



Office of the City Manager

CONSENT CALENDAR
May 14, 2019

To: Honorable Mayor and Members of the City Council
From: Dee Williams-Ridley, City Manager
Submitted by: Savita Chaudhary, Director, Department of Information Technology
Subject: Contract No. 10734 Amendment: Towerstream, Inc. for Secondary Internet for Redundancy and Load Balancing

RECOMMENDATION

Adopt a Resolution authorizing the City Manager to amend the contract with Towerstream, Inc. for redundant secondary internet services, increasing the contract amount by \$133,128 for a total not-to-exceed amount of \$172,000 from October 3, 2017 to June 30, 2022.

FISCAL IMPACTS OF RECOMMENDATION

Funding for the additional services in the amount of \$133,128 will be available in the Department of Information Technology's Cost Allocation fund as itemized below. Planned spending in future fiscal years (FY) are subject to Council approval of the proposed city-wide budget and Annual Appropriation Ordinances:

	FY 2020-2022: Annual Maintenance
\$133,128	Budget Code: 680-35-362-376-0000-000-472-613130- (IT Cost Allocation, Enterprise Services, Software Maintenance)
\$133,128	Total FY 2020-2022 Software Maintenance

CURRENT SITUATION AND ITS EFFECTS

In FY 2018, Towerstream was implemented as a secondary internet connection for the City. Before implementing Towerstream the City had only one internet connection servicing all City staff across over 40 different locations throughout Berkeley. The internet is the vital service for the City functions, enabling e-commerce, online research, customer interaction, data flow, sharing of files and much more. As the City uses more web-based tools and applications, the City's reliance on a stable internet connection is becoming increasingly critical for the daily functioning of the City's core operations. In addition, the speed and overall throughput of the City's internet connection is becoming increasingly important as well.

Moving forward, the City plans to implement load balancing technology so that both internet connections will equally share the load of all incoming and outgoing traffic to and

from the City network. This will ensure fast connectivity to any web-based tools or applications used by City staff for day to day operations and to serve the community members.

In addition, the City plans to increase the bandwidth of both internet connections to 1 Gigabyte (GB), so that if either of them go offline, the remaining internet connection will be large enough to support the demands of City staff. The resilient design of the network and the redundancy will improve the reliability of the internet connection and increase employee productivity. The delivery method is also scalable and bandwidth changes will be easier to turn-up as needs change.

The implementation of a secondary internet connection for the City is a Strategic Plan Priority Project, advancing our goal to provide state-of-the-art, well-maintained infrastructure, amenities, and facilities.

BACKGROUND

In FY 2017, the AT&T internet connection served as the primary internet connection for all City staff with no redundancy in place. The speed of this connection was 250 Megabytes (MB). There were at least three instances where the AT&T internet connection was saturated and the end users were not able to access City web applications. While the time end users spend waiting on slow internet can seem minor, it adds up significantly over time.

In FY 2018, the City upgraded the AT&T internet bandwidth from 250 MB to 500 MB and deployed a Towerstream internet connection (500 MB) at the Corporation Yard to serve as a backup internet connection in the event that the primary internet connection, located at City Hall, ever went down. Department of Information Technology (DoIT) staff have successfully tested failing over to the Towerstream internet connection to demonstrate the redundancy of the new solution.

In addition, the City has setup Corporation Yard staff to use the Towerstream internet connection as their primary internet connection. The City has also implemented load balancing technology for incoming internet traffic, so that both internet connections are sharing the load of incoming traffic to the City network.

ENVIRONMENTAL SUSTAINABILITY

Providing a fast and reliable internet connection for City staff allows City staff to perform more tasks from their offices, and allows Berkeley residents to use more and more online tools and services, reducing the need to physically come to City offices to conduct business, and reducing greenhouse gas emissions required for travel to and from their homes.

RATIONALE FOR RECOMMENDATION

The City selected Towerstream over other internet service providers because of their wireless technology. The City's current internet connection runs through AT&T's fiber

network, and utilizing a wireless solution as a redundant backup solution made sense over acquiring a second fiber-based solution, where both fiber internet connections could be subject to damage or outages in the event of an earthquake.

In addition, the City installed the Towerstream internet connection in a different physical location (Corporation Yard) than the primary internet connection (City Hall), to provide additional physical redundancy and resilience in the event of a local disaster.

ALTERNATIVE ACTIONS CONSIDERED

The City considered other fiber-based internet service providers, but given the location of Berkeley and it's vicinity to multiple earthquake fault lines, in particular the Hayward fault, Department of Information Technology staff decided to go with the wireless internet access solution over a fiber solution.

CONTACT PERSON

Savita Chaudhary, Director, Department of Information Technology, 510-981-6541

Attachments:

1: Resolution

RESOLUTION NO. ##,###-N.S.

CONTRACT NO. 10734 AMENDMENT: TOWERSTREAM, INC. FOR SECONDARY
INTERENT FOR REDUNDANCY AND LOAD BALANCING

WHEREAS, the internet is the vital service for the City functions, enabling e-commerce, online research, customer interaction, data flow, sharing of files;

WHEREAS, the City is increasingly using web-based tools and applications to conduct City business; and

WHEREAS, the reliability of a fast and dependable internet connection is becoming increasingly important to conduct day to day business and provide essential services to the community; and

WHEREAS, in FY 2018, the City upgraded the AT&T internet bandwidth from 250 MB to 500 MB and deployed a Towerstream internet connection (500 MB) to serve as a backup internet connection in the event that the primary internet connection, located at City Hall, went down; and

WHEREAS, funding for the additional services in the amount of \$133,128 will be available in the Department of Information Technology's Cost Allocation fund as itemized below, planned spending in future fiscal years (FY) are subject to Council approval of the proposed city-wide budget and Annual Appropriation Ordinances.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to amend Contract No. 10734 with Towerstream, Inc. for redundant secondary internet services, increasing the contract amount by \$133,128 for a total not-to-exceed amount of \$172,000 from October 3, 2017 to June 30, 2022.