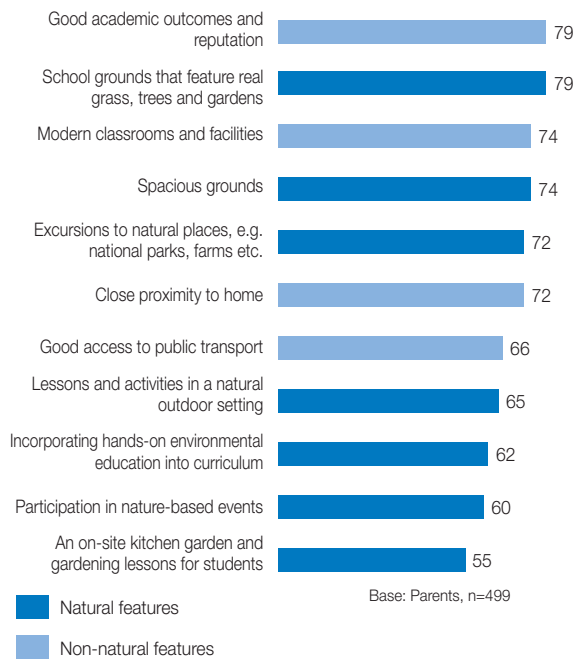


Figure 12. Percentage of parents who consider the listed features to be important qualities of the ideal school for their child.

that three-quarters of Australians (79%) consider natural school grounds with real grass, trees, and gardens to be important (Figure 12). In fact, parents view green school grounds to be as important as good academic outcomes and reputation. Parents also rated spacious grounds and excursions to natural places as highly as modern classroom facilities and closeness to home (Figure 12).

Bright green kids – The benefits of nature at school

In schools at all levels – early childhood, primary and secondary – interaction with nature has been shown to play a powerful role in helping students concentrate, enhancing cognitive performance, and improving student behaviour and attitude towards learning and their school.


In Canada, a survey of parents, teachers, and principals revealed that students and schools at all levels benefited significantly from school ground greening projects and outdoor learning initiatives¹⁸⁸:

- 90% of respondents reported that student enthusiasm and engagement in learning increased on green school grounds;
- 72% reported that students were better able to

retain knowledge;

- 77% reported that students were able to think more creatively;
- 39% reported that they had seen a positive change in student performance on standardised tests and / or improved mastery of curriculum standards;
- 72% reported that overall student pro-social behaviour (cooperative, respectful and non-violent) had improved;
- 70% reported that teachers’ motivation for teaching had increased on green school grounds compared to teaching indoors.

Respondents also reported that green school ground initiatives reduced student discipline and aggression issues, lowered the incidence of “knock and bump” injuries, promoted cooperative and collaborative play, and increased students’ environmental awareness and stewardship. Respondents suggested that student learning is enhanced on green grounds because natural areas are more meaningful and inviting places to learn, are less tightly regulated, and provide opportunities for students to be creative and engage their senses.

 **Students who participated in environment-based learning programs were found to perform better in reading, writing, maths, science, and social studies than their peers in traditional learning programs.**

Similar effects have been found in other studies:

- In a US study, 92% of participating schools reported that students in outdoor, environment-based learning programs performed better in reading, writing, maths, science, and social studies than their peers in more traditional programs¹⁸⁹. All schools (100%) reported that students in environment-based programs behaved better and had better school attendance and attitude than those in traditional programs. They were also better able than their peers to work in group settings, think creatively and critically, and solve problems.
- A Canadian study found a positive link between the presence of natural areas in a schoolyard and the academic performance of primary students, regardless of the socio-economic background of the school catchment area¹⁹⁰. School greening was



found to have a stronger effect on achievement for students from poorer areas than for those from wealthier neighbourhoods.

- Larger windows and more views of nature from classrooms has been associated with students achieving higher standardised test scores, higher graduation rates, and a greater percentage of students planning to attend college¹⁹¹, as well as less criminal behaviour. Conversely, school landscapes lacking in natural features, such as parking lots, had a negative impact on test scores and intentions to attend college. These findings persisted regardless of the socio-demographic and general characteristics of the school.
- A study of Melbourne primary schools found a wide range of perceived benefits of nature-based activities like tending gardens and native plants, and habitat restoration¹⁹², including:
 - improved attitudes towards school and relationships with peers and adults;
 - more feelings of calm and less disruptive behaviour;
 - enhanced self-esteem and self-confidence;
 - increased sense of wellbeing, empowerment, and achievement.
- A classroom with six small trees was found to score significantly higher than a regular classroom on student preference, comfort, and friendliness. Students in the rooms with plants present also had far



School ground greening and outdoor learning programs have been shown to help students concentrate, enhance their cognitive performance and creativity, and improve their behaviour and attitude towards school.

fewer absences due to illness and fewer punishment records than students in the regular classroom¹⁹³.



Green school grounds have been found to encourage light to moderate physical activity, while constructed areas like paved sports courts encourage sedentary behaviour.

Green school grounds have also been shown to increase the levels of physical activity among students. In a Canadian study¹⁹⁴, 66% of school staff surveyed reported that students use green areas for active play, and that green areas tend to encourage light to moderate physical activity. Another study by the same researchers¹⁹⁵ found that sedentary behaviour during recess and lunch periods was highest in constructed areas, such as paved sports courts and courtyards, and open asphalt areas.



Students in classrooms with six tropical, indoor plants experienced a 9% drop in health complaints, while students in rooms with no plants had a 12% increase in symptoms.

Poor air quality in classrooms is a serious problem in many Australian schools. A CSIRO study of a portable classroom renovated with new paint and carpet found that for three years afterwards, teachers and students reported headaches, nausea, sore throats, and increased use of asthma medication¹⁹⁶. Even after three years, the total VOC level was still higher than the recommended level. Plants in classrooms have been shown to significantly improve air quality, reduce health complaints, and increase concentration. A Norwegian study found that students in classrooms with six tropical, indoor plants experienced a 9% drop in health complaints, while students in rooms with no plants had a 12% increase in symptoms¹⁹⁷. Students in planted rooms also took less time off school due to illness and were better able to concentrate during school hours than their peers in regular classrooms. The study found that the plants reduced the concentration of total VOCs by 35%.



Positive Action: Invite nature into school

Help your students reach their academic potential, and improve their emotional and physical wellbeing, by greening up your school and connecting students with nature every day.

Take learning outside

Schedule learning time outdoors on a regular basis, whether in an outdoor classroom, the playground, or a park.

Link nature to the curriculum

Incorporate nature investigation or hands-on nature care activities into learning. Download lesson plans from the [Schools Tree Day site](#).

Get digging

Create a vegetable garden and get children involved in planting and maintaining it.



Creating a food garden is a great way to encourage students to get their hands dirty, connect to nature, and make healthier food choices.



Take advantage of special days like Schools Tree Day to get students involved in nature-based activities like tree planting and habitat restoration.

Bring the outside in

Bring plants into your classroom to improve air quality and boost students' ability to concentrate. Just six large floor-standing plants in an average-sized classroom will make a difference^{198,199}.

Take advantage of "environment days"

Use key environment dates like Planet Ark's Schools Tree Day, Clean Up Australia Day, or World Environment Day, to get outside and plant trees or clean up the environment, or to run outdoor, nature-based excursions, such as a guided bush walk in a national park.

To support the achievement of online learning outcomes from Schools Tree Day, Planet Ark has developed a range of resources for schools, including lesson plans, games and activity sheets at: TreeDay.PlanetArk.org/schools.



Get into Nature. Grow.



With Australians spending more and more time indoors, it is becoming increasingly important to our health and wellbeing that we find ways to connect with nature in our everyday lives – at work, at home, in our neighbourhoods, and at school.

As Australia's largest tree planting and nature care event, National Tree Day is a perfect opportunity to connect with nature and the community.

It is a safe and fun day out for everyone, giving people the opportunity to do something positive for the environment, join forces with their local community, and get the health benefits of connecting with nature.

With thousands of sites at schools, parks, gardens, and other locations across the country, National Tree Day and Schools Tree Day are perfect first steps to providing Australians of all ages with a dose of everyday nature.

This year, there are more ways than ever to get involved:

- Join the tens of thousands of people at hundreds of sites around the country who will be getting their hands dirty. All you need to do is [find a site near you](#).
- Get your friends or family involved and take care of your yard or balcony, then [register your activity](#) so it gets added to the national total.
- Use the [Tree Day Workplace guide](#) to bring the benefits of nature to your work. Set up a garden or decorate your workplace with potted plants or nature images, then register your activity so it gets added to the national total.

For more information on getting involved in National Tree Day, visit TreeDay.PlanetArk.org.



National Tree Day is a wonderful opportunity for people of all ages to get into nature, connect with their local community, and do something positive for the environment.



References

- 1 City of Melbourne. (2012). *Urban Forest Strategy – Making a great city greener 2012-2032*. Melbourne: City of Melbourne.
- 2 City of Sydney. (2013). *Urban Forest Strategy 2013*. Sydney: City of Sydney
- 3 World Health Organisation (WHO). N.D. *Urban population growth*. Viewed 29 April 2014. <http://www.who.int/gho/urban_health/situation_trends/urban_population_growth_text/en/>.
- 4 Australian Bureau of Statistics (ABS). (2013). *The 'average' Australian*. Australian Social Trends, April 2013. Viewed 29 April 2014. <<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features30April+2013>>.
- 5 ABS, 2013.
- 6 ABS. (2012). *Employment in Australian Industry*. Year Book Australia, 2012. Viewed 29 April 2014. <<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1301.0~2012~Main%20Features~Employment%20in%20Australian%20Industry~241>>.
- 7 Business Dictionary.com. (N.D.). *Knowledge worker definition*. Viewed 2 May 2014. <<http://www.businessdictionary.com/definition/knowledge-worker.html>>.
- 8 ABS. (2003). *Measures of a knowledge-based economy and society, Australia, 2003*. Viewed 2 May 2014. <<http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/A46E142F20B029A9CA25719600166DFF?opendocument>>.
- 9 Wilkins, R. & Warren, D. (2012). *Families, Incomes and Jobs, Volume 7: A Statistical Report on Waves 1 to 9 of the Household, Income and Labour Dynamics in Australia Survey*. Melbourne: Melbourne Institute of Applied Economic and Social Research.
- 10 Cameron, P. & Denniss, R. (2013). *Hard to get a break? Hours, leave and barriers to re-entering the Australian workforce*. Institute Paper No. 13, November 2013. Canberra: The Australian Institute.
- 11 SafetySolutions. (2013). *Work negatively impacts mental and physical health*. Viewed 19 May 2014. <<http://www.safetysolutions.net.au/articles/53434-Work-negatively-impacts-mental-and-physical-health>>.
- 12 Australian Psychological Society (APS). (2013). *Stress and wellbeing in Australia survey 2013*. Melbourne: APS.
- 13 Medibank Private. (2008). *The cost of workplace stress in Australia*. Melbourne: Medibank Private.
- 14 Freeman, K. & Knight, C. (2009). *Enrich the office and engage your staff: why lean is mean*. Ambius White Paper. Buffalo Grove, IL: Ambius University.
- 15 MarketWired. (2008). *Gloomy Work Environment Troubles U.S. Office Workers*. Viewed 21 May 2013. <<http://www.marketwired.com/press-release/Gloomy-Work-Environment-Troubles-US-Office-Workers-874865.htm>>
- 16 Gensler. (2006). *The Gensler Design + Performance Index – The U.S. Workplace Survey*. Washington: Gensler.
- 17 MarketWired, 2008.
- 18 Burchett, M., Torpy, F., Brennan, J. & Craig, A. (2010). *Greening the Great Indoors for Human Health and Wellbeing*. Final Report to Horticulture Australia Ltd. Sydney: University of Technology Sydney.
- 19 Standing Committee on Public Works. (2001). *Sick Building Syndrome*, Report no. 52/07. Sydney: NSW Legislative Assembly.
- 20 Brown, S.K. 1998. *Beating the \$12 Billion Cost of Polluted Air*. Media Release. Canberra: CSIRO.
- 21 World Health Organization (WHO) Regional Office for Europe. (1986). *Indoor Air Quality Research*. Report on a WHO meeting, Stockholm, 27-31 August 1984.
- 22 Fisk, W.J. (2000). Health and productivity gains from better indoor environments and their relationship with building energy efficiency. *Annual Review of Energy and the Environment*, 25(1), 537-566.
- 23 Gensler, 2006.
- 24 Oseland, N. A. & Burton, A. (2012). Quantifying the impact of environmental conditions on worker performance for inputting to a business case to justify enhanced workplace design features. *Journal of Building Survey, Appraisal & Valuation*, 1(2), 151-164.
- 25 Abdou, O.A. & Lorsch, H.G. (1994). The impact of the indoor environment on occupant productivity. Part 3 - Effects of Indoor air quality. *ASHRAE Transactions*, 100(2).
- 26 Wargocki, D., Wyon, P. & Ole Fanger, P. (2000). Productivity is affected by air quality in offices. *Proceedings of Healthy Buildings 2000*, Espoo, Finland, Vol. I, 635-640.
- 27 Armitage, L. & Murugan, A. (2013). The human green office experience: Happy and healthy or sick and frustrated? *The Australian and New Zealand Property Journal*, 4(1), 35-41.
- 28 Paevere, P. & Brown, S. (2008). *Indoor Environment Quality and Occupant Productivity in the CH2 Building: Post-Occupancy Summary*. Melbourne: CSIRO.
- 29 Sustainability Victoria. (2007). *500 Collins Street*. Case study. Melbourne: Sustainability Victoria.
- 30 Vandenberg, M. (2006). *Post-occupancy evaluation: 40 Albert Rd Site Report*. Melbourne: Encompass Sustainability.
- 31 Sustainability Victoria, 2007.
- 32 Armitage et al, 2013.
- 33 Garnys, V. (2007). Indoor Environment Quality, Design and the Value of Facility Ecology. *BEDP Environment Design Guide*, August 2007, Tec 22, Summary. Melbourne: Australian Institute of Architects.
- 34 Media report: 'Medibank hopes staff thrive in healthy new tower' by Olga Galacho, *Australian Financial Review* 27 March 2014.
- 35 McGowan, S. (2009). Office works. *Ecolibrium*, September 2009, 16-20.
- 36 NASA Office of the Chief Technologist. (2007). *Plants Clean Air and Water for Indoor Environments. NASA Spinoff 2007*. Washington DC: NASA
- 37 Burchett, M., Torpy, F.R., Brennan, J., De Filippis, L. & Irga, P. (2011). *Indoor Plant Technology for Health and Environmental Sustainability*. Final Report to Horticulture Australia Ltd. Project No: NY10024. Sydney: University of Technology Sydney.
- 38 Wood, R.A., Burchett, M., Alquezar, R., Orwell, R.L., Tarran, J. & Torpy, F. (2006). The Potted-Plant Microcosm Substantially Reduces Indoor Air VOC Pollution: I. Office Field-Study. *Water, Air, and Soil Pollution*, 175, 163-180.
- 39 Burchett, M. (2010). *Indoor Plants as Installations for Sustainable Building Ecology*. Presentation to People, Plants and Productivity – Workplaces of the Future, an event hosted by the Green Building Council of Australia. Sydney: University of Technology Sydney.
- 40 Fjeld, T. Veiersted, B., Sandvik, L., Riise, G. & Levy, F. (1998). The effect of indoor foliage plants on health and discomfort symptoms among office workers. *Indoor and Built Environment*, 7(4), 204-209.
- 41 Fjeld, T. (2002). The effects of plants and artificial daylight on the wellbeing and health of office workers, school children and health-care personnel. *Proceedings of International Plants for People Symposium*, Floriade, Amsterdam, Netherlands, June 2002. Amsterdam: Flower Council of Holland.
- 42 Fjeld, 2002.
- 43 Lohr, V.I. (1992). The contribution of interior plants to relative humidity in an office. In Relf, D. (ed). *The Role of Horticulture in Human Well-Being and Social Development*. A National Symposium, 19-21 April 1990, Arlington, Virginia. Portland, OR: Timber Press.
- 44 Knight, C. & Alexander, H. (2010). The relative merits of lean, enriched and empowered offices: An experimental examination of the impact of workplace management strategies on well being and productivity. *Journal of Experimental Psychology: Applied*, 16(2), 158-172.
- 45 Bergs, J. (2002). Effect of healthy workplaces on wellbeing and productivity of office workers. *Proceedings of International Plants for People Symposium*, Floriade, Amsterdam, Netherlands, June 2002. Amsterdam: Flower Council of Holland.
- 46 Lohr, V.I., Pearson-Mirns, C.H. & Goodwin, G.K. (1996). Interior plants may improve worker productivity and reduce stress in a windowless environment. *Environmental Horticulture*, 14(2), 97-100.



- 47 Society of American Florists. (2003). *The University Research Indicates Flowers and Plants Promote Innovation, Ideas: Key Findings Shed Light on Environmental Psychology of the Workplace*. Media Release. Viewed 13 May 2014. <<http://www.safnow.org/university-research-indicates-flowers-and-plants-promote-innovation-ideas-key-findings-shed-light-on>>.
- 48 Burchett et al, 2010.
- 49 Russell, H. & Uzzell, D. (1997). *The Psychological Effects of Plants on People in Office (or other indoor setting)*. Report on two studies conducted by MSc environmental psychology students at the University of Surrey, England.
- 50 Lohr et al, 1996.
- 51 MarketWired, 2008.
- 52 Asami, H., Nishina, H., Nakamura, H., Masui, Y. & Hashimoto, Y. (1995). Effect of ornamental foliage plants on visual fatigue caused by visual display terminal operation. *Journal of SHITA (Japanese Society of High Technology in Agriculture)*, 7, 138-143.
- 53 Shibata, S. & Suzuki, N. (2001). Effects of Indoor Foliage Plants on Subjects' Recovery from Mental Fatigue. *North American Journal of Psychology* 3(2), 385-395.
- 54 Hartig, T., Mang, M., & Evans, G.W. (1991). Restorative effects of natural environment experiences. *Environment and Behavior*, 23, 3-26.
- 55 Herzog, T.R., Black, A.M., Fountaine, K.A. & Knotts, D.J. (1997). Reflection and attentional recovery as distinctive benefits of restorative environments. *Journal of Environmental Psychology*, 17, 165-170.
- 56 Dravigne, A., Waliczek, T., Lineberger, R. & Zajicek, J. (2008). The Effect of Live Plants and Window Views of Green Spaces on Employee Perceptions of Job Satisfaction. *HortScience*, 43(1), 183-187.
- 57 Uzzell, D. (2013). Greening the office and job satisfaction. In Rioux, L., Le Roy, J., Rubens, L. & Le Conte, J. (eds.) *Le confort au travail: que nous apprend la psychologie environnementale?* Québec : Les Presses de L'Université Laval.
- 58 Costa, P.R. & James, R.W. (1999). Air conditioning and noise control using vegetation. *Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, 3, 234-239.
- 59 Costa, P.R. & James, R.W. (1995). Constructive use of vegetation in office buildings. Presentation at the Plants for People Symposium, 23 November 1995, The Hague, Holland. Viewed 26 May 2014. <<http://www.plants-for-people.org/eng/science/constructive.html>>.
- 60 Elzeyadi, I. (2011). Daylighting-Bias and Biophilia: Quantifying the Impacts of Daylight on Occupants Health. *Thought and Leadership in Green Buildings Research*. Greenbuild 2011 Proceedings. Washington: USGBC Press.
- 61 Kahn, P.H. et al. (2008). A plasma display window? The shifting baseline problem in a technologically mediated natural world. *Journal of Environmental Psychology*, 28: 192-199.
- 62 Heschong Mahone Group. (2003). *Windows and Offices: A Study of Office Worker Performance and the Indoor Environment*. Fair Oaks, CA: California Energy Commission.
- 63 Figueiro, M., Rea, M., Rea, R. & Stevens, R. (2002). Daylight and Productivity: A Field Study. *Proceedings 2002 ACEEE Summer Study on Energy Efficiency in Buildings*. 18-23 August 2002, Pacific Grove, CA. Washington, DC: American Council for an Energy Efficient Economy.
- 64 Valtchanov, D. (2010). *Physiological and Affective Responses to Immersion in Virtual Reality: Effects of Nature and Urban Settings*. PhD Thesis presented to the University of Waterloo, Canada.
- 65 Berman, M.G., Jonides, J., & Kaplan, S. (2008). The cognitive benefits of interacting with nature. *Psychological Science*, 19(12), 1207-1212.
- 66 Ulrich, R.S. (1981). Natural versus urban scenes: Some psychophysiological effects. *Environment and Behavior*, 13(5), 523-556.
- 67 Ulrich, R.S., Simons, R.F., Losito, B.D., Fiorito, E., Miles, M.A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*, 11, 201-230.
- 68 Wood, 2006.
- 69 Shibata & Suzuki, 2001.
- 70 Burchett et al, 2010.
- 71 Peper, P. J., et al. (2007). *New York City, New York, Municipal Forest Resource Analysis*. Technical Report. Davis, CA: Centre for Urban Forest Research.
- 72 Brindal, M. & R. Stringer (2009). The value of urban trees: Environmental factors and economic efficiency. In Lawry, D., Gardener, J. & Smith, S. (eds). *Proceedings of the 10th National Street Tree Symposium*, Adelaide, SA. Adelaide: TREENET.
- 73 Killy, P., Brack, C., et al. (2008). *A carbon sequestration audit of vegetation biomass in the Australian Capital Territory*. A report for the ACT Government. Canberra: ACT Government.
- 74 Nursery and Garden Industry Australia (NGIA). (2011). Estimating the benefits of Australian Street Trees using i-Tree Stratum - A Pilot Study. *Nursery Papers*, October 2011, Issue No 8. Sydney: NGIA.
- 75 Department of Infrastructure and Transport (DIT). (2013). *State of Australian Cities*. Canberra: Commonwealth of Australia.
- 76 Pandita, R., Polyakovb, M., Tapsuwanc, S. & Morand, T. (2013). The effect of street trees on property value in Perth, Western Australia. *Landscape and Urban Planning*, 110, 134-142.
- 77 Plant, L. (2006). Brisbane: "Beautiful one day, perfect the next" - Is there room for improvement? *Proceedings of the 7th National Street Tree Symposium, 7-8 September 2006*, Adelaide, SA. Adelaide: TREENET.
- 78 Donovan, G.H. & Butry, D. (2010). Trees in the city: Valuing street trees in Portland, Oregon. *Landscape and Urban Planning*, 94: 77-83.
- 79 Harnik, P. & Welle, B. (2009). *Measuring the Economic Value of a City Park System*. Washington, DC: The Trust for Public Land.
- 80 Quayle, M. & Elliott, C. (1999). *Corridors of Green and Gold – Impact of Riparian Suburban Greenways on Property Values*. Report prepared for Department of Fisheries and Oceans Vancouver, B.C. Vancouver: University of British Columbia.
- 81 Wolf, K.L. (2005). Business district streetscapes, trees and consumer response. *Journal of Forestry*, 103(8): 396-400.
- 82 Heschong Mahone Group. (2003). *Daylight and Retail Sales*. Fair Oaks, CA: California Energy Commission.
- 83 Laverne, R.J. & Winson-Geideman, K. (2003). The influence of trees and landscaping on rental rates at office buildings. *Journal of Arboriculture*, 29(5), 281-290.
- 84 Nursery and Garden Industry Australia. (2011). *Improve your plant-life balance – economic benefits*. Viewed 8 June 2014. <<http://www.plantlifebalance.com.au/benefits/economic-benefits/>>.
- 85 CSIRO & Bureau of Meteorology (BOM). (2014). *State of the Climate 2014*. Canberra: Commonwealth of Australia.
- 86 DIT, 2013.
- 87 Akbari, H. (2009). *Cooling our Communities. A Guidebook on Tree Planting and Light- Colored Surfacing*. Berkeley, CA: Lawrence Berkeley National Laboratory.
- 88 Akbari, 2009.
- 89 Akbari, 2009.
- 90 Fisher, P. (2009). Why We Need The Urban Forest. *Urban magazine*, July 2007.
- 91 Moore, G.M. (2009). Urban Trees: Worth More Than They Cost. In Lawry, D., Gardner, J. & Smith, S. (eds). *Proceedings of the 10th National Street Tree Symposium*, Adelaide, SA. Adelaide: TREENET.
- 92 Pandit, R. & Laband, D. (2010). A Hedonic Analysis of the Impact of Tree Shade on Summertime Residential Energy Consumption. *Arboriculture & Urban Forestry*, 36(3), 73-80.
- 93 Donovan, G.H. & Butry, D.T. (2009). The value of shade: Estimating the effect of urban trees on summertime electricity use. *Energy and Buildings*, 41 (2009), 662-668.
- 94 Wise, P. (2014). *Grow Your Own – The potential value and impacts of residential and community food gardening*. Policy Brief No. 59. Canberra: The Australian Institute.
- 95 Ghosh, S. (2011). *Growing Healthy Local Food: Sustainability Potential and Household Participation in Home Gardens*. Paper for State of Australian Cities National Conference, 29 November-2 December 2011, Melbourne.



- 96 Bass, L. (1996). *Home Vegetable Gardening*. AG-06. Raleigh, NC: North Carolina Cooperative Extension Service. Viewed 10 June 2014. <<http://www.ces.ncsu.edu/depts/hort/hil/ag-06.html>>.
- 97 DIT, 2013.
- 98 CSIRO & BOM, 2014.
- 99 DIT, 2013.
- 100 Pricewaterhouse Coopers (PWC). (2011). *Protecting human health and safety during severe and extreme events: a national framework*. Sydney: PWC.
- 101 DIT, 2013.
- 102 Pitman, S. & Ely, M. (2012). From Green to Grey: Life Support for Human Habitats. *Proceedings of 6th International Conference and Workshop on the Built Environment in Developing Countries*, 4-5 December 2012, Adelaide. Adelaide: University of Adelaide.
- 103 United States Environmental Protection Agency (US EPA) (2012). *Heat island effect*. Viewed 6 June 2014. <<http://www.epa.gov/hiri/index.htm>>.
- 104 US EPA, 2012.
- 105 AECOM. (2012). *Economic Assessment of the Urban Heat Island Effect*. Prepared for City of Melbourne. Melbourne: AECOM.
- 106 Media report: 'Death toll soared during Victoria's heatwave' by Mex Cooper, *The Age* 6 April 2009.
- 107 Williams, N., Coutts, A. & Livesley, S. (2014). *Our cities need more trees and water, not less, to stay liveable*. Viewed 6 June 2014. <<http://theconversation.com/our-cities-need-more-trees-and-water-not-less-to-stay-liveable-22166>>.
- 108 Media report: 'Melbourne city centre a death trap as heat-island effect takes its toll' by Jason Dowling, *The Age* 17 January 2014.
- 109 Tan, J., Zheng, Y., Song, G., Kalkstein, L.S., Kalkstein, A.J. & Tang, X. (2007). Heat wave impacts on mortality in Shanghai, 1998 and 2003. *International Journal of Biometeorology*, 51(3): 193-200.
- 110 Department of the Environment. (N.D.). *Understanding climate change*. Viewed 17 June 2014. <<http://www.climatechange.gov.au/climate-change/climate-science/understanding-climate-change>>.
- 111 European State Forest Association (Eustafor). (2013). *LVM launches planting of oxygen forests*. Viewed 8 June 2014. <<http://www.eustafor.eu/lvm-launches-planting-of-oxygen-forests>>.
- 112 Moore, 2009.
- 113 Plant, 2006.
- 114 Amati, M. (2013). (2013). *Understanding the carbon and pollution mitigation potential of Australia's urban forest*. Final Report - Project Number: NY11002. Melbourne: La Trobe University.
- 115 Nowak, D.J., et al. (2007). *Assessing urban forest effects and values, New York City's urban forest*. Resource Bulletin NRS-9. Newtown Square, PA: US Department of Agriculture Forest Service.
- 116 Nowak, D.J., et al. (2013). *Urban Trees and Forests of the Chicago Region*. Resource Bulletin NRS-84. Newtown Square, PA: US Department of Agriculture Forest Service.
- 117 CSIRO & BOM, 2014.
- 118 Moore, G. (2012). *For a great return on investment, try trees*. Viewed 7 June 2013. <<http://theconversation.com/for-a-great-return-on-investment-try-trees-5050>>.
- 119 Yang, J., Yub, Q. & Gong, P. (2008). Quantifying air pollution removal by green roofs in Chicago. *Atmospheric Environment*. 42(31), 7266-7273.
- 120 Banting, D., et al. (2004). *Report on the Environmental Benefits and Costs of Green Roof Technology for the City of Toronto*. Prepared for the City of Toronto and Ontario Centres of Excellence – Earth and Environmental Technologies (OCE-ETech). Toronto, ON: Ryerson University.
- 121 Cheng, C.Y., Cheung, K.K.S. & Chu, L.M. (2010). Thermal performance of a vegetated cladding system on facade walls. *Building and Environment*, 45, 1779-1787.
- 122 Bentley, B. (2014). *Growing a Green Revolution*. Viewed 9 June 2014. <<http://www.broadsheet.com.au/sydney/arts-and-entertainment/article/paint-town-green>>.
- 123 Planet Ark. (2013). *Missing Trees: The Inside Story of an Outdoor Nation*. Sydney: Planet Ark.
- 124 Planet Ark, 2013.
- 125 De Vries, S., Verheij, R., Groeneweggen, P. & Spreeuwenburg, P. (2003). Natural Environments—Healthy Environments? An exploratory analysis of the relationship between greenspace and health. *Environment and Planning*, 35, 1717-1731.
- 126 Planet Ark. (2012). *Planting Trees: Just What The Doctor Ordered*. Sydney: Planet Ark.
- 127 Immig, J. (2005). *How the chemical cocktail inside our homes is poisoning our children - Working together to clear the air*. Sydney: National Toxics Network and Total Environment Centre.
- 128 United States Environmental Protection Agency (US EPA). (2008). *Care for your Air: A Guide to Indoor Air Quality*. Washington, DC: US EPA.
- 129 US EPA, 2008.
- 130 US EPA, 2008.
- 131 Wolverton, B.D. & Wolverton, J.D. (1996). *Interior Plants: Their Influence on Airborne Microbes Inside Energy-Efficient Buildings*. *Journal of the Mississippi Academy of Sciences*, 41(3), 99-105.
- 132 Australian Psychological Society (APS). (2013). *Stress and wellbeing in Australia survey 2013*. Melbourne: APS.
- 133 National Institute for Mental Health (NIMH). (N.D.). *Fact Sheet on Stress*. Viewed 10 June 2014. <<http://www.nimh.nih.gov/health/publications/stress/index.shtml>>.
- 134 Park, B.J., Tsunetsugu, Y., Kasetani, T., Kagawa, T. & Miyazaki, Y. (2010). The physiological effects of Shinrin-yoku (taking in the forest atmosphere or forest bathing): evidence from field experiments in 24 forests across Japan. *Environmental Health and Preventative Medicine*, 15, 18-26.
- 135 Grahn, P. & Stigsdotter, U. (2003). Landscape planning and stress. *Urban Forestry and Urban Greening*, 2(1), 1-18.
- 136 Hansmann, R., Hug, S.M. & Seeland, K. (2007). Restoration and stress relief through physical activities in forests and parks. *Urban Forestry & Urban Greening*, 6(4), 213-225.
- 137 Sheets, V. & Manzer, C. (1991). Affect, cognition and urban vegetation: some effects of adding trees along city streets. *Environment and Behaviour*, 23(3), 285-304.
- 138 Australian Bureau of Statistics (ABS). (2009). *Australian Social Trends, March 2009*. Canberra: ABS.
- 139 ABS, 2009
- 140 Sugiyama, T., Leslie, E., Giles-Corti, B. & Owen, N. (2008). Associations of neighbourhood Greenness with Physical and Mental Health: Do walking, social coherence and local social interaction explain the relationships? *Journal of Epidemiology and Community Health*, 62(5), pp. e9.
- 150 Maas, J., Verheij, R., de Vries, S., Spreeuwenberg, P. & Schellevis, F. (2009). Morbidity is related to a green living environment. *Journal of Epidemiology and Community Health* 63, 967-973.
- 151 Lim, Y.W., Kim, H.H., Park, J.W., Yang, J.Y. & Shin, D.C. (2006). The Health Effect of Houseplant on the Symptoms of Sick Building Syndrome (SBS). *Epidemiology*, 17(6), S358-S359.
- 152 The Department of Health (DOH). (2014). *Physical Activity*. Viewed 10 June 2014. <<http://www.health.gov.au/internet/main/publishing.nsf/Content/phy-activity>>.
- 153 DOH, 2014.
- 154 DOH, 2014.
- 155 ABS. (2011). *Physical Activity in Australia: A Snapshot, 2007-08*. Canberra: ABS.
- 156 The University of Queensland. (2014). *Lack of exercise adds to women's healthcare costs*. UQ News. Viewed 11 June 2014. <<http://www.uq.edu.au/news/article/2014/04/lack-of-exercise-adds-women%E2%80%99s-healthcare-costs>>.
- 157 Giles-Corti, B., et al. (2006). Increasing Walking – How Important Is Distance To, Attractiveness, and Size of Public Open Space? *American Journal of Preventive Medicine*, 28(2S2), 169-176.



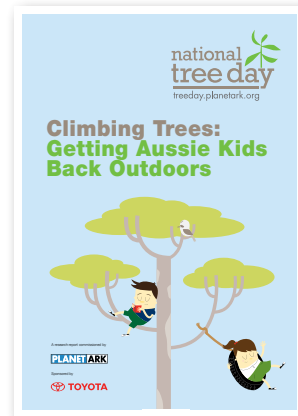
- 158 Astell-Burt, T., Feng, X., Kolt, G.S. (2014). Green space is associated with walking and moderate-to-vigorous physical activity (MVPA) in middle-to-older-aged adults: findings from 203 883 Australians in the 45 and Up Study. *British Journal of Sports Medicine*, 48(5), 404-6.
- 159 Ellaway, A., Macintyre, S. & Bonnefoy, X. (2005). Graffiti, Greenery, and Obesity in Adults: Secondary Analysis of European Cross Sectional Survey. *British Medical Journal*, 331(7517), 611-612.
- 160 National Health Performance Authority (NHPA). (2013). *Hospital Performance: Length of stay in public hospitals in 2011–12*. Sydney: NHPA.
- 161 NHPA, 2013.
- 162 Ulrich, R.S. (1984). View through a Window May Influence Recovery from Surgery. *Science*, 224(4647), 420-21.
- 163 Terrapin Bright Green LLC. (2012). *The Economics of Biophilia – Why Designing With Nature In Mind Makes Financial Sense*. Washington, D.C.: Terrapin Bright Green LLC.
- 164 Ulrich, R.S., Lundén, O. & Eltinge, J.L. (1993). *Effects of exposure to nature and abstract pictures on patients recovering from heart surgery*. Paper presented at the Thirty-Third Meeting of the Society for Psychophysiological Research, Rottach-Egern, Germany.
- 165 Newspoll. (2009). *Gardening Study*. Prepared for Nursery and Garden Industry Australia. Sydney: Newspoll.
- 166 Stigsdotter, U. & Grahn, P. (2004). *A Garden at your doorstep may reduce stress: Private gardens as restorative environments in the city*. Viewed 11 June 2014. <www.openspace.eca.ac.uk/conference/proceedings/PDF/Stigsdotter.pdf>.
- 167 Hamer, M., Stamatakis, E. & Steptoe, A. (2008). Dose response relationship between physical activity and mental health: The Scottish Health Survey'. *British Journal of Sports Medicine*, 42(4), 238–243.
- 168 Patterson, I. & Chang, M. (1999). Participation in physical activities by older Australians: A review of the social psychological benefits and constraints. *Australian Journal of Ageing*, 18, 179–185.
- 169 Wannamethee, S., Shaper, A., & Walker, M. (2000). Physical activity and mortality in older men with diagnosed coronary heart disease. *Circulation*, 102(12), 1358-1363.
- 170 Townsend, M. & Weerasuriya, R. (2010). *Beyond Blue to Green – The benefits of contact with nature for mental health and well-being*. Melbourne: Beyond Blue.
- 171 Kawachi, I., Kennedy, B.P., Lochner, K. & Prothrow-Stith, D. (1997). Social capital, income inequality, and mortality. *American Journal of Public Health*, 87(9), 1491-98.
- 172 Kawachi, I. & Berkman, L. (2000). Social cohesion, social capital, and health. In: Berkman L, Kawachi I (eds.). *Social epidemiology*. New York: Oxford University Press, 2000
- 173 Prezza, M., Amici, M., Roberti, T. & Tedeschi, G. (2001). Sense of community referred to the whole town: it's relations with neighboring, loneliness, life satisfaction, and area of residence. *Journal of Community Psychology*, 29(1), 29-52.
- 174 Pretty, G.M.H., Andrews, L. & Collett, C. (1994). Exploring adolescents' sense of community and its relationship to loneliness. *Journal of Community Psychology*, 22, 346-58.
- 175 Greenfield, E.A. & Marks, N.F. (2010). Sense of community as a protective factor against long-term psychological effects of childhood violence. *Social Service Review*, 84(1), 129-147.
- 176 Coley, R.L., Kuo, F.E. & Sullivan, W.C. (1997). Where does community grow? The social context created by nature in Urban Public Housing. *Environment and Behaviour*, 29(4), 468-94.
- 177 Maas, J. (2008). *Vitamin G: Green environments: Healthy environments*. Utrecht: The Netherlands Institute for Health Services Research.
- 178 Kuo, F.E., Bacaicoa, M. & Sullivan, W.C. (1998). Transforming inner-city landscapes. Trees, sense of safety, and preference. *Environment and Behaviour*, 30, 28-59.
- 179 Townsend, M. & Maller, C. (2003). *Exploration of the Health and Wellbeing Benefits of Membership of Dampier Creek Friends Group*. Melbourne: Deakin University School of Health Sciences, Melbourne.
- 180 Bartolomei, L., Corkery, L., Judd, B. & Thompson, S. (2003). *A Bountiful Harvest: Community Gardens and Neighbourhood Renewal in Waterloo*. Sydney: New South Wales Government and The University of New South Wales.
- 181 Wolverton, 1989.
- 182 Planet Ark. (2012). *Planting Trees – Just What The Doctor Ordered*. Sydney: Planet Ark.
- 183 Evans, J. (2001). In Search of Peaceful Playgrounds. *Education Research and Perspectives*, 28(1), 45-56.
- 184 Media report: 'Threat of toxic playgrounds' by Natalie O'Brien, *The Sydney Morning Herald* 22 January 2012.
- 185 Evans, 2001.
- 186 Media report: 'Schoolyard play vital for student health' by Rihanna King, *The West Australian* 26 February 2014.
- 187 Lucas, A. & Dymont, J. (2010). Where do children choose to play on the school ground? The influence of green design. *Education*, 3-13, 38(2), 177-189.
- 188 Dymont, J. (2005). *Gaining ground: The power and potential of school ground greening in the Toronto District School Board*. Toronto, Canada: Evergreen.
- 189 Lieberman, G.A. & Hoody, L.L. (1998). *Closing the achievement gap: Using the environment as an integrated context for learning*. Ponway, CA: Science Wizards.
- 190 Simone, M.F. (2002). *Back to the basics: Student achievement and schoolyard naturalization*. Masters thesis submitted to Trent University, Ontario.
- 191 Matsuoka, R.H. (2008). *High school landscapes and student performance*. A PhD Dissertation submitted to the University of Michigan, Ann Arbor.
- 192 Maller, C. (2005). Hands on contact with nature in primary schools as a catalyst for developing a sense of community and cultivating mental health and wellbeing. *Journal of the Victorian Association of Environmental Education*, 28(3), 16–21.
- 193 Han, K. T. (2009). Influence of Limitedly Visible Leafy Indoor Plants on the Psychology, Behavior, and Health of Students at a Junior High School in Taiwan. *Environment and Behavior*, 41(5), 658-692.
- 194 Dymont, J., Bell, A. & Lucas, A. (2009). The relationship between school ground design and intensity of physical activity. *Childrens Geographies*, 7 261-276.
- 195 Dymont, J. & Bell, A. (2008). Grounds for movement: green school grounds as sites for promoting physical activity. *Health Education Research*, 23(6), 952-962.
- 196 Brown, S.K. (1998). *Beating the \$12 Billion Cost of Polluted Air*. Media Release. CSIRO: Canberra.
- 197 Fjeld, T. (2002). The Effect of Plants and Artificial Daylight on the Well-being and Health of Office Workers, School Children and Health Care Personnel. *Proceedings of Plants for People International Symposium, Floriade, Netherlands 2002*.
- 198 Han, 2009.
- 199 Fjeld, 1999.



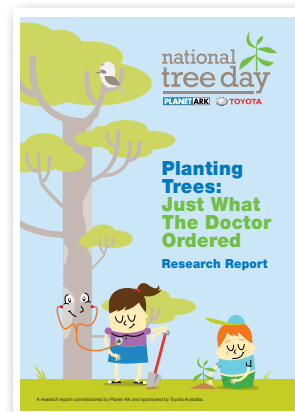
PREVIOUS PLANET ARK RESEARCH

Every year for the past three years, Planet Ark has commissioned independent surveys and produced reports in the lead up to National Tree Day, all focusing on contact with nature and outdoor recreation. The full reports and summaries of the key findings can be found at treeday.planetark.org/about/health-benefits.cfm

Planet Ark's 2011 report, *Climbing Trees: Getting Aussie Kids Back Outdoors*, explored the dramatic shift in Australian childhood experience from outdoor to indoor play over just one generation. The report was based on an independent study of Australians' attitudes, opinions, and recollections. It outlined the nature of children's outdoor play in Australia, the decline of outdoor activity in recent decades, and the perceived benefits of – and barriers to – outdoor play.



Planet Ark's 2012 report, *Planting Trees: Just What The Doctor Ordered*, delved deeper into the intellectual, psychological, physical, and mental health benefits of contact with nature for children. It combined a review of current local and international academic research in this field, as well as the results of an independent attitudinal survey that provides an insight into how Australians perceive the link between nature and children's health, wellbeing, and development.



Planet Ark's 2013 report, *Missing Trees: The Inside Story of an Outdoor Nation*, focused on outdoor recreation and contact with nature, among adults as well as children. The report outlined the results of an independent survey that explored Australians' attitudes, opinions and behaviour in regards to: the backyard and its decline in Australia; whether the great outdoors is still a key part of how we view ourselves as Australians; and whether there is a link between backyards and the amount of time people spend doing outdoor recreational activities. The report also includes references to a number of relevant external studies.



Dear Ms. Saunders, City Clerk, City of London

Attached is a petition from the home owners of East Afton Place opposing the installation of sidewalks during the reconstruction of East Afton Place this summer. Please forward this opposition to the Civic Works Committee for consideration and furtherance to City Council for decision.

Opposition to sidewalks on East Afton Place is almost unanimous. There are 12 homes on the street; 10 owners have voiced opposition (see attached petition), one is deceased with the property in estate probate, and the other is an absentee landlord who could not be contacted in time for this submission.

East Afton Place is a short dead end street. It is not a thoroughfare for vehicle or pedestrian traffic. Traffic is limited to the 12 residences on the street. Of the 12 residences on the street, the proposed sidewalk fronts on 5 residences on the south side of the street. Pedestrians from the other 7 residences would still need to use the street in order to access the proposed sidewalk. As a result, vehicle and pedestrian traffic would still need to coexist on the street, as it has for the past 60 years. Considering the negligible volume of local only traffic, many of those pedestrians might possibly continue to use the street for their journey instead of the sidewalk.

Properties directly affected by the sidewalk installation will have an approximate 50 percent reduction in driveway parking capability after sidewalk installation. This will cause periodic increases in on-street parking which creates additional vehicle and pedestrian safety concerns. There may also be an adverse impact to the value of the affected properties which will, in turn, adversely impact assessment value and tax revenue.

Since funds for capital works are always scarce, the money for this sidewalk can be better spent on other streets where vehicle and pedestrian volumes pose a far greater safety concern.

Regards,

Trevor McLeod
16 East Afton Place

As a homeowner on Tarbart Terrace for 40 years, I believe the road is fine as is. There is no need to install sidewalks on our quiet residential street. It will change the landscape in a mature area, cutting established trees and gardens. The installation of sidewalks is not cost effective. It will cost taxpayers to install and maintain the sidewalks.

The width of the street should also remain the same. It allows for easy traffic flow with plenty of street parking for visitors. There are no speed issues on our street as it is only used by residents and their guests.

Also, the street itself is in good shape, no potholes, no cracks. I don't feel the road work is necessary at this time.

Regards

Gemma Cervoni

87 Tarbart Terrace

Dear Councillor Lehman,

Thank you for inviting feedback regarding the above project.

We wish to offer our strong objection to one component of the project, namely the sidewalk proposed for the south side of St. Anthony Road.

We have resided at 1089 St. Anthony Road for over 46 years: every day when we are home we take our dog for a walk in the neighbourhood, and never have we thought that a sidewalk would be a useful addition. In fact, when we walk in to Hazelden North, we often stay on the roadside, especially in winter, because it is less treacherous than on their sidewalks.

Our view is that taxpayers' dollars could be spent much more productively on other projects. This one is a waste of our money.

Sincerely,

Brent and Marilyn Kelman

Hello,

My wife and I moved to 45 Friars Way a little over a year ago. I lived in London many years ago when I took my MBA at Western. Strolling through the mature trees in "forest city" were one of my fondest memories of my time here. In fact, it is one of the things which drew me back to London.

When we bought our home on Friars Way, the mature trees were the true selling feature of the neighbourhood and make the area lovely and unique.

I believe that everyone on our street is concerned for those lovely trees.

Please do not cut down trees on Friars Way as part of the Friars Way and Doncaster Road Reconstruction Project planned for this year.

We would rather not have sidewalks than lose this important character of our neighbourhood.

Regards,

Glenn and Carol Alexander

45 Friars Way

London, Ontario

February 16, 2021

Jay Stock
St. Anthony Road
London, Ontario
N6H 2R1

Councillor Steve Lehman
Ward 8 Councillor, City of London
314 – 300 Dufferin Ave
London, ON N6B 1Z2

RE: Opposition to Sidewalk Proposal (St Anthony Rd)

Dear Councillor Lehman,

I am writing to express my strong opposition to the proposed installation of a new sidewalk on St Anthony Road between Hyde Park Rd and Hampton Crescent.

This neighbourhood was purposefully designed over 50 years ago to sit on the former grounds of the historic Hazelden Manor. To maintain the variety of mature and specimen trees that were on the land, the community was built with features that were unique at the time including buried cables and neither streetlights nor sidewalks. These features were instrumental in my decision to live here.

In my opinion, installation of sidewalks would negatively impact the unique character of the neighbourhood by removing trees, possibly damaging other healthy mature trees, and interrupting the natural feel of the environment. I am a regular walker in the neighbourhood and have found there to be no issue in sharing the road with vehicular traffic and cyclists, who are typically cautious, slow, and respectful of other road users.

I appreciate this opportunity to voice my opposition to the proposed installation of a sidewalk on St Anthony Road, and look forward to hearing the outcome of the upcoming Civic Works Committee meeting.

Please feel free to contact me should you require additional information.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'Jay Stock', with a long horizontal stroke extending to the right.

Jay Stock

CC: Mayor Ed Holder
Elizabeth Peloza, Chair, Civic Works Committee

City of London
Civic Works Committee

Re: Proposed Sidewalk on St. Anthony Road

We are contacting you regarding our opposition to the proposed sidewalk on St. Anthony Road. Although this sidewalk does not affect us directly as our home is not situated on this strip of St. Anthony, we are unclear as to how this sidewalk meets the criteria identified under the City of London Prioritization Factors for Warranted Sidewalk Program listed on your website.

This is a mature subdivision connected by five small local roads. Those of us who have purchased homes in this neighbourhood did so knowing that there are no sidewalks and recognizing that traffic volumes are low. St. Anthony Road does not provide any "short cut" to any other destination as there are no schools, bus routes, retail or any other community centres or services that would require vehicle traffic from outside the neighbourhood. We recognize that the issue of accessibility is an important one but there is no indication that any of our neighbours do not feel safe walking on either side of the roadway. It is my understanding from talking with neighbours with mobility issues that they in fact have more safety concerns utilizing sidewalks which can be uneven or unlevel, causing issues of tripping or slipping.

It does appear from the information we have obtained from the city, that this sidewalk is one small strip, does not connect to any other sidewalks and would not really solve the issue of insuring that our neighbourhood would be "safer" for walking as it would only increase the proposed "safety" for eighteen homes. If the cost of installing the sidewalk during the warranted road construction is the City's attempt at being fiscally responsible, we question how fiscally responsible it is to be asking the tax payers of this neighbourhood to fund something that they do not want or feel would benefit their accessibility or safety in the neighbourhood.

Sincerely
Gary O'Neill
Heather Maxwell
1178 St. Anthony Road
London, ON. N6H 2R1

Dear Honourable Members of the Civic Works Committee:

I am writing in opposition to the proposal to install a sidewalk across the front of 3 homes on an 11 house cul-de-sac, being Doncaster Place, and the proposed attendant destruction of trees to accommodate it. This is a sidewalk that should not be built. It is excessive to the point of absurdity.

First of all, both the foot traffic and car traffic on this cul-de-sac are minimal. But also, as a cul-de-sac, the neighbours occupy the entire road as a mixed-use area. My own daughter scooters around in a circle on the cul-de-sac for hours a day whenever there is no snow on the ground. We had a basketball net at the end of our driveway for a while. Among neighbours, we cross the road to visit each other. We stand and talk to each other on the road. We've arranged neighbourhood parties on the cul-de-sac. In this context, the idea that people will crowd on the sidewalk is non-sensical. Why would they do that? To avoid the massive traffic flows on Doncaster Place? Overall, it is safe to say that neighbourhood residents and children will occupy the entirety of the road surface as they see fit, oblivious to the presence of a sidewalk, even if one is constructed. The presence of a sidewalk will not improve safety or usability of the public spaces on Doncaster Place one iota.

And when we consider this sidewalk in winter, and the low volume of foot traffic on Doncaster Place, this proposed sidewalk would have to be among the lowest priority sidewalks in the City in terms of winter maintenance. As a result, it would frequently be impassable in the winter months in any event. People will probably end up walking on the road in Winter anyway, which is generally maintained better and faster than sidewalks.

Overall, the idea that this proposed sidewalk will somehow enhance safety or the usability of this street is simply without foundation in fact. It is theory over reality.

And if we get into the practicalities, let's talk about the beautiful trees that add so much beauty and joy to our neighbourhood, habitat for animals, health for our community. And what about the tree the City just installed on the road allowance near my property a year or two ago? It's still a mere twig of a tree, but isn't it absurd for the City to put in a tree one year and then propose to rip it out the next? And doesn't the City of London have other, higher priorities than putting down some more concrete on an 11-house cul-de-sac?

Finally, if we are doing the storm sewers, would we not do sanitary sewers at the same time? Surely both the storm and sanitary lines went in around the same time in the 1960s when this subdivision was built out. I believe we recently re-lined the water lines to extend their life span by some number of years. What is the remaining useful life of the water lines? Are we going to be going through a major construction project in another couple of years? Or, are we putting in new storm sewers only to accommodate sidewalks and not because they are needed? In which case, not building these sidewalks means we don't need to move the storm sewers which means we can save more trees and huge amounts of money at the same time. And on the contrary, addressing only half the aged underground infrastructure now only in order to construct unwanted sidewalks seems quite wasteful and destructive. If we are going to be ripping up the whole street to accommodate a stub of a sidewalk, shouldn't we be biting the bullet and doing the sanitary and water lines while we are at it? I'm sure it would be a good opportunity for many residents to consider the state of their lateral lines, address leaks, foundation repairs, etc. I'm more than a little bit concerned that not only is the sidewalk on Doncaster Place clearly pointless and a waste of money, but even if it was useful, the entire construction project on my street will either address underground infrastructure that is perfectly fine (and if it ain't broke...), or it is intended to address only a small part of the underground infrastructure that ought to be considered for replacement and the whole project should be further developed in light of the actual best course of action for the neighbourhood. On this point, overall, I just hope this is not another case of the City installing a tree on the road allowance in front of my house one year and then proposing to rip it out the next.

In conclusion, I trust that you will take the input and views of the neighbourhood into account, including the actual context and use of our cul-de-sac, when considering the proposed project.

Yours truly,

Sheila and Will Handler

Subject: [EXTERNAL] Save Sherwood Forest Trees

I was born in London, raised in Westmount which was a new subdivision denuded of trees. I had longed to live in this northern subdivision my whole life because of the largely preserved forest in and around the home. After working 20 years, I was delighted to be able to move here and call Sherwood Forest my new home for the past 21 years. I am deeply saddened to learn that this neighbourhood is being considered to lose one of its most attractive features... The Trees. This respectable neighbourhood does not need sidewalks as residence are careful driving the streets and children as well are well schooled to stay to the sides. Even in wintertime, residence walk on the road as the portions of Wychwood that have sidewalks are too icy, so they walk along the side of the road.

Not only will Friars Way and other streets slated for sidewalks lose their stately appeal, it is not a lesson that I feel the children need to be exposed to.... 'if nature gets in your way, just take it down'. We need to preserve the mature biodiverse tree top here and plan sidewalks in fresh neighbourhood currently under development. No, no, no, to sidewalks. Or else we will need to rename our area Sherwood Saplings or Sunny Sherwood because there will be no trees shading our streets.

Thank you.

Janet L. Brown BScPT, MEd

Physical Therapist

Professor Emerata

Western University

London Ontario

My name is Richard Tribe. My wife and I bought on Tarbart Terrace about 2 ½ years ago. At the time we were looking to down size because of age and health reasons. We were looking for a small house on a quiet street with very little traffic. The house on Tarbart suited our needs. The street is quiet with very little traffic. People do walk on the road and many have dogs. They walk on the road because it is a pleasant area to walk that is safe. Recently my wife was talking to young man walking his dog. He said that he walked on this street because it was a pleasant area and safe. He went on to say that he was walking on a sidewalk and fell and injured himself. He therefore, preferred to walk on the road.

About the first of Feb. we received a notice in the mail titled Tarbart Terrace Watermain Replacement Project dated January 25, 2021. Contained in the proposed work details were 2 words “New sidewalk” with no further explanation. I contacted Gage Gonyou, Project Manager, and was shocked to find that a sidewalk was to be installed for the entire length of Tarbart on the south side. This the first we had heard of the sidewalk although it had been planned for some time. As neighbours began to understand what was happening, they started to become concerned. Given the short time to respond, the fact we are in the middle of a pandemic and in the middle of winter the only logical action was to circulate a petition. That petition was delivered to your office on Feb. 15. As a participant in conducting the petition I was privy to many of the comments as we went around. Some of these comments can be summarized as follows:

- The sidewalk is not needed or required.
- Safety has never been and is not now an issue on this street.
- The installation of a sidewalk would significantly damage the overall appearance of Tarbart Terrace.
- Home values would be negatively impacted.
- It is a complete waste of taxpayers’ money.

It is interesting to note that the only person that uses a wheelchair is **not** in favour of a sidewalk.

I recently asked Gage Gonyou why a sidewalk was to be installed when it is not needed or supported by the homeowners. He stated that it was a requirement under the Accessibilities for Ontarians with Disabilities Act. I searched the web for any such reference under the act and could not find any. If there is such a requirement, I would be interested in receiving a copy so I can understand it. I also asked how the installation of a sidewalk enhanced the streetscape. I did not get an answer to my question.

I used to live in Merrickville and have remained in touch with old friends. It is interesting to note that Merrickville is in the process of removing sidewalks on streets that are not busy. The reason given is to reduce cost, mainly for snow removal and improve appearance.

It is obvious that there is over whelming support for not installing sidewalks and that portion of the project must be cancelled. I understand that this is on the agenda for the March 2 council meeting. Because of COVID 19 I will not be attending as I am considered high risk {over 80 with type 1 diabetes}. I am, however prepared to discuss this matter with you or any other member of council. My contacts are as follows:

Address 182 Tarbart Terrace N6H 3B2

Dear Chair and Members of the Civic Works Committee,

I am concerned about the current proposal for Friars Way / Sherwood Forest in the 2021 Infrastructure Reconstruction Projects. The current project would include a replacement to the catch basin, along with resurfacing and the installation of a sidewalk on the north side of Friars Way. In order to install the new sidewalk as part of the Renew London Construction Program, 30 trees on the north side of Friars Way will be cut down. However, the most recent plan provided by a city technologist actually shows EVERY SINGLE TREE on the north side is slated for removal. Half of the canopy will be cleaved. This is a tragedy – these trees are critical to our neighbourhood and well-being. Although there are mitigation strategies identified, such as installing new trees, a sapling and a 50 year old tree are not comparable in their productive benefits. In a Toronto study, in order to replace a 100 year old beech tree, we would need to plant 1000 saplings with a crown of 1 m across to replace that beech tree.

My house backs onto to Wonderland Road – a 4 lane arterial road. The trees filter the pollution from the road – a road which sees up to an average of 40,000 cars a day, while providing much needed shade from the sun in the summer in our urban heat island. It will have a broad impact on water quality, erosion, biodiversity, mental health and well-being: what we lose beyond the tree itself is staggering. Every tree counts.

In my conversations with fellow Londoners, no one could support the clear cutting of the trees – this is a sentiment that stretches beyond Sherwood Forest to all corners of the city. The current proposal pits trees against sidewalks. It is a not a fair bargain. It behooves the Committee to consider different approach – one that does not pit people against each other and their competing interests but one that marries both interests together. People with disabilities are not a homogenous group – they also have competing needs. A sidewalk does not guarantee safety for all.

I would like the committee to consider referring the matter back for further consultation with the community and the Environmental & Engineering Services for a design that serves all of our needs rather than simply being a blunt instrument for policy. I would like to see a context-specific design that preserves the trees while providing complete streets for accessibility, safety and active transport. The current design proposal falls short. In the **Healthy City Active London** report, street trees are integral in the design to facilitate active transportation. Are there other models and designs that we can consider, one that allows London to innovate beyond more grey and more concrete? I would be happy to see a shared road approach that privileges pedestrians and cyclists over cars with a clearly demarked path. If our biggest threat to safety is the car, then I would rather see more “punitive” approaches to the car – further speed limit reductions, street parking reduced to one side, and/or Friars Way becoming a one-way road. A combination of these methods, while preserving our trees would be a win for everyone.

Sincerely,
Lilianne Dang
107 Friars Way

Mayor Ed Holder
City of London
314-300 Dufferin Ave.
London, Ontario N6B 1Z2

Councilor Steve Lehman
Ward 8
City of London
314-300 Dufferin Ave.
London, Ontario N6B 1Z2

JAN 19 2021

February 15, 2021

Dear Sirs:

PROPOSED SIDE-WALK ALONG THE SOUTH SIDE OF PART OF ST. ANTHONY ROAD

We have recently become aware of the intent of the City during this coming summer to reconstruct St. Anthony Road in the Old Hazeldon subdivision to the south of Riverside Drive from Hyde Park Road to Hampton Crescent in order to repair the road (ref: <https://london.ca/living-london/roads-sidewalks-transportation/road-construction> , visited February 14, 2021).

We understand that as part of the reconstruction, there is the intent to install a sidewalk along the city easement on the south side of the road between Hyde Park Road and Hampton Crescent as part of the New Sidewalks Program.

We are concerned that (a) to the best of our knowledge there appears to have been no environmental assessment done with respect to tree removal and damage to adjacent shrubbery, and shared with all residents in this subdivision, (b) that the sidewalk will start and terminate without contiguous connection to any other existing sidewalk, (c) that the additional cost will add an unnecessary burden to our already very high city taxes.

One of the important attractions living in this sub-division, is the presence of mature trees that offer shade during times of heat, as well as being a refuge for birds and other wildlife. Following wholesale removal of such trees, we observe from experience elsewhere that it will take many years to recover this habitat, assuming the city re-plant saplings adjacent to the new sidewalk in line with the current mandate to maintain and perhaps enhance tree cover.

Locating the proposed sidewalk on the south side will result in the surfaces remaining in an icy state in winter for longer than would be the case if it was on the opposite side of the road, and further away from the shade of the houses and remaining trees.

We walk daily through this quiet sub-division and also into the newer Hazeldon North subdivision, where sidewalks exist. In winter, we find that even with the use of the small snowplow units used by city road maintenance crews, the removal of snow is imperfectly done and in consequence surfaces often become very icy after a day or so. This outcome makes it safer to walk along the roadway where road traffic combined with city snow clearance has rendered the surface less slippery. At other times, we have found that adjacent tree roots frequently displace the concrete sidewalk slabs upwards. We observe that the city road maintenance efforts to regain a horizontal surface by shaving back the uplifted concrete edges is often ineffective, so that trip hazards remain or reappear as the combination of root growth and frost heave continues. We therefore conclude that new sidewalks as they are presently constructed and likely to be maintained, are not of benefit to our sub-division.

Notwithstanding our objections to sidewalks as constructed and maintained, we do not understand why there is a need to install this isolated sidewalk when there is a far greater need for one to be located down Hyde Park Road south of Riverside Drive, a far busier road.

If there is money to be spent on pedestrian aids, we propose diverting some of the funding allocated for the new sidewalk to provide a controlled road crossing where the frequently used and city-maintained passage leading from Hazeldon North meets Riverside Drive, and where pedestrians need to cross to access the west end of St. Anthony Road. This crossing is close to a sharp bend to the right in Riverside Drive, when viewed facing east. In consequence, fast-moving vehicles only become visible to pedestrians when they are less than 5 seconds away from them (many cars and trucks travel at speeds in excess of the current 50 km/hr limit). On more than one occasion, we have observed vehicle shunt collisions to avoid pedestrians attempting to dodge rapidly appearing traffic when crossing. At present, there is no pedestrian-controlled crossing between the traffic signals at the Riverside/Hyde Park and Riverside/Sanatorium junctions, a distance of more than 1 km, which is an excessively long detour for pedestrians to manage routinely, especially in inclement weather. Importantly, having that crossing would be safer for children accessing both John Dearness public school and St. Thomas Aquinas Catholic school, both located within a short walkable distance.

We therefore request that you, together with the other councilors, revisit the current policy regarding sidewalk installation as it appears both inflexible to resident desires and seems also to be an unwanted extravagance, given the current severe drain on budgets as the result of the ongoing COVID-19 pandemic fallout.

Yours sincerely



Jolyon and Sylvia Mitchell

1154 St. Anthony Road

SIDEWALKS AND TREES: IT DOESN'T HAVE TO BE EITHER/OR

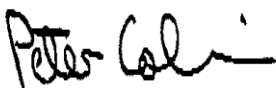
Many people complain about the hyper-polarization of politics. It is easy for people to criticise others [e.g., in the U.S.] for being extremely divided and to criticise those who reflexively disagree with their opponents, almost regardless of what is being discussed. It is harder for people to realize when they themselves are engaged in this same, zero sum game.

I'm guessing that many would agree that both the accessibility advocates as well as the environmental advocates have very good arguments [I leave these arguments to others to present]. However, because our politics has been so poisoned by this culture of needing to declare loyalty to one side or the other, we split into camps, gearing for battle with the other side. It doesn't have to be this way. There is a win-win solution if we would just slow down, think out of the box instead of feeling forced into sides or boxes, and work together and not at odds from each other.

Being a psychologist and an environmentalist, I care about trees, and about people! It is my opinion that those with mobility issues should have good access to the outdoors, also believing that we should not cut down trees in order to put in sidewalks, that each one of us has a strong moral obligation to do our part to limit climate change. **ONE POTENTIAL SOLUTION** is to make parking available on only one side of the street, make the street one way, and dedicate about a third to a half of the street width to pedestrian/wheelchair traffic. With proper signage and markings on the street [surely a much less expensive solution than building and then maintaining sidewalks], not only would trees be saved, but people with mobility issues would not have to navigate up and down driveway curves, would have a wider area in which to move, and would not have to deal with cracks and damaged sidewalks, which I am assuming happens more often than on streets. And even if there is a crack in the street, given the width of the area dedicated to pedestrians and wheelchairs, there would be a greater chance of being able to navigate around the crack, than on a sidewalk with cracks. This solution might also encourage everyone to make more use of this shared public space, and make neighbourhoods even more desirable and inviting.

With respect to my neighbourhood, Sherwood Forest, there are significant limits to how wheel chair accessible this neighbourhood could ever really be, even with a dedicated pedestrian or wheelchair lane, given its extremely hilly nature. Further, my understanding, that not one elderly person living in Sherwood Forest [and there are many] has come out in favour of needing more sidewalks [though overlapping, I appreciate that the needs of those using wheelchairs compared to some elderly individuals who have limited mobility are not necessarily identical], and in my memory, that no accidents between cars/pedestrians have occurred on these streets, speaks to the idea that the status quo is probably working. However, appreciating that perception is important even if something appears to be working, we should still strive to make it better and to make even more people comfortable, so that more people can feel that their concerns are being taken into account. On the other side, perhaps a certain amount of NIMFY [Not In My Front Yard] thinking might be part of the motivation for some in this debate, a self interested not wanting their property values, or even just the aesthetics of their property, to be impacted by a loss of front yard trees, which might also be fair enough. Regardless of these possibilities **we should not lose sight of trying to build a city known for prioritizing both the needs of those who have been historically poorly served, as well as the environment.**

I am not an engineer, leaving those details to others. However, I am certain a way can be found to accommodate both sides. If more time is needed to do this, so be it, so that we do it right.



Peter Cobrin -185 Wychwood Park Drive, London, Ontario

FEB 22 2021

BARTLETT CRESCENT, LONDON ONTARIO

RECAP OF PETITIONS OPPOSED TO A SIDEWALK

EAST SIDE:

THERE ARE 14 HOMES ON THE EAST SIDE OF BARTLETT CRESCENT INCLUDING 2 HOMES WITH CORNER /CURB LOTS AT BARTLETT AND KINNEAR

31 ADULT SIGNATURES WERE RETURNED FROM THESE 14 HOMES

100% PARTICIPATION.

100% ARE OPPOSED TO A SIDEWALK ON EITHER SIDE OF BARTLETT.

WEST SIDE:

THERE ARE 19 HOMES ON THE WEST SIDE OF BARTLETT CRESCENT.
31 ADULT SIGNATURES WERE ALSO RETURNED FROM THESE 19 HOMES.
WE WERE UNABLE TO CONTACT ONE HOMEOWNER.

18 OUT OF 19 PETITIONS WERE SIGNED.

94.73% PARTICIPATION

94.73% ARE OPPOSED TO A SIDEWALK ON EITHER SIDE OF BARTLETT.

COMBINED:

Petitions were dropped off at 33 homes

Petitions were returned from 32 homes

62 Signatures obtained, all against a sidewalk on Bartlett Cr.

We were unable to contact 1 resident

96.9% of residents are opposed to a sidewalk on either side of Bartlett

0% in favour

Prepared on behalf of all neighbours affected, by
Darlene Cuthbert 75 Kinnear Cr. at Bartlett London ON N6K 1V9

Homes Located on East Side - Corner/Curve Lots - Bartlett and Kinnear:

92 Kinnear Crescent 2 Adult Signatures

75 Kinnear Crescent 3 Adult Signatures

Homes Located on the East Side of Bartlett Crescent:

20 Bartlett Crescent 4 Adult Signatures

24 Bartlett Crescent 2 Adult Signature

28 Bartlett Crescent 1 Adult Signature

32 Bartlett Crescent 1 Adult Signature

36 Bartlett Crescent 2 Adult Signatures

40 Bartlett Crescent 2 Adult Signatures

44 Bartlett Crescent 2 Adult Signatures

48 Bartlett Crescent 3 Adult Signatures

52 Bartlett Crescent 3 Adult Signatures

56 Bartlett Crescent 3 Adult Signatures

60 Bartlett Crescent 2 Adult Signatures

64 Bartlett Crescent 1 Adult Signature

TOTAL # OF HOMES 14. OPPOSED 14/14
EAST SIDE - SIGNATURES AGAINST = 31

Homes Located on West Side of Bartlett Crescent

3 Bartlett Crescent 2 Adult Signatures
7 Bartlett Crescent 1 Adult Signature
11 Bartlett Crescent 1 Adult Signature
15 Bartlett Crescent 2 Adult Signatures
19 Bartlett Crescent 2 Adult Signatures
23 Bartlett Crescent 2 Adult Signatures
27 Bartlett Crescent 2 Adult Signatures
31 Bartlett Crescent 2 Adult Signatures
35 Bartlett Crescent 2 Adult Signatures
39 Bartlett Crescent 1 Adult Signature
43 Bartlett Crescent 1 Adult Signature
47 Bartlett Crescent 2 Adult Signatures
51 Bartlett Crescent 2 Adult Signatures
55 Bartlett Crescent 2 Adult Signatures
59 Bartlett Crescent 2 Adult Signatures
63 Bartlett Crescent *Unable to Contact*
67 Bartlett Crescent 2 Adult Signatures
71 Bartlett Crescent 1 Adult Signature
75 Bartlett Crescent 2 Adult Signatures

TOTAL # OF HOMES 19. TOTAL OPPOSED 18/19
UNABLE TO CONTACT 1 NEIGHBOUR

Dear Sirs,

In November 2019 the City of London wisely declared a climate emergency. In light of this, it is imperative that all decisions made at a municipal level be made through the lens of climate mitigation.

I am therefore asking for your action to halt tree removal for sidewalk installation as the default approach to achieving accessible communities. Trees are vital and every effort should be made to preserve them. Instead, I ask that you work with affected communities to find better options. This might include traffic calming, for example, to make streets safer, cut carbon emissions and save the trees that are essential for mitigating climate extremes.

In July 2019, over 1000 youth including my own protested in London's very streets to require climate action here in the Forest City. Let's honour our duty to our children to leave them a livable world and hopefully a cleaner, safer environment. The weight of the world is on their shoulders. Preserve the Sherwood Forest trees and work on a more sensitive design that showcases the city's real commitment to its Declaration of Climate Emergency.

Sincerely,
C. Cartman and A. Lim

Submission Re Sidewalk Exemption for Friars Way and Doncaster streets

Dear CWC Members and Councillors of the City of London;

Thank you for your service to our community. We appreciate it, particularly in this period of heightened pandemic stress when we have all come to appreciate how very important our community, and neighbourhood, is to us.

I am writing today to ask your consideration regarding the Sherwood Forest sidewalk matter (specifically Doncaster Place, Doncaster Avenue and Friars Way).

I have only recently become aware of the sidewalk proposal. The residents of Doncaster Avenue did not receive any City notice of the proposal so I am hoping to provide this input to you directly as a long time resident who walks on these streets daily.

Our family has lived on Doncaster Ave for over 30 years. Most of our neighbours are likewise long term residents. It is not uncommon in our neighbourhood to see houses passed down through generations as we are extremely attached to our surroundings in Sherwood.

I know other areas prize their historic buildings (such as Woodfield) and celebrate other aspects of their neighbourhoods, but for the residents of Sherwood Forest, it has always been our mature trees, surrounding nature, and the Medway Valley ESA. We cherish our rare boulevard trees and the design of our meandering streets and hilly terrain. I would encourage anyone who has not yet had a chance to visit Sherwood Forest to come for a stroll on our streets, and a hike in the Valley.

Sherwood Forest was developed intentionally to work with the contour and elevation of the Valley, to slow traffic with curvy streets, and to make sidewalks unnecessary. In their place we have a unique canopy of trees and gardens that are a showcase of the "Forest City". Just last year the City completed a replanting initiative to add some trees to augment our mature boulevard growth. We were very pleased with this City tree planting policy and feel that the neighbourhood is a true testament to London's claim of being a City that cherishes nature and forestation.

This leads me to the topic of sidewalks on Doncaster (Place and Avenue) and Friars Way. First, I want to assure you that for all the years our family has lived in Sherwood we have never encountered any issue of safety, any barrier to accessibility, or any need for a sidewalk. These are not streets that people take unless they live in the neighbourhood, and drivers have always been respectful of pedestrians, bikes, and mobility devices. It is not the chosen traffic route of anyone trying to get anywhere directly, and occupants have always respectfully shared these low speed roads without issue. There is, simply put, no current barrier to accessibility, and residents of all ages and conditions now safely travel the streets as a daily activity (often to and from our connected Medway Valley ESA).

Infact, a number of you may recall that we had a primary school for many years in the vicinity of the proposed sidewalks. That school (Sherwood Forest PS) was closed and demolished recently, a fact we still lament but one which leads to the reality that there is even less call for sidewalks now as we no longer have the neighbourhood school traffic. We had no need for

sidewalks for all the years the school was in Sherwood Forest, and certainly have no greater need now.

Another concern with adding these sidewalks where they are not wanted, is the considerable destruction of so many mature and rare trees. We have Linden trees which can grow for 100s of years and are a true gem, and rare within London. Many of the trees are located near the road because there have never been any sidewalks. Numbers were not included in the Committee Report regarding the anticipated tree losses on Doncaster (I assume as the report itself noted that it is NOT the type of street on which sidewalks are typically installed), but such losses would be substantial as Doncaster Place is a tree lined circle and Doncaster Ave has many very old, large, beautiful, trees near the current roadway. The Committee Report itself says: "being dead end court-style streets they have no connecting links to other destinations. These types of locations are normally Not considered for a new sidewalk..." and no tree loss study has been provided for Doncaster Place or Doncaster Ave. Further, the Doncaster Ave build would only be needed to attach it to Doncaster Place sidewalks if those were to proceed.

Third, and of significant concern, is the steep grade along both Doncaster Ave and Doncaster Place which would make any sidewalk trip with an assisted device difficult to impossible in the winter months. Doncaster Place is a hilly, NO EXIT, circle, that only serves the 10 or so houses on it.

More concerning is the significant grade on Doncaster Avenue. Heading downward toward Wychwood it is so steep that even cars struggle to manage it all winter. We literally cannot travel on it before the plow/sander arrives. Maintaining a sidewalk in the winter would be like maintaining a bobsled run. It will be dangerous. It just does not make a reasonable pedestrian sidewalk route given the severe incline. We have not had an accident yet as we walk on the widely plowed side of the road, but I have no doubt that trying to maintain a passable sidewalk on such a steep grade in the winter will be next to impossible, and it will expose the City to unnecessary liability because an accident is not only foreseeable, but probable. Pedestrians will be forced into the road further as no sidewalk will remain safe at that pitch all winter.

Fourth, in many places Doncaster yards are also very pitched, and are likely to require retaining walls if you continue the sidewalk along in the future. That would mean not only a significant loss of mature trees but also further destruction of lawns and root damage to the initially spared historically significant trees. We don't want our legacy to be the 'felling of Sherwood Forest'.

Fifth, the recent City policy of re-planting the neighbourhood would be in direct conflict with the policy of now destroying it in the name of introducing new, unnecessary, unwanted, sidewalks.

As Councillors you have the choice to use discretion and common sense in noting that not all neighbourhoods were constructed with the intention of adding sidewalks. That is certainly the case in Sherwood Forest. The overall wellbeing of the neighbourhood is not served by such destruction of the trees - Friar's Way will be unrecognizable. You cannot reasonably replace 100 year old trees with saplings. It will absolutely gut the home owners who are so devoted to their natural surroundings.

You have the authority to exempt streets from a blanket sidewalk policy. There is no penalty for doing so. Infact, most legislation post-dating the original build would typically be grandfathered to permit the community to be engaged in the decision making process that would alter their homes and streets so detrimentally. The traffic patterns don't warrant the need for sidewalks, and the negatives are enormous.

I want to applaud those of you who have thoroughly considered the input of the owners in other areas who have made a plea for exemption to date. I not only think it is the right approach to take legally (having practised law in London for over 30 years) but I would argue it is the morally appropriate thing to do as well. This is not "one size fits all". There is no legislation obligating you to mandate sidewalks on every street. In some cases (as on Doncaster Ave) it is arguably downright dangerous, and in reference to Friars Way and both Doncaster streets there is no current barrier to accessibility that is being resolved.

I can assure you as a resident of this block for over 30 years, with 4 children who attended Sherwood Forest school, and neighbours of all ages who safely travel by every mode of transport on a daily basis on the subject streets, that sidewalks are not needed for accessibility. We are all far safer walking on the side of these roads, and choosing our side based on facing any vehicles. Our community has been successfully sharing these roads since it was developed as "the Sherwood Forest".

I would ask you to imagine for one minute that you lived on one of our streets. And had done so for thirty years. And maybe even grew up on the street, and then bought the house from your parents (as so many have). Please, Please, don't kill our legacy trees. It is not necessary or warranted in the name of accessibility. Given the sheer grade of both Doncaster streets, I fear it is also courting a very dangerous potential outcome as someone is going to get hurt trying to navigate such a perilous sidewalk path.

I sincerely thank those of you who work to consider the community, on a case by case basis, in these matters. It is more work for you, but your community appreciates your dedication. These are not 'one size fits all' decisions and some neighbourhoods were just not developed with sidewalks in mind. They are not always warranted and can come with considerable downside.

Finally, by way of context, I would also note that Runnymede is our immediate neighbour in the Sherwood Forest, and we were very grateful when Council members exempted that street. It was certainly a cause for celebration and saved a lot of our precious area trees.

Thankyou for your time and consideration. I would be happy to answer any questions about this submission by reply email or direct line.

Respectfully,
Michele Mannering, Andrew Hynes and the extended Hynes Family

To All,

Please add my families voices as very concerned citizens from the Sherwood Forest neighbourhood in regards to the roadwork planned for spring/summer 2021.

We are a distinctive and proud neighbourhood who take great pride and care of the natural habitat surrounding us. Sherwood Forest, inside the Forest City. Kind of gives you a hint of what to expect and what drew us to this area in the first place. This is why we knowingly selected an old leaky house when we could have picked the modern conveniences of new. Why we spend too much time at home improvement stores, garden centres and watching DiY's on YouTube. And why you are hearing from us now. Because our simple desire was to be able to step outside and live among the majesty of what nature and some great city planning from long ago provided. Trees.

The benefits of trees are innumerable and immeasurable, we all know that. ReForest London knows that, Upper Thames River Conservation knows that and the Real Estate market sure knows that. I invite you to read the first line of <http://www.LiveSherwood.ca> the site of the highly city involved successful development and/or MLS 40067539. Nothing quite like a tree lined street is there? Please ask yourself why is this the first line on these listings? We have Medway Creek & Arena, shopping, a library, great schools and a world renown University, all very close by. But that is not the first thing these listings thought was important. Why? Go stand or sit yourself under one of these trees and you will have your answer.

We are not anti-development as LiveSherwood will attest. Nor are we anti-sidewalk. We live in a quiet, low density neighbourhood that is blessed to have a canopy of trees contributing to energy conservation in keeping with the London Hydro supported Tree Power Program. There are no thoroughfare roads through the areas being selected and no foreseeable increase in density. There is simply no need for sidewalks in this neighbourhood, especially at the irreversible cost to do so.

We are asking the city to remove the inclusion of sidewalks to the planned roadwork and to keep best managed practices and tree conservation at the forefront of the planning and execution of the road resurfacing activity. I am sure our community will look forward to supporting official announcements as to what cause these recovered funds were re-directed to. There are so many.

Respectfully,

John Mount, Catherine Mount, Joshua Mount
23 Linksgate Rd

Hello Steve,

My name is Lorraine McColl and I am a resident on Tarbart Terrace.

There is construction scheduled for my street this spring and part of this plan is to install sidewalks.

I have a few concerns regarding this project.

First of all the city will have to remove the three trees they planted on our property to make room for the sidewalk. I am unhappy about this prospect as the trees have finally taken hold and are starting to flourish. They are about 15 feet tall and are an excellent addition made by the city which will be undone. The removal of these trees means the city not only wasted city staff time and taxpayers' money, but also the water I invested in ensuring these trees survived. The lack of forward thinking in this situation is disappointing to say the least.

Secondly, I have a mature tree and garden that will likely need to be removed if the current measurements are used. I find it completely unacceptable to lose this mature tree, given London's vision to be a Forest City it seems counterintuitive to be removing mature trees like ours along with the three the city planted.

Thirdly, the loss of our driveway space concerns me. We utilize every inch of our driveway and to lose about 9 feet is going to pose challenges for us.

Fourth, Tarbart is not a through street and it is exceptionally quiet. Our kids play hockey and basketball on the street without concern. We don't see how a sidewalk is necessary for a tertiary street.

Fifth, I am disappointed that the city seems to be moving forward with this project without any consultation with the residents who are affected. An open dialogue about our concerns and the city's needs would hopefully allow for a mutually agreeable resolution to be reached.

I am hoping you can direct me in how to have the opportunity to voice my concern about this project before it moves forward.

Looking forward to hearing from you,

Lorraine McColl

Dear Councillor Lehman

I am writing in opposition to installing sidewalks on St. Anthony Rd, which is in your ward. I have signed a petition which I believe included the attached letter.

I have not personally received any formal notification of this plan and am unaware of any rationale for the installation of sidewalks.

We moved to this neighborhood about 8 years ago. Some of the things that attracted us to this neighborhood were absence of streetlights and sidewalks, mature trees, a quiet road that was not a thoroughfare.

We moved here into a large home that would accommodate both my family and my parents. My parents are in the 80s and no longer able to care for themselves. Both have had strokes and use walkers. In every season except winter, they routinely walk through the neighborhood.

Like my parents, many people walk through this neighborhood. We know of at least a few friends who walk through the neighborhood even though they do not live here.

To me, installing sidewalks is completely unnecessary. If you have any substantial evidence of the need for sidewalks, please send it to me.

I have never seen any vehicle speeding through the neighborhood or violating stop signs. I have never heard of any pedestrian being struck by a vehicle. I have never heard anyone in the neighborhood express the desire for sidewalks. My parents have never felt unsafe or had any issues walking using walkers.

I have seen people walking in this neighborhood at all times of the year - including winter - with no issues. I have seen cars routinely driving under the speed limit. I have seen cars slowing down and even stopping for pedestrians.

In addition to the lack of need, sidewalks would fundamentally alter the feel and beauty of the neighborhood. It would require cutting down many trees. Mature trees of the size that characterize this neighborhood should be preserved, not cut down. It takes generations for trees of this size to mature. I do not want to see this beautiful aspect of the neighborhood removed to install sidewalks that are unnecessary.

I welcome any response or feedback.

Graham Reid

I am resident of Sherwood Forrest. I have lived on the north side of Friars Way for over 20 years. I searched for a property in this very desirable neighbourhood for many months because of the beautiful treelined canopy that is made of mature trees. The three heritage trees that are in front of my house have been here for many decades and measure well over 50 cm in diameter. It is the mature trees that make Sherwood Forest what it is. Losing the unique tree canopy would likely negatively affect property values.

The crescent like curved streets make for a low traffic area that is not used as a thoroughfare. Many of the residents in the area use the quiet streets to walk their dogs and to reach the Medway trail and creek. I do not see the need for sidewalks to improve accessibility. I have not seen many people using the sidewalks that are available in this area – especially in the winter when snow and ice remains on the surface even after clearing. I do not know of anyone who wants sidewalks and is willing to give up the mature trees.

I encourage members of council to please consider what the residents of this area want when you make your decision on this project.

Professor Pamela Houghton
19 Friars Way

Dear CWC and London City Council:

My wife and I have lived in Sherwood Forest for 30 years. It's a wonderful neighbourhood and full of people who moved here because Sherwood Forest is a representative of the Forest City with all its beautiful, mature trees. We taught our daughters to ride their bicycles here. Now we're teaching our grandchildren to do the same. Even though I attached bright orange flags to their bikes, the neighbourhood has always been a safe place for kids riding on the quiet streets. It is as rare now as it was then to see speeding cars or careless drivers, indeed quite the opposite where drivers are constantly on the lookout for children on bicycles. My wife and I go on almost daily walks through the neighbourhood and the lack of sidewalks has never jeopardized our safety, both in the past and today. We see absolutely no need to add sidewalks to the streets which don't currently have one, at least at this point in time. I have seen residents with canes and walkers making their way on the roads with no indication that they felt at risk.

While we are strong supporters of accessibility and safety for all, we simply see no practical case to be made for the installation of sidewalks that will require very high up front capital costs, ongoing maintenance costs and, perhaps worst of all, removal of mature trees. While we respect all city policies, let's not blindly adhere to them without acknowledging the risk of unintended consequences. Clearly, there is an environmentally negative impact in removing beautiful, mature trees aside from the shade they provide. Clearly, installing sidewalks in areas where no past or current obvious safety or accessibility issues are present changes the look and feel of a neighbourhood aside from adding annual costs. Clearly, a mature tree canopy provides well documented ongoing emotional, social and health benefits. Indeed, our tree canopy has dropped from 25% to 21% in a short period of time which completely contradicts our Forest City moniker allowing many cities like Kitchener and Ottawa to surpass us.

Let's take some time to evaluate the reasons why an overwhelming majority of the affected areas believe that applying the city wide policy is not a good idea. Lets take time to re-evaluate our city policies including the London Plan along with other relevant and overlapping policies such as the Urban Forest Strategy and Climate Emergency Action Plan. Then, lets take our decisions based on thoughtful, nuanced, integrated, and creative approaches that are so vital in our new world.

Respectfully,

E and J Hoffman

Good afternoon

Many of the residents of this community are very much opposed to the proposed sidewalks and the cutting down of so many mature trees.

This is a needless expense, especially in these difficult times for the citizens and businesses of London, for something very few in our neighbourhood are in favour of. Just because it happens to be the City's current "policy", which could change at any time in the future (but after these beautiful mature trees have been cut down), does not mean that individual situations cannot be considered.

One of the reasons we moved to Sherwood FOREST 27 years ago was because of the trees and the quiet peaceful neighborhood. Anyone moving here is aware of and attracted to these features.

The original concept and plan for this neighbourhood never included or intended there to be sidewalks or street lights. As a result, there is a quiet traffic pattern. More sidewalks on these small streets would only encourage higher speeds. The residents love to mingle and go for walks especially during COVID when sidewalks would only force people into the road to avoid close contact on sidewalks rather than the comfortable distance on the roads.

Most of the trees are well over 60 years old. How ironic to be cutting down trees in Sherwood Forest in the Forest city during a pandemic.

Sherwood Forest Public school closed and there is no longer a through bus route so traffic is basically local.

Although we have not seen a cost estimate, surely there are better uses for municipal funds!

Thank you for your consideration.

Rob and Gail Stoddart
[26 Linksgate](#) Road

Hi

I wanted to share my experience living in Sherwood Forest (on Doncaster Avenue) since 1967.

We moved to our new house on Doncaster Avenue when I was in elementary school and I have 4 younger brothers. At that time there were a lot of young families in the neighbourhood. We never had any concerns with not having sidewalks. Now I am a senior living in the family home as the owner. I walk around the neighbourhood for at least an hour every day and meet many people walking including seniors and families with young children (in strollers or riding tiny bikes!), or groups of kids walking to school. There is no problem with not having sidewalks.

A sidewalk up Doncaster Place, a cul-de-sac, is really unnecessary.

TREES

When we first moved to Doncaster Ave there were few mature trees along the streets and the city planted many tiny trees which are now about 50 years old and provide shade and greenery. It would be crazy to cut down those mature trees to make way for a sidewalk that is just not needed.

Thanks

Lisa Seguin

73 Doncaster Ave

Hello everyone,

I am emailing you to express my deepest regret to have sidewalks installed on Abbey Rise and surrounding area

These are my concerns:

I do not personally see the need for sidewalks, I purchased my home in 2012 in this area because there were no sidewalks, I feel safe walking on the road, as there is minimal traffic and thus the accessibility issue is in fact NOT an issue. I have constantly asked why would you put a sidewalk on a road that does not connect to any feeder street and with no access to any major bus routes, **it just doesn't make any sense.**

Please also note that 3 years ago I received a request to plant a tree, sent by the City of London, I did sign up for this service and a tree was planted, this tree is slated to be removed if a sidewalk is installed, along with several other mature beautiful trees, frequently visited by several birds. **Why would we support a sidewalk to destroy these trees?**

I believe that the safety and accessibility of our neighborhood will be maintained **without** sidewalks and most importantly is the need to maintain our tree canopy and that of the City's (to offset the increasing climate change that is already upon us...flooding, tree disease, increased temperatures). Replanted young trees are more susceptible to disease and will not provide the benefits and protection we need). One only needs to review what Bill Gates is saying about our climate crisis, **WE should not be contributing to that.**

If you connect with Reforest London: here is what you learn:

The City of London has developed an Urban Forest Strategy to help guide them in planting, maintaining and protecting the trees in 'The Forest City'. Four main principles guide the development of the strategy: plant more, protect more, maintain better, and engage the community.

We the residents of this area agree strongly with this philosophy.

Please connect with me if you require any more information.

Janet

Dr. Janet Madill RD FDC
Associate Professor
Research Chair, Nutrition and Transplantation
CNTRP Researcher
Clinical Coordinator
School of Food and Nutritional Sciences
Brescia University College
1285 Western Road
London, On

Subject: Scarlett Avenue sidewalk

Our home, which we have lived in for 19 years 202 Wychwood Park is situated on a corner lot with our garage facing Scarlett and our frontage facing

Wychwood Park looking out at the new construction of houses and condos on Wychwood Park.

Scarlett is not a busy street and is quite like Runnymede in a sense, off of Wychwood and not a thoroughfare. The only traffic on these streets are homeowners coming and going from their home. It's very quiet and safe to walk these roads with out seeing many cars in motion.

It's devastating to us and the integrity of the neighbourhood to lose 2 beautiful healthy 56 year old trees or any trees for that matter. Our neighbourhood after all is called Sherwood Forest.

These trees not only beautify our property and the neighbourhood but also provide privacy and act as a noise buffer from the streets of Scarlett and Wychwood this is very important when living on a corner lot.

If the planning of sidewalks goes ahead the digging and cutting into our property will not only kill 2 of our trees but disturb the root system of a second mature White pine in the corner of our property thus killing it in the near future. Then we will have lost 3 mature privacy trees on our property which will totally be a shame to the beauty of the lot and the aesthetic of the street and neighbourhood. Thus exposing our backyard and raising the noise level.

Putting a sidewalk across the end of our driveway will have an impact on our parking space. Being on a corner lot with our driveway facing Scarlett, we already have a smaller driveway than our neighbours around us. We will now lose 5-6 feet of an already shortened drive way. Pedestrians will now be walking right up close to our parked cars which will be a safety concern for both them and us.

There are side walks in the neighbourhood and one that runs across the front of our property on Wychwood. I agree with the placements of these sidewalks as they are on the busier streets and thoroughfares.

I have walked the streets of Sherwood Forest and Orchard park for 19 years now with my dogs everyday and have never felt unsafe walking on the streets without sidewalks. Actually, the streets I much prefer as they allow me to spread out with the dogs and keep my distance from others which is very important as we have learned over the past year social distancing with Covid 19. The beauty and character of the neighbourhood is what drew us here to purchase a house 19 years ago. We had very young children at the time 4 and 6 and never did we worry about not having sidewalks on every street.

Please reconsider your planning for sidewalks on Scarlett Ave. and AbbeyRise.

Thank you sincerely,
Jill Potter



Subject: [EXTERNAL] St. Anthony sidewalk petition

As a longtime resident of Old Hazelden, I support the petition against sidewalks in our neighbourhood.

Ruthanne Frise

Dear Civic Works Committee,

I was unfortunately unable to attend the committee meeting on February 9th to discuss the proposed sidewalks on Abbey Rise and Friar's Way. However it has since come to my attention that you may be using the Accessibility for Ontarians with Disabilities Act, 2005 (<https://www.ontario.ca/laws/statute/05a11>) as justification for a city-wide policy to ensure that sidewalks are included with every road works project. I took a look at this legislation and Reg. 191/11 Part IV.1, sub-sections 80.21 to 80.31 appear to be the relevant parts:

<https://www.ontario.ca/laws/regulation/110191#BK120>

This section details accessibility requirements for building a new sidewalk or walkway, or rebuilding an existing sidewalk or walkway. However neither this section or any other part of the statute or regulation I was able to find mandates that a sidewalk is to be included with either new road construction or existing road maintenance projects. Is there another piece of legislation that lays out this requirement?

It does not surprise me that the AODA does not specify a requirement for grade-separated roadside walkways, because much like for other pedestrians, for individuals with mobility issues, sidewalks are a poor second-best option to using a safe, well-paved roadway. I expect that no-one with mobility issues wants to navigate a grade separation if they don't have to, even if the mitigating measures of the AODA are in place.

I understand that there are concerns about making repeated exceptions to city policy, however in this case I believe it is city policy that is flawed, and needs to be reconsidered. This isn't an issue that is limited to the Sherwood Forest neighbourhood, there are many streets and neighbourhoods in London that have a similarly healthy existing relationship between cars and pedestrians. I believe that continuing to enact this policy city-wide would damage that relationship, and cause long-lasting damage to the quality of life in this city.

As a final note, I'll leave you with this thought: Sidewalks are not pedestrian infrastructure, they are car infrastructure. They serve only to remove pedestrians from what should be a shared space, in order to let cars get from point A to point B more quickly.

Thanks for your time, and your careful consideration of this issue.

Mike Cole

3 Foxchapel Road

Please include this note on the added agenda for the meeting of Feb 9 regarding item 2.6.

I would like to register my objection to the plan to install sidewalks on Abbey Rise and Friar's Way. As a Sherwood Forest resident, I make frequent use of these streets for both walking and running. These are quiet streets with very little vehicle traffic and frequent pedestrian traffic. Drivers in the neighbourhood are well used to seeing pedestrians on the road, and always drive accordingly. Relegating pedestrians to a sidewalk will only serve to discourage this sense of caution, and will render the neighbourhood as a whole less safe for pedestrians.

If your goal is to make this neighbourhood more pedestrian-friendly, these actions will have the opposite effect. Please reconsider.

Mike Cole

3 Foxchapel Road

Submission Requestion Sidewalk Exemption for Friars Way and Doncaster streets

Dear CWC Members and Councillors of the City of London;

I have been privy to some of the submissions by my neighbors opposing the installations of sidewalks and would like to accentuate these concerns and add a few more.

1. I am unaware of anyone on Doncaster Ave who favors the proposal to install sidewalks. It goes without saying that I am also unaware of any community concern that that would have led to a request by residents that sidewalks should be installed.
2. Given this for starters, what is the installation cost for something that the neighborhood did not request and once hearing the plan opposes?
3. What is the cost of the removal of the trees that the city recently planted and would have to be removed in order to install the sidewalks. On our property (like most) there two such trees. In addition, what was the cost to install these trees in the first place? Add to that the cost in time and water to those of us who, at the city's request, took care of these trees once they were planted.
4. What is the projected cost (just financial for now) for the removal and damage to trees that have been a part of this neighborhood since its creation?
5. What will be the cost of the removal and damage to trees that neighbors, like ourselves have planted and nurtured since then? We have invested more than the cost of the trees.
6. Who will be responsible for and what will be the cost of the maintenance of the sidewalks if they were to be installed? Right now this is the City's responsibility with good will assistance from residents. Either way there will be a cost to residents, again for something they do not want. In order to estimate that cost we would need to know if taking care of the sidewalks in the winter is to be done by the city. The plausibility of this is another issue. Right now it would be impossible for residents to clear snow and nearly impossible for the city even with their sidewalk plows to clear the sidewalks given the size of snowbanks given the amount of snow, the height of the snowbanks once the city plows have done the streets and residences have had their driveways cleared. I can provide photos on request. If the city is not clearing the sidewalks and residents were expected to this would be a considerable additional cost to many of us, especially senior residents.
7. I understand that one of the arguments for sidewalks in this immediate area is safety. Our children have walked to three different schools in this area from Kindergarten through high school and we never had any concern about not having sidewalks in this area. None of the streets in question is a through street or a short cut.
8. Part of the logic of my opposition to the installation of sidewalks is that one of the key attractions for buying here in the first place was the country style of suburbia. Among the most significant features of this are the lack of sidewalks, the numerous and varied trees and the non-grid nature of the community. I was happy to pay more for that and now a big part of that formula could be removed. It is not an unreasonable extension to assume that this would also have a negative effect on property values. On top of that, as I have noted in a number of the points above, there are substantial costs for installation, restoration and upkeep for a project to which people living in the community are opposed.

Everyone agrees that this is a unique neighborhood and residents for decades have contributed to the maintenance and enhancement of those unique features. I hope that the powers that be will trust the people who have invested their resources, time, energy and genuine caring into this neighborhood to know what is best for it.

Respectfully submitted

Craig Boydell

Hi,

Please accept this letter regarding the implementation of sidewalks and planned Friars Way road construction and I asked that it be added to the agenda for the March 2nd meeting.

Respectfully,

Gregory Morrow

38 Doncaster Ave., London, Ontario
N6G2A3
February 26, 2021

Submission Re Sidewalk Exemption for Streets in Sherwood Forest

Dear CWC Members and Councillors of the City of London,

I am writing about the proposed plans for roadwork on several streets in Sherwood Forest – Friar's Way, Doncaster Place, Doncaster Ave, and Scarlett. On the plus side, these roads are in serious need of new surfacing and the filling of potholes. On the negative side is the proposal to add sidewalks and take down trees.

As a defender of initiatives to increase accessibility for those with mobility challenges, and of the need to address the challenges of our damaged environment, I appreciate the challenge when these two issues collide. Installing sidewalks at the expense of chopping down an important tree canopy in a neighbourhood where most streets are not thoroughfares negatively affects the health and environment for all of us.

An important way of meeting the challenge of creating a healthy environment for everyone is to preserve our trees. Sherwood Forest is an older neighbourhood with larger trees that take many years to reach their size. I was heartened when the city realized the need to plant more trees rather than remove them.

About two years ago, the city planted many trees along the streets of our neighbourhood, including both sides of Doncaster Ave. Many of these new trees, along with many older trees that take decades to grow, would be destroyed if sidewalks were to be installed. Where is the logic in investing in planting trees, only to chop them down? The main routes to shopping and schools in Sherwood Forest already have sidewalks. The remaining streets are not thoroughfares and people in this neighbourhood are not clamouring for more sidewalks. Many of us are very concerned about rebuilding our forests.

As an older regular walker, I feel safer walking on the roads than the sidewalks of our quiet neighbourhood, particularly in the winter. Sidewalk surfaces are uneven and are not cleared as well in the winter as the roads are. Providing sidewalks is no guarantee of accessibility.

Please do not install sidewalks in our neighbourhood in a one-size-fits-all approach to road repairs. Please do not chop down perfectly healthy trees that will take decades to replace. It would be such a huge step backwards in the drive toward improving our environment to everyone's benefit. Thank you for taking the time to read this letter.

Sincerely,

Ingrid Connidis

Ingrid Arnet Connidis, Ph.D.
Professor Emerita & Adjunct Research Professor
Department of Sociology
University of Western Ontario

Dear Committee Members,

Further to my email to you of February 7 regarding the plan to put a sidewalk on Doncaster Place, (see below) I have some further comments to add:

1. Doncaster Place is a cul-de-sac.
Doncaster Place is on a hill - therefore it is highly unlikely that persons with mobility issues would attempt to either ascend or descend it - even less likely to do so in winter.
2. Although some sidewalks might be cleared of snow by a Bobcat plow they are still left - depending on temperature -either icy or slushy.
Therefore, for safety's sake pedestrians will always walk on the road in a subdivision such as Sherwood Forest - even in better weather as unmaintained sidewalk surfaces are often buckled or uneven, as can be found of some areas in the Wychwood Park sidewalks, causing likelihood of tripping.
3. The short stretch of sidewalk, that takes up a short part of Doncaster Ave., planned to run from Friars Way to the corner of Doncaster Place appears to serve little purpose.
Doncaster Ave. is also on a hill.
4. As others have pointed out, London prides itself on being "The Forest City." That many mature trees would be cut down to make unnecessary sidewalks in the beautiful, quiet, leafy neighborhood of Sherwood Forest, in particular Doncaster Place and Friars Way, flies in the face of this worthy concept.

Yours sincerely,

Lorna Brooke

With Respect to Whom it may concern:

We have lived in this neighbourhood for over 22 years. One of the reasons we chose this place to live were the beautiful mature trees, they are our pride and it is what defines this neighbourhood...Sherwood Forest. We are avid walkers and if it weren't for the mature trees along the side of the road creating a protective canopy, we would have no respite from the relentless sun and heat in the summertime.

Trees are the lungs of the earth, in light of global climate change it would be a tragedy to cut down such beautiful mature trees that have taken generations to grow. Every tree counts. What is the example we would be showing our future generations?

Without our trees that line our streets, literally, going for a walk would be too uncomfortable or impossible at certain times of the day. When we walk, as we do everyday, we are so grateful for their shaded protection, to say nothing of their beauty. Under the trees, the temperature drops providing relief from the sun and ultra-violet rays.

Everyone in this neighbourhood walks and we have never required sidewalks. This neighbourhood is not thorough fare, it was intentionally designed not to be. There is just not that much traffic here that would justify such a tragic, irresponsible and reckless devastation of our beloved trees. Everyone I have talked to feels passionately against putting in sidewalks. **Fix the street but leave the sidewalks out...we don't want them or need them. We want our trees.**

The 20 year London plan should not be rigid, **but a living document to serve the needs and health of all the citizens.**

***Note:** I have included a quote from your Report to Civic Works Committee re: Municipality Councils 2019-2023 Plan under 2.3 Policy Background:
“The policy goes on to provide seven criteria, including the following: 2.6. Road reconstruction projects, **where the existing condition such as mature trees,** right-of-way widths, or infrastructure would impede sidewalks on both sides of the street.” Therefore, it is the policy of the London Plan that road reconstruction projects should provide sidewalks on both sides unless there are specific constraints that may result in it being more desirable to include one, **or in some cases, no sidewalks.** “

With dismay and deep concern,
Bill and Val Bradley

Subject: [EXTERNAL] Sidewalk on Imperial Road

Dear J Bunn,

My wife and I, owners of the property at 7 Imperial Road, are writing to register our strong opposition to the plan to construct a sidewalk on our road. Imperial Road is a short road which does not have much traffic. Most of the traffic to the subdivision to the north of us goes along Estevan road, which already has sidewalks. In order to construct the sidewalk on the west side of Imperial Road, we understand at least 16 trees will have to be removed. This would be a terrible loss, especially in London which prides itself as the Forest City.

Sincerely,
Brian and Lois McGarvey

Letter for Civic Works Committee on March 2, 2021

Re: Sidewalks on Tarbart Terrace

Hello,

I have MS with mobility issues and I have low vision so I wear 4 contacts during the day. I am told sidewalks are needed but Sidewalks will not increase accessibility.

During the spring, summer and fall I find I use the road as I can't see where the sidewalks are cracked and uneven so have tripped. During the winter, many sidewalks and paths in London are not cleared so I still find it better to use the road.

Also, you cannot replace mature trees by planting young trees. It does NOT work that way. This should be the biggest overwhelming reason not to do the sidewalks. Some of these trees have been alive longer than me. They filter our air and provide oxygen. Two very important things to all of us.

Please, please, save the money and please don't add sidewalks that are not needed, wanted and won't be used.

Thank you for your consideration,

A. J.

152 Tarbart Terr

Members of the Civic Works Committee:

Good day

My Name is Shawn Connolly.

I would like to express my opposition to the sidewalk installations in the Sherwood Forest neighbourhood.

We have a son who is in a wheelchair and installing sidewalks is not the answer to accessibility.

Sure they may sound like a great idea but I try to avoid them at all cost.

I have had to replace numerous sheared bolts on his front tires from hitting uneven pads or the interlocking brick sidewalks.

Winter time it's impossible as they aren't maintained for a wheelchair at all.

Walking on the road is the only option available for us even with the snow.

Only places in the neighbourhood there are no issues are directly in front of the schools.

Noah (my son) and I put a lot of kilometres walking around wether in our neighbourhood or elsewhere and sure accessibility is a big issue but if you are not in a chair or pushing someone around I find its hard for others to comprehend.

My solution is simple

Reduce traffic speed to 40km/hr

Remember you share the road.

Just because we don't have sidewalks doesn't mean we need them.

Thanks for your time

Shawn Connolly

40 Bloomfield Dr

Subject: Sidewalks in Sherwood Forest

We are seniors (85 years plus) and are daily walkers on the streets of Sherwood Forest subdivision. We raised four children and have lived on Longbow Road since 1964, (3rd house constructed on the street). We would like to add our concern about the proposed construction of sidewalks in the neighborhood. Our subdivision is very quiet and already has sidewalks on Lawson Road (cement) and Wychwood Blvd. (bricks). Those are the only through streets in Sherwood Forest. The sidewalks are unsafe, icy in the winter (cement) and uneven on the bricks of Wychwood Blvd. This makes walking in the streets the safest on both surfaces. We lost our bus service which adds to the safety of walking in the streets. As avid walkers and nature lovers we would like to preserve our hidden gem of a neighborhood and not add sidewalks where they are not needed.

This letter may be shared with the city committee in charge of sidewalk construction.

Thanking you in advance, we remain sincerely,

Pat and Jerry Gonser
41 Longbow Road
London, Ontario, N6G 1Y5

I'm writing to object to the planned Friars Way road reconstruction for this March/April. I have been a 68 Doncaster Place for 12 years and will be impacted by the planned road reconstruction.

I fully support our delegates who will be speaking against this plan at next Tuesday's Civic Works Committee meeting. We object to removing these beautiful trees for the installation of sidewalks that we don't want or need.

These mature trees are one of the main reasons that we decided to move to this neighbourhood 12 years ago. The mature trees are what characterizes the Sherwood Forest area as one of the most beautiful neighbourhoods in London. Doncaster Place is a quiet cul de sac with only residents driving/ walking in and out of the street - there is no through traffic.

We do not need or want sidewalks. What a horrible shame to think we are contemplating taking down these trees that have been here longer than we have for a sidewalk we don't want or need.

Many other residents have demonstrated their support through petition signing and emailing City Councillors. We currently have 182 signatures, and more continue to come in. Please reconsider this plan and save the trees and our neighbourhood.

Thank you
Katherine Haine
68 Doncaster Place
London On
N6G 2A5

This email is wrt sidewalk installation on St Anthony.

I am against this action and seek delegation status for the Special Meeting of the Civic Works Committee, to be held on March 15, 2021 at noon.

Thank you

Live life with confidence,

Erin Craven
Freedom Founder

Hello,

I would like to request delegation status for Jeff McColl, to participate in the meeting on March 15th at noon regarding the construction of sidewalks on Tarbart Terrace.

I look forward to hearing from you,

Jeff

Hi Audrey,

Thanks for contacting me. Yes, I saw that in the news and checked your website a few days ago to see if the deadline had been extended but couldn't find any information about it. I would very much like to request delegation and added to the CWC Added Agenda for approval. Appreciate the thoughtfulness!

Andrew Harris-Schulz

Subject: Re: [EXTERNAL] CWC submissions re sidewalk exemption requests

Thanks for your incredibly prompt response (especially on a weekend!!). Please let this email serve as my request for delegate status at the March 15 meeting. The reason for my separate request is that Doncaster Ave has not been individually provided with a slot and I think, along with our neighbours from Friars Way and Doncaster Place, we have some addition input that might be of value to the Council deliberations.

My thanks, in advance, of their consideration of my request to address the meeting.

Best wishes,
Michele Mannering

Members of the Civic Works Committee:

Good day

My Name is Shawn Connolly.

I would like to express my opposition to the sidewalk installations in the Sherwood Forest neighbourhood.

We have a son who is in a wheelchair and installing sidewalks is not the answer to accessibility.

Sure they may sound like a great idea but I try to avoid them at all cost.

I have had to replace numerous sheared bolts on his front tires from hitting uneven pads or the interlocking brick sidewalks.

Winter time it's impossible as they aren't maintained for a wheelchair at all.

Walking on the road is the only option available for us even with the snow.

Only places in the neighbourhood there are no issues are directly in front of the schools.

Noah (my son) and I put a lot of kilometres walking around wether in our neighbourhood or elsewhere and sure accessibility is a big issue but if you are not in a chair or pushing someone around I find its hard for others to comprehend.

My solution is simple

Reduce traffic speed to 40km/hr

Remember you share the road.

Just because we don't have sidewalks doesn't mean we need them.

Thanks for your time

Shawn Connolly

40 Bloomfield Dr

DEFERRED MATTERS

CIVIC WORKS COMMITTEE

as of February 22, 2021

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
1.	<p><u>Rapid Transit Corridor Traffic Flow</u> That the Civic Administration BE DIRECTED to report back on the feasibility of implementing specific pick-up and drop-off times for services, such as deliveries and curbside pick-up of recycling and waste collection to local businesses in the downtown area and in particular, along the proposed rapid transit corridors.</p>	December 12, 2016	Q4, 2020	K. Scherr J. Dann	
2.	<p><u>Garbage and Recycling Collection and Next Steps</u> That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, with the support of the Director, Environment, Fleet and Solid Waste, the following actions be taken with respect to the garbage and recycling collection and next steps:</p> <p>b) the Civic Administration BE DIRECTED to report back to Civic Works Committee by December 2017 with:</p> <p>i) a Business Case including a detailed feasibility study of options and potential next steps to change the City's fleet of garbage packers from diesel to compressed natural gas (CNG); and,</p> <p>ii) an Options Report for the introduction of a semi or fully automated garbage collection system including considerations for customers and operational impacts.</p>	January 10, 2017	Q2, 2021	K. Scherr J. Stanford	
3.	<p><u>Bike Share System for London – Update and Next Steps</u> That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the potential introduction of bike share to London:</p>	August 12, 2019	Q2, 2021	K. Scherr J. Stanford	

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
	<p>that the Civic Administration BE DIRECTED to finalize the bike share business case and prepare a draft implementation plan for a bike share system in London, including identifying potential partners, an operations plan, a marketing plan and financing strategies, and submit to Civic Works Committee by January 2020; it being noted that a communication from C. Butler, dated August 8, 2019, with respect to the above matter was received.</p>				
4.	<p><u>745-747 Waterloo Street</u> That, on the recommendation of the Managing Director, Planning and City Planner, the following actions be taken with respect to the application of The Y Group Investments and Management Inc., relating to the property located at 745-747 Waterloo Street:</p> <p>b) the Civic Administration BE REQUESTED to review, in consultation with the neighbourhood, the traffic and parking congestion concerns raised by the neighbourhood and to report back at a future Planning and Environment Committee meeting;</p> <p>it being further noted that the Planning and Environment Committee reviewed and received the following communications with respect to this matter:</p> <p>a communication from B. and J. Baskerville, by e-mail; a communication from C. Butler, 863 Waterloo Street; and, a communication from L. Neumann and D. Cummings, Co-Chairs, Piccadilly Area Neighbourhood Association;</p> <p>it being pointed out that at the public participation meeting associated with these matters, the individuals indicated on the <u>attached</u> public participation meeting record made oral submissions regarding these matters; it being further noted that the Municipal Council approves this application for the following reasons:</p> <p>the recommended Zoning By-law Amendment would allow for the reuse of the existing buildings with an expanded</p>	October 2, 2018	Q2, 2021	K. Scherr	

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
	<p>range of office conversion uses that are complementary to the continued development of Oxford Street as an Urban Corridor, consistent with The London Plan policies for the subject site. Limiting the requested Zoning By-law Amendment to the existing buildings helps to ensure compatibility with the surrounding heritage resources and also that the requested parking and landscaped area deficiencies would not be perpetuated should the site be redeveloped in the future. While the requested parking deficiency is less than the minimum required by zoning, it is reflective of the existing conditions. By restricting the office conversion uses to the ground floor of the existing building at 745 Waterloo Street and the entirety of the existing building at 747 Waterloo Street (rather than the entirety of both buildings, as requested by the applicant), the parking requirements for the site would be less than the parking requirements for the existing permitted uses. The applicant has indicated a willingness to accept the special provisions limiting the permitted uses to the ground floor of the existing building at 745 Waterloo Street and to the entirety of the existing building at 747 Waterloo Street.</p>				
5.	<p><u>Best Practices for Investing in Energy Efficiency and GHG Reduction</u> That Civic Administration BE REQUESTED to develop a set of guidelines to evaluate efficiency and Greenhouse Gas reduction investments and provide some suggested best practices.</p>	June 18, 2019	Q2, 2021	K. Scherr J. Stanford	
6.	<p><u>MADD Canada Memorial Sign</u> That the following actions be taken with respect to the memorial sign request submitted by Shauna and David Andrews, dated June 1, 2020, and supported by Mothers Against Drunk Driving (MADD) Canada:</p> <p>a) the Civic Administration BE DIRECTED to engage in discussions with MADD Canada regarding MADD Canada Memorial Signs and bring forward a proposed Memorandum of Understanding with MADD Canada for Council's approval;</p>	July 14, 2020	Q4, 2021	D. MacRae A. Salton	

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
	<p>it being noted that MADD will cover all sign manufacturing and installation costs;</p> <p>it being further noted that the Ministry of Transportation and MADD have set out in this Memorandum of Understanding (“MOU”) the terms and conditions for the placement of memorial signs on provincial highways which is not applicable to municipal roads;</p> <p>it being further noted that MADD provides messages consistent with the London Road Safety Strategy; and,</p> <p>b) the Civic Administration BE DIRECTED to work with MADD Canada to find a single permanent location in London for the purpose of memorials.</p>				
7.	<p><u>Street Renaming By-law, Policies and Guidelines</u> That the following actions be taken with respect to the street renaming of Plantation Road:</p> <p>b) the Civic Administration BE DIRECTED to undertake a review of City’s By-laws, Policies and Guidelines relating to street naming processes and approvals and report back to the Civic Works Committee on any recommended changes to the process(es) that would support and implement the City’s commitment to eradicate anti-Black, anti-Indigenous and people of colour oppression; it being noted that the report back is to include a review of the request set out in the above-noted petition, recognizing that, historically, the word “Plantation” has a strong correlation to slavery, oppression and racism;</p>	September 22, 2020	TBD	G. Kotsifas	
8.	<p><u>Updates - 60% Waste Diversion Action Plan Including Green Bin Program</u> d) the Civic Administration BE DIRECTED to: i) continue to prioritize work activities and actions that also contribute to the work of the London Community Recovery Network; and,</p>	November 17, 2021	June 2021	K. Scherr J. Stanford	

File No.	Subject	Request Date	Requested/Expected Reply Date	Person Responsible	Status
	ii) submit a report to the Civic Works Committee by June 2021 that outlines advantages, disadvantages, and implementation scenarios for various waste reduction and reuse initiatives, including but not limited to, reducing the container limit, examining the use of clear bags for garbage, mandatory recycling by-laws, reward and incentive systems, and additional user fees.				
9.	<p><u>Community Engagement on Green Bin Program Design</u></p> <p>That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the staff report dated November 17, 2020, related to Community Engagement on the Green Bin Program Design:</p> <p>a) the above-noted staff report BE RECEIVED; and,</p> <p>b) the Civic Administration BE DIRECTED to submit a report to the Civic Works Committee on February 9, 2021 and include the results of public input, staff recommendations to move forward and the proposed next steps for the program.</p>	November 17, 2020	Q2, 2021	K. Scherr J. Stanford	
10.	<p><u>Blue Community Project/Movement - L. Brown, Blue Community Committee - Request for Delegation Status</u></p> <p>That the request for delegation status from L. Brown, Blue Community Committee, with respect to the Blue Community Project/Movement BE APPROVED for a future meeting of the Civic Works Committee; it being noted that the Civic Administration will bring forward a staff report to coincide with the above-noted delegation; it being further noted that a communication from L. Brown was received with respect to this matter.</p>	November 17, 2020	Q1, 2021	K. Scherr City Clerks Office	