City of Long Beach
Working Together to Serve

Memorandum

Date: November 6, 2017

To: Patrick H. West, City Manager

From: Bryan Sastokas, Director, Technology & Innovation Department

For: Mayor and Members of the City Council

Subject: **City of Long Beach Fiber Network Infrastructure**

In October 2015, the City announced five new innovation and economic development initiatives that will be implemented by the City and community partners. One of these initiatives was the development of a "High Tech Infrastructure Plan" to maximize existing City assets, resulting in increased investment and quality Internet access for businesses and residents. As part of this initiative, the Technology and Innovation (TI) Department recently completed an assessment of the City's fiber network infrastructure and its high-speed data communication needs. TI, working with The Broadband Group (Consultant), a leading consultant in municipal and utility fiber infrastructure planning, developed several high-level fiber network infrastructure investment scenarios. This effort included direct coordination with other City departments and the i-team.

Based on the assessment findings, TI is proposing the implementation of a citywide fiber network to interconnect City buildings to meet advanced connectivity requirements. This fiber network will save on both current as well as future communication costs, and will create a foundation to support digital inclusion services and applications. Further, this investment positions the City to pursue, in the future, Public-Private Partnerships to close the "digital divide" for those living and working in Long Beach.

This memorandum provides an overview of this initiative.

Background

Over the past several years, the City has launched several significant transformative technology projects slated to become operational by 2019. These include:

- Construction of a new Civic Center (City Hall, Main Library, and Port Headquarters),
- Implementation of LB COAST (an Enterprise Resource Planning System replacing a 30-year old legacy application),
- Implementing city-wide network cameras,
- Launching new electronic documentation systems, and
- Increasing the bandwidth in the City's 12 libraries by 1,000 percent.

These modern technologies have significantly greater data communication demands than what is currently available. In some cases, TI is estimating a three-fold increase in data throughput needs at many of the City's facilities. In addition to increased data communication demands at City facilities, interest in network cameras, public Wi-Fi, body-worn cameras, and smart city applications continue to grow. These demands emphasize the need for a high-speed fiber communications network.

At the beginning of 2017, through ongoing investment, the City's fiber network infrastructure was approximately 50 miles in length, providing high-speed connectivity between select City buildings, network cameras, public Wi-Fi, and traffic signals. Information on the existing fiber infrastructure locations (including a map) is provided in Attachment A. During 2017, TI collaborated with Public Works on developing and launching several construction projects that will result in an approximate 13-mile expansion of the City's fiber network, including:

- Long Beach Blue Line Signal Prioritization Project (over 6 miles),
- Crown Castle Wireless Telecommunications Expansion (over 6 miles),
- Belmont Shore Median Landscape Project (approximately 0.7 miles), and
- Civic Center Fiber Loop Conduits (approximately 0.7 miles).

Additional information on these fiber infrastructure locations is provided in Attachment B.

Analysis and Recommendations

To develop options (scenarios) appropriate for the City, the Consultant considered the metrics specific to Long Beach, as well as best practices and lessons learned from other municipal initiatives (see Attachment C). Three scenarios were developed:

Scenario #1: This scenario establishes a fiber Backbone (19 miles) and Lateral (41 miles) Network. This scenario connects City buildings, as well as brings the fiber Backbone path within two miles of any location in the City. The estimated cost for this scenario is $17 million. Additional information on the fiber expansion locations is provided by Attachment D.

Scenario #2: This scenario builds upon Scenario #1 by selectively investing and expanding fiber services to business enterprises for an estimated total cost of $33 million. This scenario leverages the Scenario #1 infrastructure by expanding fiber from the City's unused fiber capacity to business enterprise customers on a case-by-case basis, either directly or through a third party, while not affecting the City connectivity needs. This service would require additional resources to manage sales, marketing and support for non-city customers, but could generate additional revenues to help recover capital costs.

Scenario #3: This scenario builds upon Scenario #2 by further expanding fiber services to residential communities at a total cost of approximately $183 million. This scenario leverages the Scenario #2 infrastructure by expanding fiber from the City's unused fiber capacity to residential communities, which will then be leased to an Anchor

Tenant (such as Google Fiber) who would then deliver services to the households. Leasing services to an Anchor Tenant would still require additional resources to manage sales, marketing and support for the fiber network, but would minimize the amount of additional City staff needed as the Anchor Tenant focuses on last mile service delivery to individual businesses and residents.

Recognizing the larger investment, sales and support challenges of Scenarios #2 and #3, TI and the Consultant recommend the City pursue the Scenario #1 as a foundational project that meets immediate City operational needs and reduces operating costs while enabling future Public-Private Partnership (an arrangement where a third-party network facility designer and operator, in exchange for the City's fiber assets, rights of ways, and/or data opportunities), manages the infrastructure, sales and support of Dark or Lit fiber for businesses, residents and/or the City. Factors which support Scenario #1 include:

- The City would be in better position to negotiate future partnerships if the City shares in the financial commitment as it would under this scenario;

- The City would be in better position to ensure that the fiber network infrastructure is optimally designed to connect City facilities, assets and future needs; and

- Privately-funded fiber infrastructure projects, on their own, may not meet the timing, usage, and implementation priorities of the City.

Based on the Consultant's experience with other cities, it is necessary that Scenario #1 be implemented to then potentially attract a future Public-Private Partnership to connect businesses, residents, and "community anchor institutions" in Long Beach. The Consultant recommends that the City take the initial leadership position in defining and building its "fiber future."

Proceeding with Scenario #1

The following is a summary of considerations associated with Scenario #1:

Opportunities for Cost Savings

Currently, the City's data communication fees are approximately $1 million a year. Without a new fiber network, this yearly fee is anticipated to increase to $3 million a year, as upgrades are ordered to provide the speed necessary to serve department requirements. Not only will Scenario #1 enable the City to secure increased bandwidth, it will significantly reduce the fees the City currently pays to telecommunications companies (e.g., Verizon, AT&T). Scenario #1 is expected to save or avoid a combined $2.4 million a year in recurring communication expenses, which should pay off the $17 million investment in about seven years once the fiber network infrastructure is fully operational.

Dig Once Policy

An important factor in the decision whether to proceed with Scenario #1 is the proposed "Dig Once" policy. In 2004, the City Council adopted an Ordinance amending the Long Beach Municipal Code (Section 14.08.060) to establish an excavation moratorium for all streets that had undergone reconstruction within the previous five years. The Ordinance only allows for excavation to occur on moratorium streets when the need is immediate for the general health, safety and welfare of the City; and, the City Council takes action to grant the excavation permit. This important action on the part of the City Council has served to protect recently repaired streets from damage and pavement patching.

In 2016, the City Council requested the City Attorney, in coordination with TI and Public Works, to draft an ordinance amending the Long Beach Municipal Code to require the installation of communications infrastructure in excavation projects in the public right-of-way. The joint use of trenches is often a practical solution to expedite the deployment of fiber along main corridors and to ensure providers of broadband services, including utility companies, install their infrastructure at the same time, in the same trench or conduit, and on a shared-cost basis. Coordinating large-scale capital projects with the installation of conduits and/or fiber optic cables also saves money by reducing costs incurred for repeated excavation in an area or part of the city where the entire street or corridor may have been recently (re-)paved or developed. The "Dig Once" policy (an amendment to Section 14.08.060) will include a Fiber Master Plan (FMP), which will facilitate the installation of fiber optic infrastructures when other utility work is being performed. An update on the progress of City Council's request was provided on February 27, 2017 (see Attachment E).

Financial Impacts

As noted in the Technology Infrastructure Critical Needs presentation on October 24, 2017, the budget request for fiber network infrastructure is separated into two sections:

1. $5.8 million is identified under "Outdated Equipment" and consists of $1 million for Civic Center Fiber Loop Cabling (needed regardless of the three presented scenarios), and $4.8 million for "Dig Once" opportunities as they arise.

2. $11.9 million is identified under "Fiber Network" and is the incremental investment to the "Dig Once" opportunities to complete the Scenario #1 fiber network infrastructure.

In summary, $1 million will be needed for the Civic Center Fiber Loop Cabling, $4.8 million will be needed for "Dig Once" opportunities, and if the City proceeds with Scenario #1, $11.9 million will be needed to complete the Scenario #1 fiber network infrastructure.

Implementation

To implement Scenario #1, several tracks of work will be launched or continued:

- TI and City departments will continue to consolidate and manage the fiber optic inventory into the GIS database.

- TI will continue to coordinate "Dig Once" construction activities with Public Works at locations already in-progress, see Attachment B. (Smaller construction locations not mentioned include Houghton Park, Harvey Milk Park, and Broadway & Promenade.)

- TI and the Consultant to plan the implementation of the Scenario #1, inclusive of detailed engineering design, coordination with Public Works, and development of an equipment and materials Request for Proposal (RFP).

- TI and the Consultant will assess the opportunities for future Public-Private Partnerships, including development of a Request for Information (RFI), and leading discussions with interested partners (e.g. Crown Castle, Verizon, Charter, Frontier, Edison, Civic Connect, Leidos). The Consultant will also provide the City consultative support regarding small cell and wireless agreements in Long Beach (e.g. Crown Castle, Mobilitie, Verizon, T-Mobile).

- TI will hire additional staffing to manage the fiber design, construction, provision, and on-going technology coordination and operations. These costs are included in the estimates provided on October 24, 2017.

Next Steps

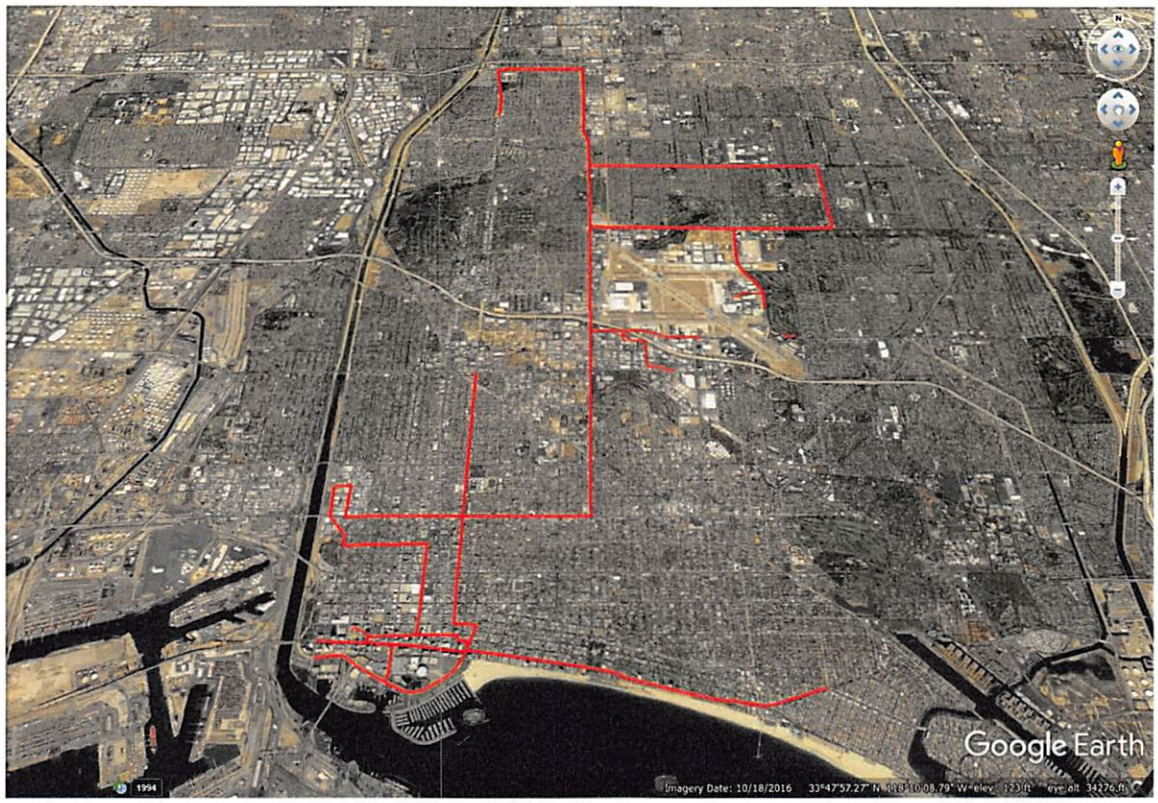
The proposed Scenario #1 to connect City buildings will be further discussed on November 14, 2017, with an agenda item authorizing the City Manager to prepare and bring to City Council items for purchase and financing of critical technology infrastructure needs.

Should you have any questions, please contact Cason Lee, Manager of Infrastructure Services Bureau, at (562) 570-5553.

Attachments A-E

cc: Charles Parkin, City Attorney
Laura Doud, City Auditor
Tom Modica, Assistant City Manager
Kevin Jackson, Deputy City Manager
Rebecca Garner, Assistant to City Manager
Craig Beck, Director, Public Works
John Gross, Director, Financial Management

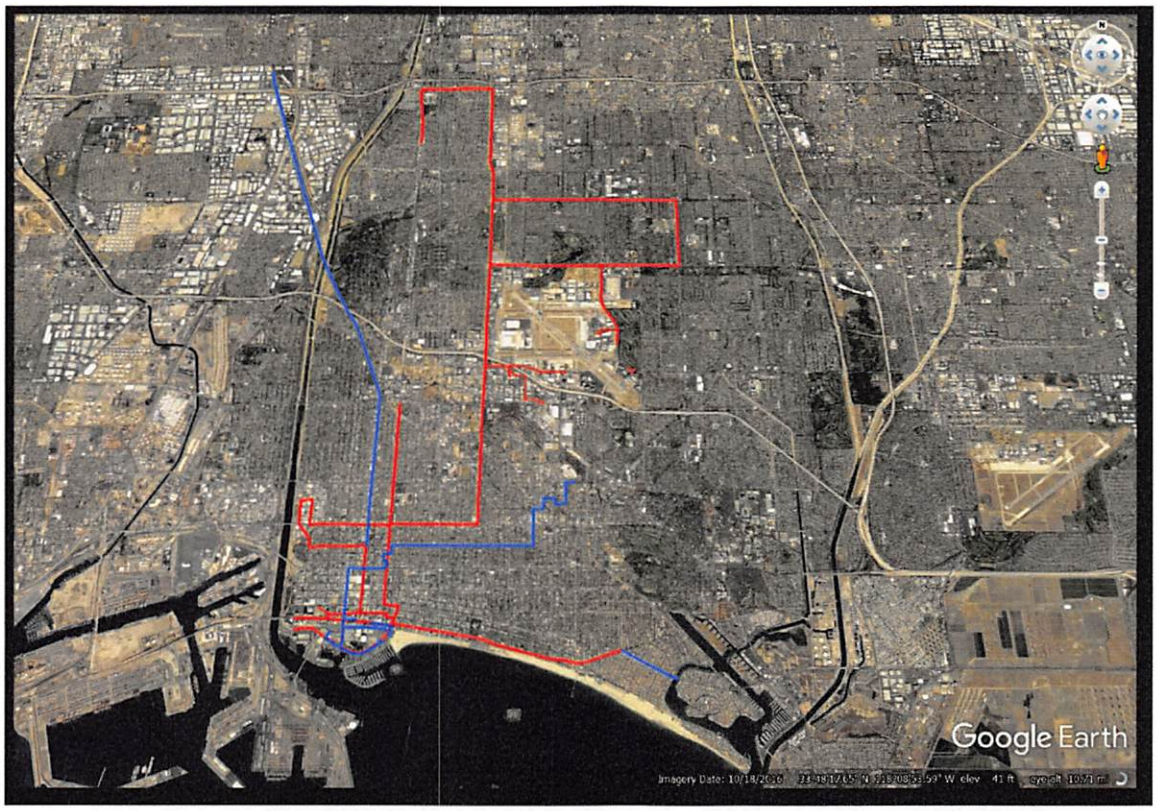
Attachment A – Current Fiber Network Infrastructure



Facility Connections

City Hall	DP-Emergency Operations Center (EOC)	FD-Fire Headquarters
FD-Fire Station 1	FM-Fleet Services	FM-Towing Operations
GO- Gas and Oil Headquarter	Long Beach Airport	PD-Police Headquarters
PD-Patrol Field Support	PD-Port Joint Command & Control Center	PL-Burnett
PL-Main	PL-Mark Twain	PL-Michelle Obama
PL-Ruth Bach	PW-Environmental Services	PW-Public Service Yard
PW-Traffic Operations	TI-Video Communications	WD-Water Headquarter
WD-Water Treatment Plant		

Attachment B – Current Fiber Network Infrastructure with Fiber Under Construction



Potential Facility Connections (additional assessments needed)

Belmont-Bay Shore Library	Belmont-Fire Station 8	Blue Line-Fire Station 7
Blue Line-Nurse Home Visit Program	Blue Line-WIC St Mary	Blue Line-Veterans Park
Civic Center-New Main Library	Civic Center-New City Hall	Civic Center-New Port Headquarter
Crown-Downtown Marina	Crown-Orizaba Park Community Center	Crown-Reservoir Hill (Public Safety Radio Backend)
Houghton-Houghton Park Community Center	Houghton-North Health Facility Center	

Attachment C – Description of Other Municipal Deployment Models

A number of municipal broadband investment, deployment, and operational models have been pursued, with a mixed degree of success. The Broadband Group has defined a scalable and incremental network investment approach for Long Beach that incorporates best practices and lessons learned from a wide spectrum of municipal investment and deployment models.

Chattanooga, Tennessee: Full Service Model

Chattanooga is currently operating a network that is often recognized as a model which other city leaders seek to replicate. In this model, the City-owned Electric Utility competes with Incumbent Service Providers and delivers broadband services to residents and businesses. While successful in Chattanooga, the "Full Service Model" requires significant capital and operational commitments by way of the City. It is relevant to note that it is not the city of Chattanooga, but the City-owned Electric Utility that invested in and manages the fiber network. This is important, as the Utility benefits from operational protocols that were already established (e.g. Billing Department, Customer Service), as well as significant existing infrastructure. Chattanooga's broadband initiative grew out of the Utility's development of a smart grid that uses the fiber optic network to increase the electric grid's reliability and responsiveness. The network deployment costs were approximately $390 million, funded by local revenue bonds, and (notably) a $111 million Federal Grant (U.S. Department of Energy as part of the ARRA Stimulus Program). Other relevant cities that have pursued this "Full Service Model" include Wilson, NC; Bristol, VA; Leverett, MA; Lafayette, LA. Cities exploring this level of investment and operational commitment should anticipate *significant competitive response* and *legal push-back* from Incumbent Service Providers.

San Francisco, California: Infrastructure Only Model

In October 2017, the City of San Francisco published a report suggesting the City invest in fiber infrastructure that would provide fiber connectivity to every home and business in the City. The City would then seek to identify Service Providers to lease access on the network and provide broadband services to customers. This "Infrastructure Only" approach would reduce ongoing operational requirements by the City, however, the projected price for this network buildout is $1.5 to $1.9 billion. The City of Ontario, CA is currently deploying fiber infrastructure using a similar approach, albeit on a materially smaller scale.

Huntsville, Alabama (Huntsville Utilities): Utility Lease Model

Sharing characteristics of both Chattanooga and the proposed San Francisco model, Huntsville Utilities (a city-owned utility in Huntsville, AL) is building out a citywide fiber network to increase the electric grid's reliability and responsiveness. However, unlike Chattanooga, the Utility secured Google Fiber as an Anchor Tenant (20-year lease) to provide Gigabit fiber broadband services to residents and businesses prior to investing in and commencing construction. The Broadband Group planned the network, negotiated the contract, and is now leading project management for the 966-mile fiber build for the Utility and Google Fiber.

Santa Monica, California: City Incremental Build Model

Perhaps most similar to the approach suggested for Long Beach is Santa Monica, CA. The City of Santa Monica has built a fiber network that has lowered its own costs for telecommunications, helped to retain businesses, and attracted new businesses to the community. Santa Monica's "CityNet" was initially launched in 2000, when the City invested in fiber to connect City buildings, Santa Monica College, and the School District.

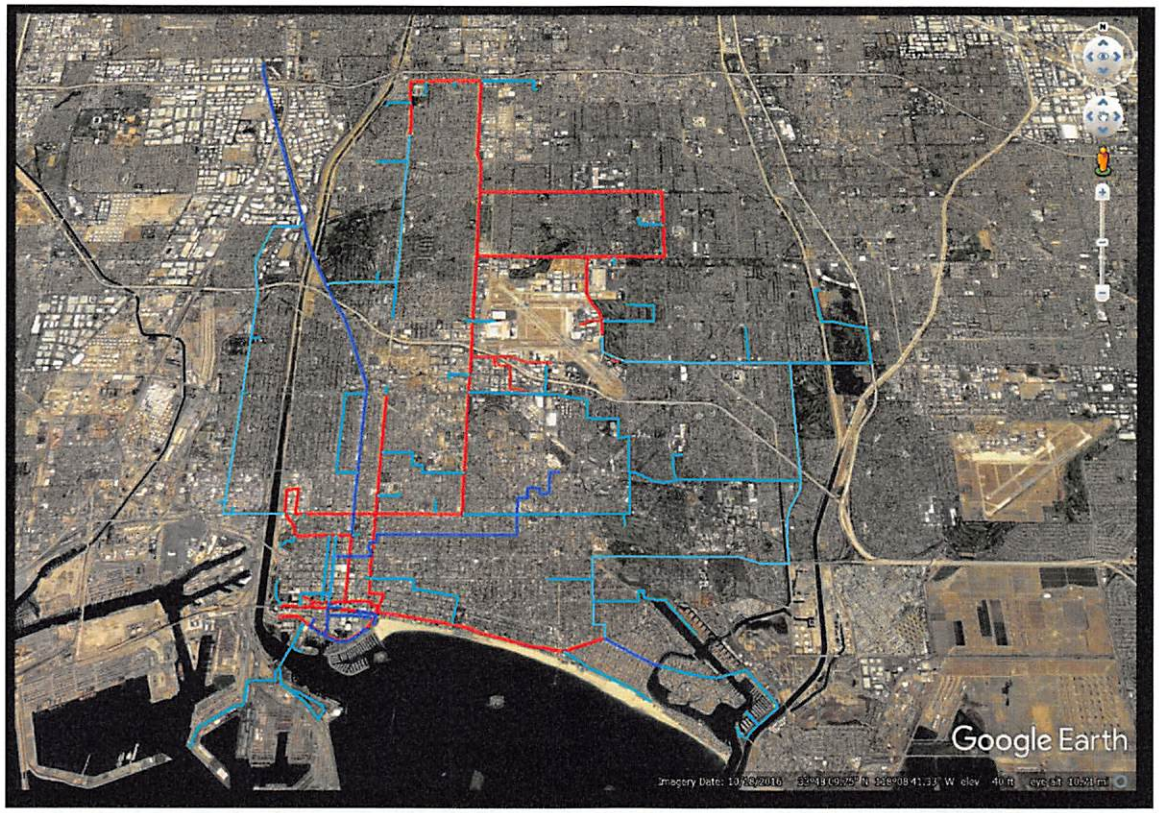
The first goal of the network was to save public dollars by eliminating leased lines from private Service Providers. The initial $530,000 investment in fiber infrastructure ultimately resulted in an ongoing savings of $700,000 per year. The network has incrementally expanded to offer dark fiber and services of 100 Mbps to 10 Gbps to area businesses, support for over 550 video cameras for public safety, over 55 cameras for traffic management, as well as free Wi-Fi to the public in many areas.

Santa Monica does not have a municipal power provider – CityNet is run out of the Information Systems Department.

Recommendation

The Broadband Group emphasizes that Scenario #1 (City deploys fiber infrastructure to select City buildings, departments, and corridors) positions Long Beach to take control of its immediate connectivity requirements, while setting a foundation for future Public-Private-Partnership opportunities, strengthening the potential for equitable citywide fiber broadband connectivity.

Attachment D – Proposed Fiber Network Infrastructure



Potential Facility Connections (additional assessment and engineering needed)

Type	Count of Facilities
Parks	53
Libraries	7
LBPD	8
LBFD	33
Health	14
Council District Field Offices	6
Miscellaneous	14
TOTAL	**135**

(53) Parks

- ADMIRAL KIDD PARK COMMUNITY CENTER
- ALAMITOS BAY MARINA
- ANIMAL CARE SERVICES
- BEACH MAINTENANCE YARD
- BELMONT POOL
- BIXBY KNOLLS PARK COMMUNITY CENTER
- BIXBY PARK COMMUNITY CENTER
- CALIFORNIA RECREATION COMMUNITY CENTER
- CESAR E CHAVEZ PARK COMMUNITY CENTER
- CHERRY PARK COMMUNITY CENTER
- COLLEGE ESTATES PARK COMMUNITY CENTER

- COOLIDGE PARK COMMUNITY CENTER
- DE FOREST PARK COMMUNITY CENTER
- DRAKE PARK COMMUNITY CENTER
- EL DORADO NATURE CENTER (VISITOR CENTER)
- EL DORADO PARK RANGER STATION
- EL DORADO PARK WEST COMMUNITY CENTER
- FREEMAN COMMUNITY CENTER
- HEARTWELL JUNIOR GOLF ACADEMY
- HEARTWELL PARK COMMUNITY CENTER
- HOMELAND CULTURAL CENTER AT MACARTHUR PARK
- HOUGHTON PARK COMMUNITY CENTER
- LEEWAY SAILING AND AQUATICS CENTER
- LONG BEACH SENIOR CENTER
- MARINE MAINTENANCE YARD
- MARINE STADIUM MAINTENANCE YARD
- ERNEST S McBRIDE SR TEEN CENTER
- MARTIN LUTHER KING JR PARK COMMUNITY CENTER
- MARTIN LUTHER KING JR PARK POOL
- ORIZABA PARK COMMUNITY CENTER
- PAN AMERICAN PARK - OFFICE
- PAN AMERICAN PARK GYMNASIUM
- PARK MAINTENANCE
- PARKS RECREATION AND MARINE - ADMINISTRATION
- PETE ARCHER ROWING CENTER
- QUEENSWAY BAY MAINTENANCE YARD
- RAINBOW HARBOR/MARINA
- RAMONA PARK COMMUNITY CENTER
- RANCHO LOS ALAMITOS RANCH HOUSE
- RANCHO LOS CERRITOS RANCH HOUSE
- RECREATION PARK COMMUNITY CENTER
- RECREATION SPORTS OFFICE
- SCHERER PARK COMMUNITY CENTER
- SHORELINE MARINA
- SILVERADO PARK COMMUNITY CENTER
- SILVERADO PARK GYMNASIUM
- SILVERADO PARK POOL
- SOMERSET PARK COMMUNITY CENTER
- STEARNS CHAMPIONS PARK COMMUNITY CENTER
- VETERANS PARK COMMUNITY CENTER
- WARDLOW PARK COMMUNITY CENTER
- COLORADO LAGOON WETLAND & MARINE SCIENCE EDUCATION CENTER
- WHALEY PARK COMMUNITY CENTER

(7) Libraries

- ALAMITOS LIBRARY
- BAY SHORE LIBRARY
- BRET HARTE LIBRARY
- BREWITT LIBRARY

- DANA LIBRARY
- EL DORADO LIBRARY
- LOS ALTOS LIBRARY

(8) Long Beach Police Department Facilities

- FORENSIC SCIENCE SERVICES
- JAIL
- EAST DIVISION SUBSTATION
- NORTH DIVISION SUBSTATION
- WEST DIVISION SUBSTATION
- MARINE PATROL (ALAMITOS BAY)
- POLICE ACADEMY
- PROPERTY AND EVIDENCE WAREHOUSE

(33) Long Beach Fire Department Facilities

- BEACH/LIFEGUARD OPERATIONS
- BOAT OPERATIONS
- FIRE STATION 10
- FIRE STATION 11
- FIRE STATION 12
- FIRE STATION 13
- FIRE STATION 14
- FIRE STATION 15
- FIRE STATION 16
- FIRE STATION 17
- FIRE STATION 18
- FIRE STATION 19
- FIRE STATION 2
- FIRE STATION 20
- FIRE STATION 21
- FIRE STATION 22
- FIRE STATION 24
- FIRE STATION 3
- FIRE STATION 4
- FIRE STATION 5
- FIRE STATION 6
- FIRE STATION 7
- FIRE STATION 8
- FIRE STATION 9
- LIFEGUARD RESCUE BOAT
- LIFEGUARD SUBSTATION
- LIFEGUARD SUBSTATION
- LIFEGUARD SUBSTATION
- LIFEGUARD SUBSTATION
- LIFEGUARD SUBSTATION
- MARINE SAFETY DIVISION
- FIRE TRAINING CENTER
- FIRE WAREHOUSE/MUSEUM

(14) Health Department Facilities

- CENTER FOR FAMILIES AND YOUTH/FAMILY PRESERVATION
- CENTRAL FACILITIES CENTER
- HEALTH AND HUMAN SERVICES DEPARTMENT
- HOUSING AUTHORITY
- MILLER FAMILY HEALTH EDUCATION CENTER
- MULTI-SERVICE CENTER FOR THE HOMELESS
- NORTH FACILITIES CENTER
- WEST FACILITIES CENTER
- WOMEN, INFANTS & CHILDREN - CENTRAL OFFICE
- WOMEN, INFANTS & CHILDREN - HEALTH DEPARTMENT
- WOMEN, INFANTS & CHILDREN - NORTH OFFICE
- WOMEN, INFANTS & CHILDREN - ST MARY MEDICAL CENTER
- WOMEN, INFANTS & CHILDREN - ST MARY MEDICAL CENTER
- WOMEN, INFANTS & CHILDREN - WEST OFFICE

(6) Council District Field Offices

- COUNCIL DISTRICT 3 FIELD OFFICE
- COUNCIL DISTRICT 5 FIELD OFFICE
- COUNCIL DISTRICT 6 FIELD OFFICE
- COUNCIL DISTRICT 7 FIELD OFFICE
- COUNCIL DISTRICT 8 FIELD OFFICE
- COUNCIL DISTRICT 9 FIELD OFFICE

(14) Miscellaneous City Department Offices

- AIRPORT MAINTENANCE YARD
- SPECIAL EVENTS AND FILMING
- CODE ENFORCEMENT
- NEIGHBORHOOD RESOURCE CENTER
- NEIGHBORHOOD SERVICES/NEIGHBORHOOD IMPROVEMENT DIVISION
- WIRELESS COMMUNICATIONS
- CAREER TRANSITION CENTER
- CAREER TRANSITION CENTER
- PACIFIC GATEWAY WORKFORCE INVESTMENT NETWORK
- YOUTH OPPORTUNITY CENTER
- HARBOR DEPARTMENT
- EMPLOYEE ASSISTANCE PROGRAM
- OCCUPATIONAL HEALTH
- SOUTHEAST RESOURCE RECOVERY FACILITY

Attachment E – Dig Once Policy Update

City of Long Beach
Working Together to Serve

Memorandum

Date: February 27, 2017

To: Patrick H. West, City Manager PW

From: Craig A. Beck, Director of Public Works
Bryan Sastokas, Director of Technology and Innovation /s/

For: Mayor and Members of the City Council

Subject: **Dig Once Policy Update**

The City Council requested the City Attorney, in coordination with the Technology and Innovation and Public Works Departments, to draft an ordinance amending the Long Beach Municipal Code to require the installation of communications infrastructure in excavation projects in the public right-of-way where the City has determined that it is both financially feasible and consistent with the City's long-term goals of furthering economic opportunity through connectivity. This memorandum provides an update on this request.

Background

In 2004, the City Council adopted an Ordinance amending the Long Beach Municipal Code (*Section 14.08.060*) to establish an excavation moratorium for all streets that had undergone reconstruction within the previous five years. The Ordinance only allows for excavation to occur on moratorium streets when the need is immediate for the general health, safety and welfare of the City; and, the City Council takes action to grant the excavation permit.

The excavation moratorium has helped protect recently repaired streets from damage, but it did not address the need for better coordination between City departments and outside agencies who typically perform street work. In the past, many of the capital planning efforts in the City were conducted with a singular focus, installing gas and water pipelines, and deploying network fiber. Moving forward, staff is supportive of the implementation of a "dig once" policy to improve coordination within the City organization and make it easier to engage outside organizations as well.

The dig once policy will include a Fiber Master Plan (FMP). Fiber optic infrastructures enable high-speed data communications needed to improve or deliver citywide technology services, including traffic control systems, utility systems, public safety systems, city operations, and smart city initiatives. Cities that have fiber optic infrastructures are better positioned to support economic development programs, to improve city services to businesses and customers, and to enable innovation in a constantly evolving community and economy.

Staff from the lead departments (Public Works, Technology and Innovation, Gas and Oil, and Water) are meeting monthly to discuss and coordinate upcoming projects. Additionally, staff is in the process of reviewing proposals for a Project Performance Management software system. This new tool will help provide a more robust oversight and coordination between various construction projects citywide. The goal is to bring a recommendation for the software system before the City Council the second quarter of 2017.

Next Steps

The next steps in the development of the dig once policy and FMP include:

- Completing selection and contract process for a vendor to implement a Project Performance Management (PPM) software system. *Anticipated completion Second Quarter of 2017.*

- Technology and Innovation worked with Public Works to create an inventory of existing City fiber optic assets and are now in the process of entering it into the GIS database. *Anticipated completion Third Quarter of 2017.*

- Completing development of the FMP, which will identify locations where there are opportunities to align various street work with adding fiber network. *Anticipated completion Third Quarter of 2017.*

- Working with the City Attorney to amend the Long Beach Municipal Code (*Section 14*) to include a new requirement that the annual Capital Improvement Plan adopted by City Council include a description of the coordination efforts associated with planned work in the City's right-of-way (streets, alleys, sidewalks). This should include alignment between the departments of Gas and Oil, Public Works, Technology and Innovation, Water, and other outside utilities when feasible. *To be finalized after City Council adoption of the PPM and FMP.*

If you have any questions regarding this matter, please call Craig Beck, Director of Public Works, at (562) 570-6771.

CB:JC

CC: CHARLES PARKIN, CITY ATTORNEY
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BOB DOWELL, DIRECTOR OF GAS AND OIL DEPARTMENT
CHRIS GARNER, GENERAL MANAGER OF WATER DEPARTMENT
CITY CLERK (REF. FILE # 16-0393)