

REPORT FOR ACTION

5. Proposed Enwave Geothermal District Energy System, Bloor Kipling

Date: June 13, 2022

To: Build Toronto Inc. and Toronto Port Lands Company (TPLC) Board of Directors

From: Chief Executive Officer, CreateTO

Wards: 3

REASON FOR CONFIDENTIAL INFORMATION

The Confidential Attachment to this report relates to a proposed or pending acquisition or disposition of property belonging to the City, or one of its Agencies, or Corporations.

SUMMARY

On April 4, 2018, the City of Toronto signed a joint development agreement ("**Joint Development Agreement**") with Enwave Energy Corporation at the direction of City Council after selecting Enwave in a competitive process aimed at finding a revenue partner to deliver district energy systems across Toronto at little risk to the City. The original approach under the Joint Development Agreement contemplated a limited partnership approach, however, after completing the necessary due diligence, it was determined that an alternative approach, using a project agreement with income participation based on a percentage of consumption charges, was a simpler and more suitable option that provides more certainty and transparency in respect of the revenue sharing, and is within the scope of Council's direction. The Joint Development Agreement provided Enwave Energy Corporation certain preferred rights in respect of opportunities for a joint development and operation of district energy systems with the City of Toronto. Such systems include a central heating and cooling plant including geothermal or other renewable energy sources that services a group of buildings through a distributed pipe network. The City's Bloor-Kipling (Six Points) site (the "**Site**"), a 17.91 acre site located in the Etobicoke Centre at the intersection of Bloor Street and Kipling Avenue is the first such joint project to be undertaken under the Joint Development Agreement. The Site is comprised of seven (7) blocks, including the new Etobicoke Civic Centre, a public park, and five (5) development blocks connected to the Housing Now Initiative. The proposed joint project to develop a low carbon geothermal district energy system for the Site will enable the development of the City's first near zero carbon community.

Enwave and CreateTO have negotiated a project term sheet ("**Project Term Sheet**") to be entered into between Enwave Energy Corporation or an affiliate ("**Enwave**") and Build Toronto Inc. or a subsidiary of Build Toronto Inc. ("**Build Toronto**") which will govern the project and revenue stream(s) generated from the real property rights granted under certain leases and/or licenses (accommodating the main district energy plant, boreholes, piping infrastructure, other district energy equipment, and other rights-of-way) and a percentage of thermal energy consumption charges while ensuring that customers will have the ability to operate their buildings at near net zero carbon emissions at a cost similar to what they would have paid over the term utilizing conventional heating and cooling systems (colloquially referred to as business-as-usual or "BAU"). A comparative study was completed by the City's consultants to determine what the business-as-usual costs would have been, which form the basis of the financial model of the project.

The Project Term Sheet will require the City, as owner of the Etobicoke Civic Centre, and developers and operators of the residential development blocks, to each sign a customer supply agreement ("**Customer Agreement**") with Enwave based on a customer term sheet ("**Customer Term Sheet**") template attached to the Project Term Sheet for the purchase and supply of geothermal energy to heat and cool their buildings. This will enable the buildings to avoid the use of gas for conventional heating and be managed with a very low level of energy consumption and near zero carbon production in accordance with the Toronto Green Standard Version 3 Tier 4 (which, as at May 1, 2022, has the same energy and carbon objectives of Toronto Green Standard Version 4 Tier 3).

The purpose of this report is to seek the Board's endorsement of the revised project model, the approval of the Board and City Council of the transaction terms, and authority for the City to finalize and enter into the agreements required to effect the project transactions. This report summarizes the terms and conditions of the Project Term Sheet and describes the next steps for the proposal. CreateTO has received bids on the first block of residential development at Bloor Kipling ("**Block 1**") and have selected a developer partner and are finalizing a lease for this block. If the required authorities are received from the Board and City Council for the district energy project, the next step for Block 1 will be to finalize and execute the document and require the selected bidder to negotiate a distinct Customer Term Sheet with Enwave.

RECOMMENDATION

The Chief Executive Officer, CreateTO recommends that the Board of Directors of Build Toronto Inc.:

1. Endorse the proposed Project Term Sheet, Project Agreement and income participation model, an alternative approach to the limited partnership approach under the joint development agreement originally approved by City Council;

2. Approve the Project Term Sheet substantially on the terms outlined in Confidential Attachments 1 and 2, subject to review of the Project Term Sheet and negotiation of the Customer Term Sheet and Customer Agreement by the City;
3. Request the Chief Executive Officer, CreateTO to transmit the Board's decision to the CreateTO Board of Directors with the request that the CreateTO Board:
 - a. Approve the recommendations in this report, including Confidential Attachments 1 and 2, subject to recommendation 2;
 - b. Maintain the confidentiality of Confidential Attachments 1 and 2 until the expiry of the Project Agreement, at the discretion of the Chief Executive Officer, CreateTO, as they relate to a proposed or pending acquisition or disposition of property belonging to the City, or one of its Agencies, or Corporations; and
 - c. Recommend that City Council:
 - i. Endorse the proposed Project Term Sheet, Project Agreement and income participation model outlined in this Report;
 - a. And Authorize the Executive Director, Corporate Real Estate Management, or designate, to negotiate and enter into a Customer Term Sheet and a Customer Agreement between the City of Toronto and Enwave Energy Corporation or its affiliate to provide heating and cooling to the Etobicoke Civic Center, based on the terms and conditions in Schedule "B" of the Project Term Sheet that are acceptable to the Executive Director, Corporate Real Estate Management and in a form satisfactory to the City Solicitor;
 - b. And Authorize the Executive Director, Corporate Real Estate Management to provide all City payments required by the executed Customer Agreement and the executed Project Agreement, including without limitation the Upfront Payment for Hot and Chilled Water, the Fixed Charge for Hot and Chilled Water, and the Consumption Charge for Hot and Chilled Water, all as further described in this report with subsequent payments to be made to Enwave Energy Corporation on a payment schedule agreed upon by the City and Enwave Energy Corporation;
 - ii. Authorize the Deputy City Manager, Corporate Services, or designate to negotiate and enter into such leases, licenses, easements and other agreements as may be required to convey to Build Toronto Inc. or its subsidiary such lease, license, easement or other interests as may be required to

give effect to the transactions contemplated in the Project Term Sheet and the Project Agreement, on terms and conditions acceptable to Deputy Director, Corporate Services, in consultation with the Executive Director, Corporate Real Estate Management, and in a form satisfactory to the City Solicitor;

- iii. Authorize the Deputy City Manager, Corporate Services to transfer at nominal value the lease, license, easement and other interests described in (ii) above to Build Toronto Inc. or its subsidiary.
4. Subject to adoption by City Council of Recommendation #3 above,
 - a. Authorize any two officers of Build Toronto or its subsidiary to execute a Project Term Sheet on substantially the terms outlined in Confidential Attachments 1 and 2, provided the City has finalized a Customer Term Sheet with Enwave Energy Corporation or its affiliate;
 - b. Direct the Chief Executive Officer, CreateTO to negotiate such leases, licenses, easements and other agreements with the City and with Enwave Energy Corporation or its affiliate, substantially on the terms outlined in Confidential Attachments 1 and 2, as may be required to effect the transactions contemplated in the Project Term Sheet and the Project Agreement and authorize any two officers of Build Toronto Inc. or its subsidiary to execute same;
 - c. Direct the Chief Executive Officer, CreateTO to negotiate a Project Agreement and such other agreements with Enwave as may be required to effect the transactions contemplated in this Report, on substantially the same terms as outlined in Confidential Attachments 1 and 2 and authorize any two officers of Build Toronto Inc. or its subsidiary to execute same.
 5. Direct the Chief Executive Officer, CreateTO in consultation with the Executive Director, Energy and Environment and the Executive Director, Corporate Real Estate Management and the Deputy City Manager Corporate Services, to report back to the Board of Directors in the fourth quarter of 2022 with an update on the progress made on the deal with Enwave.
 6. Direct that Confidential Attachments 1 and 2 remain confidential in their entirety until the expiry of the Project Agreement, at the discretion of the Chief Executive Officer, CreateTO, as they are about a proposed or pending acquisition or disposition of property belonging to the City, or one of its Agencies, or Corporations.

FINANCIAL IMPACT

The financial implications of this report are outlined in Confidential Attachment 1.

DECISION HISTORY

At its meeting of March 26, 2018, City Council adopted Item EX32.8, containing a report entitled "Strategic Development of Low-Carbon Thermal Energy Networks (District Energy)" authorizing the Deputy City Manager, Corporate Services to enter into the Joint Development Agreement between the City and Enwave based on the approved governance structure that envisions the undertaking of such projects in limited partnership (or similar structure) with Enwave, on such terms as may be determined and approved for each low-carbon thermal energy network project, and direct Build Toronto, or a Build Toronto subsidiary, to take the necessary steps to hold the City's interest in low-carbon thermal energy network project delivery limited partnerships (or similar structures) as required. The City decision can be found here:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.EX32.8>

At its meeting of April 6, 2022, City Council adopted Item GL29.15, containing a report entitled "Re-Assignment of New Etobicoke Civic Centre Project and Contracts from CreateTO to Corporate Real Estate Management", authorizing the re-assignment of the delivery of the new Etobicoke Civic Centre project from CreateTO to Corporate Real Estate Management and authorizing the Executive Director, Corporate Real Estate Management, to enter into certain contracts related thereto, and authorizing the Executive Director, Corporate Real Estate Management, to enter into an agreement valued at \$6,636,600 net of all taxes with Enwave Energy Corporation in order to facilitate the design of a district energy plant, as well as the design and construction of the below grade geothermal boreholes needed to service the Etobicoke Civic Centre Precinct.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.GL29.15>

COMMENTS

Background

The Joint Development Agreement contemplated that the City would invest in a limited partnership agreement or similar structure, to develop a low-carbon thermal energy network project in any of a list of nodes which are specifically identified in the Joint Development Agreement. The Bloor-Kipling (Six-Points) area is one of the nodes.

The City has recently completed a major road project at the Bloor/Kipling/Dundas intersection which involved the decommissioning of the Six Points Interchange bridges and ramps and the reconstruction of the three roads to form three, at-grade intersections and seven (7) City-owned blocks. The Bloor-Kipling (Six Points) block pattern includes:

- One block for the Etobicoke Civic Centre (Block 4)
- A new public park (Block 2); and
- Five blocks for future mixed-use development approved by City Council to be included in the Housing Now Initiative through EX1.1 (Block 1, 3, 5, 6 and 7) with a target of 2,300 residential units.

As part of this work, and in anticipation of a district energy system to service the seven (7) blocks, conduits were constructed across the roads to facilitate the connection of the blocks by a thermal pipe network.

Blocks 1, 2 and 5 have been zoned through a City-initiated zoning approval process as part of the Housing Now Initiative. City Council at its meeting of December 15, 2021 adopted item PH29.4, Etobicoke Civic Centre – City-Initiated Zoning By-law Amendment Application - Final Report and enacted the Bills for Etobicoke Civic Centre. There were no appeals and the By-laws came into full force and effect on December 17, 2021. The Etobicoke Civic Centre is approximately 480,900 square feet including the West District municipal offices, a council chamber, a library, a daycare, a recreation centre and a civic square with below grade parking.

On December 14, 2021 staff closed an RFP on the lease, development and operating of the first mixed use project on Block 1 (municipally known as 5207 Dundas Street West) as a Housing Now project. A developer has been selected and the lease terms have been approved by the Board and the City and a lease is being finalized. As part of the lease, the developer will be obligated to negotiate a distinct Customer Term Sheet with Enwave for the supply of geothermal hot and chilled water to the developer's building.

Negotiation Process

Pursuant to the Joint Development Agreement, CreateTO has engaged Enwave over the last year and a half in defining the requirements for a low-carbon geothermal district energy system. As part of this work, Enwave has determined its requirements for the system including the establishment of a central plant below grade, the DE Plant Room, in one of the blocks as well as the geothermal boreholes required on land throughout the district energy network. CreateTO also retained Borden Ladner Gervais LLP to negotiate the Project Term Sheet and Customer Term Sheet on behalf of Build Toronto and in consultation with the City. The terms of the negotiated Project Term Sheet and Customer Term Sheet are summarized in Confidential Attachment 2.

In addition, Enwave developed a series of financial models which identified the cost of constructing and installing the plant, boreholes and equipment and of operating the system based on electricity rates as they exist today. The model proposed rates for the

delivery of thermal energy to its customers. The district energy heating and cooling costs for each customer should be similar to the business-as-usual heating and cooling costs each customer would have otherwise incurred over the term based on the information provided by Build Toronto's consultants described in the following paragraphs.

In 2019, to assist CreateTO, the City retained a third party consultant that specializes in the design and operation of district energy and typical building heating and cooling systems, to undertake a study to assess business-as-usual costs for the Etobicoke Civic Centre and the five (5) Bloor Kipling residential development blocks. FVB Energy Inc. calculated the cost of constructing, installing and operating conventional heating and cooling systems in the buildings on a stand-alone basis (e.g., individual boilers and chillers in each building), which comprises the "business-as-usual costs". These business-as-usual costs formed a base line for the district energy charges to ensure that a building developer, operator, and its tenants would not be paying more under a district energy system than on a stand-alone business-as-usual basis. This method of determining district energy charges is often referred to as an "avoided cost model" as the upfront capital and ongoing operating charges from the district energy provider should be no more than the costs which a customer would pay to provide and operate traditional heating and cooling system in its buildings.

A second third-party consultant with experience in electricity rates and modelling thermal energy systems, was retained by CreateTO, to review Enwave's assumptions and financial model and identify a fair share of revenue. The specific details of the revenue model are outlined in Confidential Attachment 1.

Real Estate Rights

In order to construct and operate the district energy network, Enwave will require a lease/license to parts of the Bloor-Kipling blocks to accommodate:

- the main geothermal district energy plant located in the basement of one of the blocks, which will service all the blocks connected to it (the "**Main DE Plant**");
- an energy transfer station in each of the other development blocks;
- the boreholes, pipes, pumps, conduits, meters, lines, wires, cables and related and ancillary facilities and works to connect the DE Network across the Site, connecting the Main DE Plant to each serviced Block.

All of the district energy infrastructure above shall be collectively referred to as the "**Enwave Infrastructure**".

As at the date of this report, both the Etobicoke Civic Centre and Block 1 are in the design stages, and Enwave has provided a drawing in Confidential Attachment 1 to show the anticipated and approximate layout and configuration of the Enwave Infrastructure. However, the actual location, depth, size, measurements and other parameters of the Enwave Infrastructure are to be confirmed once the design work is completed, and it is anticipated that more detailed construction drawings and/or reference plans will be

provided to confirm this information. Pursuant to this report, CreateTO, in collaboration with Corporate Real Estate Management, is seeking City Council approval for the lease and license rights based on the information currently available while allowing for flexibility to accommodate any changes. These approvals are required now to prevent any delay in the commencement of the construction of the Enwave Infrastructure.

Next Steps

Following Board and City Council adoption of the recommendations in this Report, CreateTO will, in consultation with Corporate Real Estate Management, complete negotiations with Enwave on the Lease/Sublease, License/Sublicense and any other agreements granting necessary property rights in accordance with the summary provided in Confidential Attachment 1. CreateTO will also require the selected developer for Block 1 to negotiate and finalize a distinct Customer Term Sheet and long form agreement with Enwave.

CONTACT

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SIGNATURE

Vic Gupta
Chief Executive Officer
CreateTO

ATTACHMENTS

Confidential Attachment 1 – Summaries of Financials, Project Term Sheet and Real Estate Rights

Confidential Attachment 2 – Summary of Project Term Sheet