DISASTER AND FIRE SAFETY COMMISSION
REGULAR MEETING

October 25, 2023
7:00 PM

Fire Department Division of Training Classroom – 997 Cedar Street

Mayor's Appointee- Andy Katz

District 1 – Michael Wilson
District 2 – Weldon Bradstreet
District 3 – Todd Darling
District 4 – Robert Kinosian
District 5 – Shirley Dean
District 6 – Greg Murphy
District 7 – Harrison Raine
District 8 – Theo Gordon

AGENDA

Preliminary Matters
Call to Order

Approval of the Agenda

Public Comment on Non-Agenda Matters

1. Chairperson's Report
2. Fire Department Staff Report*
   Staff Report includes presentation on Fire Department FY23 Overview and FY24 Goals* (Staff)

Consent Items

3. Minutes of September 27, 2023*
   From: Commission Secretary
   Recommendation: Approve the draft minutes of the September 27, 2023 Regular Meeting.

Action Items

4. Send a Commendation Letter to Steve Greenberg for his years of service to the City's Community Emergency Response Team (CERT) program (Bradstreet)*
5. Provide a recommendation to City Council on the development of a plan that includes a feasibility study and identification of funding sources for constructing an emergency secondary access road on Panoramic Hill (Dean)*
6. Provide recommendation to Council regarding separation of mixed-use pedestrian and e-bike pathways (Dean)*
7. Request to merge action and discussion calendars under the title "Items for Discussion and Possible Action" (Dean)*

Discussion Items

8. New Commissioner Work Plan Participation* (Bradstreet)
9. Clarification of recently approved ordinance on ADUs and JADUs* (Dean)
10. Discussion on impact of increased density due to new developments along Shattuck/Adeline (Darling)
11. Discussion on biolabs and other large facilities, hazardous materials contained therein, and potential emergency response impacts and challenges (Dean)

Work Group Reports

- Plan & Budget Oversight
- Home Hardening
- Wildland Urban Interface
- Safe Passages
- Community Outreach

Future Agenda Items and Next Steps

- Send a Commendation Letter to Chief Sprague for the Master Facilities Plan (Dean)

Adjournment

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This meeting will be conducted in accordance with the Brown Act, Government Code Section 54953. Any member of the public may attend this meeting. Questions regarding this matter may be addressed to Keith May, kmay@berkeleyca.gov 510-981-5508.

Communications to Berkeley boards, commissions or committees are public record and will become part of the City's electronic records, which are accessible through the City's website. Please note: E-mail addresses, names, addresses, and other contact information are not required but, if included in any communication to a City board, commission, or committee, will become part of the public record. If you do not want your e-mail address or any other contact information to be made public, you may deliver communications via U.S. Postal Service or in person to the secretary of the relevant board, commission, or committee. If you do not want your contact information included in the public record, please do not include that information in your communication. Please contact the secretary to the relevant board, commission, or committee for further information.

Any writings or documents provided to a majority of the commission regarding any item on this agenda will be made available for public inspection at Berkeley Fire Department located at 2100 Martin Luther King Jr. Way Berkeley, CA.

COMMUNICATION ACCESS INFORMATION:

This meeting is being held in a wheelchair-accessible location. To request a disability-related accommodation(s) to participate in the meeting, including auxiliary aids or services, please contact the Disability Services specialist at 981-6418 (V) or 981-6347 (TDD) at least three business days before the meeting date. Please refrain from wearing scented products to this meeting.

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I hereby certify that the agenda for this regular/special meeting of the Berkeley City's Disaster and Fire Safety Commission was posted at the front of the Division of Training, 997 Cedar Street, as well as on the City's website, three days prior to the scheduled Commission meeting.

SECRETARY SIGNATURE

DFSC Staff Report

October 25, 2023

1. Measure FF Monthly Report
    a. Budget Overview –
    b. Quarter 1 (July, August, September) report due in November
    Quarter 2 (October, November, December) report due in February
    Quarter 3 (January, February, March) report due in May
    Quarter 4 (April, May, June) End of Year Report due in October
        i. Program Review

- **Standards of Coverage Analysis –** The Department is undergoing an in-depth analysis of fixed and mobile resources to determine the best deployment model and to ensure the Department is responding effectively and efficiently. (*Measure FF has funded the study only*)
    - Status: No New Update

- **Community Wildfire Protection Plan (CWPP) –** The CWPP is a comprehensive risk analysis that addresses local target hazards and includes a community-based action plan to mitigate threats, promote preparedness activities, and ensure resiliency. It will serve as the foundation and roadmap for the Departments work to prevent wildfire and limit the spread when they ignite.
    - Update: Approved by City Council on May 16, 2023 (Item 1) Waiting for signatures from Cal Fire.

      https://cwpp-berkeley.hub.arcgis.com/

- **Wildfire Prevention / Mitigation – Vegetation Management Inspections –**

    - **Updates:** The success of the Chipper Program continues and the service has been extended to December.

- **WUI Interns –** The Interns provide Berkeley Fire Department with a trained, mobile and mission-specific workforce that is principally assigned to monitor vegetative hazardous fuel on or near structures, collect data, and identify reduction activities

    - **Updates:** 7,053 properties have been inspected with 1,266 re-inspections. If a resident is not home, a Door Hanger is left after the inspection which provides each property a unique access

code. The property owners are required to access the report to find out if they received violations or if they passed.

- **Safe Passage -** The Fire Department has contracted with a vendor to help the City of Berkeley meet requirements outlined in SB 99, AB 747, and AB 1409, provide City with professional services in the areas of traffic and evacuation modeling and planning, given various evacuation and/or emergency response scenarios as determined by the City.
    - **Update:** No new updates.

ii. Implementation & Metrics
- **Outdoor Warning System** – See attached Memo on the OWS System Approach and Initial Findings
- There are a total of 13 of the 15 systems in place.

2. Measure GG Monthly Report
    a. Budget Overview – No new update
    b. Quarter 1 (July, August, September) report due in November
    Quarter 2 (October, November, December) report due in February
    Quarter 3 (January, February, March) report due in May
    Quarter 4 (April, May, June) End of Year Report due in October

3. Fire Facilities Master Plan (FMP): Berkeley Fire Department stations are undersized, in poor condition and in need of remodels or replacement. The Department initiated a long-term replacement planning process to better understand infrastructure needs. This process will provide the City leaders of today and tomorrow with actionable information ahead of future infrastructure bond measures. (*Measure FF has funded the study only*)
    a. Update: Approved by City Council on May 16, 2023 (Item 2) . **No new update**

4. Department Hiring Activities
    a. We are in the process of filling a vacant Office Specialist position in the Front Office at our Administration Building.
    b. We have begun the Fire Marshal recruiting process knowing that our current Fire Marshal will be retiring within the next year.
    c. Our second EMS Academy will start October 30th and we have started the recruitment for our third EMS Academy.
    d. Assistant Fire Chief and Battalion Chief internal promotion exams are also open for applications.
    e. We have also been approved to hire a second Deputy Fire Chief and anticipate that application period will open in early November.

5. Grants
    a. **SAFER Grant Planning:** We will be submitting for a SAFER grant to begin to address the staffing recommendations that are outlined in the Standards of Coverage report. A team has been working on the application for several months now and we are close to having a final draft.
        i. We have not heard anything official, but we do know that the grants have been awarded and we were not on the list.
    b. **AFG Grant Submission:** We applied for ~800k that would fund two additional full-time on-site Human Performance Specialists for two years who would focus on nutrition and behavioral health.
        i. We were awarded this grant and in the process of scheduling interviews. The two positions will focus on nutrition and the other on mental performance. These positions will be funded for two-years and will round out our Human Performance Team.
    c. **Cal Fire, Berkeley, and El Cerrito Grant:** The City is applying for a $5 million grant to perform education, outreach and direct aid to Fire Zone 2, 3 and to perform work in Cerritos Canyon on both the Berkeley and El Cerrito/Kensington sides.
        i. No New Updates. This grant was denied this go around.
    d. **CalFIRE Hills Emergency Forum (HEF) Grant:** Berkeley Fire is submitting for about $2.8 million multi-agency mitigation grant that will provide funding for hazardous vegetation management along key roadways in Fire Zone 2, mostly along all of Grizzly Peak. A lot of work is going into this and the benefits will be a huge win for the City.
        i. In collaboration with the Hillside Emergency Forum, East Bay Municipal Utility District, and University of California Berkeley, City of Berkeley was awarded $2.8M for the Grizzly Peak Strategic Fuel Break Collaboration. We are working on getting the grant agreement in place before October, which means that work could start in early 2024.

6. Call Volume Report

Fire Department Report by California Incident Type **September 2023**		
Fires – including Encampment Fires (structures, mobile properties, vegetation, rubbish, equipment, cooking, chimney,	54	

Encampment Fires (structures, warming/cooking, debris)	52	
Explosion - no fire (overpressure ruptures, explosions)	0	
Rescue & EMS (medical assist, vehicle accident	935	
Hazardous Condition - no fire (combustible spills/leaks, chemical release, radioactive condition, electrical wiring problem, biological hazard, potential accident w/ building/aircraft/vehicles)	51	
Service Calls (person in distress, water issue, smoke/odor problem, animal issue, public assist, cover assignment/standby)	111	
Good Intent (canceled en-route, wrong location, nothing found, steam mistaken for smoke)	127	
False Alarm Calls (malicious, malfunction, unintentional, biohazard scare)	206	
Severe WX (lightening, wind storms)	0	
Special Incidents (citizen complaints)	8	
TOTAL	**1,492**	

Apparatus Count

Unit Utilization	**3,266**	

DFSC Action Tracker

Date of DFSC Action	Description	Status
	No pending or active Council items.	N/A

From: City of Berkeley Office of Emergency Services
To: Disaster and Fire Safety Commission
RE: Outdoor Warning System (OWS) September 17, 2023 Test Approach and Initial Findings
Date: October 5, 2023

Introduction

On September 17, 2023, Berkeley's Office of Emergency Services conducted the first public test of the City's new OWS network of emergency sirens.

In September 2021, City Council approved a $1.97 million contract with Genasys Inc to build and install the 15-siren OWS, funded by Measure FF. By September 2023, installation was complete at 10 out of 15 siren sites. An additional temporary siren was tested at an 11th location at Live Oak Park as part of a ribbon-cutting and demonstration at the 1923 Fire Commemoration event Fire Ready Fest.

Test Objectives

- Assess the functionality, audibility, and coverage of the newly installed outdoor warning system sirens. Focus on audibility of siren tone and voice announcement for people outdoors within ¼ mile, ½ mile and beyond of a siren site.
- Familiarize the community with the new system, enhancing public awareness and preparedness for potential emergencies. Introduce system without creating distress, confusion, or panic

Methodology

- Public Outreach: citywide postcard, social media, traditional media, newsletter announcements, Nixle, AC Alert, Emergency Map advisory, and build out of pages on the City and BFD websites.
- Siren activation: Sirens were activated at 11 sites using a gentle test chime tone and voice announcement. Siren activation was pre-scheduled at 10 sites and activated live at 1 site.
- Public-facing "Did You Hear It?" Test Day survey: OES disseminated a survey inviting community to identify their location during test and whether they heard the tone and voice announcement.
- Analysis of geographic and qualitative survey data: OES sorted responses into inside/outside categories, measured distance of responses from nearest siren at ¼ mile and ½ mile, and reviewed free responses comments regarding what individuals planned to do if they heard a siren activate during an emergency and what feedback they had on the system.

Initial Findings

- Audibility and Coverage: Over 1700 individuals completed the "Did You Hear It?" Siren Survey, providing OES with a significant amount of quantitative and qualitative data to analyze. The tables below summarize responses for the 415 individuals who were outdoors during the siren test:

Responses to "Did you hear the **siren tone**" among respondents who were **outdoors** during the test:				
	Yes	No	Not Sure	Total Respondents %
Less than ¼ of a mile from siren location	121(88%)	14(10%)	3(2%)	138 (100%)
Between ¼-1/2 a mile from nearest siren location	134(71%)	48(26%)	6(3%)	188(100%)

Responses to "Did you hear the **voice announcement**" among respondents who were **outdoors** during the test:				
	Yes	No	Barely/Could Not Clearly Hear the Words	Total Respondents %
Less than ¼ of a mile from siren location	81(58%)	23(17%)	34(25%)	138(100%)
Between ¼-1/2 a mile from nearest siren location	57(30%)	67(36%)	64(34%)	188(100%)

- Technical Issues: No technical issues were identified. Siren hardware and software operated as expected. OES will implement regular systems training for assigned operators.
- Public Response: Common comments in the free response field, included:
  - Concerns about not being able to hear the test/request to increase volume.
  - Feedback that chime tone is not alarming enough for emergencies[1] and other comments that the gentle chime tone was appreciated.
  - Requests for more siren locations/improved coverage in specific areas[2].
  - Difficulty discerning the voice message at a distance/indoors.
  - Appreciation for testing and implementing the system.

Next Steps

- Schedule the next siren test after the entire network is complete (likely in 2024).
- Continued discussion with host sites and other partners regarding test schedule.
- Continued public outreach on siren capabilities and use cases.

[1] There appeared to be a common misunderstanding that the chime tone used for the test would also be used in emergencies. During emergencies, OES would use a more traditional and attention-grabbing "slow wail" siren tone.

[2] The installation of the four remaining sirens will improve coverage in SW Berkeley and areas near Strawberry Canyon and Westbrae. The activation of UC Berkeley's sirens would also improve coverage near campus.

FY23 Year-To-Date Quarter 4 Measure FF

PROGRAM/VENDOR	AMOUNT	FY23 BUDGET	% USED	NOTES
Administration	**221,710**	**227,801**	**97.33%**	
SALARIES & BENEFITS	221,167			Salary & Benefits
VERIZON WIRELESS (EQUIPMENT)	543			Cell phone
Dispatch	**183,919**	**188,537**	**97.55%**	
SALARIES & BENEFITS	140,900			Salary & Benefits
FEDERAL ENGINEERING, INC.	43,020			Dispatch Study
EMS	**3,559,611**	**3,591,024**	**99.13%**	
ADVANCED TRAFFIC PRODUCTS	11,435			GPS High Priority Vehicle Kit
AIR EXCHANGE	5,606			Exhaust removal system for new ems supervisor
BETTER SOURCE INC	2,320			Task Chairs
BRAUN NW INC	513,026			Ambulances Purchase (2)
CDW-GOVERNMENT	6,418			Equipment
CLOTHING SUPPLIES	4,709			Supplies - Clothing
CONFERENCE EXPENSES	23,267			Conference expenses
FERRO CONCEPTS	208			Ambulance Equipment
GAUMARD SCIENTIFIC COMPANY INC	320,939			Training Simulators (Mannequin)
GRAINGER	809			Speed Bumps (5)
INT SVC - VEHICLE REPLACEMENTS	131,328			Vehicle Replacement Fund
INT SVC - VEHICLE FUEL/MAINT	3,654			Vehicle Fuel and Maintenance
KNOX CO.	19,234			Vehicle Upfitting
LEHR AUTO ELECTRIC	21,811			Vehicle Upfitting
MINUTEMAN PRESS	82			Materials/Printing
MOBILE LIVING TRUCK TOPS INC	5,088			Vehicle Upfitting
NICHOLAS CORP	62,384			Vehicle Upfitting
NIGHTOPS TACTICAL INC	1,457			Helmets
SALARIES & BENEFITS	2,268,226			Salary & Benefits
SIGTRONICS CORP	2,657			Office Supplies Headsets
STRYKER SALES CORPORATION	71,712			Ambulance Equipment
USIQ INC	5,287			Medical Support Team Equipment
VERIZON	1,944			Cell Phone
WELLS FARGO BANK N.A.	6,227			Equipment
ZOLL MEDICAL CORP HEADQUATER	69,783			Monitors for new ambulances
Operations	**1,218,861**	**1,265,483**	**96.32%**	
360 RESCUE LLC	1,822			Tech Rescue Equipment
ATLAS PHONES	346			Phones
BERKELEY OFFICE INTERIOR	5,506			Office Desks
BETTER SOURCE INC	6,003			Task Chairs
BLAISDELL'S BUSINESS PRODUCTS	1,262			Misc. Office Supplies
BLESSO, JAMES BRADLEY	24,641			Safety Equipment
BOUND TREE MEDICAL LLC	-			Medical Supplies (New Amb)
CITYGATE ASSOCIATES, LLC	43,593			Standards of Coverage
CONFERENCE EXPENSES	13,209			Conference expenses
DELL	9,071			Monitors
FIRE SAFETY EDUCATION	3,308			Fire Safety Education Materials

PROGRAM/VENDOR	AMOUNT	FY23 BUDGET	% USED	NOTES
GANEY SCIENCE	548,277			Project Management & SME must recal percentages; Operations Admin: 38% (210,942) Dispatch: 12% (64,466) EMS: 21% (115,332) WUI: 29% (157,537)
L.N. CURTIS & SONS	34,054			Tech Rescue Equipment
LEHR AUTO ELECTRIC	19,310			Vehicle Upfitting
MB JESSEE PAINTING INC	9,900			Commercial Interior Painting
MINUTEMAN PRESS	178			Materials/Printing
MOBILE LIVING TRUCK TOPS INC	5,088			Vehicle Upfitting
NICHOLAS CORP	187,151			Vehicle Upfitting
SALARIES & BENEFITS	50,578			Salaries and Benefits
SIEGEL & STRAIN ARCHITECTS	204,529			Fire Facilities Master Planning Process
SILVA BUSINESS CONSULTING	36,410			Real Estate Consultants
THE FLOOR STORE	9,999			Floor Work
WATERS MOVING & STORAGE	1,896			Moving company
WELLS FARGO BANK N.A.	2,731			Equipment
Paramedics Tax	**757,925**	**757,925**	**100.00%**	
.	**757,925**			No expenses yet
Training	**83,818**	**189,226**	**44.30%**	
4IMPRINT INC	589			Recruiting Materials
ALLSTAR FIRE EQUIPMENT, INC	11,552			Firefighting/Training Equipment
CAL OES	375			Training certificate
CRANDELL RESEARCH SOLUTIONS	7,500			Leadership/supervisor training
CONFERENCE EXPENSES	2,213			Conference expenses
DEPT. OF FORESTRY & FIRE PROTECTION	6,530			Training certificate
FIREFIGHTERS BOOKSTORE, INC	105			Training Supplies
HEIMAN, INC	1,441			Training Maniquin
L.N. CURTIS & SONS	29,764			Tech Rescue Equipment
MINUTEMAN PRESS	178			Materials/Printing
NOR/CAL FIRE PREVENTION OFFICERS	5,625			Membership to Professional Org.
PW Installation	1,161			Door Lock Installation
UNITED SITE SERVICES	2,287			Training Supplies
VARI SALES CORP	833			Equipment
WELLS FARGO BANK N.A.	13,665			Equipment
WUI/FP	**2,656,094**	**2,697,930**	**98.45%**	
72 HOUR CHEVROLET OF WATSO	44,613			Vehicle
ADVANCED TRAFFIC PRODUCTS	3,689			GPS High Priority Vehicle Kit
BLAISDELL'S BUSINESS PRODUCTS	1,730			Misc. Office Supplies
B&H Photo	159			Misc. Office Supplies
CALTOPO	2,000			Vegetation Mapping Software
CONFERENCE EXPENSES	7,424			Conference expenses
CDW-GOVERNMENT	175			Equipment
CHRISP CO	41,354			Safe Passages: Remove, replace sign panels and Curb painting red
CONNORS-HERM, HUNTER A	19,800			Professional Services Photo Library Production Team
DATAPROSE LLC	1,372			Inserts and Intermittent Mailings
DEPT. OF FORESTRY & FIRE PROTECTION	825			Training certificate
FIRE ASIDE	29,705			Defensible Space Inspection/Chipper Day Software

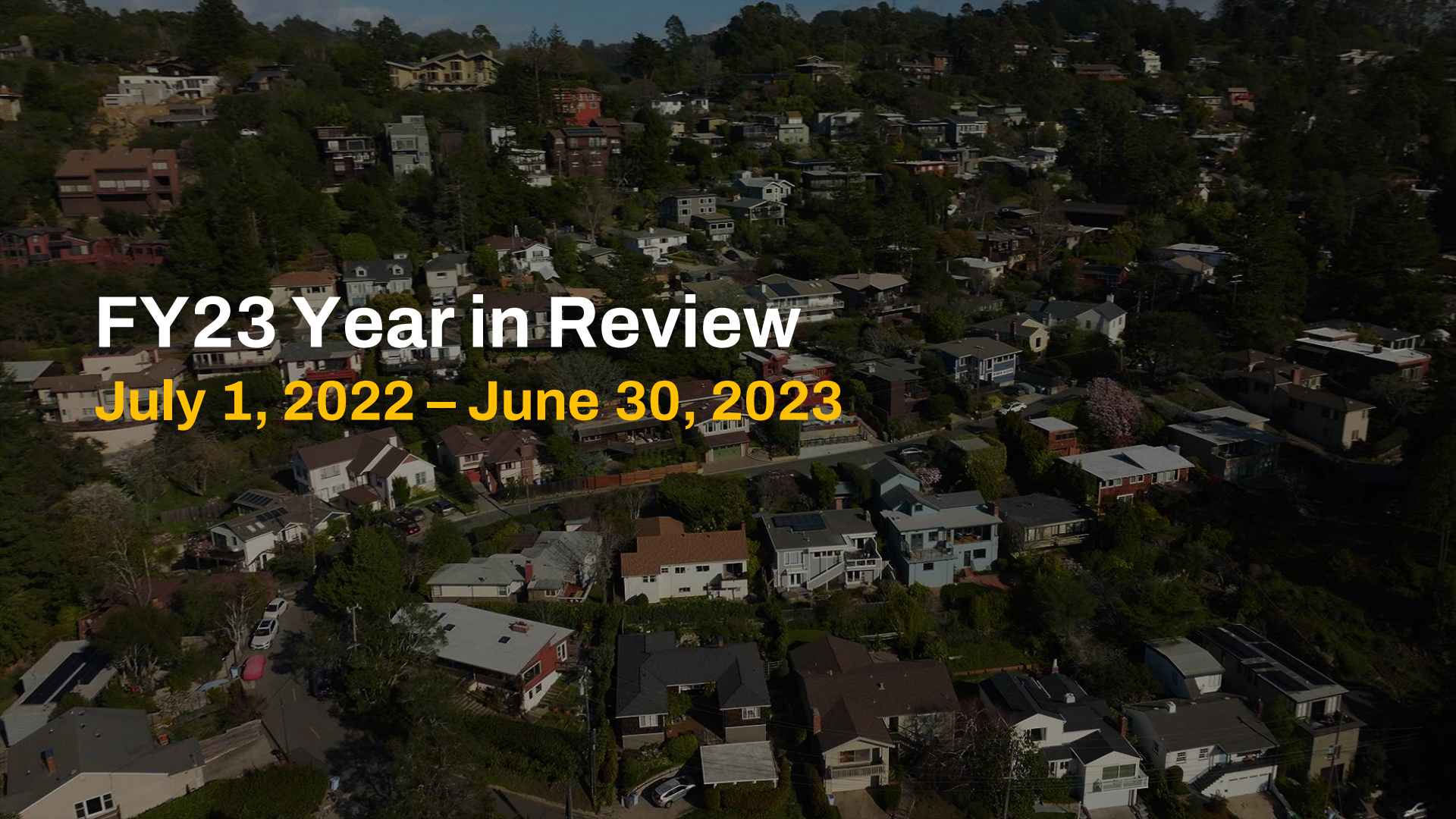
PROGRAM/VENDOR	AMOUNT	FY23 BUDGET	% USED	NOTES
FORSTER & KROEGER LANDSCAPE MAINT.	90,434			Curbside Chipping Svcs
GENASYS INC	849,739			Outdoor Alerting System
INT SVC - CITY PKG PERMITS	34,376			Parking Permits
INTERNATIONAL CODE COUNCIL	1,611			Books and Subscriptions
KNOX CO.	1,041			Vehicle Upfitting
LEHR AUTO ELECTRIC	11,173			Vehicle Upfitting
MINUTEMAN PRESS	430			Materials/Printing
NICHOLAS CORP	62,384			Vehicle Upfitting
ORKIN	1,400			Pest Service
PROTIVITI GOVERNMENT SERVICES, INC.	40,972			Temporary Staffing
SALARIES & BENEFITS	1,354,252			Salary & Benefits
Transfer Station Chipper Day Program	6,471			Disposal Charges for Chipper Program
VERIZON WIRELESS (AIRTIME)	9,342			Phone Service for Ambulances
WELLS FARGO BANK N.A.	3,557			Equipment
WILDFIRE DEFENSE MESH	36,068			Home Hardening Vent/Gutter Mesh
Grand Total	**8,681,938**	**8,917,925**	**97.35%**	

Disaster & Fire Safety Commission

FY23 Review / FY24 Goals

Berkeley Fire Department

October 25, 2023



FY23 Year in Review

July 1, 2022 – June 30, 2023

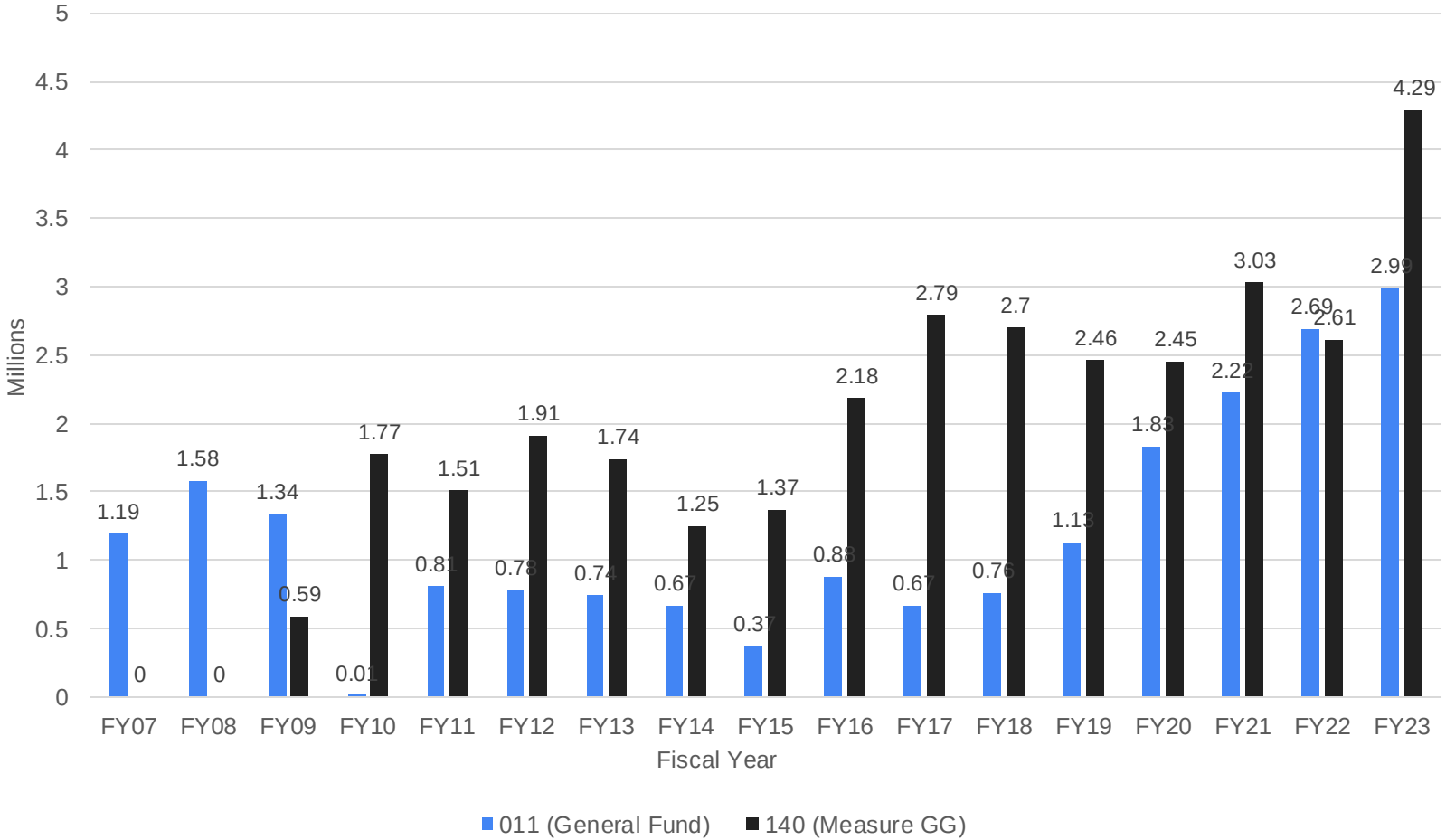
Measure GG

FY23 Budget Review

- **Kept fire stations open** – minimum staffing overtime
- **Emergency communications system replacement** – funded the first full replacement of all portable and mobile fire dept. radios
- **Supported disaster preparedness** - EOC staff training; mass care planning & training, resumption of in-person CERT, Community Resilience Center (CRC) program relaunch & winter storm and mudslide response and recovery

			FY23 ACTUALS					
Program	FY 2023 Original Budget	FY 2023 Revised Budget	Q1 July-Sept. 2022	Q2 Oct.-Dec. 2022	Q3 Jan.-Mar. 2023	Q4 Apr.-June 2023	FY 2023 Actuals	*FY 2022 Actuals*
Disaster Prep	$987,644	$1,192,313	$82,565	$123,099	$106,357	$230,480	**$542,502**	*$985,632*
FRALS	$1,020,331	$817,355	$18,261	$141,455	$45,048	$48,146	**$252,909**	*$196,474*
Minimum Staffing	$2,334,174	$3,928,776	$872,225	$1,413,378	$1,690,373	$665,749	**$4,641,725**	*$2,842,962*
Radio Interoperability	$376,324	$611,324	$5,931	$578,075	$6,373	$7,391	**$597,769**	*$688,913*
Training	$301,473	$301,473	$75,500	$92,273	$84,839	$99,650	**$352,261**	*$439,894*
Community Outreach - HHCS	$256,287	$258,519	$29,917	$66,699	$64,074	$81,538	**$242,228**	*$78,912*
Totals	**$5,276,233**	**$7,109,760**	**$1,084,398**	**$2,414,978**	**$1,997,064**	**$1,132,953**	**$6,629,393**	***$5,232,787***

Actual Overtime by Fund



Measure FF

FY23 Budget Review

- A **programmatic budget proposal** was presented to the DFSC and City Council
- Implemented **detailed quarterly expenditure reports** (20hrs)
- Implemented **detailed end of year report** (tonight) (40hrs)
- Encouraged & supported **City Auditor to review Measure FF expenditures** (~110hrs / FD Only)

FY24 Salary & Benefits

Row Labels	Sum of # Positions	Sum of FY24 (S&B)
Admin	**5**	**$1,038,158**
Administrative Assistant	2	$311,224
AMA	1	$202,619
Comms Specialist/PIO	1	$203,818
Principal Prg Mgr	1	$320,498
Dispatch	**1**	**$284,677**
CQI Nurse	1	$284,677
EMS	**16**	**$3,022,206**
EMT	10	$1,238,285
Firefighter	4	$1,033,933
Asst. Chief	1	$424,675
Captain	1	$325,312
WUI	**5**	**$1,416,952**
OSIII	1	$143,520
Sworn Fire Inspector	3	$849,351
Asst. Chief	1	$424,081
Grand Total	**27**	**$5,761,993**
Total Projected Revenue		**$8,700,000**
Total Projected Expenditure		**$8,620,904**
Delta		**$79,096**

FY24 Non-Personnel

Division & Project	Recurring	One Time
Administration	**$60,000**	
Real Estate	$50,000	
Standards of Cover & Continued Data Analysis	$10,000	
All	**$50,000**	
Workstaton Configuration	$50,000	
Dispatch	**$0**	**$0**
Facility, technology, contracts	$0	$0
EMS	**$273,195**	
BLS Ambulances	$125,400	
Medical Specialist Team (MST)	$31,365	
Contracts, Consumables, Props	$100,000	
Vehicle Maintenance (AC)	$16,429	
Operations	**$32,859**	
Vehicle Maintenance (DC)	$32,859	
Paramedic Tax	**$721,399**	
Cover Paramedic Tax Budget Defecit	$721,399	
Training & Development	**$250,000**	
Recruiting, Marketing	$0	
Contracts, Consumables, Props	$100,000	
Office & Deployment Ctr SLA, etc.	$150,000	
WUI	**$1,756,956**	**$35,000**
CWPP Cconsulatn	$20,362	
Outdoor Alerting System	$44,200	
Safe Passages Program	$300,000	
Tablet Command	$33,375	
Vegetation Management Program	$1,000,000	
Project Management/SME	$225,000	
Public Education/Marketing	$102,250	
Vehicle Maintenance (AC)	$16,429	
Vehicle Purch & Maintenance (Insp)	$15,340	$35,000
Grand Total	**$3,144,409**	**$35,000**

FF Accomplishments

Willand Division

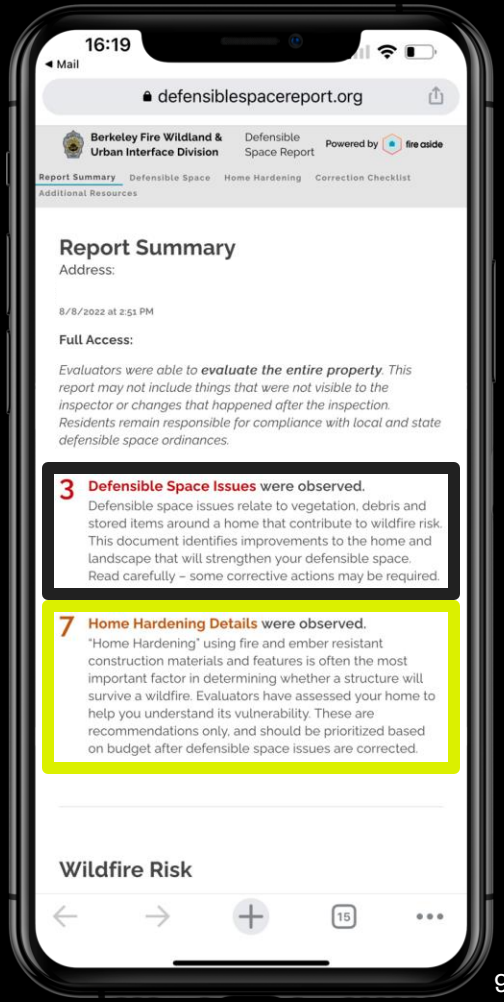
- **Expansion**: Hired staff, procured new vehicles
- **Technology**: DSI, citations, grants
- **Programs**: WUI Interns, Outreach, Chipper Day, Partnerships, COB camps
- **Projects**: CWPP, Safe Passages

Defensible Space Inspection (DSI)

Modernized program launch

Every inspection will generate a detailed report that explains what discoveries are violations vs recommendations.

- **What:** An easy to read evaluation of your property
- **Why:** Provides a roadmap to make your property more Fire Safe
- **When:** Occurs annually in Zone 2 & 3 (VHFDSZ)
- **Where:** 1:1 or sidewalk inspection & door hangar



Ambassador Program

Highlights

Neighbors helping neighbors

- **749** total homes visited
- **309** resident conversations
- **204** residents completed the survey
- **2,940** door hangers left at residents' homes
- **11** events (May – October)

FIRE SAFE BERKELEY

Chipper Day

Re-redesigned and expanded

- **971** Pickups
- **2,355** cubic yards removed
- Survey Response Rate 45% / **4.9** Rating out of 5
- **79%** said the program caused them to remove vegetation

"This is an excellent program! I will be able to remove a lot more brush from my property because I can do it on my time schedule rather than just the designated dates. Thank you so much for making it available!"

WUI Intern Program

Highlights

In partnership with YouthWorks, the Department is providing amazing opportunities for local youth:

- **11 interns hired** – primary duty is defensible space inspections
- **8,050** initial inspections
- **1,266** re-inspections
- Fuel mitigation projects started at **Berkeley Tuolumne Camp** with Echo & Cazadero in planning stages

Safe Passages

- **Repainted red curbs in Zone 3.**
- Evacuation & Response Time Study will help drive strategic work within the fire zones.

FF Accomplishments

OES / Fire Prevention

- Acquired and began installation of the **Outdoor Warning System**
- Developed a scope, contracted and launched the **Evacuation Time and Response Study**
- **Stabilized staffing** levels and improved **succession planning**

Outdoor Warning System

Purchase, installation, testing

Completing installation and testing of the citywide system. **Used for alerting residents who are outdoors:**

- **13 of 15** Speakers Installed
- Inaugural test conducted on 9/17/23
- Survey results: System **performs as expected** with audible tone detected outdoors within ¼-½ mile

FF Accomplishments

Operations

- Launched **new recruitment website** with updated assets
- Completed **vocational pathway** from BHS, recruited and completed **first Paramedic Academy**
- Initiated recruitment for **second Paramedic Academy**
- Procured **Mobile Command Software** to support large event operations
- Improved emergency **mobile water supply** delivery capacity

Water Delivery Capacity

Quick water anywhere

- 3,000 gallon mobile water supply
- Supplements the Above Ground Water Delivery System
- **Provides fast water in locations with inadequate water supply (Tilden Park)**
- Driver training scheduled for early 2024

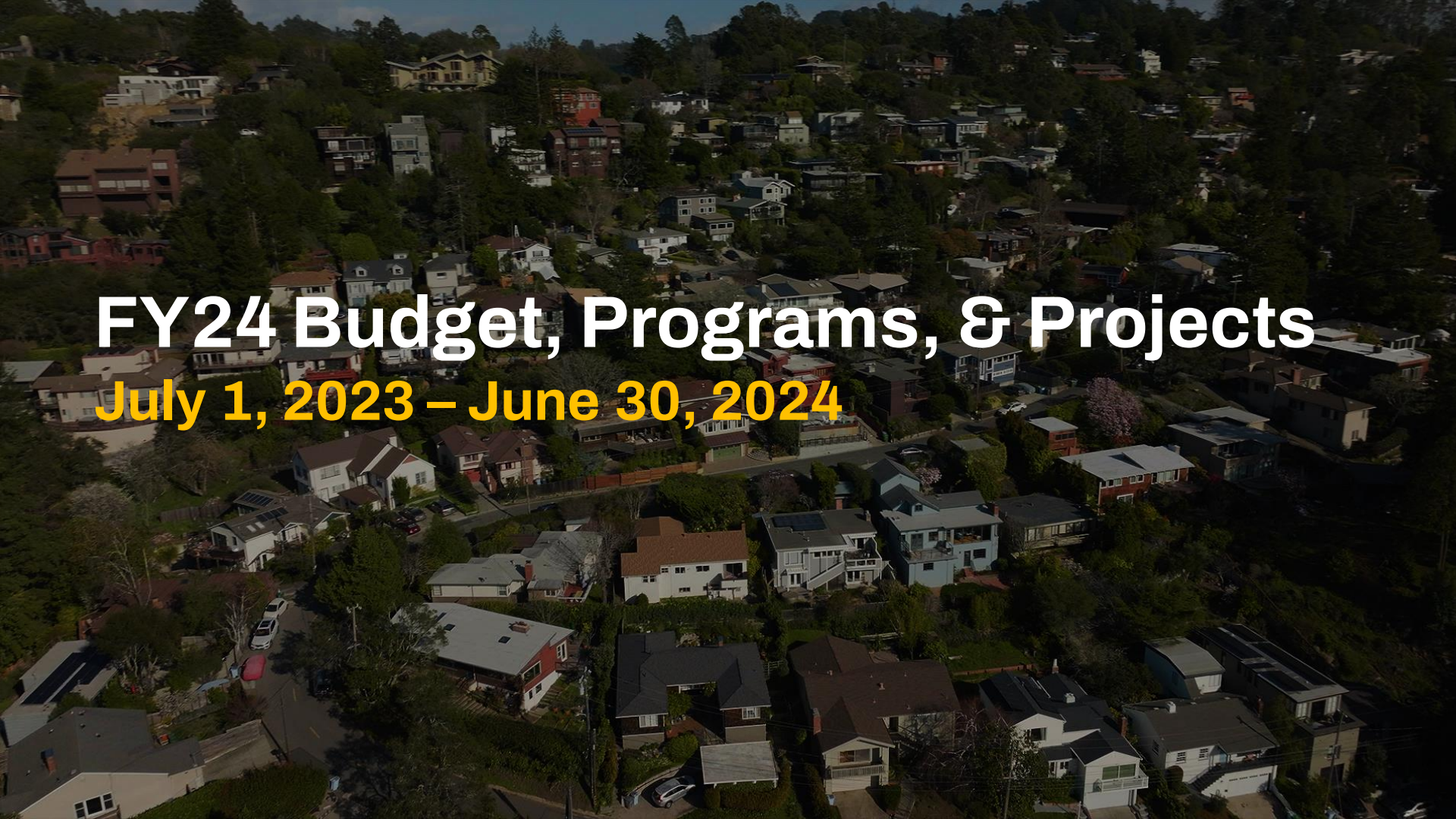
FF Accomplishments

Office of the Fire Chief

- **Stabilized payroll staff** and eliminated a **single point of failure**
- Recruited and hired our first **Public Information Officer**
- Initiated several **grant applications,** successful in two; fuel mitigation (480k) and firefighter wellness (750k)

CalFIRE Grant

- Applied for a 5m grant with EBRPD, UC Berkeley and EBMUD.
- Fund hazardous vegetation removal along the Grizzly Peak evacuation corridor.
- Awarded 2.8m out of 5m request, Berkeley's portion is 480k.
- Application for balance of 2.2m has been submitted – waiting results.



FY24 Budget, Programs, & Projects

July 1, 2023 – June 30, 2024

Measure FF

FY24: Looking ahead

- First fiscal year with most vacancies filled, programs launched (or in pilot), equipment & software purchased.
- Focus to program refinement/completion and shifting to long-term, complex goals.

Priority Projects

Wildland Division

- Analyzing Risk in our Fire Zones
- Historical Ecology Study
- Lahaina Fire Safety Package
- Zone 0 Adoption
- Resident Assistance Program
  - Defensible Space
  - Home Hardening
- Citation Process Implementation
- Community Partnerships
  - Berkeley Fire Safe Council
  - County Coordinator Grant
- Technology Enhancements
  - Intterra, Tablet Command, Fire Aside grants module

Pilot Resident Assistance Program

for Home Hardening

- Screening vents and gutters is one of the lowest cost, most effective home hardening techniques.
- Free fire rated 1/16” stainless mesh material for vents and gutters.
- Residents are responsible for installation and maintenance.

Pilot Resident Assistance Program

for Defensible Space

- One-time assistance to help meet Defensible Space best practices, especially implementing Zone 0
- Requires a Defensible Space Inspection pre & post
- Reimbursement if you use a trusted landscaper/gardener or City contractors do the work
- Residents are responsible for on-going maintenance

Priority Projects

Operations Division

- Firehouse Ring Down Emergency Procurement
- Strengthen Regional Partnerships
- Highrise Operations
  - Training & Education
  - Equipment
  - Weight of response
  - Staffing
- Supervisor Academy
- Emergency Medical Services
  - Ambulance transition program
  - Deployment center
  - Recruitment and deployment of EMTs
  - Dispatch Needs Analysis
  - Pilot alternative response model

Priority Projects

Office of Emergency Services

- Planning and training staff to activate the **Emergency Operations Center** and **disaster shelters** to support the community during disasters (GG)
- Updating protocols, staff training, and community outreach for **AC Alert**, the **Berkeley Emergency Map**, and the **Outdoor Warning System** (FF/GG)
- Publishing the **2024 Local Hazard Mitigation Plan** and using content in new community disaster trainings (GG)
- Coordinating responder and community readiness for **Extreme Fire Weather** (GG)
- Expanding **community disaster education offerings** to reach more Berkeleyans (GG)
- Better understanding challenges and risks of emergency movement through Berkeley with the **Evacuation & Response Time Study** (FF/GG)

Evacuation
and Response Time Study

- 2023 - Initial Analysis: **Local Hazard Mitigation Plan** (SB99, AB747)
    - Access Impaired Neighborhoods Study (SB99)
    - Evacuation Route Assessment (AB 747)
- 2024 - Secondary Analysis: Establish **evacuation time estimates** and **responder ingress estimates** for emergency scenarios
- During this phase the City will also obtain results of the **ADU analysis**, measure the benefits to **preemptive relocation** during extreme fire weather, and better understand the impact of **traffic calming on fire apparatus response times**

Courtesy: KOAT News, Lahaina, HI

Priority Projects

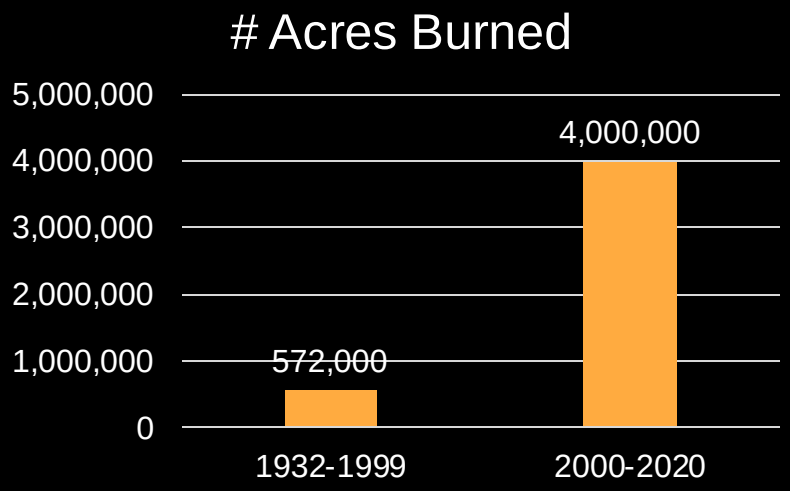
Office of the Chief

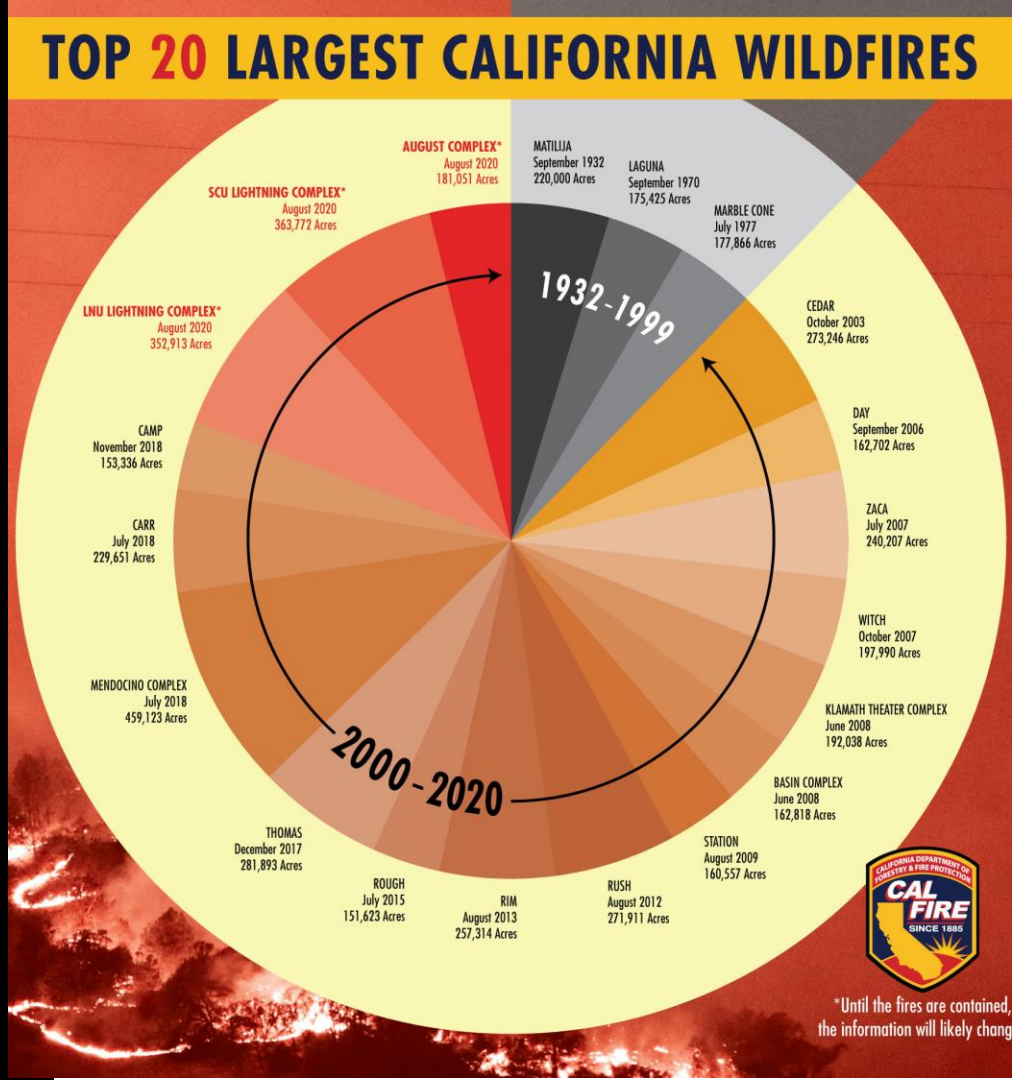
- Air Traffic Control
- Leading on Wildfire Initiatives
- Fire Facilities Acute / Long-Term
  - Headquarters
  - Ambulance Deployment Center
  - Regional Training Center
  - Fire Station Remodel/Rebuilds
  - Dispatch Re-Design
- Vision 0
  - Bike Plan
  - Evaluate Apparatus Design
  - Project Review Process (PW Collab)
- Grants Management
- Enhancing Command Structure / Succession
- Improve Data Analytics

Wildfire Risk & Urgency of Action

A Review of the Wildfire Risk to Berkeley

Climate Change



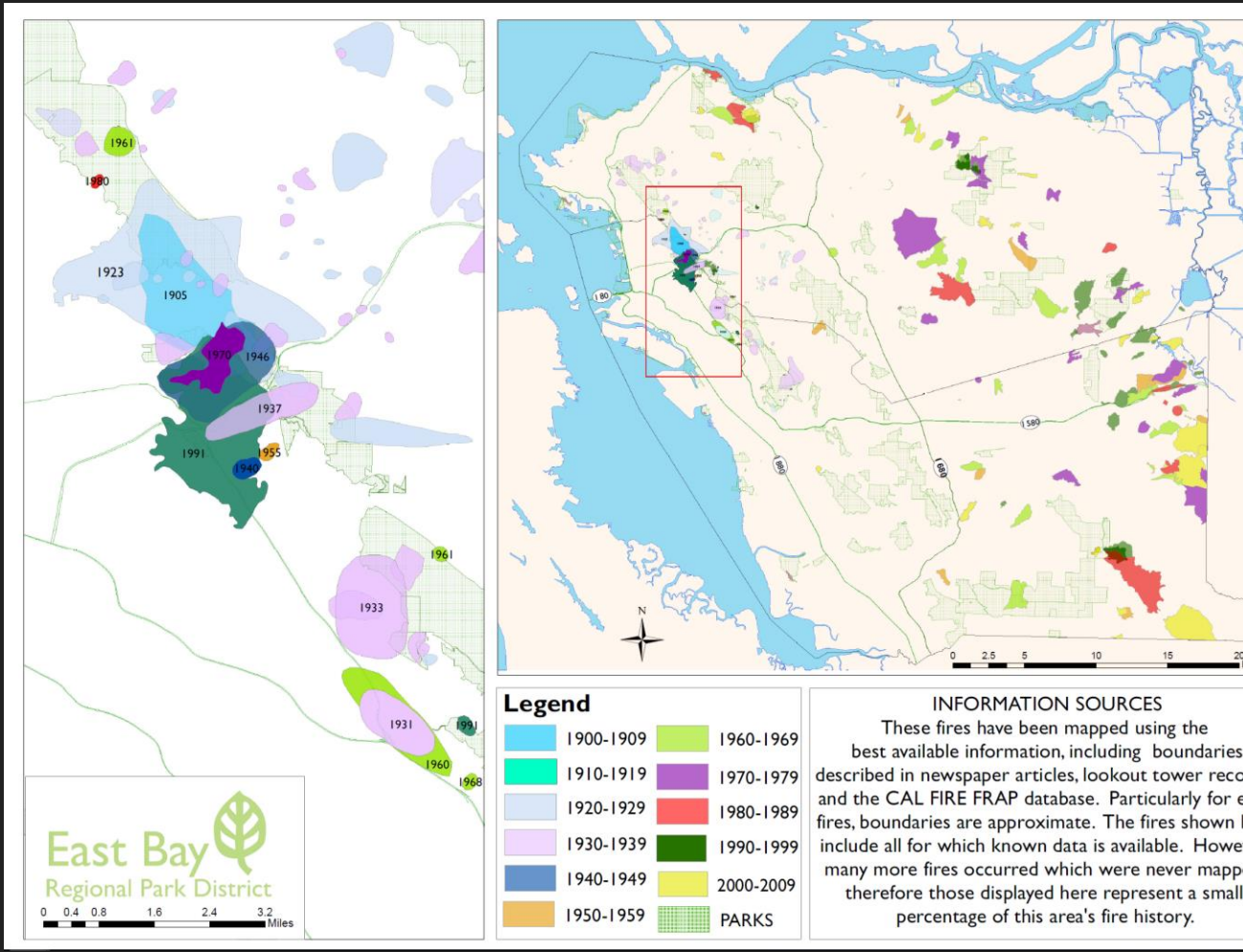


Predictable is Preventable

There is a History of Significant Fires in the Fire Zone

Fire in the East Bay Hills is Cyclical every 20yrs

Fire	Gap
1905	-
1923	18yrs
1946	23yrs
1970	24yrs
1991	21yrs
2023	**32yrs**



Fire Spread Rates

Are a product of…

- Topography
- Weather
- Fuel (Vegetation & Structures)

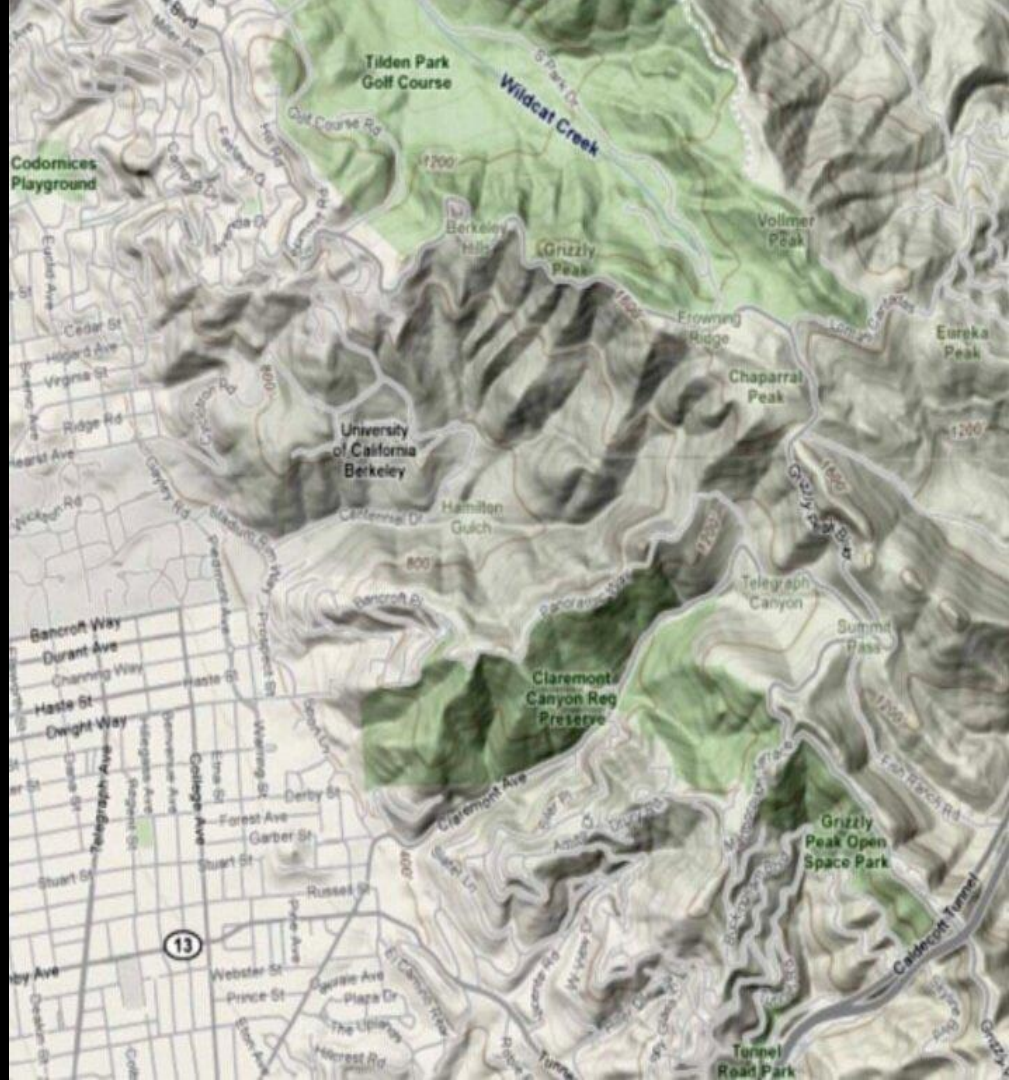
Topography

The East Bay Hills rise from Sea Level to approx. 1,700ft at some points on Grizzly Peak

The hills have many canyons that have a particular impact on fire behavior.

Canyons draw air from the canyon bottom, creating strong upslope drafts. They can also channel offshore winds – even perpendicular to the canyon – into strong downslope winds.

This effect can result in extreme fire behavior and can be very dangerous.



Weather: Strong Seasonal Diablo Winds

- Air from 4000’ is compressed as it descends to sea level
- The compression warms and drys the air
- As its forced over mountains and through canyons, it accelerates
- Historically October is most dangerous as fuels are at their driest

NOW

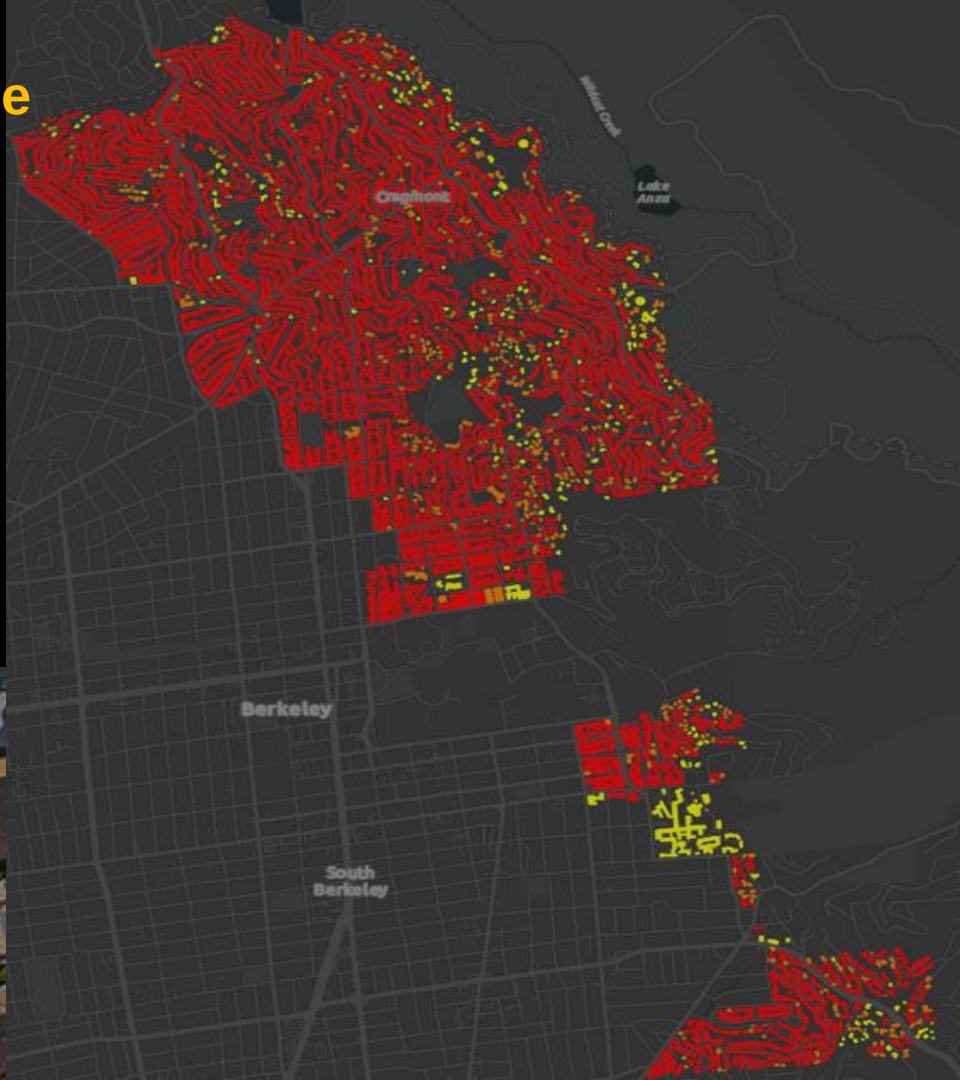
Fuel: Grasslands to Urban Fores

THEN

Fuel: Structures Separation Distance

High Density = risk of entire community loss is very high due to structure-to-structure fire spread

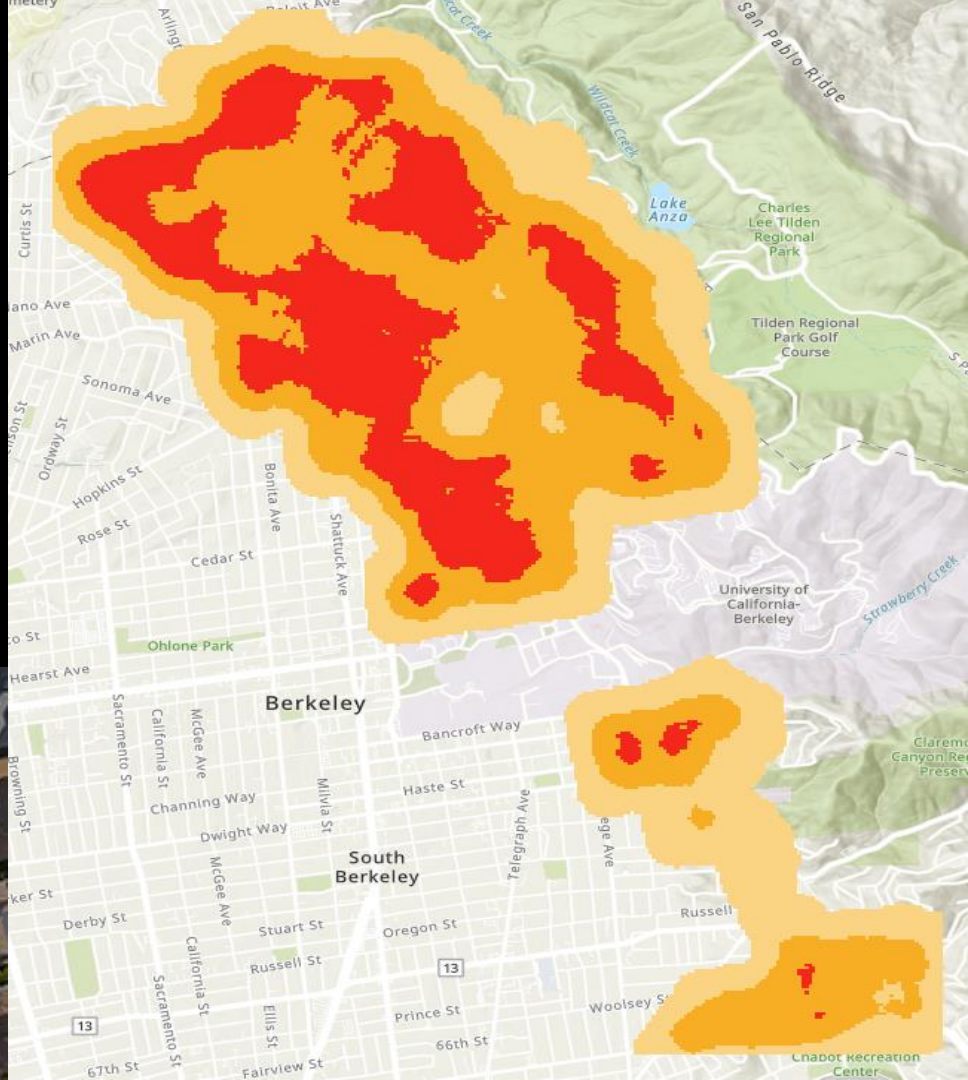
Category	SSD	Map Color
High Density	<25ft	
Moderate Density	25 – 50ft	
Low Density	>50ft	



Fuel: Structures/Acre

Density increases risk of rapid fire spread
Most of Berkeley hills are
high density

HU/ac	Risk Category	Map Color
> 4	1 - 2	
2 – 4	1 - 2	
< 2	3 - 4	



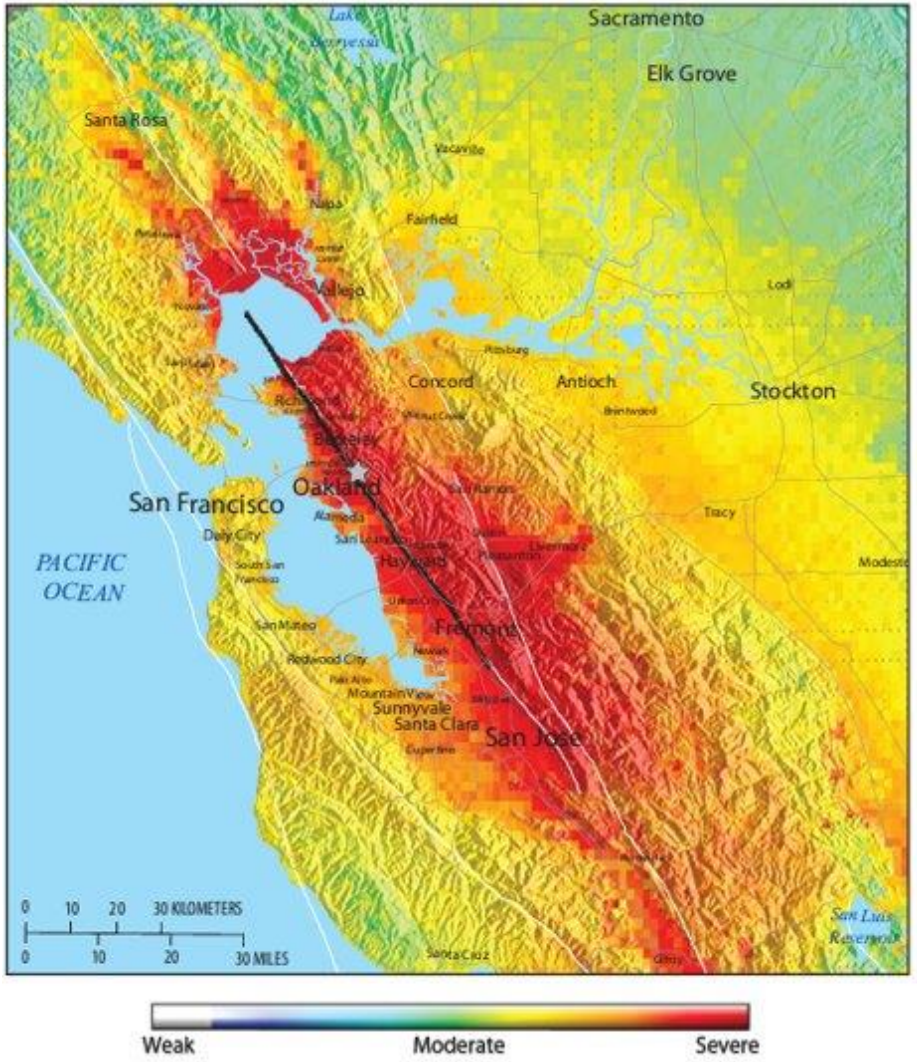
"All-Hazards" Disaster Profile

Berkeley must remain prepared for...

Berkeley's Hazard Landscape

- Earthquake
- Wildland-Urban Interface Fire
- Flood
- Tsunami
- Landslide
- Extreme heat
- Poor air quality
- Sea-level rise

- Plus secondary effects including:
  - Utility disruption
  - Hazardous materials release

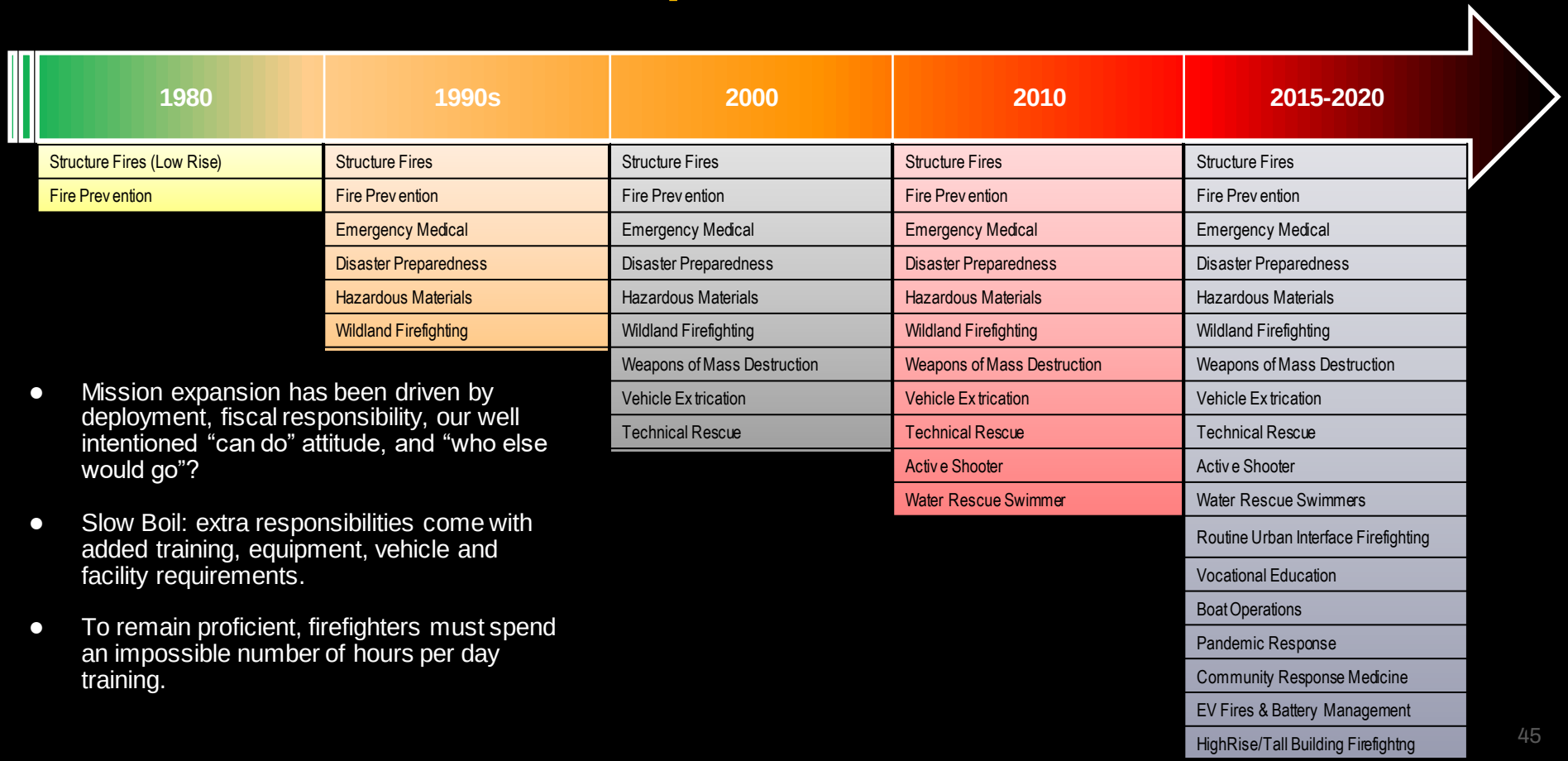


Disaster Preparedness Means…

- Smart decisions to **reduce our risks** ahead of time
- **Government capacity** to provide a coordinated response
- **Community connection and resilience**


Emergency Services are Stretched Thin
Short & Long-Term Goals to Stabilize

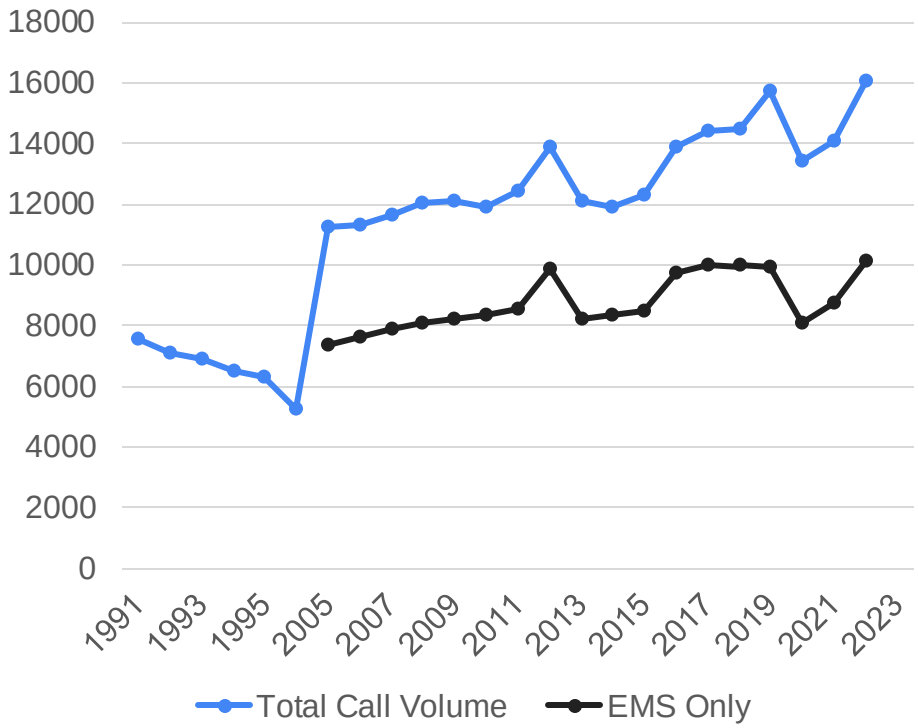
Fire Service Mission Expansion



- Mission expansion has been driven by deployment, fiscal responsibility, our well intentioned "can do" attitude, and "who else would go"?
- Slow Boil: extra responsibilities come with added training, equipment, vehicle and facility requirements.
- To remain proficient, firefighters must spend an impossible number of hours per day training.

Call Volume Trend

- Steadily trending up
- EMS = Approx. 60% of call volume
- Fire must begin to measure performance to help leaders identify a need for prevention strategies or additional, re-positioned or alternate resources
- The level or fire and EMS protection the community receives is a decision that City Council will need to make



Response Times

- National Fire Protection Association Standards
- Standards of Coverage Recommendations
- Path Forward
  - Adopt a **response time policy**
  - **Divert calls** to non-emergency resources
  - **False fire alarm fee** program
  - **Add ambulances**

Response Component	Best Practice		90th Percentile Performance	Performance Versus Best Practice and Current Goal
	Time	Reference		
Call Processing / Dispatch	1:30	NFPA	2:29	+ 0:59
Crew Turnout	2:00	Citygate	2:05	+ 0:05
First-Unit Travel	5:00	CityGate	5:53	+ 0:53
First-Unit Call to Arrival	8:30	Citygate	9:32	+ 1:02
ERF Call to Arrival	11:30	Citygate	18:50	+ 7:20

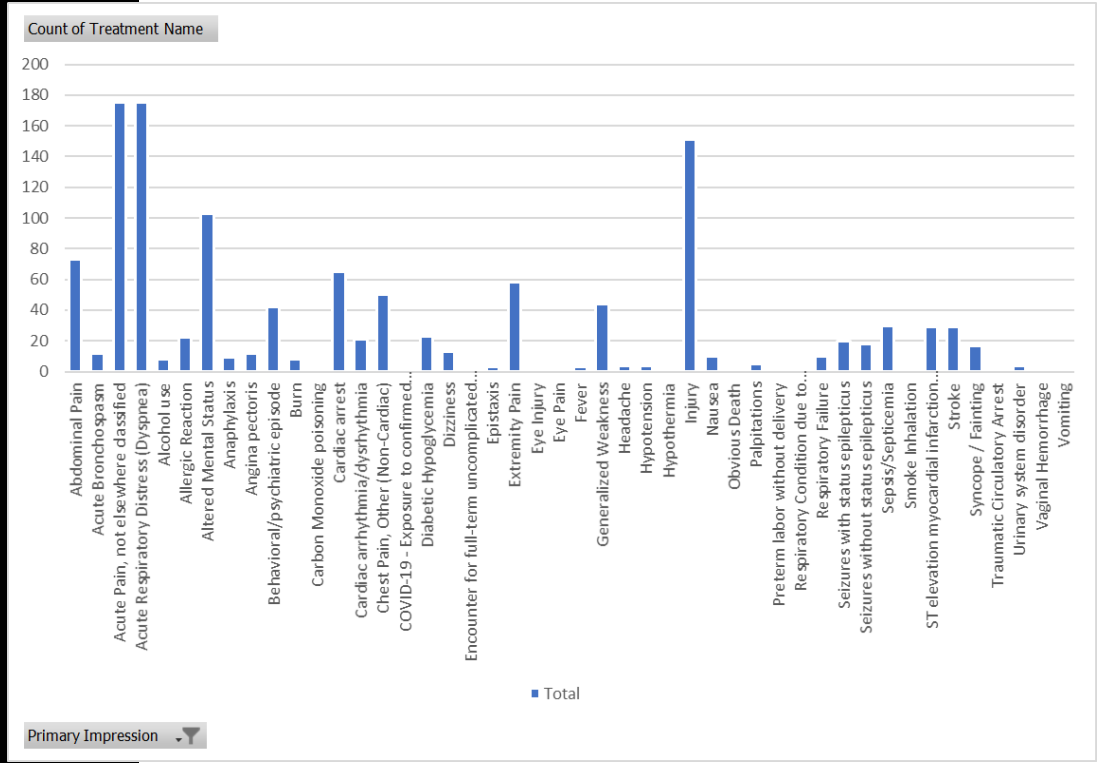
Density

- Berkeley is a dense, urban mini-metro.
- Of the top 51 most populated cities in California, **Berkeley ranks second most dense**, behind San Francisco
- This helps to explain the **abnormally busy emergency response system**, diversity of incident types, and sluggish response times.

Density	Pop	City	Pop	Sq Miles	Density
1	4	San Francisco	873,965	46.91	18,630
2	**51**	**Berkeley**	**124,321**	**10.43**	**11,919**
3	13	Santa Ana	310,227	27.34	11,347
4	31	Garden Grove	171,949	17.96	9,574
5	7	Long Beach	466,742	50.71	9,204
6	1	Los Angeles	3,898,747	469.49	8,304
7	8	Oakland	440,646	55.93	7,878
8	22	Oxnard	202,063	26.53	7,616
9	23	Huntington Beach	198,711	27	7,359
10	46	Santa Clara	127,151	18.28	6,955

Critical Call Analysis

- Of the 16,000 calls that were run in CY2022, **there were greater than 1,200 medical calls where time was critical, and an ALS intervention was performed**
- A delayed response time could have a negative impact on patient outcome



Cardiac Arrest Survival Rate

- One measurement of system performance
- 2015-2020 Return of Spontaneous Circulation (ROSC)

	BER	ALA	CA	NAT
Survival	**13.4%**	9.7%	9.2%	10.2%
Berkeley Performance		*+4%*	*+4.2%*	*+3.2%*
No Deficits	**11.3%**	7.3%	7.6%	8.2%
Berkeley Performance		*+4%*	*+3.7%*	*+3.1%*

Unit Hour Utilization

Fire Engines

- UHU is calculated using the number of responses and duration of the responses. Shows the % of time a resource is committed to an active incident.
- When **UHU > 30%** over multiple consecutive hours, other responsibilities, such as training, do not get completed.
- The table shows a unit-hour utilization summary for the City's engine companies.
- The busiest engines are listed first. Engine 5 has **two hours over 50% utilization** and **11 consecutive hours over 30% utilization.**

Hour	Engine 5	Engine 1	Engine 2	Engine 6	Engine 4	Engine 3	Engine 7
00:00	23.23%	15.11%	17.16%	9.62%	10.14%	11.33%	0.58%
01:00	25.88%	10.21%	15.51%	11.19%	6.41%	9.09%	3.37%
02:00	18.81%	12.81%	10.79%	11.12%	9.66%	7.74%	3.56%
03:00	13.47%	6.63%	12.40%	6.71%	7.76%	4.40%	2.06%
04:00	11.55%	13.59%	10.26%	10.62%	7.61%	7.62%	1.69%
05:00	15.01%	6.44%	7.62%	3.69%	9.87%	4.93%	2.59%
06:00	11.08%	19.01%	10.05%	9.78%	13.02%	5.63%	3.00%
07:00	25.01%	21.97%	20.84%	18.37%	13.97%	8.97%	6.10%
08:00	30.47%	31.19%	22.80%	20.58%	20.92%	13.10%	5.44%
09:00	38.00%	31.75%	22.75%	28.75%	21.67%	14.57%	5.65%
10:00	41.58%	42.32%	28.32%	23.47%	25.77%	19.88%	11.49%
11:00	52.86%	31.20%	35.07%	41.62%	28.02%	23.70%	7.28%
12:00	49.05%	28.41%	31.70%	34.37%	20.78%	18.56%	9.29%
13:00	53.48%	43.37%	30.66%	31.32%	31.70%	29.91%	7.95%
14:00	45.24%	43.90%	39.12%	34.42%	36.53%	25.40%	15.68%
15:00	38.09%	38.93%	32.49%	31.93%	20.30%	18.31%	7.38%
16:00	47.27%	34.35%	34.50%	28.96%	22.18%	20.99%	12.14%
17:00	44.46%	33.94%	34.26%	22.25%	22.90%	20.69%	8.62%
18:00	32.84%	31.45%	30.75%	22.85%	23.40%	20.74%	11.46%
19:00	29.80%	30.92%	25.06%	29.59%	21.39%	18.51%	10.09%
20:00	25.59%	32.76%	23.66%	24.96%	20.72%	15.76%	9.20%
21:00	29.23%	20.37%	20.49%	18.23%	12.64%	12.76%	6.77%
22:00	26.99%	21.79%	16.67%	12.63%	9.51%	12.90%	4.69%
23:00	19.81%	24.27%	15.45%	21.47%	16.11%	8.64%	3.85%

Unit Hour Utilization

Ambulances

- The table illustrates a UHU summary for the City's emergency medical service transport ambulances.
- Medic 5 (M5), M2, and M1 each have several hours **over 50% utilization.**
- Medic 5 and Medic 2 each have one hour over 60% utilization and at least **13 consecutive hours at or above 30% utilization.**
- Berkeley's ambulance UHU percentages **are as high as ambulances in some of the busiest metro cities on the west coast.**
- **The system is in immediate need of additional ambulances** and a dispatch center capable of diverting non-acute calls to non 911 resources.

Hour	M5	M2	M1	M3
00:00	22.87%	17.48%	12.56%	9.32%
01:00	22.85%	15.75%	19.46%	9.27%
02:00	17.34%	16.40%	17.53%	7.35%
03:00	13.61%	16.98%	10.92%	4.04%
04:00	8.71%	14.86%	18.86%	6.86%
05:00	13.06%	14.24%	8.26%	3.46%
06:00	8.95%	13.17%	16.14%	2.94%
07:00	25.50%	34.83%	33.70%	12.56%
08:00	48.33%	29.77%	33.16%	15.43%
09:00	44.71%	39.61%	38.97%	27.70%
10:00	48.82%	45.75%	42.94%	33.54%
11:00	51.40%	60.08%	41.92%	34.01%
12:00	49.60%	55.48%	42.34%	27.61%
13:00	51.46%	44.70%	54.43%	42.82%
14:00	65.37%	47.39%	56.38%	36.85%
15:00	45.36%	37.26%	52.01%	28.99%
16:00	52.28%	54.10%	44.79%	36.74%
17:00	41.93%	46.57%	42.89%	27.86%
18:00	48.24%	46.87%	35.45%	25.95%
19:00	31.61%	34.82%	42.09%	19.44%
20:00	30.19%	34.40%	38.01%	15.91%
21:00	22.49%	30.65%	26.78%	17.02%
22:00	26.16%	22.41%	23.65%	11.37%
23:00	21.09%	26.63%	25.70%	6.88%

Wrap Up

How Did We Get Here & Where Are We Going

How Did We Get Here

- Well intentioned leaders **taking on more responsibility without impact analysis**
- **Fell short in long-term planning (& action),** including staffing & deployment, facilities, wildfire risk, climate change, and development/density.
- **Inadequate administrative & support staffing** for a mini-metro department.

Where Are We Going?

- **Analyze Community Risk**
  - Community Wildfire Protection Plan
  - Standards of Coverage
  - Local Hazard Mitigation Plan
  - Evacuation and Response Time Study
- **Align Department to Risk**
  - Administrative Re-organization
  - EMS Re-Design
  - Wildland Division
- **Long-Term Planning**
  - Facilities Master Plan
  - Dispatch Needs Assessment
  - Employee Education/Development
  - *Accreditation Review*

Questions & Discussion

DISASTER AND FIRE SAFETY COMMISSION
REGULAR MEETING

September 27, 2023
7:00 PM

Fire Department Division of Training Classroom – 997 Cedar Street

Present: Mike Wilson, Andy Katz, Weldon Bradstreet, Shirley Dean, Robert Kinosian, Theo Gordon, Greg Murphy, Harrison Raine
Absent: Todd Darling
Staff: Keith May, Leah Greenbaum, Sarah Lana
Public: 9 attendees

AGENDA

Preliminary Matters
Call to Order

Meeting called to order at 7:06 pm

Approval of the Agenda
Motion to approve minutes: G. Murphy
Second: T. Gordon
Vote: 5 Ayes: M. Wilson, A. Katz, W. Bradstreet, S. Dean, R. Kinosian, T. Gordon, G. Murphy, H. Raine; 0 Noes; 1 Absent: T. Darling; 0 Abstain

Raine arrived at 7:09 pm

Public Comment on Non-Agenda Matters
Public comment: 1

1. Chairperson's Report
2. Fire Department Staff Report*

Consent Items

3. Minutes of August 2, 2023*
   From: Commission Secretary
   Recommendation: Approve the draft minutes of the August 2, 2023 Regular Meeting.

   Motion to approve minutes: S. Dean
   Second: G. Murphy
   Vote: 5 Ayes: M. Wilson, A. Katz, W. Bradstreet, S. Dean, R. Kinosian, T. Gordon, G. Murphy, H. Raine; 0 Noes; 1 Absent: T. Darling; 0 Abstain

4. Minutes of September 6, 2023*
   From: Commission Secretary
   Recommendation: Approve the draft minutes of the September 6, 2023 Special Meeting.

   Motion to approve minutes: S. Dean
   Second: T. Gordon
   Vote: 5 Ayes: M. Wilson, A. Katz, W. Bradstreet, S. Dean, R. Kinosian, T. Gordon, G. Murphy, H. Raine; 0 Noes; 1 Absent: T. Darling; 0 Abstain

Action Items

5. Request that the Commission forward the Janice Thomas' August 27, 2023 letter "RE: State Fire Marshal's Recommendation For Panoramic Hill" to City Council, UC Berkeley President, and the UC President and Board * (Dean)
   Public comments: 2

   After discussion, Dean pulled this item from the action calendar and will draft a letter of support for the Commission to consider at the next meeting.

   At the meeting, Ms. Thomas distributed printed materials to commissioners. Those materials were added to the online agenda packet after the meeting.

Discussion Items

6. Staff presentation on 2024 Local Hazard Mitigation Plan update process* (Staff)
   Public comments: 3

7. Discussion on impact of increased density due to new developments along Shattuck/Adeline (Darling)

   Chair moved this item to next meeting.

8. Discussion on biolabs and other large facilities, hazardous materials contained therein, and potential emergency response impacts and challenges (Dean)

   Dean pulled item and requested Commission consider it as an action item at the next meeting. Dean will draft attachment for consideration at the next meeting.

9. Discussion to write a Commendation to Chief Sprague for the Master Facilities Plan (Dean)

   Dean pulled item and requested Commission consider it as an action item at the next meeting. Dean will draft attachment for consideration at the next meeting.

10. Update on the City's progress of evaluating and regulating non-ductile concrete structures* (Murphy)

Work Group Reports

- Plan & Budget Oversight
- Home Hardening
- Wildland Urban Interface
- Safe Passages
- Community Outreach

No workgroup report outs—pushed to next meeting due to time.

11. Future Agenda Items and Next Steps
    - Discussion regarding concerns about the recent State Housing and Community Development ruling which would increase density in Fire Zones 2 and 3 (Dean)
    - Discussion on impact of increased density due to new developments along Shattuck/Adeline (Darling)
    - Request that the Commission forward the Janice Thomas' August 27, 2023 letter "RE: State Fire Marshal's Recommendation For Panoramic Hill" to City Council, UC Berkeley President, and the UC President, City of Oakland, and Board of Forestry with a letter of support from the Commission (Dean)
    - Discussion on biolabs and other large facilities, hazardous materials contained therein, and potential emergency response impacts and challenges (Dean)

Internal

- Discussion to write a Commendation to Chief Sprague for the Master Facilities Plan (Dean)

Adjournment

Meeting adjourned at 9:05pm

Motion to adjourn: G. Murphy
Second: S. Dean
Vote: 5 Ayes: M. Wilson, A. Katz, W. Bradstreet, S. Dean, R. Kinosian, T. Gordon, G. Murphy, H. Raine. 0 Noes; 1 Absent: T. Darling; 0 Abstain

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This meeting will be conducted in accordance with the Brown Act, Government Code Section 54953. Any member of the public may attend this meeting. Questions regarding this matter may be addressed to Keith May, kmay@berkeleyca.gov 510-981-5508.

Communications to Berkeley boards, commissions or committees are public record and will become part of the City's electronic records, which are accessible through the City's website. Please note: E-mail addresses, names, addresses, and other contact information are not required but, if included in any communication to a City board, commission, or committee, will become part of the public record. If you do not want your e-mail address or any other contact information to be made public, you may deliver communications via U.S. Postal Service or in person to the secretary of the relevant board, commission, or committee. If you do not want your contact information included in the public record, please do not include that information in your communication. Please contact the secretary to the relevant board, commission, or committee for further information.

Any writings or documents provided to a majority of the commission regarding any item on this agenda will be made available for public inspection at Berkeley Fire Department located at 2100 Martin Luther King Jr. Way Berkeley, CA.

COMMUNICATION ACCESS INFORMATION:

This meeting is being held in a wheelchair-accessible location. To request a disability-related accommodation(s) to participate in the meeting, including auxiliary aids or services, please contact the Disability Services specialist at 981-6418 (V) or 981-6347 (TDD) at least three business days before the meeting date. Please refrain from wearing scented products to this meeting.

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I hereby certify that the agenda for this regular/special meeting of the Berkeley City's Disaster and Fire Safety Commission was posted at the front of the Division of Training, 997 Cedar Street, as well as on the City's website, three days prior to the scheduled Commission meeting.

SECRETARY SIGNATURE

CERTIFICATE OF APPRECIATION

AWARDED TO

Steve Greenberg

From the Berkeley Disaster and Fire Safety Commission

In gratitude for and recognition of Steve's decades of service in advancement of disaster preparedness in the City of Berkeley. With skill and generosity, Steve has mentored a multitude of individuals to better prepare for and respond to large-scale emergencies, tirelessly led his neighborhood disaster group, and taught Berkeley CERT classes, potentially saving countless lives.

Approved by vote and signed / /2023: _____

Weldon Bradstreet, Chair

October 25, 2023

To: Chair Bradstreet, Vice Chair Murphy and Members of the Disaster and Fire Safety Commission (DFSC)
From: Commissioner Shirley Dean

Re: Provide a recommendation to City Council on the development of a plan that includes a feasibility study and identification of funding sources for constructing an emergency secondary access road on Panoramic Hill (Dean)*

This item is to obtain DFSC approval to send to the City Council that they approve the development of a plan including a feasibility study and fundings sources for constructing an emergency secondary access road on Panoramic Hill. Such a plan could well include city discussions with the UC-Berkeley and Alameda County and should also continued contact with the Disaster and Fire Safety Commission as well as other related Berkeley commissions.

Background:

This is an urgent matter as all information indicates that wildfires are currently more frequent and intense than in previous years. Additionally, we also are hearing that the likelihood of a major earthquake along the Hayward fault which bisects Berkeley is long overdue. Panoramic Hill is the only neighborhood in the City within Fire Zone 3 and is officially recognized as having residential development with only one way out. The city has recognized these factors for years but has not fully addressed the area's evacuation problems while increasing density on the Hill and throughout the city. Today, Berkeley is the second most dense city in the list of 51 largest cities in the State of California. Berkeley is exceeded only by San Francisco. We are more dense than Los Angeles and San Diego, but further we are uniquely bisected by a major earthquake fault, and have numerous officially designated landslide areas and liquefaction zones within a tiny 10 square mile area.

The city has in part recognized the problem of evacuation by enacting parking restrictions in the Panoramic Hill area, but enforcement has always been a problem and enacting further restrictions is not the answer as buildings have been constructed without on-site parking spaces. Further, just recently at the urging of the State Department of Community Development the city approved new regulations to allow the construction of both an ADU and a JADU on each parcel in the High Severity Fire Rise Areas (Zones 2 and 3) in the City. This may change when an evacuation study is completed sometime next year, but in the meantime, such ADUs and JADUs without parking on-site could be constructed. New construction may or may not happen, but if it does, it cannot be undone in the future and adds to the serious problems that already exist.

In the past, a emergency apparatus only access road (the Jordan Trail) was constructed. It is limited to Fire/emergency equipment only, not evacuation. A secondary access road needs to be built because it is essential to keep the fire/emergency equipment road open at all times. The secondary road does not need to be paved with asphalt and curbs, as a city street might be constructed but it must be constructed to provide a way out for the safety of residents but also to ensure that the road which provides basic emergency response is kept clear to provide increased fire fighting response in the event of wildfire and earthquake. Adequate response can help slow the expansion of a wildfire thus benefiting both residents of the Hill but all residents in the City.

However, no matter what a secondary access road, for evacuation purposes must be constructed and maintained for the sake of saving lives of those residing and visiting Panoramic Hill. Recent changes for the South Sode make westward evacuation from the Hill even more problematic.

For the sake of public safety, we must take action right now.

October 25, 2023

To: Chair Bradstreet, Vice Chair Murphy and Members of the Disaster and Fire Safety Commission (DFSC)
From: Commissioner Shirley Dean

Re: Provide recommendation to Council regarding separation of mixed-use pedestrian and e-bike pathways

I have been advised by members of the public regarding plans for mixed use pedestrian and e-bike pathways in areas such as the Ohlone Greenway and around Cesar Chavez Park on the waterfront. The expressed concerns involve public safety especially of collisions with pedestrians who are elderly, disabled, pregnant, pushing a stroller or have a small child in tow.

E-bikes come in three classifications. Class 1 requiring the most help from a rider while still offering a relaxing recreation experience for the rider. Class 2 requires less help and Class 3 which requires the least help from the rider, and which can reach speeds of around 28 miles per hour. Class 3 e-bikes are generally viewed as more a motor vehicle than a bicycle. Class 3 are the e-bikes that raise the most concerns. It is generally recognized that Class 3 bikes can and are regulated.

The essential question that I am putting before the Commission is whether pathways in Berkeley hat mix pedestrians with e-bikes, particularly Class 3 bikes, be regulated. E-bikes, particularly Class 1 are popular and offer the rider a nice recreational experience. I do not have data regarding collisions, but common sense tells me that collisions are likely in a mixed-use scenario. One such action which the Commission should consider is that pathways should be separated – one for pedestrians and the other for e-bikes so that each group can have the recreational experience that each group is seeking. Also, if any separated path merges with or crosses a street, highly visible cautionary signs need to be posted. In addition, a flyer informing young people about such requirements regarding age and Helmut requirements for e-bikes can be distributed by both public and private schools.

The Commission should notify the Council of this recommendation.

October 25, 2023

To: Chair Bradstreet, Vice Chair Murphy and Members of the Disaster and Fire Safety Commission (DFSC)
From: Commissioner Shirley Dean

Re: Request to merge action and discussion calendars under the title “Items for Discussion and Possible Action”

Currently our agenda divides items that we are considering into two groups: Discussion and Action.. We have received requests from the public to merge these two groups under the title ITEMS FOR DISCUSSION AND POSSIBLE ACTION. We were told that this is done by other commissions. I checked recent agendas of the Planning Commission and confirmed this. The Planning Commission agenda states the following:

> AGENDA ITEMS: All agenda items are for discussion and possible action. Public Hearing items require hearing prior to Commission action.

DFSC members should discuss this change and act to change our agenda format effective at our Next regular meeting. This will be more efficient specifically whenever action needs to be taken without delay and whenever the discussion about a specific matter unexpectedly turns out to indicate an action should occur.

Planning Commission

AGENDA

REGULAR MEETING OF THE PLANNING COMMISSION

This meeting is held in a wheelchair accessible location.

Wednesday, June 7, 2023
5:30 PM

North Berkeley Senior Center
1901 Hearst Avenue, Berkeley

See "MEETING PROCEDURES" below.

All written materials identified on this agenda are available on the Planning Commission webpage: https://berkeleyca.gov/your-government/boards-commissions/planning-commission

PRELIMINARY MATTERS

1. ***Roll Call:*** **Merker, Blaine,** appointed by Councilmember Kesarwani, District 1
Vincent, Jeff, **Chair,** appointed by Councilmember Taplin, District 2
Moore III, John E. "Chip", appointed by Councilmember Bartlett, District 3
Oatfield, Christina, appointed by Councilmember Harrison, District 4
Mikiten, Elisa, appointed by Councilmember Hahn, District 5
Marthinsen, Emily, appointed by Councilmember Wengraf, District 6
Twu, Alfred, appointed by Councilmember Robinson, District 7
Hauser, Savlan, appointed by Councilmember Droste, District 8
Ghosh, **Barnali, Vice Chair**, appointed by Mayor Arreguín

2. ***Land Acknowledgement:*** The City of Berkeley recognizes that the community we live in was built on the territory of xučyun (Huchiun (Hooch-yoon)), the ancestral and unceded land of the Chochenyo (Cho-chen-yo)-speaking Ohlone (Oh-low-nee) people, the ancestors and descendants of the sovereign Verona Band of Alameda County.This land was and continues to be of great importance to all of the Ohlone Tribes and descendants of the Verona Band. As we begin our meeting tonight, we acknowledge and honor the original inhabitants of Berkeley, the documented 5,000-year history of a vibrant community at the West Berkeley Shellmound, and the Ohlone people who continue to reside in the East Bay. We recognize that Berkeley's residents have and continue to benefit from the use and occupation of this unceded stolen land since the City of Berkeley's incorporation in 1878. As stewards of the laws regulating the City of Berkeley, it is not only vital that we recognize the history of this land, but also recognize that the Ohlone people are present members of Berkeley and other East Bay communities today. The City of Berkeley will continue to build relationships with the Lisjan Tribe and to create meaningful actions that uphold the intention of this land acknowledgement.

3. ***Order of Agenda:*** The Commission may rearrange the agenda or place items on the Consent Calendar.

4. ***Public Comment:*** Comments on subjects not included on the agenda. Speakers may comment on agenda items when the Commission hears those items. (S*ee "Public Testimony Guidelines" below):*

5. ***Planning Staff Report:*** In addition to the items below, additional matters may be reported at the meeting. **Next Commission meeting: July 5, 2023.**

6. ***Chairperson's Report:*** Report by Planning Commission Chair.

7. ***Committee Reports:*** Reports by Commission committees or liaisons. In addition to the items below, additional matters may be reported at the meeting.

8. ***Approval of Minutes***: Approval of Draft Minutes from the meeting on May 3, 2023.

9. ***Future Agenda Items and Other Planning-Related Events:*** None.

AGENDA ITEMS: *All agenda items are for discussion and possible action. Public Hearing items require hearing prior to Commission action.*

10. ***Action:*** ***Planning Commission 2023-2024 Work Plan Subcommittee Selection***
    Recommendation: Establish the Work Plan Subcommittee and appoint three Planning Commissioners by a vote.
    Written Materials: N/A.
    Presentation: N/A.

11. ***Action:*** ***Public Hearing: State Law Technical Edits Revised***
    Recommendation: Review the revised proposed zoning ordinance amendments to update the BMC in accordance with state laws related to special needs housing, employment housing, family day care home and parking as well as additional non-substantive edits. Take public comment, discuss draft ordinance amendments, and make a recommendation to City Council.
    Written Materials: Attached.
    Presentation: N/A.

12. ***Discussion:*** ***Waterfront Specific Plan***
    Recommendation: Receive a presentation on the status of the Waterfront Specific Plan (WSP), take public comment, and provide feedback to staff. The WSP, if adopted, would guide future civic decisions related to nature, recreation, and development at the Berkeley Waterfront.

Written Materials: N/A.
Presentation: N/A.

13. Discussion: **Zoning Amendments to Support Businesses**
Recommendation: Receive a presentation on proposed zoning amendments to support Berkeley businesses, take public comment, provide feedback and direction to staff, and convene a Subcommittee to provide detailed review of the proposed amendments for Planning Commission consideration.
Written Materials: Attached.
Presentation: N/A.

ADDITIONAL AGENDA ITEMS: In compliance with Brown Act regulations, no action may be taken on these items. However, discussion may occur at this meeting upon Commissioner request.

Information Items:

- *May 10, 2023* – North Berkeley BART Open House - Community Meeting #2, https://berkeleyca.gov/construction-development/land-use-development/general-plan-and-area-plans/ashby-and-north-berkeley
- *May 18, 2023* – Southside Zoning Modification Project presented at the Design Review Committee (continued to June 15, 2023)
    - Agenda: https://berkeleyca.gov/sites/default/files/legislative-body-meeting-agendas/May_2023_Linked.pdf
    - Minutes: https://berkeleyca.gov/sites/default/files/legislative-body-meeting-minutes/2023-05-18_DRC_Draft%20Summary.pdf
- Kala Art Institute's Print Public Municipal Artist in Residence Program, http://www.kala.org/residencies/print-public-residency-program/

Communications: *General*.

Late Communications: (Received after the packet deadline):

Late Communications: (Received and distributed at the meeting):

ADJOURNMENT

Meeting Procedures

Public Testimony Guidelines:
Speakers are customarily allotted up to two minutes each and may not cede their time to another speaker. The Commission Chair may limit the number of speakers and the length of time allowed to each speaker to ensure adequate time for all items on the Agenda. ***To speak during Public Comment or during a Public Hearing, please line up behind the microphone.*** Customarily, speakers are asked to address agenda items when the items are before the Commission rather

requested notice of a particular commission's meetings.

Item 7, Dean (excerpt from Commissioner's Manual, page 57-58)

5) Agenda Titles/Purpose

The purpose of the agenda is to inform the public regarding the issues to be discussed. Government Code Section 54954.2 of the Brown Act requires that agenda item titles fully describe the issue or action to be discussed

and/or taken. This requirement, therefore, precludes such agenda titles as "University Avenue Improvements" or listing a topic on every meeting agenda to cover the "possibility" of discussion.

In preparing the agenda, consider the position of a member of the public and determine if a reasonable person could determine from the agenda title what the commission is discussing and what action is being proposed.

For example: "University Avenue Improvements" listed on an agenda by itself does not provide enough information. An appropriate title might be:

"Adopt a Recommendation to the City Council to Proceed with the Proposed $5 million University Avenue Landscaping Improvements"

Another example: "Earth Day" listed on an agenda by itself is too vague. An appropriate title might be:

"Discussion of Recommendation to Council to Sponsor Earth Day Parade"

The agenda must be clear on what action, if any, may be taken on an item. The agenda should list the recommendation or action proposed using the 20-word guideline. By using a full explanation in the item title (never use acronyms), members of the public who may be in favor of or opposed to such an issue will know to be present at the commission meeting to discuss their views.

6) Agenda Format/Headings

Berkeley Disaster and Fire Safety Commission
WORK PLAN – FY 2023-2024

Mission Statement

The Disaster and Fire Safety Commission serves as the public oversight body for Berkeley's Measure GG and Measure FF funds, charged with reviewing the budget on a regular basis to ensure that the funds are spent in accordance with the intent of the voter approved measures, recommending the appropriate annual increase to the tax rate, and recommending new programs and policy positions requiring Measure GG and Measure FF funding. The ultimate goal of the Commission is to increase community safety, resilience, and education for community disaster preparedness. The Commission also reviews and makes recommendations on items referred by the City Council or other Commissions.

Summary of FY 2023-2024 Work Plan Activities

Name	Activities	Expected Outcomes	Commissioners
1. Plan & Budget Oversight ***BFD Staff Contact: D. Sprague/ K. May***	a) Review BFD materials on a quarterly basis b) Meet monthly as Finance ad hoc working group with FD to review monthly materials c) Track financial issues related to FF & GG with the City Council	a) Budget development plan b) Provide input of quarterly budget c) Provide annual budget recommendation City Council on FF & GG d) Provide recommendation to City Council on annual GG increases e) Provide City Council recommendation for midyear program corrections (ad hoc)	Rotating group of commissioners (based on availability) on a quarterly basis hosted by Chair / Chief
2. Home hardening ***BFD Staff Contact: D. Green***	a) Lead review of monthly inspection report b) Review sessions with Fire Marshal c) Listening sessions with Building Department	a) Provide recommendation to City Council on annual inspection program targets b) Provide recommendation to City Council on building code modifications for fire safety (ad hoc)	• G. Murphy • W. Bradstreet • S. Dean
3. Wildland-urban interface ***BFD Staff Contact: D. Green***	a) Review vegetation management program b) Discuss grant applications and planned project allocations	a) Provide recommendation to City Council on vegetation management program b) Knowledge of grant funding distribution	• T. Gordon • H. Raine • T. Darling

	GOAL	Activities	Expected Outcomes	Commissioners
4.	**Safe passages** ***BFD Staff Contact: D. Green / S. Lana***	a) Review previous safe passages program and its component parts (parking restrictions, red curb, notification alerts, evacuation planning) b) Meet with community members for intake c) Absorb CWPP report	a) Restart of Safe Passages Program b) Formation of team/committee to develop plan c) Provide recommendation to City Council on draft revised Safe Passages program	• T. Gordon •— • T. Darling
5.	**Community Outreach** ***BFD Staff Contact: S. Lana/ D. Dailey***	a) Work with FD on educating the public on disaster and fire safety programs b) Coordinate / alert commission of potential outlets for information c) Follow / facilitate / support meetings with community groups d) Follow to conclusion external emergency speaker system e) Track Commission recommendations / status	a) Provide recommendation to City Council on mid-program changes to current communications plan b) Provide City Council recommendation into annual communications plan	•— • G. Murphy • W. Bradstreet

October 25, 2023

To: Chair Bradstreet, Vice Chair Murphy and Members of the Disaster and Fire Safety Commission (DFSC)
From: Commissioner Shirley Dean

Re: Clarification of recently approved ordinance on ADUs and JADUs

Recently the City Council at the urging of the State Department of Community Development approved an ordinance that allowed both an ADU and a JADU on parcels in Fire Zones 2 and 3. The ordinance is very complicated and while the Council also approved reviewing it after an evacuation study is completed next year, various additional structures could be constructed in Fire Zones 2 and 3 that will not he reversed even if found to be problematic. It is, therefore, important to understand specifically what was approved as of now. In addition, if the DFSC determines that there is an issue that needs to be immediately addressed by the Council, it may do so once some questions have been clarified.

It is also important for the members of the Commission to review the report that Chief Sprague submitted to the Council on this matter. If Commissioners don't have that report, they need to inform the Secretary of the Commission to send them a copy for their review of this item.

Sone questions that need to be clarified:

1. Parking required for new ADUs and JADUs on streets where existing street parking is limited: Since it does not appear that parking will be required for either or both new ADUs and JADUs, will the City provide enforcement of violations of street parking regulations that are already in place on streets where this new development is proposed? The DFSC has recommended limited street parking enforcement to the Council in the past without success. How will these issues impact by-right approval of this new development?

2. Parking required for new ADUs and JADUs on narrow streets where street parking regulations don't exist: Currently, there is a process for establishing street parking regulations on streets that are so narrow or have turns in them that impact the response of emergency response vehicles – not just fire-fighting vehicles. What will happen if new ADU and JADU development is proposed on such streets? Will the development be put on hold until new street parking regulations process is complete or is the street parking problem just ignoed?

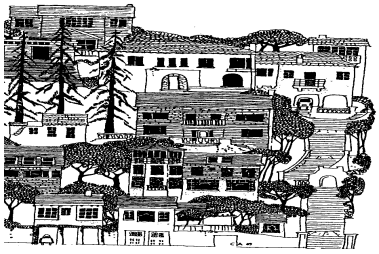
3. What are all the exemptions in calculating the distance between structures? A separation of 8 ft between structures is recommended/required , but apparently such items as bay window extension into the set back is exempted. Are there other exemptions because in the past it was possible to build wooden walkways within a required setback to the extent that reduced the actual setback to 0 for that property. What is the rule now?

4. Are accessory buildings subject to the 8ft separation rule? Under the new ordinance accessory buildings can be converted to ADUs in the future. If not subject to the 8 ft separation rule will the conversion to an ADU be allowed?

5. When ADUs nd JADUs in the front yard are approved, what is the separation requirement? It is said that front setback will be as far from the front as possible.

6. While neighbors will receive notice of new developments, they will also be advised that their concerns won't legally matter. It is good that unneighborly comment may result in early design improvements, but it is unclear just what the process for approval of new development is.

There may be other questions that Commission members have, and they can be added during the discussion of this item. The report submitted by Chief Sprague is important particularly regarding the separation issue. It is essential that DFSC members fully understand the gritty details since he identifies that structure separation is a key factor in slowing the advance of a wildfire. This benefits not just hill residents in their evacuation but also all residents of our City.



Panoramic Hill Association

September 20, 2023

Panoramic Hill Off-Street Parking Survey Overview

The purpose of this survey is to catalog the number and location of dwellings in the Panoramic Hill neighborhood which have limited access to off-street parking; with specific focus on how many dwellings have no off-street parking or dwellings which have access to only a single off-street parking space. This survey covers both the City of Berkeley and City of Oakland sections of the neighborhood.

The survey focuses on compiling data for dwellings with either zero or one off-street parking space because it is a common practice in our society for many households to function using two vehicles. Therefore, households in this neighborhood with less than two off-street parking spaces often heavily rely on public street parking in their day to day lives.

The City of Berkeley allows each household in the Panoramic Hill neighborhood to receive residential parking permits allowing three vehicles to park on the street. In addition households can purchase one day and two week permits for visitors, contractors, etc. Also available from the City of Berkeleyare special hangtag permits for in-home healthcare care-givers. Relevant here because the Panoramic Hill neighborhood has a significant population of residents over 70 years old. (*The City of Oakland has similar permit allowances as Berkeley, but only a portion of the Oakland area of Panoramic requires a permit for long term parking*.)

Because of the neighborhood's orientation on a hillside bounded by UC Berkeley athletic facilities, public parkland or dense student housing, there is a general lack of feasible alternatives for local resident off-street parking.

Survey Results

Results found 46 dwellings in the neighborhood which have no off-street parking and 37 dwellings that have access to a single off-street parking space.
The survey has grouped its findings into four distinct geographical zones, each of which tends to share a regional on-street parking supply.

ZONE ONE - LOWER HILL AREA - BERKELEY
The largest concentration of dwellings with limited parking is in the first three blocks of Panoramic Way and the adjoining single blocks of Mosswood Road and Arden Road:
FIRST BLOCK PANORAMIC WAY - #1 to #48
Zero Off-Street: 4 Dwellings
One Off-Street: 13 Dwellings

SECOND BLOCK PANORAMIC WAY - #60 to #77
Zero Off-Street: 8 Dwellings
One Off-Street: 4 Dwellings

MOSSWOOD ROAD - #6 to #48 (*plus* 19 ORCHARD LANE)
Zero Off-Street: 3 Dwellings
One Off-Street: 4 Dwellings

THIRD BLOCK PANORAMIC WAY - #74 to #130
Zero Off-Street: 1 Dwelling

ARDEN ROAD - #10 to #100 (& 38 MOSSWOOD ROAD)
Zero Off-Street: 6 Dwellings
One Off-Street: 6 Dwellings

There is also one house immediately above Arden Road at 157 Panoramic Way with no off-street parking. This area from Arden Road down to the entrance of Panoramic Way is a geographically distinct grouping of dwellings which were primarily constructed during the first wave of development of the neighborhood before1950.

In this zone there are a total of **22 dwellings** with no off-street parking and **27 dwellings** with a single off-street parking space. This area is currently served by a count of approximately **60 on-street public parking spaces.**

ZONE TWO - MID PANORAMIC WAY / APARTMENT AREA - BERKELEY
A second area with a high concentration of dwellings with limited or no off-street parking is the dense section of dwellings near the entrance to the Lower Jordan Trail, from 303 to 365 Panoramic Way. This zone includes a significant number of apartment units for the neighborhood, including an eleven unit complex and a three unit complex. This section of Panoramic Way is also unique in its concentration of perpendicular public parking spaces, set back from the roadway allowing passage of two-way traffic. The area has at least 16 perpendicular parking spaces, the count of which lacks specificity because the exact boundary between public and private parking in the area near 352 Panoramic Way is unclear.

The parking supply conditions of the apartment complexes is as follows.
The apartment complex at 340, 342 & 344 Panoramic Way has a two car garage on property, if that garage is available to tenants, that would tally as:

PANORAMIC WAY - #340 to #342
Zero Off-Street: 1 Dwelling
One Off-Street: 2 Dwellings

The apartment complex at 360 Panoramic Way has a mailbox with 11 apartment units labeled “A” through “K”. The complex has an off street parking lot with 6 parking spaces, if divided among the 11 apartments that would tally as:

PANORAMIC WAY - #360 units A through K
Zero Off-Street: 5 Dwelling
One Off-Street: 6 Dwellings

In this zone there are also two dwellings built on lots off of the street and adjacent to the connector trail between the Upper and Lower Jordan trails, those dwellings park vehicles in this same zone.

PANORAMIC WAY - #425 & to #444
Zero Off-Street: 2 Dwellings

ZONE THREE - UPPER PANORAMIC WAY - OAKLAND
A third area with a significant concentration of dwellings with no off-street parking is the section of Panoramic Way in Oakland from 430 Panoramic Way to 700 Panoramic Way, this section stretches from the entrance of the Lower Jordan Trail to the scenic overlook area at the junction with upper Dwight Way. A large portion of this roadway is sub-standard, extremely narrow and of uneven width. The downhill edge of the roadway is often poorly defined. Also along this section of roadway the public parking areas are not clearly marked, sometimes there is signage which indicates either the beginning or ending of a public parking area, but without a corresponding sign designating the opposite end of a parking area. Given the unclear signage, a rough estimate of on-street public parking is 20 spaces from 422 to 567 Panoramic Way. In this area the dwellings with no off-street parking are all on the downhill side of the roadway except for 517 Panoramic Way which is on the up-hill side and is marked with blue disabled parking signage in front of the home.

PANORAMIC WAY - #442 to #517
Zero Off-Street: 6 Dwellings

Starting at 567 Panoramic Way there is a stretch of roadway without homes in the area of Derby Creek . Dwellings begin again at 604 Panoramic and from 604 Panoramic Way to 650 Panoramic Way there are several more dwellings

which lack off-street parking. This section of roadway is somewhat wider than the road from 442-517; this area also lacks clear designation of where it is legal for the public to park, but a reasonable estimate could be at least 20 public parking spaces. It is also unclear in this area how many dwelling units exist, this survey assumes only single units per address.

PANORAMIC WAY - #604 to #650
Zero Off-Street: 3 Dwellings

ZONE FOUR - UPPER DWIGHT WAY - OAKLAND

This area has several dwellings with no off-street parking scattered along upper Dwight Way from its start at the Oakland border, extending from 3241 to 3382 Dwight Way. They included, the geodesic dome at 3303 Dwight Way, two cottages uphill from the road at 3374 & 3382 Dwight Way and a landlocked home which appears on maps as 3241 Dwight Way, but is accessed via a stairway off of Dwight Place. Similar to Panoramic Way in Oakland, this area of Dwight Way in Oakland lacks definitive signage indicating where it is legal or safe to park along the roadway, a rough estimate is approximately 11 public spaces between 3303 and 3455 Dwight Way.

DWIGHT WAY - #3241 to #3382
Zero Off-Street: 4 Dwellings

JANICE THOMAS

a resident of
PANORAMIC HILL,
STRAWBERRY CANYON

SINCE 1985

October 25, 2023

To the City of Berkeley Disaster and Fire Safety Commission
Public Comment 10/25/23
Late communication: Attachments sent to Staff Secretary, Deputy Chief Keith May on 10/25/23
Follow-up to Letter dated 8/27/23

Dear Commissioners,

It is absolutely imperative to find alternatives means of accessing Panoramic Hill during fire events, whether large or small. The reasons are many[1] [2] [3] [4] and shall not be reiterated in my two minutes on the floor.

The need for a secondary access road has been discussed by Panoramic Hill neighbors and the City of Berkeley for at least 70 years.[5] [6] [7] [8] One might ask then, what are the obstacles? Why has it not been built?

For one there has been natural ambivalence from the neighborhood. We have not sustained momentum. There are justifiable fears that a second access road would lead to development which would be contrary to the reasons why people move to Panoramic Hill. Plus, this is the wildland-urban interface (WUI), after all. More development is contraindicated.

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[1] Hayward Fault bisects the first hairpin (rf. Geomatrix map "Location of Hayward Fault in Berkeley") and the California Memorial Stadium.
[2] Power lines are above ground and might fall during a seismic event and block the one road in and out of the neighborhood.
[3] A football stadium with a capacity of 63,000 people is at the base of Panoramic Hill and across the street from the neighborhood's only access and egress, Panoramic Way.
[4] Surrounded by wildlands on three sides (UC and EBRPD) and by recent up zoning on the fourth side.
[5] Panoramic Patter (1952)
[6] City Report (1959). *Second Access Road to Panoramic Hill: A Report to the City Managers of Oakland and Berkeley* prepared by the Berkeley Planning Department June 1, 1959.
[7] City Report (1974). *Panoramic Hill Area: Development and Environmental Resources Study* prepared by the Berkeley Planning Department June 1974.
[8] Letter from PHA President Jerry Wachtel to council members (Wozniak and Brunner) of respective city districts (2005)

However, another option might exist that would less likely trigger development in the WUI. And this would be an emergency-only access road.[9] [10] In other words, to build another fire trail that would be close to a city fire station. A means of connecting Lower Dwight to Upper Dwight is my preferred alternative.

Any access road, whether regulation-grade or for emergency only, will be expensive. Our tax revenue over the last 70 years might count for something but has been spent on other city projects. Let's look now to Measure T1 and whether the City even looked into Panoramic Hill's access problems and considered our access issues for inclusion on their project list.

Since the 1991 conflagration, there is increased understanding across jurisdictions and agencies that we're in this together. My own hope is that a process of study will begin with all deliberate speed, that it include outreach to potential partners – Oakland, UC, EBRPD – and that grants and other sources of funding are identified.

Finally, the upcoming evacuation study will hopefully provide useful intel as to whether a secondary access road, emergency or otherwise, would facilitate access and egress across various types of fire events. One scenario which I hope will become apparent is this: a seismic event causes a rupture in an underground gas line and starts a fire; the seismic movement causes the leaning utility pole to fall at the first hairpin and block access; fire engines are unable to access the fire. More optimistically, an emergency access road has been built would allow safe passage for fire engines to respond and extinguish the fire before it gets out of hand.

In short, the City needs to put the access road issue, with all its complexities, on their work plan, across departments. And needs to work this issue across jurisdictions and agencies, and needs to include the neighbors in a systematic way so this project might benefit from local knowledge.

Berkeley must lead this effort and be all that Berkeley can be. We can do this. We must. What we do now affect's Berkeley's future. Thank you.

Respectfully submitted,

Janice Thomas

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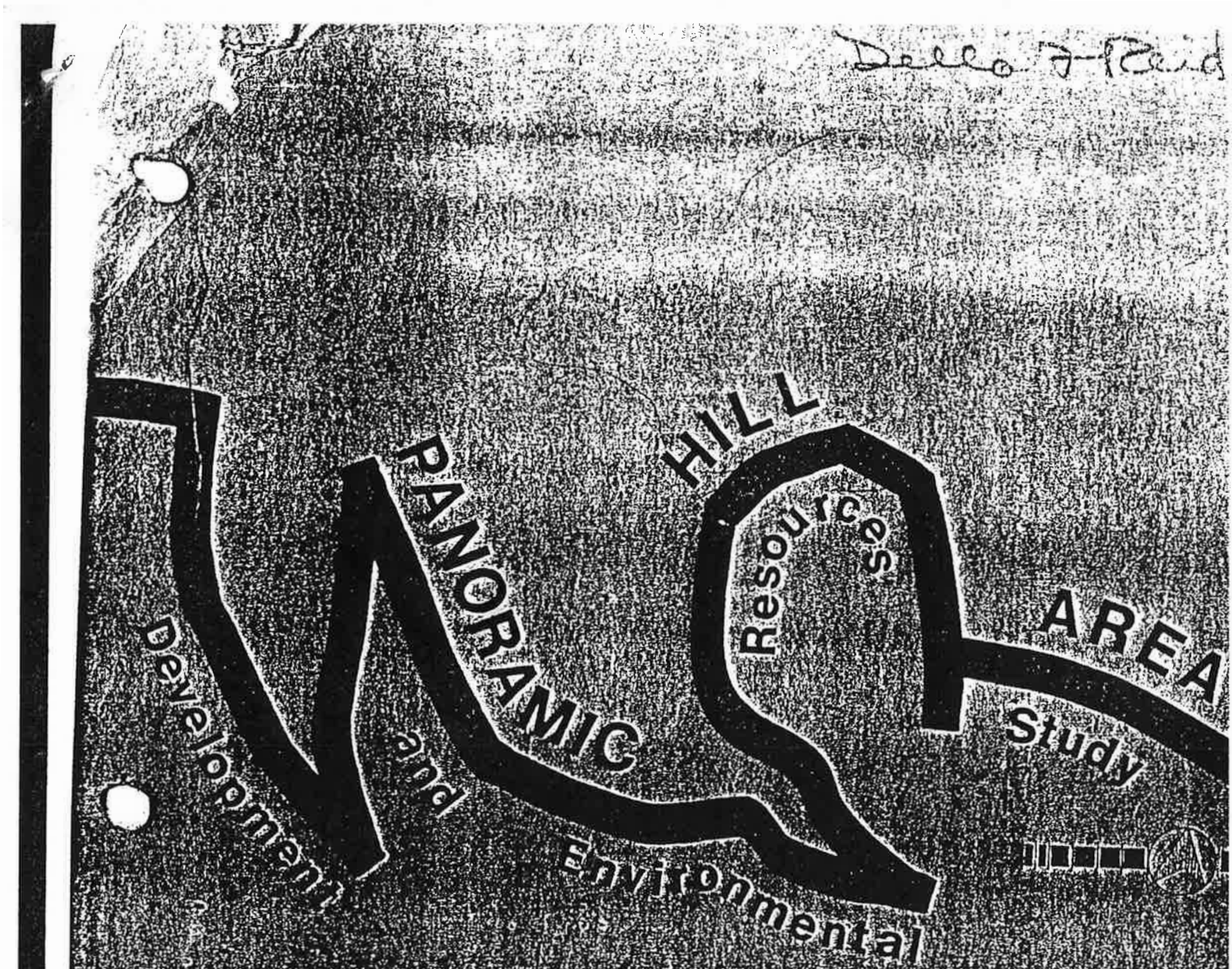
[9] City Study (1959) "Develop improved fire road access and resident emergency escape routes 86% agree." Appendix B, page 2.

[10] City Study (1974) "In light of these concerns, extra access and egress for emergencies might more suitable be provided by additional fire roads." Page 89.



PANORAMIC HILL AREA:
Development and Environmental Resources Study

Berkeley Planning Department June 1974

Pan Hill Homes Owners Ass...

ACKNOWLEDGMENT

The Panoramic Hill Study would not have been possible without the assistance of Panoramic Hill residents, representatives of various public agencies and the City of Berkeley staff.

The Planning Department acknowledges the major assistance provided by Fire Chief Elmer Silva of the University of California Lawrence Laboratory and Professor Emeritus Harold Biswell of the University of California School of Forestry.

Also providing considerable assistance were Owen Eide of the East Bay Municipal Utility District; Roy Oakes and William Dabel of the Berkeley Public Works Department; Victor Porter and Milton Steele of the Berkeley Fire Department; and Fire Marshal Russell Norman of the University of California. Ken Moye, a city planning student at the University of California, donated many hours of volunteer work and was later added to the study staff.

The Panoramic Hill Association provided major assistance to the study, primarily through its Planning and Zoning Committee. The Committee which consists of Patrick Devaney, chairman, Della Reid, Dan Keig, and Judd Boynton met regularly with the study staff.

Dean Armstrong, Project Director
Thomas F. Peak, Director of Planning

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I N T R O D U C T I O N

Origin of the Study

Panoramic Hill has long been recognized as a portion of the Berkeley planning area that needed special study. The area consists of two steep ridges upon which the cities of Oakland and Berkeley have allowed the construction of 200 dwelling units over the last 50 years. Severe fire hazards, a single twisting narrow access road barely adequate for residential access, and severe traffic congestion plague the neighborhood.

Because it was felt that existing regulations and programs were not solving the neighborhood problems, on June 5, 1973, the Berkeley City Council imposed a one year development moratorium on the Berkeley portion of the Panoramic Hill area. At that time, the Berkeley Planning Department was directed to review existing development policies and analyze Panoramic Hill problems. Consequently, a study was begun of fire hazards, traffic circulation, parking and other problems in both the Berkeley and Oakland portions of the Panoramic Hill area. The Oakland portion of the Hill was included because it is impossible to separate the problems and environmental characteristics of the Oakland area from the Berkeley area.

Components of the Study

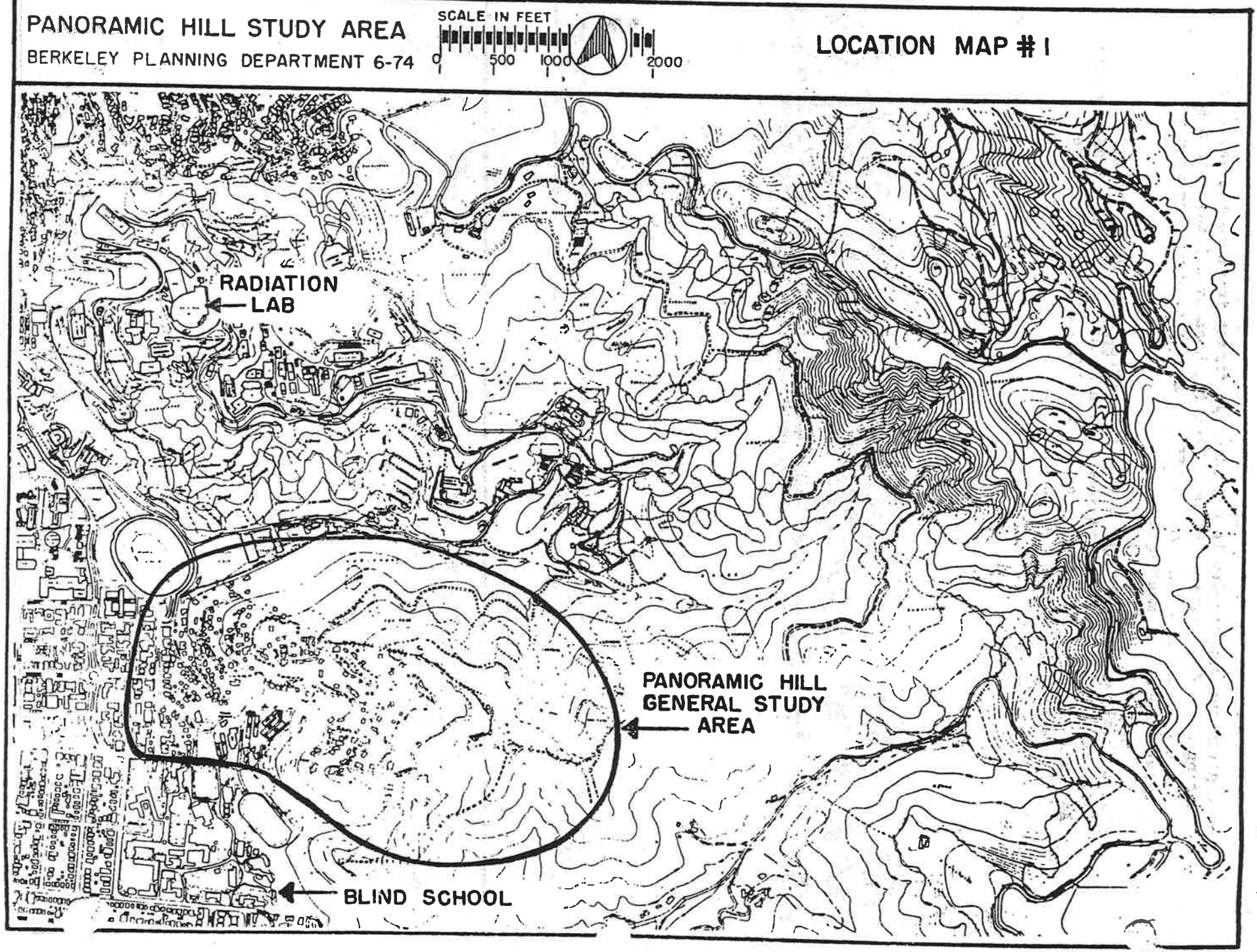
Supporting the Study Conclusions and Recommendations are two major studies: 1) the Fire Vulnerability Study; and 2) the Environmental Assessment Study.

The Fire Vulnerability Study analyzes the factors that determined fire vulnerability: 1) factors promoting fire ignition; 2) fire hazards, especially fuel characteristics; 3) the capability of fire forces to respond to a fire emergency; 4) the degree to which people, property and other things of value are exposed or would be exposed in the future to fire danger.

The Environmental Assessment Study surveys the existing and potential environment of Panoramic Hill. Factors studied were: 1) the natural environment; 2) the social and cultural environment; and 3) threats to the environment.

Citizen Participation

Throughout the study, a major effort was made to achieve resident participation and to keep the residents informed. All of the residents were sent information on the study and their views were solicited through two separate questionnaires. Because it represents approximately one-half of the residents, the Panoramic Hill Association


PANORAMIC HILL STUDY AREA
BERKELEY PLANNING DEPARTMENT 6-74
SCALE IN FEET
0
500
1000
2000
LOCATION MAP #1
RADIATION LAB
PANORAMIC HILL GENERAL STUDY AREA
BLIND SCHOOL

was given the opportunity to provide significant input to the study including bi-weekly meetings between Planning Department Staff and a subcommittee of the Association. Staff presentations were also made at regular Association meetings.

The members of the Planning and Zoning Committee of the Association included Patrick DeVaney, Chairman; Della Reid, Dan Keig and Judd Boynton. Association members who also provided significant assistance were Bill Freedenberg and Doris Maslach.

what? what?

SUMMARY OF STUDY FINDINGS

General Description of the Neighborhood

Panoramic Hill is a neighborhood that straddles the Berkeley-Oakland border. It consists of approximately 200 dwelling units, 3/4 of which are located in the Berkeley portion of the Hill. Although the environment is very woodsy and rural, nearly half of the dwelling units are in buildings having two or more dwelling units.

The neighborhood rests on two ridges that jut out from the Berkeley Hills just south of Strawberry Canyon. Most of the development is on the north ridge (See attached map) that is bounded on the north by Strawberry Canyon and on the south by the middle fork of Derby Creek. The south ridge, which has only ten percent of the Hill's homes, is a far less prominent physical feature. It is bounded to the north by Derby Creek and to the south by the wildlands leased by the East Bay Regional Park District from the California School for the Blind and Deaf.

The neighborhood has "wildland" properties to the north (UC-Strawberry Canyon), the east (steep ridgelines owned by the University of California), and to the south (steep hillsides once a part of the California School for the Blind and Deaf). On the west, the neighborhood borders on a highly urbanized portion of the City of Berkeley which lies adjacent to the University of California Stadium. This adjacent neighborhood has many student-oriented apartments, fraternity and sorority houses.

Physical Character of the Hill

The lower part of Panoramic Hill was first settled in the early years of the twentieth century. The homes become much newer at the higher elevations. At the top of the Hill (in Oakland) most of the houses were built since World War II. Most of the houses are made of wood. This, combined with the large yards and dense vegetation and the very narrow, twisting streets, gives much of the Hill the feeling of a National Geographic Magazine picture spread of a mountain village.

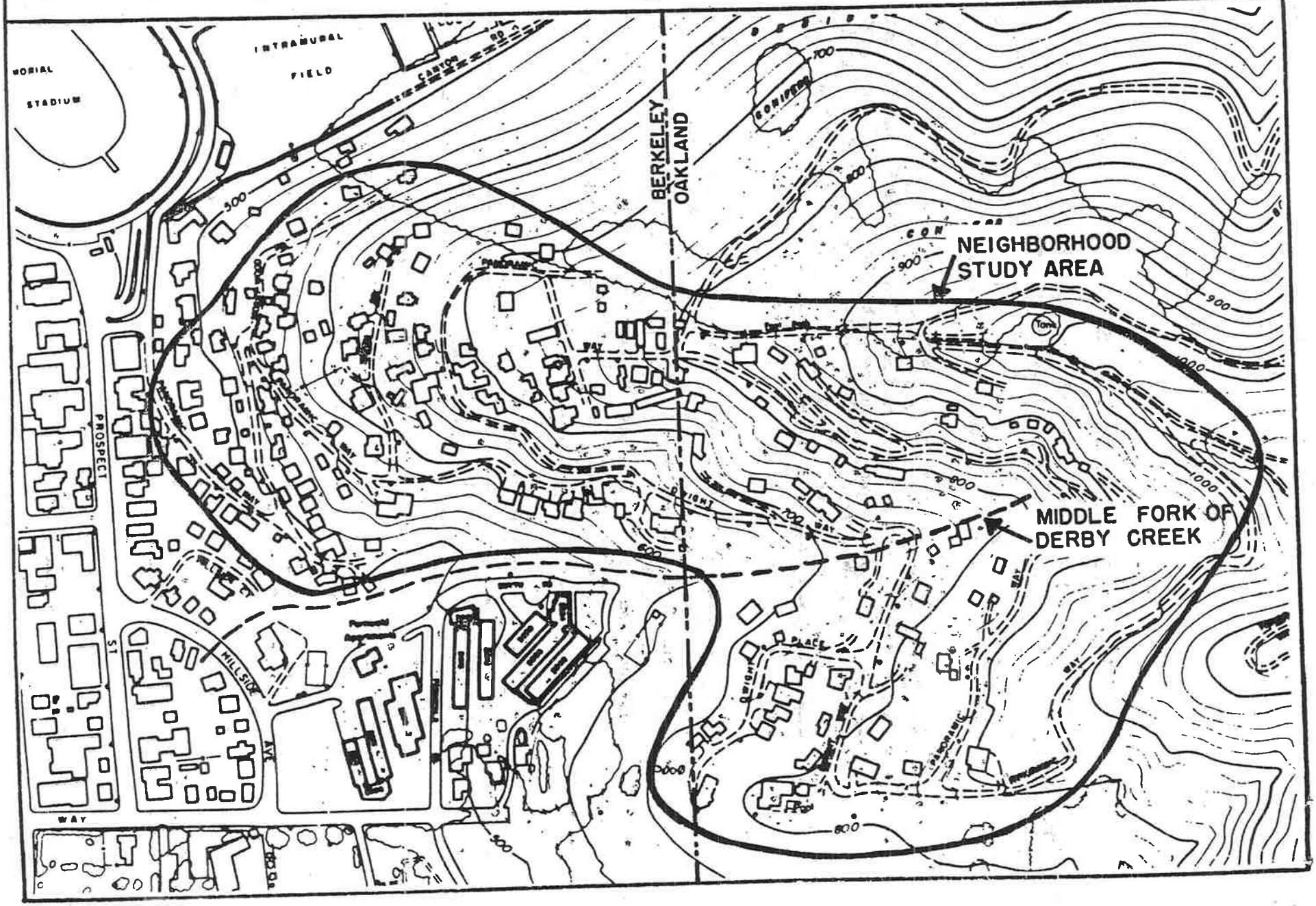
The main road of the Hill is Panoramic Way, a street varying in width from 12 to 18 feet. Panoramic Way provides the only access to the Hill. All traffic that enters or leaves the Hill must therefore, funnel through this narrow road. The road is extremely twisty--three major turns have corners with angles of far less than 90°.

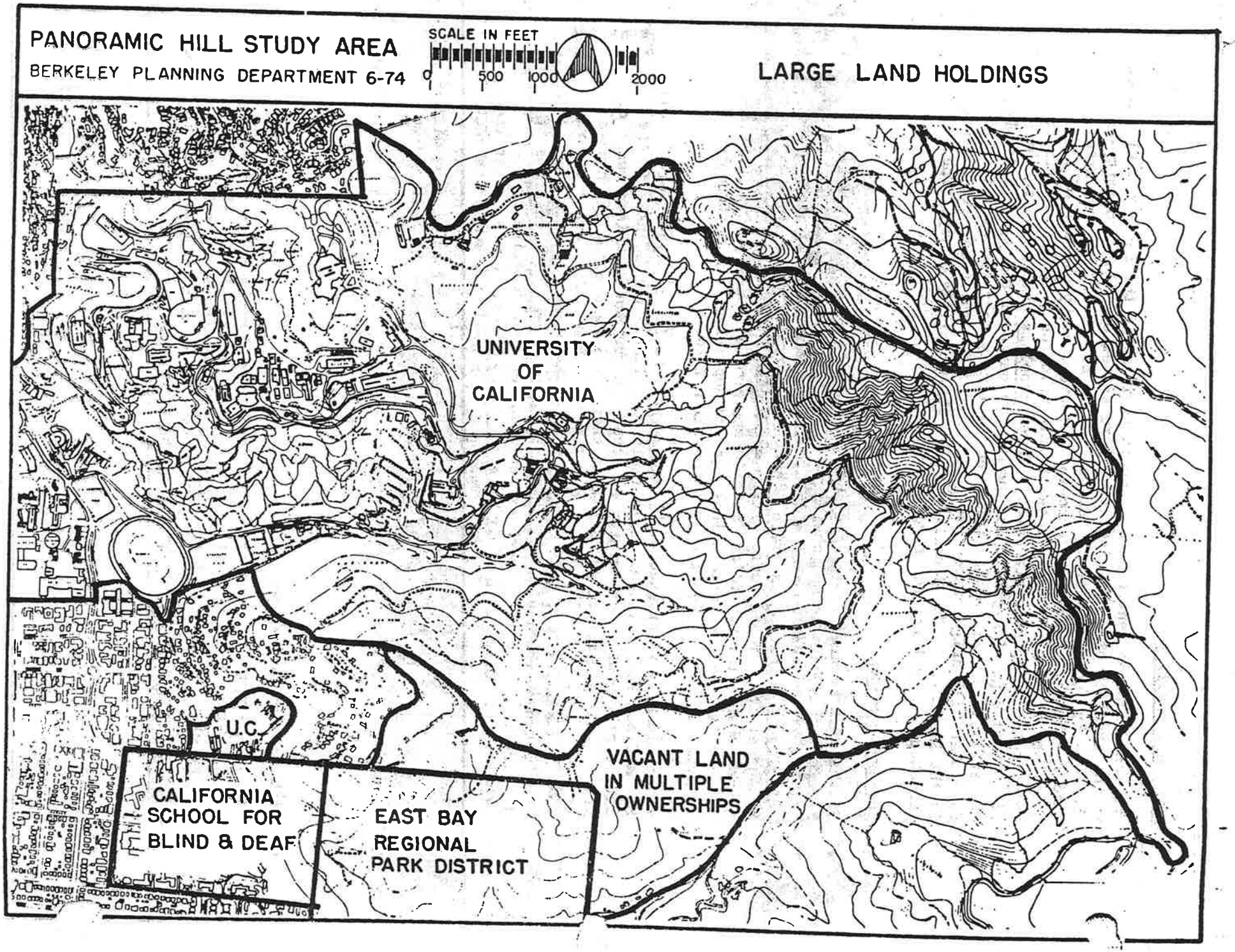
PANORAMIC HILL STUDY AREA

BERKELEY PLANNING DEPARTMENT 6-74

SCALE IN FEET
0 50 100 200 500

LOCATION MAP # 2




PANORAMIC HILL STUDY AREA
BERKELEY PLANNING DEPARTMENT 6-74
SCALE IN FEET
0
500
1000
2000
LARGE LAND HOLDINGS
UNIVERSITY OF CALIFORNIA
U.C.
CALIFORNIA SCHOOL FOR BLIND & DEAF
EAST BAY REGIONAL PARK DISTRICT
VACANT LAND IN MULTIPLE OWNERSHIPS

Fire Vulnerability

The most important environmental characteristic of the Panoramic Hill area is the presence of a very dangerous fire situation. The proximity to the densely wooded University of California Strawberry Canyon watershed is the main reason for concern. However, heavy amounts of fuel (wood houses, debris, thick vegetation)within the neighborhood itself constitute a dangerous situation. These problems combined with the effects of high wind conditions during dry parts of the year (September primarily), very steep topography and extremely poor access, make the Panoramic Hill neighborhood among the most fire-dangerous neighborhoods in the Bay Area. (For details see Fire Vulnerability Study.) (The attached map explains the fire situation.)

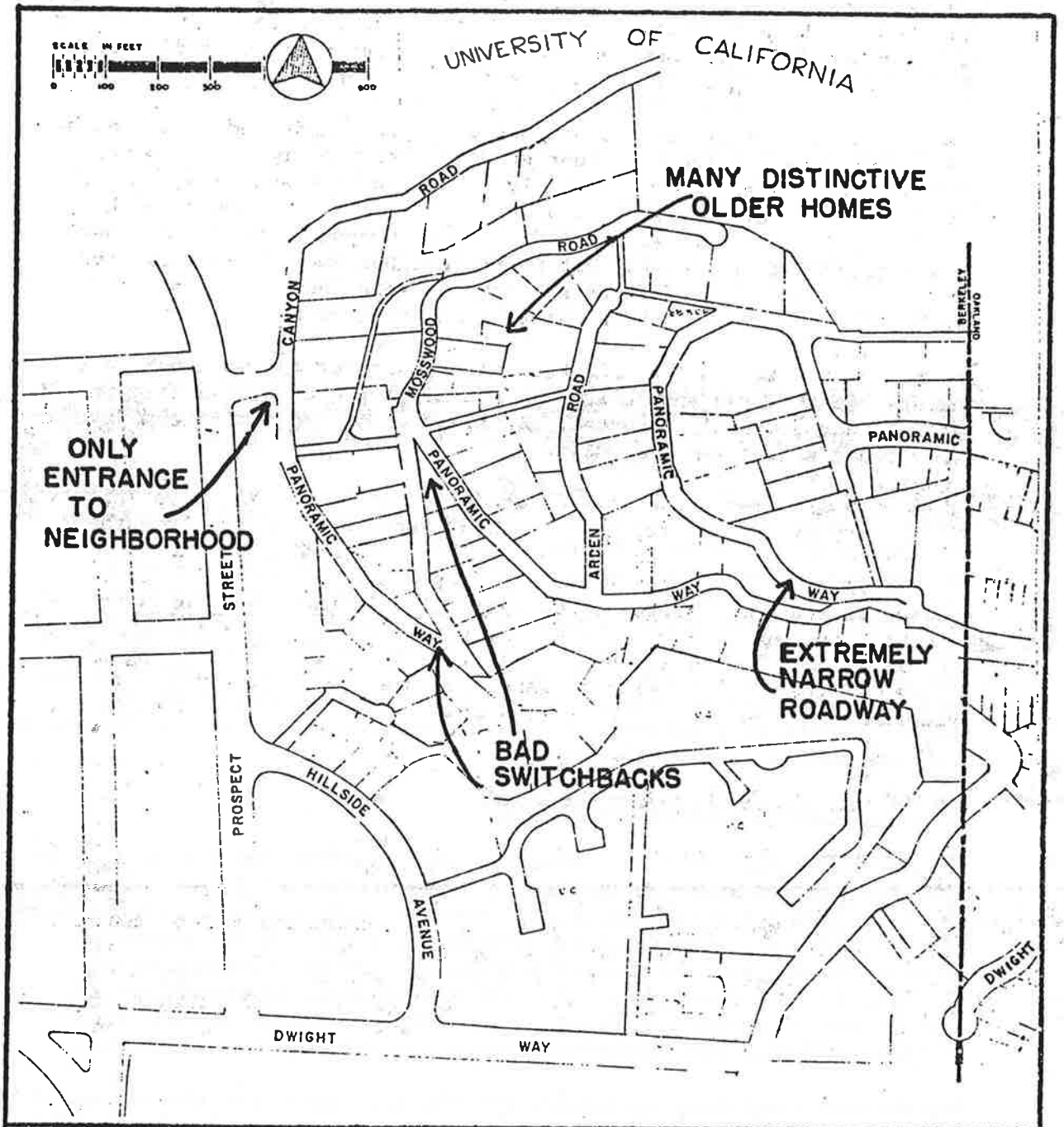
Geologic Hazards

If the fire hazard did not overshadow all other concerns, geologic hazards would have to be considered of greatest significance for Panoramic Hill; in fact, the two are related, with the potential for earthquake activity exacerbating the fire hazard. Geologic problems include the potential for ground rupture from earthquake fault movement; intense ground shaking; landsliding; mudsliding; erosion and flooding. While all are important considerations, ground rupturing from earthquake activity is a very significant potential hazard.

Panoramic Hill is transected by the Hayward Fault, a major fault in the San Andreas Fault system. This fault experienced earthquakes in the 19th century which were nearly as severe as the San Francisco Quake of 1906. Seismic experts predict that there will be a major earthquake centered on this fault in the near future. When such a quake occurs there is a likelihood that the ground will be ripped open for much of the length of the fault. If this happens, the ground on one side of the fault would move as much as seven to ten feet relative to the other side. Given such fault movement, many homes, sewers, water lines, and gas lines would be severely damaged in a band that would transect the whole width of the Hill neighborhood. Gas lines breaking and starting fires combined with damage to water lines, the existing difficult access situation and the presence of severe fire hazards, could result in devastation.

The Natural Environment

Panoramic Hill consists of a major ridge and a minor ridge. The major ridge ~~which~~ is on the north side of the Hill area is a part of the Strawberry Canyon Watershed. The two ridges together form the watershed for the middle fork of Derby Creek. The south ridge ~~also~~ is in the watershed of the south fork of Derby Creek.



PANORAMIC HILL AREA STUDY

BERKELEY PORTION OF PANORAMIC

BERKELEY PLANNING DEPARTMENT 6-74

CHARACTERISTICS OF BERKELEY NEIGHBORHOOD

The ridges were formed by erosion and mass wasting (mudslides, landslides) of less resistant rock. This erosion and mass wasting is a continuing process in the Hill's environment. Most problems with drainage, landsliding and mudslides have occurred in the area near the middle fork of Derby Creek. Caused by Judd Boynton

slight in past 30 yrs

Panoramic Hill originally was composed of grasslands and brush on the ridges with dense tree and other growth along the creeks.. However, man has altered the environment greatly. Between 1914 and 1924, the University of California planted dense mixed conifer stands in the watershed land on both sides of Strawberry Canyon. These trees have now matured into a forest. Within the neighborhood, residents have planted dense stands of trees and other vegetation, such that the homes look as though they had been built within the forest.

? So

Since the vegetation that has been planted is for the most part not natural to the area and because of the man's presence, wildlife in the area is not especially unusual. Deer, raccoons, deer mice and jays are the predominant form of wildlife.

although

While the area cannot be called "natural", it is extremely beautiful. The beauty of the forest, however, has strong competition from the breathtaking views of the entire Bay Area. In addition, the Hill itself is a scenic asset of the Berkeley community. The forested, house- dotted north ridge of Panoramic Hill is the most prominent natural landmark in the Berkeley hills above the University Campus. > only one

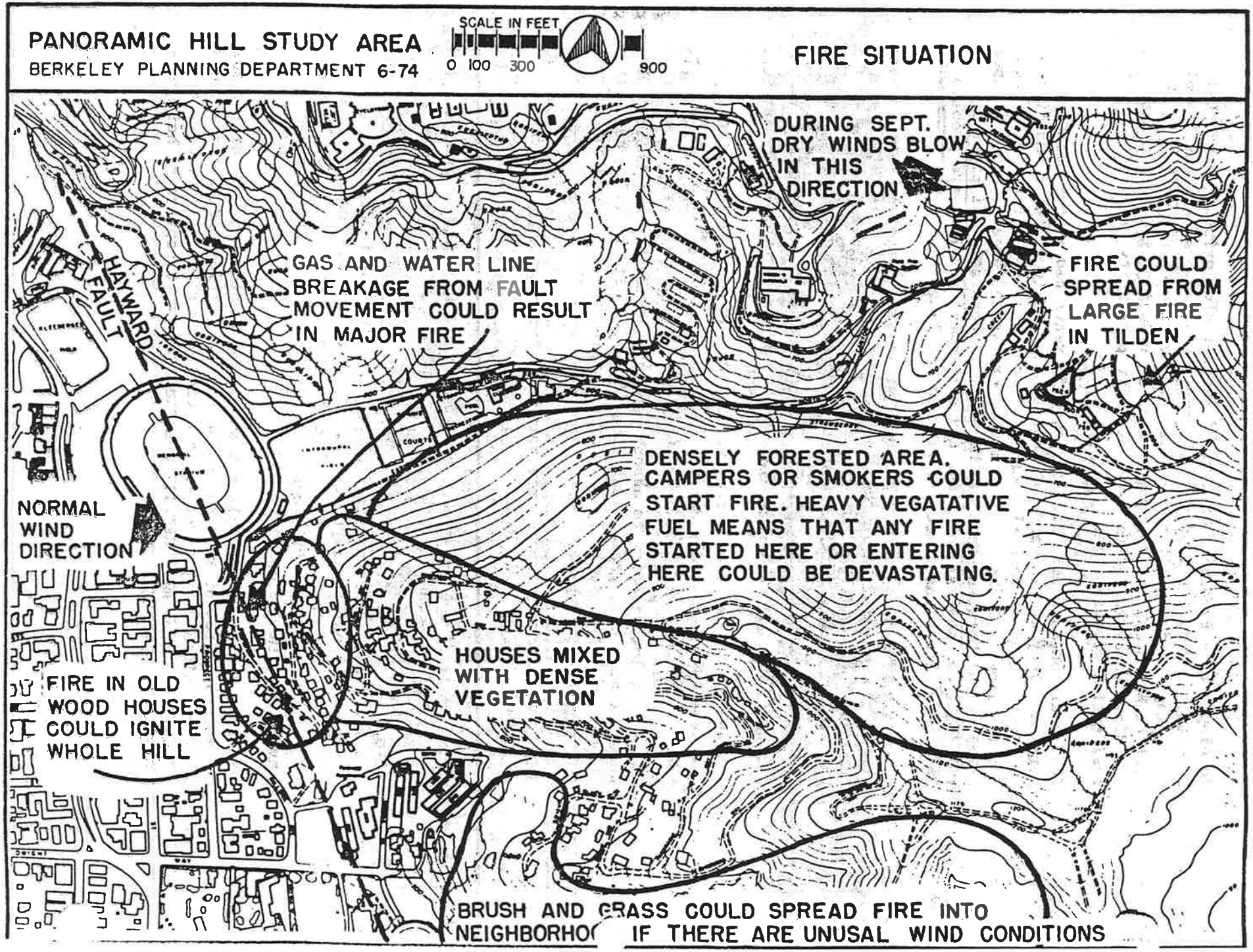
The importance of how the Hill looks is made obvious by looking at one of the emblems of the City of Berkeley which features the north ridge of Panoramic Hill as a backdrop to the Campanile. (For more details see the " Environmental Assessment Report")

Threats to the Hill Area Environment

The Panoramic Hill area is a resource that benefits the entire City of Berkeley and not just the residents. Many hikers and joggers share in its beauty and rural qualities. However, this tranquil neighborhood has many problems that presently detract from its quality or could potentially destroy the quality altogether. These threats include: 1) fire; 2) land development; 3) geologic hazards; 4) conditions of sewers; and 5) street conditions. In addition, public actions aimed at these problems can themselves become threats to the environment.

redundant

Two threats completely overshadow the others. These are the threat of fire and the threat of major new development. The fire danger could not only kill people and destroy property but could destroy the natural qualities and man-created qualities of the Hill that make it a community asset. In 1923, Berkeley lost a whole neighborhood of Maybeck homes to a fire disaster. One can only imagine what that area of redwood homes and woodsiness would be like today. Similarly, the potential loss of Panoramic Hill and the Strawberry Canyon watershed must be viewed as a severe threat to the quality of the Berkeley environment. Major new


PANORAMIC HILL STUDY AREA
BERKELEY PLANNING DEPARTMENT 6-74
SCALE IN FEET
0 100 300 900
FIRE SITUATION
DURING SEPT. DRY WINDS BLOW IN THIS DIRECTION
HAYWARD FAULT
GAS AND WATER LINE BREAKAGE FROM FAULT MOVEMENT COULD RESULT IN MAJOR FIRE
FIRE COULD SPREAD FROM LARGE FIRE IN TILDEN
DENSELY FORESTED AREA. CAMPERS OR SMOKERS COULD START FIRE. HEAVY VEGATATIVE FUEL MEANS THAT ANY FIRE STARTED HERE OR ENTERING HERE COULD BE DEVASTATING.
NORMAL WIND DIRECTION
HOUSES MIXED WITH DENSE VEGETATION
FIRE IN OLD WOOD HOUSES COULD IGNITE WHOLE HILL
BRUSH AND GRASS COULD SPREAD FIRE INTO NEIGHBORHO IF THERE ARE UNUSAL WIND CONDITIONS

development on Panoramic Hill would further clog existing congested streets, destroy its woodsy rural atmosphere, expose many more people to fire danger and imperil the quality of the view of the Hill from the rest of Berkeley. Any programs aimed at reducing fire threat must therefore be evaluated in terms of their propensity to promote additional residential construction.

The sewers on Panoramic Hill are over 50 years old ~~in the Berkeley portion~~. They are in very bad condition. Problems include massive root intrusions at several locations, moderate root intrusion throughout the length of the sewer, numerous cracks and breaks, crushed pipes, displacement between pipes at the joints. Separation of pipes at the joints at several locations and settlement of pipes are problems. In several locations there are dips in the line.

Panoramic Hill is served by a 1900's style street system. The streets are very narrow (12 to 18 feet) and extremely twisty with two almost unmaneuverable switchbacks. There is only one road into the Hill. The streets have a very poor surface made up primarily of patched potholes. Major improvement to the street or sewer system however, are not now feasible because such improvements would require closing Panoramic Way and in effect closing the Hill for long periods of time.

Panoramic Hill has two personalities. During week days it is quiet, tranquil and quite empty of cars and people. ~~However,~~ In the evening and on weekends, it becomes noisy and congested. The reason apparently is that this steep hillside neighborhood with narrow twisting roads has a very low capacity to absorb people, automobiles and their problems. When too many cows graze land (that is exceed its carrying capacity), they destroy it; similarly, too many people and their automobiles may destroy Panoramic Hill.

The number one problem of this nature is the automobile. Parking is difficult on Panoramic Hill. Many dwelling units have inadequate off-street parking. Much of the area has parking limited to one side only. There are many apartments which do not provide adequate parking area. Many of the houses are rented to groups of adults thus generating extra automobiles. Because of the parking shortage, there are many cases of automobile parking in "No Parking" zones in front of driveways and the like. The result is unpleasant to residents and dangerously impairs traffic flow. Residents have complained often of inadequate enforcement of parking regulations. On Saturdays and Sundays, cars visiting the area roar up and down the narrow streets. (For descriptions of the situation see "Residents' Perception of the Neighborhood Environment in the Appendix.)

The crowding of more people and automobiles onto Panoramic Hill results in increased social tension, noise, dog activities and unpleasantness. ~~Older~~ residents expressed the greatest concern about this unpleasant situation) (For more details see "Residents' Perception of Neighborhood Environment")

CONCLUSIONS AND RECOMMENDATIONS

C O N C L U S I O N S

1. Present and future fire problems of Panoramic Hill are caused by many natural and man-made factors. The major factors over which man has control are:

   a. The heavy amount of vegetative fuel present in the University of California land immediately to the north and east of the Panoramic Hill residential area;

   b. The heavy amount of fuel in the form of thick vegetation, wooden houses and trash found in the residential area of Panoramic Hill;

   c. The extremely poor emergency traffic circulation pattern on the Hill for resident evacuation and emergency vehicle access;

   d. The exposure of nearly 400 residents to extreme fire safety problems and the presence of zoning regulations that encourage creation of additional dwelling units and additional exposure of people;

   e. The presence of several sources of fire ignition in the area including residence fires, recreationist fires and fires resulting from ground rupturing along the Hayward Fault which slices through the lower part of the Hill;

   f. The congestion of the neighborhood, primarily caused by the inability of the neighborhood to absorb increased amounts of traffic and parked automobiles;

   g. The lack of knowledge of residents relative to their possible actions in coping with a fire situation;

   h. The large number of fire and other agencies that have jurisdiction over fire safety in the area.

2. Environmental problems of Panoramic Hill are:

   a. Automobile congestion, destruction of vegetation, noise, traffic congestion, parking problems caused by increased new residential construction and intensification of the use of existing residences;

b. The poor condition of the pavement of the streets, the poor condition of the sewers of the area, and the general aged condition of neighborhood utilities;

c. Potential for ground rupturing, shaking and landsliding resulting from activity of Hayward Fault which transects the neighborhood;

d. Creek erosion and minor flooding caused by destruction of Derby Creek, inadequate construction practices and construction on slopes of over 40%.

e. The possible ground water pollution caused by the extensive use of Septic tanks in the Oakland portion of the Hill;

f. The threat of substantial new development if the Hill were provided with improved traffic circulation or sewers were extended to the Oakland portion of the Hill.

RECOMMENDATIONS

For each of the study recommendations, the study staff has determined which City Council actions are necessary to insure that a desired recommendation is carried out. Once the City Council has determined which recommendations it supports, the appropriate action for that recommendation can be taken.

Recommendation #1: Develop Fire Emergency Response Plan for Panoramic Hill

The Berkeley Civil Defense Director (Fire Chief) should be directed to oversee the production of a Fire Emergency Response Plan for Panoramic Hill. In addition, Council correspondence requesting participation in this effort should be directed to the Oakland City Council and the UC, Berkeley Chancellor. The Plan should provide pre-disaster agreed upon procedures for public and private agencies and Hill area residents. The Civil Defense Director should assemble a committee consisting of representatives of the Berkeley Fire Department, the Oakland Fire Department, the UC Lawrence Berkeley Laboratory Fire Department, the UC Fire Marshal, the PG&E, EBMUD, the Alameda County Civil Defense Chief, the Oakland Civil Defense Chief, the California Office of Emergency Services and area police departments and neighborhood residents. This committee should produce a plan of action for residents and the agencies. The Plan should be in the form of a written document with maps and illustrations. The OES San Francisco Bay Area Earthquake Response Plan should be consulted as a reference. The written Fire Emergency Response Plan should be submitted to the City Council for review. Once completed, the Plan should form the basis for periodic disaster simulation exercises. The Plan should be explained and distributed to the residents.

Recommendation #2: Regulate New Development to Promote Fire Safety

The Planning Director and Planning Commission in cooperation with neighborhood residents, should be directed to prepare new zoning regulations for Panoramic Hill. These new zoning regulations should limit new construction to very low density single-family uses; limit floor area, height and bulk of new buildings; increase minimum yard areas; and require Board of Adjustments approval of the design of all new units. This design review should consider building layout, construction materials, landscaping, building size, fire fighting characteristics and other factors deemed necessary to promote fire safety. It should also consider such environmental considerations as site preparation and grading, drainage, alternatives to existing vegetation, open space and view protection. The City of Oakland should be requested to adopt similar regulations.

Recommendation #3: Develop a Fire Safety Public Information Program

The Fire Chief in cooperation with neighborhood residents should develop and/or collect already available information on measures Panoramic Hill residents can take to reduce fire hazards, prevent fire ignitions, suppress small fires, and handle home fire situations. The chief should forward this information to the City Council along with an outline of the program he intends to follow in getting this information across to the residents of the Hill. The Council should request the City of Oakland to undertake a similar effort.

Recommendation #4: Vigorously Enforce Existing City Regulations Which Affect the Level of Fire Safety.

The Director of Inspection Services, Planning Director, Police Chief and Fire Chief should be requested to identify which regulations under their responsibility relate to fire safety or factors related to fire safety such as overcrowding of units, illegal units, or traffic congestion. Each of these directors should be directed to identify specific regulations that would pertain to the fire safety of Panoramic Hill. Each director should forward to the Council information on these regulations, a history of enforcement efforts and specific plans for more vigorous enforcement of regulations. A possible new tool would be to develop a required residential record report for when residential units are sold. Such a report would indicate to prospective buyers the existing zoning conditions. The report also becomes the basis for promoting compliance with existing regulations at the time of sale of property.

Recommendation #5: Insure that the University of California Officially Adopts and Implements a Fire Safety Vegetative Management Plan for Strawberry Canyon.

The City Council should request the University of California-Berkeley Chancellor to forward a report to them on the status of the vegetative management programs that would affect the level of fire safety for Panoramic Hill. The report should point out hazard areas, specify what steps the University presently is taking to lower hazard levels and what steps it plans to take in the future. The Council should suggest to the City of Oakland that they make a similar request. Once the report has been submitted, it should be reviewed by the Berkeley Fire Department for its adequacy in reducing hazards to Panoramic Hill residents.

Recommendation #6: Develop Improved Fire Road Access and Resident Emergency Escape Routes.

The Berkeley Fire Chief should assemble a committee consisting of himself, the Oakland Fire Chief, the U.C. Lawrence Berkeley Laboratory Fire Chief, the U.C. Fire Marshal, and appointed representatives from the Berkeley and Oakland Public Works and Planning Departments in order to study fire road needs in the Panoramic Hill area. Preliminary Study indicates one such road should connect the Hill with Tanglewood Road going through the School for the Deaf/Blind properties behind the buildings.

The fire road project should develop specific right-of-way locations and specific costs for new quick access fire roads and escape routes. The project should also recommend methods of improving existing fire roads so that they will be functional for all types of fire apparatus.

Residents of the Hill should be consulted as part of the fire road planning project. The committee should make proposals as to how the roads should be financed and who should pay what portions of the costs. Once completed, the Fire Road Plan should form the basis for capital improvements budgeting, University fire road maintenance programs and financial participation by property owners.

Recommendation #7: Limit the Quantity of New Construction on Panoramic Hill.

This can best be achieved as part of the implementation of Recommendation #2. The Council should request that the Planning Director and Planning Commission draft regulations that would require a minimum lot size of 12,000 square feet with only one unit allowed per lot. This new zoning should be applied to the entire Berkeley portion of Panoramic Hill. The City of Oakland should be requested to rezone the Oakland portion of the Hill from R-30 (5000 square feet per single family unit) to R-20 (12,000 square feet per single family unit).

Recommendation #8: Adopt and Implement a Mandatory Fire Prevention and Fire Hazard Reduction Program for the Private Homes and Vacant Lands on Panoramic Hill.

The Fire Chief should be directed to prepare a program designed to identify and abate fire hazards and prevent fire ignition. This program should require individual inspections of all Panoramic Hill residences and enforcement tools to insure that fire problems are eliminated.

The Fire Chief should be requested to declare Panoramic Hill a High Fire Hazard Area. This action will automatically put into effect Fire Code provisions which require regulation of vegetative fuels for hazard reduction. The Fire chief should, through reconnaissance, determine the approximate amount of private effort needed to abate serious fire hazards. Based on this reconnaissance and in consultation with the Public Works Department, the Fire Chief should recommend public efforts that would assist the residents. Such efforts might include city assistance in vegetation and rubbish removal. The Oakland City Council should be contacted relative to developing a joint program aimed specifically at the fire hazards of the Panoramic Hill neighborhood. In addition to the vegetative management program, consideration should be given to amending the Fire Code to compel installation of fire-smoke (ionization type) detectors, and outside warning devices in all new and existing dwelling units on Panoramic Hill.

Recommendation for Later Action:

If the recommendations noted above relating to controlling new development in Oakland are adopted by the Oakland City Council, then the utilities and sewers in the Berkeley area should be immediately improved. However, the sewers should not be improved or extended to the Oakland portion of the Hill until new development density restrictions are adopted which are at least as restrictive as existing septic tank use restrictions.

FIRE VULNERABILITY

A prime example of a subdivision that has been allowed to develop and expand into a high fire hazard area, is the Panoramic Hill Area of Berkeley and Oakland. Unfortunately, it is too late to prevent improper development of this area. However, even after development is well underway, we can take steps to improve the situation. The Fire Vulnerability Study of the Panoramic Hill Area Study is therefore intended to provide guidance in reducing the fire problems of the area.

Characteristics of Wildland Fires

Approximately 90% of all wildland fires are caused by man. The intrusion of urban development into wildland areas greatly increases the likelihood of fire ignition. Similarly, heavy use of wildland areas by hikers and others increases fire risk. The California Division of Forestry recently published, "A Fire Hazard Severity Classification System for California's Wildlands". The report states that those factors most important to fire behavior are fuel (in the form of wildland vegetation, plus man's structural improvements), topography and weather.

The Division of Forestry report continues:

> "Fuel characteristics help determine how a wildfire burns: fuel loading (quantity of flammable vegetation and other fuel per unit of land area), moisture content, distribution of size classes, arrangement, ratio of dead vegetation to living vegetation, and chemical content. Those factors which contribute most to a high intensity fire (high rate of heat energy output) include high fuel loading, low moisture content, a high proportion of large sized fuels, and a high ratio of dead vegetation to living vegetation. A high proportion of small sized fuels, on the other hand, contributes to a high rate of fire spread.
>
> Weather elements have many complex and important effects on fire intensity and behavior. Wind is of prime importance: as wind increases in velocity, the rate of fire spread also increases. Relative humidity (i.e., relative dryness of the air) also has a direct effect: the drier the air, the drier the vegetation and hence the more likely the vegetation will ignite and burn. Precipitation (its annual total, seasonal distribution, and storm intensity) has further effects on the moisture content of dead and living vegetation and hence important effects on fire ignition and behavior.... The most critical weather factor in the system is wind, because of its important effect on fire behavior.

Topography plays several important roles in determining how fires normally spread and behave. Without going into an extended technical discussion, it can be said, generally speaking, that topography causes fires to burn more rapidly upslope than downslope; the steeper the slope, the greater will be the rate of fire spread. Also, topography, in combination with solar heating, is responsible for small scale, local wind blowing upslope or downslope, causing fire to spread accordingly. In relation to its effects on large scale wind blowing inland from the Pacific Ocean, "the shape of the land" produces channelling of those winds and hence affects direction of fire spread. Topography's normal effects on wind and fire behavior diminish in importance, however, when even larger scale air masses produce high velocity north or east winds, prime factors in the spread of the most damaging conflagrations.

Slope aspect influences fire behavior in that burning conditions are in general much worse on south and west facing slopes than on north or east facing slopes. However, for purposes of rating fire hazard, it is felt that aspect is so greatly overshadowed by the importance of vegetation, fire weather, and steepness of slope that it need not be considered."[1]

Fire Vulnerability of Panoramic Hill

Panoramic Hill, a neighborhood of approximately 200 dwelling units, strattles the Berkeley-Oakland border. The homes have been built on two steep ridges that jut out from the Berkeley Hills. The homes represent the extension of the Berkeley urban area into wildland hillsides owned primarily by the University of California and the East Bay Regional Park District.

The Hill is a textbook example of everything that produces unsafe fire conditions. Homes continue to be built in a high fire hazard wildland area. The homes are built on steep slopes. The homes are intermixed with and adjacent to a heavily forested area. The Hill area climate is subject to heavy winds with very dry north and east winds prevalent in the late summer. The homes themselves are wood and add to fuel load as well as increase the likelihood of fire ignition. Another major potential cause of fire ignition is the heavy use of the adjacent forest for recreation purposes. Although somewhat less likely as a cause of a major fire, but having the potential for creating a devasting fire, is the Hayward Fault which crosses the Hill area. Movement on the fault could simultaneously disrupt gas lines and water supplies for fire fighting.

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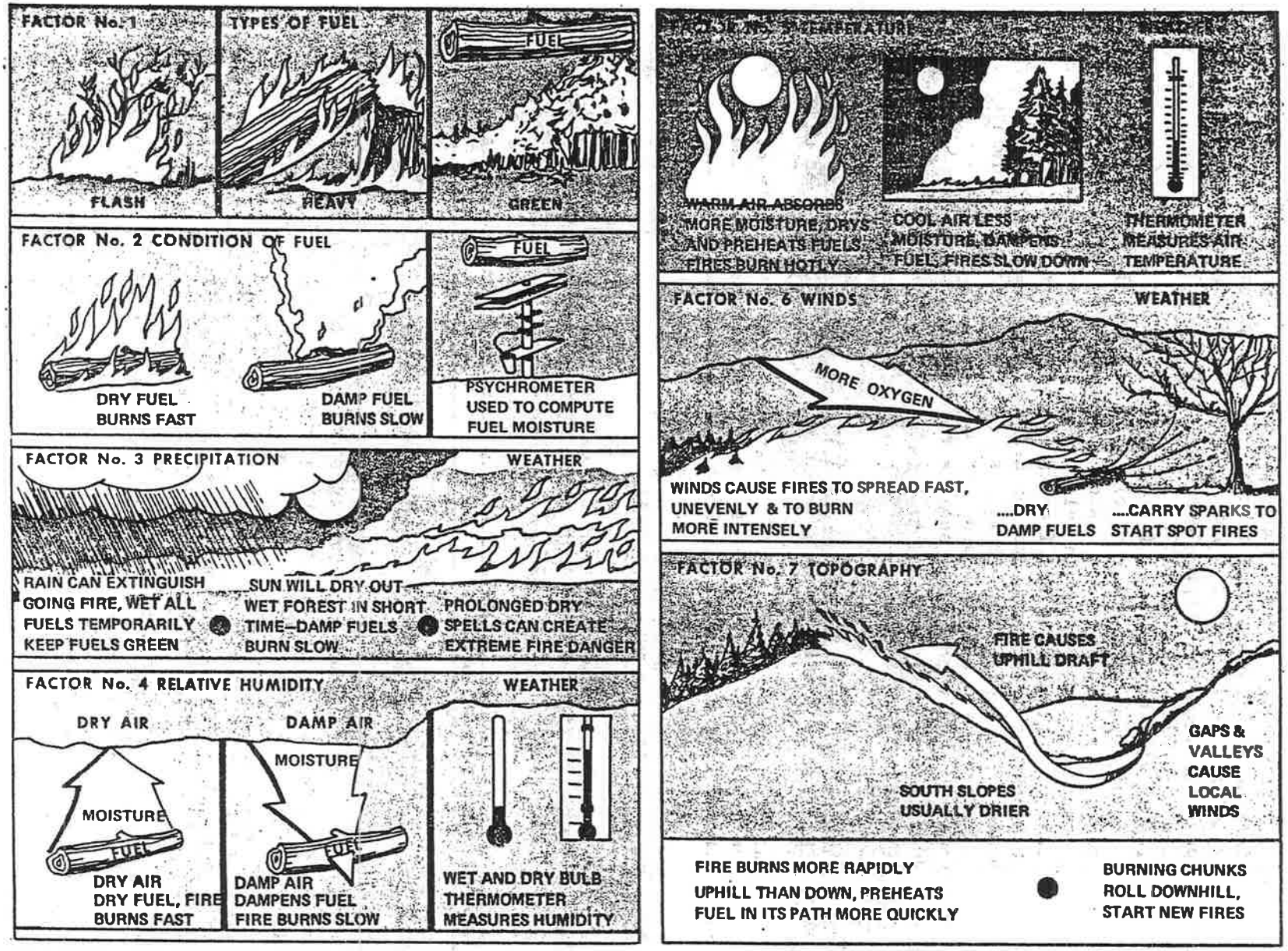
[1] Resources Agency, Department of Conservation, Division of Forestry, A Fire Hazard Severity Classification System for California's Wildlands: Sacramento, 1973, pp. 5-6.



MAJOR FACTORS INFLUENCING FIRES - FROM MANUAL FOR FOREST FIRE FIGHTERS, U.S. FOREST SERVICE. (REPRINTED IN DISASTER PREPARED, A REPORT TO CONGRESS BY THE OFFICE OF EMERGENCY PREPARDNESS, WASHINGTON, 1972)

The above conditions have set the stage for a disaster. However, the situation is actually much worse. Only one regular road serves the Hill and this road is extremely narrow (12'-18') and has two hairpin curves. ~~In addition, there~~ There are three fire roads which do not provide adequate access except to four-wheel drive vehicles.

The problems noted above, combined with the exposure of approximately 400 people to fire danger, makes the current Panoramic Hill fire situation intolerable.

Methodology for Assessing Fire Vulnerability

Fire vulnerability is a complex subject to study--especially in a wildland/urban area. The layman generally thinks of fires as being dealt with by men shooting water at flames. Actually in an area like Panoramic Hill, the actual fire fighting stage may be the least important in terms of reducing total fire vulnerability.

Total fire vulnerability is the result of the interaction of four factors: 1) Fire risk; 2) Fire hazards; 3) Emergency response capability; and 4) Exposure of people, property and other things of value to the threat of fire.

Fire risk is the chance of fire starting due to the presence and activity of causative agents. The causative agents are almost always man, his equipment and facilities. Forest Fire Control and Use, a standard forestry text ~~has stated~~ that fires occur when flammable fuels are exposed to firebrands. "Fire prevention can be accomplished either by removing the source of the firebrand or be removing the fuel it may ignite. The alternative chosen is influenced by the values threatened by fire. The need for controlling or eliminating fire risk increases as fuel hazards and values increase. So it becomes a truism to the fire control planner that high fire risk must not be permitted in any area which has both high fuel hazards and high destructible values. To bring this about it is often more feasible to reduce fuel hazards than positively to reduce or eliminate the sources of risk."[2]

Fire hazard is determined by the quantity, arrangement, continuity, ignitability or burning rate of fuels. These fuels may be vegetation or man's structures.

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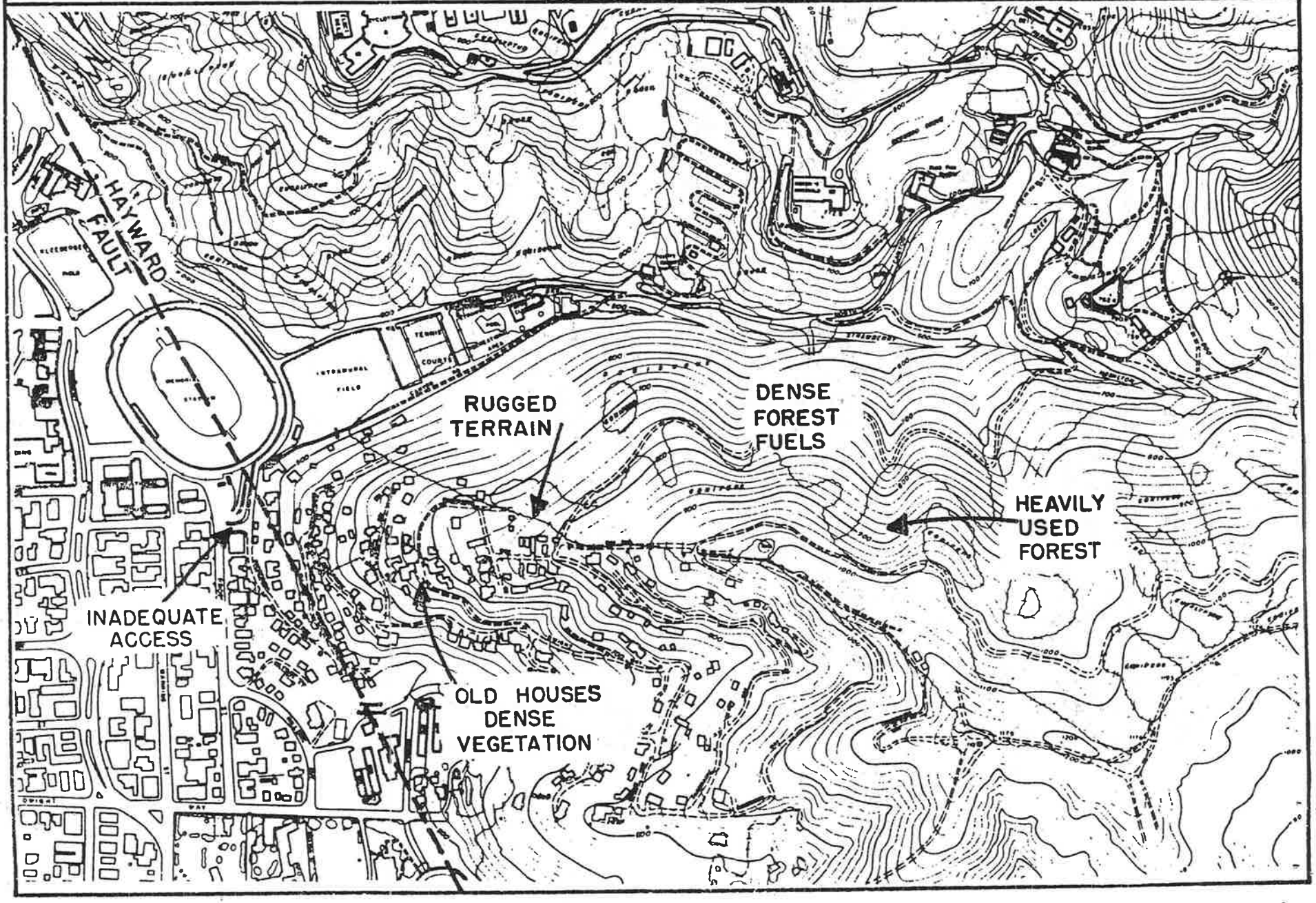
[2]Arthur A. Brown and Kenneth P. Davis, Forest Fire Control and Use, McGraw-Hill Book Company, New York, 1973, pp. 263-264.

PANORAMIC HILL STUDY AREA

BERKELEY PLANNING DEPARTMENT 6-74

SCALE IN FEET
0 100 300 900

FIRE VULNERABILITY



Emergency Response Capability is the ability of fire fighting personnel, other emergency personnel and the residents themselves, to limit the effects of the fire once it has occurred. If immediate action is taken, a fire can be controlled and suppressed before it has done extensive damage or gotton out of control. Factors to be considered are: response time of firefighters; availability of water; fire fighting equipment; and emergency personnel training. A carefully coordinated pre-disaster Fire Response Plan can significantly improve emergency response capability.

Minimization of the Exposure of People, Property and Other Things of Value to Fire Damage is the most important factor in a fire safety program. If there is no one to be hurt or nothing valuable to lose, the importance of fire as an enemy disappears. In fact, fire is a natural phenomenon that occurred long before man. Although man has increased its incidence, fire has always been a part of many environments. It is only when man places himself in a fire danger area or places a value on land that is prone to fire that fire becomes a negative feature of the environment.

Total fire vulnerability is a result of the four factors noted above. Substantial alteration of any of these factors has a multiplicative effect on the total fire vulnerability. For instance, doubling the number of people exposed to fire danger would in general double the total vulnerability. Similarly, reducing fire hazards significantly would significantly reduce total fire vulnerability. By examining the components of total fire vulnerability separately in the Panoramic Hill Area, we can discover various strategies for reducing the total problem.

FIRE RISK AND POTENTIAL FOR A MAJOR FIRE IN THE PANORAMIC HILL AREA

Definition of Fire Risk

Fire risk is the chance of a fire starting due to presence and activity of causative agents. The causative agents are almost always man, his equipment and facilities. In the Panoramic Hill Area we will expand the definition of Fire Risk to include the potential for a fire to spread into the residential area of Panoramic Hill. To set the stage for a discussion of fire risk, we will first discuss past fires in the area that have spread into residential neighborhoods.

Fish Ranch Road Fire of September 22, 1970.

The Oakland fire of 1970 burned much land and many homes in an area not far from Panoramic Hill Area. The area affected by the fire was bounded by Devon Way, Amito Drive, Strathmoor Drive, Norfolk Road and Westmoorland Drive. The fire never actually invaded the city limits of Berkeley but did engulf areas along the city boundaries

The fire began in dry brush and grass and spread to the residential area. The fire was fought from 11 AM to 6:30 PM and was out of control from 10:15 AM to 1:55 PM. It is generally believed that the fire was deliberately set, but the accused arsonist was acquitted in court. Flames broke out in mid morning in dry brush and grasslands that surrounded the residential neighborhoods. 80 degree temperature and dry, but not especially strong winds, propelled the fire into the tree tops and the fire spread by leaping from place to place.

85 pieces of fire equipment responded from Oakland, Berkeley, San Francisco, Alameda County, the State Division of Forestry and various East Bay cities. Water limitation problems arose when a wooden water tank was destroyed in the blaze. At one time in the afternoon, the flames ~~began~~ headed toward the University of California, but winds died down and the fire was contained ~~below~~ above Claremont Avenue.

The fire totally destroyed 37 homes and damaged six others. A total of 204 acres was burned. (190 acres in Oakland and 14 acres in the Orinda fire district.) ~~Where~~ Homes had cleared ~~the~~ surrounding vegetation ~~they~~ were generally saved, ~~whereas~~ Homes surrounded by dense vegetation were generally lost. Homes ~~that were~~ most likely to burn were those modern wooden homes that were cantilevered out over the hill on tall supports. Despite the extensive destruction, there were no fatalities and only eight minor injuries.

The Fish Ranch neighborhood is located immediately to the south of the Panoramic Hill area. Fire conditions in the two areas are remarkably similar.

Berkeley Fire of September 17, 1923

The Berkeley fire of September 17, 1923, was one of the worst fires in California history and the worst fire in California during the twenty years following the San Francisco Fire of 1906. The fire broke out in the hills at around noon on a hot and windy day. In a relatively few minutes, burning leaves, grass and shingles whipped down from the hills setting new fires wherever they landed.

The fire started as a terrific grass fire that forced its way through the eucalyptus trees down to the more populated areas just north of the campus. Once in this residential area, the houses themselves became the fuel that propelled the fire. The fire was finally stopped and the University of California Campus and downtown Berkeley were saved by the dynamiting of large apartments at the corner of Ridge Road and Euclid and by a change in wind direction.

The fire was not confined to the north campus area. At the time, there was a fear of major fires getting out of control in the Strawberry Canyon area and the south campus area. These fires were caused by wind driven firebrands. The Berkeley Daily Gazette on the day after the fire described the danger to the Panoramic Hill Area:

September 18, 1923:

> "Fear for the safety of the easterly end of the city became great at nine o'clock last night when flames from gigantic grass fires in the hill were found to be sweeping down Strawberry Canyon and a mile behind Hotel Claremont. A fire fighting force of 1000 students were rushed to the hills where under the direction of U.S. Forestry men, they checked the menace by a series of back fires".[3]

584 structures in the area immediately north of the University of California campus in the Euclid Avenue area were destroyed. After the fire was over, North Berkeley looked like a graveyard filled with brick chimney monuments. The dollar losses were calculated at 10 million dollars. Incredibly, no one was killed. Thirty-four city blocks were totally destroyed. Numerous other structures, not connected directly with the chief fire zone, were destroyed in the hills.

Failure to control the fire was largely blamed on the water supply at the time. An interesting quote from the Daily Gazette at the time stated: "General Manager George Wilhelm of the East Bay Water Company said that ever since in 1917 when four houses were burned on Panoramic Way, his company has been endeavoring to arrange better fire protection but has received practically no cooperation from city officials."[4]

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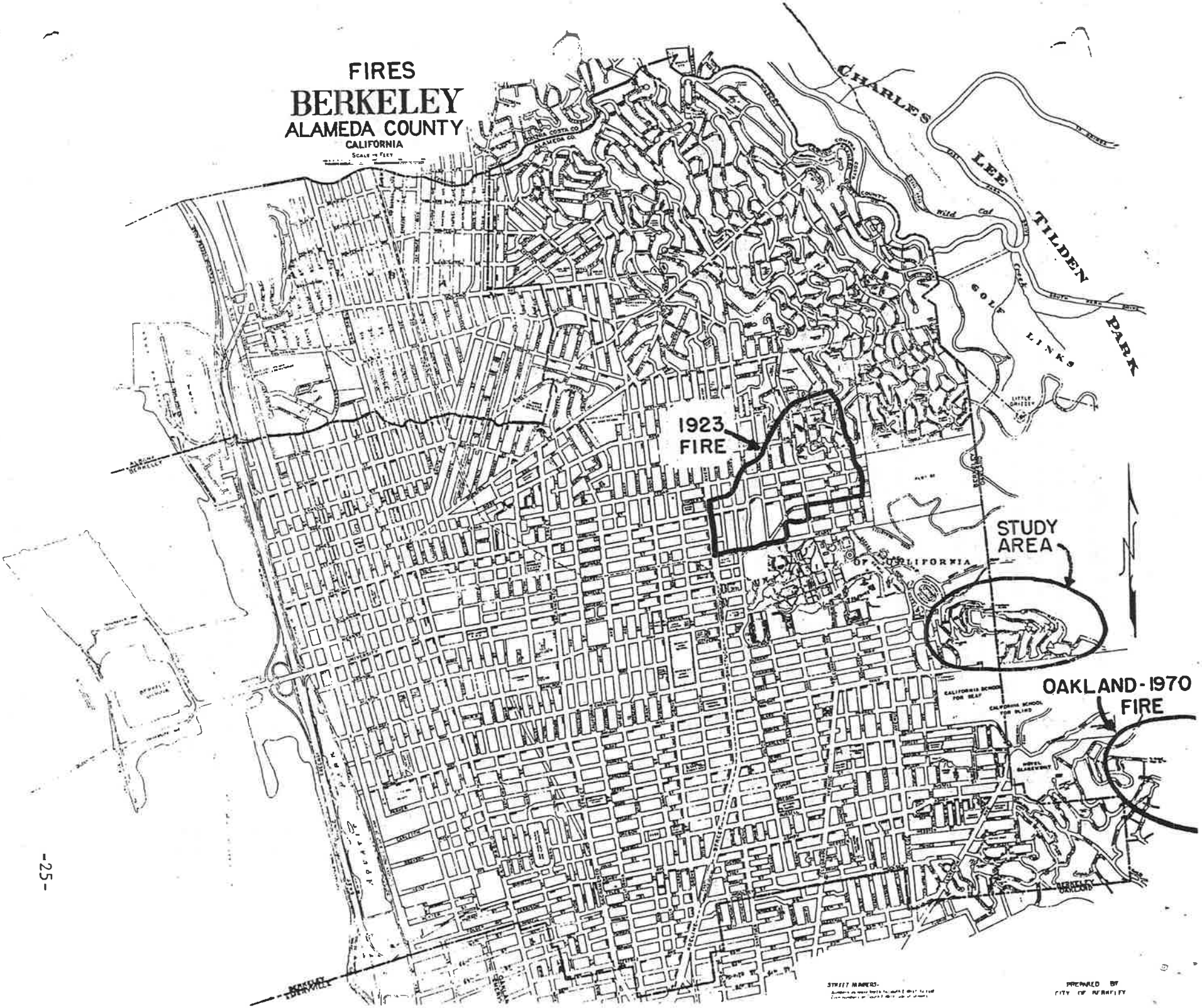
[3]Berkeley Daily Gazette: September 18, 1923, p. 1.

[4]Berkeley Daily Gazette: September 24, 1923, p. 1.


FIRES
BERKELEY
ALAMEDA COUNTY
CALIFORNIA
CHARLES LEE TILDEN PARK
1923 FIRE
STUDY AREA
OAKLAND-1970 FIRE

Fire Risk in the Panoramic Hill Area.[5]

Grass and forest fires are not uncommon in Berkeley and they have had destructive effect. Examples are the Fish Ranch Road fire and the 1923 Berkeley fire. House fires are also potentially dangerous especially in homes that are old and made of wood. In 1917, four homes on Panoramic Way burned to the ground.

There are five potential situations which could easily lead to very destructive fire on Panoramic Hill. These situations, listed in the order of degree of danger, are : 1) a fire spreading rapidly from the Grizzley Peak area through Strawberry Canyon to Panoramic Hill; 2) a major house fire at the bottom of the Hill causing a fire to spread rapidly up the Hill; 3) a fire breaking out in the heavily wooded Strawberry Creek watershed area just to the north and northeast of the residential area and spreading to the residential area; 4) a major house fire at the top of the Hill during late summer when a fire might be spread by strong easterly winds down the Hill; 5) a fire breaking out in the brush and grass lands to the south of the Hill residential area and spreading into the residential area by unusual wind conditions (i.e., a south wind during late summer fire conditions).

The major risk of fire comes from outside the area to the north and east on University of California land. The problem would be a fire spreading in from the University forested lands or even from the Tilden Park area. Such a fire would be most likely during September when the fuel is dry, there appears a north and northeast wind and the humidity is very low. A fire might be started in the Tilden Park area for any number of reasons. In the immediate forest area, many young people camp during the warm weather. Breakfast fires represent a definite cause of potentially disastrous fires in the wooded area just to the north of the residential area of Panoramic Hill.

A house fire at the bottom of Panoramic Hill would present serious problems because fire spreads naturally uphill and the prevailing winds blow from the west, fanning the flames uphill. However, the incidence of fires breaking out within the single-family homes is lower than average for the city. This is presumable because of the fire consciousness of the residents and their high average education. Earthquake movement on the Hayward fault that cuts across the lower portion of the Hill, could start such a fire.

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[5]Information for this section is based largely on interviews held by Dean Armstrong during February-April, 1974, with the following: a) Professor Emeritus Harold Biswell, School of Forestry, University of California, Berkeley; b) Russell Norman, Campus Fire Marshall, U.C.-Berkeley; c) Elmer Silva, Fire Chief, Lawrence-Berkeley Laboratory, U.C.-Berkeley; d) Milt Steele & Vic Porter, Deputy Fire Chiefs, Berkeley Fire Department.

Fire Risk in the Panoramic Hill Area, Continued

A house fire at the top of the residential portion of the Hill would most likely spread further up the Hill away from the residences. However, during late summer, generally in September, strong dry, easterly winds could easily spread the fire toward the other homes. In such an event, the whole Hill could burn in a matter of a few minutes. Much less of a threat would be a fire breaking out in the brush and grasslands immediately to the east of the California School for the Blind. While this area is certainly fire prone, a fire would under the great majority of cases, not spread to the Panoramic residential areas. A fire in this area could, however, present problems to the neighborhoods lying directly to the southwest and to the main part of the Blind School.

Fire Following An Earthquake

The lower part of Panoramic Hill is crossed by the Hayward Fault (See Attached Map). Movement on the Fault will break gas lines crossing it. Since the area in which the Fault is located is an area of many old wooden houses, the chance for a fire breaking out are significant. A fire in this location at the bottom of the Hill has a great potential for burning down the whole Hill.[6]

A major study has been produced by the U. S. Office of Emergency Preparedness entitled: A Study of Earthquake Losses in the San Francisco Bay Area. This study, completed in 1972, was produced in order to provide the Office and the State of California with a rational basis for planning earthquake disaster relief and recovery operations in the San Francisco Bay Area in anticipation of a major earthquake.[7] One chapter of the report deals with fire following earthquakes and many of its conclusions have special applicability to the Panoramic Hill area. Significant portions of the chapter on fire problems are reproduced below:

> "One of the greatest potential dangers to be faced during the period immediately following a major earthquake is the threat of fire which, if unchecked, could lead to a major conflagration under certain situations...."

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[6] Conclusions on fire danger relating to earthquakes were drawn by Dean Armstrong based on experience gained as Director of the Tri-Cities Seismic Safety Study for the Cities of El Cerrito, Richmond and San Pablo during 1972-73, & as a special consultant on Seismic Safety Planning to the California Office of Emergency Services, 1973-74.

[7] National Oceanic & Atmospheric Administration, A Study of Earthquake Losses in the San Francisco Bay Area, a report prepared for the Office of Emergency Preparedness, Washington, 1972, pp. 208-214.

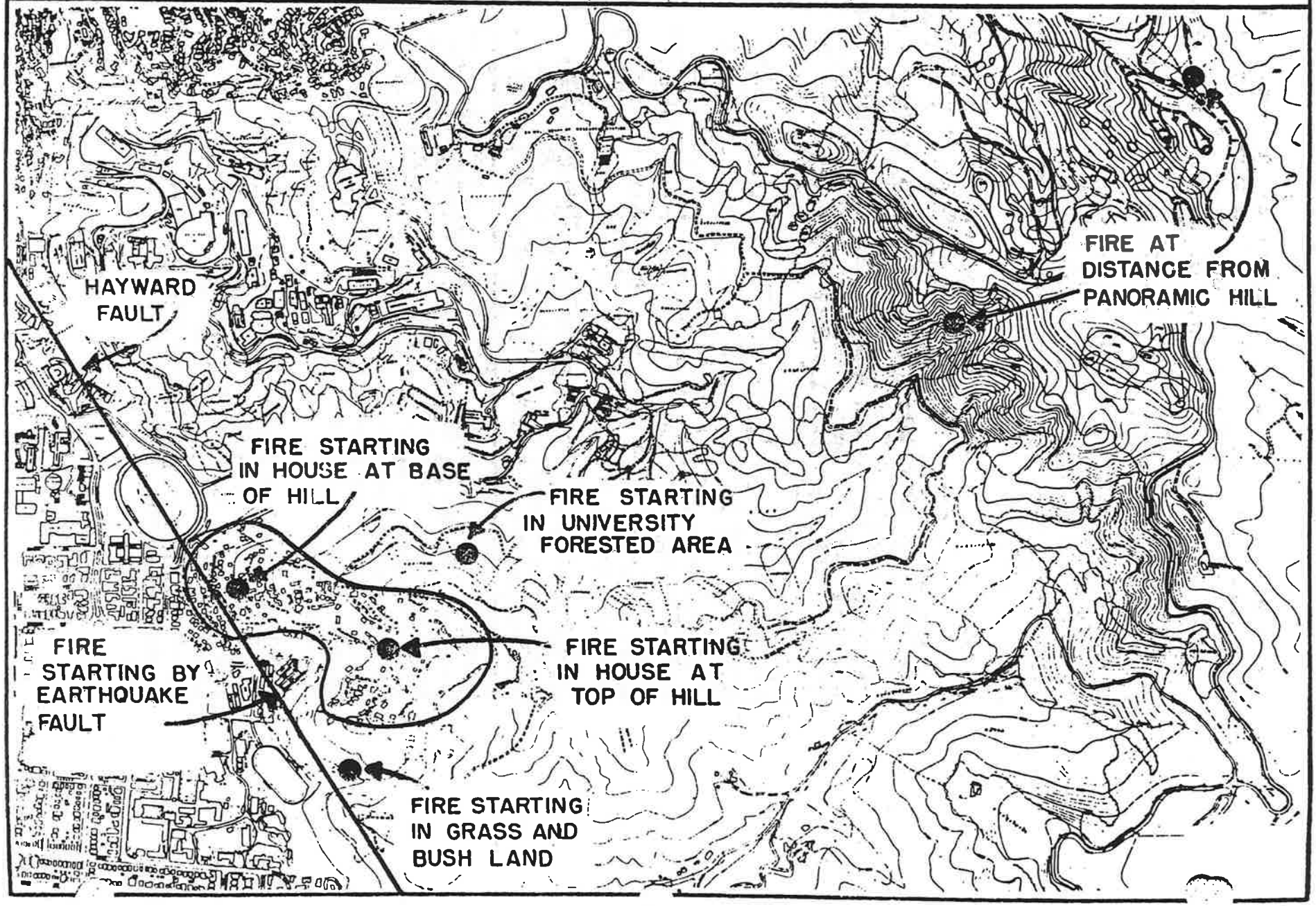
PANORAMIC HILL STUDY AREA

BERKELEY PLANNING DEPARTMENT 6-74

SCALE IN FEET

0 500 1000 2000

POSSIBLE SOURCE OF MAJOR FIRE



"The memory of the three day fire which followed the 1906 shock in San Francisco and accounted for 80% of the property loss in that city, has dominated much of the thinking on the probable effects of the next great San Andreas earthquake. This thinking is also colored by the fact that over 100,000 persons were killed, injured, or missing in the 1923 Tokyo earthquake and fire.

"Fires almost invariably occur after destructive earthquakes in the United States, but these have not been true conflagrations. (Fires which spread in an uncontrolled manner for long periods of time are defined as conflagrations for the purposes of this report.)

"Conflagrations which follow earthquakes appear to require all of several unfavorable conditions before they can be considered as a reasonably possible occurrence. First, there must be a high density of combustible material. Obviously, wooden structures in close proximity to each other or facing each other across narrow streets provide one such possibility. Second, weather plays an important role. The hot dry winds in southern California have led to conflagrations in the brush areas, and large dollar losses have occurred to the dwellings and other properties in these brush areas. Life losses have been low. Tinder dry situations also occur in parts of the San Francisco Bay Area during prolonged periods of dry weather and during other than dry seasons, portions of the area are frequently subjected to periods of high winds with 40 mph. gusts not uncommon. Thirdly, the fire departments' operations at the fires might be crippled or otherwise restricted through the lack of water or other impairments...".

"It should be noted that (in California earthquake history), conflagration occurred only in the case of the 1906 shock. Uncontrolled fires occurred at the Paloma Refinery in the 1952 earthquake and from oil storage in the 1964 Alaskan earthquake in cities other than Anchorage. Conflagration has been rare. It appears that the 1971 San Fernando earthquake caused many more fires than did the 1906 San Francisco shock despite the loss of water in large areas, possibly due to the fact that the combustible material was thinly spread compared to that at the time of the 1906 San Francisco shock. Weather conditions were also favorable and helped check any spread of fire.

"There are types and degrees of emergency fire services currently available which were not available in 1906.... Fire departments in the area are equipped with more hose, both in total lengths and in larger sizes. A certain amount of quick-coupling large diameter pipe is maintained in the area through the California State Office of Emergency Services....

"There is, however, a possible deterrent to effective cooperation of fire departments whenever either San Francisco or Oakland is involved. Although hose-coupling adapters have been provided within the fire services, dissimilar sizes of hose and related couplings could create a problem if adapter demand exceeded supply.

"The section of this report which discusses water systems has pointed out that the water supply to the East Bay Cities of Oakland, Berkeley, etc must cross the Hayward Fault in order to reach these cities. The water must then cross the Fault again to reach the residential areas in the hills immediately east of the Fault. While storage reservoirs exist east of the Fault in these residential hill areas, the possibilities of reservoir failure and the certainty of water line ruptures leave a significant element of comparative unreliability to the water supply in these hill areas...

"Fire department response will be delayed in the congested areas due to blocked streets, collapsed or otherwise impaired fire stations, and breakdown or overloading of equipment. Mobile fire fighting apparatus may be damaged by displacement within fire station apparatus rooms. These problems will allow fires to enlarge. The capability of the various fire departments to respond under these handicaps have not been fully evaluated.

"In general, the fire service finds itself at time of area-wide disaster in an almost impossible situation. Because it is on a ready standby basis during normal day-by-day operations, all too many variations of related activity and emergency service planning by others are in the category of 'the fire department can or will do that.' Rescue may be cited as an example of life safety taking precedent over fire fighting; fires may go unattended while the fire forces effect rescue and search.

"In the event of an 8.3 magnitude shock, no general conflagration is expected in San Francisco, or elsewhere, similar to that which occurred in 1906. It is reasonable to plan for very large fires, some of which may be uncontrolled for hours. The largest of these are most likely to occur in the poor ground areas of San Francisco where damage to the water systems is expected....

"Lesser magnitude shocks are not expected to cause major uncontrolled fires....

"In the event of an 8.3 magnitude shock on the Hayward Fault, it will be assumed for planning purposes that the water system will be immediately unavailable for 15% of the residents living in hillside areas of the East Bay cities, particularly for those east of the Fault. It will also be

"assumed that no additional water will flow across the fault due to pipe breakage, and that 30% will be out of water within 12 hours. Two major uncontrolled fires may occur in these water short areas--one in Oakland and one in Berkeley. In addition for planning purposes, Berkeley will have one uncontrolled fire, Oakland three uncontrolled fires (one in the army/navy supply area), and Hayward two uncontrolled fires.

"Life loss is expected to be minimal and persons requiring attention from serious burns are not expected to exceed 100....

"A 7.0 magnitude shock on the Hayward fault is expected to cause similar fire problems to those of an 8.3 magnitude shock on the Hayward fault due to the disruption of the water system in a 7.0 magnitude shock.

"It should be reemphasized that uncontrolled fires are probable in the event of an 8.3 magnitude shock on either fault, or in a 7 magnitude shock on the Hayward fault. However, it is not reasonable to expect a conflagration in terms of 1906. The closest approximation of this would be a fire in the Oakland-Berkeley hills."

FIRE HAZARDS

Definition of Fire Hazards

In determining the degree of fire hazard in the Panoramic Hill area, the study generally followed the methodology developed by the California Division of Forestry. The Division of Forestry classifies the varying degree of fire hazard based upon those conditions which contribute most significantly to the potential of the largest, most damaging fires, i.e. high intensity fires.

The California Division of Forestry states that high fire intensity depends on three major factors: "(1) heat yield of fuel, (2) fuel loading, and (3) rate of fire spread. These factors, and consequently high fire intensity, are influenced most importantly by heavy vegetation, critical fire weather, and steep slopes. Heavy vegetation provides a high fuel loading and also a high yield of heat energy. Critical fire weather, including the presence of high velocity wind, has the greatest effect on rate of spread; it also dries out the vegetation, thereby increasing the expected yield of heat energy from the fuel. Steep slopes also have important effects on the rate of fire spread; they increase the effects of convective and radiant heat in drying out and heating fuels lying ahead of the fire front, increase flame length, and decrease flame angle to fuels lying ahead." [8]

"These three criteria, then--vegetation, fire weather and slope--were selected as the criteria for classifying varying degrees of fire hazard. Wildland areas which measured low on a combined scale of these three criteria--e.g., having mostly grass, gentle slope, and few or no days of critical fire weather--would be hazardous from the standpoint of life and property exposure to the threat of wildfire. However, a much more hazardous area would be one having timber or tall, dense chaparral, mostly steep slopes, and a high frequency of days of critical fire weather."[8]

Using the system developed by the Division of Forestry, all of the Panoramic Hill area must be considered Extreme Fire Hazard or High Fire Hazard. During September there are north and northeast winds in the East Bay. The fuel to the north and east of Panoramic Hill are very dry and more importantly the winds are very dry with low humidity. Often at this time there are very strong winds of over 60 miles per hour. When these conditions combine there is a terrible threat of a fire sweeping into Berkeley and the Panoramic Hill area from the University lands or as far away as Tilden Park. Such a fire could easily jump Centennial Road and go into the forest above the UC Botanical Gardens. Such a fire would be almost impossible to stop under present fuel conditions on the University property and in and around the homes of Panoramic Hill.

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[8]Resources Agency, Department of Conservation, Division of Forestry, op cit, p. 7.

Definition of Fire Hazards, Continued

The neighborhood on Hillside Avenue does not have the same fire threat as that of the Panoramic Avenue served areas. Similarly the Fernwald Housing does not have the problem. The areas are much further from the major source of hazard (the University wooded area), they have much flatter terrain and have relatively good access for fire fighting. While they are near the wildland that is managed by the East Bay Regional Park District, the prevailing winds at fire weather times of year would not be expected to spread fire toward these homes.

Topography and Weather[9]

Topography is especially important as a fire hazard. Disastrous fires generally are located in steep hill areas. This is not just because access to fight the fires is poor. The hills themselves promote fire spread. Fire travels much faster uphill than down. The fire generates winds of its own that propel it in its course. Panoramic Hill is a ridge that is surrounded on almost all sides by steep hillsides rising up from canyons or the Bay Plain. A fire starting in Strawberry Canyon or sweeping in from further to the east would be especially dangerous.

Because of the situation described above, ridges are considered by fire fighters to be the worst possible location for the development of homes. The Panoramic Ridge is typical of the conditions that existed prior to the disastrous Bel Air fire of the Los Angeles area.

The Bay Area has less of a fire weather problem than does southern California. However, in late summer and early fall of each year the weather gets hot, fuel dries out and hot dry winds blow. In particular, in September there are always a number of fires. The chief cause is the hot dry winds that blow in from the north and east during this time of year. The East Bay is the most vulnerable in the Bay area because of its location away from the ocean and next to the dry interior areas over which the winds blow. Occasionally, strong winds blow in late September when the fuels are driest. For example, in 1965 a strong northeast wind blew all day and all night at 65 miles per hour, gusting up to 90 at the peaks. The humidity was extremely low.

The wind normally blows from the northwest from the Ocean toward Panoramic Hill. Any fire that breaks out at that time on the adjacent University land would spread away from the hill. However, in September the winds change direction and blow in from the dry east and north and the East Bay gets conditions similar to the famous Santa Ana winds of Southern California. Furthermore, every day between 4 and 5 PM the wind reverses direction for a short period of time blowing toward the hills from inland. The hill is always much more windy than the flat areas of the City. The

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[9]Information for this section is based largely on interviews held by Dean Armstrong during February-April 1974 with the individuals named in Footnote #5.

Topography and Weather, Continued

wind velocity when the Fish Ranch Road fire started in 1970 was only about 15 miles per hour. By lunch time, two hours after the start, the wind was measured at four miles per hour. Even under those relatively low wind velocities, the fire chiefs said that they would have had a terrible time stopping the fire if the wind had not died.

Combining a Fish Ranch Road fire situation with very heavy winds could result in a devastating fire situation. Given such conditions a major fire could spread toward Panoramic Hill going up, over and down hills. Fire normally spreads up hill rather than down hill. However, when the dry north and east winds blow, fire will spread almost as fast downhill as up hill. Propelling fires sweeping in from the East could be Eucalyptus bark shreds that collect each year. When they catch fire the wind blows them in advance of the fire. In Australia it is not unusual for the shredded bark to start fires 10-12 miles ahead of the main fire.

Little can be done about the location of Panoramic Hill, its topography or the weather. However, we need not consider natural and man-made fuels to be given. By good fuel management we can keep future fires as relatively controllable surface fires rather than uncontrollable crown fires. (See attached diagram.)

Wildland Fuel Hazards [10]

The fire danger in the Panoramic hill area is related to the following problems: a) the presence of dense wildland fuels on adjacent university properties, b) the heavy fuel loading of the residential areas themselves, c) the degree of slope of the hillsides, d) the presence of wood shingle and old wood houses, e) the presence of only one access road to the area.

Fuel is the major hazard to the Panoramic Hill area for three reasons: a) the large forested University of California area; b) the dense trees and vegetation that are intermingled with homes on the hill, and c) man made fuel problems such as wood homes and collections of debris and trash. The houses of the Panoramic Hill are totally intermixed with the adjacent wildland vegetation and the density of vegetation around the homes is almost as high as in the wildland area. The problem affects the 49 homes in the Oakland portion of the hill and most of the 150 dwelling units in the Berkeley portion of the Hill.

The major fuel problem in the area is the University of California forested lands just to the north of the Panoramic residential area. This area consists of many kinds of vegetation with thick stands of conifers, eucalyptus, and broadleaved evergreens. The conifers include Monterey

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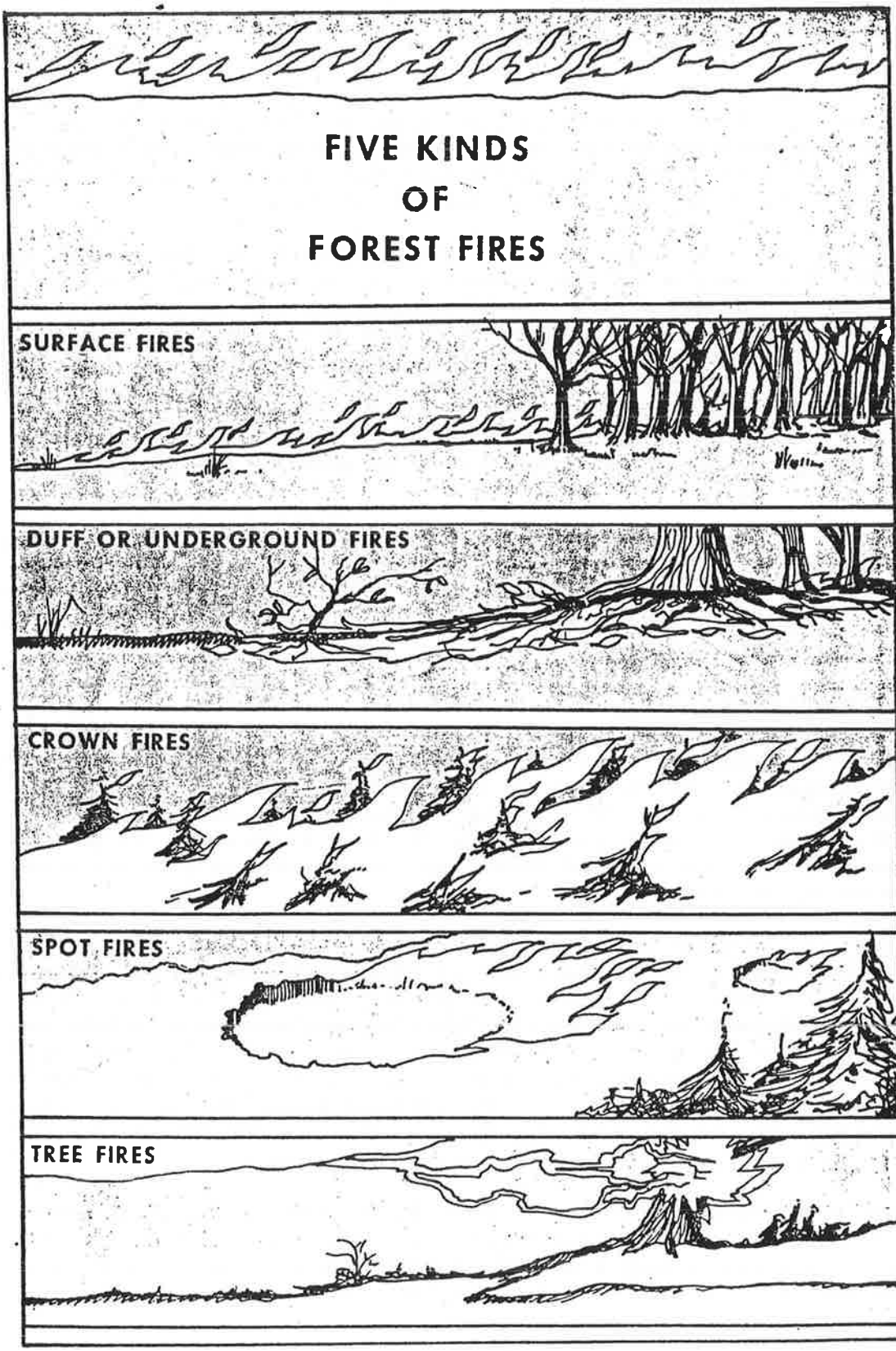
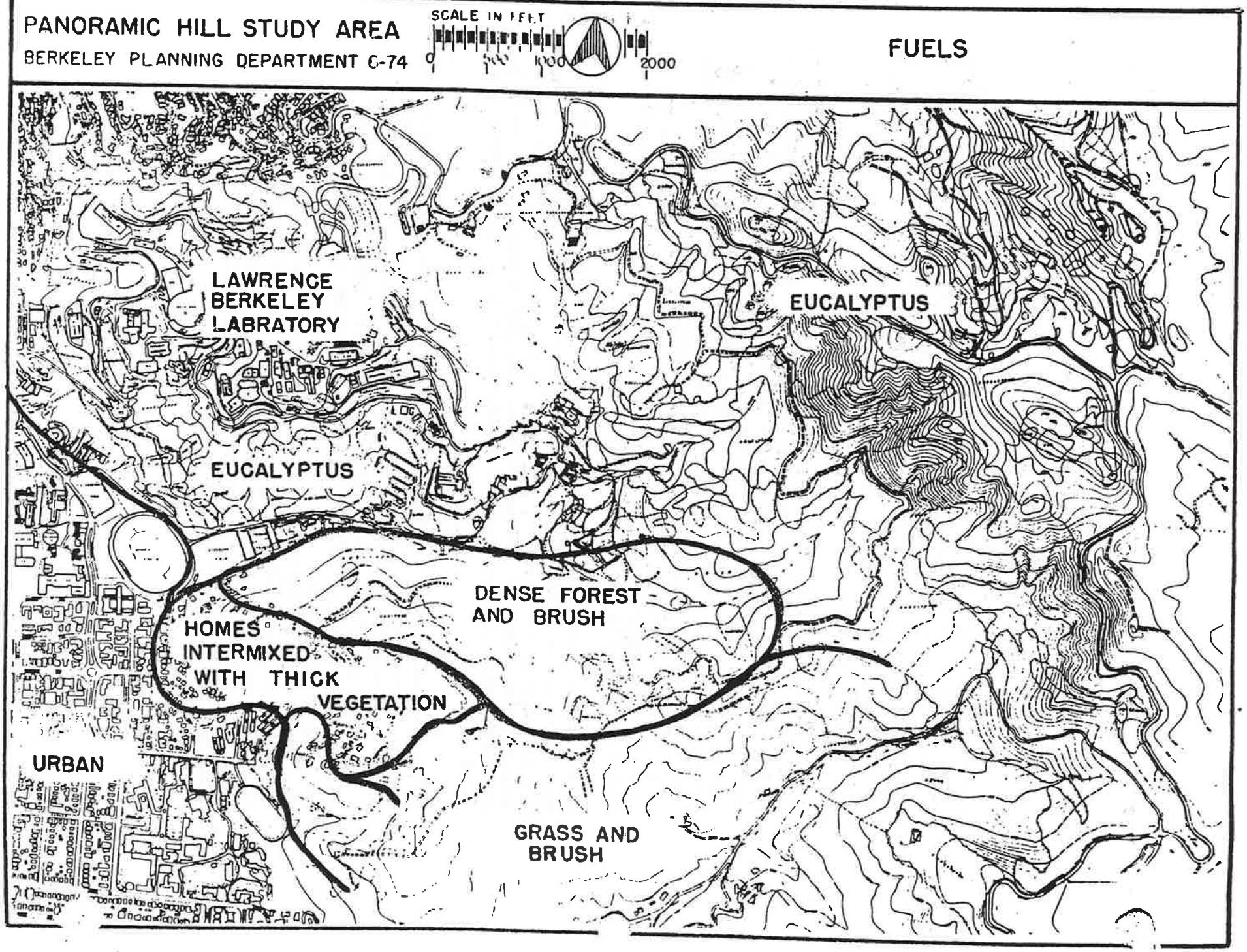
[10] Information for this section is based on interviews held by Dean Armstrong during February-April 1974 with Professor Emeritus Harold Biswell, School of Forestry, University of California-Berkeley.



KINDS OF FOREST FIRES- FROM MANUAL FOR FOREST FIRE FIGHTERS, U.S. FOREST SERVICE. (REPRINTED IN DISASTER PREPAREDNESS, A REPORT TO CONGRESS BY THE OFFICE OF EMERGENCY PREPAREDNESS, WASHINGTON, 1972)


PANORAMIC HILL STUDY AREA
BERKELEY PLANNING DEPARTMENT 6-74
SCALE IN FEET
0
500
1000
2000
FUELS
LAWRENCE BERKELEY LABRATORY
EUCALYPTUS
EUCALYPTUS
DENSE FOREST AND BRUSH
HOMES INTERMIXED WITH THICK VEGETATION
URBAN
GRASS AND BRUSH

pine, deodora cedar, redwood, cypress, and many other trees. There are few Eucalyptus left. Among the conifer groves are areas of oak and bay. Interspersed are areas of "light chaparral" including coyote brush. Most of this area is thick with underbrush and has much dead vegetation. Almost all of it is ready to burn during the summer if a fire touches it. Because of the thick underbrush we can expect the spread of fire to the crowns of the trees that would cause an inferno that could easily spread or leap to the residential portion of Panoramic Hill. Panoramic Hill is in a direct path from the Eucalyptus hills of the University and Park District. The grasses on these slopes are dry all summer. The potential for a major fire starting in such areas and spreading to the Panoramic Hill area are obvious.

Professor Harold Biswell recently retired from the University of California Forestry Department is presently developing a Fire Safety Management Program for the forested University of California land in the Berkeley-Oakland area. This plan will explain the conditions which exist in the forests, brush, and grass areas relative to fuel content and methods for handling the fuel. The major tool planned for the program is prescribed burning which will include both broadcast burning of large areas and clear and pile burning. The main intent is to get the wildland areas into fuel safe conditions within five years and to continue the program to maintain low levels of fuel loading.

Once a wildland area has been cleaned up and control burned the forest is much more open and fire entering the crowns of trees is much less likely. A fire entering the area will then burn on the ground and can easily be extinguished. The Fuel Management Plan includes provisions for methods of burning that will minimize the generation of smoke during controlled burning.

Prescribed burning has definite environmental effects on the forest ecology. Depending upon a person's orientation the result is good or bad. The result of prescribed burning is the creation of a more open forest with much of the thickets and understory removed. This lost vegetation is quickly replaced by other vegetation including a greater quantity of wildflowers. If performed correctly as is done by the University, prescribed burning does not lead to increased soil erosion. (It should be noted that fuel management of this sort is quite a different operation from the emergency Eucalyptus clearance effort of this last year which many environmentalists feel has resulted in considerable damage to the ecology.)

Neighborhood Fuel Hazards[11]

Located in the Panoramic Hill neighborhood are a number of old dry wood shingle homes. There are also many newer plywood houses with cedar shake roofs. The houses will burn easily and the shingles will catch fire easily, burning the house down but also flying through the air igniting other houses as well. All around the houses in the Panoramic area there is much debris including heavy plantings, plant debris, trash in garages and next to houses. All of these fuels will ignite readily, and could lead to an intense, quick spreading fire. Because of the quantity of fuel in the residential portion of the hill we should consider the fuel to be as much as in an unmanaged forest.

In the 1970 Fish Ranch Road fire in Oakland, where people had cleared around their homes, the house was generally saved. Where brush and debris was thick around homes, the homes were invariably lost. Firemen understandably do not like to get in close to a home that is densely surrounded by heavy flammable vegetation. Once a house has ignited surrounding vegetation, standard fire fighting policy calls for almost all efforts to be put into fighting the vegetation fire while the building may be left to burn.

There are two main ways to get rid of these fuel hazards. These are: a) removing dry fuels from around homes; and b) clear and use controlled burning on the extensive wildland areas. In addition, measures can be adopted that prevent the creation of additional man-caused fuel hazards.

By clearing debris, dead vegetation, overhanging limbs of trees and removing high hazard fuel plants such as Bay Trees and acacia, a homeowner can significantly reduce fuel hazards on his property. Such fuel management involves the extensive trimming and clearing of vegetation. It need not result in any damage to the flora amenities of his property. In addition, old newspapers, junky garages and the like, result in high hazard. It should be remembered that such conditions not only endanger individual properties, but result in bursts of fire energy that greatly endanger other properties.

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[11] Information for this section is based largely on interviews held by Dean Armstrong during February-April 1974 with the individuals named in Footnote #5. The portion of this section dealing with information on available measures for homeowners and the list of fire resistant plants previously appeared in: Dean Armstrong & Barbara Kautz Environmental Analysis of Western Contra Costa County, Tri-Cities Environmental Resources Study, San Pablo, Ca. 1972.

Neighborhood Fuel Hazards, Continued

Communities may institute quite strong fire protection requirements as part of their local ordinances. Authority for local fire safety ordinances is found in Public Resources Code 4117, which states: "Counties, cities and counties, cities, and districts may adopt ordinances, rules, or regulations to provide fire prevention restrictions or regulations that are necessary to meet local conditions of weather, vegetation, or other fire hazards. Such ordinances, rules or regulations may be more restrictive than State statutes in order to meet local fire hazard conditions".

Much literature is available on measures that individual homeowners can take to reduce the fire hazard around their homes.

One of the most important measures is clearing all flammable brush around a home. The California Public Resources Code provides that any person owning or maintaining any building adjoining brush, forest, or grass-covered land must clear away all brush and grass within 30 feet of the building. (This does not include ornamental shrubs, lawns and the like.) As well, all tree branches must be farther than 10 feet from a chimney; all leaves must be removed from the roof; and a screen must be placed over a chimney.

In general, watered landscapes - lawns, flowers, and shrubs-withstand fire much better than do unwatered landscapes. Preferring watered landscapes, of course, conflicts with the goal of conserving water, and excessive use of water on hillsides may cause sliding and erosion. However, yuccas, cacti, and other succulent natives, such as toyon, are also both fire--and drought--resistant.

A wide variety of fire-resistant plants are available for use in fire hazard areas. Many are listed in the attached Table. Some are drought-resistant; some also have deep root structures, which will help prevent soil erosion. It should be emphasized that there are no fireproof plants. Any plant will burn if conditions are right. However, the fire-resistant plants withstand high temperatures for prolonged periods without igniting and do not readily support open flames when ignited.

No

Finally, proper plant placement, trimming, and grooming will reduce risks. Dense, continuous cover can carry fire from one place to another; a continuous canopy of trees can also spread fire to buildings. Pines are especially likely to blaze up in flames. Trees should be kept somewhat separated from each other, and their lower branches kept high enough to be safe from grass fires. For reference, the University of California Agricultural Extension Service has published a booklet, Landscape for Fire Protection, (#AXT-254), which is free to the public.

high fuel plants

FIRE-RESISTANT PLANTS

NAME	DESCRIPTION	DROUGHT RESISTANT?	ROOT STRUCTURE
Arabian Scurf Pea	Has appearance of large mounded clover bush when well grown. Small purple flowers in late spring. Under adverse conditions becomes dormant through drought period, rebound well when weather improves.	Yes	Deep
Coast Salt Bush	Grows in low mats along coast. Fine textured gray green foliage becoming sufficiently compact to restrain weeds. Responds well to minimum care.	Less	Deep
Creeping Rosemary	Dark green sea of corded foliage with gray highlights. Low creeper, aromatic, apparently has no pests among insects or animals here.	Yes	Shallow
Dwarf Coyotebush	Forms smooth mats about 1 foot high on steep slopes. Small green leaves cover maze of horizontal stems spreading 4-6 feet. Maintained with minimum care. Best used in coastal areas or where watering is possible.	Less	Deep
Green Lavender-Cotton	Stays emerald green under hottest sun and dry weather. Low growing creeper, has tendency to mound after number of years with no pruning. Good ground cover on slopes.	Yes	Shallow
Gum Rockrose	Narrow, glossy leaves stay green even during hot, dry weather. Under extreme drought, leaves reverse to show white underside.	Yes	Deep
Ivy	While Algerian Ivy is more tolerant to sun and drought, under irrigation the deeper green and finer texture of various forms of English Ivy may be preferred. Both form dense ground covers, spread rapidly, produce surface roots. Requires water and proper maintenance.	Less	Shallow

FIRE-RESISTANT PLANTS

NAME	DESCRIPTION	DROUGHT RESISTANT?	ROOT STRUCTURE
Parrott Beak	Feathery, gray foliage with interesting flowers through summer. Grows rapidly, makes good ground cover.	Less	Shallow
Purple Rockrose	Becomes rounded mound clothed to the ground. Large, flat flowers unfold over long period in late spring. In the open, it stays attractive with little care.	Yes	Deep
Salt Bush	Silver-gray foliage tinged with rose during rapid early growth. Plant has a medium-fine texture - lends a feeling of distance at the back of a planting, or in peripheral groupings.	Yes	Deep
Small-leafed Ice Plant	The more commonly planted low; creeping, fleshy-leaved ice plants are generally shallow rooted, spring flowering and ever-green matformers. Do well with occasional deep summer irrigation on gentle slopes and light soils. Avoid large-leaf varieties for slope planting.	Less	Shallow
Sunrose	Usually becomes a low, neat, fine-textured cushion of foliage in the open. Small, color-ful flowers in spring--prefers sun and well drained soil.	Yes	Shallow
Woolly Yarrow	Hugs the ground with soft, silvery-green carpet. Abundance of flowers in early summer. Seed heads are easily removed with rotary mower for neat appearance.	Yes	Shallow
Yerba Santa	Glossy leaved, inhabits well-drained slopes, road banks and rocky outcroppings forming open drifts about two feet high. Extreme care needed in transplanting but once established, persists and increases for years.	Yes	Shallow

Source: Brush Fire Safety Committee, Los Angeles, California

EMERGENCY RESPONSE CAPABILITY [12]

Characteristics of Emergency Response

When a fire occurs, firefighters and other emergency personnel must quickly respond. The first priority is to protect and save lives. The second priority is to contain a fire or stop its spread. The third priority is to extinguish the fire. The key to effective fire fighting is quick response, good training, plenty of water and proper equipment. Difficulties with any of these necessities will greatly erode the effectiveness of the fire fighting program.

Access for Emergency Vehicles

Panoramic Hill is served by only one road in or out: Panoramic Way. Furthermore, Panoramic Way has two hairpin curves at the bottom of the Hill which make its use by fire vehicles extremely difficult. (See Map) When a house fire breaks out on the Hill, the Berkeley Fire Department sends a pumper and a ladder truck to the bottom of the Hill. However, because of the hairpin curves, the ladder truck stays at the bottom of the Hill unless absolutely needed. In order to get up the Hill, both pumpers and ladder trucks must execute difficult maneuvers. The easiest way for the trucks to get up is to drive to the first hairpin curve, go past it and then back up the next Hill going past it and then head up the Hill.

Standard fire practice calls for putting immediate life saving and evacuation ahead of firefighting. Therefore, if there was a major fire on the Hill in which people had to evacuate, the Berkeley Fire Department has publicly stated that they would not send equipment up the Hill for fear of blocking the escape route until all the residents had escaped. Of course, if they tried to get up while people were trying to get out on the same route, there would be chaos. Because of this situation, it is quite possible for a major fire to burn down the whole hillside. Provision of a second access route would allow the fire equipment to go up the Hill easily while residents escaped on the existing road.

Once on the Hill, maneuverability for fire equipment is difficult because of the steep topography, narrow streets and absence of clear flat areas from which to stage equipment.

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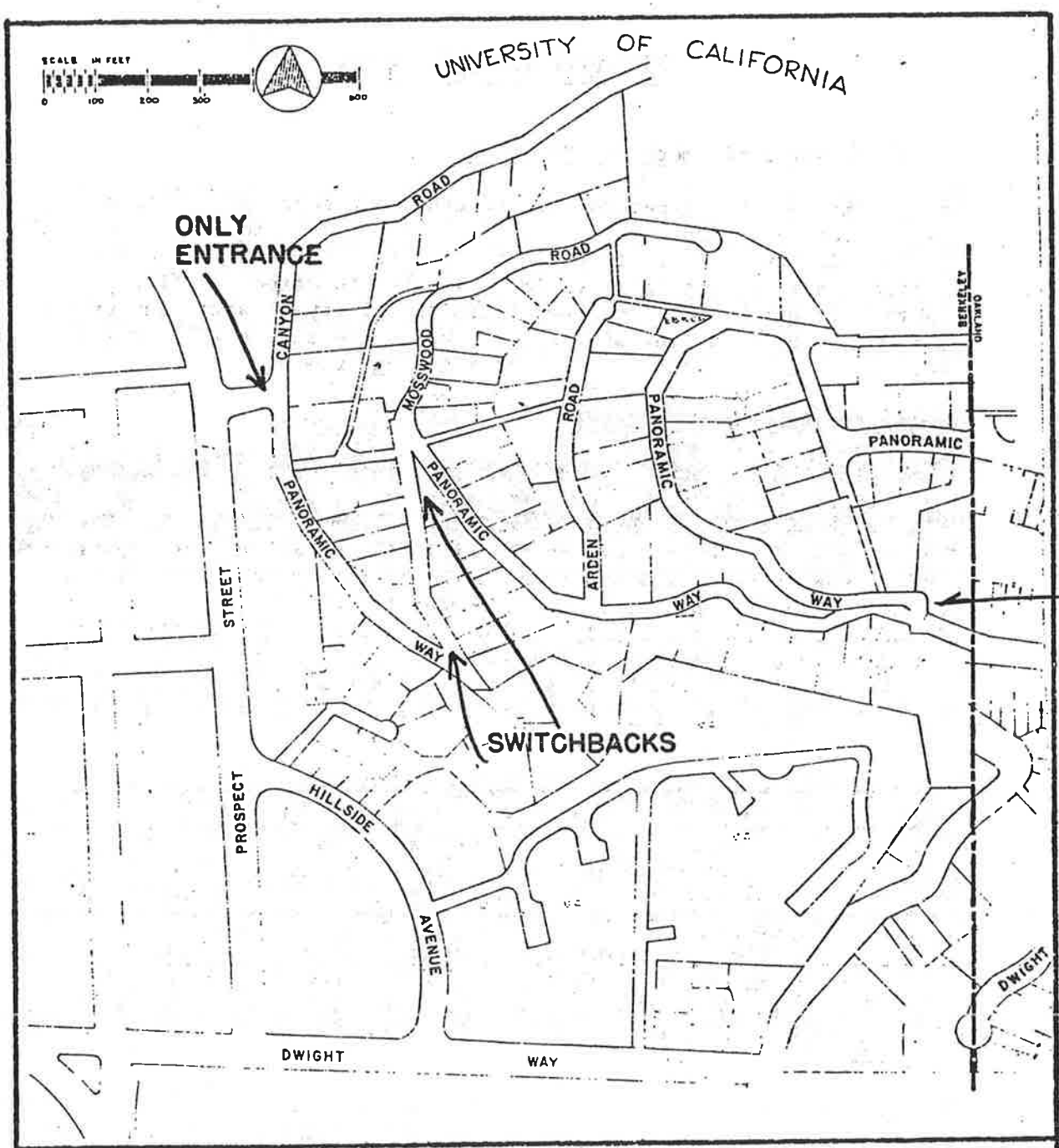
[12] Information for this section is based largely on interviews held by Dean Armstrong during February-April 1974 with the following: a) Assistant Chief Adcock, Berkeley Fire Department; b) Elmer Silva, Fire Chief, Lawrence Berkeley Laboratory, University of California; c) Owen Eide, Engineer, East Bay Municipal Utility District.



PANORAMIC HILL AREA STUDY

BERKELEY PORTION OF PANORAMIC

BERKELEY PLANNING DEPARTMENT 6-74

ACCESS LIMITATIONS

Access for Emergency Vehicles, Continued

There are a number of fire trails that serve the Panoramic Hill area. The main two are the Botanical Garden Trail and the Jordan Trail. (See Attached Map) These are unsurfaced bulldozer carved, unengineered trails. They have not had proper drainage facilities installed and each year sees many major slip-outs that must be prepared.

Water Situation

A thorough investigation of the water supply system on Panoramic Hill has not been made by this study. The water system was designed to meet the requirements of an urban neighborhood. Forest fires use very large quantities of water and can quickly exceed the capability of urban water system design.

The water supply for Panoramic Hill is provided by two separate water systems. The lower part of the Hill (See Attached Map) is served by the Summit system which means it is fed directly by the Summit Reservoir located in North Berkeley adjacent to Kensington and the Summit South Reservoir in the Hiller Highlands section of Oakland. The upper part of the Panoramic Hill is served by the University Water Tank which rests at the top of the Hill. Both systems are operated by the East Bay Municipal Utilities District (EBMUD).

The University Tank, so named because it rests on lands that once belonged to the University and is surrounded by University of California land, has a capacity of 1/2 million gallons and is fed from the Summit system by a pumping station located half way up the Hill at the intersection of Panoramic Way and Arden Path. (See Attached Map)

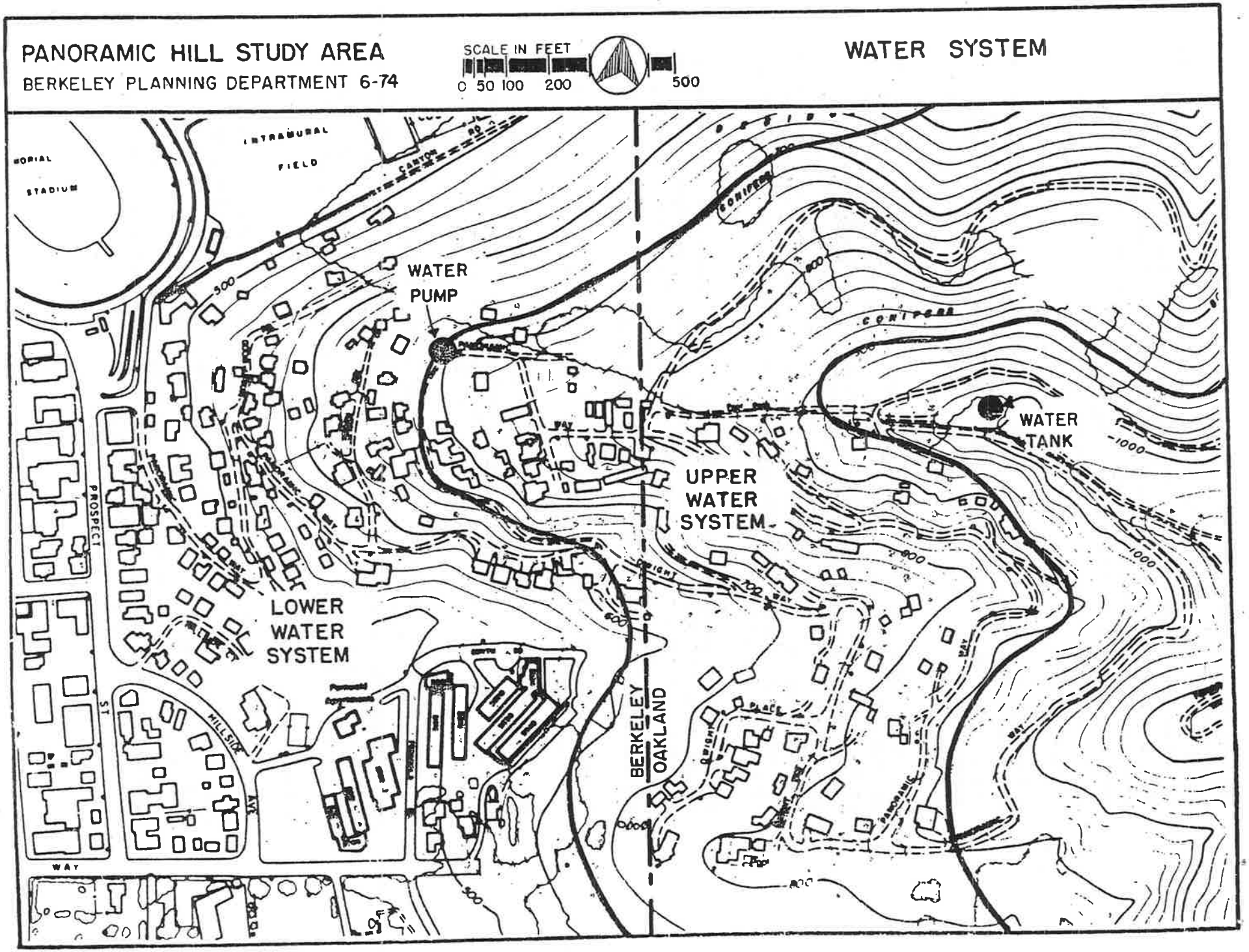
On the lower system there are six water hydrants and on the upper system there are five hydrants.

The limit of service for the University Tank is the 900' elevation. Above 900 feet for all intents and purposes, there can be no water service with this tank except in emergencies through the use of a fire department pumper.

The upper water system is dependent on the lower system. If the lower runs out of water, a fire department pumper can pump water up to the tank or to the hydrants in the upper system. At the pumphouse, there are two hydrants--one for each system. The pumper can draw water out of the lower system and pump it into the upper system at about 500 gallons per minute.

Organizational and Equipment Characteristics

Fires in the Panoramic Hill area may be fought by the Berkeley Fire Department, the Oakland Fire Department, the Lawrence Berkeley Laboratory Fire Department and the East Bay Regional Park District Fire Department. Each is responsible for different land areas within the overall area. All are tied together by mutual aid agreements. There is no overall disaster response plan for the Panoramic Hill area that would coordinate pre-fire planning for this specific area.


PANORAMIC HILL STUDY AREA
BERKELEY PLANNING DEPARTMENT 6-74
SCALE IN FEET
0 50 100 200 500
WATER SYSTEM
INTRAMURAL
FIELD
CANYON
STADIUM
WATER
PUMP
WATER
TANK
UPPER
WATER
SYSTEM
LOWER
WATER
SYSTEM
BERKELEY
OAKLAND
PROSPECT
HILLSIDE
CONIFERS
500
600
800
1000

Organizational and Equipment Characteristics, Continued

A major fire on the Hill would not be a typical urban house fire. Any fire has the potential of becoming large and engaging the entire neighborhood and surrounding wooded area. Furthermore, a major fire might spread into the neighborhood. Firefighting on Panoramic Hill, therefore, is more akin to forest fire fighting in many respects than to urban fire fighting. Because of this, special equipment for easy maneuverability in hillsides, special long hoses, special mobile back-pack equipment for individual fire fighters, and special tools for brush and forest fire fighting would be beneficial.

I doubt this in residential area

The University of California Lawrence Berkeley Laboratory Fire Department is located just across Strawberry Canyon from Panoramic Hill. This fire department is available to come to the aid of the Oakland and Berkeley Fire Departments when there is a need. The Lawrence Lab Fire Department has a four-wheel drive forestry type truck which they can use on the Botanical Garden trail to get to the Panoramic Hill area. (See Map)

College & Russel

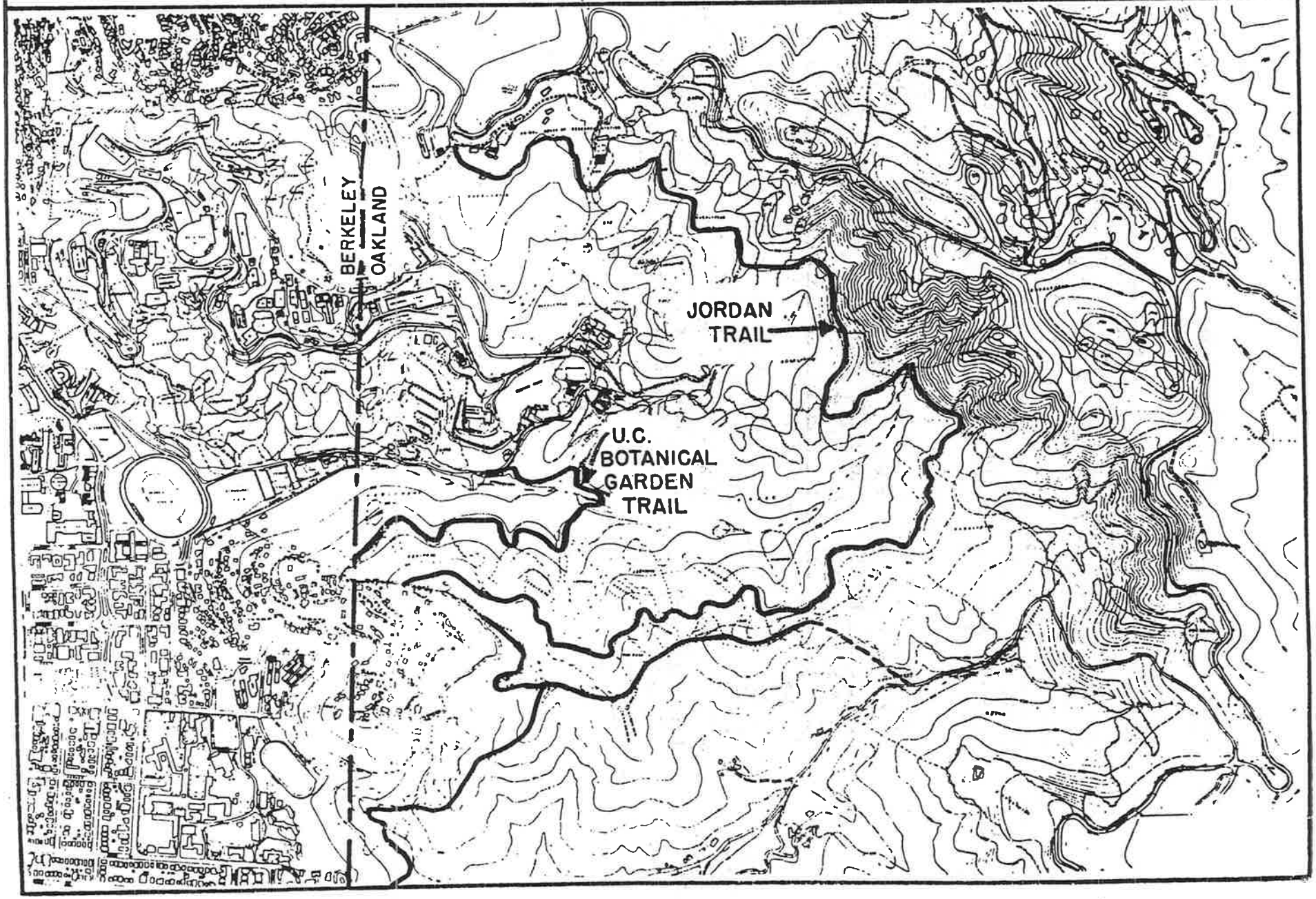
The nearest Oakland Fire Department station is located in the vicinity of the intersection of College and Claremont Avenues. The major equipment must use the twisting congested Panoramic Way, but Oakland Fire Department four-wheel drive vehicles can get to the Hill by way of a fire road that is located on the south side of the Blind School and connects via a dirt, very steep road to the upper part of the Hill. (See Map)

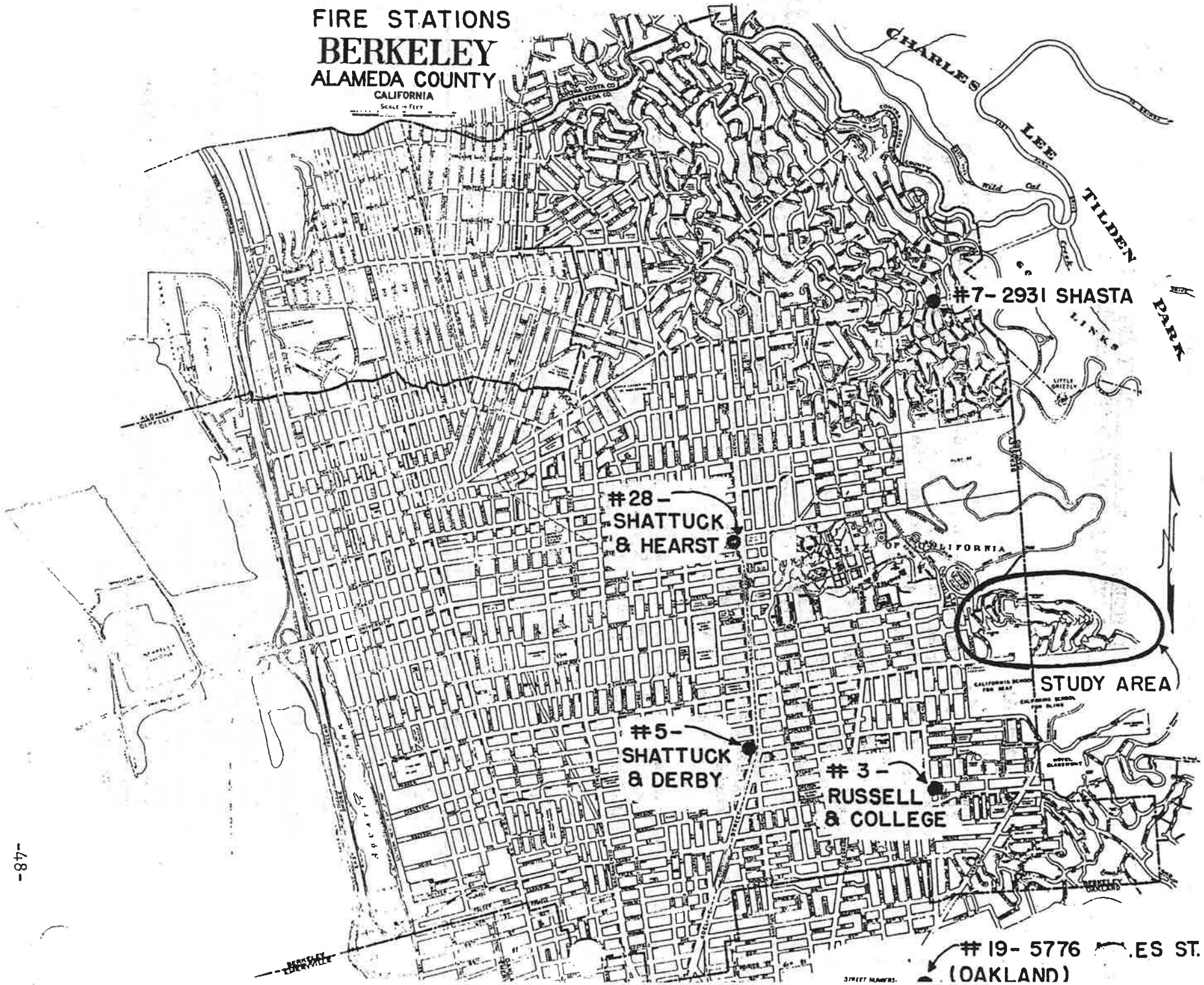
PANORAMIC HILL STUDY AREA

BERKELEY PLANNING DEPARTMENT 6-74

SCALE IN FEET 0 500 1000 2000

FIRE TRAILS




FIRE STATIONS
BERKELEY
ALAMEDA COUNTY
CALIFORNIA
CHARLES LEE TILDEN PARK
#7- 2931 SHASTA
#28- SHATTUCK & HEARST
STUDY AREA
#5- SHATTUCK & DERBY
#3- RUSSELL & COLLEGE
#19- 5776 ES ST. (OAKLAND)

EXPOSURE OF PEOPLE, PROPERTY AND OTHER THINGS OF VALUE TO FIRE DANGER [13]

General Comments

Minimization of the exposure of people, property and other things of value to fire danger is the most important factor in a fire safety program. In order to understand the total fire danger on the Hill, we must know the size of the affected population, their characteristics and their housing conditions. We should have information on development trend and the future development outlook so that we can project the fire safety situation for the future.

Population Characteristics

There are approximately 343 people living on Panoramic Hill with 238 of them living in the Berkeley portion of the Hill. The population includes approximately 48 children. The small number of children results in a very low population per household ratio.

Approximately 2/3 of the residents live in single-family homes. Many residents in the homes are quite old and there appears to be a typical Berkeley situation of very old residents being slowly replaced by young new residents. 19 of 50 occupants of single family homes in the Berkeley portion of the Hill that responded to a study questionnaire, had lived on Panoramic Hill for 20 years or more. Over half of the Oakland respondents had lived in their homes for eleven years or more.

In regard to fire safety, it can be seen that a large population (343 persons) live in a very high fire hazard area. Few children are exposed to the hazard but many older, less mobile persons are. (See attached chart for more details)

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[13] Information for this section came from four sources: a) a detailed land use survey of the Hill conducted by Dean Armstrong with the assistance of Ken Moye, City Planning student, University of California (This survey is presented in the Study Appendix); b) a questionnaire sent to the Panoramic Hill residents. Results of the questionnaire are presented in the Study Appendix; c) interviews with Oen Eide, Engineer East Bay Municipal Utilities District, March-April, 1974; d) interviews with Mark Ng, Engineer, Oakland Public Works Department, March 1974; e) interview with Thomas Doctor, Senior Planner (Zoning), Oakland Planning Department, April 1974.

PANORAMIC HILL POPULATION CHARACTERISTICS

(All estimates based on information from Panoramic Hill Study Survey)

	BERKELEY	OAKLAND	ENTIRE HILL
1. Estimated number of people per apartment unit	1.30	----	1.30
2. Estimated number of people per single family unit	2.00	2.16	2.08
3. Estimated number of apartment dwellers	104	-0- (there are probably some illegal apartments)	104
4. Estimated number of single family dwellers	132	107	239
5. Estimated number of children	31	17	48
6. Estimated total population	238	105	343

7. Length of residence: Berkeley---------- 19 of the 50 occupants of single family units that responded to the questionnaire had lived in their homes for 20 years or more. Over half of the single family respondents had lived in their homes for 10 years or more. However, 7 of the 50 had lived on the Hill for less than one year.

One-half of the 36 apartment dwellers who responded had lived on the Hill for three years or more. 90% had lived on the Hill for one year or more..

Oakland: over half of the responding dwelling units were inhabited by people who had lived on Panoramic Hill for 11 years or more. Of the remaining 13 respondents, all but two had lived on the Hill for three or more years.

Housing Characteristics

There are 95 structures on Panoramic Hill. 67 of these structures are single-family homes. There is a total of 196 dwelling units, 3/4 of which are located in the Berkeley portion of Panoramic Hill.

The great majority of the population lives in single-family or duplex units. However, there are seven multiple-family structures having a total of 38 units. Two-thirds of the structure on the Hill were built before the end of World War II. Twenty structures were built before 1917. Almost all of the buildings are of wood exterior, non-fire-resistant construction.

In the Berkeley portion of the Hill toward the bottom of the Hill, many units are jammed onto small lots. This same area has the highest concentration of very old shingle houses. All of the homes on the Hill because of their construction characteristics and age, must be considered highly vulnerable to fire. (See attached chart for more details)

Characteristics of Other Things of Value

The lower portion of Panoramic Hill has many examples of the East Bay style of architecture. Included in this area are examples of Maybeck and his contemporaries and disciples. The old wood shingle homes are fine examples of the Berkeley Brown Shingle homes that have gained fame throughout the Bay Area. Numerous paths, retaining walls, narrow streets and the like, that were built in the early part of this century, give the lower Panoramic Hill a charm that is noteworthy even for a town with as much charm as Berkeley.

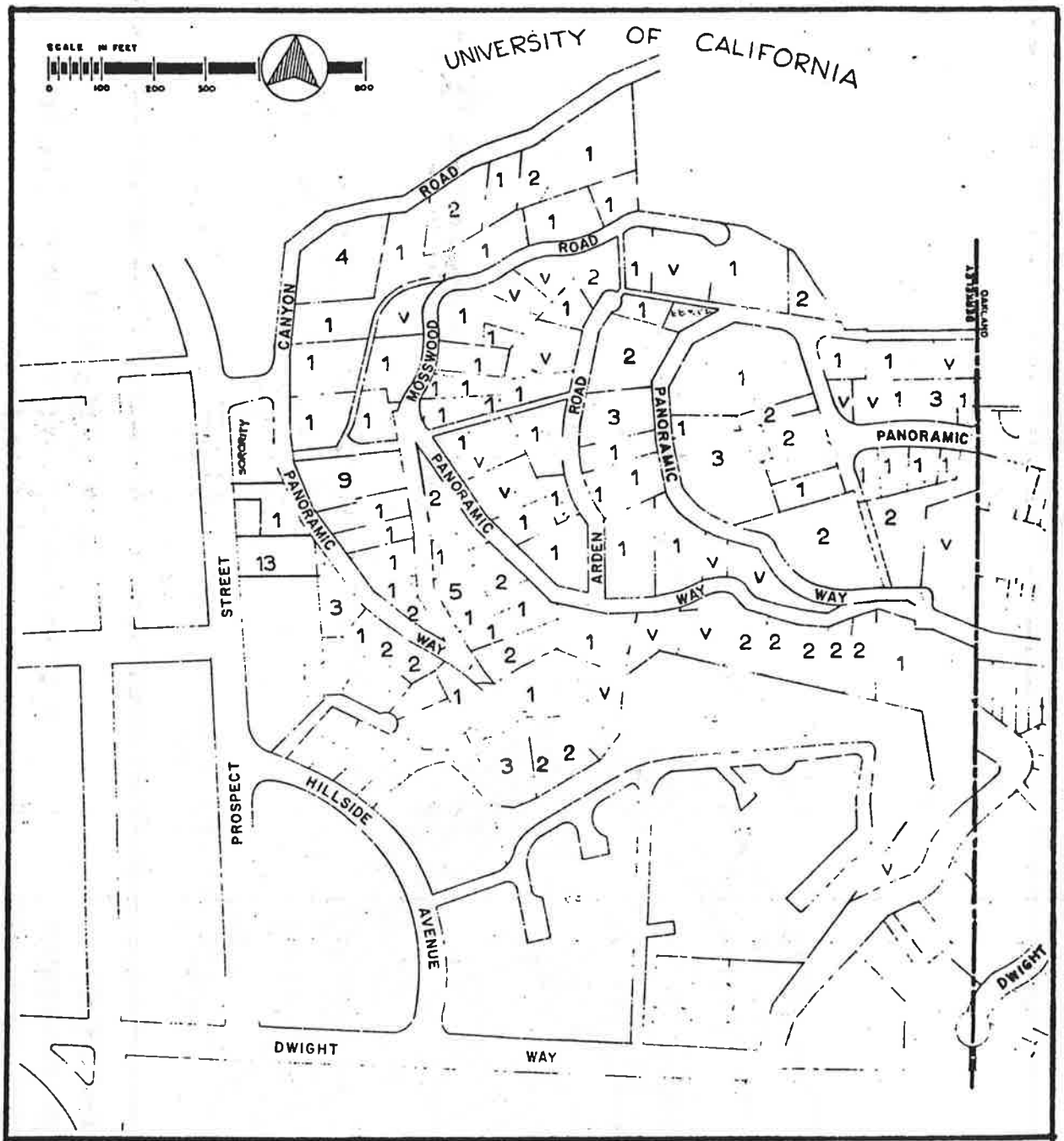
Panoramic Hill and the adjacent University property is a beautiful watershed area for two streams. The land is forested in a variety of mature and beautiful trees. The forest is interlaced with fire trails used by joggers and hikers. Destruction of the hillside would be a loss in terms of destruction to the creeks, destruction of wildlife, destruction of a beautiful forest used by many Berkeley residents and destruction of the views of the Hill from the Berkeley flatlands.

Potential Development

Panoramic Hill already has a very large number of people exposed to fire hazard. There are already 343 people living on the Hill. This number could easily grow by 100 or 200 more in the next 40 years.

Several factors influence the potential for further development on Panoramic Hill: 1) the supply of developable land; 2) the demand for development; and 3) community development regulations.

Panoramic Hill is not densely populated considering that there is abundant open space intertwined with the houses. In the Oakland portion of the Hill, two-thirds of the land is vacant. Most of the vacant land has development limitations, however, including sewer service problems, water supply problems, steep hillsides or mudslide potential. There are



PANORAMIC HILL AREA STUDY

BERKELEY PORTION OF PANORAMIC

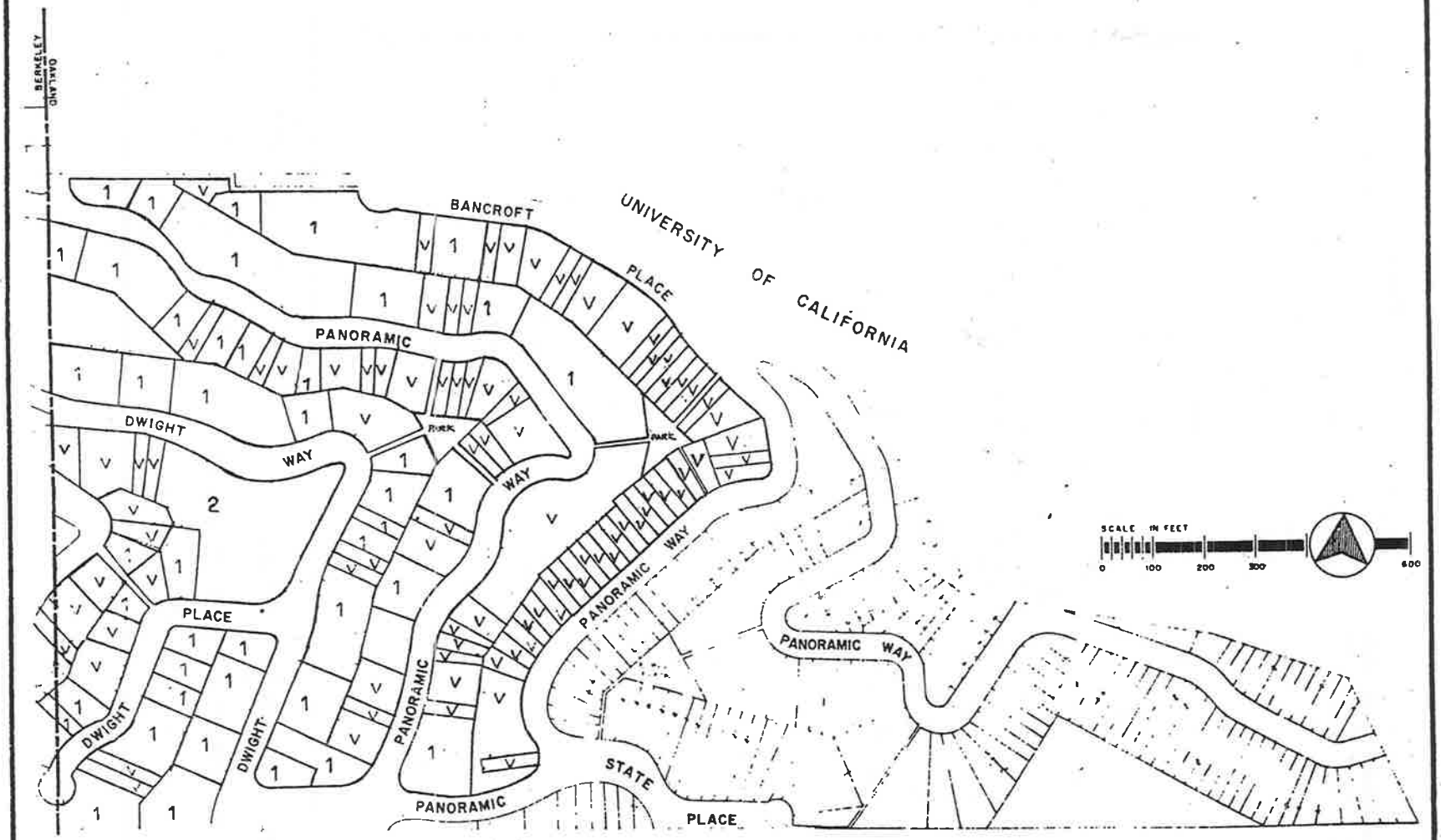
BERKELEY PLANNING DEPARTMENT 6-74

LAND USE MAP

1 = ONE FAMILY UNIT

2 = TWO FAMILY UNITS

V = VACANT LOT



PANORAMIC HILL AREA STUDY
OAKLAND PORTION OF PANORAMIC
BERKELEY PLANNING DEPARTMENT 6-74

LAND USE MAP

1 = ONE FAMILY UNIT, 2 = TWO FAMILY UNITS, ET CETERA,
V = VACANT LOT

CONSTRUCTION TRENDS ON PANORAMIC HILL

STRUCTURES BUILT:	BERKELEY	OAKLAND	ENTIRE HILL
1900 - 1917	20	0	20
1918 - 1930	22	0	22
1931 - 1944	23	6	29
1945 - 1959	13	32	45
1960 - 1972	17	8	25
Unknown	0	3	3
TOTAL	95	49	144

TYPES OF STRUCTURES ON PANORAMIC HILL

TYPE	BERKELEY	OAKLAND	ENTIRE HILL
Single Family	67	49	116
Duplex (or two houses on one lot)	21 (42 Units)	0	21 (42 Units)
Multiple Family	7 (38 Units)	0	7 (38 Units)
TOTAL	95 (147 Dwelling Units)	49 (49 Dwelling Units)	144 (196 Dwelling Units)

120 dwellings

two major limitations at present: (a) sewer access; and (b) water access.

(a) Sewer Access: Because of the poor condition of the Panoramic Sewer that serves the Hill, Berkeley has requested the City of Oakland not to extend any more main lines on Panoramic Hill. The result is that new development in Oakland must have septic tanks on 10,000 sq. ft. This has a significant effect on the desirability of land for development.

(b) Water Supply: Construction of homes in the Oakland portion of the Hill cannot take place above 900 foot land elevation. This is because the water tank, called University Reservoir, situated at 1025 feet does not produce sufficient water pressure above that elevation. The policy of EBMUD is to build reservoirs every two hundred feet as they progress up the Hill. Above the University Reservoir they are prepared to build another tank if needed. This second tank, if constructed, would be built to 1/4 or 1/2 million gallon capacity. It would serve the area between the elevation of 900 and 1100 feet and would be located to the southeast of the University Tank. If built, this reservoir would be named the Hamilton Reservoir. There are no design plans or property acquired for the Hamilton Reservoir. If built there would be a need for another pumping plant at the site of the University Reservoir, an interconnecting line and the new reservoir itself. The total cost for project would be about $500,000. A developer requesting the installation of the water system would be required to advance EBMUD 60% of the cost of the project as a deposit. In addition, EBMUD would have to be convinced that there was adequate demand for the new water supply system. Generally they require that the facility be in connection with the construction of 100 or more homes.

Demand for development in the Oakland portion of Panoramic Hill has fallen off considerably in the last few years. During the last 12 years development has averaged only 2/3 of a unit per year, downvery sharply fromthe previous 14 years. However, in the Berkeley portion of the Hill, development pressure seems to be accelerating with an average of 1½ structure built per year over the last 12 years, which is a significant increase over the 1950's "boom" construction period for the rest of the area. (See attached table for more details)

Current community development regulations in Berkeley and Oakland do not play an important role in determining the amount of new construction. This is because the regulations allow far more construction than there is a market demand for. Furthermore, the lots and ownership throughout

the Hill have already been established. Therefore, even significantly increasing lot size requirements would not greatly reduce potential development since a property owner with a substandard lot is always allowed to put at least one unit on it. (See attached charts for further information on development potential)

11 Lot size

Unless major changes are made ~~to~~ in existing development regulations, the Panoramic Hill will significantly increase its population. In this event, the total fire danger for the Hill will increase correspondingly.

FACTS ON DEVELOPMENT POTENTIAL IN BERKELEY PORTION OF PANORAMIC HILL

Number of structures at present:	95
Number of dwelling units at present:	147
Zoning: (5000 sq. ft. minimum lot size. Duplexes allowed)	R-1-H
Maximum possible units under existing zoning:	307 (160 new units)
Maximum possible units if area rezoned to R-1:	208 (61 new units)
Maximum possible units if area rezoned to equivalent of Oakland R-20 (12,000 sq. ft. per unit):	185 (38 new units)
Maximum probable units under existing zoning:	227 (80 new units)
Maximum probable units if area rezoned to R-1:	177 (30 new units)
Maximum probable units if area rezoned to equivalent of Oakland R-20 (12,000 sq. ft. per unit):	185 (19 new units)
Special Development Limitations:	None

FACTS ON DEVELOPMENT POTENTIAL IN OAKLAND PORTION OF PANORAMIC HILL

Number of structures at present:	49
Number of dwelling units at present:	49
Zoning: (5000 sq. ft. per single-family unit)	R-30
Maximum possible units under existing zoning (if Berkeley allows sewers to be extended):	153 (104 new units)
Maximum possible units if area rezoned to R-20 (12,000 sq. ft. per unit):	105 (61 new units)
Maximum possible units if area rezoned to R-10 (25,000 sq. ft. per unit):	95 (51 new units)
Maximum possible units if Berkeley does not allow sewers to be extended:	91 (47 new units)
Maximum probable units under existing zoning (if Berkeley allows sewers to be extended):	102 (53 new units)
Maximum probable units if area rezoned to R-20 (12,000 sq. ft. per unit):	79 (30 new units)
Maximum probable units if area rezoned to R-10 (25,000 sq. ft. per units):	73 (24 new units)
Maximum probable units if Berkeley does not allow sewers to be extended:	71 (22 new units)

Special Development Limitations:

1. Berkeley has a moratorium on allowing Oakland to extend additional main sewer lines. The result is that new development must have septic tanks on large lots. This has a tendency to reduce allowable development.

2. Construction of homes could only take place below the 900" foot contour which is below the last stretch of road leading to the top of the Hill. (See map) This was because the water tank which was replaced by a new modern tank in the last decade, cannot serve areas with water pressure at elevations less than 100 feet below itself. The tank at its top is 1025 feet in elevation. This has put a limit on development in the area above that elevation.

DEVELOPMENT POTENTIAL ON PANORAMIC HILL

	Number of Dwelling Units at Time of Study.		Potential Growth if Moderately Restrictive Regulations Governed New Development.[2]		Potential Growth if Least Restrictive Regulations Governed New Development.[1]	
	UNITS	(POPULATION)	MAXIMUM PROBABLE UNITS (POPULATION)	MAXIMUM POSSIBLE UNITS (POPULATION)	MAXIMUM PROBABLE UNITS POPULATION)	MAXIMUM POSSIBLE UNITS (POPULATION)
Berkeley	147	(238)	177 (301)	208 (354)	227 (386)	307 (522)
Oakland	49	(105)	73 (158)	105 (227)	102 (220)	153 (320)
TOTAL	196	(343)	250 (459)	313 (581)	329 (606)	460 (842)

[1]Continue existing zoning in Berkeley. Continue existing zoning in Oakland, but also lift ban on sewer extensions.

[2]Limit new development to single-family homes with 12,000 square feet per unit.

Reg voters
Way #20230
407
Place # 24010
297

FIRE SAFETY GUIDES FOR CALIFORNIA WATERSHEDS

Recognizing the severe fire hazards plaguing California wildland and watershed area, the California Supervisor's Association in 1965 adopted a series of recommendations designed to reduce fire danger in these areas. The guidelines were prepared with assistance from various local, state and federal fire and forestry agencies.

The following guidelines are reprinted from Be Fire Safe!, a publication of the County Supervisor's Association which is distributed by the California Division of Forestry. Virtually all of the guidelines have applicability to the Panoramic Hill area. However, imposition of some of the recommendations at this state in the development history of Panoramic Hill may not be desirable.

Minimum Safety Requirements for Watershed Areas Recommended by the California County Supervisor's Association.[14]

Structural Fire Protection Standards

It is recommended that structural fire protection practices as recognized by fire protection agencies be planned and provided for subdivisions as a contingency for the approval of proposed new developments in wildland areas.

Safe Ingress and Egress

Area development should provide for safe and ready access for fire and other emergency equipment and for routes of escape which will safely handle evacuations. Therefore, road and street system designs should provide maximum circulation consistent with topography to meet fire safety needs--

1. Require at least two different ingress-egress routes.
2. Require a 60-foot right of way for the construction of two 12-foot traffic lanes, two 8 -foot parking lanes, and two 10-foot roadside strips upon which the fire hazard should be abated. Maintenance to keep roadside strips free of fire hazard should be required.
3. Limit cul-de-sacs to 600 feet terminated by a turnaround right of way not less than 90 feet in diameter.
4. Street grades should be limited to 12% except for short distances when topographic conditions make lesser grades impractical.
5. No street or road should have a centerline radius of curvature of less than 50 feet.

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[14] The County Supervisor's Assn., 1965 Report, pp. 15-24.

Safe Ingress and Egress, Continued

6. The responsible fire agency may remove and clear within 200 feet on each side of every roadway all flammable vegetation or other combustible growth and may enter upon private property to do so. This should not apply to single specimens of trees, ornamental shrubbery or cultivated ground cover such as green grass, ivy, succulents or similar plants used as ground covers, provided such plants do not form a means of readily transmitting fire. As used in this section "roadway" means that portion of a highway or private street improved, designed, or ordinarily used for vehicular travel.

Fire Protection Water Facilities

Water is the most important single factor in fighting structural fires and is vital in suppressing watershed fires. Therefore, to assure adequate and reliable water supplies for community fire protection in hazardous areas, the following minimum requirements are recommended--

1. The minimum size of water distribution mains on which fire hydrants are located should be a minimum 6 inches in a system designed to permit circulating water flow as may be practical. Hydrant spacing should not exceed 660 feet with minimum fire flow of 500 g.p.m. required for population densities of two or less single family residences per acre; for population densities of more than two dwellings per acre, hydrant spacing should not exceed 330 feet with a minimum fire flow of 750 g.p.m., and more where structural conditions require. Water source facilities should have the capacity to support the required fire flow for a minimum duration of two hours in addition to the maximum daily flow requirements for other consumptive uses.

   Water storage may be required to assure the required minimum duration fire flow of two hours with the single most serious interruption to power lines, water mains, and to pump units. The local fire authority should adjust the water quantities and duration set forth on the basis of local conditions, exposure, congestion and construction of buildings.

2. The size, type and location of fire hydrants should meet the approval of the responsible fire authority and of applicable state and county regulations, with a minimum size of waterway not smaller than the size of the street main up to a nominal 6-inch size. A gate valve should be placed on the connection between main and hydrants.

Fire Protection Water Facilities, Continued

3. Those separately developed dwellings with an individual private water supply should provide an acceptable guaranteed minimum supply of water, above the amount required for domestic needs, that will be adequate in the judgment of the fire quthority for fire protection for the structures.

Clearance Between Brush or Vegetative Growth and Structures

Brush exposure is a primary hazard to structures. Brush ignites readily, burns with intense heat, and fire in it moves rapidly. To reduce structural exposure to flames and radiant heat, and to give firemen a reasonable chance of saving structures, and to prevent structural fires from becoming forest fires, minimum clearance requirements are necessary. In 1963, the State of California enacted the below quoted Public Resources Code clearance law. This is a minimum statewide clearance law. The enactment of local ordinances is recommended where more restrictive fire safety clearance measures may more closely fit local conditions. The recommended clearance requirements may be included in local ordinances as more restrictive measures.

1. State Forest and Fire Law Clearance Requirements. Public Resources Code 4291: Any person who owns, leases, controls, operates, or maintains any building or structure in, upon, or adjoining any mountainous area or forest-, brush-, or grass-covered lands or land covered with flammable material shall at all times do all of the following:

   (a). Maintain around and adjacent to such building or structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side thereof or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This subdivision does not apply to single specimens of trees, ornamental shrubbery, or similar plants which are used as ground cover, provided that they do not form a means of rapidly transmitting fire from the native growth to any building or structure.

   (b). Maintain around and adjacent to any such building or structure additional fire protection or firebreak made by removing all brush, flammable vegetation, or combustible growth which is located from 30 feet to 100 feet from such building or structure or to the property line, whichever is nearer, as may be required by the State Forester when he finds that because of extra hazardous conditions a firebreak of only 30 feet around such building or structure is not sufficient to provide reasonable fire

safety. Grass and other vegetation located more than 30 feet from such building or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion.

(c). Remove that portion of any tree which extends within 10 feet of the outlet of any chimney or stovepipe.

(d). Maintain any tree adjacent to or overhanging any building free of dead or dying wood.

(e). Maintain the roof of any structure free of leaves, needles, or other dead vegetative growth.

(f). Every chimney or stovepipe that is attached to any fireplace, stove, or other device that burns any solid or liquid fuel shall be provided and maintained at all times with a screen over the outlet. Such screen shall be constructed of nonflammable material with openings of not more than one-half inch in size.

2. Recommended Clearance Requirements:

(a). Lot size and placement of buildings thereon should be such that adequate clearance of hazardous flammable vegetative cover may be performed within the limits of the owner's lot.

(b). The above requirements to maintain an effective firebreak around structures in the hazardous fire area shall apply to both persons owning or controlling such structures and to persons owning or controlling any land adjacent to such structures.

(c). Should these owners fail to effect the required firebreak clearance following proper notice, the governing authority may cause the clearing to be done and make the expense of such clearing a lien against the property upon which the work was accomplished.

Building Spacing

Slope has an important bearing on fire behavior through its effect on wind conditions and heat radiation. Consequently, and irrespective of brush clearance requirements, more space between structures is required in mountainous areas than is the case on valley floors and coastal plains.

Building Spacing, Continued

1. Buildings should be spaced at least 30 feet apart (minimum 15-foot setback) to minimize the exposure risk from an adjacent structural fire and the conflagration potential of the spread of fire from structure to structure. This spacing may be altered to a minimum of 5 feet from the building to the property line where buildings have features compensating for exposure to radiated heat and the induction of sparks such as fire-resistive materials, smooth exterior wall surfaces and overhangs.

   Local fire authority shall be guided by but may adjust spacing requirements as set forth above on the basis of local conditions of slope, exposure and the construction of buildings.

2. Building densities, as determined by minimum buildable lot area and spacing between structures, would be approximately four dwellings per acre for slopes up to 15 percent and two dwellings per acre for slopes from 15 to 30 percent. For slopes steeper than 30 percent, densities would be limited to one unit for every three to five acres, or structural development prohibited.

Building Construction and Occupancy

Construction should be to the standards prescribed by comprehensive Buildings Codes and Fire Prevention Codes which give special consideration as needed to mountain hazard areas. Important considerations are:

1. Roofs and exteriors of buildings should be of fire-resistant materials.

2. Screening of roof, attic and underfloor openings should be required.

3. Suitable fire-resistant construction should be required for all building projections (canopies and eaves) and balconies, decks and unenclosed underfloor areas of stilt-type or cantilevered homes.

4. Consideration should be given to the problems of large window surfaces facing exposure hazards.

Mutual understanding of the fire and construction problems in the hazardous mountain areas can lead to a strenghtening of standards and to a degree of standardization which would be advantageous to both the construction industry and to the regulatory agencies.

Community Firebreaks

Firebreaks separating communities or clusters of structures from the native vegetation are recommended. Such firebreaks would be more properly termed "fuel-breaks" or "greenbelts" because all vegetation need not be removed, but thinned out or landscaped so as to reduce the volume of fuel.

1. All easements for firebreaks for fire safety of built-up-areas should encompass access for firefighting personnel and equipment, which may mean motorized travel in some cases; such easements should be dedicated to this specific purpose by being recorded.

2. Community firebreaks should be coordinated with over-all-fire-break/fuelbreak plans of the mountain area.

Division of Land

In order to secure the same standards of fire safety in areas developed outside of regular subdivisions as obtained within regular subdivisions, any division of land into two or more parcels for the purpose of lease, sale, conveyance, or transfer, whether immediate or future, and which is not defined as a subdivision, should be subject to review and prior approval by the appropriate county authority.

Street Names and Numbers

To facilitate fire location and to avoid delays in response, all roads, streets, and buildings should be designated by name or number clearly visible from the main traveled roadway.

Refuse Disposal

All areas planned for intensive development should include a suitable plan for the disposal of flammable refuse. Refuse disposal shall be in accord with county or local plans or ordinances, and shall not be less than State requirements (See Public Resources Code 4371-75, Health and Safety Code 4476). Where practical, disposal should be by methods other than open burning.

General

It is imperative that fire safety standards be included within subdivision and zoning ordinances with the same emphasis that is now given to the threatof flood hazard and that all requests to build within the hazardous fire area be routed by local planning commissions to the responsible fire authority for applicable fire regulations and for recommendations and approval.

Authority for local fire safety ordinances is found in Public Resources Code 4117.

General, Continued

> "Counties, cities and counties, cities, and districts may adopt ordinances, rules, or regulations to provide fire prevention restrictions or regulations that are necessary to meet local conditions of weather, vegetation or other fire hazards. Such ordinances, rules, or regulations may be more restrictive than State statutes in order to meet local fire hazard conditions."

It must be recognized that, because of the complex fire protection problem and because of high watershed values, there are some areas that cannot be safely developed at the present level of knowledge and should not be approved for development.

Landowners of existing developments in fire hazardous areas should strive to meet as many of the recommended fire safety requirements as they can and in the best manner possible notwithstanding, of course, the need to first comply with all requirements of state, county, city and district laws and ordinances.

Other Recommendations of the County Supervisor's Association

There are many aspects of over-all fire protection in the mountain areas not covered in the recommended minimum fire safety requirements for subdivided lands, but which have a direct bearing on the protection of these developed areas. Local planning authorities should be aware of and give specific consideration to the following:

Public Works and Developments

1. Roads and Highways. Road networks should provide for alternate escape routes in the event evacuation becomes necessary. Roadways, as such, should not constitute a hazard--vegetation should be removed for a distance of not less than 10 feet on each side of the traveled section. As may be needed, and for additional distances on each side of roads and highways, the native vegetation should be thinned to reduce fuel hazard. Such "landscaping" with native vegetation to reduce hazard along rights of way should be a part of all public road programs.

2. Recreational areas, campgrounds, picnic areas and other recreational developments concentrate people during dangerous fire weather and increase risk by additional use. All recreational developments should have planned access and escape routes, hazard reduction and extra water for fire emergency use. Hazard reduction should include establishment of greenbelts around recreational developments. Reservoirs and other water sources which are open to the public are especially attractive to recreationists. Planning should take into account increased fire prevention and protection measures, and the

handling of large numbers of people during emergencies. The facilities of such water developments, which should be accessible by road to mobile pumpers, should be utilized fully for fire protection.

3. Public utilities such as electric transmission lines, and other installations such as missile or communication facilities should be maintained sufficiently free of vegetation in the mountain hazardous areas so as not to constitute a risk.

Land Treatment of Wildland Areas

The possibility of wildland conflagrations beyond the control of regular firefighting forces requires that regular fire organizations be supported by land treatment measures or fire defense systems designed to reduce hazard and facilitate fire control. These systems consist of fire access roads, firebreaks and fuelbreaks, water storage cisterns, heliports, safety areas and fire reporting sources.

Wildland fire protection agencies should be encouraged to develop such land treatment systems and to tie in these systems with community firebreaks and facilities for the mutual fire protection benefit of the community and the wildland resources.

Fire Agencies Needs

Because of ever-increasing use and development, fire problems in the mountainous hazard areas are increasing and changing. Fire problems in these developing areas should be periodically evaluated and fire agency needs reviewed. Needs to be considered as areas are developed are: basic manpower and equipment, fire station and response coverage, fire prevention programs, fire detection and dispatching systems, and inmate camp and work programs. Basic standards as used by the American Insurance Association could be used by any agency and added to if needed for their own use.

Coordination

Coordination among all organized fire agencies is necessary for effective fire prevention and suppression in the mountain hazardous areas. Public safety has benefited by agency cooperation in the following fields:

1. Fire Prevention through co-op programs, mass education media, inspection of hazards.

2. Pre-Suppression by means of mutual aid agreements, equipment and labor policies, qualification requirements of regular personnel.

3. Emergency Action through evacuation plans, handling of traffic.

Coordination, Continued

4. Law Enforcement through uniform application of laws, coordination in fire code standards, new legislation, zoning and closures.

Many departments and agencies of all levels of government are engaged in various programs involving short- or long-term planning affecting land use of the mountains. Because these plans and projects require consideration of basic fire protection needs or affect existing fire protection systems, it is imperative that local planning departments and fire agencies maintain close liaison with these departments and agencies.

ENVIRONMENTAL ASSESSMENT

The Panoramic Hill Area of Berkeley and Oakland is a gracious, rustic neighborhood, perched on steep hillsides adjacent to wildland areas. Natural conditions and the effort of man have created an intimate neighborhood of narrow twisting streets, thick vegetation and charming wood homes. However, man's actions in creating the neighborhood have also created potential harm to the environment and exposed man to potential harm from the environment.

Fire and the geologic hazards of earthquakes, landslides, flooding and soil erosion, endanger the safety of man and the well-being of his possessions. Man, himself, poses a threat to the natural environment in the form of building construction, water pollution from sanitary facilities, noise and air pollution.

Possibly of more importance in an urban area, is the total environment rather than the man-made environment and the natural environment. In this regard, the character of the neighborhood is presently vulnerable to threats from increased population, congestion, disruption of utilities and traffic congestion. In addition, future public actions, such as fire roads, street construction and fuel management programs could pose a threat to the existing environment. They may also be agents to protect the environment from other threats.

The environmental assessment report therefore, seeks to determine 1) the characteristics of the natural environment, 2) the characteristics of the man-made environment, and 3) threats to the total environment. Methods of protecting the environment from these threats, presented in the main body of the report, are based on this analysis.

Geology and Geomorphology [15]

The surface geology of the Panoramic Hill area can be categorized into four units. These are: 1) Quaternary deposits, 2) Upper Cretaceous sandstones, shales, 3) Leona Rhyolite, and 4) a small outcropping of serpentine.

Along Strawberry Creek, and at the base of Panoramic Hill, is alluvium deposited in Quanternary time (in the last two to three million years). This quite young material consists primarily of gravel, sand, clay, and recent alluvium. This material is similar to that found throughout the flatter portion of Berkeley. It was deposited through the action of streams draining the Berkeley Hill This type of deposit is characterized by soil being as much as 3 feet thick. In places where the soil is clayey, shrinks and swells may cause damage to buildings. Because it is not well consolidated, it can easily be moved with hand or power tools. Slope stability and foundation conditions are generally good.

Most of the Hill is composed of sandstones, shales and conglomerates deposited in Upper Cretaceous time, about 100 million years ago. This geologic unit consists of fine to course grained sandstone and shale. The rock in its natural state would be light gray, but almost all of the rock has been weathered if at the surface and when weathered has a yellowish brown color. Generally the beds are made up of alternating bands of sandstone and shale. The rock has been subjected to many forces of the earth and consequently is sheared, fractured and contorted. This unit forms the moderately steep sided ridges and canyon of Panoramic Hill. The rock has been weathered to depths of 60 feet or more. Some of the weathered rock is firm but most is soft and crumbly. The rock can be moved with power equipment. Slope stability and foundation conditions may vary from good to poor. It is subject however, to minor sloughing and major sliding.

The Dwight Place portion of the Hill is composed of Leona Rhyolite. Rhyolite is a rock formed from magma that has pushed up to the surface. Indian Rock and similar large rock outcroppings in the Berkeley Hills are composed of Leona Rhyolite. Leona Rhyolite when weathered at the surface is white or dark-yellowish-orange and may be iron-stained reddish-orange. Leona Rhyolite characteristically forms steep knobby, dissected hills such as the hill of Dwight Place. The rock, when highly weathered, consists of loose fragments in a clay matrix. Soil is generally lacking or less than 18 inches thick. The rock can generally be moved with power equipment. Slope stability and foundation conditions are good. However, runoff from rhyolite hills is very acid and corrodes concrete sewer pipe.

At the end of Dwight Place is an outcropping of Serpentine. Serpentine is generally greenish, and is generally soft and intensely sheared. Unlike Leona Rhyolite with which it is often found, Serpentine slope stability and

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[15] Information for this section is based primarily on material contained in: Areal and Engineering Geology of the Oakland East Quadrangle. Dorothy Radbrush, USGS, 1969.

foundation conditions range from fair to poor. Intensely sheared Serpentine may slide in slopes as low as 2:1.

The lower portion of the Hill is transected by the Hayward Fault. Severe earthquakes were caused by movement along this fault in 1836 and 1868. The fault is still considered active. (See geologic hazards section) Fractured rock along this fault may form passages for ground water, and cuts made across the fault may require draining.

Panoramic Hill consists of two ridges separated by a canyon. The shape of the hills was formed by the action of the middle fork of Derby Creek, the Strawberry Creek and the South Fork of the Derby Creek. The two ridges are bounded on the north and south sides by these creeks. In addition to the eroding of the land by the creeks, the ridges were formed by landsliding, soil creep, and mudsliding. These processes affect the less stable land leaving the more resistant ridges. These processes are still continuing.

Landsliding[16]

Landsliding is a natural process of relatively rapid downslope movement of soil, rock, and rock debris as a mass. The rate of downslope movement of landslide material ranges from tens of miles per hour in the case of mudflows to about one inch per year or less in less fluid materials. The rate of landsliding is affected by the following: the degree of water sauturation, the strength of the rocks, the slope angle, the mass and thickness of the deposit, and the type and extent of vegetative cover.

The two Panoramic Hill ridges are separated by Derby Creek. In general, the ridges themselves are fairly stable. However, the closer one gets to the creek the less stable become the slopes, and numerous mudslides have occurred. One major slide area is at the top of the creek just as Panoramic Way gets to the top level. Each year the Oakland public works department has to clear the road of much landslide debris. (See attached map)

Most of Panoramic Hill consists of fine to course grained sandstone and shale. Much is sheared, fractured and contorted. The rock is weathered to a depth of 60 feet or more and although much of the rock is firm, most is soft and crumbly. In the ravine area around Derby creek, there is soil and colluvium (soil mixed with rock) to depths of as much as 25 feet. Landsliding can and has occurred in the rock areas and mudsliding has been frequent in the soil, and colluvium areas of the hill adjacent to the creek or on hillsides sloping down to the creek.

In short, landsliding is not as severe a problem for Panoramic Hill as is the case in many areas such as in the Mormon temple area of Oakland. However, there is much evidence of landsliding and in particular there have been cases of severe mudslide problems. No homes, as yet, are known to have been lost to landslides in the area.

The slope stability discussed above does not apply to the Dwight Place section of the Hill. In this area, the bedrock is Leona Rhyolite, a volcanic rock known for its good stability. It generally is located in areas such as Dwight Way with very steep hillsides but quite stable land.

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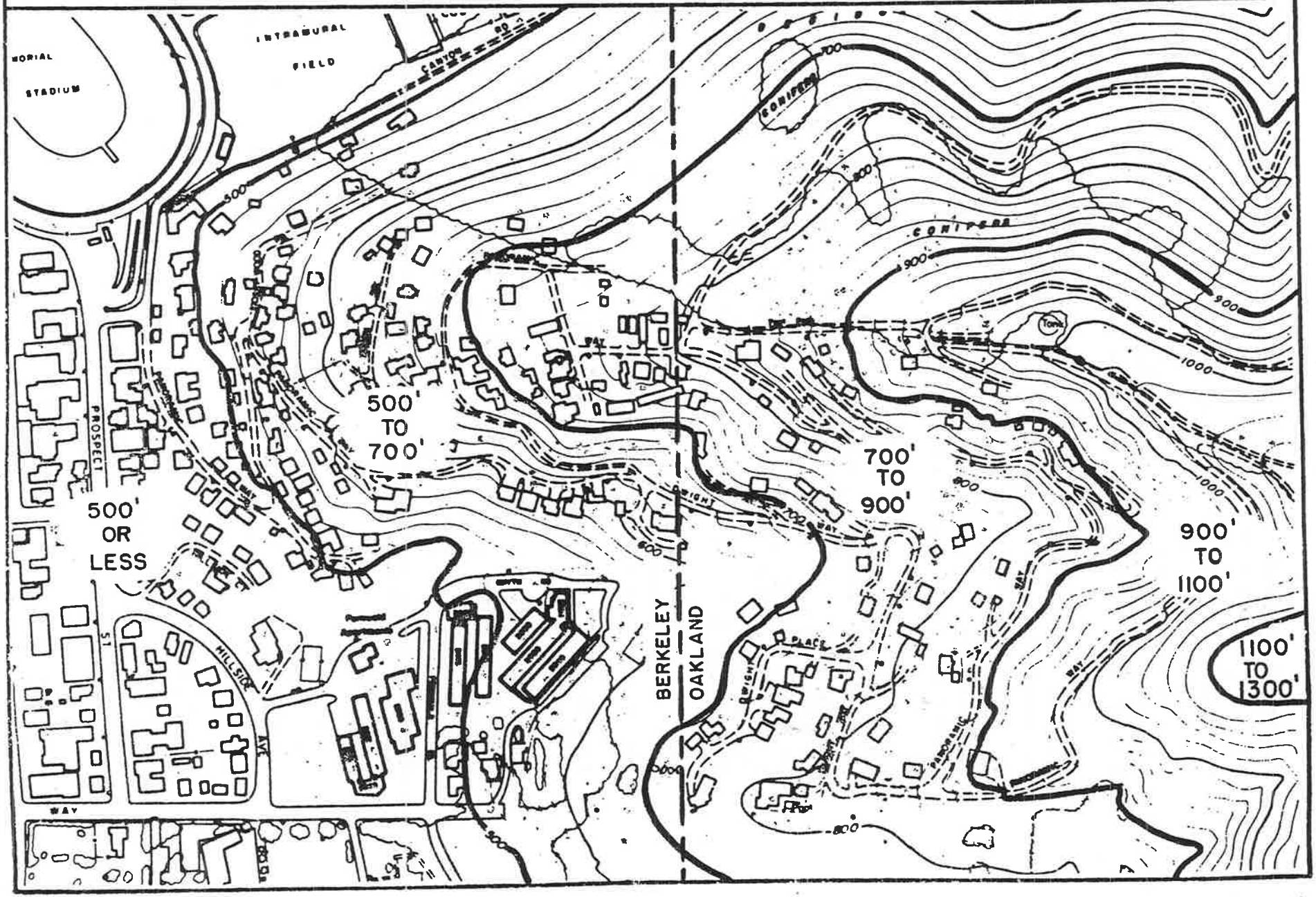
[16]Information for this section is based on on-site inspection, supplemented by material note in #1 above.

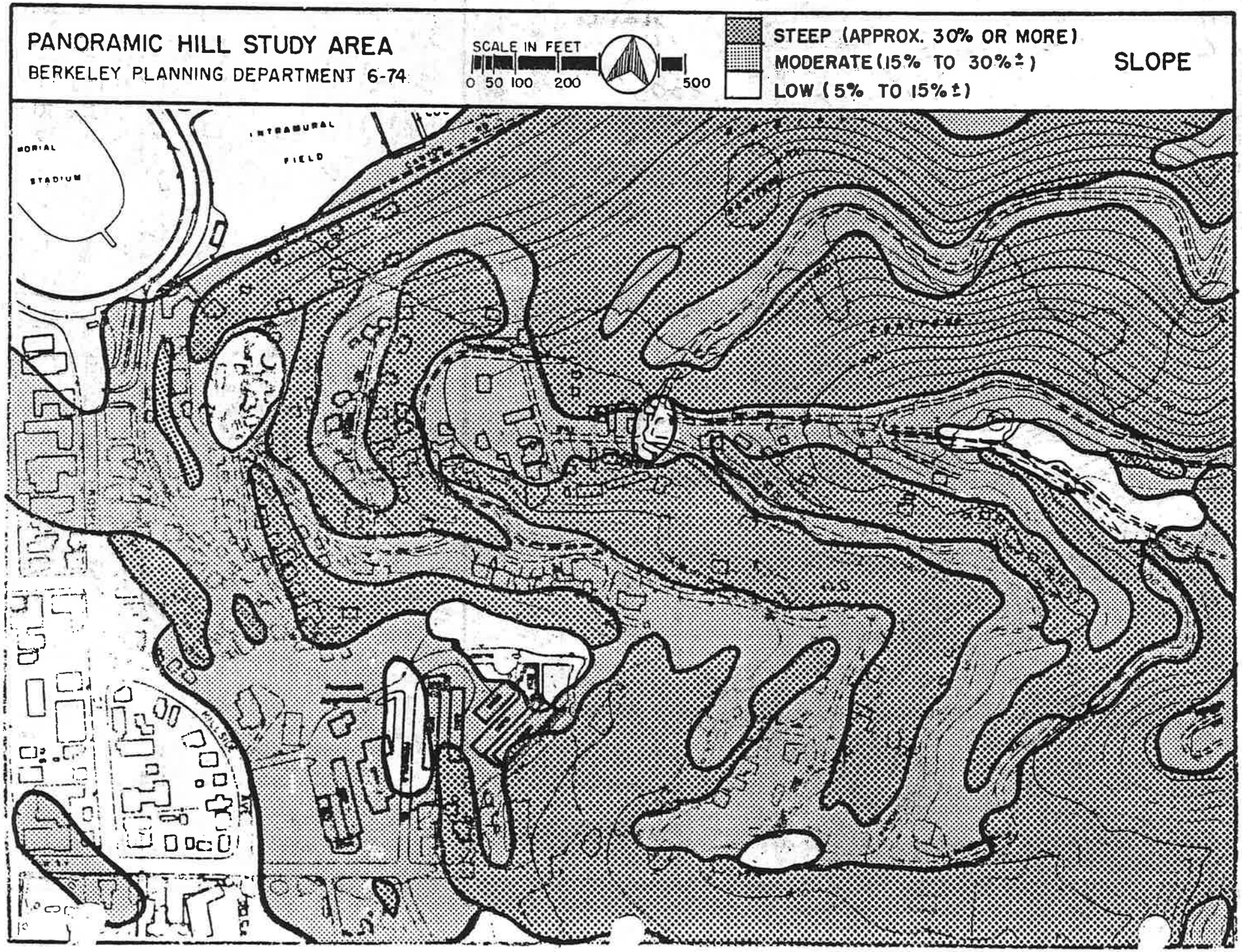
PANORAMIC HILL STUDY AREA

BERKELEY PLANNING DEPARTMENT 6-74

SCALE IN FEET
0 50 100 200 500

TOPOGRAPHY




PANORAMIC HILL STUDY AREA
BERKELEY PLANNING DEPARTMENT 6-74
SCALE IN FEET
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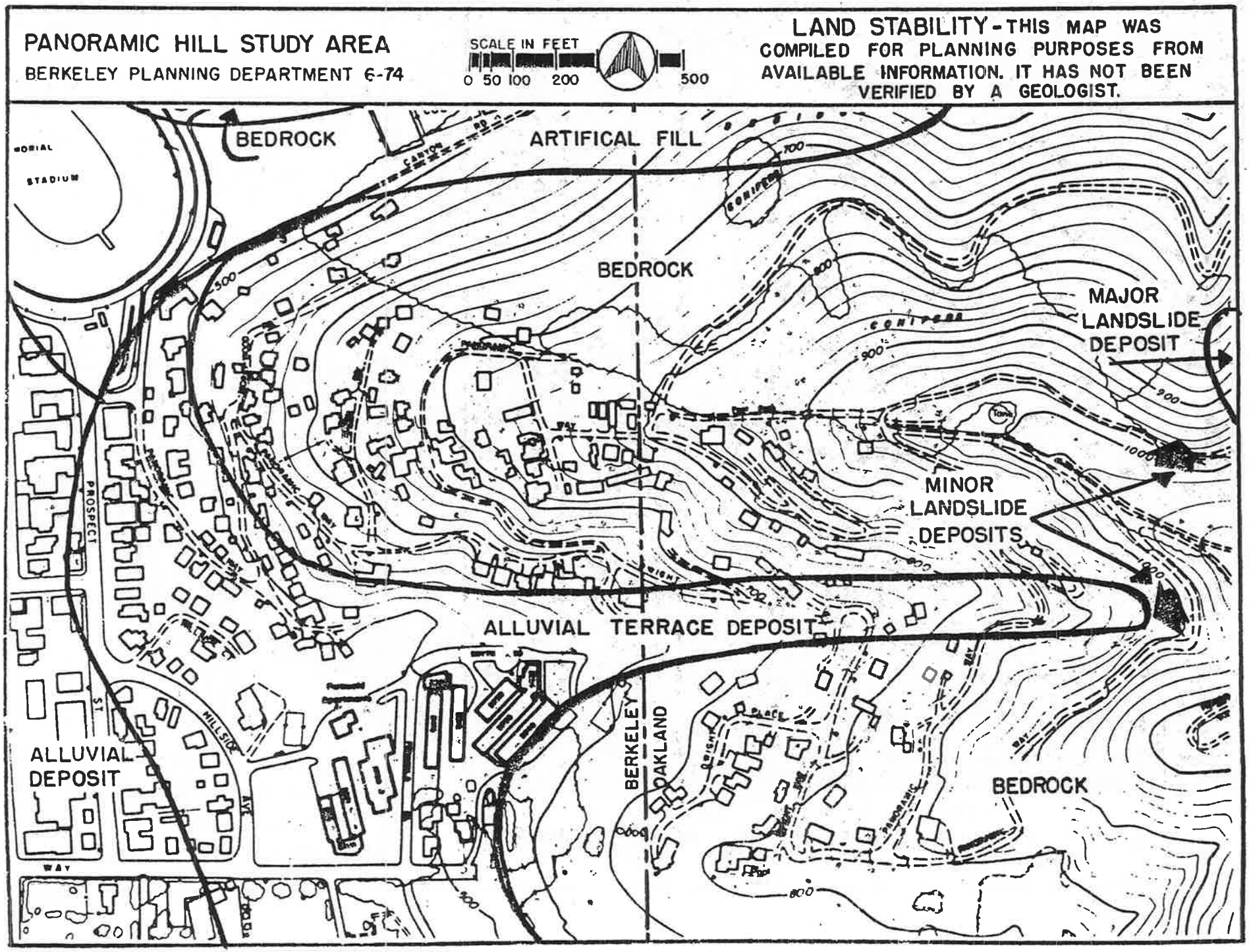
STEEP (APPROX. 30% OR MORE)
MODERATE (15% TO 30% ±)
LOW (5% TO 15% ±)
SLOPE
INTRAMURAL
FIELD
STADIUM


PANORAMIC HILL STUDY AREA
BERKELEY PLANNING DEPARTMENT 6-74
SCALE IN FEET
0 50 100 200 500
LAND STABILITY - THIS MAP WAS COMPILED FOR PLANNING PURPOSES FROM AVAILABLE INFORMATION. IT HAS NOT BEEN VERIFIED BY A GEOLOGIST.
BEDROCK
ARTIFICAL FILL
BEDROCK
MAJOR LANDSLIDE DEPOSIT
MINOR LANDSLIDE DEPOSITS
ALLUVIAL TERRACE DEPOSIT
ALLUVIAL DEPOSIT
BEDROCK
BERKELEY
OAKLAND
PROSPECT ST
HILLSIDE WAY
CANYON RD
CONIFERS
PANORAMIC WAY
STADIUM

Surface Waterways

The middle fork of Derby Creek flows through the Panoramic Hill area. It has cut a deep ravine and is bordered by dense riparian vegetation. The creek performs a wide variety of functions besides its important role of draining most of the Panoramic Hill area. It supports wildlife, provides habitat for native vegetation and promotes percolation of water into the ground.

Development in the Derby Creek watershed (See attached map) has major effects upon it. Development increases the volume of water in the stream, resulting in bank erosion and loss of vegetation. It promotes siltation of the stream downstream. In this case the stream becomes an underground pipe at Prospect Street. The result of development is thus increased siltation of this underground sewer which results in increased maintenance and can contribute flooding in the West Berkeley area, prior to the underground "creek" entering the bay. Damage to creeks is especially pronounced in areas such as Panoramic Hill where homes are built on steep slopes among native woodland.

A visual inspection of the creek indicates extensive erosion. In one case a property owner has completely filled the creek and replaced it with a pipe. Erosion is very pronounced on the University property downstream from this pipe and a large tree has been lost, whether directly from this latest destruction of the creek or to general development problems is unknown.

The creek and the canyon adjacent to it are underlain by alluvium deposited over the years by the creek. The banks and the steep canyons for a distance of several hundred feet from the creek are especially susceptible to landsliding. Several examples of such sliding are apparent.

General accepted practice is to require one acre or larger lots for septic tanks because septic tanks do not actually do much except strain the sewage before letting it continue on its way. This is especially true in hillside areas such as Panoramic Way, which have steep slopes and impermeable soils. Oakland requires only 10,000 square feet for septic tanks and experience has shown that this does not usually do the job. Furthermore, many of the septic tanks serving homes on Panoramic Hill are on less than 10,000 square feet. We can therefore, assume pollution of groundwaters and of Derby Creek from this practice.

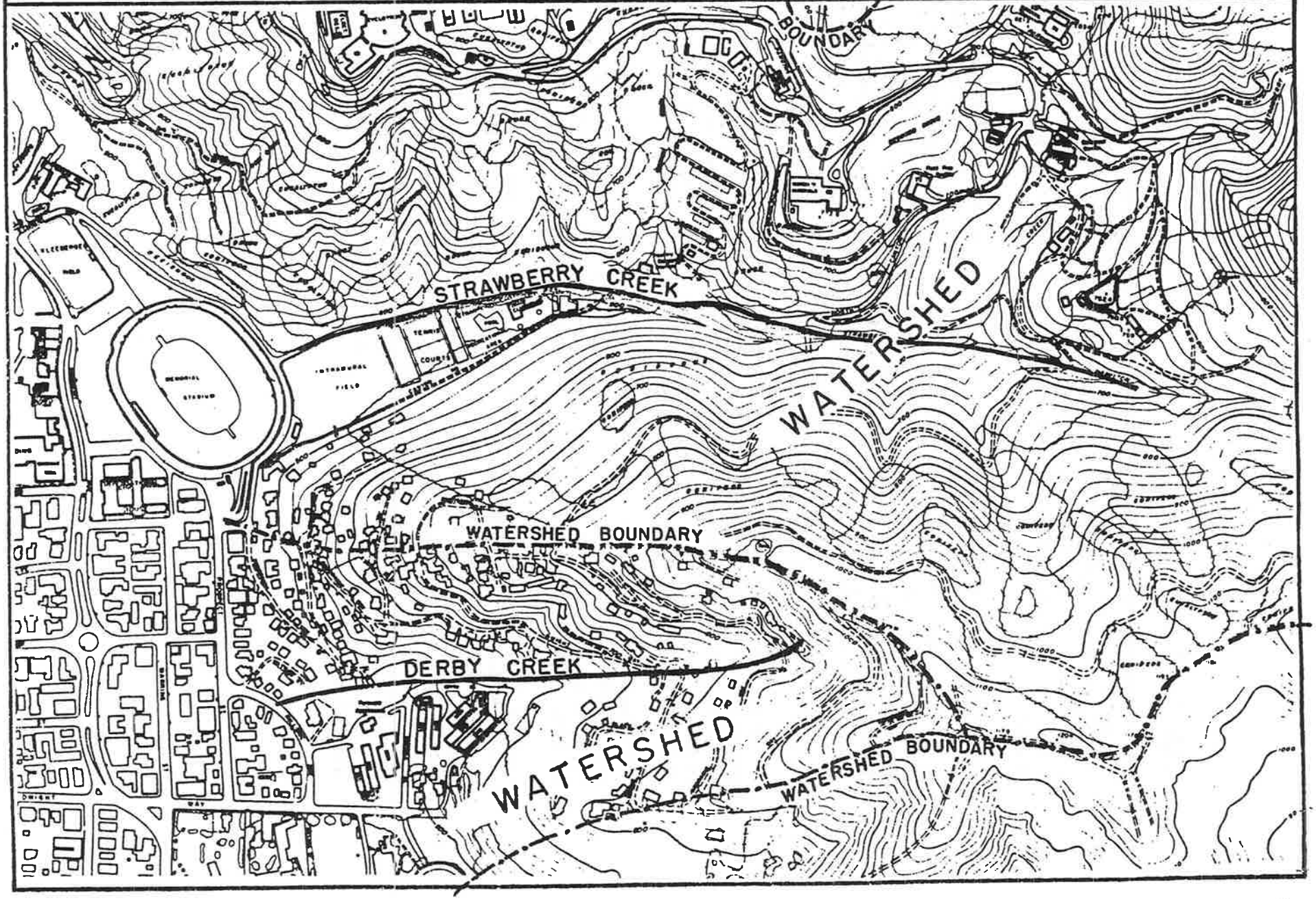
PANORAMIC HILL STUDY AREA

BERKELEY PLANNING DEPARTMENT 6-74

SCALE IN FEET

0 100 300 900

WATERSHEDS



Flooding and Soil Erosion

Flooding on Panoramic Hill is caused by man's alteration of the natural drainage of the Hill. Most of the Hill is within the watershed of the middle fork of Derby Creek. Several roads cross the creek and damage it through filling and insertion of a pipe. When the pipe becomes clogged with debris, water by-passes the pipe, flows down the road instead of the creek and floods homes on the lower part of the Hill.

Erosion is very serious on Panoramic Hill. There is so much soil moved by water during the winter that it is difficult to distinguish mudsliding from massive soil erosion. In either event, the effect is very destrutive in terms of eventual public and private costs and damage to the environment. Soil erosion is a natural process that helps to shape the form of the earth. However, in the Panoramic Hill area, man has greatly accelerated this process through creating unprotected slopes on construction sites, by causing increased runoff from increased urbanization, through spraying weeds and creating bare slopes, and through the direct dumping of dirt into Derby Creek.

Erosion has caused five kinds of damage in the Panoramic Hill area:

a. Damage to potential construction sites, making them difficult or impossible to develop.

b. Promoting mudslides that have inundated homes in the past

c. Silting up of Derby Creek, reducing its capacity and possibly promoting flooding in the underground portion of the creek near the Bay.

d. Impairing the quality of the water in Derby Creek.

e. Severely eroding the banks of Derby Creek.

A wide variety of measures are available to control erosion caused by future development of Panoramic Hill. On construction sites these include: limiting development on slopes over 40%; following recommended construction practices and careful inspection of these practices; using mechanical and vegetative measures. As slope increases and especially on slopes over 30%, such factors as erosion, runoff and septic tank limitations increase geometrically.

Wildlife and Vegetation

The vegetation of Panoramic Hill and the adjacent University of California wooded lands to the north and east is almost completely non-natural. The University forested lands in the watershed of Strawberry Creek were all planted, primarily with different large stands of conifers. Similarly, most of the large trees that are characteristic of Panoramic H ll were planted by the residents over the last 50 years.

Prior to its development, Panoramic Hill and the adjacent area, had three vegetative types: 1) grassy hillsides, 2) "chapparal" type brush, such as coyote brush, and 3) Riparian woodland along the creeks, (i.e. Oaks, Bay trees and the like with ferns along the ground). The Blind School lands to the south of Panoramic Hill are probably typical of what the hill once looked like.

Vegetation in the Panoramic Hill area presents definite fire hazard problems. This is not because it is bad, but because man has chosen to ignore the consequences of introducing urban uses into wildland area. Vegetation is also primarily what makes the Panoramic Hill such an attractive, quiet and rustic place. The Panoramic Hill vegetation provides the following functions:

a. protects the soil from erosion and landslides;
b. reduces wind velocities and moderates climate;
c. provides food and shelter for wildlife;
d. provides visual relief from the housing development;
e. adds oxygen to the atmosphere.

There are four plant communities in the Panoramic Hill area now. (See attached map). These are: a) mixed evergreen forest; b) grasslands; c) brushlands; and d) riparian woodland. Along the northern portion of the Panoramic Hill area, in the watershed of Strawberry Creek, is a primarily planted conifer forest consisting of monterey pines, monterey cypress, knob cone pine, redwood, and deodora cedar. Intermixed in some areas are bay, poison oak, and other plants largely forming the understory of the forest. Grasslands exist primarily on the Blind School property to the south of the urbanized portion of the Hill. On the top of the ridges, both within the urbanized area and immediately adjacent to it, are brush covered slopes. Inlcuded within this brush are plants often termed "soft" chapparal and include such plants as Coyote Brush and elderberry.

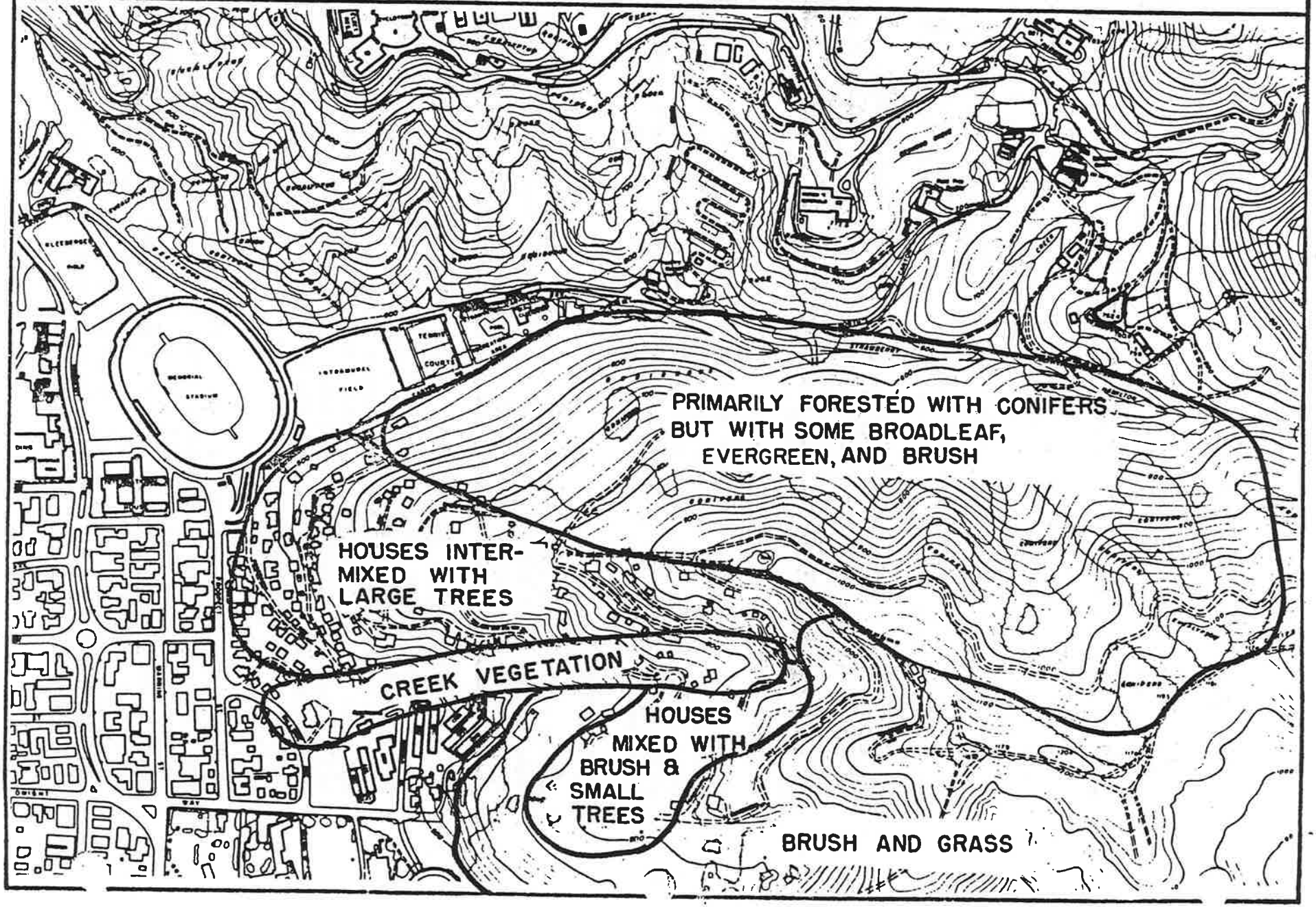
Along Derby Creek, which transects the hill area, is a Riparian woodland typical of the streams that drain the Berkeley Hills. Within the creek are numerous oaks. The State Department of Fish and Game, consider riparian woodlands as comparable to salt marshes in importance as wildlife habitat. They support a wide diversity of wildlife habitats and the large number of wildlife species. Unfortunately, the middle fork of Derby Creek has been largeley destroyed by the inadvertant or deliberate efforts of man.

PANORAMIC HILL STUDY AREA

BERKELEY PLANNING DEPARTMENT 6-74

SCALE IN FEET
0 100 300 900

VEGETATION



Wildlife and Vegetation, Continued

When native vegetation is removed by man to build homes or as fire retardent measures, some wildlife habitat is lost, and thus fewer animals can be supported. Removing vegetation, if not carefully done, may increase soil erosion and slope stability, particularly in the wooded portions of the Hill.

In the Panoramic Hill Area, the kind of plantcommunity determines in large degree the danger of wildfire in the area. The evergreen forests of the University of California present the greatest hazard because of the quantity of fuel and the possibility of crown fires that may get out of control. The surrounding grass and brush areas are highly flammable but more easily controlled once on fire. Fire hazards can be reduced by a variety of methods, including landscaping techniques and brush clearance. (See Fire Vulnerability Study)

Because most of the vegetation on Panoramic Hill and adjacent areas is not native, we should expect relatively little important wildlife. Since wildlife habitat is the key to preservation of species, endangered species that may have existed have undoubtedly long since been driven out of most of the Hill by total alteration of their habitat. Presently the main wildlife is deer and raccoons.

The riparian vegetation along the creek has not been altered as much as the other areas of the Hill and some native wildlife may be present. However, extensive destruction of the creek through erosion, siltation, and diversion of its waters, as well as pollution from sewers and septic tanks, probably has undoubtedly driven out any sensitive wildlife species already.

Scenic Resources

Scenic resources of Panoramic Hill are abundant and extremely valuable. They enhance the health and well-being of the residents, improve the economic value of surrounding property, create a sense of local identity for Panoramic Hill, orient observers within the area and provide visual open space for the public.

The following elements are important scenic resources of the Panoramic Hill Area: a) Ridgelines define the form of the hill and provide a scenic backdrop for the City of Berkeley. The ridgeline of Panoramic Hill can be easily seen as one looks up Bancroft Avenue in the Campus area; b) Features add variety and character to the Panoramic Hill area. By features we include the shape of the hills, the canyon created by the creek, the different vegetation groups and the homes that have been built, especially the more notable architectural features; c) Vista points and views from individual homes provide panoramic views of major Bay Area features.

Panoramic Way not only provides views of the Bay, the San Francisco and Marin Peninsulas, but also immediate views of the University of California Campus, Blind School and the Hill itself. However, as important as the views of the residents and visitors to the Hill, are the views of the Hill from the flatter portions of the City. Because the homes at present are relatively low density and because of abundant vegetation, and because no homes have been built on the ridgeline itself, Panoramic Hill is itself a beautiful view for the rest of the City to gaze upon.

SERIOUS ENVIRONMENTAL PROBLEMS

Fire and Seismic Problems[17]

The major environmental problem facing Panoramic Hill is fire. The Fire Vulnerability Study discusses fire adequately and no more needs to be said here. The other major life hazard is the potential for major destruction caused by an earthquake.

The Panoramic Hill area is transected by the Hayward Fault. The Hayward Fault is a large and active branch of the San Andreas Fault system. It has been a center for many earthquakes in the Bay Area including one of the largest to ever hit Northern California. The fault parallels the Warren Freeway in Oakland. North of Oakland, the Berkeley Hills form a very even front created by action over millions of years by the fault. The fault passes just under the western rim of the University of California stadium.

One of the greatest earthquakes in California History was centered on this fault. In 1868 a quake nearly as large as the San Francisco quake occurred near the town of Hayward. The Hayward Fault passes through the study area approximately at the first bend in Panoramic Way. (See attached map.)

One of the primary concerns for public safety along active faults is the possibility of sudden ground rupture during an earthquake. In the event of an earthquake of high magnitude along the Hayward Fault, displacements of several feet are possible. Most of this displacement would probably be in a horizontal direction though some verticle movement might also occur. The ruptures may not be confined to any single line but could be manifested in a zone as much as several hundred feet wide along the surface traces as mapped.

The state has officially designated a fault zone within which surface rupturing will probably take place in the future. This zone has been designated the Alquist-Priolo Geologic Hazards Zone. To determine this special zone, the State Geologist mapped as accurately as possible the location of known faults. He then added an area of 1/8 of a mile from the fault on each side. In areas such as Panoramic Hill where there are two parallel fault traces mapped, the zone is 1/8 of a mile on each side of each fault. The result is a very wide fault zone. Within this zone, all new structures must be preceded by a geologic investigation to determine whether or not their site is underlain by the fault. These investigations are required even if the state does not show a fault going through the site on the map. This is because the accuracy of locating the fault is not that good. If it is determined that the fault does underlie the site, no building is allowed within fifty feet of the fault. In the Panoramic Hill area with its already divided small lots, this law may have a significant effect on new construction in this area. However, at this time all of the details of this new law have not been worked out and the actual effect is difficult to ascertain at this time.

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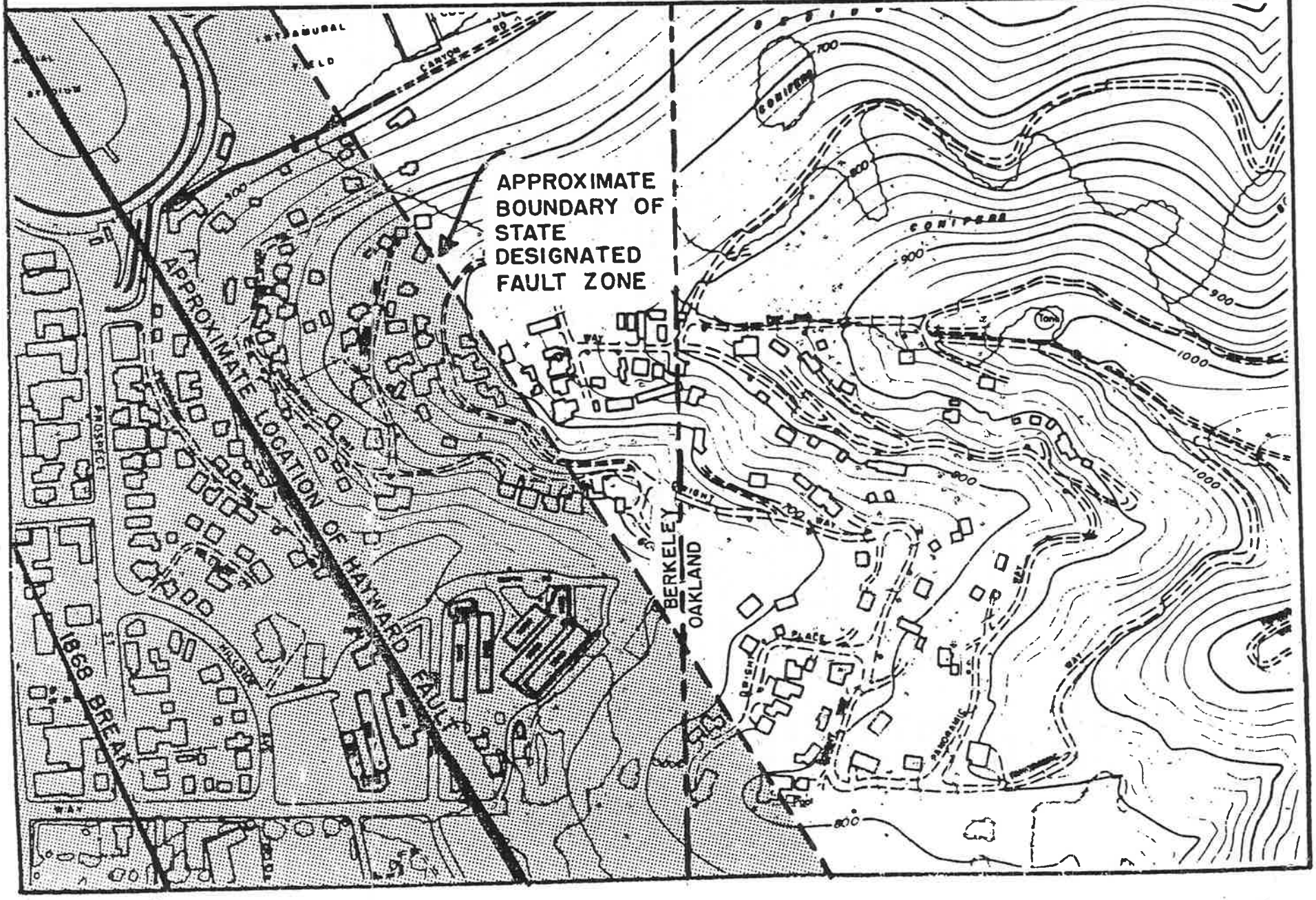
[17] Information for this section is based largely on material contained in Dean Armstrong's, Tri-Cities Seismic Safety Study for the General Plan, San Pablo, CA 1972.

PANORAMIC HILL STUDY AREA

BERKELEY PLANNING DEPARTMENT 6-74

SCALE IN FEET
0 50 100 200 500

FAULT ZONE



Fire and Seismic Problems, Continued

In fault areas, extraordinary measures are needed to insure continuation of water supplies, electrical power, sewer lines and communication lines as well as to insure immediate discontinuation of gas to both sides of broken pipelines. In the Panoramic Hill area, the threat of a major fire caused by broken gas lines is severe. If such a fire were to start at the fault location at the bottom of the hill, in a dry summer season, the whole hill could be easily lostto a fire. The natural propensity of fire to burn up hill plus the natural prevailing westerly winds during most of the summer could be disastrous in case such a fault rupture caused fire.

Not all fault displacement is rapid or occurs during a major earthquake. Some movement may be imperceptibly slow and be accompanied by no more than micro-earthquakes. This type of movement is called "fault creep". Creep or slippage of about 1/2 centimeter per year has been recorded at the University of California Stadium where it is doing structural damage. Undoubtedly, structures on Panoramic Hill rest astride the fault. They probably have suffered some damage due to it and will suffer more in the future.

The Panoramic Hill area like all areas of Berkeley, will be subject to severe ground shaking during an earthquake. Damage from ground shaking is related, to a large extent, to the depth of soil above the bedrock. In areas such as the upper part of the hill from Mosswood up there is virtually no soil cover. This area should experience less damage from shaking than most areas of the City. However, in areas where there is shallow soil cover such as at the base of a hill like Panoramic Hill, small woodframe dwellings are especially vulnerable to ground shaking. We should therefore expect that the fault zone will in this location also be the area where there is the most damage from ground shaking. The hillsides will all suffer from land-sliding triggered by the ground shaking.

Street and Utility Conditions[18]

Panoramic Hill is served by a 1900's style street system. The streets are very narrow (12 to 18 feet) and extremely twisty with two almost unmaneuverable switchbacks. There is only one road into the hill. The streets have a very poor surface made up primarily of patched potholes. Curbs, gutters and drainage on the street were designed for old style cars. Major improvements to the street, however, are not now feasible because such improvements would require closing Panoramic Hill and in effect closing the Hill for long periods of time.

no redundant

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[18]Information for this section is based largely on interviews held by Dean Armstrong during February-April 1974 with the following: William Dabel, Assistant Director of Public Works, City of Berkeley; Robert Hemphill, Sewer Superintendent, City of Berkeley; Mark Ng, Engineer, Oakland Public Works Department; Grey Mosher, Berkeley Superintendent of Parks (letter); and Owen Eide, Engineer, East Bay Municipal Utility District.

The sewers on Panoramic Hill are ~~over~~ more than 50 years old in the Berkeley portion. They are in very bad condition. Problems include massive root intrusions at several locations, moderate root intrusion throughout the length of the sewer, numerous cracks and breaks, crushed pipes, displacement between pipes at the joints. Separation of pipes at the joints at several locations and settlement of pipes are problems. In several locations there are dips in the line.

Root intrusions, blockages and the like result in slowing down the flow of sewage resulting in pressure buildup and destruction of the sewer in the form of collapse, blockage and resultant backup and overflow. Broken and separated pipes promote the intrusion of ground water. This adds to the flow already in the sewer causing increased water pressure and promoting sewer failure. Broken and separated pipes also promote extrusion of sewage from the sewer which leads to pollution of surface and groundwaters. The sewers zig zag across the street. With the use of equipment, it is therefore impossible to replace a sewer on a street as narrow as Panoramic Way without blocking traffic.

In a hillside area such as Panoramic Way, the sewer replacement would proceed at the rate of about two hundred feet per day. The road would have to be blocked from eight to twelve days in order to replace the sewer between the bottom of the hill and the intersection with Dwight Way. From that intersection on, most of the hill area has two points of access leading to this point. This time does not include replacement of sewers on Mosswood and Arden which presumably could be separate jobs.

Because of the poor condition of the Panoramic sewer, the Berkeley Sewer Department has requested that the City of Oakland not extend any more main sewer lines in the Panoramic side of the Hill. If residents of the Oakland side of Panoramic Hill greatly wanted to extend the existing sewers, it could be done only if Berkeley improved the existing sewers or if a bypass sewer was constructed by the City of Oakland, Such a bypass sewer has been discussed as a possibility of extending from upper Dwight Way on Panoramic Hill down to lower Dwight Way behind the Fernwald University Housing. Such a sewer would extend into Berkeley and would require Berkeley approval.

Failure to replace the sewer simply means that there will be more sewers breakdowns in the future. Generally, sewer problems can be solved by quick repair jobs. However, major sewer breaks have in one case and may in others require the closing of the street for an extended period of time.

The City of Oakland allows the use of septic tanks on lots of 10,000 square feet or larger under certain circumstances. That City discourages their use, however, because of the almost universal proneness of failure of the tanks. This is because the soil in the Oakland-Berkeley area is impermeable and does not easily receive liquid waste for leaching. The result is that the tanks often fail and the sewage flows out on the ground a short distance from the house. No septic tank permits are issued unless a soils engineer provides a written report stating that his design will work. Even if such a report is received, the Oakland authorities warn the prospective residents that they can expect trouble with the septic tank system. The result is a general discouragement of the development in the non-sewered areas of the hill.

Street and Utility Conditions, Continued

The water lines in the lower system were built between 1911 and 1950. Despite their great age, there have been few water line breaks. In fact, there have been only two breaks in the last ten years. However, one of these breaks resulted in closing Panoramic Way for a number of hours. Considering the age of the water lines, we can expect such breaks to be more frequent in the future.

Because of the narrowness of Panoramic Way, performance of any kind of work such as vegetation removal, street patching, sewer maintenance, and utility repair causes closing of the street or the need to move truck and equipment frequently to let cars pass. The result is that such work is done to a lesser extent than would be ideal or than is done in other less difficult areas of the City.

Neighborhood Congestion

Panoramic Hill has two personalities. During week days, it is quiet, tranquil and quite empty of cars and people. However, in the evening and on weekends, it becomes noisy, and congested. The reason apparently is that this steep hillside neighborhood with narrow twisting roads has a very low capacity to absorb people, automobiles and their activities. When too many cows graze land (that is exceed its carrying capacity), they destroy it. Similarly, too many people and their automobiles may destroy Panoramic Hill.

The number one problem of this nature is the automobile. Parking is difficult on Panoramic Hill. Many dwelling units have inadequate off-street parking. Much of the area has parking limited to one side only. There are many apartments which do not provide adequate parking area. Some of the houses are rented to groups of adults, thus generating extra automobiles. Because of the parking shortage, there are many cases of automobiles parking in no parking zones, in front of driveways and the like. The result is unpleasant to residents and dangerously impairs traffic flow. Residents have complained often of inadequate Police emforcement. On Saturdays and Sundays, cars visiting the area roar up and down the narrow streets. The crowding of more people and automobiles onto Panoramic Hill results in increased social tension, noise, dog activities and unpleasantness. Older residents expressed the greatest concern about this unpleasant situation. (For more details see "Residents' perception of the neighborhood environment" in the Appendix.)

POSSIBLE ENVIRONMENTAL THREATS

New Development

The possibility of extensive new development (greater than 25% more total development in the next fifty years), is a significant threat to Panoramic Hill. This is a great danger for two reasons: 1) More development means exposing more people to fire hazards; and 2) more development will further congest an area whose development already exceeds its capacity. The problems have been adequately stated in other parts of this report.

The greatest fear other than continual addition of new houses or expansion of existing structures to add more people, is that a very large scale residential project at the top of the Hill may be built in the future. A "Hiller Highlands" type project would afford to pay for the construction of a new water tank. If such a tank were constructed, a huge already subdivided area of Oakland could then be developed. This area has not been attractive for development because of lack of water and poor access. (See attached map for potential development area.)

Given the situation in regard to scattered ownership and obsolete lotting and road layout patterns (in terms of desirability to a developer), it is almost inconceivable that a development of this magnitude would happen. The only way it would happen would be if a developer bought the land up at the top of the Hill and put in a planned unit development that required a new subdivision. This would require City of Oakland approval. If they approved it, it would undoubtedly require a new road to be constructed to serve the project -- such a road would require City of Berkeley approval which would be unlikely. However, if an access road were built ahead of time, then a project such as this might occur in the next forty years. In summary, as long as primary vehicular access remains very limited, development above the 900 foot contour is virtually impossible.

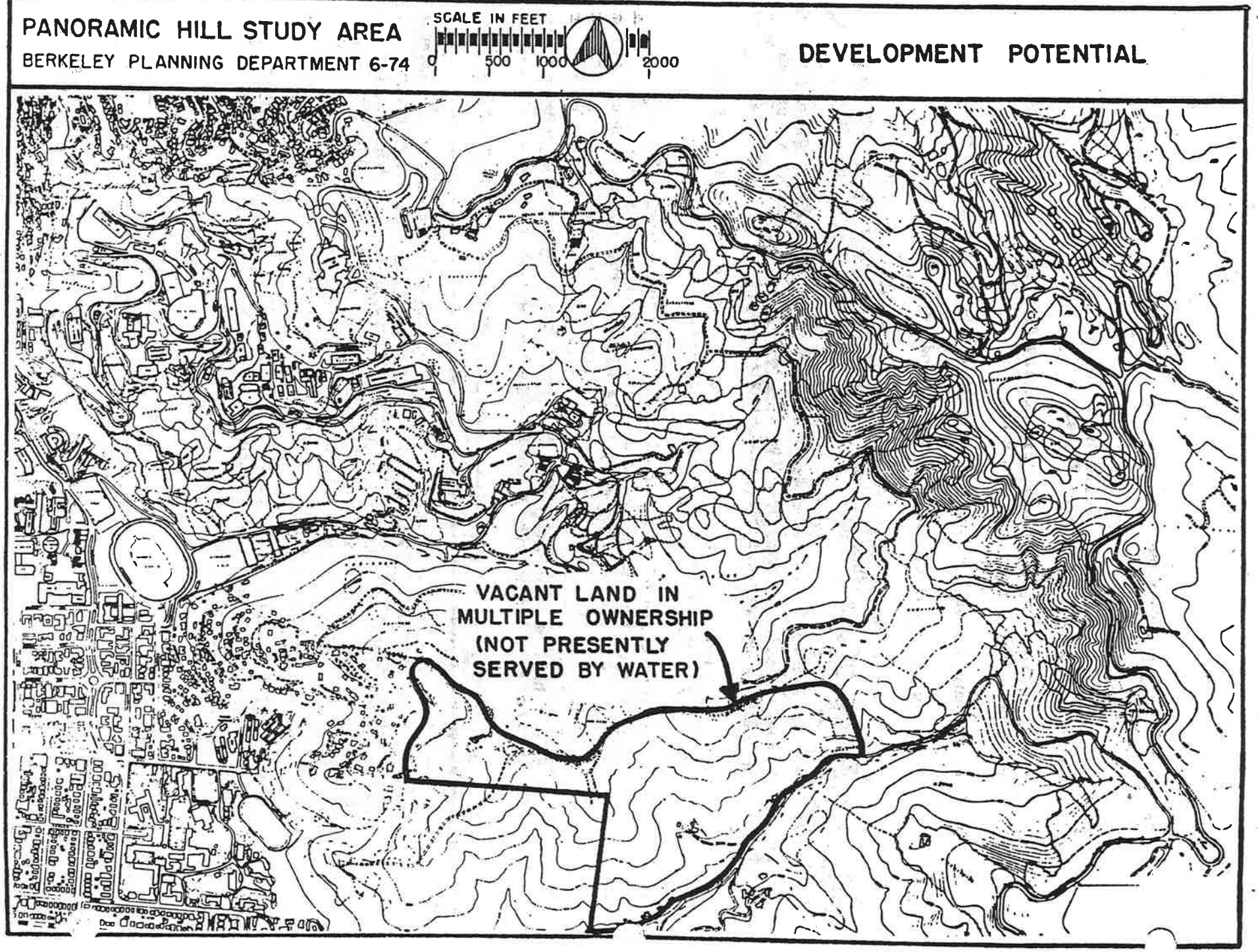
Second Access Road

Panoramic Hill has severe traffic congestion, a poor circulation pattern, inadequate access for emergency vehicles, and limitations on residents' abilities to escape from a fire.

In order to correct these problems, the Berkeley and Oakland Public Works Departments in the past have proposed constructing a second access road to Panoramic Hill. Projections of cost of the road have approached $500,000. Despite its obvious advantages for improving traffic circulation, the possibility of a road has been met with mixed reactions by neighborhood residents who would have to pay a large share of the cost. (See comments in "Residents' Perception of the Neighborhood Environment" in the Appendix).

Basically, most of the residents appear to like the extra fire safety that the road would bring, but are concerned about possible problems. The major concerns are the following:

1. A second access road would encourage what might be very extensive increased new development in Oakland portion of the hill.


PANORAMIC HILL STUDY AREA
BERKELEY PLANNING DEPARTMENT 6-74
SCALE IN FEET
0
500
1000
2000
DEVELOPMENT POTENTIAL
VACANT LAND IN MULTIPLE OWNERSHIP (NOT PRESENTLY SERVED BY WATER)

Second Access Road, Continued

2. It would reduce the seclusion of the neighborhood which is an asset much prized by the residents.

3. It would encourage Sunday sightseeing drivers and motorcycles to make a loop through Panoramic Way.

4. It might possibly increase burglar access to the neighborhood.

5. It would require a substantial expenditure of money.

6. It would require the establishment of an assessment district with the good possibility that residents would not approve such an assessment.

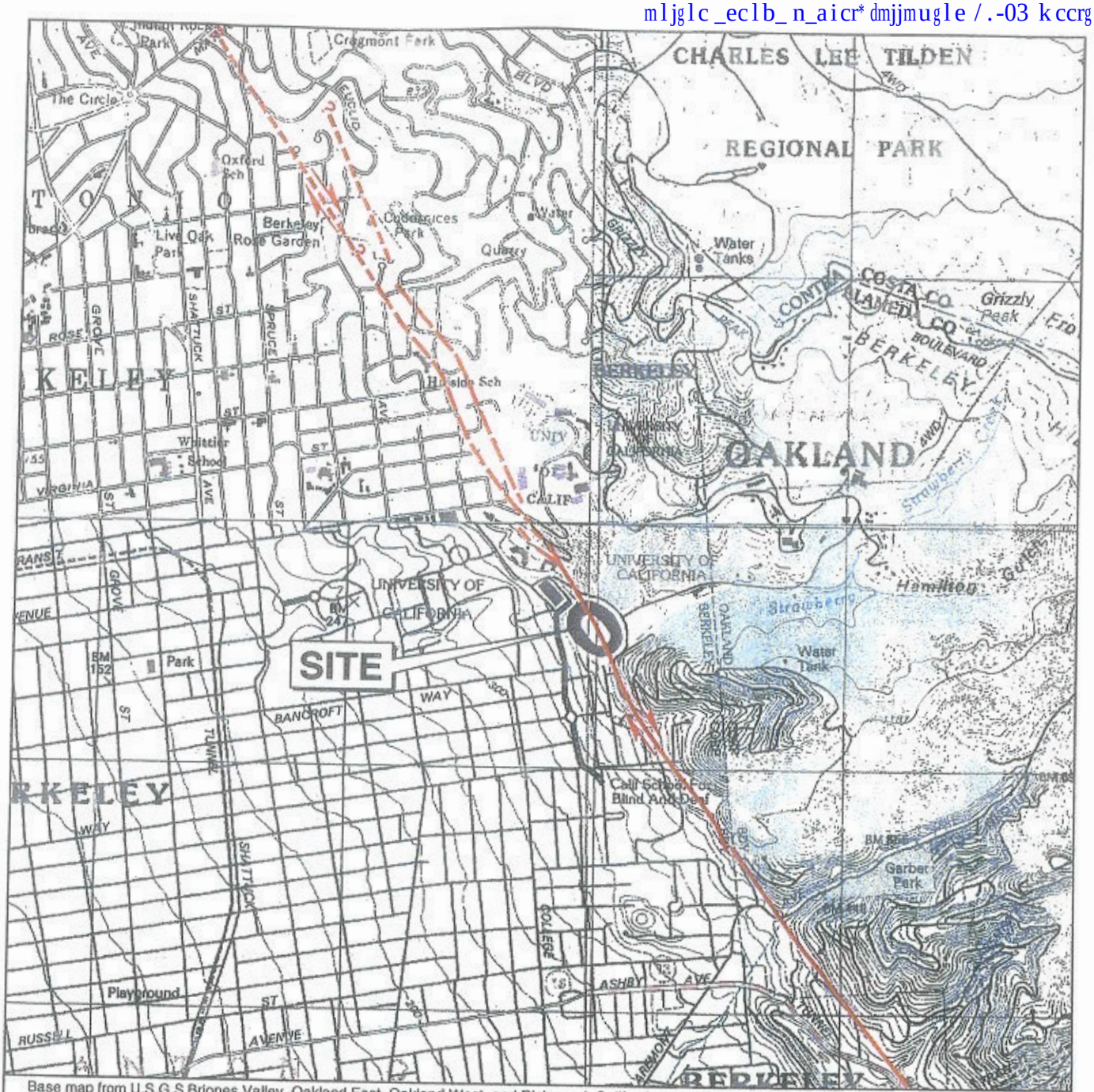
7. It would have to be constructed with minimum widths, curves, and grades. The result would be that it would be viewed by many residents as being a threat to their visual environment.

8. Construction of the road would not be possible without some and possibly considerable environmental damage.

9. Construction of such a road would introduce a completely new element into the neighborhood environment. As has been shown when a freeway is built to a formerly isolated area, the changes induced are hard to predict. Therefore, construction of the road has the potential for completely altering the existing environment. (Residents of the hill have stated repeatedly that they do not want dramatic changes to the character of the neighborhood.)

In light of these concerns, extra access and egress for emergencies might more suitably be provided by additional fire roads.

There are two logical locations for additional fire roads to serve Panoramic Hill. One road might well be built connecting the Hill with Tanglewood Road. Such a fire road should not require four-wheel drive vehicles for access and would allow quick response by the Oakland Fire Department. The second logical fire road would link lower Dwight Way and upper Dwight Way behind the UC Fernwald Housing. This road would allow quick escape for the Hill residents in major fire and quick access to the Hill by the Berkeley Fire Department for small fires. If both roads were built, and the existing fire trails were improved, fire protection for Panoramic Hill would be significantly improved.



Base map from U.S.G.S Briones Valley, Oakland East, Oakland West, and Richmond, California 7.5' topographic quadrangles.

EXPLANATION

Fault trace, solid where accurately located, long dash where approximately located, short dash where inferred, query where uncertain; arrows show sense of lateral slip.

Note:
Hayward fault trace from California Division of Mines and Geology (1982).

0 2000 Feet
0 500 Meters

S:\5400\5442\5442.000\01_0623_frhel_fig_01(01).ai

GEOMATRIX

SITE LOCATION MAP AND
LOCATION OF HAYWARD FAULT IN BERKELEY
California Memorial Stadium
University of California, Berkeley, California

Project No. 5442

Figure 1

Berkeley Planning Dpmt June 1 1959

"There are 81 households at present on P.H... In addition, 106 lots are suitable for development."

SECOND ACCESS ROAD TO PANORAMIC HILL

A Report to the City Managers of Oakland and Berkeley

Background

During the past few years there has been a growing recognition by interested groups of the need for a second access road to Panoramic Hill. Although general support has been indicated for such a road, there are certain basic problems yet to be overcome: location, topography, costs and financing, plus the complicating fact that the route will lie partly in Berkeley and partly in Oakland.

Relation to the Berkeley Master Plan

The Berkeley Master Plan includes the following reference to the Panoramic Hill access problem: 1/

> "Development of Panoramic Hill is creating a severe traffic problem on this route. Panoramic Way, which is steep and winding, serves as the only means of entrance and exit to the rapidly developing area. Over two hundred homes now depend solely on this inadequate street. The problem is further complicated by the fact that, although the major traffic congestion occurs in Berkeley, the bulk of the new residential construction is taking place in Oakland. Because of the number of people served by this dead-end street, and because of the vital importance to the balance of the city of providing adequate fire protection to this vulnerable district, the route is included as a feeder street. Because of the extreme difficulty of widening or realigning Panoramic Way, it seems probable that relief will have to be provided through construction of a second access route to the hill area. A route connecting the present terminus of Dwight Way with existing streets in the upper hill development appears to be the only feasible solution (see Plate 12). The further planning and development of this route will require joint action by the cities of Oakland and Berkeley."

Recent Studies

In November of 1956, the Cities of Oakland and Berkeley commenced a joint study of a possible second access road to Panoramic Hill. The City

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1/ "Trafficways Division: Feeder Streets", pg 79 Berkeley Master Plan.

of Berkeley had a topographic map of the area prepared, and the City of Oakland completed preliminary engineering studies of four alternate routes providing a 40 foot wide roadway with no sidewalk. The estimated costs of these routes ranged from $152,000 to $266,000.

During the course of reviewing the first series of studies all interested groups, including the Panoramic Hill Association, the University of California, as well as the Public Works Departments and the Planning Departments of both Berkeley and Oakland, had the opportunity to present their views on the matter. 1/ Recommended roadway standards and route alignments were revised as a result of this review, and set forth in a subsequent memorandum. 2/ Utilizing the modified standards the Oakland Public Works Department completed a second series of design and cost studies which provided for a 32 foot roadway width plus a five foot sidewalk on one side.

This second series of studies was then reviewed fully by both cities, by University representatives, and by the Panoramic Hill Association. It was agreed that three alternate routes appeared feasible and that it would be necessary to make additional studies to have fully comparable cost estimates for each. Accordingly the Oakland Public Works Department restudied the "watercourse route" and the "easterly route". The Berkeley Public Works Department, in turn, analyzed the "central route" on a comparable basis 3/ and estimated the right-of-way costs on all three routes 4/. The three routes are shown on the first plate. The second plate shows a profile of each route with an indication of maximum cut and fill and the general grade.

General Design Standards

The cost estimates for the three routes shown were based on a pavement width of 32 feet, plus a five foot sidewalk on one side. At no point does the grade exceed 20% 5/. On each route, retaining walls were proposed to reduce excessive cut slopes. Also, each route was located to minimize disturbance to existing developed properties.

1/ "Status of Panoramic Hill Access Road Studies; memorandum from Berkeley Planning Director, November 4, 1957.

2/ "Proposed Future Studies of Panoramic Hill Access Road", memorandum from the Berkeley Planning Director, April 2, 1958.

3/ The Central route was tentatively recommended in the draft report Panoramic Hill Second Access Road by the Berkeley Planning Department, November 13, 1958.

4/ Assuming state owned property would be available at no cost.

5/ The grade of Marin Avenue (from the Circle to Shattuck) is 18.9%, and from Hilldale to Keeler it is 26%. Hearst Avenue (above Euclid) has a grade of 10.5%.

Attitude of the Panoramic Hill Association

Every effort has been made to keep the Panoramic Hill Association informed of progress during the 2½ year period of study. Support of the residents benefited will be important if, as it has been assumed, the road will be partially or completely paid for from an assessment district. The Hill Association discussed the matter as recently as May 28th when twenty-five property owners present voted as follows on the three routes: Watercourse (0); Central (14); and Easterly (11). A letter summarizing the results of that meeting is attached.

Attitude of the University

Two of the three routes will require the cooperation of the University as they utilize property of the Fernwald Dormitory Area. The University's attitude on the Central Route is summarized in the minutes of a meeting on February 27, 1959 1/, as follows:

> "The University's objections to this proposed route as reviewed by the Berkeley campus representatives were: 1. Excessive vehicular noise created by a steep grade adjacent to existing residence halls; 2. Interjection of a hazardous thoroughfare between the Fernwald property and the main campus; 3. A proposed grade of 20% at the lower portion intersecting Hillside Avenue; 4. No apparent way to replace existing parking or provide vehicular access to upper Fernwald area (grades as indicated will not allow or make it extremely difficult to have access to service and parking areas); 5. Eliminates approximately 50 feet of property frontage along Hillside Avenue, an area being contemplated for possible fraternity use; 6. Damage of natural environment.

Getting the Road Built

Once agreement is reached on the route, there appear to be four possible methods of financing:

Gas Tax Funds: In order that gas tax funds be used, the two City Councils must designate the new route as a major city street and such designation must be approved by the State Division of Highways. The Berkeley City Council has designated LaLoma Avenue as a major city street which serves the same function as would the new route --- a feeder street to the Berkeley Hill area.

Berkeley allocates its gas tax fund to street projects on a priority basis, and has only a limited amount each year. If the second access road

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1/ A meeting arranged by Supervisor Kent Pursel and attended by Chancellor Seaborg, and representatives from the two cities, the Hill Association, and the University.

to Panoramic Hill were included to be developed with gas tax funds soon, some other needed street project would be postponed. Oakland would presumably face the same problem of priority.

Assessment District: If other financing is not forthcoming, the residents of Panoramic Hill might find that forming a special assessment district would be the only expedient method of financing the new roadway. There are 81 households at present on Panoramic Hill that would derive direct benefit from the new access road. In addition, 106 lots are suitable for development. The construction cost of the Central route, for example, ($129,000) divided by the total potential number of useable lots (187) would result in an assessment of approximately $690 per lot. The assessment might be reduced by including property further down Panoramic Way on a partial assessment basis inasmuch as they derive some benefits as well.

General Fund: Although not an impossibility, financing the roadway from the General Fund is rather remote. Berkeley seldom uses the General Fund for street development, hence this method of financing would be contrary to general city policy.

Bond Issue: If it is concluded that the financing of this roadway is the responsibility of the two cities rather than the Panoramic Hill residents, and if there are not adequate existing city funds, the only apparent solution would be to include this project as part of a special Streets Bond Issue. Currently in Berkeley such a bond issue is being considered for the reconstruction and the development of certain designated streets in the city. This proposed Bond Issue recognizes the need for a second access road to Panoramic Hill by including it as one of the proposed projects under the bond issue. The Berkeley Public Works Department makes the following comment concerning this project: "...Panoramic Way, the present access to this residential section, is a narrow street with several switchbacks. Many of the turns are difficult for automobiles to negotiate and trucks, fire engines and other emergency vehicles find it necessary to negotiate turns with backing maneuvers. The construction of this project will provide a second and more direct access to this area. Since a portion of the Panoramic Hill area is in Oakland, it is anticipated that the City of Oakland would share in the construction cost..." 1/

Recommendations

This report has been based upon joint studies that have extended over a period of two and one-half years. In order to bring these studies to a conclusive result and to move rapidly toward construction of the needed roadway, the following specific recommendations are made:

1/ Streets, Proposed Bond Issue, (Project 19), Department of Public Works, Berkeley.

1) That this report be thoroughly studied and discussed by interested groups, including:

   a) The official agencies and departments of Oakland and Berkeley.
   b) The Panoramic Hill Association
   c) The University of California

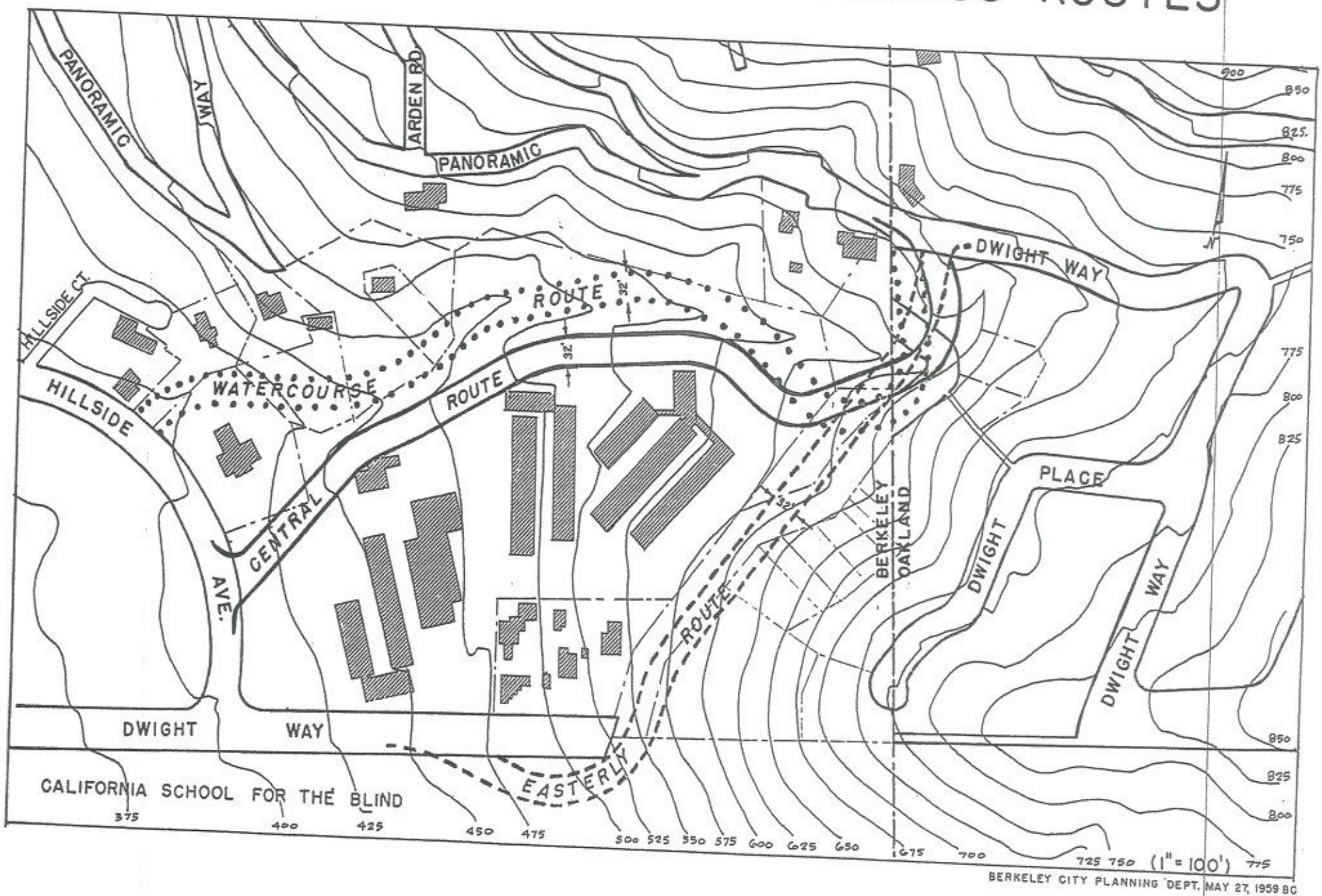
2) That if general agreement can be reached on one route that the following additional steps be taken:

   a) That the City of Berkeley seek an agreement with the University of California (or the State School for the Blind) on right-of-way and purchase the portion needed of the vacant parcels in private ownership located in Berkeley.

   b) That the City of Oakland take early action to acquire the four parcels of private property in Oakland that will be needed for right-of-way.

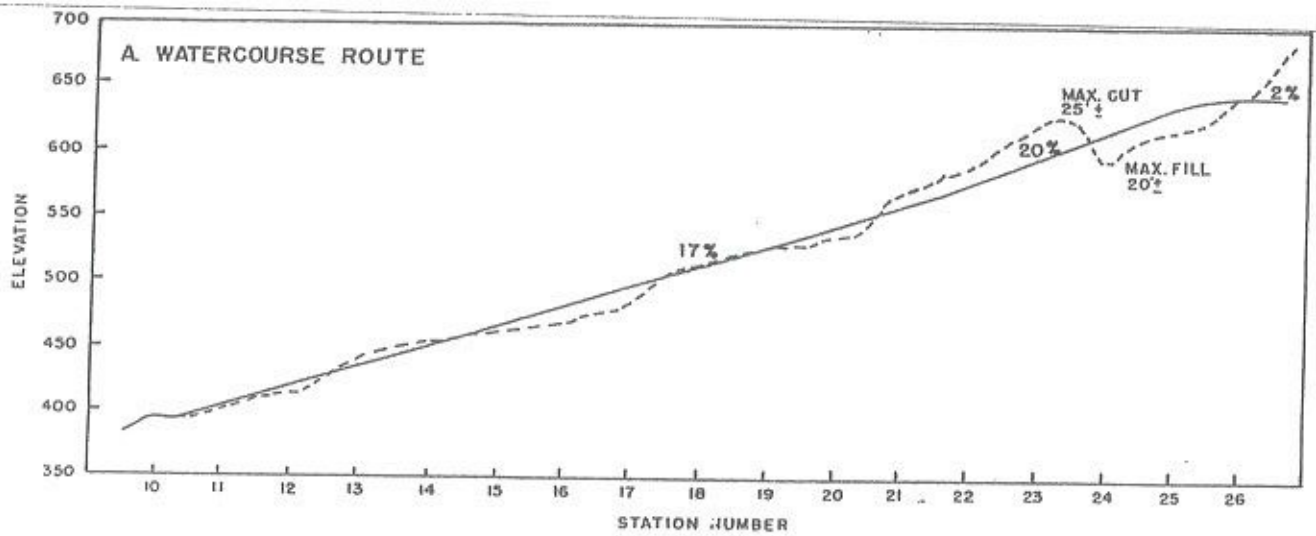
   c) That the City Managers of Oakland and Berkeley study methods of financing construction of the route, reach agreement on the most feasible method, and expedite detailed design, financing and construction of the roadway.

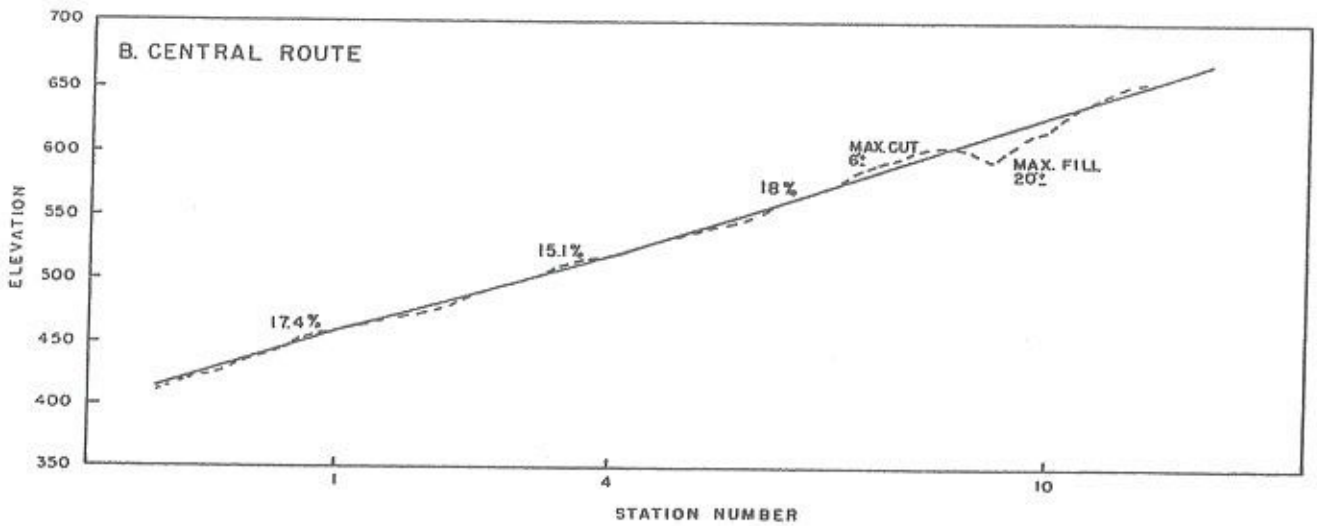
ALTERNATE PANORAMIC HILL ACCESS ROUTES

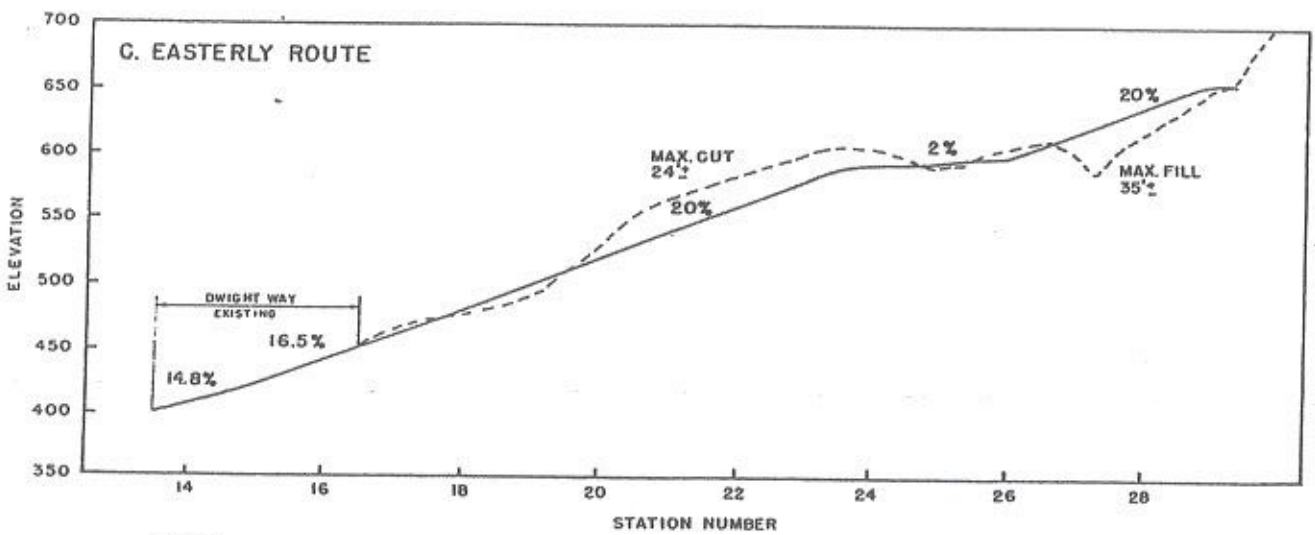


BERKELEY CITY PLANNING DEPT. MAY 27, 1959 BC

PROFILES OF ALTERNATE PANORAMIC HILL ACCESS ROUTES







LEGEND
- - - - EXISTING CONTOUR
——— PROPOSED GRADE
PROPOSED GRADE

SCALE: VERTICAL 1"=50', HORIZONTAL 1"=100'
COMPILED BY BERKELEY CITY PLANNING DEPARTMENT, MAY 27, 1959 B.C.
SOURCE: A,C: CITY OF OAKLAND
B: CITY OF BERKELEY

C O P Y

PANORAMIC HILL ASSOCIATION
Berkeley 4, California

June 1, 1959

Mr. James A. Barnes
Director of Planning
City of Berkeley
City Hall
Berkeley, California

Dear Mr. Barnes:

County Supervisor Pursel will shortly call a meeting to determine the best route for the second access road to the Panoramic Hill area. Representatives will be present from Alameda County, Oakland, Berkeley, the University and Panoramic Way.

By way of preparation for our meeting, the Panoramic Hill Association met on May 28, 1959 to consider the most desirable route from the point of view of the Panoramic residents.

The meeting was attended by approximately fifty persons, of whom about half were property owners. The following three routes and their estimated cost were considered:

	Route	Cost *
a)	Extension of Dwight Way	$150,000
b)	Middle route by Fernwald Dormitories	118,000
c)	Canyon route	120,000 to 140,000

* (Information was supplied informally by the Planning Office of the City of Berkeley. The costs are based on a 26 ft. roadway.)

A straw vote among the 50 property owners and residents present showed that

fourteen favored the middle route
eleven favored the Dwight Way route
none favored the Canyon route

Half refrained from voting.

C O P Y

The question of road width was also discussed. There was an overwhelming majority against any road width beyond 22 feet. In fact, a strong majority favored a single lane emergency access road one way down the hill.

Because the number of property owners present at the meeting was small, the Road Committee was directed to circularize all residents to determine the opinion of property owners and non-property owners separately.

On the question of the route of the road, I would personnaly summarize the position of the Panoramic Hill Association as follows:

middle route .....1st choice

Dwight Way Exten .....2nd choice

canyon route .....not acceptable

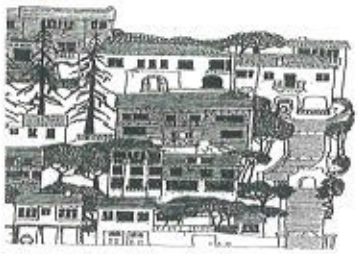
The questions of road width should, if possible be postponed until after the route is determined. The views of Panoramic residents on the proper road width are presently in sharp conflict with the views of the traffic engineers of Berkeley and Oakland. Thoughtful and considerate negotiation will be required to reconcile these different viewpoints.

Future correspondence on Panoramic Hill matters should be addressed to George Maslach, 265 Panoramic Way (TH 8-4694) who was elected President of the Panoramic Hill Association at it s May 28, 1959, meeting.

Sincerely,

/s/ Jack Merritt

Jack Merritt, President
Panoramic Way Association
(term ending May 28, 1959)



Panoramic Hill Association

PO Box 5428, Berkeley, CA 94705

June 24, 2005

Dear Councilpersons Brunner and Wozniak.

Thank you for agreeing to meet with our Board of Directors to discuss a "short list" of ongoing inter-city issues that are of great concern to us. As agreed with Susan Click and Kristen Vetterlein of your respective staffs, the meeting will be held at my home, 567 Panoramic Way, starting at 7PM, on Thursday, July 14, 2005.

In the interest of efficiency and focus at the meeting, our Board held a special session to identify and prioritize items for the agenda. In order to make the list an item had to meet two criteria: (1) it had to be a safety-related issue, and (2) it had to affect both the Oakland and Berkeley sections of the hill. The result of our deliberations was the following list of five issues that we wish to discuss.

1. Secondary road
2. UC Memorial Stadium
3. Emergency Response
4. Development
5. Sewer

There are, of course, subparts to each item – we will provide this amplification to you for review in advance of the meeting.

In preparation for our meeting with you, we have gone back to our Association archives and have searched the rare book room in Cal's Bancroft Library, which holds a collection of historical papers from Panoramic Hill. As a result of these efforts, we have put together a small packet of historical materials related to the issues of concern, and I will forward these to you via First Class Mail as background information for the meeting.

These materials include:

1."Panoramic Hill Area Development and Environmental Resources Study," a publicaton prepared by the Berkeley Planning Department in June 1974.

2. Two sets of Appendices to the above study.

3. A set of four maps prepared by the Berkeley Department of Public Works, some dated 1958-59, and others dated 1970, depicting "Proposed Panoramic Hill Second Access Road" and "Route Study for Proposed 10 Foot Wide Fire Access Road" locations, possible alternate routes, and topography of the area.

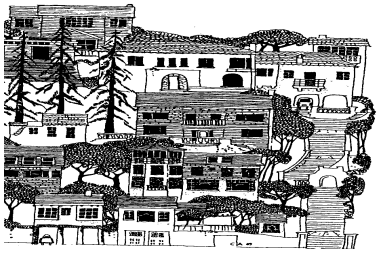
We hope that you will be able to review these materials in advance of our meeting to make our time together as productive as possible.

We are looking forward to meeting with you, and we thank you in advance for your willingness to come together to help address some of the most critical long-term safety problems of Panoramic Hill.

Please feel free to contact me if you have any questions are require additional information. I can be reached at (510) 841-0782.

Sincerely yours,

Jerry Wachtel
President



Panoramic Hill Association

September 20, 2023

Panoramic Hill Off-Street Parking Survey Overview

The purpose of this survey is to catalog the number and location of dwellings in the Panoramic Hill neighborhood which have limited access to off-street parking; with specific focus on how many dwellings have no off-street parking or dwellings which have access to only a single off-street parking space. This survey covers both the City of Berkeley and City of Oakland sections of the neighborhood.

The survey focuses on compiling data for dwellings with either zero or one off-street parking space because it is a common practice in our society for many households to function using two vehicles. Therefore, households in this neighborhood with less than two off-street parking spaces often heavily rely on public street parking in their day to day lives.

The City of Berkeley allows each household in the Panoramic Hill neighborhood to receive residential parking permits allowing three vehicles to park on the street. In addition households can purchase one day and two week permits for visitors, contractors, etc. Also available from the City of Berkeleyare special hangtag permits for in-home healthcare care-givers. Relevant here because the Panoramic Hill neighborhood has a significant population of residents over 70 years old. (*The City of Oakland has similar permit allowances as Berkeley, but only a portion of the Oakland area of Panoramic requires a permit for long term parking*.)

Because of the neighborhood's orientation on a hillside bounded by UC Berkeley athletic facilities, public parkland or dense student housing, there is a general lack of feasible alternatives for local resident off-street parking.

Survey Results

Results found 46 dwellings in the neighborhood which have no off-street parking and 37 dwellings that have access to a single off-street parking space.
The survey has grouped its findings into four distinct geographical zones, each of which tends to share a regional on-street parking supply.

ZONE ONE - LOWER HILL AREA - BERKELEY
The largest concentration of dwellings with limited parking is in the first three blocks of Panoramic Way and the adjoining single blocks of Mosswood Road and Arden Road:
FIRST BLOCK PANORAMIC WAY - #1 to #48
Zero Off-Street: 4 Dwellings
One Off-Street: 13 Dwellings

SECOND BLOCK PANORAMIC WAY - #60 to #77
Zero Off-Street: 8 Dwellings
One Off-Street: 4 Dwellings

MOSSWOOD ROAD - #6 to #48 (*plus* 19 ORCHARD LANE)
Zero Off-Street: 3 Dwellings
One Off-Street: 4 Dwellings

THIRD BLOCK PANORAMIC WAY - #74 to #130
Zero Off-Street: 1 Dwelling

ARDEN ROAD - #10 to #100 (& 38 MOSSWOOD ROAD)
Zero Off-Street: 6 Dwellings
One Off-Street: 6 Dwellings

There is also one house immediately above Arden Road at 157 Panoramic Way with no off-street parking. This area from Arden Road down to the entrance of Panoramic Way is a geographically distinct grouping of dwellings which were primarily constructed during the first wave of development of the neighborhood before1950.

In this zone there are a total of **22 dwellings** with no off-street parking and **27 dwellings** with a single off-street parking space. This area is currently served by a count of approximately **60 on-street public parking spaces.**

ZONE TWO - MID PANORAMIC WAY / APARTMENT AREA - BERKELEY
A second area with a high concentration of dwellings with limited or no off-street parking is the dense section of dwellings near the entrance to the Lower Jordan Trail, from 303 to 365 Panoramic Way. This zone includes a significant number of apartment units for the neighborhood, including an eleven unit complex and a three unit complex. This section of Panoramic Way is also unique in its concentration of perpendicular public parking spaces, set back from the roadway allowing passage of two-way traffic. The area has at least 16 perpendicular parking spaces, the count of which lacks specificity because the exact boundary between public and private parking in the area near 352 Panoramic Way is unclear.

The parking supply conditions of the apartment complexes is as follows.
The apartment complex at 340, 342 & 344 Panoramic Way has a two car garage on property, if that garage is available to tenants, that would tally as:

PANORAMIC WAY - #340 to #342
Zero Off-Street: 1 Dwelling
One Off-Street: 2 Dwellings

The apartment complex at 360 Panoramic Way has a mailbox with 11 apartment units labeled “A” through “K”. The complex has an off street parking lot with 6 parking spaces, if divided among the 11 apartments that would tally as:

PANORAMIC WAY - #360 units A through K
Zero Off-Street: 5 Dwelling
One Off-Street: 6 Dwellings

In this zone there are also two dwellings built on lots off of the street and adjacent to the connector trail between the Upper and Lower Jordan trails, those dwellings park vehicles in this same zone.

PANORAMIC WAY - #425 & to #444
Zero Off-Street: 2 Dwellings

ZONE THREE - UPPER PANORAMIC WAY - OAKLAND
A third area with a significant concentration of dwellings with no off-street parking is the section of Panoramic Way in Oakland from 430 Panoramic Way to 700 Panoramic Way, this section stretches from the entrance of the Lower Jordan Trail to the scenic overlook area at the junction with upper Dwight Way. A large portion of this roadway is sub-standard, extremely narrow and of uneven width. The downhill edge of the roadway is often poorly defined. Also along this section of roadway the public parking areas are not clearly marked, sometimes there is signage which indicates either the beginning or ending of a public parking area, but without a corresponding sign designating the opposite end of a parking area. Given the unclear signage, a rough estimate of on-street public parking is 20 spaces from 422 to 567 Panoramic Way. In this area the dwellings with no off-street parking are all on the downhill side of the roadway except for 517 Panoramic Way which is on the up-hill side and is marked with blue disabled parking signage in front of the home.

PANORAMIC WAY - #442 to #517
Zero Off-Street: 6 Dwellings

Starting at 567 Panoramic Way there is a stretch of roadway without homes in the area of Derby Creek . Dwellings begin again at 604 Panoramic and from 604 Panoramic Way to 650 Panoramic Way there are several more dwellings

which lack off-street parking. This section of roadway is somewhat wider than the road from 442-517; this area also lacks clear designation of where it is legal for the public to park, but a reasonable estimate could be at least 20 public parking spaces. It is also unclear in this area how many dwelling units exist, this survey assumes only single units per address.

PANORAMIC WAY - #604 to #650
Zero Off-Street: 3 Dwellings

ZONE FOUR - UPPER DWIGHT WAY - OAKLAND

This area has several dwellings with no off-street parking scattered along upper Dwight Way from its start at the Oakland border, extending from 3241 to 3382 Dwight Way. They included, the geodesic dome at 3303 Dwight Way, two cottages uphill from the road at 3374 & 3382 Dwight Way and a landlocked home which appears on maps as 3241 Dwight Way, but is accessed via a stairway off of Dwight Place. Similar to Panoramic Way in Oakland, this area of Dwight Way in Oakland lacks definitive signage indicating where it is legal or safe to park along the roadway, a rough estimate is approximately 11 public spaces between 3303 and 3455 Dwight Way.

DWIGHT WAY - #3241 to #3382
Zero Off-Street: 4 Dwellings