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**Cameron Park**  
Community Services District

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# **Fire Department Master Plan and Capital Improvement Plan 2015-2020**

**Administrative Review Final**

**August 19, 2015**





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## **SECTION 1 INTRODUCTION**

This Fire Protection Master Plan was prepared in mid-2015. It draws extensively on an internally prepared Final plan of January 1, 2011, the Cooperative Fire Programs Fire Protection Reimbursement Agreement (July 1, 2013-June 30, 2018), related documents and research, and key person interviews. It also draws heavily on the experience and knowledge of the consulting team from Mintier Harnish Planning Consultants of Sacramento.

Recommendations contained in this plan for personnel, facilities, and apparatus and equipment strike a balance between “ideal” requirements (i.e., national standards), and the needs of the community given the resources that are available.

This plan has been prepared to serve several purposes, including:

1. Serving as a guide for the District’s Board of Directors and its Fire Committee and its General Manager,
2. Informing District residents, businesses, and other interested parties about the current and planned future configuration of the District’s fire protection services so they meet the community’s needs effectively and efficiently,
3. Meeting various administrative and regulatory requirements, such as El Dorado County’s letter of March 4, 2105 titled *Development Impact Mitigation Fee Reporting Requirements, Review Process, and Reporting Schedule*,
4. Serving as a Capital Improvement Program (CIP) to support future financing decisions and allocations, and
5. Providing the basis for periodic updates as the District’s fire protection services program adapts to meet current and anticipated demands.

The following sections present the policy and program context governing Cameron Park’s fire protection services, fire stations and training facilities, a suggested Capital Improvement Plan (CIP), and the need for a long-term financial strategy. Some key references also are listed.

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## SECTION 2 POLICY AND PROGRAM CONTEXT

As one of 2,948 special districts organized under California state law, the Cameron Park Community Services District (CPCSD) provides fire protection, important recreational services, and coordination of green waste management. The District was organized in 1961 under the provisions of Government Code Sections 61000 – 61850.

The latest approved version of the Fire Department Mission Statement states that “The mission of the Cameron Park Fire Department is to preserve and enhance the quality of life to the community of Cameron Park and to safeguard the health, safety and welfare through fire prevention, fire control, emergency medical, and public education programs.” (June 17, 2015)

Fire protection services generally include fire prevention inspections and code enforcement; fire response and suppression, fire investigation, emergency medical services (EMS); special operations, such as rescue, vehicle extrication, and hazardous materials response; fire department administration and staff training; and public safety education, including Community Emergency Response Training (CERT); and response to other public emergencies.

These particular activities are governed by the Safety Element of El Dorado County’s General Plan; state laws and regulations exercised through the District’s cooperative agreement with CAL FIRE; other County requirements and regulations; applicable District resolutions and ordinances; and Department standard operating procedures and protocols.

The *Fire Safety Section of the Public Health, Safety, and Noise Element of the El Dorado County General Plan* establishes a goal of minimizing “fire hazards and risks in both wildland and developed areas”. Supporting this goal are five objectives relating to defensible space and fire code building requirements; limitations on development in high and very high fire hazard areas; fire protection standards; fuel management activities; and fire prevention education. (pp. 108-110)

In sum, the cooperative agreement between CAL FIRE and the CPCSD states that CAL FIRE will provide emergency fire protection, emergency response, and basic life support medical services; paramedic level Advanced Life Support (ALS) services; and extended fire protection service availability. Dispatching is through a Joint Powers Agreement (JPA) with the multiagency Camino Emergency Command Center.

Of particular importance to this plan is work by the District being done related to impact fee mitigation requirements pursuant to a March 4, 2015 letter from the Chief Administrative Office of El Dorado County. It notes that under state law the “County is the local agency responsible for the development and imposition of any development impact fees..., including fees to mitigate for impacts to services including fire services...” The CPCSD is required to prepare and maintain a five year Capital Improvement Plan (CIP) and a “nexus study” that demonstrates the relationship between the facilities and/or equipment needed and the anticipated or new development.”

Fire protection services are currently governed also by three Board Resolutions and one Ordinance. Resolution No. 2005-04 (March 30, 2005) established development impact fees permitted by County Ordinance 3991; No. 2006-04 (March 15, 2006) amended the development impact fees; and No. 2011-22 (September 21, 2011) adopted the *Fire Department Fire Prevention Fee Schedule*. The CPCSD’s Ordinance No. 2010.11.17 adopted the 2010 edition of the *California Fire Code*.

Recommended standards for fire protection and emergency medical services issued by the National Fire Protection Association (NFPA) are important considerations. Sometimes these are incorporated into law and regulations, and often are used by courts to determine industry standards. Some of NFPA's recommended standards have been incorporated into the *California Code of Regulations*. For purposes of this plan is *NFPA 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.*” This covers response time objectives and staffing standards.

Also of importance to fire departments and property owners served by them are Public Protection Classification Surveys performed by the Insurance Services Office (ISO) for the insurance industry. The results have a direct bearing on the premiums charged by companies for fire insurance. ISO considers the distribution of engine companies, in-service engines and equipment, company personnel, and training. In its May 27, 2014 letter to the District, the ISO's Public Protection Classification rating for the CPCSD's services was 03/3X. Recent experience shows that the failure to meet minimum acceptable service standards causes immediate and expensive increases in fire insurance premiums for property owners in the rated area. This is discussed more fully below.

### SECTION 3 FIRE STATIONS AND TRAINING FACILITIES

As part of a review of the Cameron Park Fire Department (CPFD), analysis has gone into fire station location and facility sufficiency. Existing fire stations are the Country Club (Station 89) and the Alhambra (Station 88). Station 88 particularly causes concern about the sustainability (e.g., response times and physical plant) related to the delivery of fire services by the CPFD, now and into the future, without improvements being made to the department's current facilities. The options under consideration have ranged from fire station remodeling and refurbishment, to station relocation, or adding fire stations.



*Station 88 (Alhambra Drive; expansion would be on the left side)*



*Station 89 (Country Club Drive)*

El Dorado County’s current automatic-aid response system (i.e., closest available unit response or essentially “boundary drops”), does provide a degree of improved ability to assemble the appropriate number of personnel for a first-alarm structure fire (14 personnel in an average of 8 minutes travel time, 90% of the time). This practice is much better than relying on “stand alone” response systems operated by each fire department. The boxed text below outlines the closest automatic-aid fire companies for a Cameron Park response. Two control points are used to estimate travel times under normal driving conditions. It is most likely that under “Code 3” emergency responses, the travel times will be less. See the following map that shows the locations of CFPD’s two fire stations and those closest to Cameron Park.

<b>TABLE 1                      FIRE STATION LOCATIONS FOR CAMERON PARK’S AUTOMATIC-AID RESPONSE PARTNERS AND ASSOCIATED (NON-EMERGENCY) TRAVEL TIMES</b>		
<b>Vehicle</b>	<b>Minutes to: Cameron Park Drive and Country Club Drive (southern control point)</b>	<b>Minutes to: Cameron Park Drive and Green Valley Road (northern control point)</b>
Engine 28 <sup>1</sup>	4	9
Engine 83 <sup>2</sup>	10	4
Engine 86 <sup>3</sup>	5	11
Truck 85 <sup>4</sup>	10	12

<sup>1</sup> Engine 28: El Dorado Co. FPD, 3860 Ponderosa Rd., Shingle Springs CA 95682

<sup>2</sup> Engine 83: Rescue FD, 5221 Deer Valley Road, Rescue CA 95672

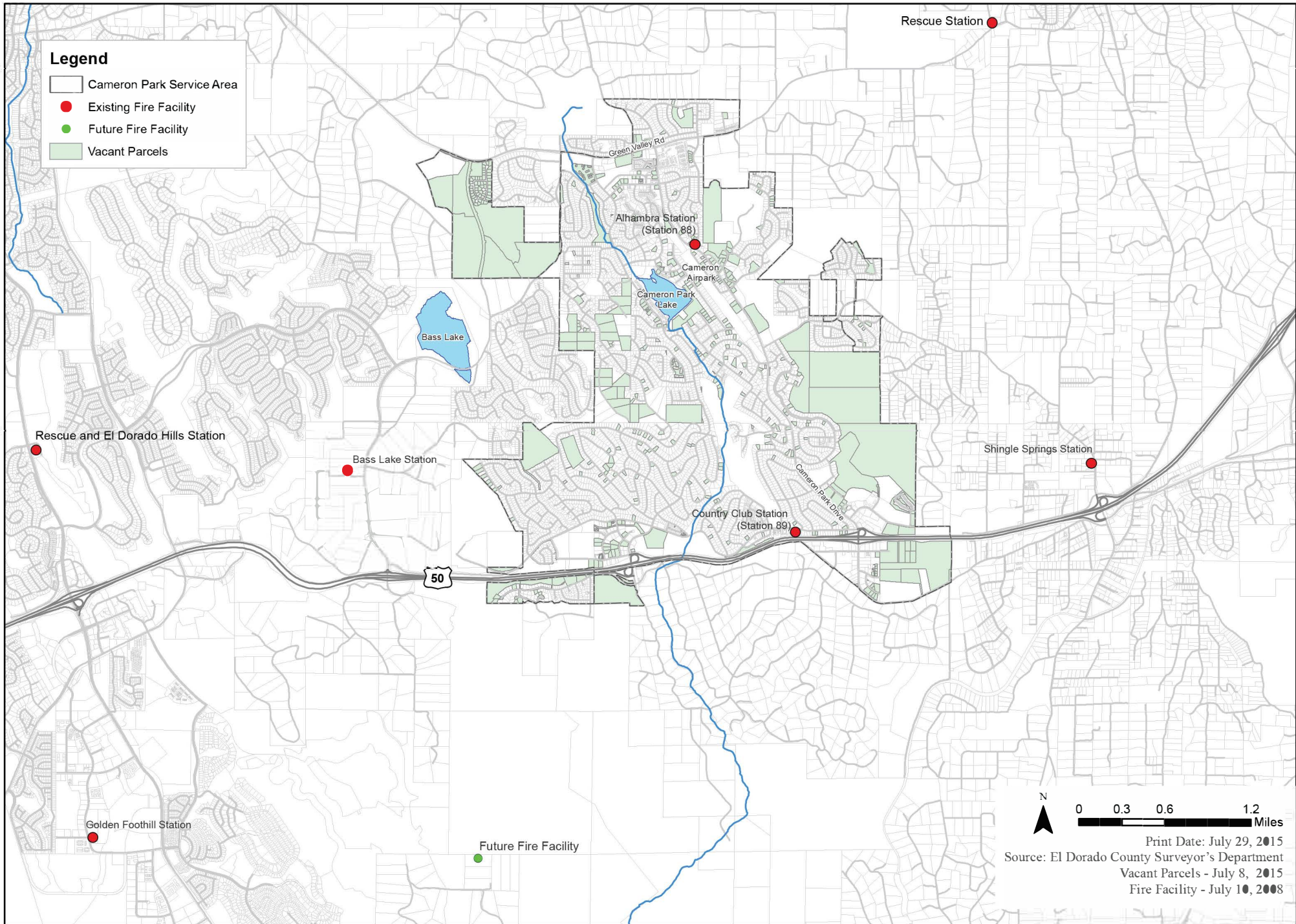
<sup>3</sup> Engine 86: El Dorado Hills FD, 3670 Bass Lake Rd., El Dorado Hills CA 95762

<sup>4</sup> Truck 85: El Dorado Hills FD, 1050 Wilson Blvd., El Dorado Hills CA 95762

Source: Cameron Park Fire Department, Weisgerber Consulting, G-Maps Travel Time Calculator; July 2015.



# Figure 1: Vacant Parcels within the Cameron Park Service Area



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Given this stronger response model and the CPFDP's limited resources to remodel, relocate, or expand the number of fire stations in the District, the most practical, efficient, and cost-effective action the CPFDP can take is to renovate/remodel Fire Station 88.

It also is important to note that the boundary lines for the District and the Fire Department are not coterminous. For example, the planned new development in the northwest corner of the map is within the District's boundary, but it is not within the Fire Department's service area.

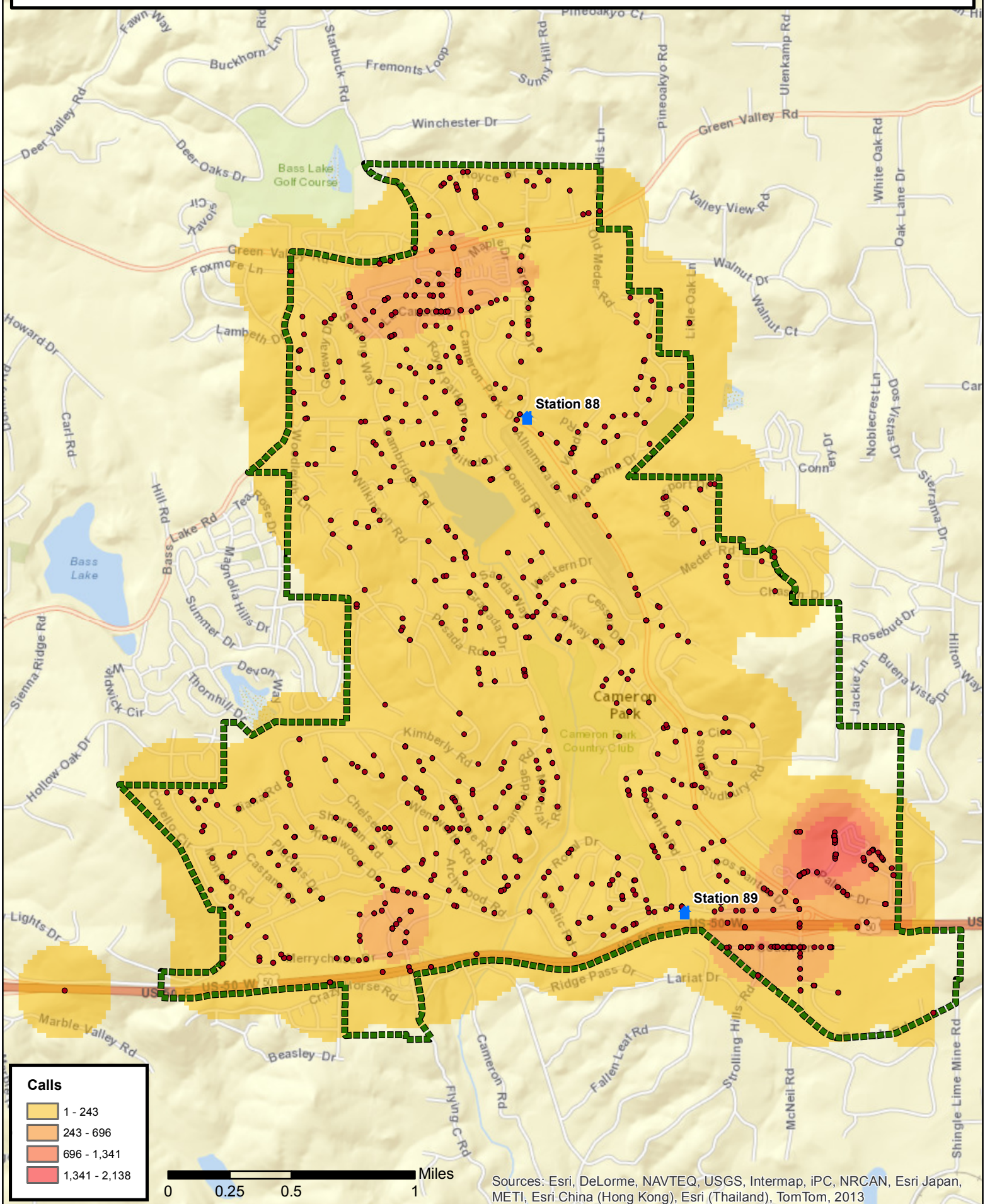
The call volume density and dispersal (see Figure 2 using 2014 data) indicates that possibly a third fire station may be warranted sometime in the future to reduce response times (due to proximity or simultaneous alarms) and to bolster on-duty staffing. Currently, the Cameron Park Fire Department has 2-person engine staffing, augmented by resident and volunteer firefighters, rendering 3-person staffing approximately 70% of the time. This practice leaves the community vulnerability to low frequency, high risk events, such as a working structure fire.

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# Figure 2: 2014 Cameron Park Fire Call Concentration



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The highest concentration of call volume is at the nearby Ponte Palmero Senior Community; followed by the Green Valley Road area between La Crescenta Drive and Bass Lake Road; then the area surrounding the Cambridge Plaza Shops and Shopping Center; and, finally, the highway services and shopping areas surrounding the Highway 50 and the Cameron Park Drive interchange.

These call volumes show a triangle pattern of three response concentrations. This data suggests several improvement possibilities and raises a distinct issue regarding the frequency and volume of calls to the Ponte Palmero Senior Community. Ponte Palmero places a disproportionate demand on departmental resources. In holding a non-profit status, the facility pays no ad-valorem taxes and thus pays for no governmental services. This unfunded consumption of Fire Department resources is further discussed in the Financial Strategy section of this plan.

Refurbishing Station 88: Fire Station 88 was constructed in the 1980's when part-time volunteer staffing was in effect. Given the present fire protection need, the station is undersized and not conducive to full-time staffing due to limitations on space and amenities. Due to the age and construction of the current Station 88 the addition of a second story is not likely to be possible without significant foundation and building upgrades that may exceed the cost of other alternatives. However, preliminary discussions with a design consultant have suggested a realistic possibility of adding an "at-grade" addition of approximately 1,500 square feet to the existing building.

An initial cost of an engineering analysis is likely to be in the \$52,500 - \$60,000 (\$35-\$40/square foot) range; with construction costs estimated to be in the \$240,000-\$255,000 (\$160-\$170/square foot) range.

This building addition would modernize the on-duty staff's living quarters, and provide a vastly improved working environment. Preliminary investigation into typical, average fire station design and construction costs render this option a very realistic possibility for improving the department's existing facilities. Conclusion: ***Most viable alternative.***

## Other Fire Station Alternatives Considered

Relocating Station 88: A new Station 88 would likely be located to the aforementioned area near Green Valley Rd. so as to provide for the most effective response to that area. However, that option simply shifts the response weakness from the new location to the former location. Thus, it is not judged to be a viable alternative. Moreover, there are few if any available land parcels on which to build a new Station 88 in that area.

Based on recent experience, it would likely be in the range of \$250-\$300 per square foot for new construction costs, which does not include the purchase of the land, architectural and engineering fees, furnishings and equipment, meeting LEED and essential facility certification standards, or adding apparatus, equipment, and personnel. Therefore, a 5,500 square-foot fire station would be in the construction cost range of \$1.4M-1.65M. Conclusion: ***Not a viable alternative.***

Establishing a third fire station: Based on call volume and frequency, a likely location for a third fire station is in the vicinity of Cambridge Plaza (Merrychase Drive/Cambridge Road area). This would serve the Cameron Park community in an area of concentrated alarm activity, which is not likely to diminish because of the proximity of the shopping center and the CSD's recreation center. This location is also is very likely for service to any development in the Marble Valley area that would

impact fire and emergency resources to or from Cameron Park. Moreover, the location provides access to Highway 50 from the Bass Lake Road interchange, allowing a dual response (or an alternative response) to freeway incidents that would complement responses from Station 89. However, given that CFPD routinely responds on automatic-aid alarms twice as often as it receives automatic-aid, a third fire station should be carefully considered within the context of reviewing and adjusting the reciprocity formula of the automatic-aid agreement. In fact, it may only serve to exacerbate this dilemma. While not resulting in any substantial benefits to Cameron Park. Lastly, the same parcel availability and construction costs exist for this option as for the relocation of Station 88. Conclusion: ***Not a viable alternative.***

**Recommendations:**

- Conduct an architectural/engineering study for expanding the living quarters at Station 88 to accommodate full-time staffing.
- Maintain the automatic-aid agreement that calls for the closest available unit to respond to calls for service (regardless of ownership).
- Periodically evaluate fire station locations, response times, and strengths of the automatic-aid agreement regarding agency participation and reciprocity.
  - Adopt policy for response time effectiveness. It should be measured in terms of 90% efficiency for the following indicators:
    - Call processing time: 1 minute,
    - Turnout time: 1 minute,
    - Travel time: 5 minutes, and
    - 14 personnel on-scene of a structure fire in 8-minutes 90% of the time.

**Priority:**

- Immediate: complete facility modifications to Station 88.
- Intermediate-to-long range: Monitor and evaluate first-responders' efficiencies related to call concentrations, response times, and the effectiveness of closest available unit automatic-aid response.

**Schedule:**

- Station 88 facility modifications: 18-24 months
- Response time monitoring and analysis: on-going



**2015 Estimated Cost:**

- Station 88 facility modifications:
  - Approximate footprint of addition: 1,500 square feet
  - Typical average design and engineering estimate:
    - \$35-\$40/square foot = \$52,500 -\$60,000
  - Typical average construction cost estimates
    - \$160 – \$170/square foot = \$240,000-\$255,000
  - Total rough estimate: \$292,500 -\$315,000

**Fire Training Facility.**

Firefighters (both career and volunteer) are mandated to train a minimum of 240 hours per year per person. The CSD property adjacent to Fire Station 89 has viable potential for a fire training facility. There are several manufacturers that construct custom training facilities from refurbished sea-cargo containers. These are legitimate facilities that can be client customized (West Sacramento has one that is only 3 years old). These training structures can be completed for approximately \$125,000 - \$300,000 depending on the design. This is a fraction of the cost for building a concrete cast-in-place training tower.



*Proposed training facility space adjacent to Station 88*

A local training building with a burn chamber would afford the CFPD the ability to train fire companies within the District's boundaries with some level of live fire, search and rescue, ventilation, and ladder work training; using on-duty personnel without involving extended travel time the CalFire location in Ione, and paying overtime for back-fill personnel or overtime for the personnel actually going to training during their off-duty time.

Beyond a full-scale training tower, there is an array of viable alternative training facility options to consider. Most of these are achievable through the Assistance to Firefighters Grants (AFG) funded through FEMA with the typical grant application filing dates taking place annually in December. Some options include:

- SCBA confidence course,
- Flashover simulator,
- Mobile multi-trainer (live fire, ventilation, and roof training aids),
- Stacked system of containers forming multiple configurations, and
- 2-story residential unit with a working gable roof, burn room chamber, balconies, stairs, above ground ladder-work, and hose stream training aids.

Another option to consider exploring is including a regular budget item for the rental use of any number of established regional live fire training trailers that may be available for annual or bi-annual live fire training for all personnel. This would require some research and negotiation for daily/weekly rates of equipment and training personnel. An economy of scale can be achieved by sharing the cost regionally amongst the automatic-aid partners. Conclusion: ***Research viability of alternative; plan/budget accordingly.***

- **Recommendation:** Research viability of each alternative and plan and budget accordingly.
- **Priority:** Intermediate
- **Schedule:** 3-5 years
- **2015 Estimated costs:** \$100,000 - \$300,000, depending on size and complexity of training facilities and aids, or budgeting for the annual rental and cost of instructors for 1-2 weeks use of an on-site "live fire" training trailer. Consider negotiating as a county or regionally shared resource with costs shared on pro-rata basis.

## SECTION 4 CAPITAL IMPROVEMENT PLAN

A well-formulated Capital Improvement Plan (CIP) is rooted in consistent planning for major expenditures and in anticipation of the “just-in-time” replacement of apparatus, equipment, and facilities. CIPs are most effectively done in 5-year increments in which the current year drops into the annual operating budget and off of the 5-year plan. Then the CIP is replaced by a new 5<sup>th</sup> year so that it is a continuing process that is tied directly to normal annual budget preparations. Supported by an appropriate funding stream and thoughtful analysis and forecasting by staff, the CIP is a powerful instrument for managing a Fire Department’s level of service delivery.

Major capital improvements may include the following:

- **Apparatus:** Purchase and/or refurbishment/replacement of Type-I/Type-III pumper engines; squad and/or rescue vehicles; aerials; ladder trucks; water tenders; command vehicles; utility vehicles; and light vehicles or sedans.
- **Major equipment:** Purchase and/or replacement of: personal protective equipment (PPEs); self-contained breathing apparatus (SCBAs); rescue tools; advanced life support (ALS) cardiac monitoring/intervention equipment, and fire hose.
- **Facilities:** New construction and/or renovation of fire stations, vehicle maintenance facilities, training facilities (both didactic classrooms and manipulative drill ground buildings and props), emergency operations centers, and administrative and support offices.

The CIP allows policymakers and management to effectively plan, approve, and implement a sustained and continuous effort when operating a modern suburban fire protection service delivery system through a proactive budgeting strategy. If funding for a CIP has not yet been established, there is a requisite initial investment whenever inaugurating or restoring a CIP. This is necessary for creating a baseline of equipment and identifying the sources of funding to support an equipment and facilities replacement schedule based on a formally established policy specifying the useful service life of equipment and facilities. Certain safety equipment, such as structural and wildland firefighting gear and self-contained breathing apparatus, has OSHA-mandated service lives.

Some estimated expenditures could include the following:

- **Apparatus Replacement:** Currently, the Cameron Park Fire Department (CPFD) has no standard apparatus and equipment depreciation and replacement schedule, nor does it have an amortized equipment replacement fund. As a result, front line apparatus fall either into a deferred replacement mode or apparatus replacement is funded through a variety of creative methods ranging from one-time capital appropriations to seasonal apparatus “leasing” agreements with the State.

Apparatus replacement funding has most recently been accomplished through the aforementioned seasonal leasing of apparatus to the California Department of Forestry and Fire Protection (CalFire) for statewide deployment during wildland fire season (generally May through October). And, while this is a creative solution for leveraging fire department resources to fund new apparatus, it represents a short-term stop-gap solution for a long-term problem that must be addressed.

Some drawbacks to continuing the current approach include:

1. The funding stream is not sufficient to replace apparatus on a reasonable schedule of 10 years for front line service and 5 years for reserve service. Even with an extension of that replacement schedule to 15 years front line and 5 years reserve service for a total of 20 years, the leasing revenue is insufficient given the present number of front line apparatus, and the problem will only worsen over the course of time.
2. This strategy places CPGD into what amounts to being engaged in a vehicle “rental service” with no accounting for apparatus depreciation or the useful service life of the apparatus used to support the funding stream. Once these assets are depreciated and/or reach the end of their useful service lives, they will need to be funded for replacement. Regardless, there is currently no ongoing process for funding apparatus replacement.

A standard cycle of front line apparatus replacement (depreciation and replacement amortization) for a modern suburban fire department would likely be as previously stated: 10 years front line service followed by a minimum of 5 years reserve service before being decommissioned from the fleet. However, given the available resources of the CPGD, it may be more practical to extend the service life to 15 years front line service followed by a minimum of 5 years reserve status service before being evaluated for being decommissioned from the fleet (i.e., 15 to 20 years of service).

A recommendation for adjusting the service life of apparatus (up or down in the number of service years) is based on the continual analysis of on-going maintenance costs to determine trends in exceptional costs that are in excess of routine preventative and regular maintenance expenditures. The apparatus maintenance record system should be able to indicate how much is spent in time and materials for maintenance costs on any single apparatus. It should have the ability to flag those apparatus that have gone beyond their cost-effectiveness equilibrium, thus reaching a point of diminishing returns where the value of continuing repairs exceeds those of servicing a new apparatus.

**Recommendations:** Adopt and implement an apparatus replacement schedule policy of 15 years front line service for all firefighting apparatus, with a minimum of 5 years reserve service before consideration of decommissioning the apparatus.

Policy should also require the maintenance of accurate equipment and repair records. This data will support the evaluation of useful service life for each apparatus, and it will take into account any necessary adjustments to either extend or reduce front line or reserve service status.

Staff should regularly review and analyze maintenance records and cost-effectiveness to determine if capital outlay for refurbishing and repowering apparatus may be considered as a viable alternative to transitioning from front line to reserve status—or, from reserve status to de-commissioned from service altogether. This analysis should be done on a case by case basis. It is recommended that Engine 389 be replaced to maintain two reserve engines. After the new engine arrives (on/about September 2015), the Fire Department will then have two Type 1 reserve engines.

It is recommended that light vehicles should be considered for a replacement policy of 5 years for Battalion Chief Command Vehicles (due to intense, high mileage use), and 15 years



for Utility Vehicles. It is also recommended that Utility 289 not be replaced when it becomes no longer serviceable, and that CPFDD maintain only 2 utility vehicles, thereafter.

Several light vehicles in the CPFDD’s fleet could be due for replacement next year (2016), most notably the B/C Command Vehicles and Utility 89. One of the B/C vehicles could be relegated to replace Utility 89, leaving only the two B/C vehicles to be evaluated for replacement. The replacement cost for the two completely outfitted B/C vehicles could run between \$110,000 and \$140,000. Since this should happen soon, the cost for the replacement of both vehicles would be outside the recommended amortization funding. Alternatively, the replacement of one or both B/C vehicles could be deferred based on a cost-effective analysis of mileage and maintenance costs versus the costs of a newly purchased vehicle. Future replacement of these vehicles would be financed via the amortized replacement fund when it is established.

Regular analysis should determine the need for adjusting any of the recommended apparatus/vehicle replacement schedules with the corresponding funding level in the recommended amortization schedule being adjusted up or down accordingly.

**Priority:** Immediate

TABLE 2 APPARATUS AND LIGHT VEHICLE REPLACEMENT SCHEDULE				
Schedule	Purchased	Front Line	Refurb or Rsrv	De-comm
Engine 89	2006	9 years	2015	2020
Engine 88	2006	15 years	2021	2026
Engine 289	2001	5 years	2006	2021
Engine 288	2012	15 years	2027	2032
Engine 389	1990	15 years	2015	2020
Battalion 2715	2010	5 years	2016	2016
Battalion 2716	2010	5 years	2016	2016
Utility 89	2001	15 years	2016	2016
Utility 88	2010	15 years	2025	2025
Utility 289	1999			2019

Source: Weisgerber Consulting, July 2015.

**2015 Estimated Costs:**

- New Type-I engine completely equipped: \$650,000/each
- New B/C Command Vehicle completely equipped: \$70,000/each
- New F-150 utility vehicle w/shell, completely equipped: \$55,000/each

Based on the replacement costs in 2015, and if the CPFDD were starting from a baseline of all new apparatus and light vehicles, for FY 2015/16 it is recommended that an annual amortization fund be established for apparatus replacement in the amount of \$75,000-\$100,000.

It is also recommended that staff factor into any funding decisions the possibility that the two B/C vehicles could be due for replacement in the next year or two due to their high mileage (\$55,000-\$70,000/each).

- **Major Equipment Replacement:** This section discusses the replacement of major equipment in the on-going business of fire, rescue and EMS service delivery by the CFPD. It includes personal protective equipment (PPE) turnout gear, self-contained breathing apparatus (SCBA), rescue extrication tools, advanced life support (ALS) cardiac monitoring/intervention equipment, and fire hose.

1. **Personal Protective Equipment (PPE):** PPEs are eligible to be replaced every ten (10) years, or every two NFPA standards revision cycles, or whenever the equipment is damaged beyond repair or fails an inspection. The CFPD has approximately 65 sets of structural firefighting gear and an equal number of wildland firefighting PPE gear. The 2015 cost for each of these is as follows: 1 set of structural firefighting turnouts (pants and jacket) cost approximately \$6,000, and 1 set of wildland firefighting gear (pants and jacket) cost approximately \$1,200.

The CFPD typically buys some number of new PPE gear for the career-paid personnel on an annual basis; then it “hands down” the older PPE gear to “resident” firefighters and volunteers. Therefore, in order to amortize the cost of PPE replacement in a planned fashion over a 10 year period, the fire department should budget \$50,000 annually toward PPEs, in addition to maintenance and repairs. This would, in effect, replace the entire compliment of PPEs (structural and wildland) in manageable increments over each successive 10-year period.

**Recommendation:** Amortize the cost of PPE replacement over a 10 year period, should consider budgeting \$50,000 annually, in addition to maintenance and repairs. This would, in effect, replace the entire inventory of PPEs (structural and wildland), in manageable increments, over each successive 10-year period.

**Priority:** Immediate for initiating annual amortization funding for completing an on-going PPE replacement cycle.

**Schedule:** Annual amortization for PPE replacement every 10 years.

**Cost:** \$50,000 annually, to replace 7 sets of both structural and wildland PPEs.

Recommend including annual CPI index inflator and/or annual unit cost survey to use to adjust annual funding levels so they are commensurate with replacement costs.

2. **Self-Contained Breathing Apparatus (SCBA):** The CFPD has 25 SCBA units with a 2015 estimated replacement cost of \$7,000-\$8,000 each, equaling a potential \$200,000 capital outlay. Fortunately, the CFPD has just replaced the entire complement of SCBAs through grant funding, and replacement is not likely to be necessary prior to 2030 unless parts become unavailable or cylinders fail regular hydrostatic testing. However, an eventual replacement project must be anticipated and planned for as part of on-going financial planning.

All SCBA cylinders require periodic hydrostatic testing as required by 49 CFR 180.205. The frequency of the maintenance depends upon the cylinder material, as follows:

- Steel cylinders should be tested every five years and have an indefinite service life until they fail a hydro test.
- Aluminum cylinders (not including hoop-wrapped) should be tested every five years and have an indefinite service life until they fail a hydro test.
- Hoop-wrapped cylinders should be tested every three years and have a 15-year service life.
- Fully wrapped fiberglass cylinders should be tested every three years and have a 15-year service life.
- Fully wrapped Kevlar cylinders should be tested every three years and have a 15-year service life.
- Fully wrapped carbon fiber cylinders should be tested every five years and have a 15-year service life.

**Recommendation:** An annual amortization funding of approximately \$15,000 should be created for the replacement of SCBAs in addition to their annual maintenance budget.

**Priority:** Immediate for initiating annual amortization funding.

**Schedule:** Annually in order to prepare for the ultimate replacement of the SCBA inventory whether through obsolescence or non-serviceability.

**Cost:** \$15,000 annually, and recommend including an annual CPI index inflator and/or unit cost survey in order to adjust funding levels commensurate with replacement costs.

3. **Rescue Tools:** Hydraulic rescue tools are mission critical equipment to delivering services. Especially given the proximity and frequency of response by the CFPD to Highway 50 incidents, these units are of particular significance and value for disentangling and extricating trapped victims in vehicle accidents. These units should be replaced every 5-7 years depending on advances in technology and the cost of maintenance and repairs to each unit. The CFPD has four (4) Rescue Tool units at a 2015 cost of \$30,000 each. These are due for replacement in FY 2018-19. An annual capital amortization of approximately \$18,000 should be created for the replacement of Rescue Tools in addition to their annual maintenance budget.

**Recommendation:** The Rescue Tool units are due for replacement in FY 2018/19. An annual capital amortization of approximately \$20,000 should be considered for the replacement of Rescue Tools every 6 years (may be desired/required sooner, depending on advances in technology and annual cost of maintenance and repairs for each unit), in addition to the annual maintenance budget.

**Priority:** Immediate for initiating annual amortization funding.

**Schedule:** Annual amortization for Rescue Tool replacement every 6 years. This does require an accelerated 4-year schedule for replacing units in FY 2018-19.

**Cost:** \$30,000 annually for the first four years on the accelerated schedule then \$20,000 annually thereafter on 6-year replacement schedule, and use an annual CPI index inflator and/or unit cost survey to adjust funding levels commensurate with replacement costs.

4. **ALS Cardiac Monitors:** Cardiac monitors are mission critical equipment in the delivery of Advanced Life Support (ALS) service in the field, to the Cameron Park community and as part of the El Dorado County EMS JPA. The monitors should be replaced every 6-8 years depending on advances in technology and annual cost of maintenance and repairs. The CPFCD has four Cardiac Monitor (4) units at a 2015 cost of approximately \$30,000 each. These units are recommended for replacement in FY 2019-20. An annual capital amortization of approximately \$18,000 should be set aside for the replacement of Cardiac Monitors in addition to their annual maintenance budget.

**Recommendation:** The ALS Cardiac Monitoring units are due for replacement in FY 2019-20. An annual capital amortization of approximately \$18,000 should be established for the replacement of Cardiac Monitors every 7 years. This may be desired or required sooner depending on advances in technology and the annual budget for maintenance and repairs for each unit.

**Priority:** Immediate for initiating annual amortization funding for the replacement of ALS Cardiac Monitors.

**Schedule:** Annual amortization schedule for ALS Cardiac Monitor replacement. This does requires an accelerated 5-year schedule for replacing units in FY 2019-20.

**Cost:** \$24,000 annually for the first five years on the accelerated schedule then \$18,000 annually on a 7-year replacement schedule. Recommend including annual CPI index inflator and/or unit cost survey to adjust funding levels commensurate with replacement costs.

5. **Fire Hose:** The National Fire Protection Association's (NFPA) Standard-1962 calls for annual hose testing and allows for keeping hose as long as it passes the annual service test. However, a generally accepted practice is to remove hose from service after 10 years, as recommended by the NFPA in Standard-1962 (2008 Edition), Annex A.7.1., which states *"While all users should establish their own retirement schedule, fire departments should give careful consideration to a 10-year maximum service life under normal operating conditions."*

Therefore, an annual budget should be maintained for replacing a prescribed amount of hose inventory, so it will not need replacement all at once—while also providing for damaged hose repair and replacement. This allocation can be amortized over 10 year increments. The following are a representation of the average hose costs in 2015: 50-foot length of 1-3/4" double-jacketed fire hose approximately \$150; 50-foot length of 2-1/2" or 3" double-jacketed hose approximately \$250; and 100-foot length of 5" Large-Diameter Hose (LDH) approximately \$525.

**Recommendation:** Outfitting an entire engine with a complete hose change costs approximately \$9,000 in 2015 dollars. With 5 engines in the CPFCD fleet, this represents an in-service inventory of approximately 9,000 feet of fire hose (not including rack storage inventory). Therefore, an annual hose replacement budget of \$5,000-7,500 is considered reasonable.

**Priority:** Immediate for initiating annual amortization funding for completing an on-going fire hose replacement cycle.

**Schedule:** Annual amortization for fire hose replacement cycle.

**Cost:** Not less than \$5,000 annual allocation but likely not exceeding \$7,500 annually. Also recommend including an annual CPI index inflator and/or unit cost survey to adjust funding levels commensurate with replacement costs.

**Facilities:** Given the robust nature of El Dorado County’s automatic-aid, closest available unit for response model, the most efficient and cost-effective measure the CFPD can operationally take, regarding facilities, is to renovate Fire Station 88.

Fire Station 88 was constructed in the 1980’s with a part-time volunteer staff model in effect at the time. The station is under-sized and not conducive to full-time staffing space and amenities. Due to the age and construction of the current station 88, the addition of a second story is not likely to be possible, without significant foundation and building envelope upgrades that may exceed the cost of other alternatives. However, preliminary discussions with a design consultant have netted the realistic possibility of an “at-grade” addition of approximately 1,500 square feet, to the existing building.

This addition would modernize the on-duty staff living quarters, and provide a vastly improved working environment. Preliminary investigation into typical, average fire station design and construction costs, render this option a very real possibility for improving the operational facilities of the CFPD.

**Recommendations:**

- Engage in a modification study for expanding the living quarters at station 88 to accommodate full-time staffing.
- Maintain the current automatic-aid agreement that calls for participation of the closest available unit responding to calls for service.
- Regularly evaluate fire station locations, response times, and strength of the automatic-aid agreement’s participation and reciprocity.
- Response time effectiveness should be measured in terms of 90% efficiency for the following benchmarks: (1) call processing time: 1-minute; (2) turnout time: 1-minute; (3) Travel time: 5-minutes.

**Priority:**

- **Immediate:** complete facility modifications to station 88.
- **Intermediate to long range:** Monitor and evaluate first-responders’ efficiency related to call concentration, response time, and effectiveness of closest available automatic-aid unit.

**Schedule:**

- Station 88 facility modifications: 18 months
- Response time monitoring and analysis: on-going

**Cost:**

- Station 88 facility modifications:
  - Approximate footprint of addition: 1,500 square feet

- Typical average design and engineering estimate:
- \$35-\$40/square foot = \$52,500 -\$60,000
- Typical average construction cost estimates
- \$160 – \$170/square foot = \$240,000-\$255,000
- Total rough estimate: \$292,500 -\$315,000

- Staff time for analyzing response time efficiency and effectiveness.

**6. Supplemental Information:**

There are also several other Capital items that were in need some consideration, although they hold more of an intermediate priority.

Replacement of the portable radios (35 count/ \$1,500/ea.) and thermal imaging cameras (TICs) (6 count/\$8,500 ea.). These are all of varying ages and should be replaced in the out years of the currently recommended CIP, or the first years of the next 5-year cycle. 32015 estimated costs for each of these categories is:

- Portable radios (35X \$1500) = \$57,000 (including tax)
- Thermal Imaging Cameras (6X\$8500) = \$55,500 (including tax)

There is also an additional cardiac monitor on the oldest engine (E-389) that needs replacement, but was not accounted for in the recommended CIP. This unit's replacement should be evaluated in the context of keeping a fifth engine in the fleet. If it is deemed desirable to continue maintaining a fifth engine, then a fifth cardiac monitor should be considered in year 4 or 5 of the current CIP.

**CIP TABLE - 1A**

This table represents an optimal 5-year CIP model, using the high end of estimates in each category discussed in the written plan. This model solves “behind schedule” funding for replacing the B/C Light Vehicles in the first year, and spreads the “catch up” amortization of Rescue Tools and Cardiac Monitors over the entire 5 years.

In the out years (FY-2020/21, and beyond) the amortized impact on annual totals will be reduced as the system stabilizes. All costs are in 2015 dollar estimates and should be adjusted for Consumer Price Index (CPI) and/or vendor cost surveys, on an annual basis.

CIP TABLE - 1A					
Item	2015/16	2016/17	2017/18	2018/19	2019/20
Apparatus	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Light Vehicles	\$140,000	0	0	0	0
PPEs	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
SCBAs	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Rescue Tools	\$30,000	\$30,000	\$30,000	\$30,000	\$20,000 <sup>1</sup>
Cardiac Monitors	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000 <sup>2</sup>
Fire Hose	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500
Station 88	\$60,000 <sup>3</sup>	\$255,000 <sup>4</sup>	\$35,000 <sup>5</sup>	0	0
<b>TOTALS<sup>6</sup></b>	<b>\$426,500</b>	<b>\$481,500</b>	<b>\$261,500</b>	<b>\$226,500</b>	<b>\$226,500</b>

<sup>1</sup> \$20,000 (in 2015 dollars) from FY 2019/20 forward, should be adjusted annually for Consumer Price Index (CPI)

<sup>2</sup> \$18,000 (in 2015 dollars) from FY 2020/21 forward, should be adjusted annually for Consumer Price Index (CPI)

<sup>3</sup> Allowance estimate for Design and Engineering

<sup>4</sup> Allowance estimate for Construction

<sup>5</sup> Allowance estimate for Furniture & Equipment

<sup>6</sup> Should be adjusted annually for Consumer Price Index (CPI)

Source: Apparatus: Smeal Manufacturing and Pierce Manufacturing; Cameron Park Fire Department; West Sacramento Fire Department, Public Bids, July 2015; Light vehicles: State of California Public Bid and West Sacramento Fire Department Public Bid, July 2105; Personal protective equipment (PPE): L.N. Curtis & Sons, Inc.; 2015 Yolo County Regional AFG Grant Application, July 2015; Self-Contained Breathing Apparatus (SCBA): Scott Manufacturing, 2014-15; Yolo County Regional AFG Grant Application, July 2015.



**CIP TABLE - 1B**

This table represents an austere 5-year CIP model using the low end of cost estimates in each category discussed in the written plan. This model spreads the “behind schedule” expenditures of replacing the B/C Light Vehicles over two years (with a less expensive model), and does not account for a “catch up” amortization of Rescue Tools and Cardiac Monitors over the entire 5 years. All costs are in 2015 dollar estimates and should be adjusted for Consumer Price Index (CPI) and/or vendor cost surveys, on an annual basis.

While the annual totals in this model appear less daunting than in CIP Table-1A, this model results in significant risks of: having to defer critical equipment replacements due to insufficient amortized funds; continually shifting the shortfall predicament forward into the out years; and, there is an extremely high probability of not ever being able to reach a stable equilibrium in the replacement schedule.

<b>CIP TABLE - 1B</b>					
<b>Item</b>	<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>	<b>2018/19</b>	<b>2019/20</b>
Apparatus	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
Light Vehicles	\$55,000	\$55,000	0	0	0
PPEs	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
SCBAs	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Rescue Tools	\$18,000	\$18,000	\$18,000	\$18,000	\$18,000
Cardiac Monitors	\$24,000	\$24,000	\$24,000	\$24,000	\$24,000
Fire Hose	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Station 88	\$52,500	\$240,000	\$25,000	0	0
<b>TOTALS</b>	<b>\$294,500</b>	<b>\$482,000</b>	<b>\$212,000</b>	<b>\$187,000</b>	<b>\$187,000</b>

*Source: Rescue tools and cardiac monitors: Cameron Park Fire Department, July 2015; Fire hose: L.N. Curtis & Sons, Inc., July 2015; Station 88 remodel/refurb: Design Cost Data (DCD.com); Regional Square Foot Cost Analysis (Western U.S.), June 2013 (adjusted for CPI to July 2015); Kastle & Boos Associates, Chatham, MA, MA Fire Station Design & Construction, October 2013 (adjusted for CPI to July 2015).*



## SECTION 5 LONG-TERM FINANCIAL STRATEGY

This financial strategy provides an analysis and recommendations for the on-going operations and staffing for the Cameron Park Fire Department represented in the most efficient and cost-effective manner and within the available resources of the District. This is designed to be a living document and not the final answer. Utilized along with thoughtful analysis and forecasting by staff, it allows management and policymakers to effectively plan and approve a sustainable maintenance of effort through a proactive budgeting strategy.

This financial strategy document provides a detailed description of several infrastructure and staffing issues by presenting alternatives with a recommendation, an implementation schedule, and an estimated cost to implement the recommendation.

This financial review also considered several courses of action for viable alternative options in funding mechanism strategies as well, ranging from:

- Financial planning possibly including bonds or certificates of participation;
- A benefit assessment election for partial funding of staffing shortfalls and major capital outlay expenses;
- Fees for service agreements for extraordinary circumstances; and
- Active pursuit of annual FEMA grant funding opportunities (SAFER and AFG).

However, since the nuances of each option varies as to implementation, it affects the cost and timeline. Therefore some general guidelines as to 2015 costs were included, along with recommendations for research and consideration of best practices, in terms of future financial strategy discussion. For planning purposes, the County Assessor's Office lists 6,897 parcels in the Cameron Park Community Services District. This data provides a good starting point for analyzing possible revenues available from benefit assessments, parcel fees, or other property based income sources.

Strategy: The level of ongoing staffing and infrastructure support necessary to sustain the Cameron Park Fire Department (CPFD) at even the current level of community fire and emergency services requires a financial maintenance of effort for capital facilities projects, apparatus and equipment replacement, and possibly staffing. Over time, costs are naturally going to increase for the delivery of fire and emergency services, while revenues in Cameron Park are forecast to remain relatively flat. These circumstances are exacerbated by the fact that Cameron Park is reaching "build-out" and developer impact fees will no longer be applicable. Moreover, there are several situations that require thoughtful attention now, and into the future, for mitigation.

Issue: Operational support is in need of a funding mechanism for capital outlay projects of large magnitude (facilities and large apparatus and equipment replacement), and/or staffing shortfalls that are on-going. The CSD's developer impact fee schedule has been a source of one-time revenue to compensate the fire department for initial impacts. However, with the CSD approaching build-out, this revenue source is rapidly coming to an end.

In recent history, the CPFD experienced a cyclical staffing model that has necessarily fluctuated with the annual revenue stream. This often results in sub-standard 2-person staffing on front

line engine companies, over the course of single and/or multiple fiscal year budgets, thus placing both first responders and the community at a higher than normal risk. The third person on each in-service engine is critical to effect firefighting with the first arriving company on a first alarm assignment of a structure fire. The engine companies of the CFPD are only staffed with three personnel approximately 70% of the time by utilizing resident firefighters as the third person. Resident firefighters work seasonally for CalFire, and they are gone on assignment in the summer months, but staffing improves in the winter when they return.

This 30% shortfall in engine staffing should be considered for funding. Adding permanent staff to achieve full time three person engine companies is needed. Possibly this can be accomplished via a benefit assessment measure. Not addressing this option for closing such a critical staffing gap could prove to be detrimental on many levels.

By way of example, the story (below) of a failed fire service assessment costing residents hundreds—if not thousands—of dollars per household, happened in a Bay Area rural interface fire district, just a few months ago:

*On May 11, 2015, the East Contra Costa Fire Protection District residents voted down a benefit assessment that would have cost about \$100 per year per home. The rejected \$100 a year per parcel assessment will quickly be surpassed by much higher insurance rates. Fire service delivery was cut by 40% and homes there will be re-rated and charged accordingly for much greater risk (estimated at \$300-\$400 per year per home increase). George Stewart, manager of the East County Insurance Company, stated, "In some cases it could be to the point where the company itself, can't insure [homeowners]. And, [the homeowners insurance] would have to go to the FAIR Plan—which translates to thousands of dollars above a standard premium." A 40% reduction in stations and staffing (which is what occurred in East Contra Costa FPD) is equivalent to 2.4 personnel/per day in layoffs, with 3.6 personnel/per day in staffing, for CFPD. This would likely be represented in Cameron Park as 2 personnel on the ambulance and 1.6 on a single engine.*

Moreover, an intelligently planned and scoped assessment holds a strong potential to fund proportionally large capital outlay expenses in addition to improved staffing.

Possible Remedy: It is recommended that the CFPD would greatly benefit from a well-crafted strategic financial plan as a companion to this strategic Fire Department Master Plan and CIP. Moreover, it is recommended that the CSD give strong consideration to engaging the services of a qualified governmental financial consultant to advise and inform the District on the viability of available options for long-term financing of infrastructure, and an analysis of the effects of smoothing the costs of large capital expenditures over a period of time via an predictable debt service scheduling model. (An initial analysis of this type would likely cost approximately \$25,000).

It is further recommended that the CSD give strong consideration to exploring the advantages and viability of a successful benefit assessment election (under provisions contained in Proposition 218) to provide reliable on-going revenue to adequately staff its emergency first responder apparatus with a third person for the remaining 30% of the time. A successfully passed effort of this nature will provide a consistent and reliable revenue stream to provide the community with a level of staffing that it should be receiving from a modern suburban interface fire department. (An initial analysis would also be approximately \$25,000).

Issue: The frequency and volume of emergency calls for service generated by the Ponte Palmero Senior Community create a disproportionate demand on CPFDD resources, yet the facility holds a non-profit status and pays no ad valorem secured property tax increment, and as such Ponte Palmero pays for no governmental services. This unfunded consumption of CPFDD resources should necessarily be accounted for.

Possible Remedy: Explore the possibility of a fee for service agreement with Ponte Palmero Senior Community. An initial benchmark of a \$100/year per unit (less than 27 cents/day) pass-through service fee might be considered a reasonable service fee; for the facility that is responsible for the greatest number of emergency calls per capita, without any contribution to the on-going ad valorem tax base in support of government services provided the CSD. If this approach is rendered impossible with the existing Ponte Palmero Senior Community (even as a phased-in approach), then it should certainly be considered for negotiation in future development agreements, and similarly situated non-profit facilities.

Grant Opportunity Remedies: The CPFDD should consider aggressively pursuing the annual funding opportunities through FEMA's Assistance to Firefighters Grant (AFG), typically available in January of each year. If chosen, the CPFDD could receive funding for apparatus and/or equipment on a one-time basis. Typically, there is a 10% matching fund requirement.

If the CPFDD lacks expertise in grant writing, there is a regional grant approach available (particularly with the AFG), whereby the CPFDD could partner with another agency or group of agencies in seeking similar resources using an economy of scales, which often is given a higher funding priority than proposals from individual agencies. Moreover, there are a number of consultants available to either train CPFDD personnel or to write the grant proposal itself. Both of these have had very high success rates. Also, many vendors (PPEs, SCBA, Modular Training Towers/Props, and Exhaust Extraction Systems) offer assistance with grant writing and grant writing templates.

Equally valuable and attendant to the AFG are grants available through FEMA's "Staffing for Adequate Fire and Emergency Response" (SAFER) program—typically open for application in November of each year. These grants are highly competitive but not unattainable, particularly given the level of urban interface risk that Cameron Park faces and the limited resources that are available to address that risk. SAFER grants are currently funding positions for a full two years with no matching funds required from the grant receiving agency. And, there is no obligation to retain employees after the grant performance period. This is a method by which to consider staffing-up, following a downturn cycle, and gaining the ability to replenishing FTEs in anticipation of revenue (e.g., the aforementioned 30% staffing gap).

**Recommendations:**

- Commission services of qualified governmental financial strategist to analyze viability of various funding strategies.
- Commission services of qualified consultant for feasibility effort on viability of a Prop 218, Benefit Assessment Election to fund staffing and/or infrastructure.
- Allocate staff time and training to pursue FEMA grants annually available in the SAFER and AFG programs, in coordination with the El Dorado County Operational Area (County OES).

**Priority:** Immediate

**Schedule:** 18-24 months

**2015 Estimated Cost:**

- \$25,000 for an initial 50-hours financial strategic analysis;
- \$25,000 for a Prop 218 engineering study.
- Staff time for grant writing

## SECTION 6 REFERENCES

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