



**STAFF REPORT
ACTION REQUIRED**

Fort York Pedestrian and Cycle Bridge and Ordnance Triangle Master Plan - Status Update

Date:	December 17, 2013
To:	Public Works and Infrastructure Committee
From:	Deputy City Manager Cluster B
Wards:	Ward 19 – Trinity-Spadina
Reference Number:	p:2013\Cluster B\DCM\pw130003

SUMMARY

The purpose of this report is to update the Public Works and Infrastructure Committee on the results of a coordinated review conducted by City staff and Build Toronto of the Fort York Pedestrian and Cycle Bridge with the stated goal of delivering the bridge at a reduced cost and through its integration with area development in the Ordnance Triangle Lands.

The review included an Environmental Assessment Addendum conducted by City staff to assess various bridge alignment and structural options which featured some form of a reclining arch, as proposed in the initial design phase. Staff recommends that this EA Addendum be completed and filed on the public record in accordance with provincial regulations.

A cost review of bridge structural options based on arch design alternatives, railway corridor user requirements, and other costs has been completed based on the alignment options and the preferred alignment identified in the EA Addendum. Build Toronto and City staff have concluded that the arch bridge design and construction, and all related railway, real estate, legal and contract administration costs would still exceed the project budget of \$19.7 Million.

The timely completion of the Fort York Pedestrian and Cycle Bridge is critical to the development of the Ordnance Triangle lands and also achieves other City transportation and public realm objectives. In order to fulfill this goal, City staff and Build Toronto are recommending the development of a Design/Build process in order to achieve a high quality bridge design and complete its construction within the current budget. The

Design/Build requirements should allow for a range of design and material options and not be restricted to an arch design.

In keeping with Build Toronto's mandate to unlock the value in under-utilized lands, City and Build Toronto staff recommend that Build Toronto, as the City's agent, lead the Design/Build process and deliver the bridge as part of its Ordnance Lands development. The City will provide funding to Build Toronto from the Waterfront Secretariat Capital Budget and from Section 37 and Section 45 contributions received for the 30 Ordnance development, and from Section 37 and Section 45 contributions from the subsequent phases of the Ordnance Triangle Lands development, to a maximum of \$19.7 M. Participation in this project by Build Toronto is subject to Build Toronto Board approval.

City staff will continue to work with Build Toronto to establish the project management, financing, public consultation and procurement details for the project. Build Toronto would also be responsible for completing all required legal agreements, including rail crossing agreements, and City staff are seeking authority to negotiate and complete agreements, as may be required, to assist Build Toronto. Following completion of the bridge, the City will assume ownership of the asset.

RECOMMENDATIONS

The Deputy City Manager, Cluster B recommends that:

1. City Council assign to Build Toronto the authority to develop a Design/Build process and deliver the design and construction of the Fort York Pedestrian and Cycle Bridge as part of its Ordnance Triangle Lands Master Plan and area development in accordance with the criteria set out in this report and in Attachment 4;
2. City Council direct that funding be provided to Build Toronto for the delivery of the Design/Build process and the design and construction of the Fort York Pedestrian and Cycle bridge from the Waterfront Secretariat Capital Budget and from Section 37 and Section 45 contributions received for the 30 Ordnance development, and from Section 37 and Section 45 contributions from the subsequent phases of the Ordnance Triangle Lands development, to a maximum of \$19.7 M;
3. City Council authorize staff to negotiate and enter into an agreement with Build Toronto to have Build Toronto undertake the design and construction of the Fort York Pedestrian and Cycling Bridge on behalf of the City, and to provide for a financial contribution from the City, all in accordance with the criteria set out in this report and Attachment 4, on terms acceptable to the Executive Director of Engineering and Construction Services and the Waterfront Project Director, and in a form acceptable to the City Solicitor, and that the appropriate City staff be authorized to execute the agreement on behalf of the City;

4. City Council grant authority to City staff to negotiate and enter into any required agreements, including rail crossing agreements, with property owners and/or affected railway companies, as required to permit the construction, maintenance and use of the Fort York Pedestrian and Cycle Bridge, on terms acceptable to the Executive Director of Engineering and Construction Services and the Waterfront Project Director, and in a form acceptable to the City Solicitor, and that the appropriate City staff be authorized to execute any required agreements on behalf of the City;
5. City Council grant authority to the City Solicitor, in the event that acceptable crossing agreements cannot be negotiated, to undertake an application to the Canadian Transportation Agency under the Canadian Transportation Act, to obtain permission from the Agency for the construction, use and future maintenance of the Fort York Pedestrian and Cycle Bridge; and
6. City Council request the Deputy City Manager Cluster B and Build Toronto staff to report back to Public Works and Infrastructure Committee prior to contract award if the Design/Build Project Steering Committee identifies concerns regarding the delivery of a high quality architectural design or if the price exceeds \$19.7 million.

FINANCIAL IMPACT

Financial impacts to the City associated with this report involve the City contribution up to a maximum of \$19.7 M for a Design/Build process to be led by Build Toronto that completes the design and construction of the bridge and its transfer to the City.

Current funding of \$19.7 M for the Fort York Pedestrian and Cycle Bridge is included in the Waterfront Revitalization Initiative 2013 Approved Capital Budget and 2014-2022 Capital Plan (Transportation Initiatives) in account CWR003-12.

A total of \$2.1 M in Section 37 and Section 45 funds have previously been committed to the bridge and park through development of the lands at 30 Ordnance Street. Any future residential development on the lands at 11, 25 Ordnance Street and 45 Strachan Avenue would result in an increase in the current allowable residential density, which is zero; such development would trigger the requirement for community benefits, at an as yet undetermined amount, to be provided to the City and secured through a Section 37 agreement. The expectation for these future development phases, based on the contribution received to date, is estimated in the approximate range of \$3-5M.

Should Council direct staff to pursue the Design/Build approach detailed in this report, it is anticipated that the City's financial contributions regarding the delivery of the bridge will be further offset by the payment of these future Section 37 contributions. Staff, in consultation with the Ward 19 Councillor, would discuss the manner in which these Section 37 contributions, in the form of either cash contributions or the delivery of capital

facilities, will be allocated. The details regarding these contributions would be contained within a final report regarding the applications at 11, 25 Ordnance Street and 45 Strachan Avenue. A final report on this development is targeted for late Q2 2014.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY AND BACKGROUND

The following details the history, including staff reports, of the Ordnance Triangle master planning process and the Fort York Pedestrian and Cycle Bridge. A Fort York Ordnance Lands Area Context is included in Attachment 1. A more detailed Ordnance Lands Context Plan is provided in Attachment 2.

Ordnance Triangle

30 Ordnance Street

On June 8, 2010, City Council approved an Official Plan Amendment for the neighbouring lands at 30 Ordnance Street to permit residential uses and encourage the development of 2,230 m² of non-residential uses prior to developing residential uses. <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2010.PG38.1>

On February 6, 2012, City Council approved a rezoning application for 30 Ordnance Street to permit a mixed-use development comprising two residential towers with heights of 27 storeys and 32 storeys, and 2,229.6m² of non-residential uses. An indexed \$2,000,000.00 contribution for the construction of the Fort York Pedestrian and Cycle Bridge was secured through a Section 37 Agreement under the Planning Act. <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.TE12.6>

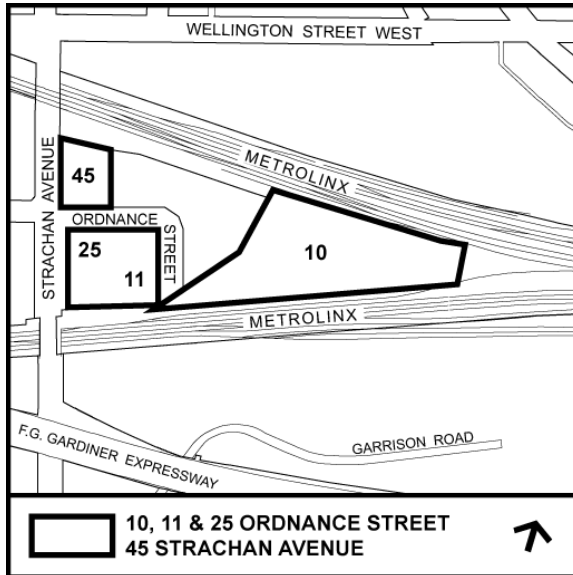
On May 16, 2013, Diamondcorp, the developer of the lands at 30 Ordnance sought variances to By-law 159-2012 which permitted the above noted development of two Towers at 30 Ordnance St. The variance proposed to modify the redevelopment plan by increasing the maximum permitted building height of the 32-storey mixed use building to 35 stories and the 27-storey mixed use building to 29 stories, among other technical variances. The variances were denied by Committee of Adjustment and subsequently appealed to the Ontario Municipal Board where, supported by City Planning Staff, the Board approved the variances sought. As a condition of this approval the developer is to contribute \$100,000.00 to the City for the construction of the Fort York Pedestrian and Cycle Bridge and the related park space.

The proposed development at 30 Ordnance Street is currently being reviewed within the Site Plan Control process.

10, 11, 25 Ordnance Street and 45 Strachan Avenue

On November 8, 2012, a preliminary report on the redevelopment of the properties at 10, 11, 25 Ordnance Street and 45 Strachan Avenue to permit two mixed-use base buildings with three residential towers with overall heights of 49, 29 and 23 storeys including ground floor commercial uses, a combined total of 1,109 residential units, and a public park was before Planning and Growth Management Committee.

<http://www.toronto.ca/legdocs/mmis/2012/pg/bgrd/backgroundfile-51485.pdf>



The applications propose to amend the Official Plan and Zoning By-law to permit a mixed-use development on lands currently designated as *Employment Areas* in the Official Plan. The applications are being reviewed within the context of the Municipal Comprehensive Review and the Five Year Official Plan currently being conducted by City staff.

At the November 21, 2013 meeting of Planning and Growth Management Committee, City Planning recommended that Council convert the lands designated as Employment Areas at 11 and 25 Ordnance Street and 25-45 Strachan Avenue to Mixed Use Areas and convert 10 Ordnance Street to Parks and Open Space Areas - Parks. It was also recommended that the Garrison Common North Secondary Plan require a minimum of 1 FSI of residentially compatible employment space be incorporated into any development at 11 and 25 Ordnance Street and 25-45 Strachan Avenue. The report and appendices can be viewed here:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PG28.2>

The direction from Planning and Growth Management Committee is before City Council on December 16 and 17, 2013. At the time of drafting this report, this Council meeting has not yet occurred.

Following the conclusion of the Municipal Comprehensive Review, City Planning staff will continue to process the Zoning By-law Applications in accordance with the Council direction resulting from the 5-Year Review.

Fort York Pedestrian and Cycle Bridge

At its meeting of April 26, 2011, the Public Works and Infrastructure Committee considered the Tender Call for the construction of the Fort York Pedestrian Cycle Bridge. The lowest bid cost for bridge construction was \$22.8 M net of HST recoveries. The Committee directed staff to recommend an alternative lower cost pedestrian and cycle bridge. <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2011.PW3.13>

At its meeting of November 3, 2011 Public Works and Infrastructure Committee considered five conceptual options and their estimated costs – these options incorporated design, structural and alignment alternatives to achieve a lower cost bridge, largely through reducing the length of the bridge structure, splitting it into two separate rail crossings, and, in some options, changing the bridge alignment.

The Committee recommended the construction of the Fort York Pedestrian and Cycle Bridge with a visually appealing design consistent with either of Alternatives A1, A2, or A5 which provided an inclined arch system based pedestrian bridge consistent with the original pedestrian bridge design but at reduced costs. Options A1, A2, and A5 were estimated at \$19.7 M, \$18.9 M and \$17.9 M, respectively.

The Committee recommended that Council authorize City officials to work with Build Toronto and its development partners to incorporate the design and construction of the bridge consistent with planning objectives and in conjunction with the area development. <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2011.PW9.12>

The report was adopted by City Council on November 29, 2011. <http://www.toronto.ca/legdocs/mmis/2011/pw/bgrd/backgroundfile-42136.pdf>

COMMENTS

Planning Policy Framework

As documented in the 2009 Environmental Study Report on the Fort York Pedestrian and Cycle Bridge, a broad range of planning studies have considered the need for a community link across the two rail corridors north of Fort York, between Strachan Avenue and Bathurst Street. The desired off-street pedestrian and cycling connection would link the Niagara Street Neighbourhood north of Fort York and the Martin Goodman Trail network to the south, potential and current development parcels adjacent to Fort York, and the Toronto Waterfront Garrison Creek Trail network. A bridge structure over the rail corridor will connect Trinity Bellwoods Park, Stanley Park, Fort York, June Callwood Park, Coronation Park, and the Martin Goodman Trail, establishing

continuity from the original Lake Iroquois Shoreline to Lake Ontario through a strategic north-south open space connection.

The City's Official Plan seeks to achieve a "City of Connections" through network links between parks and open spaces, and recognizes the construction of a pedestrian bridge at this location. While no policy is contained within the Garrison Common North Secondary Plan, to which the Ordnance Triangle is subject, Map 13-3 of the Fort York Neighbourhood Secondary Plan contains a 'pedestrian bridge link' connecting the Fort York Neighbourhood and the Niagara Neighbourhood while traversing the Ordnance Triangle.

In 2001, City Council adopted the Toronto Bike Plan which included a network of bikeways- intended to create a safe, comfortable and bicycle friendly environment in Toronto, which encourages people of all ages to use bicycles for everyday transportation and enjoyment.

The development of the Fort York Pedestrian and Cycling Bridge will implement the policies of the City's Official Plan and the Bike Plan, and will respond to previous area planning studies and community consultation regarding this issue dating back to 1996. It is a priority city-building initiative.

Ordnance Triangle Master Planning Process

Fort York Bridge Ordnance Lands Coordinated Working Group

A Working Group was formed in early 2012 which included City staff from multiple divisions, the area Councillor, Build Toronto and their development partners. The Working Group was formed to consider design options and methods for delivery of the Fort York Pedestrian and Cycling Bridge integrated with the ongoing master planning and the evolution of the area development plans, as directed by Council at its meeting of November 29, 2011. Specifically, the north-south connections offered by the bridge provide additional value to the Ordnance Triangle Lands, currently served by vehicular and pedestrian access from Ordnance Street, which links west to Strachan Avenue.

Much of the Working Group's efforts focused on integration of the bridge options approved by Council in 2011 with the area development context. The Working Group review included a focus on design concepts and alternatives based largely on the A5 option - two separate bridge structures across the north and south rail corridors that would be linked by a path through an elevated Ordnance park area. The A5 option was also the lowest cost option of the three that were approved by Council. Specific development applications underway for the area included 10, 11, 25, and 30 Ordnance Street and 25-45 Strachan Avenue. The landowners within the Ordnance Triangle, including Build Toronto, in recognition of the value creation realized by including the pedestrian bridge as part of the overall Master Plan for the Ordnance Triangle, have committed to working collaboratively to help facilitate the realization of the bridge.

EA Addendum

The Working Group also provided oversight and input into the EA Addendum process undertaken to complete the EA requirements and assess the changes in structure and alignment related to the proposed lower cost options. The Addendum process has been completed and a report that includes a new preferred alignment for the bridge is being completed. The preferred alignment shifts the south end of the bridge further to the west, based on input from Fort York, Metrolinx, Build Toronto, the community and the Design Review Panel. Details of this work are included in Attachment 3.

Cost Estimates

The EA Addendum included design development and detailed consultation with Fort York, Build Toronto, Metrolinx, and other stakeholders regarding a revised bridge location, spans, configuration, grading, air rights, and supporting measures. Using unit costs based on the actual 2011 bid prices, and accounting for inflation from 2011 to a 2015 construction date, staff determined that each of the three arched bridge conceptual alternatives approved in 2011 would exceed the budget amount of \$19.7 M in total costs.

The additional alternatives developed in the EA Addendum have been estimated at \$24 M - \$30.5 M range. Details of the costs are included in Attachment 3.

New Parks

The Fort York Bridge Ordnance Lands Coordinated Working Group also created a sub-group in 2013 to consider park design options, funding and delivery. Discussions included the design of the park space at 10 Ordnance Street; at the south landing of the bridge within Fort York National Historic Site; and at the north landing of the bridge within the southern extension of Stanley Park.

The park land at 10 Ordnance Street will be delivered by Build Toronto at a ‘base park’ condition as part of its development responsibilities. A Parks, Forestry and Recreation (PFR) design process will be coordinated with the bridge design and construction process, and allows PFR to develop its business case and secure funding for future enhancements to the 10 Ordnance Street park.

The City will specifically define the developer’s contributions related to the construction of the ‘base park’ condition on the 10 Ordnance lands through an appropriate agreement to be registered on the adjacent development parcels at 11, 25 Ordnance Street and 45 Strachan Avenue, should Council approve the development applications subject to these lands.

The cost of constructing a ‘base park’ condition on the South Stanley Park Extension lands, upon which the north landing of the Bridge is located, are contained within the bridge budget.

Any improvements to the park space within the Fort York National Historic Site Garrison Common are not contained within the bridge budget and continue within the context of the Park Space Working Group meetings.

Design/Build Approach and Delivery

City and Build Toronto staff have concluded that a structural steel arch design is too costly on a per square metre basis to allow any combination of structures to be built within the available funding envelope. City staff have consulted with the original bridge architect and been advised that the original 2009 pedestrian cycle bridge design, with its inclined arches, has been so altered by changes in context and as a result of cost constraints, that it should no longer be treated as a binding vision. New lower-cost materials and structural concepts could be used to address the bridge's functional and cost requirements, while maintaining an iconic and attractive architectural presence.

The Working Group has since proceeded through the first phase of an assessment of an alternative delivery approach, referred to as Design/Build. Build Toronto has engaged Pivotal Projects Inc. (Pivotal) to advise staff on the feasibility and to map a process for completing the design and construction of the Fort York bridge within the existing \$19.7 M budget. The three phases of the Design/Build include Develop, Prepare and Implement and are shown in detail in Attachment 4.

In the traditional Design/Bid/Build process, costs are established following the creation of detail drawings, and, if higher than budgeted, the design or materials may need to be changed. A Design/Build tender process provides an opportunity to confirm that the approved design will be delivered within the pre-approved funding envelope. The Pivotal project team met with key stakeholders, reviewed context data, project costs and identified project risks and mitigation measures in assessing the merits of a Design/Build approach for the bridge.

Design/Build Criteria

Pivotal's assessment recommends that a Design/Build process for the Fort York bridge can be completed within the approved funding envelope and would need to address the criteria discussed below:

- specific measures to ensure a high quality architectural design in project proposals;
- additional flexibility in bridge design options, such that options are no longer restricted to a steel arch design;
- public engagement through the Ward Councillor;
- consultation and review by the Design Review Panel;
- proposal review and approval through a project steering committee of Build Toronto, City divisional staff, and the Ward Councillor.

Next steps in the Design/Build process are to gather as much information as possible in order to address the necessary elements, minimize risk, and assist in the formulation of the bid documents and evaluation process. This preparation phase will address criteria that include an initial draft project performance specification, a site-specific technical review, submission of the EA Addendum, a communication strategy and plan for public engagement, and discussions with Metrolinx and Canadian National railways. The implementation phase will address criteria that include the completion of the project performance specifications, including its desired aesthetics, evaluation criteria and public engagement; industry consultation and pre-qualification; tender and evaluation (to include further public consultation), review and award; construction and turn-over at completion to the City. Additional details of the Design/Build criteria are included in Attachment 4.

The contemplated schedule is to complete the Design/Build process in late 2014. This would allow bridge construction to begin in 2015, after Metrolinx has completed its work in the rail corridor, and allows for integration and possible efficiencies with the construction of the 30 Ordnance development.

In keeping with Build Toronto's mandate to unlock the value in under-utilized lands, City and Build Toronto staff recommend that Build Toronto continue to develop the Design/Build process for the Fort York Pedestrian and Cycling Bridge Design/Build process through to its completion. Previous staff reports have identified the opportunity to align construction schedules as well as use soil excavated from the site to construct berms for the bridge, which will lead to a synergy in the two development processes and potential cost savings to the bridge project. The bridge is a key piece of infrastructure for the Ordnance Triangle Lands and Build Toronto's ability to deliver a bridge of high quality design in a timely fashion achieves a sense of place, attracts investment and adds significant value to these Lands.

Section 37 and 45, and Future Condition of Approval

Sections 37 and 45(9) of the *Planning Act* give municipalities authority to pass zoning by-laws or approve Minor Variances, respectively, involving increases in the height or density of development in return for the provision by the owner of community benefits.

Section 5.1.1 of the Official Plan includes policies addressing the use of Section 37. The policies state that Section 37 community benefits may include capital facilities and/or cash contributions toward specific capital facilities and include amongst other matters, provision of affordable housing and day nursery spaces. In such cases where capital facilities are being provided, the facilities must bear a reasonable planning relationship to the increase in the height and/or density of a proposed development including, at a minimum, having an appropriate geographic relationship to the development and addressing planning issues associated with the development.

A total of \$2.1 M in Section 37 and Section 45 funds have previously been committed to the bridge and park through development of the lands at 30 Ordnance Street. Additional

Section 37 funds will be required as a condition of redeveloping the lands at 10, 11, 25 Ordnance Street and 45 Strachan Avenue. The expectation for these future development phases, based on the contribution received to date, is estimated in the approximate range of \$3-5M.

CONCLUSIONS

Build Toronto and City staff are recommending that Build Toronto develop a Design/Build process and deliver the design and construction of the Fort York Pedestrian and Cycle Bridge as part of its Ordnance Triangle Lands Master Plan and area development, to include provisions for a review of high quality architectural bridge options, a range of design and materials options, not to be restricted to arch systems, that allows for public input, the completion of all required legal agreements, and that can be built within budget.

The City will provide funding to the project up to a maximum of \$19.7 M, less contributions received from Section 37 and 45 on the full development of the Ordnance Triangle Lands. While Build Toronto would be responsible for completing all required legal agreements, including rail crossing agreements, City staff are seeking authority to negotiate and complete agreements, as may be required, to assist Build Toronto.

CONTACT

Fiona Chapman, Acting Director
Waterfront Secretariat
Tel: 416-392-8113
fchapma@toronto.ca

Frank Clarizio, Director
Engineering & Construction Services
416-392-8412
fclarizi@toronto.ca

John Mende, Director
Transportation Infrastructure
Tel: 416-392-5348
jmende@toronto.ca

Gregg Lintern, Director
Community Planning
416-392-0427
glintern@toronto.ca

SIGNATURE

John Livey
Deputy City Manager

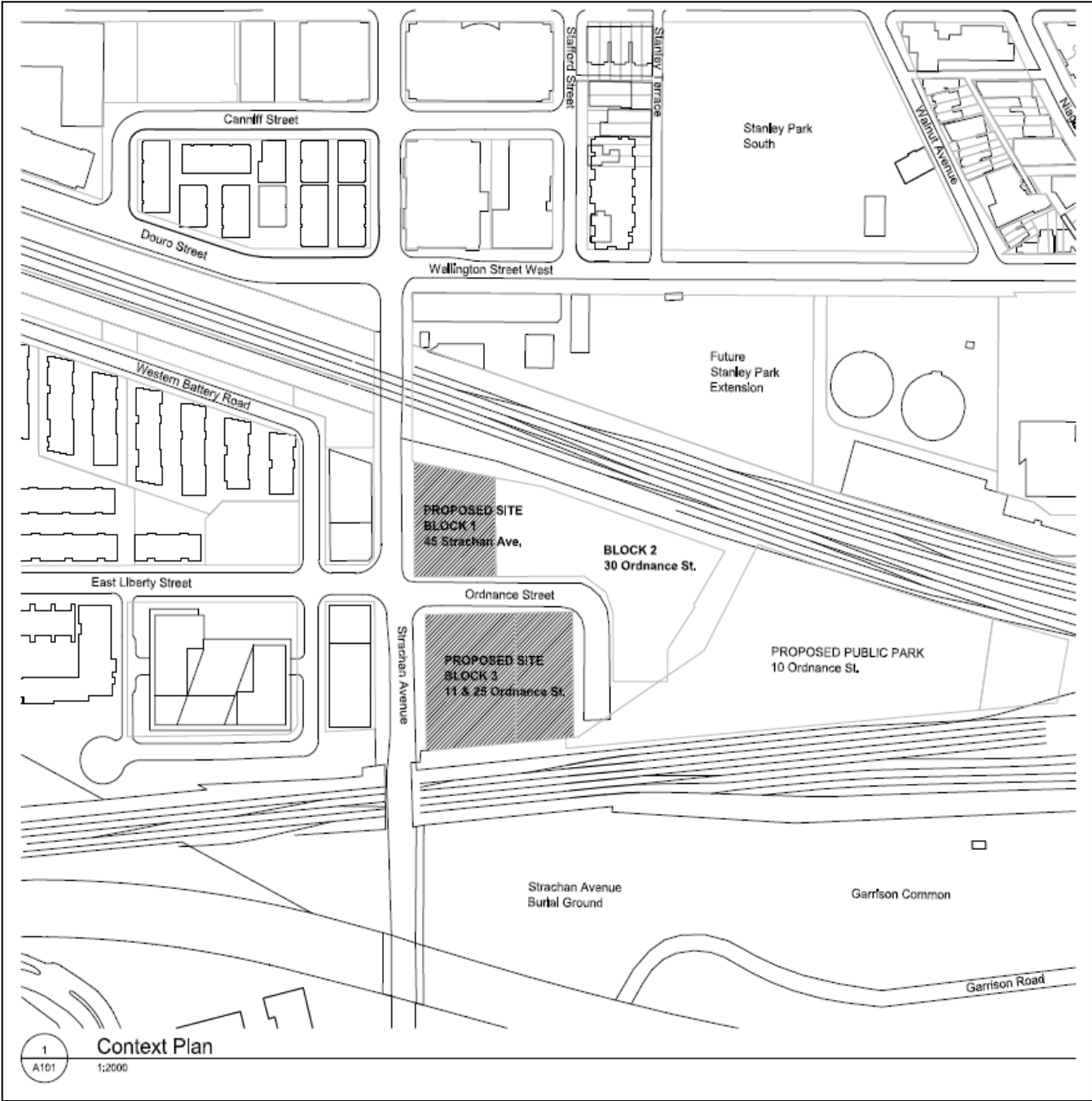
ATTACHMENTS

Attachment 1: Fort York Ordnance Lands Area Plan
Attachment 2: Ordnance Triangle Lands Context Plan
Attachment 3: EA Addendum Status - Fort York Pedestrian and Cycle Bridge
Attachment 4: Fort York Pedestrian Bridge Road Map

Attachment 1: Fort York Ordnance Lands Area Context



Attachment 2: Ordnance Triangle Lands



Attachment 3: EA Addendum Status – Fort York Pedestrian and Cycle Bridge

The City of Toronto carried out an Environmental Assessment Study in 2008-2009 for a new pedestrian and cycle crossing of two rail lines east of Strachan Avenue, linking Wellington Street with Historic Fort York. The recommended plan for a new bridge was approved by City Council in December 2009 and the Environmental Study Report was filed for public review in January 2010 and approved to proceed.

In November 2011 City Council directed City staff to maintain the original bridge design but review new alignment options to reduce costs. Given the difference in the new bridge concepts from the original EA plan, this work followed an EA Addendum process.

Bridge Design Considerations

At its meeting of November 29, 2011 City Council adopted as amended the report to Public Works Committee, Fort York Pedestrian and Cycle Bridge Alternative Design (November 1, 2011). The decision approved the construction of the Fort York Pedestrian Bridge with a visually appealing design consistent with a set of three preferred options, each of which provides an arched pedestrian bridge consistent with the original design but at reduced costs. The cost reductions were premised on reducing the total length of the structure and splitting it into two separate rail crossing structures. While the options were located within the same general area of the originally recommended plan, some did vary in their specific locations. Two through truss design concepts were not endorsed by Council.

The decision also authorized City officials to work with Build Toronto and its development partners to incorporate the design and construction of the bridge consistent with planning objectives and in conjunction with the area development. Subsequent to the 2009-2010 EA study, Build Toronto has progressed with development plans for the Ordnance Triangle. Build Toronto, in conjunction with its development partners, has indicated that there may be the opportunity to use some of its excavated material to raise the grade of the area between the rail corridors so as to serve as a link between the two structures, and to make the link accessible for Triangle users to the west. Fort York has also since updated their development plan and have confirmed the need to both locate the south landing as far to the west as possible and to minimize the extent of its intrusion onto Garrison Common. An elevated viewing platform is proposed at the south end of the bridge as it looks over Garrison Common.

Updated Alternatives

Given these new conditions, new alternative alignments were developed. The three prior preferred options as identified in the 2011 staff report did not have a south landing far enough west to support the goals for Fort York/Garrison Common. For the new alternatives developed, the north landing of the bridge is similar to the original 2009 EA recommendation; however, the south side has been relocated approximately 60 metres

further west (see illustration below of the original approved 2009 alignment and the current proposed alternative alignments). The alternatives are as follows:

- Alternative 1: curved bridge
 - 1A - inclined arch
 - 1B - vertical arch
- Alternative 2: straight bridge (straight alignment)
 - 2A - inclined arch
 - 2B - vertical arch
- Alternative 3: straight bridge (offset alignment)
 - 3A - inclined arch
 - 3B - vertical arch

Irrespective of the particular design of a bridge, the combination of a significant relocation of the south landing and the reconfiguration of the structure into two separate structures does trigger the EA Addendum process. Any of the new options would be significantly different enough from the original EA plan as to not be covered by its approval.

Public consultation is part of the Addendum process. The bridge alternatives were presented at a public meeting, held on January 31, 2013. The notion of a modified bridge plan did not trigger significant public concern.

Design Review Panel

The EA Addendum was presented to the Design Review Panel (DRP) on March 28, 2013. The following key points were noted by the DRP:

- Significant concern with the "scissor" design of the proposed south landing ramp; would like to see other designs explored.
- No significant concerns with the arch being either inclined or vertical.
- A curved bridge is preferred; a straight bridge was seen as too "utilitarian".
- A curved alignment is of greater priority than an inclined arch.
- Separating the bridge into two separate structures with at-grade access to/from the Ordnance lands improves the crossing's utility and connectivity.

http://www.toronto.ca/planning/2013/agendas/pdf/drp_minutes_28mar13.pdf

Cost Estimates

The 2009 EA-approved 202 m long bridge was designed in 2010 and estimated by the City's bridge engineering consultant to cost \$18 M. When tendered in early 2011, the low bid (of seven) was \$22.8 M for construction. The cost components in the general, civil, and electrical areas were comparable to the estimate; almost all of the difference was related to the bid cost for the structural component (the steel arches) being higher than estimated due to the uniqueness of the design and the inability to manufacture it locally.

The total cost estimate for construction and related legal, administrative and railway costs was \$26.269 M.

The five options subsequently presented to Council in late 2011 applied the lowest bid costs to a two-bridge arrangement, with reduced overall structure length of between 128 m and 160 m. Both arch and through truss designs were presented. The estimate at that time indicated that the reduction in structure length would allow any of the options to be built within the \$19.7 M funding envelope. On that basis, Council approved the construction of the Fort York Pedestrian Bridge with a visually appealing design consistent with either of Alternatives A1, A2 or A5, which provided an inclined arch system based bridge consistent with the original bridge design but at reduced costs. Applying actual bid costs per square metre to the shortened bridge yielded total cost estimates for the three conceptual alternatives recommended in the Committee report as \$19.7 M, \$18.9 M and \$17.9 M, respectively.

Subsequent EA Addendum work included design development and detailed consultation with Fort York, Build Toronto, Metrolinx, and other stakeholders regarding a revised bridge location, spans, configuration, grading, air rights, and supporting measures.

Cost estimates must account for the following:

- Longer span on north structure and associated retaining wall to allow for Metrolinx substation access road at track level
- Either a longer north span to allow for abutment offset from Metrolinx right-of-way (thereby avoiding retaining walls) or additional cost for tiebacks which allow the north abutment to coexist with the Metrolinx retaining wall
- paved path on the north end and between the two structures
- design options for the south landing, including an overlook
- Detail design
- permits and fees
- Air Rights above both rail corridors (subject to negotiation with both Toronto Terminal Railways and Metrolinx)
- new pedestrian / cyclist safety requirements associated with Metrolinx's electrification plans
- Consultation (including public, Design Review Panel, etc.) during design phase
- Construction Price Index Escalation (assumed 2.5% per year to 2015)
- Flagging, inspectors, etc. along rail corridors during construction
- 1.76% non-recoverable HST
- Contract administration
- Cost of updated geotechnical investigation due to new alignment location
- Cost for excavating and disposing soil in the vicinity of the abutments and anchors
- Stage 2 Archaeological Study, if required
- Availability of clean fill at nominal or no cost (from BT excavation)

No cost provisions for paths within the Garrison Common or for landscaping / park features north of the bridge are included. There is no special provision for art, lighting,

wayfinding, heritage, security, or architectural features beyond those incorporated in the original 2009 bridge concept. The cost savings associated with a potential mid-span pier for the north structure has not yet been fully explored with Metrolinx.

Considering all of the above factors, the total length of the two bridges increases to 185 m or more. Using unit costs based on the actual 2011 bid prices, and accounting for inflation from 2011 to a 2015 construction date, additional alternatives developed in the EA Addendum have been estimated to fall within the \$27.7 M - \$30.5 M range.

Further design refinements indicate the potential to reduce the cost to approximately \$24 M, but the investigators have been unable to find an arched bridge conceptual alternative similar to any of those approved in November 2011 that could be built within the available budget of \$19.7 M. The cost per square metre of deck of that bridge type is greater than most conventional structure types; there is considerable evidence that a more conventional bridge type could be built within the budget.

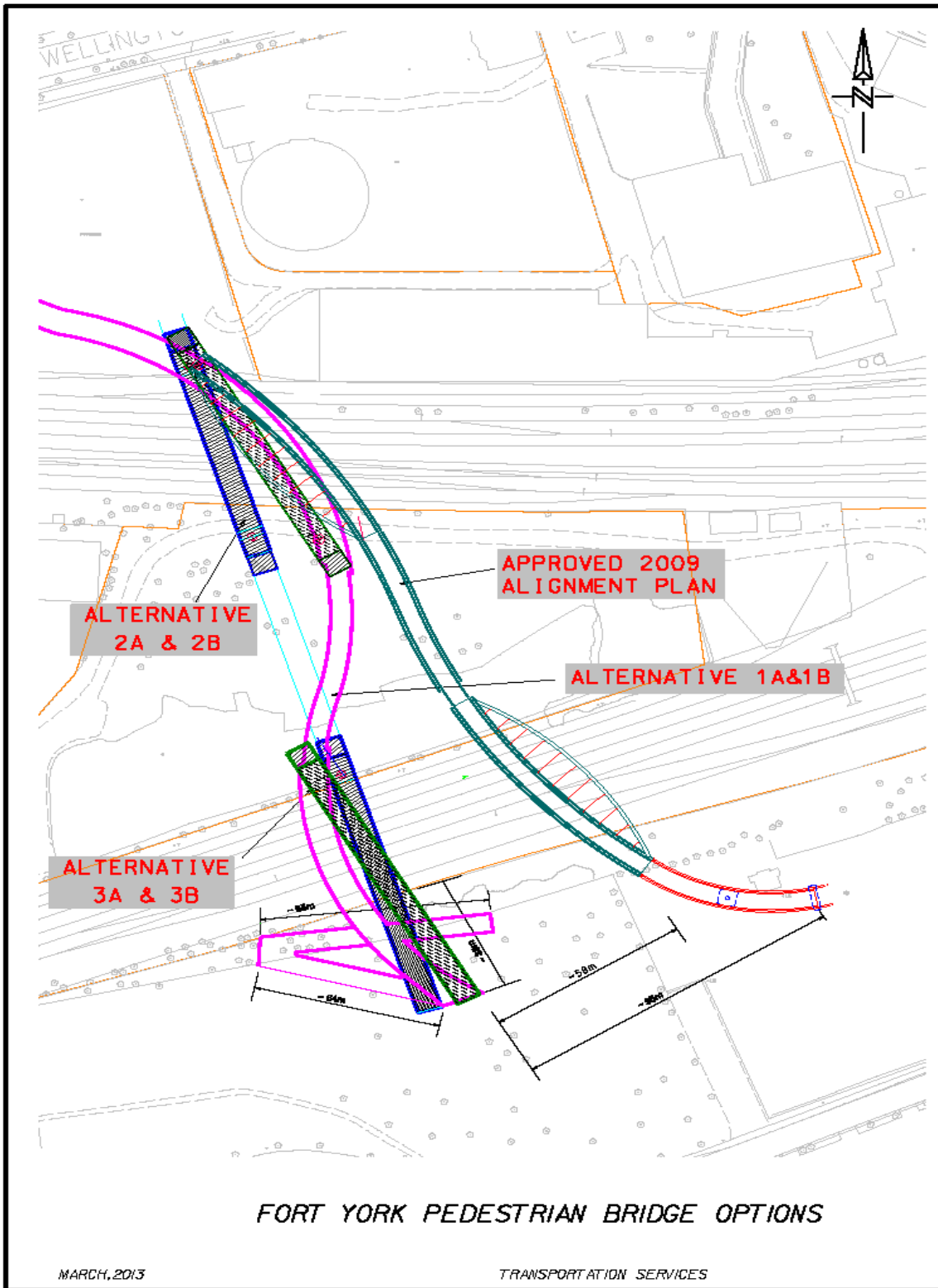
Addendum Report and Filing

Should City Council approve a Design/Build process led by Build Toronto, it will determine the type of design for the bridge in accordance with City and Build guidance and direction regarding performance specifications and EA approvals.

The EA Addendum can proceed on this basis since the type of design for the bridge does not need to be determined at the EA Addendum level. The Addendum document will focus on the recommended new crossing location, the rationale for the new location, any changes to the previously identified impacts and mitigation measures, and the consultation process. The Alternative 2 alignment is inherently the shortest, and hence least expensive, of the available options and would therefore form the basis of a recommended plan.

None of the changes identified in the Addendum process have a significant impact on the feasibility, functionality, or deliverability of the project, while the funding and delivery of the bridge by either conventional or design-build processes is not subject to the EA process. The Addendum will retain some flexibility in the precise location of the bridge landings, but will identify the full range of impacts and mitigation associated with the recommended plan.

It is important for the EA Addendum to be filed and the EA process completed in order for the design-build (or any other implementation) process to be carried out.



Attachment 4

Fort York Pedestrian Bridge Road Map

