



DATE: October 6, 2020

TO: Mayor and City Council

FROM: CIO/Director of Information Technology

SUBJECT: Adopt a Resolution Authorizing the City Manager to Negotiate and Execute an Agreement with Contra Costa Electric for Fiber Optic Installation Services in an Amount Not to Exceed \$254,842

RECOMMENDATION

That Council adopts a resolution (Attachment II) authorizing the City Manager to negotiate and execute an agreement with Contra Costa Electric for fiber optic installation services in an amount not to exceed \$254,842.

SUMMARY

During FY20, a fiber asset audit was completed that provided the City with a prioritized list of action items with the goal of maintaining and improving the City fiber infrastructure. One of the primary recommendations from the fiber asset audit was to immediately replace a 60-strand section of fiber running from City Hall down Winton to Hesperian. Failing to replace the fiber will result in reduced quality of data signal and a possible complete loss of transmission as a majority of the fibers are so degraded or broken that they are no longer usable for our network. The City currently utilizes City-owned fiber optic cable for communications, traffic signals, and Internet services and upgrading this technology is critical to maintaining a secure, fast, and reliable communication network for daily operation of the City.

BACKGROUND

Maintaining and upgrading the City networking equipment and infrastructure is one of the primary responsibilities of the IT Infrastructure Team as this ensures secure, fast, and reliable communication throughout the City. The main trunk of fiber optic cables, or "backbone," was installed in the 1980s and runs from City Hall down Winton to Hesperian connecting several City facilities. The fibers installed over 30 years ago have reached the end of their usual business life and new fiber strand technology provides reliability, redundancy, and expansion capabilities over the old fiber technology.

DISCUSSION

Throughout the years, the City has expanded the fiber optic network to include additional traffic signals, city-owned facilities, and redundant pathways for the City's Internet connectivity. Each expansion of the fiber network required fusing new fiber design to the old fiber design, which over time has resulted in underperformance and lower connection speeds at many points in the network. In addition, the underground enclosures that house the fiber optics have been exposed to the elements and the insulation on many of them need repair to ensure adequate protection and maintenance moving forward. This project will not only upgrade the fiber-optic cables and enclosures, but will also address these critical elements:

Key Project Attributes

Reliability – Due to the age, exposure to the elements, and strand design backbone, the fiber is failing across multiple strands. The current fiber is well beyond the recommended life and has a design that is no longer manufactured. Staff cannot estimate the current lifespan of the fiber due to these factors.

Backup/Redundancy – Over the years, spare fiber has been used and even borrowed from other buildings to keep communications running. This project improves the City's backup posture by having spare fibers which the city could use in case of an emergency.

Network Capacity – All fiber strands that can be put in use are in use and there are no spare strands on this path, which leaves the City with no fiber optic path available for the new Fire Station 6 building, currently under construction. Replacing the old 60-strand fiber with a new 144-strand will allow the City to connect the new Fire Station as well provide significant room for growth and leave room for strand failure.

STRATEGIC ROADMAP

This agenda item supports the Strategic Priority of Improve Infrastructure. This item is not specifically related to a project identified in the Strategic Roadmap. Staff is bringing forth this new item because of the need to provide cost effective, secure, fast, and reliable communications within the City of Hayward network. Staff will include this item in the next bi-annual update to Council on the Strategic Roadmap.

FISCAL IMPACT

The cost of this service agreement with Contra Costa Electric will not exceed \$254,842 and this expense is included in the City's FY 2021 CIP Budget. Authorizing this agreement does not require an additional appropriation.

NEXT STEPS

If Council authorizes the City Manager to negotiate and execute this agreement, staff will schedule the project. The project kickoff would commence in November 2020 and is estimated to take four months to complete.

Prepared by: Carolyn Saputo, IT Manager Infrastructure

Recommended by: Adam Kostrzak, Chief Information Officer

Approved by:

A handwritten signature in black ink, appearing to read 'K. McAdoo', written over a horizontal line.

Kelly McAdoo, City Manager