



Legislation Details (With Text)

File #: 16-362 **Version:** 1 **Name:** SR LitSL Update
Type: Presentation **Status:** Received
In control: City Council
On agenda: 7/18/2016 **Final action:** 12/19/2016
Enactment date: **Enactment #:**
Title: Presentation on the Status of Lit San Leandro: Annual Report from San Leandro Dark Fiber LLC
Indexes:
Code sections:
Attachments: 1. FO Network Map (Im n).Jan2016

Date	Ver.	Action By	Action	Result
12/19/2016	1	City Council	Presented	

Presentation on the Status of Lit San Leandro: Annual Report from San Leandro Dark Fiber LLC

SUMMARY AND RECOMMENDATIONS

In 2011, the City of San Leandro executed a License Agreement with San Leandro Dark Fiber LLC ("SLDF"). This Agreement requires annual reporting on the status of SLDF and development and implementation of the Lit San Leandro ("LitSL") network. The reporting requirements were expanded with approval of the First Amendment to License Agreement approved by the City Council in January 2015.

Representatives of SLDF will be presenting information contained in the Annual Report from San Leandro Dark Fiber LLC. This staff report provides a summary of activity updates related to the LitSL fiber optic network and is for information only.

BACKGROUND

In 2011, the City of San Leandro executed a License Agreement with San Leandro Dark Fiber LLC, Dr. Patrick Kennedy/Founder, to develop the first phase of a 10 gigabit per second fiber optic network. In January 2015, the City Council approved a First Amendment to the License Agreement, which incorporated an anticipated 7.5 mile expansion of the City's conduit funded by the City and a \$2,120,000 matching grant from the U.S. Economic Development Administration ("EDA"). LitSL is the entity created to lease dark fiber to Internet Service Providers ("ISP") or other enterprise dark fiber users.

SLDF owns the fiber that occupies the City's conduit. In exchange for this business relationship, the City receives 30 strands of fiber unrestricted as to use throughout the original and expanded network. Within the expansion conduit, the City received an additional 42 strands of fiber "solely for internal communication needs and public projects". These additional 42 strands cannot be used for resale or other commercial ventures other than with SLDF.

LitSL is the sister company to SLDF that actively manages the fiber and leases it to the Internet Service Providers that provide gigabit services directly to the commercial customer. Both SLDF and LitSL are in process of reorganizing and adding additional staff resources. San Leandro Dark Fiber and LitSL are currently managed by Dr. Patrick Kennedy, Founder; Kathy Otterson, General Manager; and Rene Campos, Lead Engineer.

The fiber optic infrastructure of LitSL continues to provide unique opportunities to spur investment. Highlights of activities related to LitSL follow.

- 1. Connection to San Leandro businesses:** 238 businesses are connected to the internet via LitSL, including 90 customers at The Gate. Most of these are customers of Crosslink Networks. Other LitSL ISP's include Paxio and Unwired.
- 2. Broadband Forgivable Loan Program:** The City provides matching funds (in the form of a forgivable loan) of up to \$10,000 to reduce the cost of connecting a commercial or industrial building to broadband infrastructure. Since the program's inception in 2012, a total of \$89,489 in forgivable loans have been disbursed to the following companies and organizations:

Boys & Girls Club of America, 401 Marina Blvd.	\$15,000
Delta McKeen Joint Venture, 14492-98 Wicks Blvd.	8,000
Delta Properties #6, 14270-78 Wicks Blvd.	10,000
District Council 16, 2020 Williams St.	8,566
Docustream, 14850 Wicks Blvd.	3,935
John F. Colon Trust, 400 Estudillo	2,500
Nine Hundred Doolittle Associates, 900 Doolittle Dr.	10,000
Norcal Kenworth, 1755 Adams Ave.	5,000
Northpoint Business Park, 10800-10998 Bigge St.	15,000
Reynolds & Wicks Partners, 14760-96 Wicks Blvd.	4,000
R&S Overhead Garage Door, 1140 Montague	6,988

- 3. EDA conduit expansion:** In partnership with LitSL and the U.S. Economic Development Agency ("EDA"), the City expanded high speed communication infrastructure into underserved industrial areas of the City, primarily the Adams Tract, Catalina/Farallon area, and the southern Alvarado corridor.

The project expanded the City's communications network capability by installing approximately eight and a half miles of conduit ready to receive fiber optic cables. The City's total fiber optic conduit network now exceeds 26 miles (*see attached Map: Lit San Leandro Expansion Proposal*).

It should be noted that not all of this conduit is licensed for use by SLDF. City conduit includes a lengthy stretch of conduit along Bancroft Ave. that is not included in the License Agreement with SLDF. City conduit available to SLDF totals 19 miles: the 10.5 miles included in the original License Agreement, and 8.5 miles under the first amendment.

A favorable bidding environment allowed the EDA expansion project to be completed under budget which enabled additional conduit alignments to be added to the project scope. When viewed on the attached map, the additional conduits are identified as “J” (Hester Street, Adam’s tract) and “K”, a new connection under San Leandro creek. Completion of these connections last summer enabled a redundant path to the internet that resulted in connection of City Hall to a full 10 gbps via its Lit San Leandro fibers in August 2016.

The EDA has approved use of the remaining grant funds to further expand the City-owned conduit. As illustrated in the attached map, conduit expansion along Bigge Street (“L”), Washington Ave. (“M”) and Manor (“N”) has been prioritized in that order. At this writing, increased 2016 construction costs may result in some contraction of buildout, perhaps eliminating “N” expansion from the project. Engineering is in preliminary design, and construction is scheduled for May 2017.

All EDA disbursements must be completed by 9/27/17.

Consistent with the License Agreement, SLDF continues to install fiber in the City owned conduit and the status of fiber installation in the expansion conduit, as follows:

- Adam’s Tract is 100% complete
- Southern Alvarado corridor is partially complete. The loop around Peterson CAT is complete; permits are open for the remainder of the expansion conduit, and installation timelines are under discussion.
- Catalina/Farallon/Marina area has fiber installed from Wicks to Fairway Drive. Permits have been pulled for the remainder, and installation timelines are under discussion.

4. Fiber to Schools: The San Leandro Unified School District has completed connection of 17 SLUSD sites, including all schools, to the internet via a 10 gbps fiber optic connection. Internal SLUSD telecommunications systems have been upgraded and the District is prepared to upgrade internet connection speeds to 40 gbps as needed.

5. ZipPower: The proposed development of a San Leandro citywide, distributed renewable energy micro grid under the guidance of ZipPower LLC will be a data-rich, “internet of things” renewable energy system requiring a fiber optic backbone to transport data. Earlier this year, ZipPower was awarded a \$1.5M California Energy Commission grant to develop the ZipPower energy system prototype in San Leandro; partners include the City of San Leandro, OSIsoft, Lawrence Berkeley National Labs, Enel, Geli, with PG&E and California ISO providing letters of support. The site of the first San Leandro distributed renewable energy micro grid is projected to be located in the San Leandro Tech Campus. Enel Green Power, a subsidiary of Enel, Italy’s largest utility company, anticipates financing and building the Tech Campus micro grid.

San Leandro Commercial Broadband Strategy & Fiber Optic Master Plan

To better evaluate the Lit San Leandro discussions then underway with Dr. Kennedy, the City worked with Tellus Ventures to develop the [San Leandro Commercial Broadband Strategy](https://www.sanleandro.org/civicax/filebank/blobdload.aspx?blobid=12459) <https://www.sanleandro.org/civicax/filebank/blobdload.aspx?blobid=12459>, which was approved by

the City Council in July 2012.

In May 2016, the City Council discussed the possibility of an updated and expanded telecommunications strategy and referred the issue to the Facility and Transportation Committee for further discussion. In September, the Facility Committee reviewed a draft *Request for Proposal* to assist staff in creating a new *Fiber Optic Master Plan*. This plan is intended to identify fiber optic opportunities for the City, including:

- Use of the 30-72 fiber strands owned under the original and Amended License Agreement with San Leandro Dark Fiber
- Desired locations for future expansion of the fiber and conduit networks
- Identification of an “open trench” strategy that would make sense for the City to deploy
- Fiber to the Home

Vision for a Smart San Leandro

The City’s fiber optic network places San Leandro in line with Tier 1 cities across the United States that have access to a fiber optic network for their community, cities like Chattanooga, Tennessee; Kansas City, Missouri; Austin, Texas; Cleveland, Ohio; Burlington VT. These are just a few of the cities across the United States developing a “Smart City” vision of modern urban development that includes integration of multiple information and communication technology solutions in a secure fashion to manage a city’s assets.

These assets can include, but are not limited to information systems, transportation, libraries, hospitals, power, education, etc. For example, the new contract approved by the City Council with Climatec is a Smart City application: the new LED lights will be installed with a wireless transmitter on top of each pole, sending data to Public Works that informs them of the operating status of each street light. Inoperable lights will be replaced more quickly, lights can be individually manipulated to increase/lower brightness, will cost less to operate and are brighter, improving service to the San Leandro Community. The Wi-Fi mesh network providing 24/7 data communication to manage the upgraded lighting system also holds the potential of enabling expansion of public Wi-Fi throughout the City.

In June 2016, at the Smart City Innovation Summit in Austin, [US Ignite <https://www.us-ignite.org/blog/2016/6/sgc/>](https://www.us-ignite.org/blog/2016/6/sgc/) announced a cohort of 15 Smart Gigabit Communities. Each Smart Gigabit Community has committed to develop two gigabit applications or gigabit public services that provide advanced technology solutions to issues faced by that community. They also agreed to share those applications with future Smart Gigabit Communities, including the City of San Leandro. As a member of US Ignite, combined with the Smart City projects already launched including Downtown Wi-Fi, Climatec and ZipPower, San Leandro has a significant opportunity to engage in these types of Smart City initiatives, leading to the potential of San Leandro becoming a leader in Smart City deployment.

ATTACHMENT(S)

Attachment(s) to Staff Report

- *Map: Lit San Leandro Expansion Proposal*

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