



# City of Palo Alto

## Utilities Advisory Commission Staff Report

(ID # 11468)

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**Report Type: Agenda Items**

**Meeting Date: 8/5/2020**

**Summary Title: Fiber Network Expansion Project by Magellan Advisors**

**Title: Discussion and Presentation of the Fiber Network Expansion Project by Magellan Advisors**

**From: City Manager**

**Lead Department: Utilities**

### **Discussion**

John Honker and Jory Wolf from Magellan Advisors will present to the Utilities Advisory Commission an informational overview of the City's Fiber Network Expansion project.

The four (4) phases of the Fiber Network Expansion plan are as follows:

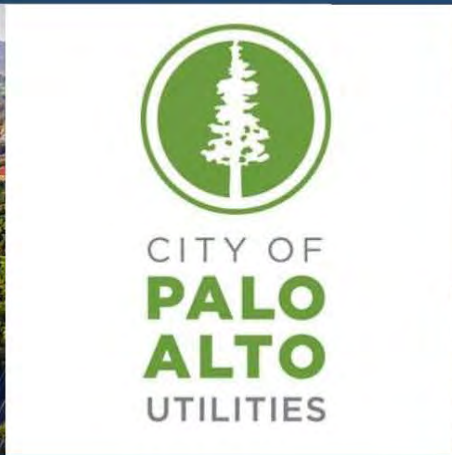
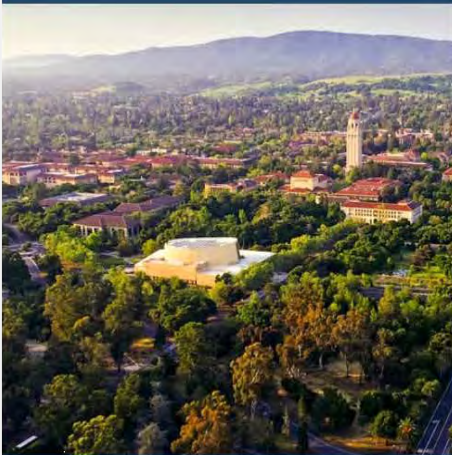
1. Phase 1 seeks a high-level design and cost estimate for fiber expansion to support Advanced Metering Infrastructure (AMI), Supervisory Control and Data Acquisition (SCADA), and wireless communication for City field staff and other City services;
2. Phase 2 seeks a detailed engineering design and cost estimate for fiber expansion to support AMI, SCADA, and wireless communication for City field staff and other City services;
3. Phase 3 seeks a business case and high-level design for a citywide Fiber-to-the-Premise (FTTP) network. The FTTP network and high-level design in the business case should expand on the fiber network for AMI, SCADA and wireless communication; and
4. Phase 4 seeks a detailed engineering design, cost estimate and a phased deployment approach for FTTP.

Council approved Phase 1 of the fiber network expansion project on June 1, 2020 ([Staff Report # 11368](#)). The City awarded all four phases to Magellan; however, agreements covering each phase must be approved, with the work completed and accepted by the Council before the City decides whether to proceed with the next phase.





Attachment A



# FIBER NETWORK EXPANSION PROJECT UAC PRESENTATION AUGUST 5, 2020

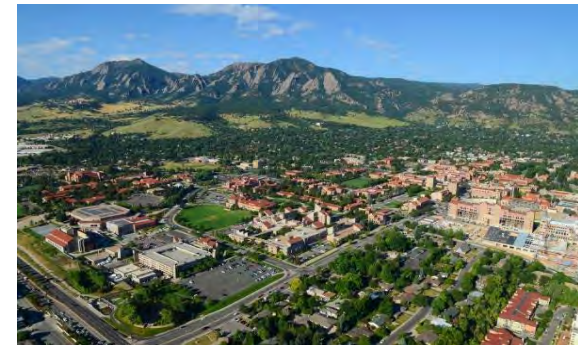
8/5/2020



# ABOUT MAGELLAN & OUR CLIENTS

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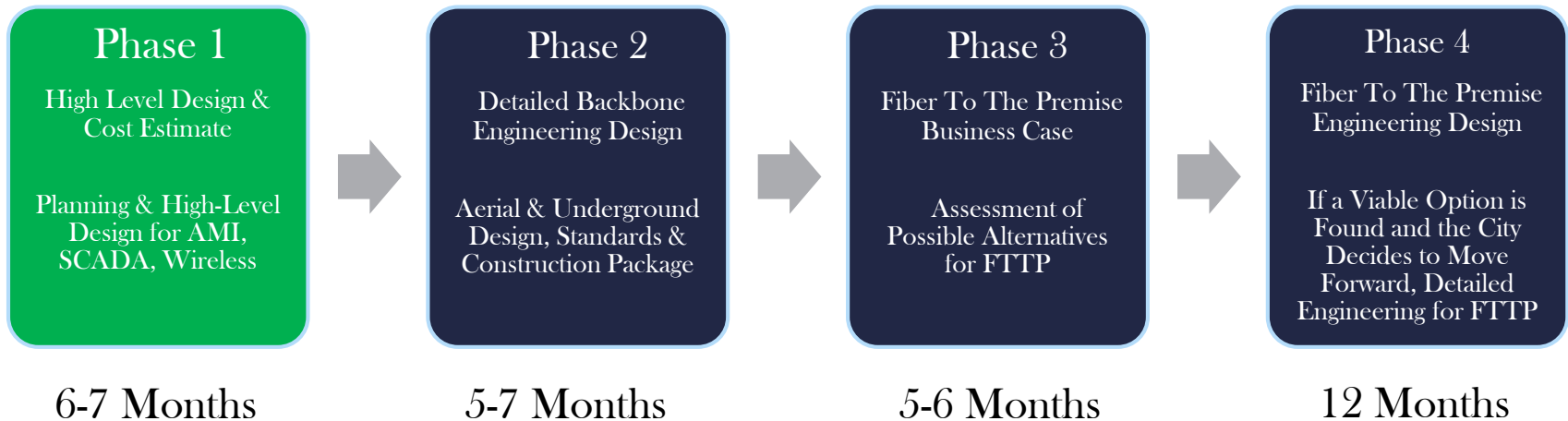
- 100 Electric Utility Clients
- 300 Municipal Clients
- 2 Million Miles of Fiber Engineered
- 1 Million Homes With Access to Fiber
- Turnkey Implementation Including Project, Construction Management & Inspections
- 50 Networks Implemented & Active Today



# PALO ALTO FIBER EXPANSION PROJECT

3

Current Phase  
Started  
Jul 18, 2020



# PHASE 1:

## HIGH-LEVEL DESIGN & COST ESTIMATE

4

- *Focus: Expansion of fiber to meet internal City & CPAU needs*
  - Inventory the current fiber network
  - Develop needs assessment for fiber expansion
  - Review current and future applications
  - Identify locations, capacity and network architecture for:
    - AMI
    - Smart Grid
    - SCADA
    - Public Safety Wireless
    - Smart City Applications
  - Document these requirements formally in a Design Strategy report
  - Update City fiber and wireless policies
  - Provide to City for review and feedback

# PHASE 2:

## DETAILED ENGINEERING & COST ESTIMATE

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- *Focus: Preparation of engineering plans for construction of the network developed in Phase 1*
  - Engineering for backbone fiber expansion
  - Based on phase 1 needs analysis
  - Placement of conduit, fiber, structures
  - Focused on meeting the internal needs of the City and CPAU
  - Permit authorities and quantities
  - Update City construction standards
  - Create construction prints
  - Develop final bill of materials
  - Develop construction bid package

# PHASE 3:

## EVALUATION OF FIBER TO THE PREMISE

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- *Focus: Evaluate possible alternatives for fiber to the premise (FTTP)*
  - Incremental, lower cost and lower risk approaches over time
  - Assess opportunities to use Phase 1 network to lower deployment costs
  - Find companion projects that could aid in deployment
    - Integration with electric rebuilds & undergrounding
    - Alignment with existing capital projects
    - Fiberhood or phased deployment
  - Assess the role wireless last mile could play
  - Workshop the potential options with the City
  - City to decide on next steps



# PHASE 4: DETAILED DESIGN & COST ESTIMATES

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- *Focus: If the City chooses to move forward with FTTP:*
  - Develop engineering plans and bill of materials
  - Deployment approach and project plan
  - Construction prints and permitting
  - Construction bid package
  - Construction phasing
  - RFP for construction contractor
  - Evaluation and selection of contractor