



Report to: General Committee

Meeting Date: May 31, 2021

SUBJECT: Contract Award for Wide Area Network (WAN) Connectivity Services

PREPARED BY: Ned Sirry, Acting Chief Information Officer, ITS x4885

RECOMMENDATION:

1. THAT the report entitled “Contract Award for Wide Area Network (WAN) Connectivity Services” be received; and,
2. THAT the contract Wide Area Network (WAN) Connectivity Services (One time - for network installation) (Recurring - WAN connectivity services) be awarded to YorkNet in the amount of \$3,628,268 (\$3,240,726 + \$387,542) inclusive of HST impact; and,
3. THAT the capital costs be funded from a new Capital account to be established and called “ITS – WAN Infrastructure”, in the amount of \$387,542 inclusive of HST impact; and,
4. THAT the new Capital account be funded from the Facility Ramp-up Reserve, in the amount of \$387,542 inclusive of HST impact; and,
5. THAT the contract for WAN connectivity services costs for 10 years be awarded to YorkNet in the amount of \$3,240,726 inclusive of HST(specific to 10GB) and be funded from 400-400-5108 with a current annual budget of \$261,259, and subject to Council approval of the 2023-2032 operating budgets in the amounts of:
 - a. Year 1 (2023) - \$ 295,959 *
 - b. Year 2 (2024) - \$ 301,869 *
 - c. Year 3 (2025) - \$ 307,914 *
 - d. Year 4 (2026) - \$ 314,092 *
 - e. Year 5 (2027) - \$ 320,361 *
 - f. Year 6 (2028) - \$ 326,763 *
 - g. Year 7 (2029) - \$ 333,300 *
 - h. Year 8 (2030) - \$ 339,972 *
 - i. Year 9 (2031) - \$ 346,778 *
 - j. Year 10 (2032) - \$ 353,718 *Total - \$3,240,726

* Rates will be adjusted annually to the Consumer Price Index (Toronto All-Items) or 2%, whichever is the greater. The table above assumes 2% escalation.

6. THAT the tendering process be waived in accordance with Purchasing Bylaw 2017-8, Part II, Section 11.1 (g) which states “where it is in the City’s best interest not to solicit a competitive Bid;” and Section 11.2 (c) ‘Where Quotations may not be

- required for goods and services when provided by “Provincial and Federal government agencies or Crown corporations; and,
7. THAT the Chief Administrative Officer and Commissioner, Corporate Services be authorized execute any required documentation in a form satisfactory to the City Solicitor; and,
 8. THAT YorkNet be designated as the preferred vendor for the City’s Wide Area Network (WAN) Connectivity Services needs at the sole discretion of the City and YorkNet WAN connectivity services for the term of this contract; and,
 9. THAT the Chief Administrative Officer and Commissioner, Corporate Services be authorized to approve any new purchases related to this contract needed due to growth and/or future Wide Area Network (WAN) Connectivity Services upgrades due to change in technology related to the project during the term of this contract, subject to the Expenditure Control Policy and budget approval, in a form satisfactory to the City Solicitor and at the sole discretion of the City; and further,
 10. THAT Staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

The City’s Wide Area Network (WAN) is currently provided by Rogers Communications and provides connectivity to thirty-three (33) City facilities. Our current contract with Rogers Communications ends in September 2022 and we have an opportunity to leverage our relationship with York Region and obtain WAN services from their corporation YorkNet. In addition, as the City continues the path of its digital transformation, and technologies continue to expand and improve to provide City staff and its citizens access to more and improved data, online services, cloud solutions and Internet of Things (IoT) solutions it is necessary for our WAN services to be able to accommodate this current and future growth by providing expanded coverage, higher throughput and better speeds. ITS, in consultation with the City Commissions, have identified 44 City facilities which require WAN connectivity.

YorkNet’s high-speed WAN solution is focused on the expansion of the Region’s telecom network. By planning, building, operating, managing and maintaining the network it will support economic development and innovation in York Region while providing a cost-effective alternative to traditional telecom providers.

ITS has investigated options to provide the expanded capabilities noted above and is making the recommendation that YorkNet be selected as the vendor to provide the City’s WAN connectivity.

PURPOSE:

To obtain Council's approval to award a ten (10) year contract to YorkNet for the purposes of providing WAN connectivity services to forty-four (44) identified City facilities.

BACKGROUND:Current Situation:

The City's current WAN connectivity provided by Rogers Communication allows 33 City facilities to be able to connect our Local Area Networks (LANs), and provide capability for connectivity to Internet Service Providers (ISPs). From a user experience perspective, this allows City staff the ability to share data across our provided network and folders (i.e., "Q" drives), provides access to City applications hosted in our data centre, connectivity to Electronic Information Boards (EIB's), office productivity tools (i.e., Outlook, Office products) and allows access to the internet for cloud applications and online services. This connectivity further provides the ability for the City to provide Wi-Fi access to both facility staff and members of the public where appropriate. Of the 33 City facilities currently provided with WAN connectivity, two sites are provided with a throughput capability of 10 Gigabytes (GB) while the remaining 31 sites are provided with a throughput capability of 1GB.

Current and Future Connectivity Needs:

As a part of the City's digital strategy and overall growth plan there is a need to expand the coverage our WAN connectivity provides today to additional sites. ITS, in consultation with the City Commissions, has identified eleven additional City facilities that do not currently have WAN connectivity, as the current opportunity for expansion. Added to the current facilities, this would result in a total of 44 City facilities with WAN connectivity.

Furthermore, to accommodate for the growth and expansion of a data driven environment, the expansion of cloud based applications and online services as well as future IoT solutions and smart city technologies, there is a need to ensure our WAN throughput is capable of meeting these evolving business needs. The demand for data in real time or near real time also necessitates an infrastructure that is capable of providing the speeds required to deliver that experience.

Yorknet:

Incorporated in 2017, YorkNet is a Region-owned corporation that plans, builds, operates, manages and maintains a high-speed, dark-fibre network across York Region.

YorkNet is focused on maintaining and expanding the Region's telecom network to support economic development and innovation in York Region, and to provide cost-effective and open access fibre connectivity for the Region.

This network also supports administrative services across the Region, connects hospitals, local municipal operations, libraries and police services. Yorknet continues to grow the network year over year.

YorkNet is mandated to deliver on the following three key priorities:

1. Continuing to grow the Region's fibre network to improve the delivery of Regional services, such as traffic management, transit, infrastructure monitoring and policing
2. Working with municipalities, schools, hospitals and other public-sector organizations in the Region to leverage the network to improve services
3. Providing private-sector open access to the network to drive economic and social benefits that will give residents, businesses and public-sector customers enhanced service, better pricing, or both, particularly in rural areas of the Region

City Staff have been working with YorkNet for a number of years as part of a plan to transition to YorkNet broadband service when it became available in Markham.

OPTIONS/ DISCUSSION:

- The City's current WAN connectivity is provided by Rogers Communications:
- Current contract expires in Sept. 2022
- Coverage for 33 City Facilities
 - o 31 facilities with 1GB of throughput
 - o Two facilities (8100 Warden and 101 Town Centre Blvd) with 10GB of throughput
- "Lit fibre" connection – this references the fact that the WAN connections always have small amounts of traffic flowing through them to allow the provider to monitor and manage the network through a Network Operations Centre
- Backup capabilities provisioned for, where necessary, by an alternate provider

The recommended WAN connectivity would be provided by YorkNet based on the following:

- Recommended 10 year contract
- Coverage for 44 facilities, each with 10GB of throughput
- "Dark fibre" connection – this references the fact that the WAN connections remain inactive until traffic is required. There is no managed service and it is would not be monitored by the provider. City network staff would be responsible for identifying a WAN connectivity issue and engaging YorkNet.
- Capital requirement to facilitate the fibre build to 11 additional identified facilities and continued completion of the overall fibre network.
- Backup capabilities initially provisioned for, where necessary, by an alternate provider, however, it is anticipated within the 10 year contract period a "ring network" would be formed to allow backup connectivity to be provided by the same provider, thus reducing overall cost. Initial backup capabilities require 5 additional 1GB WAN connections

Staff recommend YorkNet be awarded the contract for WAN connectivity services based on the following benefits:

- **Cost Competitiveness:** Staff undertook an analysis of the quoted price provided to ascertain its competitiveness when specifically comparing cost per MB of available throughput provided to the City's facilities. The YorkNet offering when comparing equivalent throughput offers a significant savings versus our current offering and posted rates available from other WAN providers.
- **Synergies:** The solution recommended by Staff provides further opportunity to the City to partner with York Region and York Region municipalities to more easily share data across the network leveraging existing work, data sharing being conducted under the York Information Partnership (YIP).
- **Future Experience:** It is anticipated that within the lifetime of the recommended contract award that YorkNet will further expand the WAN capabilities being able to provide full redundant networks to all our facilities thus reducing the cost of backup network providers. Furthermore, it is anticipated that YorkNet will become an Internet Service Provider (ISP) within the lifetime of the contract further allowing the City to leverage synergies and potential of reduced ISP provider associated costs.

FINANCIAL CONSIDERATIONS

The cost of award includes 2 components: one-time cost to upfront YorkNet to set up fibre connectivity, and recurring fee for 10GB of throughput to the 44 locations for 10 years.

Capital Cost

The one-time cost in the amount of \$387,542 inclusive of HST impact is to provide funds to YorkNet to allow fibre connectivity to the 11 additional facilities identified and to fund the capital costs associated with the continued build out and completion of the network. The cost has been amortized over the 10 year contract term resulting in a reduced operating cost (annual access fee). The one-time cost will be funded from the Facility Ramp-Up Reserve.

Comparison to the Existing Contract

Below is a comparison between the recommended solution and the existing contract using the 2023 pricing as an example.

Throughput Speed	YorkNet Contract			Current Contract			Saving on Existing Facilities
	# of Facilities	Annual Cost	Cost / MB	# of Facilities	Annual Cost	Cost / MB	
1 GB	0	\$0		31	\$206,309	\$6.66	
10 GB	33	\$221,969		2	\$54,950	\$2.75	
	33	\$221,969	\$0.67	33	\$261,259	\$5.12	\$39,290
10 GB	11	\$73,990					
	44	\$295,959	\$0.67				

The recommended solution provides a higher service level than the existing contract. The existing contract provides 1GB of throughput to 31 facilities and 10GB of throughput to 2 facilities. In contrast, the recommended solution will provide 10GB of throughput to the same 33 facilities to meet business requirements.

Further, the recommended solution produces a cost saving of \$39,290 on the existing 33 facilities. The cost to service the existing 33 facilities under the existing contract is \$261,259, versus the cost of \$221,969 under the recommended solution due to the lower rate per MB. The recommended solution is less expensive by \$39,290 for the existing 33 facilities.

The recommended solution will provide 10GB of throughput services to 11 additional facilities at an annual cost of \$73,990, which is partially reduced by the \$39,290 savings from the existing 33 facilities. The net increase in cost is \$34,700.

Operating Cost

The award includes WAN access fees for 10GB of throughput to 44 locations for 10 years. As it will be a staggered implementation across a period of approximately 1 year, Staff expect the 10-year contract term to commence after the last implementation is completed, which is December 2022. The operating budget for the 10-year contract is \$3,240,726 inclusive of HST impact, to be funded from GL account 400-404-5108, Telephony – Data Charges, as part of the annual budget approved by Council.

Year	Annual Cost * 44 Locations
Year 1 (2023)	\$295,959
Year 2	\$301,869
Year 3	\$307,914
Year 4	\$314,092
Year 5	\$320,361
Year 6	\$326,763
Year 7	\$333,300
Year 8	\$339,972
Year 9	\$346,778
Year 10	\$353,718
Subtotal	\$3,240,726

* Rates will be adjusted annually to the Consumer Price Index (Toronto All-Items) or 2%, whichever is the greater. The table above assumes 2% escalation.

The 2021 operating budget for the WAN connectivity services for the current 33 facilities is \$261,259. The estimated incremental operating budget impact to 2022 is \$24,911 to pay for additional access fees due to the staggered implementation. The estimated incremental operating budget impact to 2023 is an additional \$43,101. The operating budgets will reflect the additional incremental cost.

Included in the 2023 operating budget impact is \$33,312 inclusive of HST impact for back up WAN until such time YorkNet completes the ring network allowing for built in redundancy. This cost portion is anticipated to be a fixed annual rate until such time it is no longer required.

HUMAN RESOURCES CONSIDERATIONS

With moving from a managed “lit fibre” network to a non-managed “dark-fibre” network it is anticipated that the additional human resources required to monitor and identify network issues will be minimal and will not require the need for additional FTE.

ALIGNMENT WITH STRATEGIC PRIORITIES:

The recommendations set forth in this document align with the City’s growth plan, digital strategy initiatives and provides the infrastructure required to assist with future IoT and smart city initiatives.

BUSINESS UNITS CONSULTED AND AFFECTED:

ITS

Finance

Legal

Community Services Commission

Corporate Services Commission

Development Services Commission

MFES

RECOMMENDED BY:

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Acting Chief Information Officer, ITS

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Commissioner, Corporate Services

ATTACHMENTS:

None