State Clearinghouse # 2017032066 | May 2018

City of Palo Alto Public Safety Building and California Avenue Parking Garage

Final Environmental Impact Report

Prepared by the CITY OF PALO ALTO
Assisted by MIG

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1. INTRODUCTION

1.1 RELATIONSHIP BETWEEN THE DRAFT EIR AND FINAL EIR

The Final Environmental Impact Report (Final EIR) for the proposed City of Palo Alto Public Safety Building and California Avenue Parking Garage (project) has been prepared by the City of Palo Alto (City), the Lead Agency, in keeping with State environmental documentation requirements set forth in the California Environmental Quality Act (CEQA). The City has prepared the Final EIR pursuant to the CEQA Guidelines, including sections 15086 (Consultation Concerning Draft EIR), 15088 (Evaluation of and Responses to Comments), and 15132 (Contents of Final Environmental Impact Report). In conformance with these guidelines, the Final EIR consists of the following **two volumes:**

(1) the **Draft EIR** (including its appendices), which was circulated for the mandatory 45-day State agency and public review and comment period, beginning on January 8, 2018 and ending on February 22, 2018; and

(2) this **Final EIR "responses to comments" document,** which includes a list of all commenters on the Draft EIR during the Draft EIR public review period; speaker comments from the January 18, 2018 City of Palo Alto Architectural Review Board (ARB) public meeting on the Draft EIR; speaker comments from the January 31, 2018 City of Palo Alto Planning & Transportation Commission (PTC) public meeting on the Draft EIR; summarized and verbatim versions of all written communications (letters and emails) received during the Draft EIR review period; the responses of the EIR authors to all environmental points raised during the public hearings and in the written communications; and associated revisions to the Draft EIR.

None of the revisions to the Draft EIR represents a substantial increase in the severity of an identified significant impact or the identification of a new significant impact, mitigation, or alternative considerably different from those already considered in preparing the Draft EIR. Therefore, the Draft EIR did not require public recirculation.

Both volumes of the Final EIR are available for public review in the City of Palo Alto Planning and Community Environment (PCE) Department office (fifth floor) at 250 Hamilton Avenue, Palo Alto, CA 94301, during normal business hours.

The Final EIR and all appendices are posted on here:

https://www.cityofpaloalto.org/civicax/filebank/documents/62804

Responses to comments included in this document are correlated to the public hearing and written comments by code numbers. Code numbers for written comments are posted in the right-hand margin of each comment letter or email.

Certification of this Final EIR by the City of Palo Alto City Council must occur prior to approval of the Public Safety Building and California Avenue Parking Garage project.

1.2 ADEQUACY OF FINAL EIR

Under CEQA, the responses to comments on a Draft EIR must include good faith, well-reasoned responses to all comments received on the Draft EIR that raise significant environmental issues related to the project under review. If a comment does not relate to the Draft EIR or does not raise a significant environmental issue related to the project, a response is not required under CEQA. For example, for those comments made during the ARB and PTC public hearings, this responses to comments document replies to those comments made on the content or adequacy of the Draft EIR.

In responding to comments, CEQA does not require the EIR authors to conduct every test or perform all research or study suggested by commenters. Rather, the EIR authors need only respond to significant environmental issues and need not provide all of the information requested by the reviewers, as long as a good faith effort at full disclosure is made in the EIR (CEQA Guidelines sections 15088, 15132, and 15204).

For those comments received during the Draft EIR circulation period that pertain to components of the Palo Alto Public Safety Building and California Avenue Parking Garage project itself, and not to the content or adequacy of the EIR, City decision-makers can still consider those comments during the decision-making process on whether to approve the proposed project.

2. RESPONSES TO COMMENTS ON THE DRAFT EIR

After completion of the Draft EIR, the Lead Agency (the City of Palo Alto) is required under CEQA Guidelines sections 15086 (Consultation Concerning Draft EIR) and 15088 (Evaluation of and Response to Comments) to consult with and obtain comments from other public agencies having jurisdiction by law with respect to the project, and to provide the general public with an opportunity to comment on the Draft EIR. Under CEQA Guidelines section 15088, the Lead Agency is also required to respond in writing to substantive environmental points raised in the Draft EIR review and consultation process.

The Draft EIR was submitted to the following State agencies by the State Clearinghouse:

- Air Resources Board
- Caltrans District 4
- Caltrans Division of Aeronautics
- Caltrans Planning
- Department of Conservation
- Energy Commission
- Fish & Wildlife Region 3
- Department of Health Services
- Native American Heritage Commission
- Office of Historic Preservation
- Public Utilities Commission
- Regional Water Quality Control Board 2
- Department of Resources Recycling and Recovery
- Department of Toxic Substances Control
- Department of Water Resources

No comments on the Draft EIR were received from any of the above State agencies.

Comments on the Draft EIR were submitted in the form of comments from individuals attending a January 18, 2018 Architectural Review Board (ARB) public hearing and a January 31, 2018 Planning & Transportation Commission (PTC) public hearing, including from ARB members and PTC commissioners during those meetings; and letters/emails received by the City during the Draft EIR review period. Twelve (12) comments pertaining to the content or adequacy of the Draft EIR were received at the ARB public meeting, and four (4) such comments were received at the PTC public meeting. Eight (8) letters/emails were received during the Draft EIR public review period.

CEQA Guidelines section 15132 (Contents of Final Environmental Impact Report), subsection (b), requires that the Final EIR include the full set of "comments and recommendations received on the Draft EIR either verbatim or in summary"; section 15132, subsection (c), requires that the Final EIR include "a list of persons, organizations, and public agencies commenting on the Draft EIR"; and section 15132, subsection (d), requires that the Final EIR include "the responses of the Lead Agency to significant environmental points raised in the review and consultation

process." In keeping with these guidelines, this Responses to Comments chapter includes the following sections:

- a **list of Draft EIR commenters** (section 2.1), which lists each individual who commented during the ARB and PTC public meetings and each individual, agency, and organization that submitted written comments (letters/emails) to the City during the Draft EIR public review period;

- **responses to the January 18, 2018 ARB public meeting comments** (section 2.2), which includes each verbal comment received on the Draft EIR during the public meeting, followed by the response to the comment, pertaining to Draft EIR content or adequacy or on a substantive environmental point;

- **responses to the January 31, 2018 PTC public meeting comments** (section 2.3), which includes each verbal comment received on the Draft EIR during the public meeting, followed by the response to the comment, pertaining to Draft EIR content or adequacy or on a substantive environmental point;

- **responses to written comments received during the Draft EIR public review period** (section 2.4), which includes a summary of each letter/email received during the Draft EIR public review period, followed by the response to each comment pertaining to Draft EIR content or adequacy or on a substantive environmental point; and

- **the original written comments (letters and emails) received during the Draft EIR public review period** (section 2.5).

2.1 LIST OF DRAFT EIR COMMENTERS

The individuals who commented at the public meetings, and each individual, agency, and organization that commented in letter/email form during the Draft EIR public review period, are listed below by personal name or agency/organization name. After the person's name, each meeting comment and each letter/email comment received is also identified in parenthesis by a code number - e.g., ARB comments ARB-1, ARB-2; PTC comments PTC-1, PTC-2; letters/emails L-1, L-2, L-3. The code numbers are chronological in the order that the comments were received.

ARB Public Meeting Commenters (January 18, 2018)

Jack Morton (ARB-1)
Mary Ryan (ARB-2)
Vice Chair Baltay (ARB-3)
Board Member Lew (ARB-4)
Chair Furth (ARB-5)

PTC Public Meeting Commenters (January 31, 2018)

Hamilton Hitchings (PTC-1)
Commissioner Waldfogel (PTC-2)

Commissioner Alcheck (PTC-3)

Individuals and Organizations

Dwight Clark (L-1)
Anne Steinle (L-2)
Pat Beatty (L-3)
Peter Baltay, Architectural Review Board Vice Chair (L-4)
Hamilton Hitchings (L-5 and L-8)
Peter N. Brewer, Esq., Law Offices of Peter N. Brewer (L-7)

Interested Agencies

Roy Molseed, Senior Environmental Planner, Santa Clara Valley Transportation Authority (VTA) (L-6)

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2.2 RESPONSES TO THE JANUARY 18, 2018 ARCHITECTURAL REVIEW BOARD (ARB) COMMENTS ON THE DRAFT EIR

The following section includes each verbal comment received during the January 18, 2018 ARB public meeting pertaining to the content or adequacy of the Draft EIR or on a substantive environmental point, followed by the response to the comment.

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ARB Architectural Review Board Public Meeting (January 18, 2018)

ARB-1 Jack Morton

ARB-1.01 Thank you. Jack Morton representing the California Merchant's Associations. First of all, we want to thank both staff and the architect for hearing our concerns about the Ash Street arcade and also responding to the comments of the ARB about the overall appearance of the building. We would have come with great happiness had it not been for one thing. At the last minute, we have learned that their proposal is to take away one whole level of parking, which in my mind should have a major negative impact on the Environmental Impact Report. The whole problem of the area is that there is relatively no parking. Most of the employees can't get a permit, and what we had hoped to be able to do was have that extra 100 parking spaces on the second level become employee parking. From the merchant's point of view, this project now looks beautiful above ground but it's sorely underperforming what the expectation of the community was. We have spent lots of time with staff trying to get clear that as this area is densified, majorly densified, the issue of parking is one of the central things that impact the quality of life. I think one of the reports showed that the major need for parking is roughly between ten and six. This is an area that has very active appearances from the community - to the restaurants to the businesses - and shorting us on parking sort of undermines the whole point. So, while we are grateful for the external appearances, the utility of the building has been majorly impacted by this suggestion, at the last minute, that we short one level. Whatever comments that the ARB can make, please keep in mind that the impact on the community is the fact that a building is underperforming its purpose and doesn't do what it should do. Thank you very much.

Response ARB-1.01: The proposed project includes four levels of public parking above grade and two levels below grade, with a total of 636 parking spaces as recommended by the speaker and described in chapter 3 (Project Description) of the Draft EIR.

ARB-2 Mary Ryan

ARB-2.01 Good morning. My condominium home fronts along Birch Street, just down the street from where the parking garage is going to be. Currently, there are two parking lots that represent 306 spaces between the two lots, and there are 12 access points for those 306 spots on four different streets. Now we're going to get 636 with one access point, and that access point is across the street from a residential unit. I think that the access point should be down the street across from commercial instead of a residential area. I'm concerned about traffic congestion because of this one access point versus the current twelve.

Response ARB-2.01: Watry Design, who designed the proposed parking garage, coordinated with the traffic consultant, Fehr & Peers, who prepared the traffic impact analysis, to review the locations of entries and exits. For the existing parking lots, the circulation pattern includes using the parking aisles and the alley. Fehr and Peers and Watry Design analyzed the number of parking spaces in the proposed garage and determined that one entrance location and exit location was sufficient to accommodate the number of parking spaces in the garage.

The location of the entry and exit was determined based on the street circulation. For eastbound traffic turning left into the garage, the available queuing distances on Ash Street and Birch Street are very short. The proposal to place the entrance on Sherman Avenue is driven by the street circulation around the site and designed to accommodate anticipated queuing, as analyzed as part of the traffic report. Specifically, the Transportation Impact Analysis (TIA) prepared by Fehr & Peers (dated November 14, 2017; page 2) states that the vehicular driveway to the garage is recommended to be near Birch as "[t]his location provides adequate queuing storage on Sherman Avenue for inbound vehicles." The complete TIA, including the traffic count data sheets, trip generation surveys, queueing analysis, and intersection technical calculations, was published in the Draft EIR as appendix 21.4.

Page 15-46 of the Draft EIR also included a discussion about why the proposed design would not result in a significant impact as designed. Specifically, the Draft EIR states:

> "(2) Public Parking Structure. The parking structure would consist of six levels total: four levels above grade and two basement levels. The parking structure internal ramps would be on the north side with access to the up ramp on the west and the down ramp on the east side.
>
> The structure would be supported by one full access driveway on Sherman Avenue, approximately 90 feet to center of ramp west from the corner of Birch Street. Similar to the PSB primary driveway, having the driveway closer to the adjacent east intersecting street (i.e., Park Boulevard for the PSB driveway and Birch Street for the parking structure driveway) reduces the potential for queue spillback into the adjacent intersections (i.e., Birch Street and Ash Street). For eastbound vehicles on Sherman Avenue trying to turn left into the structure, they must yield to westbound traffic, but they would have ample queuing storage on Sherman Avenue to make the movement without impeding traffic on Ash Street. For westbound vehicles on Sherman Avenue that need to turn right into the structure, they are not required to stop for conflicting movements (except for pedestrians walking on the sidewalk crossing the parking structure driveway), so the queues would be negligible.
>
> If the parking structure is operated with a payment system, gates may be required at the entrance where each driver would receive a ticket upon entering. As discussed in the trip generation section, the parking structure is anticipated to generate approximately 116 inbound trips in the PM peak hour, which would equate to an average of approximately two vehicles per minute entering the structure. Even at the maximum anticipated queue of twice the average, or four vehicles, gating the entrance to the parking structure is not anticipated to adversely affect operations, given the ample capacity available on Sherman Avenue."

Consistent with the above explanation, the public garage entrance is placed opposite the Birch Court driveway per the project traffic consultant's recommendation. It is an appropriate design where drivers exiting each driveway are able to see each other and act as they would at a regular intersection where cross-traffic does not stop.

ARB-2.02 I am worried about air quality when cars are idling, waiting to get into that parking lot because of only one access point versus the current 12, and I'm worried about public safety because of the car congestion in that area. That's it, thank you.

Response ARB-2.02: Please see Response ARB-2.01, which explains that page 15-46 of the Draft EIR discusses that up to four vehicles per minute during the evening peak hour could be entering the parking garage. Therefore, there is adequate queuing storage available on Sherman such that it would not result in car congestion, and impacts with respect to queueing would be less than significant.

As also explained on Draft EIR page 15-46, westbound vehicles on Sherman Avenue that need to turn right into the parking structure are not required to stop for conflicting movements (except for pedestrians walking on the sidewalk crossing the parking structure driveway). The queues would be negligible and would not contribute substantially to air quality impacts.

Eastbound vehicles on Sherman Avenue turning left into the structure would be required to yield to westbound traffic. Eleven (11) morning peak hour trips and seventeen (17) evening peak hour trips are anticipated to make a left turn from Sherman Avenue into the parking structure. Opposing volumes (i.e., traveling westbound) on Sherman Avenue are relatively low: less than 100 vehicles during the morning peak hour and 150 vehicles during the evening peak hour under cumulative, future conditions. Therefore, wait times for turning left into the structure are not anticipated to average more than a few seconds and would not contribute substantially to air quality impacts. EIR chapter 15 (Transportation, Circulation, and Parking), section 15.7.1 (Site Access and Circulation), page 15-46 has been revised to include this additional trip volume information. The revised page is in section 2.5 (Revisions to the Draft EIR) of this document.

In addition to the information provided above and as stated in the Draft EIR (page 5-17), "Parking facilities are not typically traffic generators by themselves. Trips are actually generated by the nearby retail, office and residential uses, and parking lots or structures simply provide vehicle storage. The Parking Structure trips are generally going to be existing vehicles that currently park at adjacent facilities (e.g., street parking, Lot C-8, etc.), but now park in the new Parking Structure." The Draft EIR proceeds, "Accordingly, for purposes of this EIR's air quality analysis, vehicle trips associated with the proposed parking structure are not considered to be a new source of emissions that require analysis."

The Transportation Impact Analysis (TIA) prepared by Fehr & Peers (dated November 14, 2017; section 6.0, Site Access and On-Site Circulation) also includes the queueing analysis. The complete TIA, including the traffic count data sheets, trip generation surveys, queueing analysis, and intersection technical calculations, was published in the Draft EIR as appendix 21.4.

ARB-3 Vice Chair Baltay

ARB-3.01 I'll address my comments here just on the EIR report as it is directed towards both the buildings. I find that there are two items that potentially need a little more

addressing as far as the potential mitigation and one is on the tree removal. The report does mention that there are eleven heritage and protected trees being removed but it—as I read it, it just seems to say that the City ordinance says they will be replaced and that's sufficient mitigation. I think that the report should go into a bit more detail about why that's the case. On any private development, you wouldn't be allowed to move those trees, so just saying that following the code I think is not adequate. It's a significant amount of trees being removed, and I think we should address it in more detail.

Response ARB-3.01: Draft EIR chapter 6 (Biological Resources) has been updated to provide clarification regarding regulated trees and the proposed replacement of these trees. The revised text is included in section 2.5 (Revisions to the Draft EIR) of this document.

As stated in the Draft EIR (page 6-13), the project would remove 11 regulated trees, 6 of which are protected trees and 5 of which are public street trees. None of the protected trees are heritage trees. The title of street trees or protected trees does not change the replacement strategy. The City's adopted policy and standard to mitigate the removal of regulated trees is set forth in Section 3-4 of the Tree Technical Manual, which requires replacement based on the tree canopy of the trees being removed. (See Draft EIR, page 6-14). This standard is based on the requirements outlined in Chapter 8.10 (Tree Preservation and Management Regulations) of Title 10 of the Palo Alto Municipal Code (PAMC), which requires replacement in accordance with the ratios prescribed in the Tree Technical Manual Section 3.20. This requirement would apply to any development, whether public or private. As stated in Mitigation 6-2, the canopy calculation, which is calculated consistent with the methodology outlined in the Tree Technical Manual, as well as the specific location of the replacement trees, among other information, must be identified in the Tree Planting Plan submitted to, and subject to the approval of, the Urban Forestry Division prior to the issuance of a building permit. This will ensure that appropriate locations are identified for the off-site replacement and further ensure that the replacement will occur in a successful manner.

The City's Public Works Engineering Division has already been working with the Urban Forestry Division to prepare this Tree Protection Plan, and all off-site planting would be located within a 0.5-mile radius of the proposed project. In addition, as shown on the site plans, the other 27 public trees that would be removed would be replanted on site or immediately adjacent to the site based on the same replacement ratio described in the Tree Technical Manual, even though they are not regulated.

Therefore, based on the proposed project design, which includes significant landscaping, and with implementation of Mitigation 6-2, which requires preparation and implementation of a Tree Planting Plan for replacement of the regulated trees, the project would not conflict with a local ordinance or policy protecting biological resources such as a tree preservation policy or ordinance. Therefore, impacts under this criterion would be less than significant.

ARB-3.02 The second thing, and I suspect there will be others on the Board supporting this, is that when you do this much groundwater pumping to build two stories underground, because it's below the water table, it's bound to have an effect on the environment,

and I don't see any mention of that in the report. So, again, some impact or some effect – some discussion about how we're going to mitigate the impact of the groundwater pumping should be included in the report.

Response ARB-3.02: As discussed in section 8.3.2 of the Draft EIR, Romig Engineers prepared a site-specific geotechnical report for the proposed project in May 2016. As part of the preparation of that report, Romig Engineers conducted testing to identify the approximate depth of the groundwater table at the project site. Three exploratory borings were drilled to a depth of 44.5 feet, and seven cone penetration tests (CPTs) were advanced to depths ranging from 43.8 to 44.1 feet. During drilling and sampling, groundwater was encountered at depths of approximately 21.6, 23.5, and 26.6 feet below the ground surface (bgs). During the CPTs, groundwater was present between depths of about 19.6 to 23.9 feet bgs. As discussed further on page 8-9 of the Draft EIR, "It may be assumed that groundwater would be encountered during basement excavation at depths of about 21 to 24 feet after below-average to average winter rainfall, and at depths of about 17 to 20 feet after above-average winter rainfall." As discussed on page 10-4 of the Draft EIR, the proposed project will be constructed to a maximum depth of approximately 30 feet. Therefore, it is anticipated that groundwater would be encountered during construction.

As outlined in Palo Alto Municipal Code (PAMC) Section 16.28.155, if dewatering occurs and groundwater exclusionary techniques (e.g., a secant/cut-off wall) are not implemented, the project would be required to comply with the PAMC requirements for controlled groundwater dewatering. For example, PAMC Section 16.28.155, subsections (f)(2) and (f)(3), require the preparation and submittal of a dewatering hydrogeological study and a pre-construction building condition survey and report on structures on adjacent parcels if controlled groundwater dewatering is proposed. These studies would identify how dewatering may impact adjacent structures. If the studies find that dewatering might impact adjacent structures, the PAMC requires that avoidance measures be identified and followed to avoid impacts on adjacent structures. Applicable PAMC requirements are discussed in detail in chapter 11 (Hydrology and Water Quality), section 11.2.3 (Regional and Local Programs and Regulations) of the Draft EIR, including the additional requirement for a Construction Dewatering Plan (including geotechnical investigations) for all excavation activities that may encounter groundwater.

As noted in the previous paragraph, another technique for controlling groundwater during construction is called groundwater exclusion. This technique involves the installation of an impermeable, physical barrier, such a secant/cut-off wall, around the site perimeter to exclude groundwater from entering the excavation. With the groundwater exclusionary technique, a dewatering hydrogeological study and a pre-construction survey of adjacent structures is not required because substantially less groundwater pumping is required compared to the controlled groundwater dewatering technique described in the previous paragraph.

Dewatering that may be required during construction would be nominal in comparison to the total groundwater supply in the Santa Clara Sub-basin, which was historically noted to be approximately 350,000 acre-feet (AF) according to the 2012 Santa Clara Valley Water District (SCVWD) Groundwater Management Plan. The

proposed project covers 2.23 acres, only a portion of which would be excavated below the anticipated water table. Even assuming that the entire site would be excavated to the maximum depth, the amount of water that would be removed would be less than .01 percent of the total aquifer and, therefore, would not result in a noticeable decrease in the groundwater volume or level, especially given that this removal would occur only once during construction and not on a continual basis, and that the aquifer is replenished by annual rainwater filtration. This information has been incorporated into Draft EIR chapter 11 (Hydrology and Water Quality), section 11.3.1 (Significance Criteria) in order to address this comment. The revised page is in section 2.5 (Revisions to the Draft EIR) of this document.

As discussed in chapter 10 of the Draft EIR (Hazards and Hazardous Materials), the project is located within a plume. Therefore, it is possible that groundwater contaminated with Volatile Organic Compounds (VOCs) and petroleum hydrocarbons could be encountered during dewatering and excavation for the project. Draft EIR Mitigation 10-1 requires that the recommendations in the Phase II ESA be implemented, based on and refined by construction-level project plans when more specific and precise design and construction activities are formulated. City-approved Site Management Plans and a Construction Dewatering Plan must be prepared, and the performance standards and protocols in the City Construction Dewatering System Policy (summarized in Draft EIR chapter 11 - Hydrology and Water Quality, section 11.2.3 – Regional and Local Programs and Regulations) must be met. With implementation of mitigation, impacts would be less than significant, as detailed in the Draft EIR.

The Draft EIR and existing regulations adequately discuss and address the impacts of groundwater pumping on the environment. It should also be noted that more robust systems which isolate the site via a secant wall, or cut-off wall, drilled and seated into a less permeable geologic layer, are also being researched. As discussed in this response, use of such a system could minimize the dewatering volumes generated during construction.

ARB-3.03 Lastly, I have a comment and I can support it with a dozen or so quotations here, but when I'm looking at chapter 4 (Aesthetics), which is regarding the aesthetic impact on the building, it seems to me that it doesn't really mention the fact that the Board was not terribly pleased with the design of the Public Safety Building and by saying that essentially the aesthetic impact will be mitigated because the Board will approve the design isn't really sufficient. So, if I could just start throwing out a bunch of sections perhaps that should be addressed. On page 4-6, the fourth paragraph down, there's a quote – there's a line that says the secondary two-way ramp will be located on Birch Street. It's regarding where the police cars come out onto the street. If I remember right, the Board had quite a bit of concern about that particular ramp and to leave it in the report as a given, I think is not correct. The next – first paragraph on page 4-7 says the monopole will visually relate to the pattern of verticals in the PSB's exterior design and mounting on the building to improve its overall visual integration. I don't think that was the Board's statement on that, and I think that shouldn't be in the EIR in that way. Three paragraphs down, it says the PSB is carefully focusing on appropriate site planning, and following that, it references three concepts that the ARB is going to choose between. I think we were quite clear that none of those were adequate concepts. Rather than waste

everybody's time going through it, as I go through this section there just seems to be repeated references to a design that we didn't really think was going in the right direction. We should be more careful to be factual and maybe get more references to the design that's going to be built as we go through this. I'm curious to hear what everybody else thinks, but as I look at the report, just chapter 4 seems to be missing the mark a little bit. Thank you.

Response ARB-3.03: Subsequent to the ARB hearing, Vice Chair Baltay provided handwritten revisions to Draft EIR chapter 4 (Aesthetics) to specify his concerns. His suggested revisions are addressed in section 2.4 (Responses to Written Comments Received During the Draft EIR Public Review Period, letter L-4), the original handwritten revisions are included as in section 2.5 (Original Written Comments Received During the Draft EIR Public Review Period, letter L-4), and the revised pages to the Draft EIR Aesthetics chapter (as well as related text in the EIR Project Description) are included in chapter 3 (Revisions to the Draft EIR) of this document.

The Draft EIR does not make the conclusion that the aesthetic impact will be mitigated because the Board will approve the design. As stated in chapter 4, section 4.2.2(1) (City of Palo Alto Municipal Code, Chapter 2.21 Architectural Review Board), the Board provides recommendations on projects to the Director of Planning and to the City Council for their final approval.

Regarding ARB's purview, Draft EIR section 4.2.2(1) (City of Palo Alto Municipal Code, Chapter 18.76.020 Architectural Review) also notes that the ARB reviews the following aspects of projects: compatibility with the immediate environment of the site; compatibility with the design character of the surrounding area; harmonious transitions in scale and character in areas between different designated land uses; internal sense of order; amount and arrangement of open space; integration of natural features; and appropriate materials, textures, colors and details of construction and plant material, among other aspects.

The Draft EIR concludes that aesthetic impacts would be less than significant, based on the impact significance thresholds applied by the City and consistent with the California Environmental Quality Act. The ARB process would further ensure that the PSB and public parking garage designs adequately address the purpose, considerations, and findings for design review identified in Municipal Code Section 18.76.020. Although architectural refinements could be expected as the ARB process proceeds, such refinements are not expected to change the Draft EIR impact conclusions.

ARB-4 Board Member Lew

ARB-4.01 I guess I have two comments, one is on – in the traffic – well, I have an overall comment. One is I think the Draft EIR was done really well; all of the explanations in there were done really well compared to other EIRs that I've looked at recently. I mean they explain things, like relatively new things like vehicle miles traveled, and I think that was done really well. I did see that there's something out of date in the transportation impacts section on bike shares. I think that's all changed since last November, that the Council shifted directions so that's out of date.

Response ARB-4.01: The bike share information referenced in this comment was included in the Transportation Impact Analysis (TIA) in Appendix 21.4 of the Draft EIR. This information has been removed from the TIA (pages 20-21) to address this comment because no bike shares are proposed as part of the project and, as the commenter accurately notes, the City is shifting to the use of stationless smart bikes, which would no longer require bike share stations.

The following text has been removed from the TIA:

~~BAY AREA BIKE SHARE~~

~~The Bay Area Bike Share is the region's bike sharing system with 700 bikes and 70 stations across the region launching in August 2013, with locations in San Francisco, Redwood City, Mountain View, Palo Alto, and San Jose. It is intended to provide Bay Area residents and visitors with an additional transportation option for getting around the region. Bay Area bikes can be rented from and returned to any station in the system, creating a network with many possible combinations of start and end point.~~
~~Palo Alto has two Bike Share stations near the Project site at the following locations:~~

- ~~California Avenue Caltrain Station~~
- ~~Park Boulevard and Olive Avenue~~

~~Three additional Bike Share stations are located in downtown Palo Alto at the following locations:~~

- ~~Alma Street and Lytton Avenue~~
- ~~University Avenue and Emerson Street~~
- ~~Cowper Street and University Avenue~~

~~In October 2016, City Council approved a citywide Bike Share system with Social Bicycles (SoBi) that would replace the City's existing 35 bike share bikes with 350 new SoBi "smart bikes". The new Palo Alto bike share system will launch in June 2017.~~

ARB-4.02 On the aesthetic mitigations, my recollection is that in the past, say like on big projects like the Stanford Hospital, we just said that the ARB process was the mitigation, that once you get through the process, then that is it. So, when the [Draft EIR] report itself doesn't necessarily have to spell out exactly what the ARB is going to decide, and so maybe we can sort of separate it out a little bit. That's all that I have on this one.

Response ARB-4.02: Please see Response ARB-3.03. The Draft EIR concludes that aesthetic impacts would be less than significant, based on the impact significance thresholds applied by the City and consistent with the California Environmental Quality Act. The ARB process is not mitigation for aesthetic impacts. However, the required ARB process would further ensure that the PSB and public parking garage designs are of high aesthetic quality, are unified and coherent,

functional and sustainable, among other considerations and findings identified in Municipal Code Section 18.76.020 (Architectural Review).

ARB-5 Chair Furth

ARB-5.01 Thank you. My comment on the Draft EIR: first, I agree with the serious problem with the aesthetics. It has a lot of judgments about the design which sort of preempted anybody else's analysis, and I don't know what the CEQA solution is, but it certainly contradicts the opinions expressed by the body charged with advising the City on design. That needs to be reworked in some way because the statements it makes about the careful thinking of mass and whatnot – careful site plans - I don't believe are true. They may have done a great deal of thinking, but the result is not acceptable as it presently is there. The other thing is this would be an opportunity to update the description of the parking structure which has changed in many, I would say, good ways since this document was prepared.

Response ARB-5.01: Please see Response ARB-3.03. Regarding the parking structure, the project variables that could affect the CEQA analysis (e.g., number of spaces, number of levels, entrance/exit) have remained the same as the design has been revised and refined over time. As of the preparation of this Final EIR (April 2018), the garage design was undergoing further refinement based on ARB comment. Although architectural refinements could be expected as the ARB process proceeds, such refinements are not expected to change the Draft EIR impact conclusions.

ARB-5.02 I also think that the discussion of groundwater management is inadequate. I had a question which doesn't need to be answered now, and it may be answered somewhere in the document but there is a test for whether there's too much shading from a new project. The shading has to do with the light on spaces other than streets between 9:00 AM and 3:00 PM from September 21 to March 21st, from equinox to equinox. I'm just curious as to the source of the test and I'm also curious as to why we're excluding streets? If this is a Citywide standard, I think there's a problem. California Avenue, University Avenue, and I'm sure other streets function as important public spaces. I mean – this is a horrible inversion - but they are the equivalent of malls. I mean, these are outdoor [spaces] integrated across the street neighborhoods; it's what we cherish, and the availability of some public light is what makes them places that are attractive to pedestrians. This is one of our two most pedestrian-oriented, pedestrian-focused areas, so I'm concerned both about the test and curious as to where it comes from.

Response ARB-5.02: Regarding groundwater, please see Response ARB-3.02. Regarding shading, the California Environmental Quality Act (CEQA) Statute and Guidelines do not include a criterion for evaluating this issue. However, the City of Palo Alto has incorporated the following City-adopted significance criterion into its CEQA analyses, including for the PSB project: Would the project substantially shadow public open space (other than public streets and adjacent sidewalks) between 9:00 AM and 3:00 PM from September 21 to March 21? This criterion is applied to the project in Draft EIR chapter 4 (Aesthetics), section 4.3.5 (Impacts and Mitigations). Any recommendation to revise this adopted, Citywide policy would require a process that is beyond the scope of this EIR, whose purpose is to evaluate

the PSB project against City and CEQA environmental significance criteria. Based on the shadow patterns calculated by the project architects, illustrated on Draft EIR Figures 4.4 through 4.6, and reviewed by City staff, the proposed PSB project would have a less-than-significant shadow impact.

ARB-5.03 I'm also concerned about the tree mitigation. We're removing trees we wouldn't ordinarily allow to be removed. Are a number of them oaks because they are protected trees, right? I want to know where they are going to be mitigated. I think it needs to be close, not something planted far, far away. Basically, are we going to have a net increase in the canopy? I think we need a better discussion of that.

Response ARB-5.03: Please see Response ARB-3.01. The proposed on-site and off-site planting in accordance with the project landscaping plans and mitigation measure would result in no net loss of canopy, consistent with the Tree Technical Manual and the City's Urban Forest Master Plan.

ARB-5.04 In terms of construction noise, I was wondering if those hours are adequate for the neighborhood, but then I recalled that the farmers market is Sunday, but again, this is an important commercial neighborhood. It's busy on Saturday. Do we think that's ok? My biggest noise concern is on Impact 13-3, operational noise. I think I read both this and the Conditions of Approval to say that 78.2 decibels are acceptable for the operation of this facility and that doesn't seem right and shouldn't be right if it is. I just would note also in the project itself, on page 21 in the Staff Report, there are no urban forestry conditions when I was trying to track this through. So, I think it would be good to revise the project description to reflect the improvements in this particular part of the project and then address the other issues raised by Board Members. Is that it for the Draft EIR?

We could satisfy the operational noise problem by changing that condition to something more suitable…. My question is, is there a lower number that we can commit to?...[W]hen we review buildings, we don't say you comply with the quantitative standards of the City and therefore you're approved. We wouldn't exist if that was one of the things that we did, and I confess that part of my problem is just confusion that we would say in our ordinance that that decibel level was acceptable. It seems very high to me. I am willing to let this point go if I have no agreement from my colleagues.

Response ARB-5.04: Draft EIR chapter 13 (Noise), section 13.2.3 details the Comprehensive Plan and Municipal Code policies and regulations for construction noise. These policies and regulations are the baseline for the noise impact thresholds that were used in the evaluation of the project, as included on page 13-15 of the Draft EIR. Based on detailed noise modeling, the parking garage, without the exhaust fans, would result in noise levels of 52.8 decibels at a distance of 50 feet from the building, which is approximately 10 decibels lower than the existing 63 decibel noise levels on that street, as stated on page 13-29 of the EIR. Page 13-29 of the Draft EIR further states that "in general, when two noise levels are 10 dB or more apart, the lower value does not contribute significantly (less than 0.5 dB) to the total noise level." However, the exhaust fans would result in operational noise levels that exceed the thresholds, as discussed on pages 13-29 and 13-30 of the Draft EIR. Therefore, Mitigation 13-3 is required to reduce noise levels to a less-than-significant

level, which includes maintaining the existing ambient noise level of 63 dBA Ldn at sensitive residential receptors.

To clarify that 78.2 decibels is not the anticipated operational noise level of the project, the following phrase from the second bullet point in Draft EIR Mitigation 13-3, page 13-32: "…which is estimated to be 78.2 dBA." See revised page 13-32 in chapter 3 (Revisions to the Draft EIR) of this document. The change does not affect the impact findings or mitigation needs for the project.

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2.3 RESPONSES TO THE JANUARY 31, 2018 PLANNING & TRANSPORTATION COMMISSION (PTC) COMMENTS ON THE DRAFT EIR

The following section includes each verbal comment received during the January 31, 2018 PTC public meeting pertaining to the content or adequacy of the Draft EIR or on a substantive environmental point, followed by the response to the comment.

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PTC Planning & Transportation Commission Public Meeting (January 31, 2018)

PTC-1 Hamilton Hitchings

PTC-1.01 Thanks. I practically passed out by now and I got to get up at 6:30 and drive to the city, but the police station is near and dear to my heart. I worked with Annette Glanckopf really closely on the Citizen Advisory Committee (CAC) to author the Public Safety Element along with staff, and I'm a volunteer for the Emergency Services Program, and I worked really closely with Ken Dueker. And there was one thing that I am concerned about, and so I wanted to bring that out. And that's the seismic safety of the building. The original justification for this project was modernization, and the other was to make it so that it would be operational after a major earthquake, but as the process has gone on the desire or the focus on making it withstand a major earthquake seems to have been slightly deemphasized. So, I just want to start with a few details.

The United States Geological Survey (USGS) has just updated in the last couple years their predictions for the Bay Area, and they now estimate there's a 72 percent chance of a 6.7 or greater earthquake in the Bay Area in the next 30 years. The Hayward Fault typically has about a 6.8 every 150 to 160 years, although that can be variable. It's been 150 years since the last one. In addition, the San Andreas Fault is five miles away from the Public Safety Building (PSB) site and can experience up to a 7.9 earthquake, and thus the new Stanford Hospital has been built to withstand an 8.0. The San Francisco and Oakland City Halls and the Berkeley Police Station have all been fitted with what's called base isolation, which reduces the shaking during a major earthquake, which is not currently planned for the police station. In the Draft EIR, it incorrectly quotes the Association of Bay Area Governments (ABAG) website as saying the Modified Mercalli Intensity Scale (MMI) would be 7.0, whereas when I visited the ABAG website, it had the San Andreas Fault with a 7.8 selected and said it was an MMI 8.0. So, there could potentially be an underestimation there. Please ensure the PSB is designed to withstand an earthquake in the high sevens and be operational thereafter.

Response PTC-1.01: Mr. Hitchings later supplemented his verbal comments at the PTC meeting with written comments, which are included as upcoming letters L-5 and L-8. Please see additional information in those comments. This comment is in reference to Draft EIR chapter 8 (Geology and Soils). As noted in the chapter's introduction, much of the chapter's information is based on a geotechnical investigation that was published in May 2016, approximately one month before the data provided by Mr. Hitchings was published. As recommended by letters L-5 and L-8, information in the Draft EIR geology and soils chapter has been updated; please see chapter 3 (Revisions to the Draft EIR) of this document for the revised pages.

The following information has been provided by William A. Andrews, S.E., Principal at Walter P Moore, engineers for the Public Safety Building:

The Palo Alto Public Safety Building (PSB) will be designed in accordance with the requirements for Essential Services Buildings specified in the 2016 California Building Code (CBC) and the Essential Services Buildings Safety Act of 1986. The earthquake ground motion values used to compute the seismic design forces are

determined using a USGS design tool which applies mapped seismic hazards to a specific site (from the 2010 ASCE-7 Standard). The project geotechnical report identifies the following significant earthquake faults and their potential maximum Richter Magnitudes (RM) for this site:

- San Andreas Fault: RM = 7.9
- Hayward Fault: RM = 7.1
- Calaveras Fault: RM = 6.8
- San Gregorio Fault: RM = 7.3

Through probabilistic analysis of the maximum considered events (MCE) considering the distance to the respective USGS-mapped faults, site soil properties and other variables, the USGS design tool determines site-specific MCE earthquake ground accelerations which are the basis for the seismic design forces developed under the provisions of the 2016 CBC.

The seismic design intent and expected performance according to the 2016 CBC, is "Essential Services Buildings constructed pursuant to these rules and regulations are designed and constructed to resist the forces…generated by major earthquakes of the intensity and severity of the strongest anticipated at the building site (MCE) without catastrophic collapse, but may experience some repairable architectural or structural damage. An essential services building as designed and constructed shall be capable of providing essential services to the public after a disaster. In addition, the equipment and other accessories which are necessary for the continued functioning of the essential services operation shall be anchored and braced to resist earthquake forces."

And from the Essential Services Buildings Seismic Safety Act, "It is the intent that the nonstructural components vital to the operation of essential services buildings shall also be able to resist, insofar as practical, the forces generated by earthquakes."

In summary, through following the CBC provisions, immediate occupancy of the PSB is expected after a major seismic event. However, there is the possibility that the structure and critical building infrastructure systems may suffer some damage which could be temporarily disruptive to a fully operational PSB.

The text above has been added to the seismic safety discussion on EIR page 8-11.

PTC-1.02 And the other thing is as an emergency services volunteer communication is really important. So, I know we talk a lot about height limits, but in the case of the communication tower I definitely support it even though it's going to be very tall because it will be critical in an emergency. Thank you for listening to my comments.

Response PTC-1.02: The comment supports the telecommunications tower proposed at 135 feet in height as part of the Public Safety Building. The issue raised by the commenter addresses the merits of the project and does not raise any issues with the environmental analysis provided in the Draft EIR. No further response is necessary. See Responses PTC-2.01 and PTC-3.01 directly below for further information.

PTC-2 Commissioner Waldfogel

PTC-2.01 Something that really stands out in the zone change is the 130-foot monopole, and I just wonder if you could speak to whether we've fully explored alternatives to this or is this a necessary component? I think the community just wants to know this before we say yes.

Response PTC-2.01: The potential visual impact of the telecommunications tower is discussed in Draft EIR chapter 4 (Aesthetics). Based on significance criteria for evaluating aesthetic impacts (section 4.3.1), the impact is considered less than significant. The monopole was not considered to result in a significant impact on aesthetics, or any other resource; therefore, alternatives to the monopole were not discussed in Draft EIR chapter 18 (Alternatives to the Proposed Project). In addition, the City commissioned a technology consultant to look at connectivity and other technical requirements as part of the proposed project and prior to completion of the Draft EIR. The consultant considered the location of the monopole at two other locations in the foothills, including the Montebello site and the Black Mountain site. The findings of that study concluded that both of these options would have line of sight issues, would be more costly, and that a monopole would likely still be needed at the Public Safety Building even if one was added at either of these alternative locations.

In addition, based on communications with Charlie Cullen, Technical Services Director for the Palo Alto Police Department, the communications tower is considered an essential feature of public safety facilities. It enables conventional radio transmissions and provides line-of-sight microwave connectivity with the Cities of Los Altos and Mountain View, both of which share their 911 systems and computer-aided dispatch systems with the City of Palo Alto over a microwave network. Therefore, the monopole is considered a necessary component of the proposed project.

PTC-3 Commissioner Alchek

PTC-3.01 I'll be even briefer. Just quickly, what's the take on the earthquake safety comment that we got tonight? Either of you.

Response PTC-3.01: Charlie Cullen, Technical Services Director for the Palo Alto Police Department, provided the following response at the PTC meeting: I think having an essential building standard for this facility will be good. Base isolation was ruled out because of the cost. Certainly, if cost was no issue, we'd like to see base isolation on that building, but it's prohibitively expensive. We'll have most of the protection we need with the design of the building now.

See also Response PTC-1.01.

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2.4 RESPONSES TO WRITTEN COMMENTS RECEIVED DURING THE DRAFT EIR PUBLIC REVIEW PERIOD

The following section includes direct text and/or summaries of all written communications (letters and emails) received during the Draft EIR public review period, followed by a written response to each comment on the content or adequacy of the Draft EIR or on a substantive environmental point. The comments and responses are correlated by code numbers added to the right margin of each original letter or email comment. The email comments have been edited for continuity and clarity. The original emails and comments are in section 2.5 (Original Written Comments Received During the Draft EIR Public Review Period).

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L-1 Dwight Clark; October 11, 2017; January 11, 2018; January 12, 2018

L-1.01 You may recall that I have written twice before to suggest a change in the entrance location of the proposed 350 Sherman garage. At present, the location is close to the Birch intersection and thus directly across from the Visa building parking entrance and very near the entrance to Birch Court's building 3 (where I live).

If the parking garage entrance were to be placed close to the Ash Street end of the building, there would be no competing traffic and less chance of accidents.

I won't be able to attend the upcoming meeting on the Sherman garage, but let me strongly suggest one simple change:

The current plans show an entrance near the Birch Street end of the building. That entrance/exit is almost directly across from two other entries (to the VISA building and to the Birch Court condo where I live) on the opposite side of the street. If the proposed building's entrance/exit were placed toward the Ash Street end of the building, there is no competing traffic and less safety hazard.

Response L-1.01: Please see Response ARB-2.01. Also note that the public parking garage entrance/exit driveway is proposed directly across from the Birch Court driveway; the Visa building driveway is slightly west along Sherman Avenue.

L-1.02 I note that the quoted DEIR [Draft EIR] portion doesn't address the competing traffic into/out of the VISA parking garage virtually directly opposite, as well as Birch Court traffic.

The DEIR states that the planned entrance is 90 feet from the corner of Birch. This places it almost directly opposite the VISA parking entrance and near the Birch Court entrance. The VISA building has 90 underground parking spaces, almost all of them generating traffic within an hour-and-a-half period at the beginning and end of each workday. Thus, this adds *to the same spot* 60 inbound trips per peak hour to the 116 which the DEIR regards as manageable. It is one thing to have 116 cars exiting from one spot; it is another—given the 60 VISA cars opposite—to have them competing for the roadway and deciding which goes first. (And these figures don't even count Birch Court traffic.) This is not just a matter of traffic numbers but also a question of safety; even now, safety is an issue, as visibility for exiting cars from both VISA and Birch Court is limited due to street parking blocking sight of oncoming traffic.

Can you send me the Transportation Impacts Analysis? Obviously, I would feel more at ease if the questions of the previous paragraph have already been asked and specifically addressed.

Response L-1.02: Please see Response ARB-2.01. Also note that the public parking garage entrance/exit driveway is proposed directly across from the Birch Court driveway; the Visa building driveway is slightly west along Sherman Avenue.

A link to the Transportation Impact Analysis (TIA) was provided to the commenter and is attached to the Draft EIR that is available to download via this link: https://www.cityofpaloalto.org/civicax/filebank/blobdload.aspx?BlobID=62804

The TIA starts on page 504 of the download.

L-2 Anne Steinle; January 12, 2018

L-2.01 The ONLY driveway has been design[ed] across from the two driveways on the opposite side of Sherman. One belongs to Birch Court HOA and one to 365 Sherman, currently housing VISA. I fear this will lead to major traffic gridlock. The current flat parking lot has multiple entrance/exits along Sherman as well as one on Ash and one on Birch. Even with multiple entrances, we have challenges getting out of and into our street. I have been trapped in gridlocks on the corner of Birch and Sherman. Please consider moving the driveway or adding an additional entrance/exit.

Response L-2.01: Please see Response ARB-2.01.

L-2.02 I anticipate that this will also create an even greater safety concern. It is very difficult to look up and down the street because of parked cars. I ask that the City BLOCK/ ELIMINATE one parking place, specifically, the single parking place that currently exists between the driveways of Birch Court and 385 Sherman [VISA] building. This would make turning far safer for both buildings' occupants.

Response L-2.02: This comment reflects a concern about existing line of sight conditions at existing driveways due to existing street parking on the opposite side of Sherman Avenue from the project site. This existing condition is not an impact resulting from the proposed PSB project. The PSB project does not involve any changes to line of sight conditions on the opposite side of Sherman Avenue because the PSB project does not propose any physical changes to that side of the street.

Regarding line of sight conditions related to the proposed public parking garage, the public parking garage entrance is placed across Sherman Avenue opposite the Birch Court driveway per the project traffic consultant's recommendation. It is an appropriate design where drivers exiting each driveway are able to see each other and act as they would at a regular intersection where cross-traffic does not stop.

L-2.03 The two residents of Birch Court that face Sherman Street, and hence the new parking structure, will experience serious negative impact by the noise and pollution. While their windows are double-paned, they are over 30 years old and do not screen out noise and pollution the way new windows do. A few neighbors elsewhere in our HOA complex have replaced windows (approved by the Birch HOA Board) with great success in abating noise and dirt. New windows could be installed by an experienced window installer and paid for by the City. Each of the 2 condos has 3 windows, and the cost per window is currently less than $4,500, or about $27,000 total. This would be greatly appreciated by the residents of Birch Court. As you may know, our complex was built by the City through Palo Alto Housing Corporation, and the vast majority of units are Below Market.

Response L-2.03: Regarding noise, please see Response ARB-5.04. For a discussion on air quality, see Response ARB-2.02.

L-3 Pat Beatty; January 17, 2018

L-3.01 A concern I have is that there appears to be only one entrance/exit for cars in such a large structure [the proposed public parking garage]. An additional entrance/exit or at least separate ones might be a prudent consideration.

Response L-3.01: Please see Response ARB-2.01.

L-4 Peter Baltay, Architectural Review Board Vice Chair; January 23, 2018

L 4.01 In addition to his verbal comments at the January 18, 2018 ARB meeting (ARB-3), Vice Chair Baltay provided direct comments and suggested edits on a copy of Draft EIR chapter 4 (Aesthetics). Mr. Baltay's marked-up pages are included in section 2.5 (Original Written Comments Received During the Draft EIR Public Review Period).

Response L-4.01: Based on Vice Chair Baltay's comments and suggested edits, revised pages to the Draft EIR Aesthetics chapter (as well as related text in the EIR Project Description) are included in chapter 3 (Revisions to the Draft EIR) of this document.

L-5 and L-8 Hamilton Hitchings; February 15, 2018; February 25, 2018

These two emails (received on different dates) from Mr. Hitchings are combined here because they address the same issues. Mr. Hitchings provided attachments to each email, which are included in section 2.5 (Original Written Comments Received During the Draft EIR Public Review Period). In addition, at the March 1, 2018 ARB meeting (which did not include a public hearing on the Draft EIR), Mr. Hitchings presented several of the attachments as slides, including one new slide ("Geotechnical Investigation for Palo Alto Public Safety Building and Parking Garage by Romig Engineers 2016") that is also in section 2.5. Mr. Hitchings also provided verbal comments on these issues at the January 31, 2018 Planning and Transportation Commission (PTC) public meeting (see PTC-1 in section 2.3 of this document).

L 5.01 February 15, 2018. Please use this updated version of my comments in this email below as my City of Palo Alto Public Safety Building DEIR [Draft EIR] input. Upon further research and review, I have upgrade my references to only include USGS and ABAG and, after more closely looking at the DEIR, have strengthened my conclusions.

Below are my comments on the Palo Alto Public Safety Building Draft EIR to be included in the public record.

My name is Hamilton Hitchings, and I have been living in Palo Alto since the mid-1990s. I served on the Palo Alto Citizen Advisory Committee for the Comprehensive Plan and the sub-committee that updated the Public Safety Element. I am also an active Emergency Services Volunteer including BPC, CERT, and NPC.

My top priority with these comments is to see a high-quality Public Safety Building that meets the needs of our Police, Fire Administration, 911 Call Center, and Office of Emergency Services for the next 50 years and will continue to function after a

major earthquake. The current Police Station has been in service for 57 years, so it's important to remember a 30-year design frame is likely very insufficient.

I believe the DEIR underestimates both the probability and magnitude of an earthquake at the location of the Public Safety building, based on reading the references to ABAG and the USGS, and have attached those so it is very easy to see the DEIR appears incorrect.

On DEIR page 8-3, please update the DEIR to the latest USGS earthquake estimates published in June 2016; say there is a 72% probability of 6.7 or greater earthquake in the Bay Area in the next 30 years, including 22% on the San Andreas Fault. See the attached USGS report "Earthquake Outlook for the San Francisco Bay Area Region 2014-2043" that was published in June of 2016. The probabilities are on the first and second page. Please update the estimates to reflect this latest report.

DEIR Page 8-3 says the shaking from an earthquake at the location of the new Public Safety Building is expected to only be an MMI (Modified Mercali Intensity) of 7. This is very roughly equivalent to a magnitude 6.0 at the site of the Public Safety Building (see the reference at the bottom of this email from the USGS). The DEIR cites the reason for estimating an MMI 7 is because it states that is what should be expected at the site of the Public Safety Building according to the USGS and ABAG, and cites the ABAG website. Upon visiting this ABAG website http://gis.abag.ca.gov/website/Hazards/ and selecting the moderate earthquake intensity for the San Andreas fault of 7.2 magnitude, it shows this would cause an MMI of 8 for the Public Safety Building. Note, there is also an option to select a 7.8 magnitude earthquake on the San Andreas fault.

In addition, the ABAG website shows that a Probabilistic Seismic Hazard Assessment for the entire Bay Area being either an MMI of 8 or 9. The Public Safety Building is located in an area with an MMI of 8. See the attached file ABAG_Probabilistic_Seismic_Hazard_Assessment_Showing_Bay_Area_Is_MMI_8.png.

Thus, the ABAG website clearly shows that, at the location of the Public Safety Building, there is significant risk of an MMI 8 earthquake, yet the DEIR section 8-3 page 160 states it is only at risk of an MMI 7.

In the June 2016 USGS "Earthquake Outlook for the San Francisco Bay Region 2014-2043" document designed for non-experts (attached), the USGS also estimated that there was a 20% of a 7.5 or greater magnitude earthquake in the Bay Area in the next 30 years. Thus, a magnitude 7.5 or greater earthquake in the Bay Area is a significant risk during the life the Public Safety Building. I've attached this USGS report that shows this in table on page 2 with file name USGS_Bay_Area_Earthquake_Estimates_June-2016.pdf.

If the Public Safety Building is only being designed to withstand an MMI of VII (7) instead of 8, that would be a major oversight and not meeting the objectives of the project, since an MMI of 8 is a very feasible possibility. Please update the DEIR to

state that the Public Safety Building is being designed for at very least an MMI of 8 and ideally a 9.

On page 8-11 [of the Draft EIR], it states, "Impact 8-1: Geotechnical Hazards Associated with Project Excavation and Grading....These possible excavation and grading hazards represent a potentially significant impact."

Mitigation 8-1 is "a registered engineering geologist or geotechnical engineer to prepare detailed, construction level geotechnical investigations to guide the construction of all project grading and excavation activities" prior to issuing a [grading] permit. To me, this raises concern whether these mitigations will be adequate? Especially when the building is potentially being under-designed for an MMI of only 7.

Response L-5.01: See Response PTC-1.01, which responds to Mr. Hitchings' verbal comments at the January 31, 2018 PTC meeting in reference to Draft EIR chapter 8 (Geology and Soils). As noted in the chapter's introduction, much of the chapter's information is based on a geotechnical investigation that was published in May 2016, approximately one month before the data provided by Mr. Hitchings was published. As recommended by letters L-5 and L-8, the seismic safety discussion on EIR page 8-11 has been updated, as discussed further in Response PTC-1.01.

L-8.01 February 25, 2018. Here are the slides I plan to show during the ARB public comments section on the DEIR [this was a March 1, 2018 meeting]. It very clearly spells out some updates needed to the DEIR with regards to earthquake probabilities, magnitude and intensity, using data from the USGS and ABAG.

Response L-8.01: Please see Response L-5.01, directly above.

L-6 Roy Molseed, Senior Environmental Planner, Santa Clara Valley Transportation Authority (VTA); February 22, 2018

L-6.01 Land Use: VTA supports the proposed land use intensification of this site, served just south of the site by VTA Local Bus Line 22 and Rapid 522 along El Camino Real, and by Caltrain at the California Avenue Train Station. El Camino Real is identified as a Corridor in VTA's Community Design & Transportation (CDT) Program Cores, Corridors and Station Areas framework, which shows VTA and local jurisdiction priorities for supporting concentrated development in the County. The CDT Program was developed through an extensive community outreach strategy in partnership with VTA Member Agencies, and was endorsed by all 15 Santa Clara County cities and the county.

Response L-6.01: The comment addresses the merits of the project and does not raise any issues with the environmental analysis provided in the Draft EIR. No further response is necessary.

L-6.02 Vehicle Miles Traveled (VMT) Analysis: VTA commends the City for performing an analysis of Vehicle Miles Traveled (VMT) effects of the proposed project, in light of Senate Bill 743 and the upcoming transition from congestion-based measures to VMT-based analysis in CEQA. VTA recognizes that this analysis was performed for

informational purposes only because the city has not yet adopted VMT thresholds. VTA notes that the Regional Average Daily VMT Per Capita (Worker) figures cited in Table 12 of the TIA [Transportation Impact Analysis] report are based on the Metropolitan Transportation Commission (MTC)/Association of Bay Area Governments (ABAG) regional model, which is an activity-based/tour-based model rather than a trip-based model as utilized by some other jurisdictions.

VTA notes that proposed new Section 15064.3 of the CEQA Guidelines (from the Natural Resources Agency's January 2018 rule-making documents) states that "A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled….A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project." Based on this guidance, VTA recommends that the City include further documentation of the methodology used to estimate VMT in the TIA and DEIR [Draft EIR] for this project. VTA recommends that this documentation provide a description of the MainStreet model used by the transportation consultants, as well as a summary of model inputs and outputs.

Response L-6.02: Based on the comment, Fehr & Peers, the transportation consultants for the PSB project EIR, have revised and clarified the VMT discussion in EIR chapter 15 (Transportation and Circulation), section 15.8.2 (Trip Length Data Source). The previous VMT estimates were based on 150 employees, while the revised estimates are based on 160 employees, resulting from the most recent program needs identified by the Palo Alto Police Department. Overall, the effects are similar, but the revised analysis better demonstrates the data sources/methodology per VTA's comment. The SB 743 discussion has also been updated in light of the State Office of Planning and Research (OPR) more recent November 2017 CEQA Guidelines updates and the Natural Resources Agency's January 2018 proposed rule-making materials.

The MainStreet model is used primarily on mixed-use projects due to its complex modeling capabilities, although it can also be used for single-use projects. MainStreet collects information from various sources, depending on the location of the project site. Since the proposed PSB project is a single use, Fehr & Peers changed the analysis to a more straightforward and transparent approach that uses data from the 2013 California Household Travel Survey. This approach has been applied by Fehr & Peers to other single-use projects and has been completed for recent studies in the Palo Alto area.

EIR chapter 15 (Transportation, Traffic, and Circulation), section 15.8.2 (Trip Length Data Source) has been revised. The revised pages are in section 2.5 (Revisions to the Draft EIR) of this document.

L-7 Peter N. Brewer, Esq., Law Offices of Peter N. Brewer; February 22, 2018

L-7.01 I am very excited for the parking garage and public safety building, and wish that this process was moving faster. You have my full support. Isn't the Nike logo, "Just Do It" or something like that? So, let's just do it.

Response L-7.01: The commenter addresses the merits of the project and does not raise any issues with the environmental analysis provided in the Draft EIR. No further response is necessary.

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2.5 ORIGINAL WRITTEN COMMENTS RECEIVED DURING THE DRAFT EIR PUBLIC REVIEW PERIOD

The following section includes all written communications received on the Draft EIR during the public review period.

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Ray Pendro <rayp@migcom.com>

RE: RESPONSE REQUESTED: entrance/exit location for 350 Sherman Ave.

1 message

Raschke, Matt <Matt.Raschke@cityofpaloalto.org> Fri, Jan 12, 2018 at 4:11 PM
To: Dwight Clark <dwightcla@gmail.com>
Cc: Ray Pendro <rayp@migcom.com>, PatelSamir <samir.patel@icloud.com>, Anne Steinle <anne.steinle@gmail.com>, Pat Beatty <patbeatty621@aol.com>, Peter Holland <PLHolland@aol.com>, "tjo@visa.com" <tjo@visa.com>, "French, Amy" <Amy.French@cityofpaloalto.org>

Correction. The garage driveway is proposed directly across from the Birch Court driveway (not the Visa driveway).

The latest plans are available at this link: https://www.cityofpaloalto.org/civicax/filebank/blobdload.aspx?BlobID=62822

Cheers!

From: Raschke, Matt
Sent: Friday, January 12, 2018 4:04 PM
To: 'Dwight Clark'
Cc: Ray Pendro; PatelSamir; Anne Steinle; Pat Beatty; Peter Holland; tjo@visa.com; French, Amy
Subject: RE: RESPONSE REQUESTED: entrance/exit location for 350 Sherman Ave.

Hi Dwight,

The TIA is attached to the DEIR that is available to download via this link: https://www.cityofpaloalto.org/civicax/filebank/blobdload.aspx?BlobID=62804

It starts on page 504.

The garage entrance is intentionally opposite the Visa driveway per the project traffic consultant's recommendation. It is an appropriate design where vehicles exiting each driveway are able to see each other and act as they would at a regular intersection were cross-traffic does not stop.

Thanks,

Matt

PALO ALTO

Matt Raschke, PE | Senior Engineer

250 Hamilton Avenue | Palo Alto, CA 94301

D: 650.496.5937 | E: matt.raschke@cityofpaloalto.org

Please think of the environment before printing this email – Thank you!

From: Dwight Clark [mailto:dwightcla@gmail.com]
Sent: Friday, January 12, 2018 3:53 PM
To: French, Amy
Cc: Ray Pendro; Raschke, Matt; PatelSamir; Anne Steinle; Pat Beatty; Peter Holland; tjo@visa.com
Subject: Re: RESPONSE REQUESTED: entrance/exit location for 350 Sherman Ave.

Dear Amy,

Thanks so much for that very prompt and helpful response.

I note that the quoted DEIR portion doesn't address the competing traffic into/out of the VISA parking garage virtually directly opposite as well as Birch Court traffic.

The DEIR states that the planned entrance is 90 feet from the corner of Birch. This places it almost directly opposite the VISA parking entrance and near the Birch Court entrance. The VISA building has 90 underground parking spaces, almost all of them generating traffic within an hour-and-a-half period at the beginning and end of each workday. Thus, this adds *to the same spot* 60 inbound trips per peak hour to the 116 which the DEIR regards as manageable. It is one thing to have 116 cars exiting from one spot; it is another—given the 60 VISA cars opposite—to have them competing for the roadway and deciding which goes first. (And these figures don't even count Birch Court traffic.) This is not just a matter of traffic numbers but also a question of safety; even now, safety is an issue, as visibility for exiting cars from both VISA and Birch Court is limited due to street parking blocking sight of oncoming traffic.

Can you send me the Transportation Impacts Analysis? Obviously, I would feel more at ease if the questions of the previous paragraph have already been asked and specifically addressed.

Sincerely,

Dwight Clark

2510 Birch Street

On Fri, Jan 12, 2018 at 1:22 PM, French, Amy <Amy.French@cityofpaloalto.org> wrote:

Hello Dwight, your email on this topic of last summer was included with the report to the ARB for their consideration, and was forwarded to the project manager and to the environmental consultant, who is copied on this email. I have also copied Matt Raschke the project manager.

As you may be aware, in October 2017, the ARB continued the hearing to a date uncertain. Meanwhile, a Draft Environmental Impact Report (DEIR) was prepared and published on Monday January 8th, and the public comment period will end February 22nd. I have forwarded your email directly to the environmental consultant. I am aware that the DEIR consultant and traffic consultant spoke previously and the below paragraph in the DEIR was written in response to your concern.

The DEIR page 15-46, notes:

(2) Public Parking Structure. The parking structure would consist of six levels total: four levels above grade and two basement levels. The parking structure internal ramps would be on the north side with access to the up ramp on the west and the down ramp on the east side. The structure would be supported by one full access driveway on Sherman Avenue, approximately 90 feet to center of ramp west from the corner of Birch Street. Similar to the PSB primary driveway, having the driveway closer to the adjacent east intersecting street (i.e., Park Boulevard for the PSB driveway and Birch Street for the parking structure driveway) reduces the potential for queue spillback into the adjacent intersections (i.e., Birch Street and Ash Street). For eastbound vehicles on Sherman Avenue trying to turn left into the structure, they must yield to westbound traffic, but they would have ample queuing storage on Sherman Avenue to make the movement without impeding traffic on Ash Street. For westbound vehicles on Sherman Avenue that need to turn right into the structure, they are not required to stop for conflicting movements (except for pedestrians walking on the sidewalk crossing the parking structure driveway), so the queues would be negligible. If the parking structure is operated with a payment system, gates may be required at the entrance where each driver would receive a ticket upon entering. As discussed in the trip generation section, the parking structure is anticipated to generate approximately 116 inbound trips in the PM peak hour, which would equate to an average of approximately two vehicles per minute entering the structure. Even at the maximum anticipated queue of twice the average, or four vehicles, gating the entrance to the parking structure is not anticipated to adversely affect operations, given the ample capacity available on Sherman Avenue.

The Transportation Impacts Analysis (TIA) of August 3, 2017, page 2 notes that the vehicular driveway to the garage is recommended to be near Birch as "this location provides adequate queuing storage on Sherman Avenue for inbound vehicles." The TIA is a source document for the DEIR.

Any additional comments that you send to me on the topic, I will forward to the consultant for a written response.

From: Dwight Clark [mailto:dwightcla@gmail.com]
Sent: Wednesday, October 11, 2017 9:12 AM
To: French, Amy
Cc: Anne Steinle; Pat Beatty; PatelSamir
Subject: Exit/entrance to proposed Sherman parking garag

Dear Amy French,

I won't be able to attend the upcoming meeting on the Sherman garage, but let me strongly suggest one simple change:

The current plans show an entrance near the Birch St. end of the building. That entrance/exit is almost directly across from two other entries (to the VISA building and to the Birch Court condo where I live) on the opposite side of the street. If the proposed building's entrance/exit were placed toward the Ash St. end of the building, there is no competing traffic and less safety hazard.

I have written before about this but have not received a response. Can I ask for the courtesy of a comment or response in this instance?

Many thanks,

Dwight Clark

2510 Birch St.

From: Dwight Clark [mailto:dwightcla@gmail.com]
Sent: Thursday, January 11, 2018 3:58 PM
To: French, Amy
Cc: Anne Steinle; Pat Beatty; PatelSamir; Peter Holland
Subject: RESPONSE REQUESTED: entrance/exit location for 350 Sherman Ave.

Amy French,

You may recall that I have written twice before to suggest a change in the entrance location of the proposed 350 Sherman garage. At present, the location is close to the Birch intersection and thus directly across from the Visa building parking entrance and very near the entrance to Birch Court's building 3 (where I live).

If the parking garage entrance were to be placed close to the Ash Street end of the building, there would be no competing traffic and less chance of accidents.

May i ask for the courtesy of a response to this question?

Sincerely,

Dwight Clark

2510 Birch Street

Ray Pendro <rayp@migcom.com>

RE: Cal Ave parking structure

1 message

French, Amy <Amy.French@cityofpaloalto.org> Fri, Jan 12, 2018 at 4:06 PM
To: A Steinle <anne.steinle@gmail.com>

Sorry you cannot come to the meeting next Thursday. The parking garage ARB staff report link is here: https://www.cityofpaloalto.org/civicax/filebank/documents/62876

The Draft EIR for the project (including the Public Safety Building) is here: https://www.cityofpaloalto.org/civicax/filebank/documents/62804

I have forwarded your email to the project manager, environmental consultant, and now our housing planner Eloiza Murillo-Garcia, so she can be in communication with the Palo Alto Housing Corporation.

The below information about the Sherman garage entrance location is excerpted from the Draft Environmental Impact Report (DEIR) published on Monday January 8th. The public comment period will end February 22nd. The DEIR page 15-46, notes:

(2) Public Parking Structure. The parking structure would consist of six levels total: four levels above grade and two basement levels. The parking structure internal ramps would be on the north side with access to the up ramp on the west and the down ramp on the east side. The structure would be supported by one full access driveway on Sherman Avenue, approximately 90 feet to center of ramp west from the corner of Birch Street. Similar to the PSB primary driveway, having the driveway closer to the adjacent east intersecting street (i.e., Park Boulevard for the PSB driveway and Birch Street for the parking structure driveway) reduces the potential for queue spillback into the adjacent intersections (i.e., Birch Street and Ash Street). For eastbound vehicles on Sherman Avenue trying to turn left into the structure, they must yield to westbound traffic, but they would have ample queuing storage on Sherman Avenue to make the movement without impeding traffic on Ash Street. For westbound vehicles on Sherman Avenue that need to turn right into the structure, they are not required to stop for conflicting movements (except for pedestrians walking on the sidewalk crossing the parking structure driveway), so the queues would be negligible. If the parking structure is operated with a payment system, gates may be required at the entrance where each driver would receive a ticket upon entering. As discussed in the trip generation section, the parking structure is anticipated to generate approximately 116 inbound trips in the PM peak hour, which would equate to an average of approximately two vehicles per minute entering the structure. Even at the maximum anticipated queue of twice the average, or four vehicles, gating the entrance to the parking structure is not anticipated to adversely affect operations, given the ample capacity available on Sherman Avenue.

The Transportation Impacts Analysis (TIA) of August 3, 2017, page 2 notes that the vehicular driveway to the garage is recommended to be near Birch as "this location provides adequate queuing storage on Sherman Avenue for inbound vehicles." The TIA is a source document for the DEIR.

Any additional comments that you send to me on the topic, I will forward to the consultant for a written response.

From: A Steinle [mailto:anne.steinle@gmail.com]
Sent: Friday, January 12, 2018 3:21 PM
To: French, Amy
Subject: Cal Ave parking structure

Dear Amy French,

I cannot attend the upcoming meetings regarding the proposed parking structure on Sherman Ave and Birch. I have a few suggestions/concerns.

1. The ONLY driveway has been design across from the two driveways on the opposite side of Sherman. One belongs to Birch Court HOA and one to 365 Sherman currently housing VISA. I fear this will lead to major traffic gridlock. The current flat parking lot has multiple entrance/exits along Sherman as well as one on Ash and one on Birch. Even with multiple entrances we have challenges getting out of and into our street. I have been trapped gridlocks on the corner of Birch and Sherman. **Please consider moving the driveway or adding an additional entrance/exit.**

2. I anticipate that this will also create an even greater safety concern. It is very difficult to look up and down the street because of parked cars. **I ask that the City BLOCK/ ELIMINATE one parking place;** specifically the single parking place that currently exists between the driveways of Birch Court and 385 Sherman Bldg. This would make turning far safer for both buildings' occupants.

3. The two residents of Birch Court that face Sherman St, and hence the new parking structure, will experience serious negative impact by the noise and pollution. While their windows are double paned they are over 30 years old and do not screen out noise and pollution the way new windows do. A few neighbors elsewhere in our HOA complex have replaced windows (approved by the Birch HOA Board) with great success in abating noise and dirt. **New windows could be installed by an experienced window installer and paid for by the City. Each of the 2 condo has 3 windows and the cost per window is currently less than $4,500 or about $27,000 total.** This would be greatly appreciated by the residents of Birch Court. As you may know, our complex was build by the City through Palo Alto Housing Corp and the vast majority of units are Below Market.

Best Regards,

Anne Steinle

Birch Court HOA, Board member

Ray Pendro <rayp@migcom.com>

RE: RESPONSE REQUESTED: entrance/exit location for 350 Sherman Ave. (from P. Beatty)

1 message

French, Amy <Amy.French@cityofpaloalto.org> Thu, Jan 18, 2018 at 11:39 AM
To: Pat Beatty <patbeatty621@aol.com>, Dwight Clark <dwightcla@gmail.com>
Cc: "Raschke, Matt" <Matt.Raschke@cityofpaloalto.org>, Ray Pendro <rayp@migcom.com>, PatelSamir <samir.patel@icloud.com>, Anne Steinle <anne.steinle@gmail.com>, Peter Holland <PLHolland@aol.com>, "tjo@visa.com" <tjo@visa.com>

Thank you for your email. I just saw this after ARB meeting. Today, the ARB directed the applicant to study/propose where a secondary vehicular exit/entrance might be provided for now or the future and return on March 1st (among other items).

From: Pat Beatty [mailto:patbeatty621@aol.com]
Sent: Wednesday, January 17, 2018 10:41 PM
To: Dwight Clark
Cc: Raschke, Matt; Ray Pendro; PatelSamir; Anne Steinle; Peter Holland; tjo@visa.com; French, Amy
Subject: Re: RESPONSE REQUESTED: entrance/exit location for 350 Sherman Ave. (from P. Beatty)

A concern I have is that there appears to be only one entrance/exit for cars in such a large structure. An additional entrance/exit or at least separate ones might be a prudent consideration.

Pat Beatty

2516 Birch Street

Palo Alto, CA

On Jan 12, 2018 4:11 PM, Dwight Clark <dwightcla@gmail.com> wrote:

Matt,

Thanks so much for that immediate response.

Dwight

On Fri, Jan 12, 2018 at 4:04 PM, Raschke, Matt <Matt.Raschke@cityofpaloalto.org> wrote:

Hi Dwight,

The TIA is attached to the DEIR that is available to download via this link: https://www.cityofpaloalto.org/civicax/filebank/blobdload.aspx?BlobID=62804

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The garage entrance is intentionally opposite the Visa driveway per the project traffic consultant's recommendation. It is an appropriate design where vehicles exiting each driveway are able to see each other and act as they would at a regular intersection were cross-traffic does not stop.

Thanks,

Matt


Description: Description: Description: cid:image001.jpg@01CD0081.14A23B90

Matt Raschke, PE | Senior Engineer

250 Hamilton Avenue | Palo Alto, CA 94301

D: 650.496.5937 | E: matt.raschke@cityofpaloalto.org

Please think of the environment before printing this email – Thank you!

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To: French, Amy
Cc: Ray Pendro; Raschke, Matt; PatelSamir; Anne Steinle; Pat Beatty; Peter Holland; tjo@visa.com
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I note that the quoted DEIR portion doesn't address the competing traffic into/out of the VISA parking garage virtually directly opposite as well as Birch Court traffic.

The DEIR states that the planned entrance is 90 feet from the corner of Birch. This places it almost directly opposite the VISA parking entrance and near the Birch Court entrance. The VISA building has 90 underground parking spaces, almost all of them generating traffic within an hour-and-a-half period at the beginning and end of each workday. Thus,

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Sent: Wednesday, October 11, 2017 9:12 AM
To: French, Amy
Cc: Anne Steinle; Pat Beatty; PatelSamir
Subject: Exit/entrance to proposed Sherman parking garag

Dear Amy French,

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May i ask for the courtesy of a response to this question?

Sincerely,

Dwight Clark

2510 Birch Street

Ray Pendro <rayp@migcom.com>

ARB member Peter Baltay comments on DEIR.pdf

1 message

French, Amy <Amy.French@cityofpaloalto.org> Tue, Jan 23, 2018 at 10:31 AM
To: Ray Pendro <rayp@migcom.com>
Cc: "Lee, Sandra" <Sandra.Lee@cityofpaloalto.org>, "Chew, Colette" <Colette.Chew@cityofpaloalto.org>, "Raschke, Matt" <Matt.Raschke@cityofpaloalto.org>, "Gerhardt, Jodie" <Jodie.Gerhardt@cityofpaloalto.org>, "Lait, Jonathan" <Jonathan.Lait@cityofpaloalto.org>

Attached are written comments on the PSB Project DEIR received from ARB member Baltay after the ARB meeting last Thursday.

ARB member Peter Baltay comments on DEIR.pdf
839K

L - 4

Comments of Peter Baltay

Peter Baltay's comments on EIR from Judie

4.3 IMPACTS AND MITIGATION MEASURES

4.3.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines[1] and on a City of Palo Alto impact criterion related to shadowing public spaces, the proposed PSB project would have a significant aesthetic impact if it would:

(a) Have a substantial, adverse effect on a scenic vista;

(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;

(c) Substantially degrade the existing visual character or quality of the site and its surroundings;

(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area ("glare" is defined in this EIR as the reflection of harsh bright light sufficient to cause physical discomfort or loss in visual performance and visibility); or

(e) Substantially shadow public open space (other than public streets and adjacent sidewalks) between 9:00 AM and 3:00 PM from September 21 to March 21.

Regarding criterion (a), the project site and immediate vicinity are relatively flat. Existing views *in the vicinity* are of a built environment that includes mixed use/commercial buildings, parking lots, and several multi-family residences. Also, there are no views of scenic vistas *from the project site*. There would be no impact, and this issue is not discussed further.

Regarding criterion (b), there are no designated or eligible state scenic highways within one mile of the project site and the project would not be visible from any locally designated scenic roads. There would be no impact, and this issue is not discussed further.

4.3.2 Proposed PSB Project Components

See earlier Figures 3.2, 3.3, and 3.4. The proposed **Public Safety Building (PSB)**, at 250 Sherman Avenue, would be located on the City's existing surface Parking Lot C-6. The PSB would be approximately a 45,000 to 50,000 square-foot (excluding accessory site buildings), three-story police station and fire/police administration building. The PSB would include two full-block subterranean floors of police parking and operations, and share its parcel with smaller operational accessory buildings, a secure operational yard, and a public plaza. The PSB would be a secure, essential services facility designed to support and protect the critical operations that occur inside. Due to the PSB's specialized uses, its design requires the careful balancing of transparency and solidity. The height of the PSB would be approximately 50'-0" above sidewalk level to top of roof.

?

[1]Criteria (a) through (d) are derived from CEQA Guidelines, Appendix G, Item I (a-d).

The **parking garage**, at 350 Sherman Avenue, would be located on the City's existing surface Parking Lot C-7. The parking garage would be four levels above grade and two stories below grade, with 636 public parking spaces serving the needs of the California Avenue business district. The parking structure would fill its site to nearly the property lines and utilize strategies such as a cascading exterior grand staircase and landscaped setback (on Birch Street), a pedestrian arcade (on Ash Street), and a partial-block pedestrian arcade leading to a mid-block paseo (on Jacaranda Lane) to provide appropriately scaled site amenities. The height of the California Avenue Parking Garage would be approximately 49'-0" above sidewalk level to top of roof-mounted photovoltaic (PV) panels.

The garage will require amendments to the City of Palo Alto Municipal Code (PAMC) Title 18 (Zoning), Chapter 18.28 (Special Purpose [PF, OS and AC] Districts), Sections 18.28.050, 18.28.060, and 18.28.090 to revise the Public Facilities (PF) zone parking and development standards to allow for the planned Minimum Setbacks (front, rear, interior side, and street side setbacks), Maximum Floor Area Ratio (FAR), Maximum Site Coverage, and Maximum Height (including within 150 feet of a residential district) in the Public Facilities zone. An ordinance is being processed with the PSB project development proposal. To the extent that other PF-zoned sites are included and affected by this ordinance revision, any future development of those sites would be subject to its own environmental review. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR for further detail.

The principal components of the PSB project are further described below.

Public Safety Building (PSB): The PSB is designed as a three-story, approximately 45,000 to 50,000 square-foot building (excluding accessory site buildings), 50'-0" tall at the roofline, over two levels of secure below-grade parking. The PSB will be approximately rectangular in shape with an articulated façade, constructed with an interior light well, and set back from the property line by an approximately 25-foot security standoff distance. Per City zoning guidelines, building equipment penthouse spaces (e.g., for elevators and stairs) may exceed the 50-foot building height limit by 15 feet.

Public Safety Building Basement Garage: The PSB will include an approximately 101,000 square-foot secure parking basement with between 145 and 150 parking spaces for police officers and staff. In addition to parking of police and staff vehicles, a variety of programmatic functions associated with police operations will also be located in the basement. The PSB basement will be served by two vehicle ramps. The primary two-way ramp will be located on Sherman Avenue, approximately 85 feet to the center of the ramp from the corner of Park Boulevard. The secondary two-way ramp will be located on Birch Street, approximately 136 feet from the corner of Sherman Avenue. Visitor parking for the PSB will be available in the project's new public parking garage across the street from the main entry on Birch Street.

Remove

Public Safety Building Exterior Operations Yard: The PSB will include an approximately 10,000 to 15,000 square-foot visually screened, secure exterior vehicle parking and staging area and associated one-story site support buildings. The PSB's emergency generator, chiller plant, and other building systems will be located in accessory structures at this location, as well as 6 to 10 surface parking spaces.

Telecommunications Tower: The PSB requires a 135-foot-high telecommunications tower (microwave tower). This component will be integrated into the building by providing a wall-mounted monopole approximately in the center of the project site, where the main building and the exterior operations yard meet (see earlier Figures 3.5 and 3.6). The monopole will visually relate to the pattern of verticals in the PSB's exterior design, and mounting it to the building is intended to improve its overall visual integration. The Palo Alto Municipal Code currently limits the monopole height to 65 feet; therefore, the proposed monopole, at 135 feet, would exceed City height restrictions. The same PF zone regulations being processed for the public parking garage includes zoning text changes to allow for the planned monopole. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR for further detail.

The requested microwave tower is needed for Palo Alto's participation in the Santa Clara County ECOMM Network for Public Safety Answering Points (PSAPs). The ECOMM system established a private microwave radio network that links all the 9-1-1 call centers in the County. The system also provides high-speed sharing of dispatch services, record databases, and voice traffic so that law enforcement, fire protection, and emergency medical services throughout the County can share communications. This integration allows first responders to improve response times and better manage regional incidents.[1]

Architectural Design: The PSB project employs contemporary architectural design carefully focusing on appropriate site planning, context, massing, scale, style, and materials and finishes, and subject to review and a recommendation by the City of Palo Alto Architectural Review Board (ARB). The City Council will receive the ARB's recommendation and make a final decision on the architectural design of the PSB, parking garage, and associated landscaping and site improvements. The architectural design presented in this EIR ~~follows a preliminary review of three design concepts by the ARB (see section 3.2, Project Background, of this EIR).~~

Public Plazas: See earlier Figure 3.3. The project will include a new exterior public plaza of approximately 5,000 square feet, including hardscape, street furniture, and landscape plantings on Birch Street in front of the PSB, and a smaller public space at the parking garage pedestrian entry on Birch Street on the property corner closest to California Avenue. The east side of the garage site is designed to visually connect the public space at the garage with the PSB plaza.

The plaza will include a variety of seating types, including built-in, planter edge, and moveable. Lighting will be on tapered poles with multiple heads ~~providing a tree-like motif.~~ Also, plaza furniture will have integrated, complementary lighting. The Birch Street, Sherman Avenue, and Park Avenue frontages of the PSB will have pole lights and planter-mounted landscape lights.

Landscaping: See earlier Figure 3.3. In order to implement a comprehensive landscaping plan, the project proposes to remove 38 on-site trees and protect one tree in place. The **PSB public plaza** will feature a low stone wall, a series of natural stone bollards, and a large raised planter that will provide soil and plantings otherwise absent due to the PSB parking garage directly below. The stone wall and bollards will provide a security barrier to vehicles while also demarcating entry into the public plaza. The plaza will be bordered along Birch Street by a double row of trees that will reinforce the public realm and provide shade.

[1] ECOMM Digital Microwave Project, Phase II, Initial Study/Environmental Assessment and Mitigated Negative Declaration. ESA, February 2010. P. 3.

The plaza planting is purposefully designed as a demonstration garden highlighting plants for water conservation and for habitat, including, for example, California native pollinator species, native grasses, drought-tolerant succulents, and native meadow rain garden plantings. Educational signage will be included.

Sherman Avenue and Park Avenue frontages of the PSB will feature a double row of street trees, utilizing raised planters where needed due to the parking garage below. The profile of the raised planters will vary to create seating areas and to provide rain gardens for storm water treatment. Jacaranda Lane will feature a raised garden courtyard secured for PSB staff.

The Birch Street, Sherman Avenue, and Park Avenue frontages of the PSB will have pedestrian pole lights and planter-mounted landscape lights. The Jacaranda Lane side of the security wall will feature vine plantings and lighting. From a street lighting standpoint, all pedestrian areas will be lit with low-level, focused lighting that reinforces the small-scale aspects of the plazas and streets, avoids light pollution, and reinforces the civic character of the facilities.

The landscaping of the **California Avenue Parking Garage** will work in tandem with the PSB. The Birch Street frontage will be composed of a series of raised planters with integral seating, an area of rain garden planting at the Sherman Avenue corner, and native woodland planting below the exterior staircase. Seating areas will be distributed along the length of the sidewalk. Along Sherman, the sidewalk will be widened to allow for street trees and rain garden planters and benches. Ash Street will have an arcade with seating and a widened sidewalk. The garage arcade along Jacaranda Lane has the potential to connect to the adjacent mid-block pedestrian paseo. Vine plantings along the Jacaranda façade will be considered to help green this face. Birch Street, Sherman Avenue, and Ash Street frontages of the garage will have pedestrian pole lights and planter-mounted landscape lights, in addition to building-mounted lighting.

The general tree planting strategy is to select species that will thrive in an urban environment, provide appropriate architectural emphasis and scale, and have relatively low maintenance and water requirements. Chapter 6 (Biological Resources) of this EIR provides more detail.

4.3.3 Material Relationships and Architecture

No!

See earlier Figures 3.5 through 3.8, which illustrate the proposed PSB project within the context of adjacent buildings. The PSB project's visual palette draws upon the terra cotta and off-white materials of Palo Alto's historic buildings, as well as the California Avenue district's mix of scales, materials, uses, styles, and pedestrian and public qualities.

Out of revise

The PSB massing is based on the articulation of a simple three-story rectangular volume elaborated through a series of additive, subtractive, and textural strategies. Some of these strategies include: a glass corner revealing an interior public staircase, a glazed ground level along the public plaza, generous window areas for key public interior spaces (such as the multi-purpose room), a canopy at the roofline that inflects toward the public plaza, and vertical window fins that provide both solar shading and a visual reference to traditional columns.

The primary exterior material for the PSB will be cast-in-place concrete. This material provides for the stringent ballistic resistance requirements as well as durability and aesthetics. The off-white concrete panels will have a rough, stone-like texture. Additional exterior materials will include terra cotta horizontal window screens in a neutral color to match the earth tones of the

precast concrete building; clear glass; painted steel at overhangs; and polycarbonate translucent canopy surface at the overhangs.

The **parking garage** massing will be simple and understated. The focal points are the grand exterior staircase that leads to California Avenue and the recessed pedestrian arcades along Ash and Jacaranda. Changes in materials visually reduce the long horizontal bands of the parking levels. Horizontal slats will support green screen vine planting.

The garage will be a cast-in-place concrete structure, with horizontal slats of terra cotta. The top level of the garage will have a continuous canopy of photovoltaic (PV) panels supported on a painted steel structure, providing solar power, shade, and a visual roof. The garage façade also will provide opportunities for public art installations, including along the wall that will support the grand staircase or along the Ash Street arcade.

4.3.4 Visual Simulations

To support this EIR visual impact analysis, computer-generated "before and after" visual simulations of the PSB project site as seen from an aerial perspective plus two representative off-site, public viewpoints have been prepared. (For these descriptions, Sherman Avenue is considered traversing east-west, and Birch Street is considered traversing north-south, consistent with the "Project North" arrows shown on the architectural illustrations.) The three selected viewpoints are:

- an aerial perspective from south of the PSB project site, looking north toward California Avenue (Figures 4.1A and 4.1B);
- a public, street-level view from the intersection of Birch Street and Jacaranda Lane, looking southeast toward Sherman Avenue and the County Courthouse (Figure 4.2); and
- a public, street-level view from Sherman Avenue, looking northeast across Birch Street toward the PSB and California Avenue (Figure 4.3).

The visual simulation images are based on the architectural renderings included in the Architectural Review Board (ARB) submittal package dated July 19, 2017.

4.3.5 Impacts and Mitigations

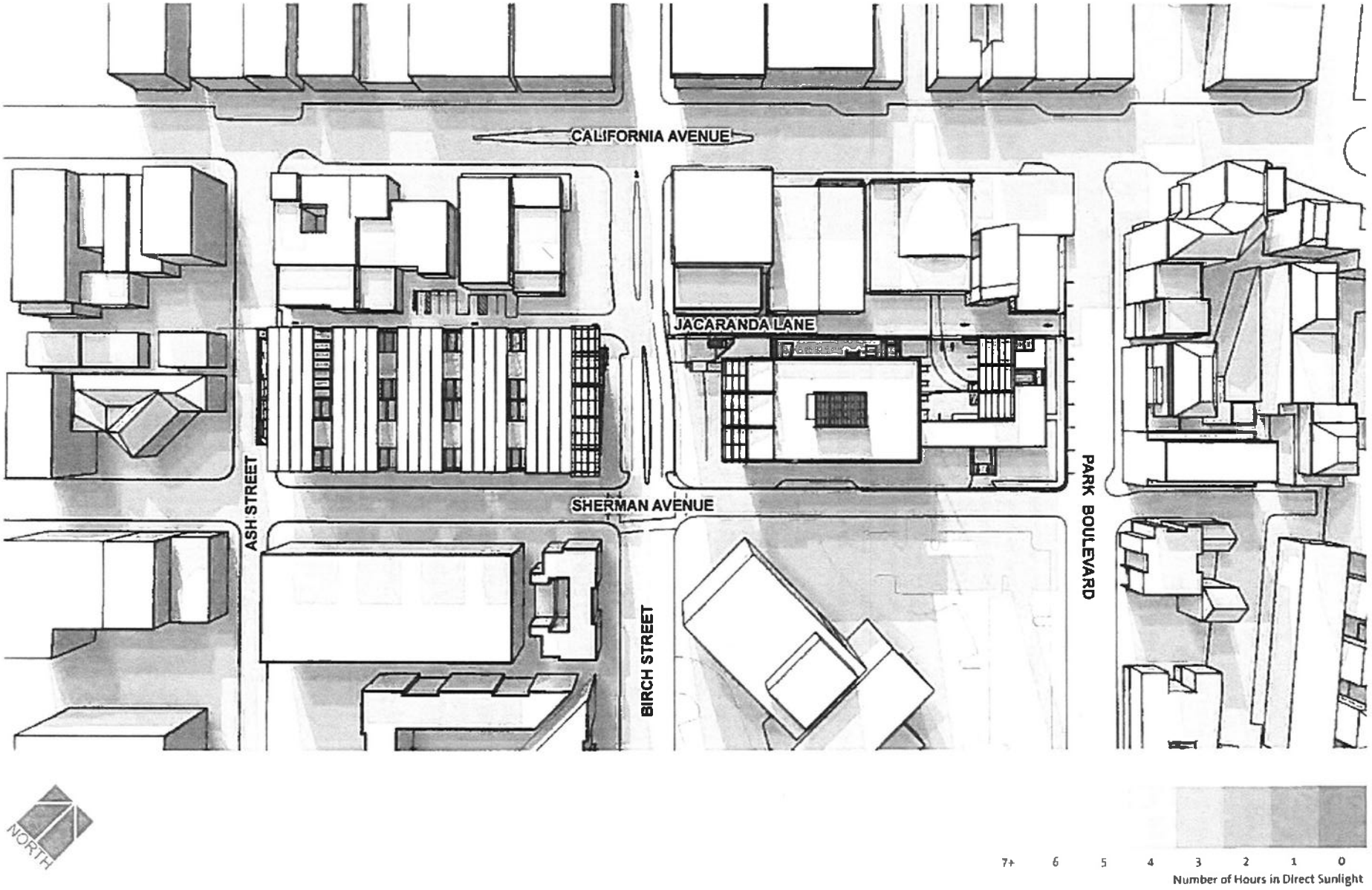
PSB previous design ... YES!

Would the project substantially degrade the existing visual character or quality of the site and its surroundings (Significance Criterion [c])? The proposed PSB land uses would be consistent with the land use designations for the site, as identified in the City of Palo Alto Comprehensive Plan Land Use Map, as well as the with the land uses allowed within this zone district, as identified in the Zoning Ordinance. The Comprehensive Plan designation for Lot C-6 (PSB) is "Public Facilities" and for Lot C-7 (public parking garage) "Regional Community Commercial." The zoning district for both Lots C-6 and C-7 is "Public Facilities (PF)."

The garage will require amendments to the City of Palo Alto Municipal Code (PAMC) Title 18 (Zoning), Chapter 18.28 (Special Purpose [PF, OS and AC] Districts), Sections 18.28.050, 18.28.060, and 18.28.090 to revise the Public Facilities (PF) zone parking and development standards to allow for the planned Minimum Setbacks (front, rear, interior side, and street side setbacks), Maximum Floor Area Ratio (FAR), Maximum Site Coverage, and Maximum Height

Source: RossDrulisCusenbery Architecture

Figure 4.1A - Existing Aerial View



Source: RossDrulisCusenbery Architecture

Figure 4.4 - Shadow Patterns: June 21 (Summer Solstice)

cast to the north; because the PSB site is north of Sarah Wallis Park, project shadows should not affect the park. Figures 4.4 through 4.6 confirm this conclusion. (Note that shadow patterns on the spring equinox, March 21, are very similar to those on the fall equinox, September 21; and that the winter solstice has the longest shadows.) Therefore, the shadow impacts of the proposed PSB project would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area ("glare" is defined in this EIR as the reflection of harsh bright light sufficient to cause physical discomfort or loss in visual performance and visibility) (Significance Criterion [d])? See Figure 4.7, which illustrates the light levels of the proposed PSB project. Existing sources of nighttime light within and around the project site include those common to urban areas, including street lights, parking lot lighting, building lighting, signs, vehicle headlamps, and interior lighting visible through windows. Glare is created by the reflection of sunlight and artificial light off windows, buildings, and other surfaces in the day, and from inadequately shielded and improperly directed light sources at night.

The proposed PSB project would result in additional nighttime lighting and increased light emanating from the project site. New sources of light would be installed as part of the new PSB and public parking garage, and new street lights and other light sources would be installed to illuminate entries, parking areas, sidewalks and open spaces for safety, security, and architectural purposes. The Birch Street, Sherman Avenue, and Park Avenue frontages of the PSB would have pedestrian pole lights and planter-mounted landscape lights. The Jacaranda Lane side of the security wall would feature vine plantings and lighting. From a street lighting standpoint, all pedestrian areas would be lit with low-level, focused lighting that reinforces the small-scale aspects of the plazas and streets, avoids light pollution, and reinforces the civic character of the facilities.

The PSB project would be required to meet the lighting performance criteria of Chapter 18.23.030 (Lighting) of the municipal code (see section 4.2, Regulatory Setting, above), which would be expected to adequately control brightness of lighting, glare, and sky glow. The light and glare impacts of the proposed PSB project would therefore be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

ource RossDrulisCusenbery Architecture

Figure 4.3 - Visual Simulation: Sherman Avenue at Birch Street

(including within 150 feet of a residential district) in the Public Facilities zone. An ordinance is being processed with the PSB project development proposal. To the extent that other PF-zoned sites are included and affected by this ordinance revision, any future development of those sites would be subject to its own environmental review. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR for further detail.

Regarding the proposed telecommunications tower, the Palo Alto Municipal Code currently limits the monopole height to 65 feet; therefore, the proposed monopole, at 135 feet, would exceed City height restrictions. The same PF zone regulations being processed for the public parking garage include zoning text changes to allow for the planned monopole and alley setback encroachment by the PSB. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR for further detail.

To be shown...

As discussed above, the proposed PSB project is purposefully designed to be integrated into, and contribute to, the public environment of the California Avenue business district and the surrounding neighborhood. Simultaneously, the project has been designed to meet the programmatic and security needs of the City's Police Department, Office of Emergency Services, Emergency Operations Center, Emergency Communications Center, and Fire Administration Division. The telecommunications monopole is a necessary structure that will enable the City to participate in the countywide police protection and first responder ECOMM network; the monopole would be centrally located on the project site and integrated into the PSB design.

Regarding materials, the PSB project's visual palette draws upon the terra cotta and off-white materials of Palo Alto's historic buildings, as well as the California Avenue district's mix of scales, materials, uses, styles, and pedestrian and public qualities.

The project design has been subject to the City's Architectural Review process. The ARB offered input about design opportunities and provided direction to the design team on how best to further refine the design as various iterations were presented. Designs options were also presented to the PSB's user groups and some community representatives. The current proposal evaluated in this EIR has emerged from this process.

Not Yet!

In summary, the proposed PSB project would be expected to result in a more connected and coherent pedestrian and visual environment in the California Avenue business district and the surrounding neighborhood, with building heights and massing consistent and compatible with nearby structures, including the County Courthouse across Sherman Avenue form the project site. The impacts of the proposed PSB project on the visual character and quality of the project site and surrounding area would therefore be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Would the project substantially shadow public open space (other than public streets and adjacent sidewalks) between 9:00 AM and 3:00 PM from September 21 to March 21 (Significance Criterion [e])? Regarding shadow impacts, there are no public spaces immediately adjacent to the project site. The nearest public space is Sarah Wallis Park, located at Grant and Ash Streets, approximately one-half block to the south and obscured from the project site by existing buildings. Therefore, no shadow impact from the proposed PSB project would result relevant to the City's criterion. Generally, in the northern hemisphere, shadows are

Ray Pendro <rayp@migcom.com>

FW: Public Safety Building DEIR Public Comment - Resident Input v2

1 message

Raschke, Matt <Matt.Raschke@cityofpaloalto.org> Fri, Feb 16, 2018 at 9:26 AM
To: "Ray Pendro - MIG (rayp@migcom.com)" <rayp@migcom.com>, "French, Amy" <Amy.French@cityofpaloalto.org>
Cc: "Tom Larson (tlarson@rdcarchitecture.com)" <tlarson@rdcarchitecture.com>, Joe Capps-Jenner <joecj@novapartners.com>, Hans de Roos <hans@novapartners.com>

Attached, please find revised DEIR comments from Hamilton Hitchings.

From: Hamilton Hitchings [mailto:hitchingsh@yahoo.com]
Sent: Thursday, February 15, 2018 6:50 PM
To: Raschke, Matt; pwecips; Eggleston, Brad; Gitelman, Hillary; Dueker, Kenneth; Lum, Patty
Cc: Lydia Kou; Glanckopf, Annette; Esther Nigenda; Summa, Doria; Lee, Elena; Filseth, Eric (external); Furman, Sheri; Norman H. Beamer
Subject: Public Safety Building DEIR Public Comment - Resident Input v2

Please use this updated version of my comments in this email below as my City of Palo Alto Public Safety Building DEIR input. Upon further research and review I have upgrade my references to only include USGS and ABAG and after more closely looking at the DEIR have strengthened my conclusions.

Hamilton Hitchings

Palo Alto Resident

Dear Planning and Public Works Departments. Below are my comments on the Palo Alto Public Safety Building Draft EIR to be included in the public record.

My name is Hamilton Hitchings and I have been living in Palo Alto since the mid 1990s. I served on the Palo Alto Citizen Advisory Committee for the Comprehensive Plan and the sub-committee that updated the Public Safety Element. I am also an active Emergency Services Volunteer including BPC, CERT and NPC.

My top priority with these comments is to see a high quality Public Safety Building that meets the needs of our Police, Fire Administration, 911 Call Center and Office of Emergency Services for the next 50 years and will continue to function after a major earthquake. The current Police Station has been in service for 57 years so it's important to remember a 30 year design frame is likely very insufficient.

I believe the DEIR underestimates both the probability and magnitude of an earthquake at the location of the Public Safety building based on reading the references to ABAG and the USGS and have attached

---------- Reference Below ----------

What is the difference between Magnitude and Intensity. There is a very short USGS website page explains it very well, which I have quoted below the link:

https://earthquake.usgs.gov/learn/topics/mag_vs_int.php

"Magnitude and Intensity measure different characteristics of earthquakes. Magnitude measures the energy released at the source of the earthquake. Magnitude is determined from measurements on seismographs. Intensity measures the strength of shaking produced by the earthquake at a certain location. Intensity is determined from effects on people, human structures, and the natural environment."

Magnitude of 5.0 to 5.9 is roughly equivalent to Intensity (MMI) of 6 - 7
Magnitude of 6.0 to 6.9 is roughly equivalent to Intensity (MMI) of 7 - 9
Magnitude of 7.0 and higher is roughly equivalent to Intensity (MMI) of 8 or higher

The DEIR says the building is being designed to withstand an MMI 7

MMI VII Definition:"Very Strong"
Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.

MMI VIII Definition: "Severe"
Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.

On Saturday, February 3, 2018, 3:32:15 PM PST, Hamilton Hitchings <hitchingsh@yahoo.com> wrote:

Dear Planning, Public Works, Police & OES Departments. Below are my comments on the Palo Alto Public Safety Building Draft EIR to be included in the public record.

My name is Hamilton Hitchings and I have been living in Palo Alto since the mid 1990s. I served on the Palo Alto Citizen Advisory Committee for the Comprehensive Plan and the sub-committee that updated the Public Safety Element. I am also an active Emergency Services Volunteer including BPC, CERT and NPC.

My top concern is to see a high quality Public Safety Building that meets the needs of our Police, Fire Administration, 911 Call Center and Office of Emergency Services for the next 50 years and will continue to function and be operational after

a major earthquake. The current Police Station has been in service for 57 years so it's important to remember a 30 year design frame is likely very insufficient.

I am concerned the DEIR may underestimate the magnitude of an earthquake at the location of the Public Safety building based on reading the references to ABAG and the USGS and have attached those as well so it's easy to see why. If I'm wrong, which is certainly possible since I've only read a few parts of the 877 page DEIR, please let me know by referring me to the proper pages but most importantly please let the public know the standard to which you are designing the building and ensure its sufficient.

On DEIR section 8-3, page 160 (attached) please update the DEIR to latest USGS earthquake estimates published in June 2016, say there is a 72% probability of 6.7 or greater in the Bay Area in the next 30 years, including 22% on the San Andreas Fault. See the attached color PDF from the USGS Report first page.

DEIR section 8-3 page 160 also says the shaking from an earthquake at the location of the new Public Safety Building is expected to only be an MMI (Modified Mercali Intensity) of 7. This is very roughly equivalent to a magnitude 6.0 Richter scale at the site of the Public Safety Building (see more discussion below on the details of this). The DEIR sites the reason for estimating an MMI 7 because it states that is what should be expected at the site of the Public Safety Building according to the USGS and ABAG and cites the ABAG website. Upon visiting this ABAG website http://gis.abag.ca.gov/website/Hazards/ and selecting the moderate earthquake intensity for the San Andreas fault of Richter magnitude 7.2 it shows this would cause an MMI of 8 for the Public Safety Building. I've attached a screenshot. Note, there is also an option to select a 7.8 earthquake on the San Andreas fault.

In 2008 the USGS also estimated that there was a 15% of a 7.5 or greater magnitude earthquake in Northern California in the next 30 years. See USGS attachment 1st page. This is equivalent to an MMI of 9 or 10. It is a possibility for the Bay Area. I've attached this USGS report as well and its on the first page.

Therefore it's possible that the DEIR underestimates the potential shaking that can occur from an earthquake according to its own sources it cites and certainly does not account for a major earthquake on the San Andreas Fault even as low as 7.2. Therefore there is a real possibility the building is being under designed for earthquake resilience. If the Public Safety Building is only being designed to withstand an MMI of VII (7) instead of 8 that would be a giant oversight and not meeting the objectives of the project since an MMI of 8 is a very feasible possibility. Please update the DEIR to state that Public Safety Building is being designed for at very least an MMI of 8 and ideally a 9 (which is equivalent to very approximately a Richter scale of 7.0 at the Public Safety Building) and can remain operational thereafter. Please refer to the attached screenshot in this email of the ABAG website with the San Andreas 7.2 richter scale selected that shows the new public safety building is subject to an MMI of 8.

On page 8-11 it states "Impact 8-1: Geotechnical Hazards Associated with Project Excavation and Grading. "...These possible excavation and grading hazards represent a potentially significant impact"

Mitigation 8-1 is " a registered engineering geologist or geotechnical engineer to prepare detailed, construction level geotechnical investigations to guide the construction of all project grading and excavation activities. " prior to issuing a permit.

To me this raises concern whether this will be adequate. Especially when the building is potentially being under designed for an MMI of 7. For other critical facilities in the Bay Area such as the Stanford Hospital, Berkeley Police Station, San Francisco and Oakland City halls they have employed a construction technique called base isolation to minimize shaking, which is also widely used in Japan. While base isolation may or may not be required, the current design goals and mitigations could easily be too low.

What is the difference between Richter scale and MMI? the Richter scale is a mathematical measurement of the the intensity of the ground shaking, as measured on a seismograph. The Modified Mercalli Intensity (MMI) scale measures the effects of an earthquake and how people feel and react to the shaking of an earthquake. To me the Richter scale seems more precise and I would like the DEIR to also state the design goal for the Richter scale. Specifically, what level on the Richter scale is the Public Safety Building being designed to withstand and remain operational after a major earthquake.

MMI 7 is very roughly equivalent to a Richter scale of 6.0
MMI 8 is very roughly equivalent to a Richter scale of 6 - 7
MMI 9 is very roughly equivalent to a Richter scale of 7
Reference: http://www.geography-site.co.uk/pages/physical/earth/richt.html

The DEIR says the building is being designed to withstand an MMI 7

MMI VII Definition:"Very Strong"
Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.

MMI VIII Definition: "Severe"
Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.

Reference: https://en.wikipedia.org/wiki/Mercalli_intensity_scale

Please view the short USGS and ABAG attachments as well.

Thank you for reading my whole email :-)

Hamilton Hitchings

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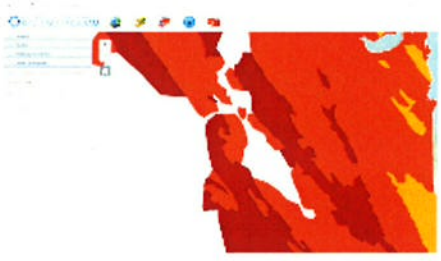
5 attachments



ABAG_Probabilistic_Seismic_Hazard_Assessment_Shows_Bay_Area_Is_MMI_8.PNG
80K

ABAG_MMI_8_For_New_Public_Safety_Building_From_San_Andreas_Fault.PNG
1157K

USGS_Earthquake_Outlook_for_the_SF_Bay_Region_2014-2043.pdf
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DEIR_8-3_Page160.pdf
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USGS_2008_7.5_Magnitude_Estimate_NorCal_fs2008-3027.pdf
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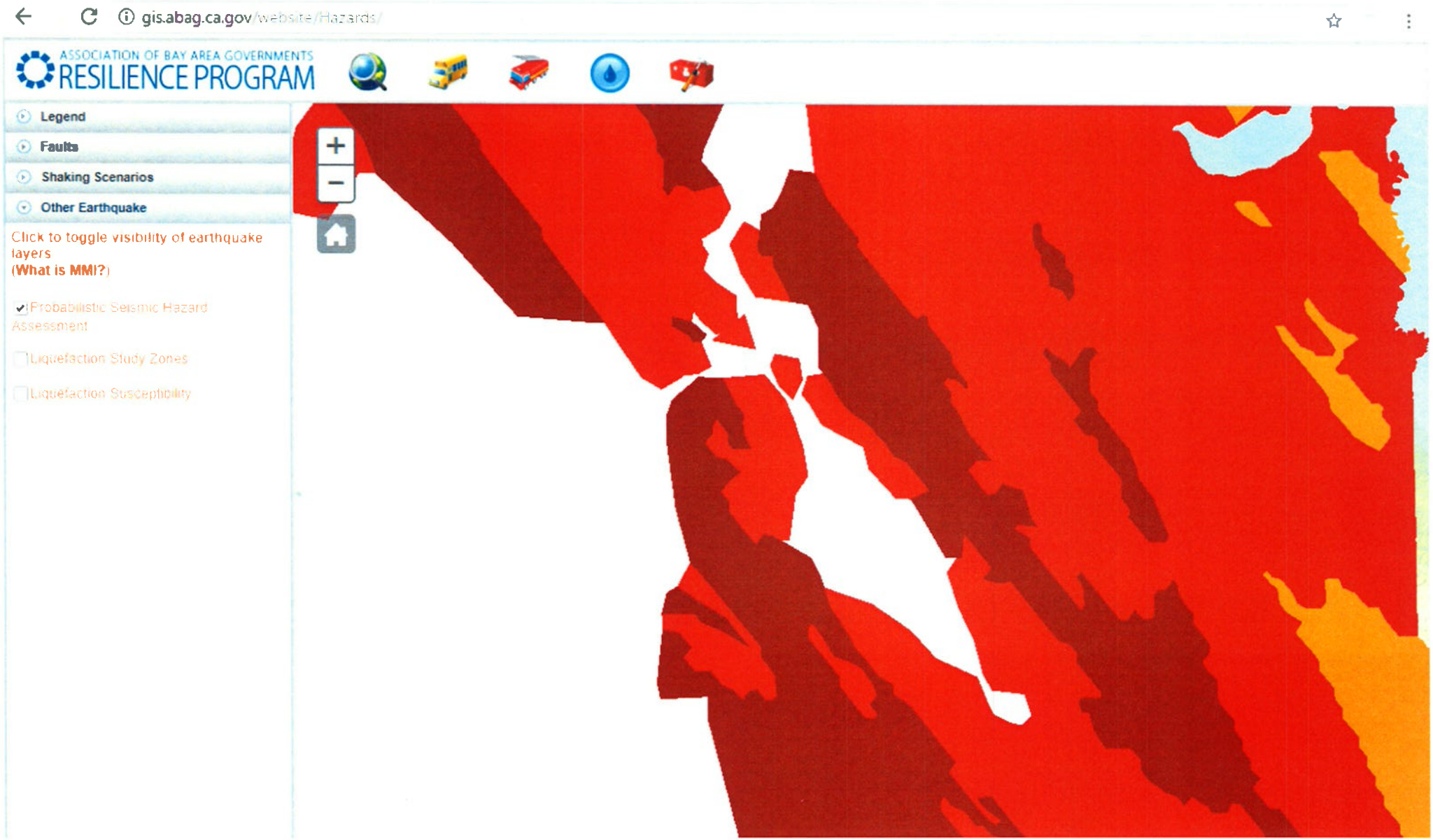

gis.abag.ca.gov/website/Hazards/
ASSOCIATION OF BAY AREA GOVERNMENTS
RESILIENCE PROGRAM
Legend
Faults
Shaking Scenarios
Other Earthquake
Click to toggle visibility of earthquake layers
(What is MMI?)
Probabilistic Seismic Hazard Assessment
Liquefaction Study Zones
Liquefaction Susceptibility

resilience.abag.ca.gov/earthquakes/mmi-legend/

RESILIENCE PROGRAM

MMI Legend

Modified Mercalli Intensity
Shaking Severity Level

- 9 - Violent
- 8 - Very Strong
- 7 - Strong

This map is intended for planning only. Intensities may be incorrect by one unit higher or lower

Bay Area Hazards

gis.abag.ca.gov/website/Hazards/?hlyr=calaverasCentral&co=6085

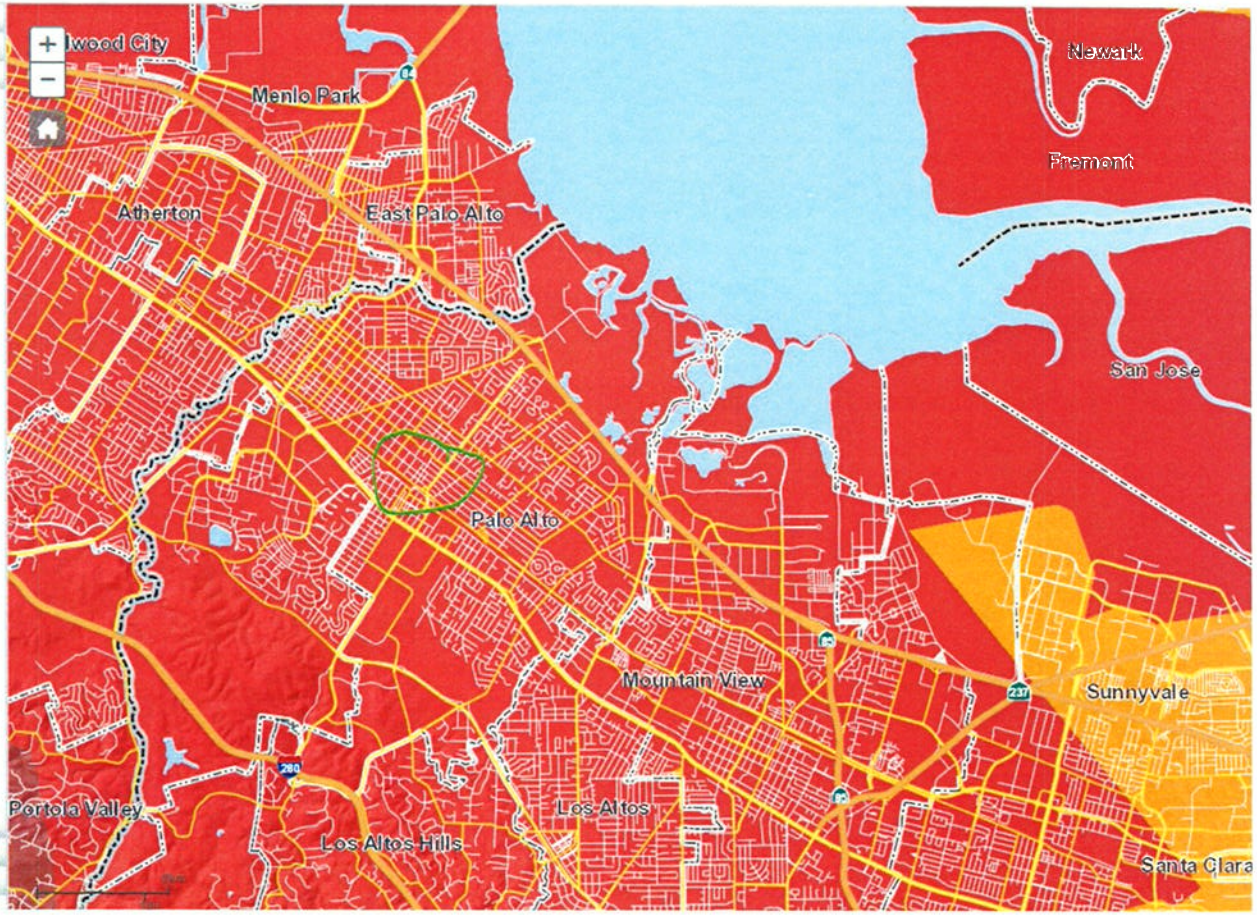
ASSOCIATION OF BAY AREA GOVERNMENTS
RESILIENCE PROGRAM

- Legend
- Faults
- Shaking Scenarios

Click to toggle visibility of shaking scenario layers
(What is MMI?)

- Berryessa (M7.1)
- Calaveras (Central) (M6.4)
- Calaveras (All Segments) (M7.0)
- Concord-Southern Green Valley (M6.8)
- Great Valley - Segment 4b (Gordon Valley) (M6.8)
- Great Valley - Segment 5 (Kirby Hills) (M6.7)
- Greenville (M7.0)
- Hayward (South) (M6.8)
- Hayward (North & South) (M7.0)
- Maacama (M7.4)
- Mount Diablo (M6.7)
- Rodgers Creek (M7.1)
- San Andreas (All Northern Segments) (M7.8)
- ✓ San Andreas (Peninsula) (M7.2)
- San Gregorio (M7.5)
- West Napa (M6.7)

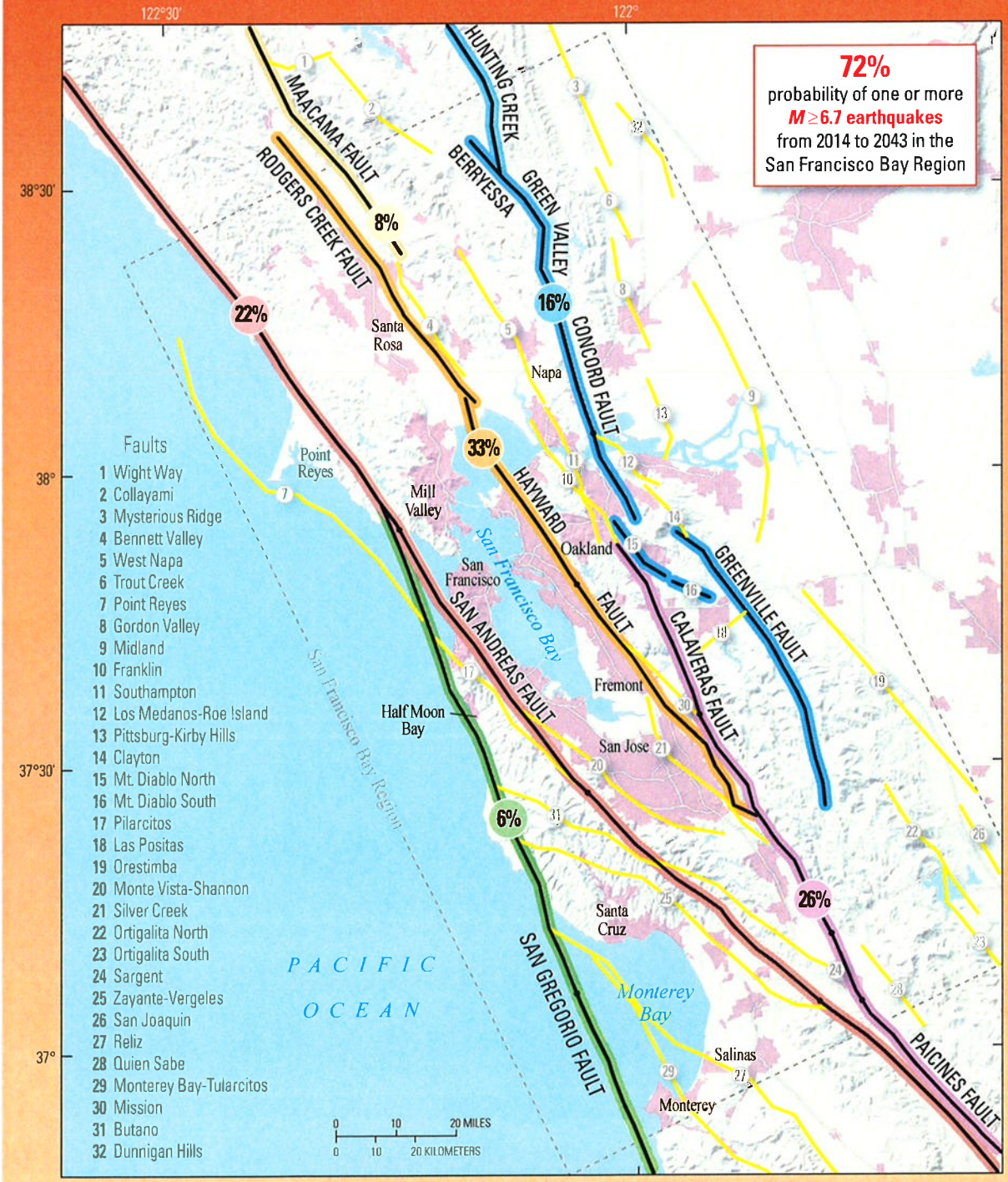
- Other Earthquake
- Flooding
- Wildfire



USGS
science for a changing world

Earthquake Outlook for the San Francisco Bay Region 2014–2043

L-5



Using information from recent earthquakes, improved mapping of active faults, and a new model for estimating earthquake probabilities, the 2014 Working Group on California Earthquake Probabilities updated the 30-year earthquake forecast for California. They concluded that there is a 72 percent probability (or likelihood) of at least one earthquake of magnitude 6.7 or greater striking somewhere in the San Francisco Bay region before 2043. Earthquakes this large are capable of causing widespread damage; therefore, communities in the region should take simple steps to help reduce injuries, damage, and disruption, as well as accelerate recovery from these earthquakes.

EXPLANATION

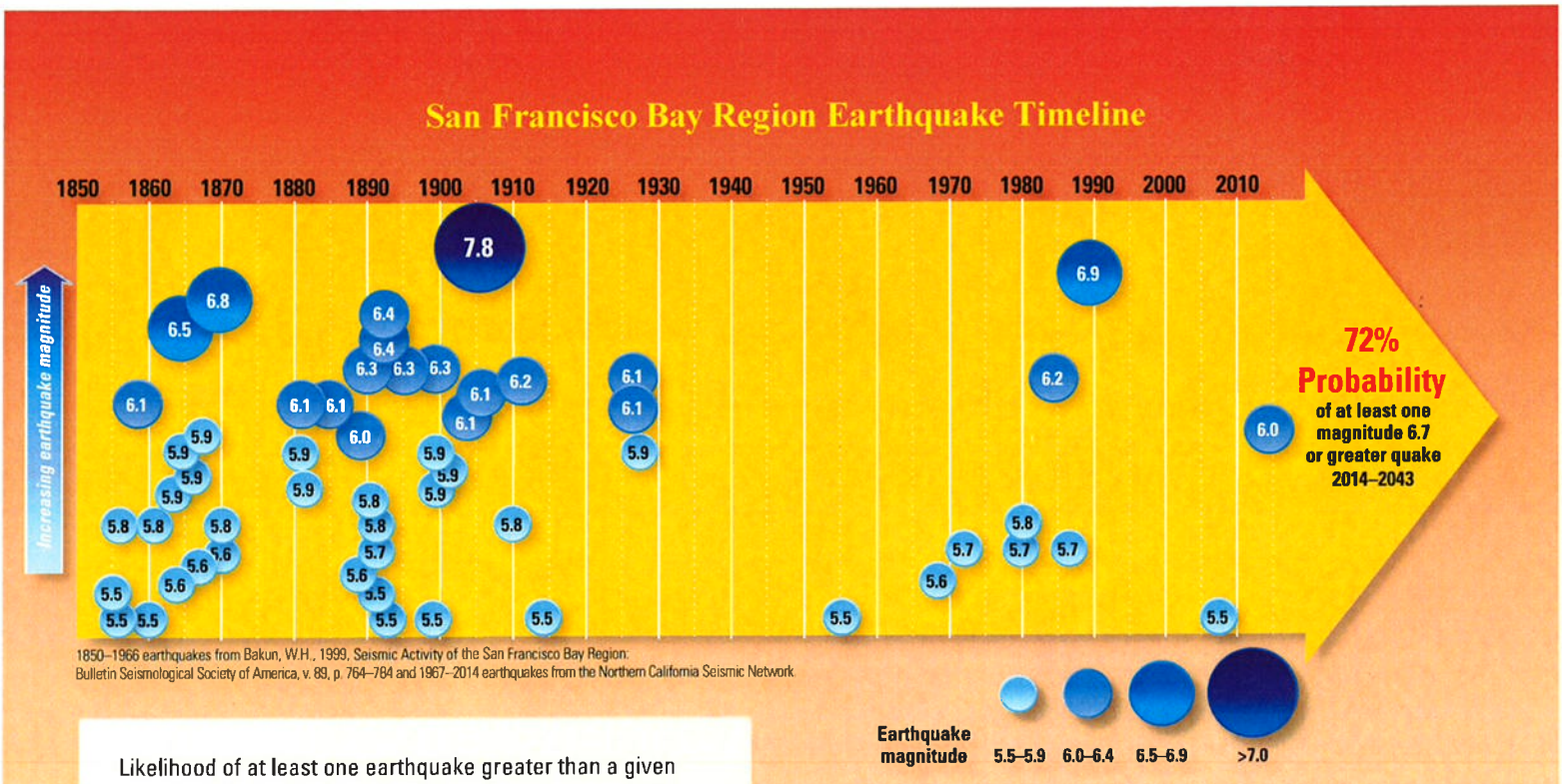
- Major plate boundary faults
- 3 Lesser-known smaller faults
- Urban areas

Map of known active faults in the San Francisco Bay region. The 72 percent probability of a magnitude 6.7 or greater earthquake includes the well-known major plate-boundary faults, lesser-known faults, and unknown faults. The percentage shown within each colored circle is the probability that a magnitude 6.7 or greater earthquake will occur somewhere on that fault system by the year 2043. The probability that a magnitude 6.7 or greater earthquake will involve one of the lesser-known faults is 13 percent.

Building damaged in 2014 South Napa earthquake. Photograph by Erol Kalkan, U.S. Geological Survey.

U.S. Department of the Interior
U.S. Geological Survey

Fact Sheet 2016–3020
Revised August 2016 (ver. 1.1)



1850–1966 earthquakes from Bakun, W.H., 1999, Seismic Activity of the San Francisco Bay Region: Bulletin Seismological Society of America, v. 89, p. 764–784 and 1967–2014 earthquakes from the Northern California Seismic Network

Likelihood of at least one earthquake greater than a given magnitude in the San Francisco Bay region between 2014 and 2043.

Magnitude (*M*)	30-year likelihood of at least one earthquake in the San Francisco Bay region
$M \geq 6.0$	98 percent
$M \geq 6.7$	72 percent
$M \geq 7.0$	51 percent
$M \geq 7.5$	20 percent

Timeline of magnitude 5.5 and greater earthquakes in the San Francisco Bay region 1850–2014. In the 50 years prior to 1906, there were 13 earthquakes with a magnitude between 6 and 7, but only 6 earthquakes of similar magnitude in the 110 years since 1906. The rate of large earthquakes is expected to increase from this low level as tectonic plate movements continue to increase the stress on the faults in the region.

Earthquake Preparedness Helps

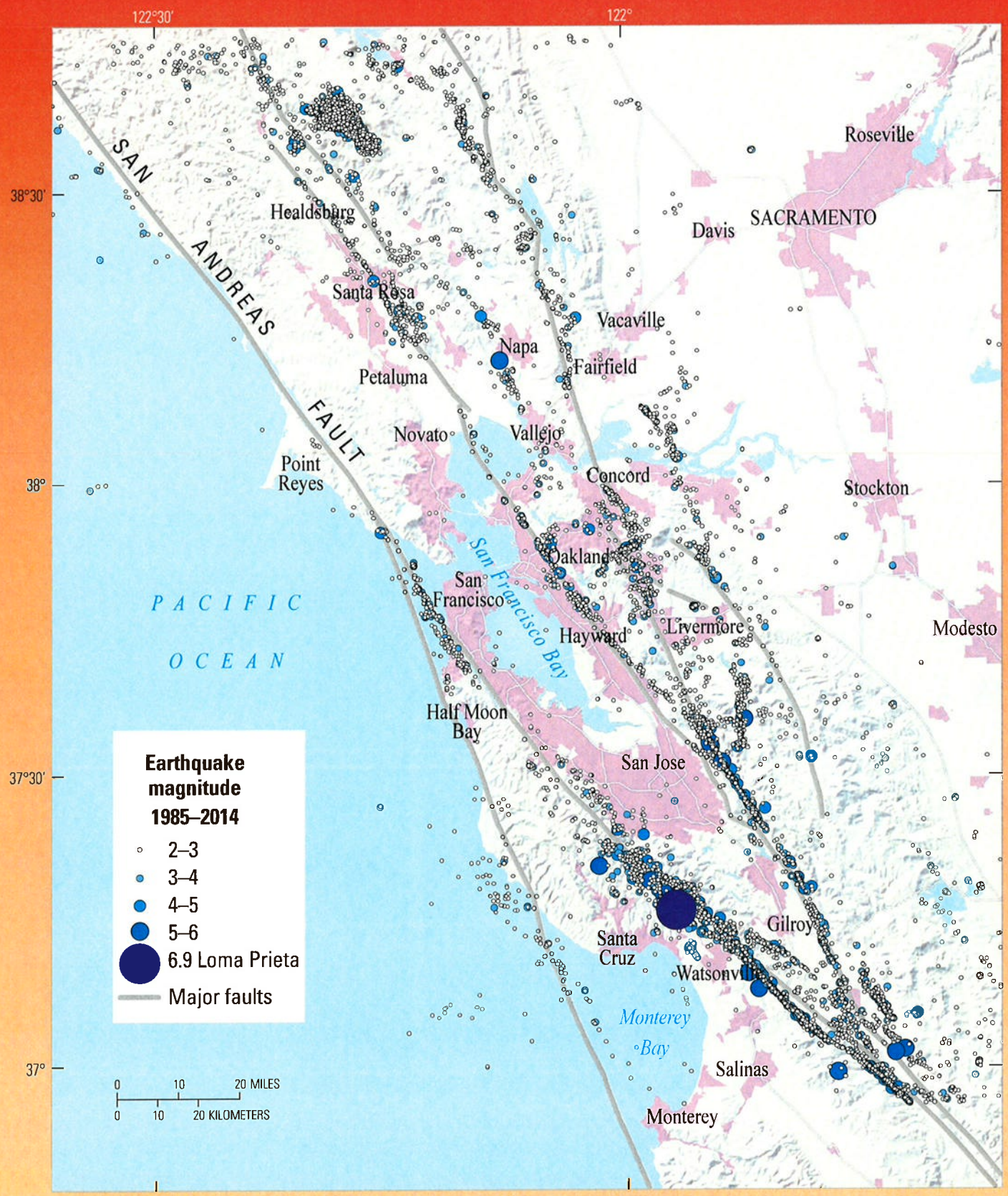
Early Sunday morning on August 24, 2014, the residents of Napa, California, were jolted awake by a strong, magnitude 6.0 earthquake. Within 30 minutes, the staff of Becoming Independent, a non-profit organization that helps adults with intellectual disabilities lead independent lives, called the people they serve in the affected area. The staff quickly visited all of the clients that needed help with cleanup and making their homes safe, a task made easier because both groups were trained in disaster preparedness and the clients had emergency kits with needed supplies on hand. The South Napa earthquake shifted houses off their foundations, damaged chimneys, started fires, and broke water mains throughout the city, causing hundreds of millions of dollars in economic losses. Many historic masonry buildings in downtown Napa were damaged. The earthquake was the largest in the San Francisco Bay region since the 1989 magnitude 6.9 Loma Prieta earthquake and a clear reminder of the seismic vulnerability of the region. The staff and clients of Becoming Independent showed that understanding and preparing for these events can improve how we live with future earthquakes.

Why Does the San Francisco Bay Region Have Earthquakes?

The same geologic process that is responsible for the San Francisco Bay region's beautiful coastlines, bays, hills, and valleys is also the primary driving force for earthquakes along faults in the region. The Bay region is located within the active boundary between the Pacific and the North American tectonic plates, where the Pacific plate slowly and continually slides northwest past the North American plate. The San Andreas Fault, on which two magnitude 7.8–7.9 earthquakes have occurred in historical time, including the 1906 San Francisco earthquake, is the fastest slipping fault along the plate boundary. Other major plate boundary faults in the San Francisco Bay region include the Hayward, Rodgers Creek, Calaveras, Maacama, San Gregorio, Concord, Green Valley, and Greenville Faults.

How Do Scientists Calculate Earthquake Probability?

Scientists rely upon a variety of techniques to help understand the rate and magnitude of past earthquakes in order to estimate the likelihood of future earthquakes. The Global Positioning System (GPS) and other land surveying and geologic techniques have allowed scientists to make more accurate measurements of how the current plate motions—totaling 1.6 inches per year across the San Francisco Bay region—distribute stress onto these individual faults. Balancing plate motions with the slip during large earthquakes and slow creep on faults allows scientists to calculate average rates of earthquake occurrence over periods of hundreds to thousands of years. (Continued on page 4)



Map of earthquakes greater than magnitude 2.0 in the San Francisco Bay region from 1985–2014. Small earthquakes occur on both major faults (shown by the gray lines) and minor faults (not shown). Because of the variability of fault geometry, earthquakes at depth do not always coincide with the mapped faults at the Earth's surface. There are sections of major faults, particularly the San Andreas Fault, with few or no small earthquakes but they will produce large earthquakes in the future. Compiled from the Northern California Seismic Network.

(Continued from page 2). A trench excavated across the Hayward Fault in Fremont revealed evidence of 12 large earthquakes over the past 1,900 years. The time interval between these earthquakes ranged from about 100 to 210 years. Historical records indicate that the most recent large earthquake on this fault occurred in 1868. However, detailed information about other past earthquakes in the San Francisco Bay region is difficult to obtain because seismograph records only go back to about 1900, historical accounts are sparse before 1850, and there are limited locations where faults can be trenched to identify and date prehistoric earthquakes.

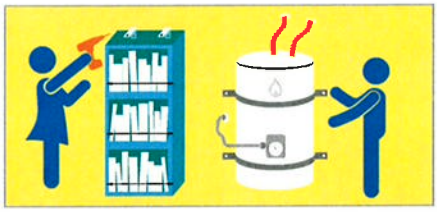
Calculating accurate earthquake probabilities for short periods, such as 30 years, is also challenging. Although the 30-year time interval is convenient for humans, it is much less than the average time between large earthquakes on these faults, which can range from hundreds to thousands of years. The rate of large earthquakes in the San Francisco Bay region was high in the late 1800s but dropped abruptly after the 1906 San Francisco earthquake on the San Andreas Fault. Scientists believe that the post-1906 earthquake rate decreased because the large amount of slip along the San Andreas Fault in 1906 temporarily reduced the stress on many of the faults in the region. However, the ongoing motion of the tectonic plates began rebuilding stresses after the 1906 event, and earthquakes larger than magnitude 5.5 resumed during the second half of the 20th century. Future large, damaging earthquakes in the San Francisco Bay region, similar in size to the 1989 Loma Prieta and 1906 San Francisco earthquakes, may or may not be accompanied by the level of earthquake activity observed in the late 1800s.

The 2014 Uniform California Earthquake Rupture Forecast version 3 (http://pubs.usgs.gov/fs/2015/3009/) provides an updated estimate of the likelihood of large earthquakes in California over a 30-year time window from 2014 to 2043. The forecast accounts for how fast stress is accumulating on each fault due to plate motions and the time since its most recent large earthquake(s). In updating the probability calculations, scientists used a more complete set of faults for the San Francisco Bay region than those used in the previous (2008) calculations, adding 32 smaller faults to the 5 major fault systems. The new study has also incorporated more options for how multiple faults might rupture together in large earthquakes.

Seven Steps to Earthquake Safety

PREPARE

Before the next big earthquake we recommend these four steps that will make you, your family, or your workplace better prepared to survive and recover quickly:



Step 1: Secure your space by identifying hazards and securing moveable items.

Step 2: Plan to be safe by creating a disaster plan and deciding how you will communicate in an emergency.

Step 3: Organize disaster supplies in convenient locations.

Step 4: Minimize financial hardship by organizing important documents, strengthening your property, and considering insurance.

SURVIVE

During the next big earthquake, and immediately after, is when your level of preparedness will make a difference in how you and others survive and can respond to emergencies:

Step 5: Drop, Cover, and Hold On when the earth shakes.

Step 6: Improve safety after earthquakes by evacuating if necessary, helping the injured, and preventing further injuries or damage.

RECOVER

After the immediate threat of the earthquake has passed, your level of preparedness will determine your quality of life in the weeks and months that follow:

Step 7: Reconnect and Restore. Restore daily life by reconnecting with others, repairing damage, and rebuilding community.

Adapted from Seven Steps To Earthquake Safety
http://earthquakecountry.org/sevensteps/

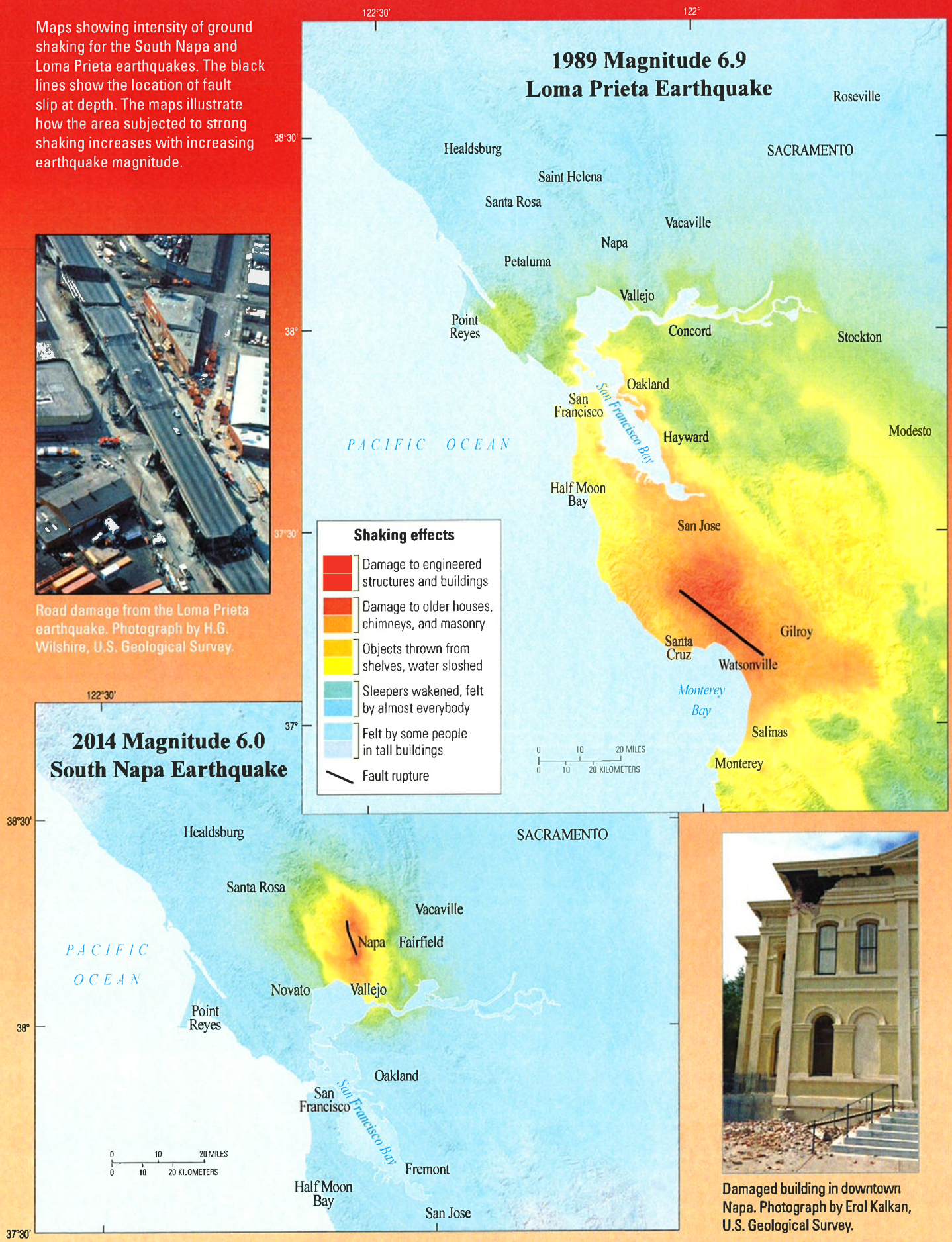
Probabilities of Earthquakes in the San Francisco Bay Region

Smaller earthquakes occur more frequently than larger earthquakes. The probability that an earthquake of magnitude 6.0 or larger will occur before 2043 is 98 percent. The probability of at least one earthquake of magnitude 6.7 or larger in the San Francisco Bay region is 72 percent, and for at least one earthquake of magnitude 7.0 or larger it is 51 percent. These probabilities include earthquakes on the major faults, lesser-known faults, and unknown faults.

The probability of a large earthquake occurring on an individual fault in the San Francisco region is lower than the probability of an earthquake occurring anywhere in the region. The faults in the region with the highest estimated probability of generating damaging earthquakes between 2014 and 2043 are the Hayward, Rodgers Creek, Calaveras, and San Andreas Faults. In this 30-year period, the probability of an earthquake of magnitude 6.7 or larger occurring is 22 percent along the San Andreas Fault and 33 percent for the Hayward or Rodgers Creek Faults. Individual sections of these faults have lower probabilities for large earthquakes to occur (continued on page 6);

Maps showing intensity of ground shaking for the South Napa and Loma Prieta earthquakes. The black lines show the location of fault slip at depth. The maps illustrate how the area subjected to strong shaking increases with increasing earthquake magnitude.

Road damage from the Loma Prieta earthquake. Photograph by H.G. Wilshire, U.S. Geological Survey.



Damaged building in downtown Napa. Photograph by Erol Kalkan, U.S. Geological Survey.

Additional Earthquake Resources

American Red Cross – Bay Area (http://www.redcross.org/local/northern-california-coastal)
Association of Bay Area Governments (http://resilience.abag.ca.gov/earthquakes/)
Bay Area Earthquake Alliance (http://bayquakealliance.org/)
California Earthquake Authority (http://www.californiarocks.com/)
California Geological Survey (http://www.consrv.ca.gov/cgs/geologic_hazards/earthquakes)
Did You Feel It? (http://earthquake.usgs.gov/earthquakes/dyfi/)
Earthquake Country Alliance (http://earthquakecountry.org/)
Putting Down Roots in Earthquake Country (http://pubs.usgs.gov/gip/2005/15/)
ShakeAlert – An Earthquake Early Warning System for the United States West Coast (http://pubs.usgs.gov/fs/2014/3083/)
ShakeMap (http://www.cisn.org/shakemap/nc/shake/index.html)
ShakeOut.org (http://www.shakeout.org/california/bayarea/)
Uniform California Earthquake Rupture Fault version 3 Fact Sheet (http://pubs.usgs.gov/fs/2015/3009/)
United Policyholders (http://www.uphelp.org/)
USGS Real-Time Earthquakes (http://earthquake.usgs.gov/earthquakes/map/)

Damaged building in downtown Napa. Photograph by Erol Kalkan, U.S. Geological Survey.

(continued from page 5) however, an earthquake of magnitude 6.7 or larger will cause strong shaking over a broad area. Therefore, it is important to estimate the probability of a large earthquake occurring anywhere in the San Francisco Bay region.

What is the Likelihood That an Earthquake Will Affect You?

Earthquake probabilities are only one component in the evaluation of earthquake hazards. Higher magnitude earthquakes have broader areas of intense shaking and cause more damage than lower magnitude earthquakes. In a magnitude 6.0 earthquake, strong shaking and damage are confined to a localized area, as illustrated by the 2014 South Napa earthquake. In comparison, the 1989 magnitude 6.9 Loma Prieta earthquake caused damage over a region nearly 100 miles long. Local soil and geologic conditions, bedrock type, quality of building construction, and susceptibility to flooding (caused by dam or levee failure) can also affect the amount of damage at a particular site. This was dramatically demonstrated by the 1989 Loma Prieta earthquake, which devastated vulnerable parts of Oakland and San Francisco, more than 50 miles from the fault rupture.

How Can You Protect Yourself and Your Family?

Taking simple steps before and during earthquakes can help protect you and your family, as well as speed your recovery from an earthquake.

Lack of adequate shear walls on the garage level exacerbated damage to this building at the corner of Beach and Divisadero in the Marina District, San Francisco, during the October 1989 Loma Prieta earthquake.

Before the next earthquake:

- Assess your home and work space, identify hazards, and secure moveable items.
- Create an emergency plan and organize disaster supplies to sustain you and your family for 72 hours or longer.
- Practice "Drop, Cover, and Hold On" to protect yourself when the ground begins to shake. Learn and practice what to do at home, work, or in school.
- Stay prepared by repeating these steps on a regular basis. For example, reassess your preparedness every year and participate in the annual Great California ShakeOut drill on the third Thursday in October.

Brad T. Aagaard, James Luke Blair, John Boatwright, Susan H. Garcia Ruth A. Harris, Andrew J. Michael, David P. Schwartz, and Jeanne S. DiLeo

Edited by *Kate Jacques* and *Carolyn Donlin*

For more information contact:
1-888-ASK-USGS
(1-888-275-8747)

http://earthquake.usgs.gov/
http://ask.usgs.gov
https://www.facebook.com/USGeologicalSurvey
https://twitter.com/USGS

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http://dx.doi.org/10.3133/fs20163020

those so it is very easy to see the DEIR appears incorrect. L - 5

On DEIR page 8-3 please update the DEIR to latest USGS earthquake estimates published in June 2016, say there is a 72% probability of 6.7 or greater in the Bay Area in the next 30 years, including 22% on the San Andreas Fault. See the attached USGS report "Earthquake Outlook for the San Francisco Bay Area Region 2014-2043" that was published in June of 2016. The probabilities are on the first and second page. Please update the estimates to reflect this latest report.

DEIR Page 8-3 says the shaking from an earthquake at the location of the new Public Safety Building is expected to only be an MMI (Modified Mercali Intensity) of 7. This is very roughly equivalent to a magnitude 6.0 at the site of the Public Safety Building (see the reference at the bottom of this email from the USGS). The DEIR cites the reason for estimating an MMI 7 is because it states that is what should be expected at the site of the Public Safety Building according to the USGS and ABAG and cites the ABAG website. Upon visiting this ABAG website http://gis.abag.ca.gov/website/Hazards/ and selecting the moderate earthquake intensity for the San Andreas fault of 7.2 magnitude it shows this would cause an MMI of 8 for the Public Safety Building. Note, there is also an option to select a 7.8 magnitude earthquake on the San Andreas fault.

In addition the ABAG website shows that a Probabilistic Seismic Hazard Assessment for the entire Bay Area being either an MMI of 8 or 9. The Public Safety building is located in an area with a MMI of 8. See the attached file ABAG_Probabilistic_Seismic_Hazard_Assessment_Showing_Bay_Area_Is_MMI_8.png.

Thus the ABAG website clearly shows that at the location of the Public Safety building there is significant risk of an MMI 8 earthquake, yet the DEIR section 8-3 page 160 states it is only at risk of an MMI 7.

In the June 2016 USGS Earthquake Outlook for the San Francisco Bay Region 2014 - 2043 document designed for non-experts (attached) the USGS also estimated that there was a 20% of a 7.5 or greater magnitude earthquake in Bay Area in the next 30 years. Thus a magnitude 7.5 or greater earthquake in the Bay Area is a significant risk during the life the Public Safety Building. I've attached this USGS report that shows this in table on page 2 with file name USGS_Bay_Area_Earthquake_Estimates_June-2016.pdf.

If the Public Safety Building is only being designed to withstand an MMI of VII (7) instead of 8 that would be a major oversight and not meeting the objectives of the project since an MMI of 8 is a very feasible possibility. Please update the DEIR to state that Public Safety Building is being designed for at very least an MMI of 8 and ideally a 9.

On page 8-11 it states "Impact 8-1: Geotechnical Hazards Associated with Project Excavation and Grading. "...These possible excavation and grading hazards represent a potentially significant impact"

Mitigation 8-1 is " a registered engineering geologist or geotechnical engineer to prepare detailed, construction level geotechnical investigations to guide the construction of all project grading and excavation activities. " prior to issuing a permit.

To me this raises concern whether these mitigations will be adequate? Especially when the building is potentially being under designed for an MMI of only 7.

USGS science for a changing world

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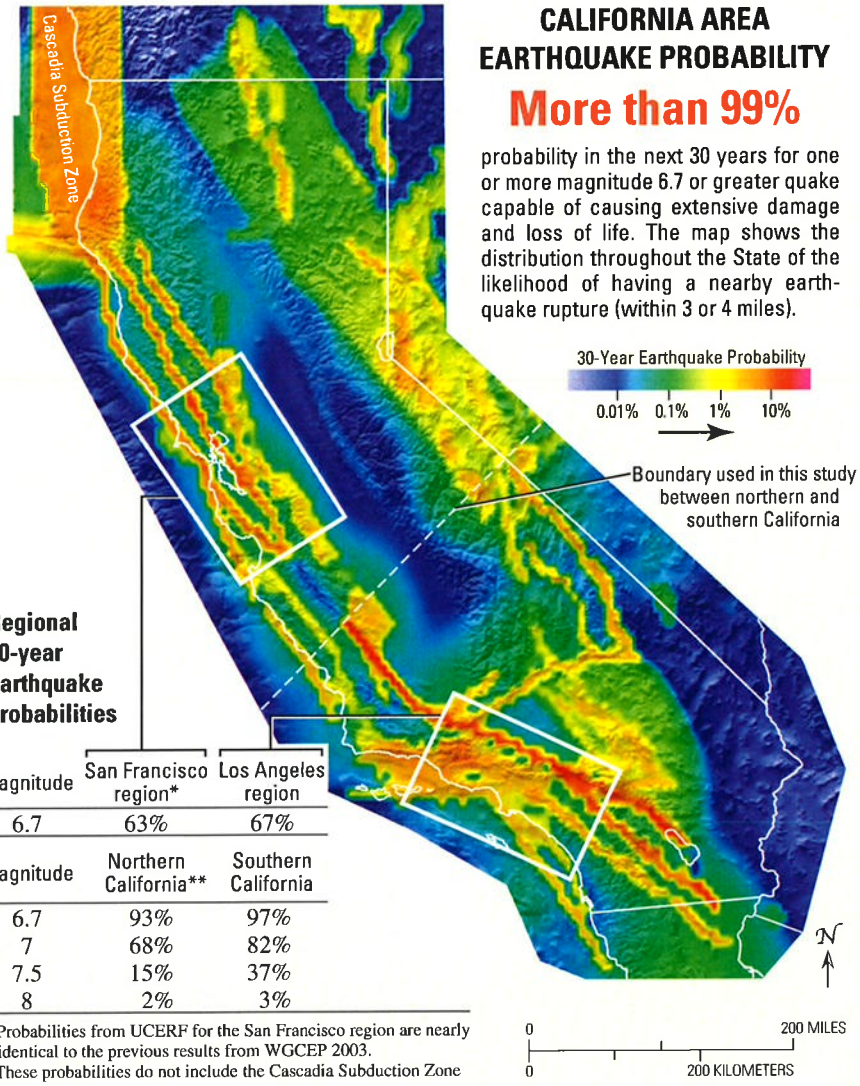
Forecasting California's Earthquakes—What Can We Expect in the Next 30 Years?

In a new comprehensive study, scientists have determined that the chance of having one or more magnitude 6.7 or larger earthquakes in the California area over the next 30 years is greater than 99%. Such quakes can be deadly, as shown by the 1989 magnitude 6.9 Loma Prieta and the 1994 magnitude 6.7 Northridge earthquakes. The likelihood of at least one even more powerful quake of magnitude 7.5 or greater in the next 30 years is 46%—such a quake is most likely to occur in the southern half of the State. Building codes, earthquake insurance, and emergency planning will be affected by these new results, which highlight the urgency to prepare now for the powerful quakes that are inevitable in California's future.



Regional 30-year earthquake probabilities

Magnitude	San Francisco region*	Los Angeles region
6.7	63%	67%

Magnitude	Northern California**	Southern California
6.7	93%	97%
7	68%	82%
7.5	15%	37%
8	2%	3%

*Probabilities from UCERF for the San Francisco region are nearly identical to the previous results from WGCEP 2003.
**These probabilities do not include the Cascadia Subduction Zone

What Is an Earthquake Rupture Forecast?

Californians know that their State is subject to frequent—and sometimes very destructive—earthquakes. Accurate forecasts of the likelihood of quakes can help people prepare for these inevitable events. Because scientists cannot yet make precise predictions of the date, time, and place of future quakes, forecasts are in the form of the probabilities that quakes of certain sizes will occur during specified periods of time.

In our daily lives, we are used to making decisions based on probabilities—from weather forecasts (such as a 30% chance of rain) to the annual chance of being killed by lightning (about 0.0003%). Similarly, earthquake probabilities derived by scientists can help us plan and prepare for future quakes.

Earthquake forecasts for California have been developed in the past by multidisciplinary groups of scientists and engineers, each known as a "Working Group on California Earthquake Probabilities" (WGCEP 1988, 1990, 1995, 2003). However, those forecasts were limited to particular regions of California. Because of this, WGCEP 2007 was commissioned to develop an updated, statewide forecast, the latest result of which is the Uniform California Earthquake Rupture Forecast, Version 2, or "UCERF" (U.S. Geological Survey (USGS) Open-File Report 2007-1437, http://pubs.usgs.gov/of/2007/1437/). Organizations sponsoring WGCEP 2007 include the USGS, California Geological Survey, and the Southern California Earthquake Center. The comprehensive new forecast builds on previous studies and also incorporates abundant new data and improved scientific understanding of earthquakes.

When an earthquake occurs, two things happen—a fault ruptures (a crack in the Earth's crust gives way and slips under tectonic pressure) and seismic waves, caused by this sudden fault motion, radiate out like ripples from a pebble tossed into a pond. The shaking that occurs as seismic waves pass by causes most quake damage. The strength of the waves depends partly on the quake's magnitude, which is a function of the size of the fault that moves and the amount of slip.

The UCERF study's goal was to determine probabilities for different parts of California of earthquake ruptures of various magnitudes, but not to estimate the likelihood of shaking ("seismic hazard") that will be caused by these quakes. This distinction is important, because even areas in the State with a low probability of fault rupture can experience shaking and damage from distant, powerful quakes.

U.S. Department of the Interior
U.S. Geological Survey

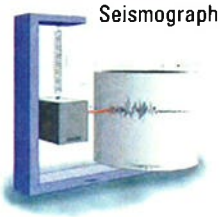
USGS Fact Sheet 2008-3027
2008

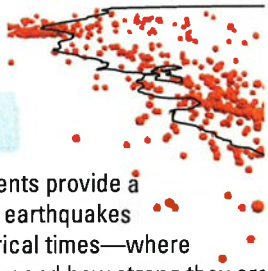
How Did Scientists Make This Forecast?

California sits on the boundary between two of the Earth's major tectonic plates—the Pacific and North American Plates—which move inexorably past each other at a rate of about 2 inches per year. Much of this motion is accommodated from time to time by sudden slip on faults, producing earthquakes. Although the San Andreas Fault is the main locus of slip, hundreds, if not thousands, of other faults splay out from the plate boundary, spreading the threat of large earthquake ruptures through most of the State.

The new Uniform California Earthquake Rupture Forecast (UCERF) combines information from **geodesy** (precise data on the slow relative movement of the Earth's tectonic plates), **geology** (mapped locations of faults and documented offsets on them), **seismology** (occurrence patterns of past earthquakes), and **paleoseismology** (data from trenches across faults documenting the dates and offsets of past earthquakes on them). The first three kinds of data are shown here as layers in the diagram. All four kinds of data are combined mathematically to produce the final probability values for future ruptures in the California area, in regions of the State, and on individual faults.

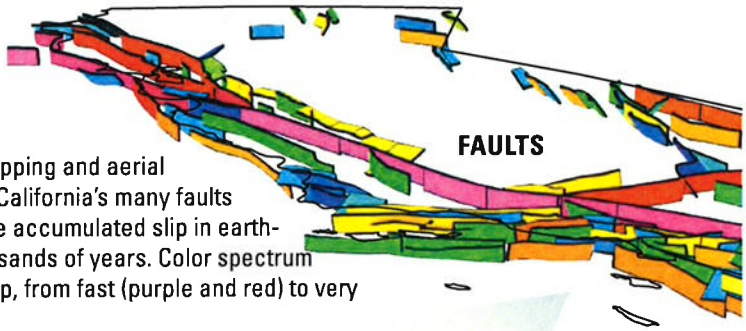
Building on several previous studies and decades of data collection, UCERF was developed by a multidisciplinary group of scientists and engineers, known as the 2007 Working Group on California Earthquake Probabilities. Advice and comment was sought regularly from the broader community of earthquake scientists and engineers through open meetings and workshops. Where experts disagreed on aspects of the forecast, alternative options were accounted for in calculations to reflect these uncertainties. The final forecast is a sophisticated integration of scientific fact and expert opinion.





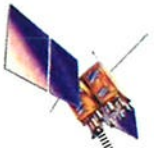
Seismology

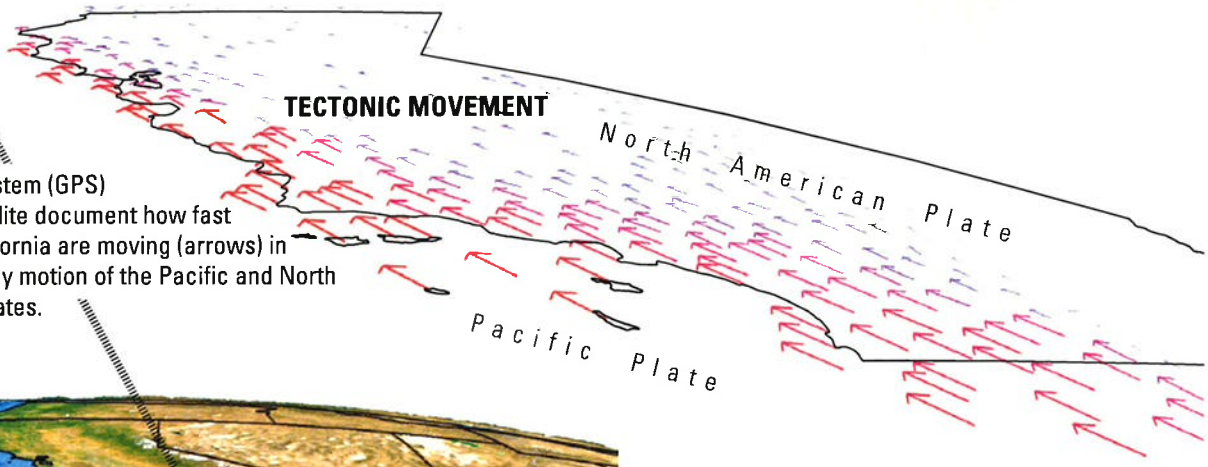
Monitoring instruments provide a record of California earthquakes during recent historical times—where and when they occur and how strong they are



Geology

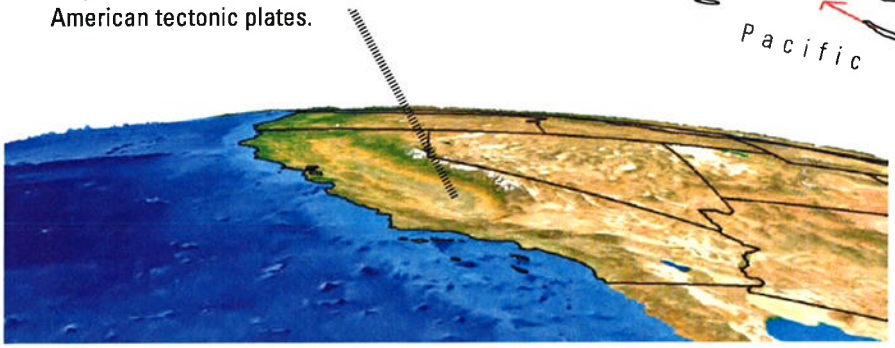
Geologic field mapping and aerial photos trace out California's many faults and document the accumulated slip in earthquakes over thousands of years. Color spectrum shows rates of slip, from fast (purple and red) to very slow (dark blue).





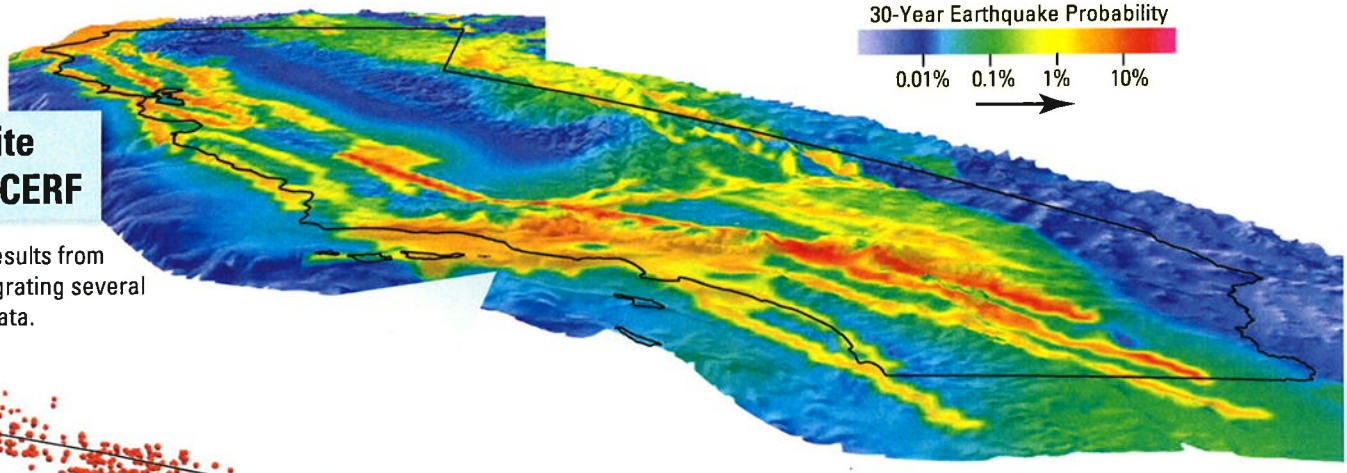
Geodesy

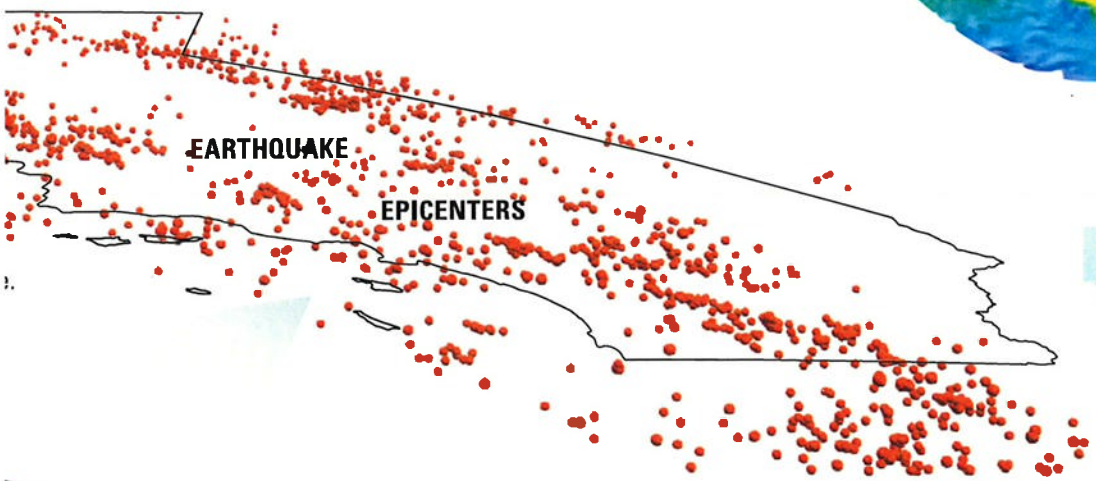
Global positioning system (GPS) observations by satellite document how fast various points in California are moving (arrows) in response to the steady motion of the Pacific and North American tectonic plates.



The Composite Forecast—UCERF

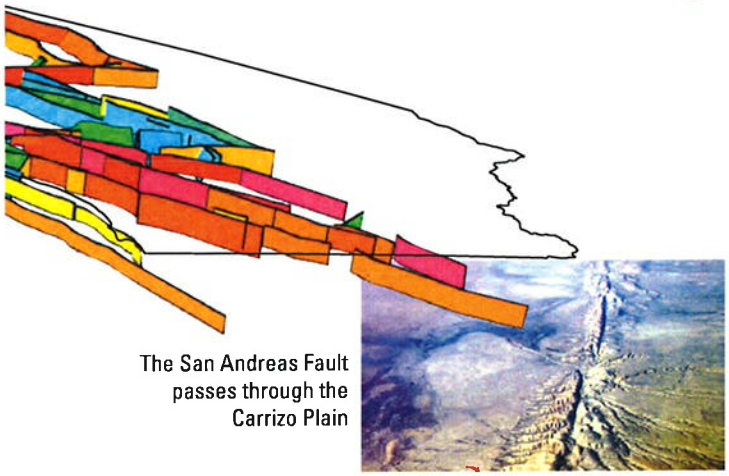
The final forecast results from evaluating and integrating several types of scientific data.





Paleoseismology

By analyzing the evidence for dates and amounts of slip of past earthquakes in the walls of a trench dug across a fault, scientists can extend the fault's earthquake record into prehistoric time.



The San Andreas Fault passes through the Carrizo Plain

Trenching across the Hayward Fault in Fremont

M	Fault Plane Ruptured			
	Length (miles)	Depth (miles)	Average slip (feet)	Area (square miles)
5.0	1.8	1.8	0.5	
5.5	3.1	3.1	0.8	
6.0	5.6	5.6	1.5	
6.5	13	7.5	2.7	
7.0	42	7.5	4.8	
7.5	133	7.5	8.5	
8.0	420	7.5	15	

Earthquake Magnitudes and the Areas of Fault Rupture

The magnitude of an earthquake (M), which is a measure of the energy released in the quake, is dependent on the area of the fault plane that ruptures (length times depth) and the distance the fault slips during the quake.

How Likely is a Damaging Quake in the Next 30 Years?

California straddles the boundary between two of the Earth's tectonic plates—as a result, it is broken by numerous earthquake faults. Taking into account the earthquake histories and relative rates of motion on these many faults, the UCERF study concludes that there is a probability of more than 99% that in the next 30 years Californians will experience one or more magnitude 6.7 or greater quakes, potentially capable of causing extensive damage and loss of life. For powerful quakes of magnitude 7.5 or greater, there is a 46% chance of one or more in the next 30 years—such a quake is twice as likely to occur (37%) in the southern half of the State than in the northern half (15%).

Smaller magnitude earthquakes are more frequent than larger quakes. According to the new forecast, about 3 magnitude 5 or greater quakes will occur in the California region per year, and a magnitude 6 or greater quake about every 1.5 years. These numbers do not include aftershocks that follow larger quakes—including them would roughly double the expected number of magnitude 5 or greater quakes.

STATEWIDE EARTHQUAKE PROBABILITIES

The numbers represent current best estimates. As earthquake science progresses, these probabilities will change. Actual repeat times vary considerably and only rarely will be exactly as listed in the table.

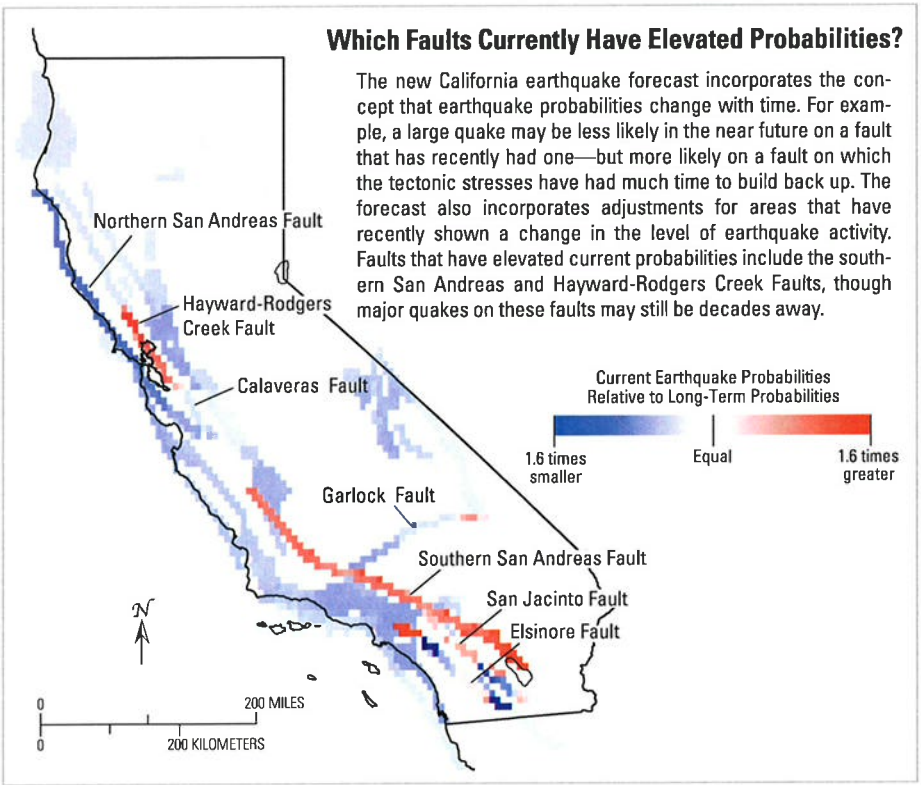
Magnitude	30-year probability of one or more events greater than or equal to the magnitude	Average repeat time (years)
6.7	>99%	5
7	94%	11
7.5	46%	48
8	4%	650

*Not including Cascadia Subduction Zone

For the entire California region, the fault with the highest probability of generating at least one magnitude 6.7 or larger earthquake is the southern San Andreas (59% in the next 30 years). For northern California, the most likely source of such a quake is the Hayward-Rodgers Creek Fault (31% in next 30 years)—see USGS Fact Sheet 2008-3019. Quake probabilities for many parts of the State are similar to those in previous studies, but the new probabilities for the Elsinore and San Jacinto Faults in southern California are about half those previously determined. For the far northwestern part of the State, a major source of quakes is the offshore 750-mile-long "Cascadia Subduction Zone," which extends south about 150 miles into California. For the next 30 years there is a 10% probability of a magnitude 8 to 9 quake somewhere along the zone—such quakes occur about every 500 years.

Which Faults Currently Have Elevated Probabilities?

The new California earthquake forecast incorporates the concept that earthquake probabilities change with time. For example, a large quake may be less likely in the near future on a fault that has recently had one—but more likely on a fault on which the tectonic stresses have had much time to build back up. The forecast also incorporates adjustments for areas that have recently shown a change in the level of earthquake activity. Faults that have elevated current probabilities include the southern San Andreas and Hayward-Rodgers Creek Faults, though major quakes on these faults may still be decades away.



The UCERF forecast was evaluated by an independent scientific review panel, as well as by both the California and National Earthquake Prediction Evaluation Councils, making it one of the most extensively reviewed earthquake forecasts ever produced. Uncertainties remain because the new quake probabilities are the result of evaluating and accommodating several earthquake theories. As scientific understanding of quakes improves, the probabilities will change.

The results of the UCERF study are a reminder that all Californians live in earthquake country and should therefore be prepared (see Putting Down Roots in Earthquake Country at http://www.earthquakecountry.info/roots/). The USGS has already used the UCERF to estimate California's seismic hazard, which in turn will be used to update building codes. Other subsequent studies will add information on the vulnerability of manmade structures to estimate expected losses ("seismic risk"). In these ways, UCERF will help to increase public safety and community resilience to earthquake hazards.

Earthquakes cannot be prevented, but the damage they do can be greatly reduced through prudent planning and preparedness. The ongoing work of USGS, California Geological Survey, Southern California Earthquake Center, and other scientists in evaluating quake probabilities is part of the National Earthquake Hazard Reduction Program's efforts to safeguard lives and property from the future quakes that are certain to strike in California and elsewhere in our Nation.

INDIVIDUAL FAULT PROBABILITIES

The UCERF report assigns individual probabilities to specific known major faults. Below are 30-year probabilities for seven of the faults for which scientists have the most data. Many other faults also have significant probabilities—in fact, the next big quake in California is just as likely to occur on one of the other faults in the State.

Fault	Probability of one or more magnitude 6.7 or greater quake
Southern San Andreas	59%
Hayward-Rodgers Creek	31%
San Jacinto	31%
Northern San Andreas	21%
Elsinore	11%
Calaveras	7%
Garlock	6%

Edward H. Field, Kevin R. Milner, and the 2007 Working Group on California Earthquake Probabilities

Edited by Peter H. Stauffer and James W. Hendley II
Layout by David R. Jones

COOPERATING ORGANIZATIONS
Southern California Earthquake Center (SCEC)
California Geological Survey (CGS)
California Earthquake Authority

For more information contact:
Earthquake Information Hotline (650) 329-4085
U.S. Geological Survey, Mail Stop 977
345 Middlefield Road, Menlo Park, CA 94025
http://earthquake.usgs.gov/
http://www.scec.org

This Fact Sheet and any updates to it are available online at http://pubs.usgs.gov/fs/2008/3027/

L - 6

Santa Clara Valley Transportation Authority

February 22, 2018

City of Palo Alto
Planning Department
P.O. Box 10250
Palo Alto, CA 94303

Attention: Amy French, Chief Planning Official

Subject: Public Safety Building and Parking Garage

Dear Ms. French:

Santa Clara Valley Transportation Authority (VTA) staff have reviewed the Draft EIR for a 50,000-square foot public safety building and 636-space parking garage at 250 and 350 Sherman Avenue. We have the following comments.

Land Use

VTA supports the proposed land use intensification of this site, served just south of the site by VTA Local Bus Line 22 and Rapid 522 along El Camino Real, and by Caltrain at the California Avenue Train Station. El Camino Real is identified as a Corridor in VTA's Community Design & Transportation (CDT) Program Cores, Corridors and Station Areas framework, which shows VTA and local jurisdiction priorities for supporting concentrated development in the County. The CDT Program was developed through an extensive community outreach strategy in partnership with VTA Member Agencies, and was endorsed by all 15 Santa Clara County cities and the county.

Vehicle Miles Traveled (VMT) Analysis

VTA commends the City for performing an analysis of Vehicle Miles Traveled (VMT) effects of the proposed project, in light of Senate Bill 743 and the upcoming transition from congestion-based measures to VMT-based analysis in CEQA. VTA recognizes that this analysis was performed for informational purposes only because the City has not yet adopted VMT thresholds. VTA notes that the Regional Average Daily VMT Per Capita (Worker) figures cited in Table 12 of the TIA Report are based on the Metropolitan Transportation Commission (MTC) / Association of Bay Area Governments (ABAG) regional model, which is an activity-based/tour-based model rather than a trip-based model as utilized by some other jurisdictions.

VTA notes that Proposed New Section 15064.3 of the CEQA Guidelines (from the Natural Resources Agency's January 2018 rule-making documents) states that "A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled… A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any

assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project." Based on this guidance, VTA recommends that the City include further documentation of the methodology used to estimate VMT in the TIA and DEIR for this project. VTA recommends that this documentation provide a description of the MainStreet model used by the transportation consultants, as well as a summary of model inputs and outputs.

Thank you for the opportunity to review this project. If you have any questions, please call me at (408) 321-5784.

Sincerely,

Roy Molseed
Senior Environmental Planner

PA1801

Ray Pendro <rayp@migcom.com>

Fwd: Cal. Ave. Garage

1 message

French, Amy <Amy.French@cityofpaloalto.org> Mon, Feb 26, 2018 at 12:33 PM
To: Ray Pendro <rayp@migcom.com>

Supportive content

Sent from my iPad

Begin forwarded message:

From: Architectural Review Board <arb@cityofpaloalto.org>
Date: February 26, 2018 at 7:09:34 AM PST
To: "Lew, Alex" <alexander.russell.lew@gmail.com>, "Osma Thompson (osma.thompson@gmail.com)" <osma.thompson@gmail.com>, "Baltay, Peter" <peter@toposarchitects.com>, "Gooyer, Robert" <robert@rcgarchitecture.com>, "Furth, Wynne" <wynne.furth@gmail.com>
Cc: "French, Amy" <Amy.French@CityofPaloAlto.org>, "Gerhardt, Jodie" <Jodie.Gerhardt@CityofPaloAlto.org>
Subject: FW: Cal. Ave. Garage

From: Peter Brewer [mailto:peter@brewerfirm.com]
Sent: Thursday, February 22, 2018 5:06 PM
To: Architectural Review Board
Subject: Cal. Ave. Garage

I am very excited for the parking garage and public safety building, and wish that this process was moving faster. You have my full support. Isn't the Nike logo, "Just Do It" or something like that. So, let's just do it. Peter

Peter N. Brewer, Esq.
Law Offices of Peter N. Brewer
2501 Park Blvd, 2nd Flr.
Palo Alto, CA 94306
(650) 327-2900 x 12
www.BrewerFirm.com
BayAreaRealEstateLawyers.com

Real Estate Law – From the Ground Up®

Ray Pendro <rayp@migcom.com>

FW: Public Safety Building DEIR ARB Planned Public Comments

1 message

Raschke, Matt <Matt.Raschke@cityofpaloalto.org> Mon, Feb 26, 2018 at 3:50 PM
To: "Ray Pendro - MIG (rayp@migcom.com)" <rayp@migcom.com>
Cc: "Eggleston, Brad" <Brad.Eggleston@cityofpaloalto.org>, "French, Amy" <Amy.French@cityofpaloalto.org>

Ray,

The attached is further follow-up to DEIR comments about the seismic risk by Hamilton Hitchings. This came in after the comment period closed, but it may help interpret his original comments.

Brad is going to let him know that the comment period is closed and there is no DEIR public hearing aspect to the next ARB meeting on 3/1.

Thanks,

Matt

PALO ALTO

Matt Raschke, PE | Senior Engineer

250 Hamilton Avenue | Palo Alto, CA 94301

D: 650.496.5937 | E: matt.raschke@cityofpaloalto.org

Please think of the environment before printing this email – Thank you!

From: Hamilton Hitchings [mailto:hitchingsh@yahoo.com]
Sent: Sunday, February 25, 2018 12:11 PM
To: Eggleston, Brad
Subject: Public Safety Building DEIR ARB Planned Public Comments

Brad,

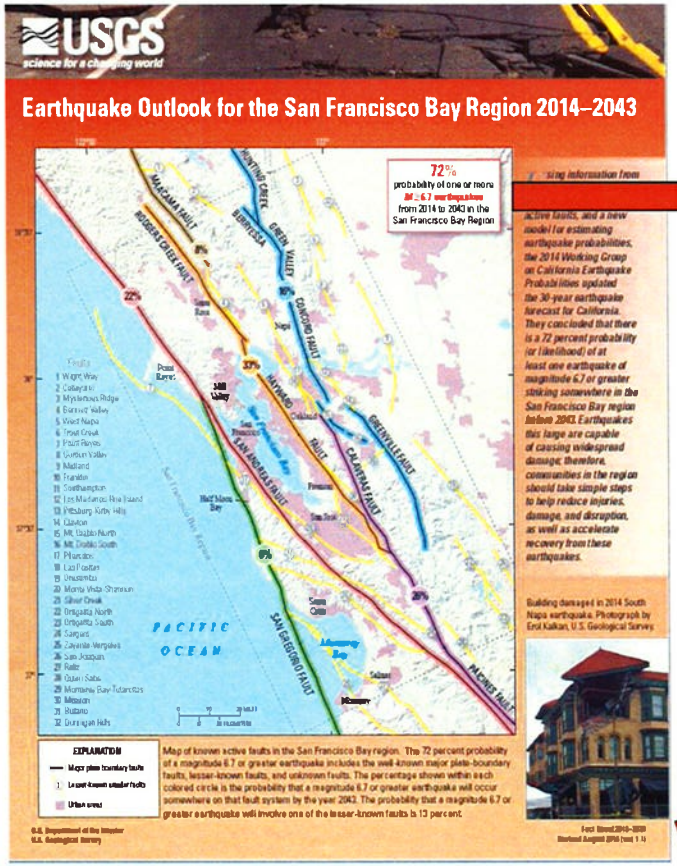
Here are the slides I plan to show during the ARB public comments section on the DEIR. It very clearly spells out some updates needed to the DEIR with regards to Earthquake probabilities, magnitude and intensity using data from the USGS and ABAG.

Hamilton

PaloAlto_PublicSafetyBuilding_DEIR_Earthquake_Input.pdf
1496K

DEIR Page 160 (Out of date, underestimates quake probability)

When earthquake faults within the Bay Area's nine-county area were considered, the USGS estimated that the probability of a MW ("Magnitude") 6.7 or greater earthquake prior to year 2036 is 63 percent, or roughly a two-thirds probability over this timeframe.[1] Individually, the



Latest USGS Estimate

72%

probability of one or more

***M*≥6.7 earthquakes**

from 2014 to 2043 in the San Francisco Bay Region

Fact Sheet 2016–3020
Revised August 2016 (ver. 1.1)

USGS Earthquake Outlook for the San Francisco Bay Region 2014 - 2043

Page 2, Table 1 (updated June 2016)

Likelihood of at least one earthquake greater than a given magnitude in the San Francisco Bay region between 2014 and 2043.

Magnitude (*M*)	30-year likelihood of at least one earthquake in the San Francisco Bay region
$M \geq 6.0$	98 percent
$M \geq 6.7$	72 percent
$M \geq 7.0$	51 percent
$M \geq 7.5$	20 percent

Add to DEIR
Page 160

DEIR Page 160

sufficient flexibility to accommodate the seismic ground motion. In the event of an earthquake of this magnitude, the seismic forecasts presented on the Association of Bay Area Governments' website (developed by a cooperative working group that included the USGS and the California Geological Survey [CGS]) suggest that most parts of Palo Alto southwest of US 101, including the PSB project site, are expected to experience "strong" shaking (i.e., Modified Mercali Intensity [MMI] VII), whereas most parts of Palo Alto east of US 101 are expected to experience "very stro" shaking (MMI VIII).[2]

DEIR says Intensity 7 Earthquake Shaking per ABAG but …

ASSOCIATION OF BAY AREA GOVERNMENTS
RESILIENCE PROGRAM

ABAG website shows Intensity 8 Shaking probability of at least 10% in next 50 years at Public Safety Building

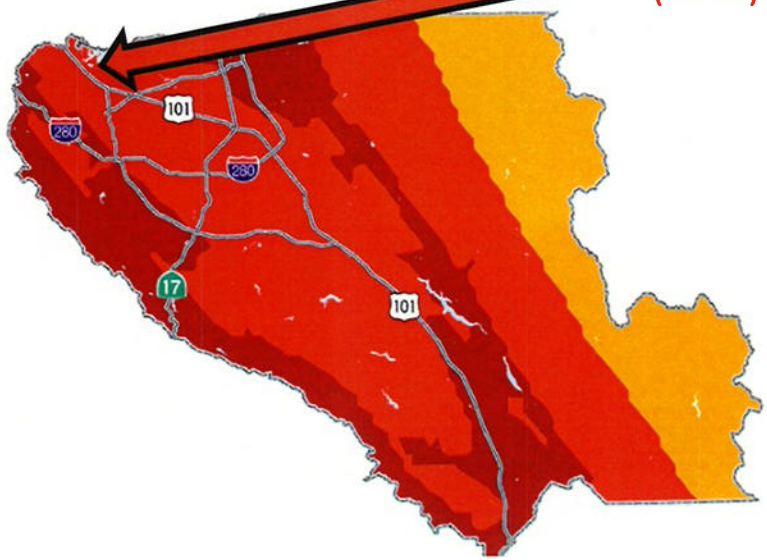
Hazards Projects Topics Data Publications About

Santa Clara County Earthquake Hazard

Several active faults present potential hazard to Santa Clara County. On the northwestern boundary, the San Andreas Fault runs through the hills separating the County from Santa Cruz County. In the central county, the Hayward/Rodgers Creek and Central Calaveras dominate the earthquake threat. The Greenville fault dominates in the northeastern portion of the county.

The last major earthquake with an epicenter within Santa Clara county was the 1984 Morgan Hill Earthquake (M 6.2), and the 1989 Loma Prieta Earthquake's (M 7.1) epicenter was located just a few miles from the County, in Santa Cruz County. The Hayward fault has the greatest likelihood of rupturing in th... of all the faults in the Bay Area. Liquefaction may occur in the northern portion of the County along the Bay margins, while landslides ... the eastern hills.

Intensity (MMI) 8



Learn How an Earthquake will Affect Santa Clara County

Housing losses
Transportation losses
Water/wastewater system disruptions

Resources for Local Governments

Hazard mitigation grants for local governments
On Solid Ground – How good land use planning can prepare the Bay Area for a strong disaster recovery. SPUR 2013

Resources for Residents

Local government recovery toolkit
Family Emergency Planning Guide

What Other Hazards Affect Santa Clara County?

Modified Mercalli Intensity Shaking Severity Level

9 - Violent
8 - Very Strong
7 - Strong

This map is intended for planning only. Intensities may be incorrect by one unit higher or lower

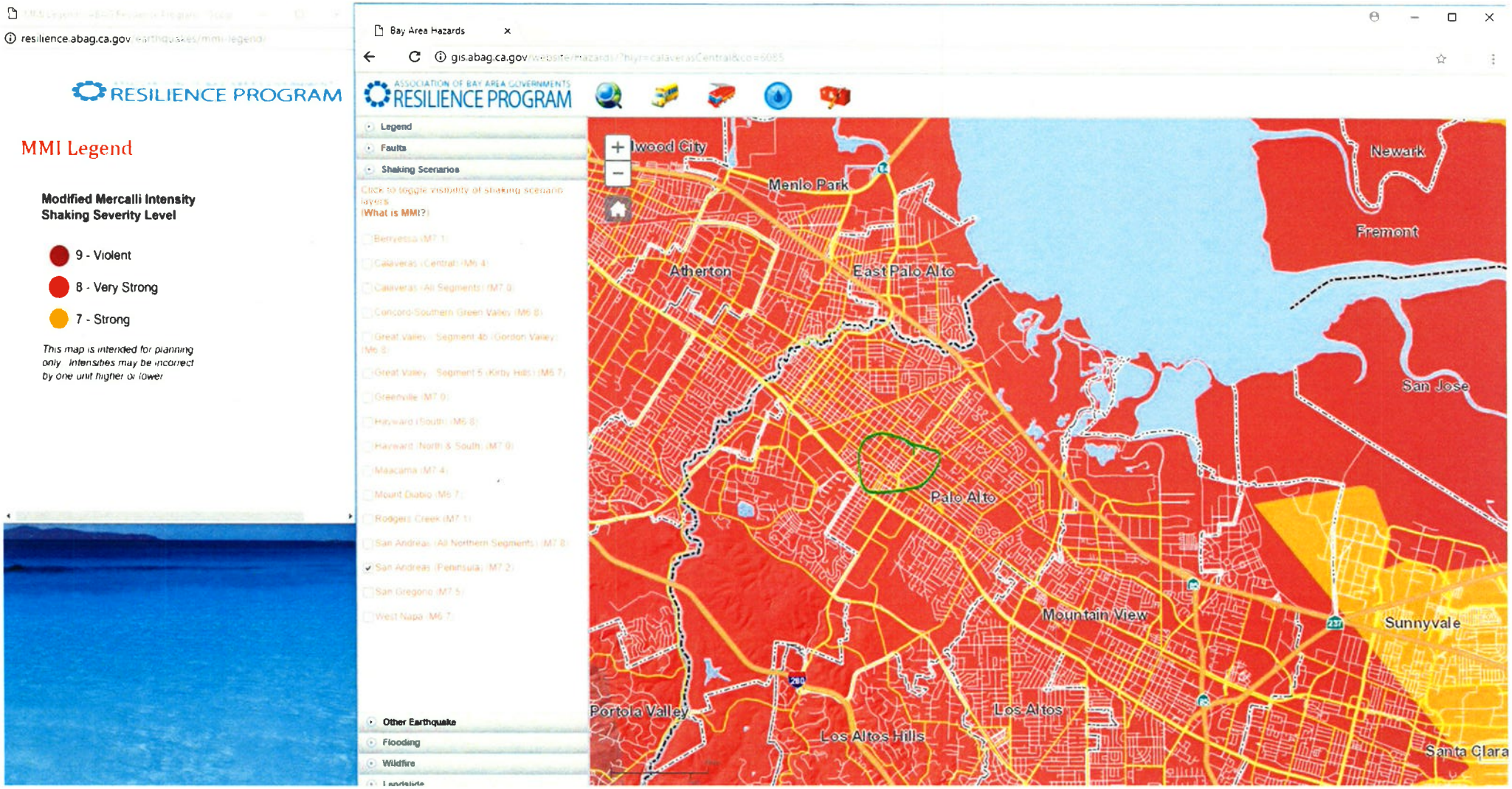
ASSOCIATION OF BAY AREA GOVERNMENTS
RESILIENCE PROGRAM

Shaking Hazard Map

What does this map represent?

This map shows likely shaking intensity in the Bay Area in any 50 year period from all possible faults. It is an equivalent risk to a 500 year flood event. 10% in 50 years was chosen as it most closely aligns to the levels of shaking the current building code are designed to withstand. This intensity map is not intended to be site-specific. Rather, it depicts the general risk within neighborhoods and the relative risk from community to community.

San Andreas Magnitude 7.2 Earthquake on Pennisula causes Intensity 8 Shaking (ABAG Website)



Summary

- Update DEIR to use latest USGS & ABAG earthquake predictions
- Add a mitigation section for Earthquake Shaking Impacts to DEIR Section 1.3
- Explicitly state that the Garage will be designed to avoid serious injuries if it experiences an Intensity 8 earthquake
- Explicitly state that the Public Safety Building will be designed to remain operational after an Intensity 8 earthquake unless cost prohibitive

Please contact Hamilton Hitchings hitchingsh@yahoo.com for questions or feedback

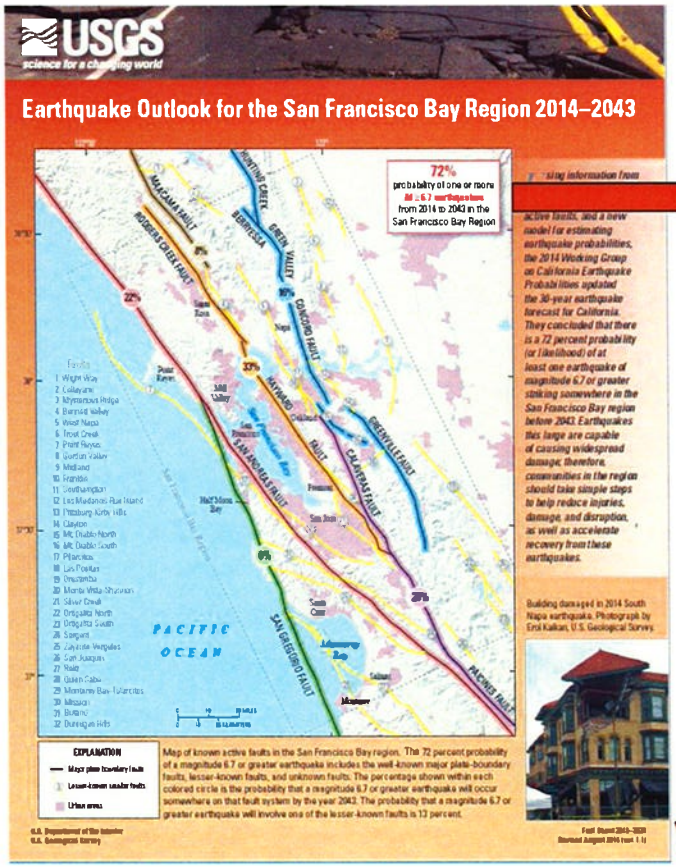
Public Safety Building and Garage DEIR Input

Properly Assessing Seismic Risk

By Hamilton Hitchings

DEIR Page 160 (Out of date, underestimates quake probability)

When earthquake faults within the Bay Area's nine-county area were considered, the USGS estimated that the probability of a MW ("Magnitude") 6.7 or greater earthquake prior to year 2036 is 63 percent, or roughly a two-thirds probability over this timeframe.[1] Individually, the



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Add to DEIR Page 160

DEIR Page 160

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DEIR says Intensity 7 Shaking per ABAG but …

L-8

ASSOCIATION OF BAY AREA GOVERNMENTS
RESILIENCE PROGRAM

ABAG website shows Intensity 8 Shaking probability of at least 10% in next 50 years at Public Safety Building

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The last major earthquake with an epicenter within Santa Clara county was the 1984 Morgan Hill Earthquake (M 6.2), and the 1989 Loma Prieta Earthquake's (M 7.1) epicenter was located just a few miles from the County, in Santa Cruz County. The Hayward fault has the greatest likelihood of rupturing in the of all the faults in the Bay Area. Liquefaction may occur in the northern portion of the County along the Bay margins, while landslides eastern hills.

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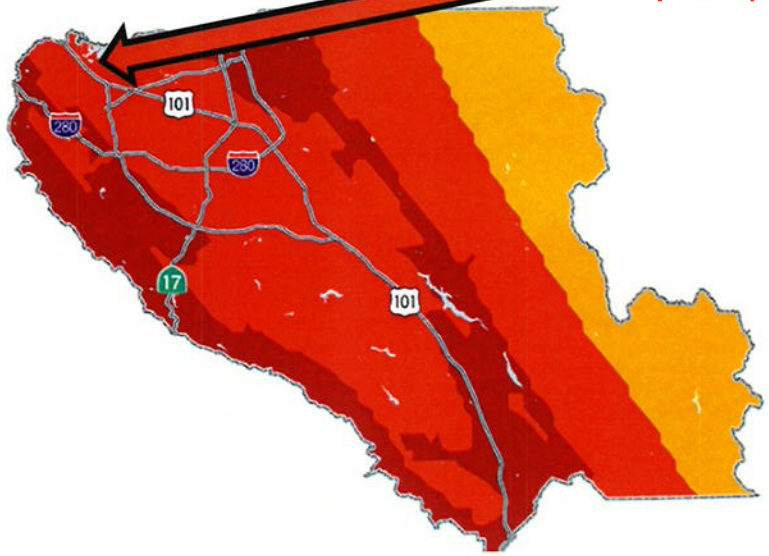

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ASSOCIATION OF BAY AREA GOVERNMENTS
RESILIENCE PROGRAM

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7-8

GEOTECHNICAL INVESTIGATION for PALO ALTO PUBLIC SAFETY BUILDING AND PARKING GARAGE by ROMIG ENGINEERS 2016

Table: Bay Area Earthquake 6.7+ Probabilities till 2043

Fault	Romig Report	USGS *1
Bay Area	72%	72%
Hayward Fault	14%	33%
Calveras	6%	26%
San Andreas	7%	22%

Romig Report Page 7: "The Hayward fault has the highest likelihood of producing an earthquake greater than or equal to magnitude 6.7 in the Bay Area, estimated at 14 percent, while the likelihood of a similar event occurring on the San Andreas and Calaveras faults is estimated at approximately 6 and 7 percent, respectively (Working Group, 2015). "

Bay Area Earthquake magnitude 7.0+ earthquake (51%) and 7.5 (20%) USGS*1

*1 USGS Earthquake Outlook for SF Bay Area 2014 – 2043 Report

Summary

- The DEIR should update the probability, magnitude and intensity of earthquakes and shaking that the Public Safety Building & Garage could experience during its 50 year lifetime based on the latest data from ABAG and the USGS.
- DEIR should:
  - Update probability of 6.7 or greater to 72% in next 30 years (per USGS)
  - Add that a probability of 7.0 or greater is 51% in next 30 years (per USGS)
  - Add that a probability of 7.5 or greater in the Bay Area is 20% in next 30 years (per USGS)
  - Add that the probability of an MMI of 8 at the public safety building site is at least 10% in the next 50 years
  - Add a 7.2 magnitude earthquake on the San Andreas Fault (Pennisula) would cause shaking of Intensity (MMI) of 8 at the public safety building
  - Explicitly state how these will be mitigated
  - Add a mitigation section for Earthquake Shaking Impacts to Section 1.3

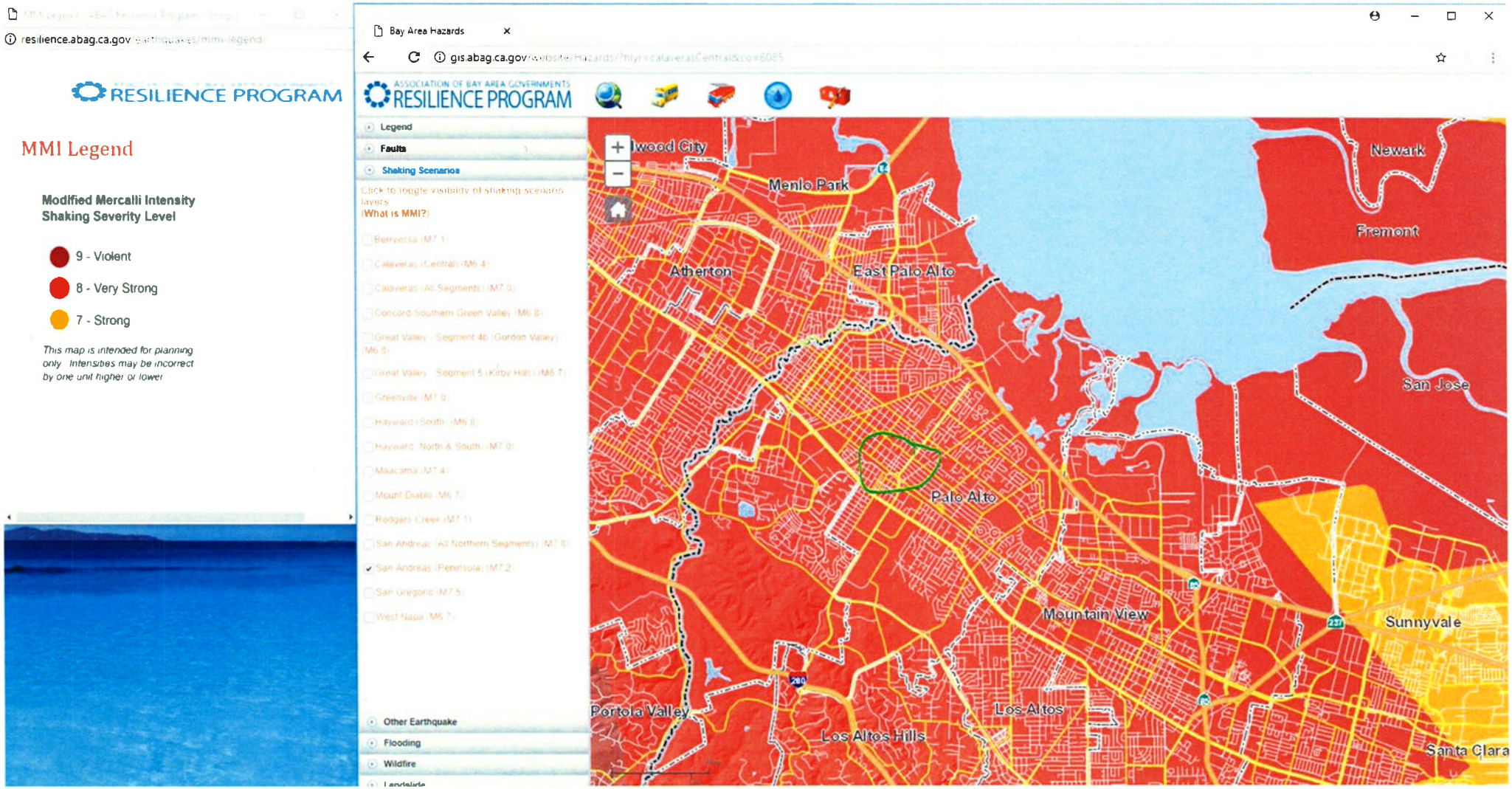
  - Explicitly state that the Public Safety Building will be designed to remain operational after an Intensity 8 earthquake unless cost prohibitive
  - Explicitly state that the Garage will be designed to avoid serious injuries if it experiences an Intensity 8 earthquake

Please contact Hamilton Hitchings hitchingsh@yahoo.com for questions or feedback

8-7

Backup Slides

San Andreas Magnitude 7.2 Earthquake on Pennisula causes Intensity 8 Shaking (ABAG Website)



3.3 PROJECT OBJECTIVES

The project objectives, as identified by the City of Palo Alto, are described below. These objectives are also used in EIR chapter 20 (Alternatives to the Proposed Project) to help compare project alternatives.

1. To locate and operate the City's Police Department, Office of Emergency Services, Emergency Operations Center, Emergency Communications (911 Dispatch) Center, and Fire Administration Division in one centralized facility that is adequately sized to meet the programmatic needs of these public safety functions.

2. To locate the City's Police Department, Office of Emergency Services, Emergency Operations Center, Emergency Communications (911 Dispatch) Center, and Fire Administration Division operations within a facility that meets the standards of an essential services facility to substantially increase the probability of maintaining operation after a major earthquake, natural disaster, or other substantial disruption or disaster.

Detailed Summary

- The DEIR should update the probability, magnitude and intensity of earthquakes and shaking that the Public Safety Building & Garage could experience during its 50 year lifetime based on the latest data from ABAG and the USGS.
- DEIR should:
  - Update probability of 6.7 or greater to 72% in next 30 years (per USGS)
  - Add that a probability of 7.0 or greater is 51% in next 30 years (per USGS)
  - Add that a probability of 7.5 or greater in the Bay Area is 20% in next 30 years (per USGS)
  - Add that the probability of an MMI of 8 at the public safety building site is at least 10% in the next 50 years
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  - Explicitly state how these will be mitigated
  - Add a mitigation section for Earthquake Shaking Impacts to Section 1.3

  - Explicitly state that the Public Safety Building will be designed to remain operational after an Intensity 8 earthquake unless cost prohibitive
  - Explicitly state that the Garage will be designed to avoid serious injuries if it experiences an Intensity 8 earthquake

Please contact Hamilton Hitchings hitchingsh@yahoo.com for questions or feedback

3. REVISIONS TO THE DRAFT EIR

The following section includes all revisions to the Draft EIR made in response to comments received during the Draft EIR comment period. All text revisions are indicated by strike-through and underlining plus a solid vertical line in the left margin next to the revised line(s). All of the revised pages supersede the corresponding pages in the January 2018 Draft EIR. None of the criteria listed in CEQA Guidelines section 15088.5 (Recirculation of an EIR Prior to Certification) indicating the need for recirculation of the January 2018 Draft EIR has been met as a result of the revisions. In particular:

- no new significant environmental impact due to the project or due to a new mitigation measure has been identified;
- no substantial increase in the severity of a significant environmental impact has been identified; and
- no additional feasible project alternative or mitigation measure considerably different from others analyzed in the Draft EIR has been identified that would clearly lessen the environmental impacts of the project.

[blank page]

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		Implementation of this measure would reduce the impact to a ***less-than-significant level.***		
Impact 6-2: ~~Impact 6-2:~~ Removal of Protected and Street ~~Designated~~ Trees. Because 6 protected trees and 5 street ~~designated~~ trees (those within street rights-of-way) are proposed to be removed as part of the proposed PSB project, Palo Alto Municipal Code Title 8 (Trees and Vegetation) Chapters 8.04 and 8.10 would apply to the project to require on-site tree replacement or off-site replacement and mitigation in accordance with the standards in the City's Tree Technical Manual (Section 8.10.050(d)(2)). Without adequate replacement or other mitigation as set forth in the Tree Technical Manual, the project would be inconsistent with the Municipal Code tree protection provisions. This potential inconsistency with the tree protection policy and these tree removals are considered a **potentially significant impact.**	S	**Mitigation 6-2.** Prior to removal of the protected trees and street trees, the applicant shall obtain a tree removal permit issued by the City of Palo Alto Urban Forestry Division for the removal of any and all protected, designated, or street trees (referred to collectively as "Regulated Trees"). In all cases, replacement trees would be required as a condition of the tree removal permit, and the project applicant must demonstrate to the satisfaction of the City that there is no alternative that could preserve the tree(s) on-site. The project applicant must provide an evaluation and summary for any Regulated Tree (the collective term for any protected, designated, or street tree) proposed to be removed. The applicant shall be required, in accordance with the Tree Protection and Management Regulations (PAMC 8.10) and Tree Technical Manual (PAMC 8.10.130), to replace the tree canopy for the six (6) protected trees, in accordance with the tree canopy formula identified in the Tree Technical Manual (TTM, 3.20). If the tree canopy cannot be replaced on-site, the canopy shall be replaced off-site as close to the project site as feasible. If trees are being replaced off-site, the applicant must	City	LS

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

Impacts	Potential Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		limit potential annoyance and interference with daily activities at adjacent buildings. Therefore, the construction vibration impact of the proposed project is considered ***less than significant with mitigation.***		
Impact 13-3: Project Operational Noise. Noise generated by the parking garage ventilation fans and the public safety building generator, fire pump, and heating and air conditioning equipment may exceed standards contained in the City Municipal Code unless shielding or other means of attenuation is provided. This is considered a ***potentially significant impact.***	S	**Mitigation 13-3.** To reduce potential stationary source noise levels associated with the operation of the proposed project, the City and/or it's designated contractors, contractor's representatives, or other appropriate personnel shall: ▪ *Site equipment away from residential areas.* Garage ventilation fans and public safety building generators, fire pumps, and heating and air conditioning equipment shall be located outside of setbacks and screened from view from residential areas. ▪ *Enclose and/or Shield Stationary Noise-Generating Equipment.* The City shall enclose, shield, baffle, or otherwise attenuate noise generated from garage ventilation fans and public safety building generators, fire pumps, and heating and air conditioning equipment. The attenuation achieved through such enclosure, shield, and/or baffling shall be sufficient to comply with Section 9.10.050(a) of the Municipal Code.~~, which is estimated to be 78.2 dBA.~~	City	LS

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

3. PROJECT DESCRIPTION

This EIR chapter describes the proposed City of Palo Alto Public Safety Building (at 250 Sherman Avenue) and California Avenue Parking Garage (at 350 Sherman Avenue) project actions (together, the "project") addressed in this EIR. Throughout the EIR, the Public Safety Building (PSB) and parking garage are collectively referred to as the "PSB project" because (1) they are being proposed and designed together as one integrated project, and (2) CEQA Guidelines section 15378 (Project) defines a "project" as "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment[.]" Any references to the individual Public Safety Building or the California Avenue Parking Garage will be labeled in terms of "PSB" or "parking garage" without the collective term "project."

In accordance with CEQA Guidelines section 15124 (Project Description), the project description that follows has been detailed to the extent needed for adequate evaluation of environmental impacts. The description includes: (a) the location and boundaries of the project site; (b) the background leading up to the proposed project; (c) the overall objectives sought by the project; (d) the various project design and operational characteristics; (e) the potential project construction timing; and (f) the jurisdictional approvals required to implement the project.

The project designs illustrated in this chapter are undergoing refinements resulting from the ongoing Architectural Review Board (ARB) process. Any such refinements are not expected to change the impact conclusions of this EIR.

3.1 SETTING

3.1.1 Regional Location

As illustrated by Figure 3.1, the project site is located in northwestern Santa Clara County in the City of Palo Alto. Palo Alto is located on the San Francisco Bay Peninsula, approximately 40 miles south of the city and county of San Francisco, and immediately south of the southern boundary of San Mateo County. Regional access to the project site is provided via US Highway 101 (US 101) to the east, Interstate Highway 280 (I-280) to the west, the California Avenue Caltrain station one block to the northeast, and El Camino Real one block to the southwest.

3.1.2 Local Setting

The PSB project site and vicinity are shown on Figures 3.1 and 3.2.

The project site is located at 250 and 350 Sherman Avenue, in the California Avenue Business District. The site is bounded by Sherman Avenue to the southeast ("south"), Jacaranda Lane to the northwest ("north"), Ash Street to the southwest ("west"), and Park Boulevard to the

northeast ("east"), and bisected by Birch Street. The site includes two surface parking lots, identified as Lot C-6 on the east and Lot C-7 on the west.[1]

[1]In this EIR, true directions in the immediate project vicinity have been simplified as indicated on applicable figures, whose directional arrow indicates "PN" (Project North) and "TN" (True North).

Across Sherman Avenue from the project site are the Santa Clara County Courthouse and parking lot, and the Visa Research office building at 385 Sherman. Properties fronting Ash Avenue between Grant Avenue and Sherman Avenue include multiple-family residential uses and Sarah Willis Park. Land uses along Park Boulevard from Grant Avenue to Sherman Avenue include office/commercial uses, including several restaurants.

3.2 PROJECT BACKGROUND

The current 25,000 square-foot Palo Alto Police Department facility at 275 Forest Avenue was constructed in 1970. Numerous City-sponsored studies, beginning in 1997 through the City's 2014 City Council Infrastructure Plan, identified and substantiated the need for a new PSB facility that would include space for the Police Department, Communications (911 Dispatch) Center, Office of Emergency Services, Emergency Operations Center, and Fire Administration Division. The existing facility - which currently houses only the Police Department, Communications Center, and Emergency Operations Center - is undersized by approximately 20,000 square feet to meet the programmatic space needs of all of the public safety functions to be sited in a new PSB facility, and does not meet current seismic, security, survivability, accessibility, and regulatory code requirements applicable to an "essential services facility[1]" under State law. A variety of sites and options were considered for the project over the past 17 years, including renovating and expanding the current police facilities at the City Hall location. None of these options proved feasible or were completed. The proposed PSB project meets the projected long-term (at least 50-year) facility requirements of the Palo Alto Police Department, Communications Dispatch Center, Office of Emergency Services, Emergency Operations Center, and Fire Administration Division.

The PSB project represents Palo Alto's largest investment in municipal infrastructure since the construction of City Hall. During the Preliminary Architectural Review by the City's Architectural Review Board (ARB) in June 2017, the ARB reviewed three different approaches to the PSB project. These previous options were: *Screening/Greening*, which proposed to veil the PSB building and public parking garage in a naturalized setting to reduce their visual presence and secure vulnerable openings; *Dynamic Massing*, which proposed to break down building massing by modulating the building volumes to make the two-block project appear smaller, more intimate, and visually dramatic; and *Simple Civic,* which proposed a dignified and semi-formal visual presence to create a confident, approachable, and community-scaled civic image for the PSB project. The ARB offered input about the design opportunities inherent in each concept and provided direction to the design team on how best to further refine the design as the project progresses. During this same time frame, the three options were also presented to the PSB's user groups and some community representatives. In October 2017, the City presented a single design based on previous input at the first ARB review of the formal application. The ARB provided more detailed design input on the selected design and continued the hearing to allow design modifications and publication and circulation of this CEQA document. The ARB process is ongoing. ~~The current proposal evaluated in this EIR emerged from this process.~~

[1]Under the Essential Services Buildings Seismic Safety Act of 1986, new "essential services buildings," which include police stations, fire stations, emergency operations centers, and emergency communication dispatch centers, shall be designed and constructed in accordance with certain procedures and specifications established in the law to minimize fire hazards and to resist, to the extent practical, the forces generated by earthquakes, gravity, and winds. (Cal. Health & Safety Code §§16000-16023.)

3.3 PROJECT OBJECTIVES

The project objectives, as identified by the City of Palo Alto, are described below. These objectives are also used in EIR chapter 20 (Alternatives to the Proposed Project) to help compare project alternatives.

1. To locate and operate the City's Police Department, Office of Emergency Services, Emergency Operations Center, Emergency Communications (911 Dispatch) Center, and Fire Administration Division in one centralized facility that is adequately sized to meet the programmatic needs of these public safety functions.

2. To locate the City's Police Department, Office of Emergency Services, Emergency Operations Center, Emergency Communications (911 Dispatch) Center, and Fire Administration Division operations within a facility that meets the standards of an essential services facility to substantially increase the probability of maintaining operation after a major earthquake, natural disaster, or other substantial disruption or disaster.

3. To provide more parking in the California Avenue area of Palo Alto.

4. Ensure that project construction proceeds in a manner that would minimize disruption of existing parking for current users of the surface parking lots on the project site.

3.4 PROPOSED PROJECT CHARACTERISTICS

3.4.1 Overview

See Figures 3.2, 3.3, and 3.4. The proposed **Public Safety Building (PSB)**, at 250 Sherman Avenue, would be located on the City's existing surface Parking Lot C-6. The PSB would be approximately a 45,000 to 50,000 square-foot, three-story police station and fire/police administration building. The PSB would include two full-block subterranean floors of police parking and operations, and share its parcel with two, smaller, one-story accessory buildings (totaling 4,300 square feet, which would include a mechanical room, trash enclosure, generator, chiller, and transformer), a secure operational yard, and a public plaza. The PSB would be a secure, essential services facility designed to support and protect the critical operations that occur inside. ~~Due to the PSB's specialized uses, its design requires the careful balancing of transparency and solidity.~~ The height of the PSB would be approximately 50'-0" above sidewalk level to top of roof.

As a law enforcement and emergency response building, the PSB would require specialized building and site design accommodations. For example, no unscreened vehicle may come within 20'-0" of the building, thereby requiring a security setback enforced with perimeter vehicle barriers. The subterranean parking for patrol vehicles must have two separate vehicular exits onto two unique streets, in the event that one street is obstructed in some way (e.g., flooding, protest, fire, or other obstructing hazard). Site design should follow CPTED (Crime Prevention Through Environmental Design) best practices. Windows and openings are to be protected from line-of-sight vulnerabilities, resulting in careful placement and type of windows, types of visual screening, and quantity of openings. Outdoor programmatic areas must be secured and

screened from view to protect critical operations. The project would include facility resiliency, redundancy, and hardening strategies which, when deployed, will enable the PSB to remain operational after a major disaster.

The **parking garage**, at 350 Sherman Avenue, would be located on the City's existing surface Parking Lot C-7. The parking garage would be four levels above grade and two stories below grade, with 636 public parking spaces serving the needs of the California Avenue business district. The parking structure would fill its site to nearly the property lines. ~~and utilize strategies such as a cascading exterior grand staircase and landscaped setback (on Birch Street), a pedestrian arcade (on Ash Street), and a partial-block pedestrian arcade leading to a mid-block paseo (on Jacaranda Lane) to provide appropriately scaled site amenities.~~ The height of the California Avenue Parking Garage would be approximately 49'-0" above sidewalk level to top of roof-mounted photovoltaic (PV) panels. As a public-serving amenity, the garage's key design imperatives include ease of wayfinding, generosity toward the pedestrian environment, and a perimeter skin that offers an appropriate visual character when viewed by its neighbors.

3.4.2 Site Development

The City of Palo Alto (City/project applicant) proposes to relocate the City's Police Department, Emergency Communications Center (911), Office of Emergency Services, Emergency Operations Center (EOC), Fire Administration, and associated parking and other support spaces from their current downtown location at the Palo Alto Civic Center at 275 Forest Avenue and 250 Hamilton Avenue (Fire Administration only), Palo Alto, California, to a new Public Safety Building (PSB) facility adequately sized and designed to meet the operational and essential facility standards for police and emergency service providers. The City also proposes to construct a new California Avenue Parking Garage to provide 326 net new public parking stalls (for total of 636 public parking stalls) for the California Avenue commercial area. The construction of the PSB and parking garage comprise the "PSB project." (It is assumed that space vacated in the civic center will be backfilled with other, existing City employees, and no substantive change in use will occur at that location.)

The project site is comprised of two City-owned surface parking lots designated as Lot C-6 and Lot C-7 on Sherman Avenue between Ash Street and Park Boulevard in the California Avenue commercial area in Palo Alto. The construction of the PSB on the 1.27-acre Lot C-6 would displace approximately 158 existing public parking spaces. Redevelopment of the adjoining 0.96-acre surface Parking Lot C-7 for a new garage would displace approximately 152 existing parking spaces. The new parking garage would contain 636 stalls to replace and increase the parking spaces on-site, for a net increase of 326 public parking stalls. The construction of the new public parking garage on Lot C-7 must be complete prior to the start of construction of the new PSB on the adjacent Lot C-6 in order to minimize construction disruption to the neighborhood and loss of parking to local businesses.

Coordinated vehicular movement is a key consideration in the site planning (see Figure 3.4). Due to its lower pedestrian volumes, Sherman Avenue will be the primary vehicular activity zone, with both the public garage and the patrol vehicle garage~~s~~ entering off Sherman. ~~Birch Street has been selected as the back-up/emergency access (and staff vehicle access point) for the PSB to avoid conflicts between vehicles and the bike pathway along Park Boulevard. The Birch Street access will be right turn in/right turn out only.~~

See Figures 3.5 through 3.8. The PSB project includes two primary elements:

- A new three-story PSB of approximately 45,000 to 50,000 square feet (excluding accessory site buildings), over two levels of secure basement parking and operations, and associated site improvements. The PSB would provide between 145 and 150 secure underground parking spaces for police vehicles, other personnel vehicles, and departmental vehicles; some of the spaces would be oversized to accommodate specialty vehicles. The PSB would also provide secure surface parking for 6 to 10 police vehicles in the exterior operations yard.

- A new four-level public parking garage over two basement parking levels, providing 636 spaces on Lot C-7, and associated site improvements.

The principal components of the PSB project are listed below.

- **Demolition and Site Preparation:** The existing site improvements on Parking Lots C-6 and C-7 will be demolished and removed, including all existing landscaping and trees. Combined, approximately 2.13 acres of existing site improvements will be demolished and removed. Both sites will be excavated to allow for basement construction and all excavation spoils off-hauled and legally disposed of. Additional demolition, patching, and repair under all City streets bounding the project will be required for the potential relocation or connection of the project to City utilities.

- **Public Safety Building (PSB):** The PSB is designed as a three-story, approximately 45,000 to 50,000 square-foot building (excluding accessory site buildings), 50'-0" tall at the roofline, over two levels of secure below-grade parking and secure police operations. The PSB will be approximately rectangular in shape with an articulated façade, constructed with an interior light well, and set back from the property line by an approximately 25-foot security standoff distance. Per City zoning guidelines, building equipment penthouse spaces (e.g., for elevators and stairs) may exceed the 50-foot building height limit by up to 15 feet.

- **Public Safety Building Basement Garage:** The PSB will include an approximately 101,000 square-foot secure parking basement with between 145 and 150 parking spaces for police officers and staff. In addition to parking of police and staff vehicles, a variety of programmatic functions associated with police operations will also be located in the basement. ~~The PSB basement will be served by two vehicle ramps. The primary two-way ramp will be located on Sherman Avenue, approximately 85 feet to the center of the ramp from the corner of Park Boulevard. The secondary two-way ramp will be located on Birch Street, approximately 136 feet from the corner of Sherman Avenue.~~ Visitor parking for the PSB will be available in the project's new public parking garage across the street from the main entry on Birch Street.

- **Public Safety Building Exterior Operations Yard:** The PSB will include an approximately 10,000 to 15,000 square-foot visually screened, secure exterior vehicle parking and staging area and two associated one-story site support buildings totaling 4,300 square feet. The PSB's mechanical room, trash enclosure, generator, chiller, and transformer will be located in accessory structures at this location, as well as 6 to 10 surface parking spaces.

- **California Avenue Parking Garage:** The approximately 149,500 square-foot California Avenue Parking Garage will be a four-level parking structure over two levels of underground parking, providing 636 spaces to replace and increase the approximately 310 parking

spaces on-site, for a net increase of 326 public parking spaces. The parking garage will fill its site to nearly the property lines~~, and utilize strategies such as a cascading exterior grand staircase and landscaped setback (on Birch Street), a pedestrian arcade (on Ash Street), and a partial-block pedestrian arcade leading to a mid-block paseo (on Jacaranda Lane) to provide scale-mitigating site amenities.~~ The height of the garage will be approximately 49'-0" above sidewalk level to top of roof-mounted photovoltaic (PV) panels, which will feed into the PSB's electrical system. The garage will have one (1) two-way vehicular entry/exit onto Sherman Avenue, approximately 90 feet to center of ramp west from the corner of Birch Street.

The proposed PSB and parking garage will require amendments to the City of Palo Alto Municipal Code (PAMC) Title 18 (Zoning), Chapter 18.28 (Special Purpose [PF, OS and AC] Districts), Sections 18.28.050, 18.28.060, and 18.28.090 to revise the Public Facilities (PF) zone parking and development standards to allow encroachments into the Minimum Setbacks (front, rear, interior side, and street side setbacks), and a public parking garage that would exceed Maximum Floor Area Ratio (FAR), Maximum Site Coverage, and Maximum Height (including within 150 feet of a residential district) in the Public Facilities zone. To the extent that other PF-zoned sites are included and affected by this ordinance revision, any future development of those sites would be subject to its own environmental review. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR chapter for further detail.

- **Telecommunications Tower:** The PSB requires a 135-foot-high telecommunications tower (microwave tower). This component will be integrated into the building by providing a wall-mounted monopole approximately in the center of the project site, where the main building and the exterior operations yard meet (see Figures 3.5 and 3.6). ~~The monopole will visually relate to the pattern of verticals in the PSB's exterior design, and mounting it to the building is intended to improve its overall visual integration.~~ The Palo Alto Municipal Code currently limits the monopole height to 65 feet; therefore, the proposed monopole, at 135 feet, would exceed City height restrictions. The same Public Facilities (PF) zone regulations being processed for the PSB and public parking garage include zoning text changes to allow for the planned monopole. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR chapter for further detail.

  The requested microwave tower is needed for Palo Alto's participation in the Santa Clara County ECOMM Network for Public Safety Answering Points (PSAPs). The ECOMM system established a private microwave radio network that links all the 9-1-1 call centers in the County. The system also provides high-speed sharing of dispatch services, record databases, and voice traffic so that law enforcement, fire protection, and emergency medical services throughout the County can share communications. This integration allows first responders to improve response times and better manage regional incidents.[1]

- **Site Circulation and On-Street Parking:** The PSB and California Avenue Parking Garage lots are bounded on all sides by City streets. There are no anticipated changes in existing vehicular or pedestrian circulation except at Jacaranda Lane. Jacaranda Lane is a service alley located on what will be the north edge of both buildings. ~~The public parking garage will have a cascading exterior grand staircase and landscaped setback (on Birch Street), a~~

[1]ECOMM Digital Microwave Project, Phase II, Initial Study/Environmental Assessment and Mitigated Negative Declaration. ESA, February 2010. P. 3.

~~pedestrian arcade (on Ash Street), and a partial-block pedestrian arcade leading to a mid-block paseo on Jacaranda Lane to provide appropriately scaled site amenities.~~

Vehicular access to the portion of Jacaranda Lane adjacent to the PSB will be restricted to authorized entry and business owners only. Public parking will be prohibited on a portion of Jacaranda Lane and Sherman Avenue directly adjacent to the PSB. Temporary parking spaces for oversized emergency vehicles, including fire engines, will be provided adjacent to the PSB on Sherman Avenue and Jacaranda Lane, with secure parking for oversized vehicles located in the PSB exterior operations yard (see Figure 3.4).

- **Parking and Deliveries:** All public parking will be located in the new public parking garage. All police vehicle and staff parking will be in the PSB basement or in the surface exterior operations yard. PSB trash pick-up and deliveries will be in the operations yard. Trash pick-up for the parking garage will be off Sherman Avenue. Authorized small truck deliveries could take place in the PSB basement.

- **Architectural Design:** The PSB project employs contemporary architectural design ~~carefully focusing on appropriate~~whose site planning, context, massing, scale, style, ~~and~~ materials and finishes~~, and~~ are subject to review and a recommendation by the City of Palo Alto Architectural Review Board (ARB). The City Council will receive the ARB's recommendation and make a final decision on the architectural design of the PSB, parking garage, and associated landscaping and site improvements. ~~The architectural design presented in this EIR followed a preliminary review of three potential design concepts by the ARB (see section 3.2, Project Background, above).~~

- **Sustainable LEED Silver or Higher Certified Design:** The PSB portion of the project will be designed and built in conformance with the City's Green Building Policy, which requires LEED Silver or higher, and will be registered and certified with the United States Green Building Council as LEED Silver or higher. See chapter 9 (Greenhouse Gas Emissions and Energy) for further detail.

- **Public Plazas:** See earlier Figure 3.3. The project will include a new exterior public plaza of approximately 5,000 square feet, including hardscape, street furniture, and landscape plantings on Birch Street in front of the PSB, and a smaller public space at the parking garage pedestrian entry on Birch Street on the property corner closest to California Avenue. ~~The east side of the garage site is designed to visually connect the public space at the garage with the PSB plaza.~~

  The plaza will include a variety of seating types, including built-in, planter edge, and moveable. ~~Lighting will be on tapered poles with multiple heads providing a tree-like motif. Also, plaza furniture will have integrated, complementary lighting.~~ The Birch Street, Sherman Avenue, and Park Avenue frontages of the PSB will have pole lights and planter-mounted landscape lights.

- **Conceptual Landscaping:** See earlier Figure 3.3. In order to implement a comprehensive landscaping plan, the project proposes to remove 38 on-site trees and protect one tree in place. The **PSB public plaza** will feature a low stone wall, a series of natural stone bollards, and a large raised planter that will provide soil and plantings otherwise absent due to the PSB parking garage directly below. The stone wall and bollards will provide a security barrier to vehicles while also demarcating entry into the public plaza. The plaza will be bordered

along Birch Street by a double row of approximately 12 trees that will reinforce the public realm and provide shade.

The plaza planting is purposefully designed as a demonstration garden highlighting plants for water conservation and for habitat, including, for example, California native pollinator species, native grasses, drought-tolerant succulents, and native meadow rain garden plantings. Educational signage will be included.

Sherman Avenue and Park Avenue frontages of the PSB will feature a double row of approximately 24 street trees, utilizing raised planters where needed due to the parking garage below. The profile of the raised planters will vary to create seating areas and to provide rain gardens for storm water treatment. ~~Jacaranda Lane will feature a raised garden courtyard secured for PSB staff.~~

The Birch Street, Sherman Avenue, and Park Avenue frontages of the PSB will have pedestrian pole lights and planter-mounted landscape lights. The Jacaranda Lane side of the security wall will feature vine plantings and lighting. From a street lighting standpoint, all pedestrian areas will be lit with low-level, focused lighting that reinforces the small-scale aspects of the plazas and streets, and avoids light pollution~~, and reinforces the civic character of the facilities~~.

The landscaping of the **California Avenue Parking Garage** will work in tandem with the PSB. The Birch Street frontage will be composed of a series of raised planters with integral seating, an area of rain garden planting at the Sherman Avenue corner, and native woodland planting ~~below the exterior staircase~~. Seating areas will be distributed along the length of the sidewalk. Along Sherman, the sidewalk will be widened to allow for street trees and rain garden planters and benches. ~~Ash Street will have an arcade with seating and a widened sidewalk.~~ The garage arcade along Jacaranda Lane has the potential to connect to the adjacent mid-block pedestrian paseo. ~~Vine plantings along the Jacaranda façade will be considered to help green this face.~~ Birch Street, Sherman Avenue, and Ash Street frontages of the garage will have pedestrian pole lights and planter-mounted landscape lights, in addition to building-mounted lighting.

The general tree planting strategy is to select species that will thrive in an urban environment, provide appropriate architectural emphasis and scale, and have relatively low maintenance and water requirements. Chapter 6 (Biological Resources) of this EIR provides more detail.

- **Storm Water:** The project will remain connected to the City's storm drain system and will include a system to capture, store, and reuse rainwater to support landscape irrigation. See chapter 16 (Utilities and Service Systems) for further detail.

- **Water Supply:** Potable water will be provided to the project through the existing City system. See chapter 16 for further detail.

- **Sanitary Sewer:** Sanitary sewer service will be provided through the existing City system. See chapter 16 for further detail.

- **Utilities and Services:** Electricity and natural gas will be provided through the City's grid. Solid waste recycling and trash removal will be provided through City contracted haulers.

3.4.3 Material Relationships and Architecture

See earlier Figures 3.5 through 3.8. ~~The PSB project's visual palette draws upon the terra cotta and off-white materials of Palo Alto's historic buildings, as well as the California Avenue district's mix of scales, materials, uses, styles, and pedestrian and public qualities.~~

~~The **PSB** massing is based on the articulation of a simple three-story rectangular volume elaborated through a series of additive, subtractive, and textural strategies. Some of these strategies include: a glass corner revealing an interior public staircase, a glazed ground level along the public plaza, generous window areas for key public interior spaces (such as the multi-purpose room), a canopy at the roofline that inflects toward the public plaza, and vertical window fins that provide both solar shading and a visual reference to traditional columns.~~

The primary exterior material for the PSB ~~will~~is expected to be cast-in-place concrete. This material provides for the stringent ballistic resistance requirements as well as durability and aesthetics. ~~The off-white concrete panels will have a rough, stone-like texture. Additional exterior materials will include terra cotta horizontal window screens in a neutral color to match the earth tones of the precast concrete building; clear glass; painted steel at overhangs; and polycarbonate translucent canopy surface at the overhangs.~~

The **parking garage** massing will be simple and understated. ~~The focal points are the grand exterior staircase that leads to California Avenue and the recessed pedestrian arcades along Ash and Jacaranda.~~ Changes in materials visually reduce the long horizontal bands of the parking levels. ~~Horizontal slats will support green screen vine planting.~~

The garage will be a cast-in-place concrete structure~~, with horizontal slats of terra cotta.~~ The top level of the garage will have a continuous canopy of photovoltaic (PV) panels supported on a painted steel structure, providing solar power, shade, and a visual roof. ~~The garage façade also will provide opportunities for public art installations, including along the wall that will support the grand staircase or along the Ash Street arcade.~~

3.4.4 Palo Alto Municipal Code (PAMC) Title 8 (Zoning) Amendment to Public Facilities (PF) Zone Parking and Development Standards

The project includes amendments to certain sections of Chapter 18.28 of Title 18 (Zoning) related to the Public Facilities (PF) zoning district, including Sections 18.28.050, 18.28.060 and 18.28.090, to allow the City Council to modify the development standards (i.e., minimum setbacks, maximum floor area ratio, site coverage, height, daylight plane) and parking requirements in Chapter 18.28 for public parking facilities in the Downtown and California Avenue business district owned or leased, and operated or used, by the City of Palo Alto, and for Essential Services Buildings in Palo Alto. The proposed ordinance would allow the Council to make exceptions to the established development standards in Section 18.28.050, Table 2, and parking requirements in Section 18.28.090 for these facilities in order to achieve community objectives for the specified types of public facilities, including appurtenant or ancillary structures. Any such exceptions would be included in the review of the project through the applicable development review process.

As noted above, the ordinance is needed to facilitate the PSB project which would not meet the current height limit for the emergency telecommunications tower associated with the PSB

4. AESTHETICS

This EIR chapter describes aesthetic implications of the proposed PSB and California Avenue Parking Garage project (PSB project). The chapter addresses the specific aesthetic impact concerns identified by the CEQA Guidelines--i.e., would development of the proposed project result in a substantial adverse effect on a scenic vista, substantially damage scenic resources, substantially degrade the existing visual character or quality of the project site or its surroundings, or create any new source of substantial light or glare.[1] The shadow impacts of the PSB project on the existing aesthetic environment are also described and diagrammed (the City of Palo Alto has an impact criterion related to shadowing public spaces).

Much of the information in this chapter is repeated from chapter 3 (Project Description) of this EIR; however, the information and graphics here focus on the ***visual*** characteristics of the proposed PSB project. The project designs illustrated in this chapter are undergoing refinements resulting from the ongoing Architectural Review Board (ARB) process. Any such refinements are not expected to change the impact conclusions of this chapter.

4.1 SETTING

The PSB project site is located at 250 and 350 Sherman Avenue, in the California Avenue Business District. The site is bound by Sherman Avenue to the southeast ("south"), Jacaranda Lane to the northwest ("north"), Ash Street to the southwest ("west"), and Park Boulevard to the northeast ("east"), and bisected by Birch Street. The northern edge of the project site, Jacaranda Lane, is generally the service and delivery alley for businesses fronting on California Avenue.

The site includes two surface parking lots, identified as Lot C-6 (1.27 acres) on the east and Lot C-7 (0.96 acre) on the west.[2] The approximately 2.23-acre project site area is generally flat, with no native vegetation, creeks, or other significant natural features. The site (plus the portion of Birch Street between the two lots) includes 39 trees, all of which, except one, are proposed to be removed as part of the project and replaced with new trees and landscaping; see chapter 6 (Biological Resources) of this EIR for further detail.

Across Sherman Avenue from the project site are the Santa Clara County Courthouse and parking lot. Properties fronting Ash Avenue between Grant Avenue and Sherman Avenue include multiple-family residential uses and Sarah Willis Park. Land uses along Park Boulevard from Grant Avenue to Sherman Avenue include office/commercial uses, including several restaurants. The buildings in the project vicinity are generally one to three stories, with the Courthouse being the tallest, at four stories.

[1] CEQA Guidelines, Appendix G, item I (a through d).

[2] In this EIR, true directions in the immediate project vicinity have been simplified as indicated on applicable figures, whose directional arrow indicates "PN" (Project North) and "TN" (True North).

4.3 IMPACTS AND MITIGATION MEASURES

4.3.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines[1] and on a City of Palo Alto impact criterion related to shadowing public spaces, the proposed PSB project would have a significant aesthetic impact if it would:

(a) Have a substantial, adverse effect on a scenic vista;

(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;

(c) Substantially degrade the existing visual character or quality of the site and its surroundings;

(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area ("glare" is defined in this EIR as the reflection of harsh bright light sufficient to cause physical discomfort or loss in visual performance and visibility); or

(e) Substantially shadow public open space (other than public streets and adjacent sidewalks) between 9:00 AM and 3:00 PM from September 21 to March 21.

Regarding criterion (a), the project site and immediate vicinity are relatively flat. Existing views *in the vicinity* are of a built environment that includes mixed use/commercial buildings, parking lots, and several multi-family residences. Also, there are no views of scenic vistas *from the project site.* There would be no impact, and this issue is not discussed further.

Regarding criterion (b), there are no designated or eligible state scenic highways within one mile of the project site and the project would not be visible from any locally designated scenic roads. There would be no impact, and this issue is not discussed further.

4.3.2 Proposed PSB Project Components

See earlier Figures 3.2, 3.3, and 3.4. The proposed **Public Safety Building (PSB)**, at 250 Sherman Avenue, would be located on the City's existing surface Parking Lot C-6. The PSB would be approximately a 45,000 to 50,000 square-foot (excluding accessory site buildings), three-story police station and fire/police administration building. The PSB would include two full-block subterranean floors of police parking and operations, and share its parcel with smaller operational accessory buildings, a secure operational yard, and a public plaza. The PSB would be a secure, essential services facility designed to support and protect the critical operations that occur inside. ~~Due to the PSB's specialized uses, its design requires the careful balancing of transparency and solidity.~~ The height of the PSB would be approximately 50'-0" above sidewalk level to top of roof.

[1]Criteria (a) through (d) are derived from CEQA Guidelines, Appendix G, Item I (a-d).

The **parking garage**, at 350 Sherman Avenue, would be located on the City's existing surface Parking Lot C-7. The parking garage would be four levels above grade and two stories below grade, with 636 public parking spaces serving the needs of the California Avenue business district. The parking structure would fill its site to nearly the property lines. ~~and utilize strategies such as a cascading exterior grand staircase and landscaped setback (on Birch Street), a pedestrian arcade (on Ash Street), and a partial-block pedestrian arcade leading to a mid-block paseo (on Jacaranda Lane) to provide appropriately scaled site amenities.~~ The height of the California Avenue Parking Garage would be approximately 49'-0" above sidewalk level to top of roof-mounted photovoltaic (PV) panels.

The garage will require amendments to the City of Palo Alto Municipal Code (PAMC) Title 18 (Zoning), Chapter 18.28 (Special Purpose [PF, OS and AC] Districts), Sections 18.28.050, 18.28.060, and 18.28.090 to revise the Public Facilities (PF) zone parking and development standards to allow for the planned Minimum Setbacks (front, rear, interior side, and street side setbacks), Maximum Floor Area Ratio (FAR), Maximum Site Coverage, and Maximum Height (including within 150 feet of a residential district) in the Public Facilities zone. An ordinance is being processed with the PSB project development proposal. To the extent that other PF-zoned sites are included and affected by this ordinance revision, any future development of those sites would be subject to its own environmental review. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR for further detail.

The principal components of the PSB project are further described below.

Public Safety Building (PSB): The PSB is designed as a three-story, approximately 45,000 to 50,000 square-foot building (excluding accessory site buildings), 50'-0" tall at the roofline, over two levels of secure below-grade parking. The PSB will be approximately rectangular in shape with an articulated façade, constructed with an interior light well, and set back from the property line by an approximately 25-foot security standoff distance. Per City zoning guidelines, building equipment penthouse spaces (e.g., for elevators and stairs) may exceed the 50-foot building height limit by 15 feet.

Public Safety Building Basement Garage: The PSB will include an approximately 101,000 square-foot secure parking basement with between 145 and 150 parking spaces for police officers and staff. In addition to parking of police and staff vehicles, a variety of programmatic functions associated with police operations will also be located in the basement. ~~The PSB basement will be served by two vehicle ramps. The primary two-way ramp will be located on Sherman Avenue, approximately 85 feet to the center of the ramp from the corner of Park Boulevard. The secondary two-way ramp will be located on Birch Street, approximately 136 feet from the corner of Sherman Avenue.~~ Visitor parking for the PSB will be available in the project's new public parking garage across the street from the main entry on Birch Street.

Public Safety Building Exterior Operations Yard: The PSB will include an approximately 10,000 to 15,000 square-foot visually screened, secure exterior vehicle parking and staging area and associated one-story site support buildings. The PSB's emergency generator, chiller plant, and other building systems will be located in accessory structures at this location, as well as 6 to 10 surface parking spaces.

Telecommunications Tower: The PSB requires a 135-foot-high telecommunications tower (microwave tower). This component will be integrated into the building by providing a wall-mounted monopole approximately in the center of the project site, where the main building and the exterior operations yard meet (see earlier Figures 3.5 and 3.6). ~~The monopole will visually relate to the pattern of verticals in the PSB's exterior design, and mounting it to the building is intended to improve its overall visual integration.~~ The Palo Alto Municipal Code currently limits the monopole height to 65 feet; therefore, the proposed monopole, at 135 feet, would exceed City height restrictions. The same PF zone regulations being processed for the public parking garage includes zoning text changes to allow for the planned monopole. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR for further detail.

The requested microwave tower is needed for Palo Alto's participation in the Santa Clara County ECOMM Network for Public Safety Answering Points (PSAPs). The ECOMM system established a private microwave radio network that links all the 9-1-1 call centers in the County. The system also provides high-speed sharing of dispatch services, record databases, and voice traffic so that law enforcement, fire protection, and emergency medical services throughout the County can share communications. This integration allows first responders to improve response times and better manage regional incidents.[1]

Architectural Design: The PSB project employs contemporary architectural design ~~carefully focusing on appropriate~~whose site planning, context, massing, scale, style, ~~and~~ materials, and finishes~~, and~~ are subject to review and a recommendation by the City of Palo Alto Architectural Review Board (ARB). The City Council will receive the ARB's recommendation and make a final decision on the architectural design of the PSB, parking garage, and associated landscaping and site improvements. ~~The architectural design presented in this EIR follows a preliminary review of three design concepts by the ARB (see section 3.2, Project Background, of this EIR).~~ Although architectural refinements could be expected as the ARB process proceeds, such refinements are not expected to change the impact conclusions regarding aesthetics.

Public Plazas: See earlier Figure 3.3. The project will include a new exterior public plaza of approximately 5,000 square feet, including hardscape, street furniture, and landscape plantings on Birch Street in front of the PSB, and a smaller public space at the parking garage pedestrian entry on Birch Street on the property corner closest to California Avenue. ~~The east side of the garage site is designed to visually connect the public space at the garage with the PSB plaza.~~

The plaza will include a variety of seating types, including built-in, planter edge, and moveable. ~~Lighting will be on tapered poles with multiple heads providing a tree-like motif. Also, plaza furniture will have integrated, complementary lighting.~~ The Birch Street, Sherman Avenue, and Park Avenue frontages of the PSB will have pole lights and planter-mounted landscape lights.

Conceptual Landscaping: See earlier Figure 3.3. In order to implement a comprehensive landscaping plan, the project proposes to remove 38 on-site trees and protect one tree in place. The **PSB public plaza** will feature a low stone wall, a series of natural stone bollards, and a large raised planter that will provide soil and plantings otherwise absent due to the PSB parking garage directly below. The stone wall and bollards will provide a security barrier to vehicles

[1] ECOMM Digital Microwave Project, Phase II, Initial Study/Environmental Assessment and Mitigated Negative Declaration. ESA, February 2010. P. 3.

while also demarcating entry into the public plaza. The plaza will be bordered along Birch Street by a double row of trees that will reinforce the public realm and provide shade.

The plaza planting is purposefully designed as a demonstration garden highlighting plants for water conservation and for habitat, including, for example, California native pollinator species, native grasses, drought-tolerant succulents, and native meadow rain garden plantings. Educational signage will be included.

Sherman Avenue and Park Avenue frontages of the PSB will feature a double row of street trees, utilizing raised planters where needed due to the parking garage below. The profile of the raised planters will vary to create seating areas and to provide rain gardens for storm water treatment. ~~Jacaranda Lane will feature a raised garden courtyard secured for PSB staff.~~

The Birch Street, Sherman Avenue, and Park Avenue frontages of the PSB will have pedestrian pole lights and planter-mounted landscape lights. The Jacaranda Lane side of the security wall will feature vine plantings and lighting. From a street lighting standpoint, all pedestrian areas will be lit with low-level, focused lighting that reinforces the small-scale aspects of the plazas and streets, and avoids light pollution~~, and reinforces the civic character of the facilities.~~

The landscaping of the **California Avenue Parking Garage** will work in tandem with the PSB. The Birch Street frontage will be composed of a series of raised planters with integral seating, an area of rain garden planting at the Sherman Avenue corner, and native woodland planting~~ below the exterior staircase.~~ Seating areas will be distributed along the length of the sidewalk. Along Sherman, the sidewalk will be widened to allow for street trees and rain garden planters and benches. ~~Ash Street will have an arcade with seating and a widened sidewalk.~~ The garage arcade along Jacaranda Lane has the potential to connect to the adjacent mid-block pedestrian paseo. ~~Vine plantings along the Jacaranda façade will be considered to help green this face.~~ Birch Street, Sherman Avenue, and Ash Street frontages of the garage will have pedestrian pole lights and planter-mounted landscape lights, in addition to building-mounted lighting.

The general tree planting strategy is to select species that will thrive in an urban environment, provide appropriate architectural emphasis and scale, and have relatively low maintenance and water requirements. Chapter 6 (Biological Resources) of this EIR provides more detail.

4.3.3 Material Relationships and Architecture

See earlier Figures 3.5 through 3.8, which illustrate the proposed PSB project within the context of adjacent buildings. ~~The PSB project's visual palette draws upon the terra cotta and off-white materials of Palo Alto's historic buildings, as well as the California Avenue district's mix of scales, materials, uses, styles, and pedestrian and public qualities.~~

~~The **PSB** massing is based on the articulation of a simple three-story rectangular volume elaborated through a series of additive, subtractive, and textural strategies. Some of these strategies include: a glass corner revealing an interior public staircase, a glazed ground level along the public plaza, generous window areas for key public interior spaces (such as the multi-purpose room), a canopy at the roofline that inflects toward the public plaza, and vertical window fins that provide both solar shading and a visual reference to traditional columns.~~

The primary exterior material for the PSB ~~will~~is expected to be cast-in-place concrete. This material provides for the stringent ballistic resistance requirements as well as durability and aesthetics. ~~The off-white concrete panels will have a rough, stone-like texture. Additional exterior materials will include terra cotta horizontal window screens in a neutral color to match the earth tones of the~~

~~precast concrete building; clear glass; painted steel at overhangs; and polycarbonate translucent canopy surface at the overhangs.~~

The **parking garage** massing will be simple and understated. ~~The focal points are the grand exterior staircase that leads to California Avenue and the recessed pedestrian arcades along Ash and Jacaranda.~~ Changes in materials visually reduce the long horizontal bands of the parking levels. ~~Horizontal slats will support green screen vine planting.~~

The garage will be a cast-in-place concrete structure., ~~with horizontal slats of terra cotta.~~ The top level of the garage will have a continuous canopy of photovoltaic (PV) panels supported on a painted steel structure, providing solar power, shade, and a visual roof. ~~The garage façade also will provide opportunities for public art installations, including along the wall that will support the grand staircase or along the Ash Street arcade.~~

4.3.4 Visual Simulations

To support this EIR visual impact analysis, computer-generated "before and after" visual simulations of the PSB project site as seen from an aerial perspective plus two representative off-site, public viewpoints have been prepared. (For these descriptions, Sherman Avenue is considered traversing east-west, and Birch Street is considered traversing north-south, consistent with the "Project North" arrows shown on the architectural illustrations.) The three selected viewpoints are:

- an aerial perspective from south of the PSB project site, looking north toward California Avenue (Figures 4.1A and 4.1B);
- a public, street-level view from the intersection of Birch Street and Jacaranda Lane, looking southeast toward Sherman Avenue and the County Courthouse (Figure 4.2); and
- a public, street-level view from Sherman Avenue, looking northeast across Birch Street toward the PSB and California Avenue (Figure 4.3).

The visual simulation images are based on the architectural renderings included in the Architectural Review Board (ARB) submittal package dated July 19, 2017. Although architectural refinements continue to occur as the ARB process proceeds, such refinements are not expected to change the impact conclusions.

4.3.5 Impacts and Mitigations

Would the project substantially degrade the existing visual character or quality of the site and its surroundings (Significance Criterion [c])? The proposed PSB land uses would be consistent with the land use designations for the site, as identified in the City of Palo Alto Comprehensive Plan Land Use Map, as well as the with the land uses allowed within this zone district, as identified in the Zoning Ordinance. The Comprehensive Plan designation for Lot C-6 (PSB) is "Public Facilities" and for Lot C-7 (public parking garage) "Regional Community Commercial." The zoning district for both Lots C-6 and C-7 is "Public Facilities (PF)."

The garage will require amendments to the City of Palo Alto Municipal Code (PAMC) Title 18 (Zoning), Chapter 18.28 (Special Purpose [PF, OS and AC] Districts), Sections 18.28.050, 18.28.060, and 18.28.090 to revise the Public Facilities (PF) zone parking and development

standards to allow for the planned Minimum Setbacks (front, rear, interior side, and street side setbacks), Maximum Floor Area Ratio (FAR), Maximum Site Coverage, and Maximum Height

[Note to reader: Continue to page 4-14, attached.]

(including within 150 feet of a residential district) in the Public Facilities zone. An ordinance is being processed with the PSB project development proposal. To the extent that other PF-zoned sites are included and affected by this ordinance revision, any future development of those sites would be subject to its own environmental review. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR for further detail.

Regarding the proposed telecommunications tower, the Palo Alto Municipal Code currently limits the monopole height to 65 feet; therefore, the proposed monopole, at 135 feet, would exceed City height restrictions. The same PF zone regulations being processed for the public parking garage include zoning text changes to allow for the planned monopole and alley setback encroachment by the PSB. See section 3.4.4 (Palo Alto Municipal Code Title 18 Amendment to Public Facilities Zone) of this EIR for further detail.

~~As discussed above, t~~The proposed PSB project is ~~purposefully designed~~intended to be integrated into, and contribute to, the public environment of the California Avenue business district and the surrounding neighborhood. Simultaneously, the project has been designed to meet the programmatic and security needs of the City's Police Department, Office of Emergency Services, Emergency Operations Center, Emergency Communications Center, and Fire Administration Division. The telecommunications monopole is a necessary structure that will enable the City to participate in the countywide police protection and first responder ECOMM network; the monopole would be centrally located on the project site and integrated into the PSB design.

~~Regarding materials, the PSB project's visual palette draws upon the terra cotta and off-white materials of Palo Alto's historic buildings, as well as the California Avenue district's mix of scales, materials, uses, styles, and pedestrian and public qualities.~~

The project design has been subject to the City's Architectural Review process. The ARB offered input about design opportunities and provided direction to the design team on how best to further refine the design as various iterations were presented. Designs options were also presented to the PSB's user groups and some community representatives. ~~The current proposal evaluated in this EIR has emerged from this process.~~ Regarding ARB's purview, section 4.2.2(1) (City of Palo Alto Municipal Code, Chapter 18.76.020 Architectural Review) notes that the ARB reviews the following aspects of projects: compatibility with the immediate environment of the site; compatibility with the design character of the surrounding area; harmonious transitions in scale and character in areas between different designated land uses; internal sense of order; amount and arrangement of open space; integration of natural features; and appropriate materials, textures, colors and details of construction and plant material, among other aspects. As stated in section 4.2.2(1) (City of Palo Alto Municipal Code, Chapter 2.21 Architectural Review Board), "The Board provides recommendations on projects to the Director of Planning and to the City Council for their final approval. (The proposed PSB project is subject to the Major Architectural Review process which requires a recommendation from the Architectural Review Board and approval from the Director of Planning. However, because other discretionary approvals for the project require Council approval, Council will issue the decision on the project.)"

In summary, the proposed PSB project would be expected to result in a more connected and coherent pedestrian and visual environment in the California Avenue business district and the surrounding neighborhood, with building heights, ~~and~~ massing, and design consistent and compatible with nearby structures, including the County Courthouse across Sherman Avenue

~~form~~ from the project site. The impacts of the proposed PSB project on the visual character and quality of the project site and surrounding area would therefore be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Would the project substantially shadow public open space (other than public streets and adjacent sidewalks) between 9:00 AM and 3:00 PM from September 21 to March 21 (Significance Criterion [e])? Regarding shadow impacts, there are no public spaces immediately adjacent to the project site. The nearest public space is Sarah Wallis Park, located at Grant and Ash Streets, approximately one-half block to the south and obscured from the project site by existing buildings. Therefore, no shadow impact from the proposed PSB project would result relevant to the City's criterion. Generally, in the northern hemisphere, shadows are

cast to the north; because the PSB site is north of Sarah Wallis Park, project shadows should not affect the park. Figures 4.4 through 4.6 confirm this conclusion. (Note that shadow patterns on the spring equinox, March 21, are very similar to those on the fall equinox, September 21; and that the winter solstice has the longest shadows.) Therefore, the shadow impacts of the proposed PSB project would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area ("glare" is defined in this EIR as the reflection of harsh bright light sufficient to cause physical discomfort or loss in visual performance and visibility) (Significance Criterion [d])? See Figure 4.7, which illustrates the light levels of the proposed PSB project. Existing sources of nighttime light within and around the project site include those common to urban areas, including street lights, parking lot lighting, building lighting, signs, vehicle headlamps, and interior lighting visible through windows. Glare is created by the reflection of sunlight and artificial light off windows, buildings, and other surfaces in the day, and from inadequately shielded and improperly directed light sources at night.

The proposed PSB project would result in additional nighttime lighting and increased light emanating from the project site. New sources of light would be installed as part of the new PSB and public parking garage, and new street lights and other light sources would be installed to illuminate entries, parking areas, sidewalks and open spaces for safety, security, and architectural purposes. The Birch Street, Sherman Avenue, and Park Avenue frontages of the PSB would have pedestrian pole lights and planter-mounted landscape lights. The Jacaranda Lane side of the security wall would feature vine plantings and lighting. From a street lighting standpoint, all pedestrian areas would be lit with low-level, focused lighting that reinforces the small-scale aspects of the plazas and streets, and avoids light pollution~~, and reinforces the civic character of the facilities.~~

The PSB project would be required to meet the lighting performance criteria of Chapter 18.23.030 (Lighting) of the municipal code (see section 4.2, Regulatory Setting, above), which would be expected to adequately control brightness of lighting, glare, and sky glow. The light and glare impacts of the proposed PSB project would therefore be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

protected while nesting by Fish and Game Code Section 3503.5. Sensitive bat species with potential for occurrence in large trees and groves include the pallid bat (*Antrozous pallidus*, a State species of special concern), Townsend's big-eared bat (*Plecotus townsendii*), and Myotis species. These bat species have no legal protection under federal or State Endangered Species Act, but may meet the criteria of section 15380 (Endangered, Rare or Threatened Species) of the CEQA Guidelines.

The environmental setting information below is taken directly from the Tree Survey Report prepared for the project (Tree Survey Report, Public Safety Building and Parking Garage, Parking Lots C-6 and C-7, Palo Alto, California; David L. Babby, Registered Consulting Arborist; March 17, 2016).

The tree survey report identified the type, amount, and condition of the 39 existing trees on and immediately adjacent to the project site, including both surface parking lots, ~~and~~ the center street median along Birch Street, and one private off-site tree overhanging Jacaranda Lane. The survey also identified which trees are regulated as defined by Title 8 (Trees and Vegetation) of the Palo Alto Municipal Code (see section 6.2, Regulatory Setting – Local Regulations, below), and provided general guidelines to help avoid or mitigate impacts on any retained trees.

Thirty-nine (39) trees of 10 species were inventoried for the survey report. The most prevalent trees include:

- holly oak (15 trees)
- Chinese elm (7 trees)
- coast redwood (7 trees)

Other surveyed trees include Palo Alto sweetgum (3), weeping bottlebrush (2), coast live oak, Colorado blue spruce, evergreen pear, London plane tree, and valley oak. All surveyed trees except one are publicly owned (i.e., on City property); the privately owned tree is overhanging~~in~~ Jacaranda Lane.

The Palo Alto Municipal Code regulates specific types of trees on public and private property. Three categories included under the term "regulated trees" include "protected trees" (Municipal Code 8.10 - Tree Preservation and Management Regulations), "street trees" (Municipal Code 8.04 - Street Trees, Shrubs, and Plants), and "designated trees" (i.e., as identified by the City for a particular development site). See section 6.2 (Regulatory Setting, Local Regulations) below.

The survey report defines six (6) trees as protected trees because they are either coast live oak (1 tree) or valley oak (1 tree) with trunk diameter =/> 11.5 inches, or coast redwood (4 trees) with trunk diameter =/> 18 inches. Five (5) surveyed trees are ~~designated~~ street trees (i.e., in the public right-of-way). The six protected trees to be removed as part of the proposed PSB project (tree #4, 8, 12, 21, 22 and 35) have a canopy of 210 linear feet (representing the sum total of each tree's crown diameter).

Figure 6.1 includes information from the Tree Survey Report and reproduces Plan Sheet ARB 06.01. As shown on the figure, one of the 39 surveyed trees would be retained and protected in place – a Chinese elm overhanging~~in~~ Jacaranda Lane (tree #7), not on the subject property.

Because regulated trees, including protected trees and street~~protected and designated~~ trees, are proposed to be removed, Palo Alto Municipal Code Title 8 (Trees and Vegetation) would apply to the project.

California Native Plant Protection Act. The California Native Plant Protection Act of 1977 prohibits importation of rare and endangered plants into California, "take" of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the California Native Plant Protection Act, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to the California Environmental Quality Act (CEQA). In this case, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but rather under CEQA.

6.2.3 Local Regulations

(1) City of Palo Alto Municipal Code. The Palo Alto Municipal Code includes provisions for the preservation and protection of trees as well as the protection of flora and fauna within the City limits.

Title 8 (Trees and Vegetation), Chapter 8.04 (Street Trees, Shrubs and Plants), and Chapter 8.10 (Tree Preservation and Management Regulations); and Title 18 (Zoning), Chapter 18.76 (Permits and Approvals). Title 8 Trees and Vegetation, and Title 18 Zoning include regulations that protect trees in the city.

Chapter 8.04 gives the City control of all street trees, shrubs and plants in any street, park or public place within City limits, and the power to maintain them. It prohibits others from planting, removing, or damaging these resources without a permit. It identifies when these resources constitute a public nuisance (such as a diseased or dead tree) and the remedy.

Chapter 8.10 protects specified trees in the city and establishes a standard for removal, maintenance, and planting of trees in the city, with the goal of preserving the city's trees. Chapter 8.10 provides rules for the protection of trees, designation of heritage trees, and for when trees can be removed. The Palo Alto community has long valued the environmental, aesthetic, and functional benefits of trees[1] as recognized by the Palo Alto Municipal Code, Chapter 8.10 (Tree Preservation Ordinance) and Palo Alto's status as "Tree City USA."

The City of Palo Alto Municipal Code regulates specific types of trees on public and private property for the purpose of avoiding their removal or disfigurement without first being reviewed and permitted by the City's Planning or Public Works Departments. Three categories within the status of regulated trees include protected trees (Municipal Code Title 8, Chapter 8.10), ~~public~~ street trees (Municipal Code Title 8, Chapter 8.04) and designated trees (which may be identified by Urban Forestry staff during discretionary review processes established in Municipal Code Title 18), when so provisioned to be saved and protected by a discretionary approval.

- Protected Trees. Includes all coast live oak (Quercus agrifolia) and valley oak trees 11.5 inches or greater in diameter, coast redwood trees 18 inches or greater in diameter at standard height, and heritage trees designated by the City Council according to any of the following provisions: it is an outstanding specimen of a desirable species; it is one of the largest or oldest trees in Palo Alto; or it possesses distinctive form, size, age, location, and/or historical significance.

[1]Public Tree Resource Benefits provided by shade trees are: carbon dioxide reduction, extended asphalt service life, urban runoff management, real estate value, etc.

- Public Trees. Includes City-owned street trees (all trees growing within the street right-of-way, outside of private property), and trees in City parks and other City-controlled public places.

- Designated Trees. Designated or amenity trees are established by the City when a project is subject to discretionary environmental or design review process, such as architectural review by the Architecture Review Board. Municipal Code Section 18.76.020(d)(2)(B) includes as part of the findings for architectural review approval, "Preserves, respects and integrates existing natural features that contribute positively to the site…". An amenity tree or grouping of trees may be "designated" if it has a particular significance because of its screening function or as a unique natural or other feature that contributes to the existing site, neighborhood, or community area. Outstanding tree specimens contributing to the existing site, neighborhood or community, and that have a rating of "High" Suitability for Preservation would constitute a typical designated tree.

In accordance with Municipal Code Section 8.10.040 (Disclosure of information regarding existing trees), for all development projects within the City of Palo Alto, discretionary or ministerial, a Tree Disclosure Statement (TDS) is part of the submittal checklist to establish and verify trees that exist on the site, trees that overhang the site originating on an adjacent property, and trees that are growing in a City easement, parkway, or publicly owned land adjacent to the site. Section 8.10.050 (Prohibited acts) explains when a tree survey prepared by a certified arborist is required (for multiple trees), when a tree preservation report is required (for development within the dripline of a Regulated Tree), and specifies who may prepare these documents. The City of Palo Alto Tree Technical Manual (PAMC Section 8.10.030) describes procedures and standards to preserve regulated trees (Protected Trees, ~~Public~~ Street Trees and Designated Trees, referred to collectively as "Regulated Trees"), including:[1]

- The protection of trees during construction;

- If allowed to be removed, the acceptable replacement strategy;

- Maintenance of protected trees (such as pruning guidelines);

- Format and procedures for tree reports; and

- Criteria for determining whether a tree is a hazard.

Title 22 Parks, Chapter 22.04. Chapter 22.04 of the Palo Alto Municipal Code provides for the protection of flora and fauna in city parks and open space by prohibiting the removal or injury to plants, trees, or wildlife in the parks without written consent of the director unless authorized by park regulations.

(2) City of Palo Alto Urban Forest Plans and Policies. The City has adopted a range of plans and policies aimed at maintaining, protecting, and enhancing the urban forest. The management plans and programs for trees in the city consist of the Urban Forest Master Plan (UFMP),

[1]City of Palo Alto, City of Palo Alto Tree Technical Manual, June 2001, http://www.cityofpaloalto.org/civicax/filebank/documents/6436, accessed on June 8, 2015 by Placeworks, for the Comprehensive Plan Update Environmental Impact Report.

(PAMC) includes provisions for the preservation and protection of trees as well as the protection of flora and fauna within the City limits. PAMC Title 8 (Trees and Vegetation) and Title 18 (Zoning) include regulations that protect trees in the city. Implementing regulations are set forth in the Tree Technical Manual pursuant to PAMC Section 8.10.030. , Section 3.00 (Removal, Replacement, and Planting of Trees) of the Tree Technical Manual includes standards and procedures for preventing unnecessary tree removal, determining if a tree may be removed, describing replacement tree requirements, and determining the replacement value of a tree that cannot be replaced in its original location. Except for these identified provisions, the proposed PSB project would not conflict with other policies or ordinances protecting biological resources.

In total, 14 trees (trees #26-#39) would be removed from the parking garage parcel of land, 3 trees (trees #23-#25) would be removed from the Birch Street median, and 21 trees (trees #1-#6 and #8-#22) would be removed from the PSB parcel of land. As shown on Figure 6.1 above, the tree survey report for the proposed PSB project defines six (6) trees on site as protected trees because they are either coast live oak (1 tree) or valley oak (1 tree) with a trunk diameter of 11.5 inches or more, or coast redwood (4 trees) with a trunk diameter of 18 inches or more. Five (5) surveyed trees are designated street trees (i.e., in the public right-of-way). These eleven (11) regulated trees, including protected and streetdesignated trees, are proposed to be removed as part of under the PSB project. The other 27 trees located on the project site would also be removed and, although these trees are not regulated trees under the Tree Technical Manual, their canopy would be replaced. One of the 39 surveyed trees would be retained and protected in place – a Chinese elm in Jacaranda Lane (tree #7).

A total of 21 new trees would be planted on the parking garage parcel, and approximately 46 new trees are proposed to be planted on the PSB parcel.

PAMC Chapter 8.10 and the The City of Palo Alto Tree Technical Manual (TTM) require replacement of regulated trees removed from a project site, and the TTM regulations provides guidance on tree replacement standards. For public property projects where City-owned replacement sites are available, the City can mitigate the removal of the six on-site Protected trees and five street trees by planting trees on another City-owned site to provide an equal canopy (TTM 3.15 Alternatives When Trees Cannot Be Replaced Onsite). The site(s) and mitigation tree locations, sizes, and species are a collaborative effort between Urban Forestry staff and PWE staff, following the size and number specified in the “Size and Number” chart below.

Impact 6-2: Removal of Protected and Street ~~Designated~~ Trees. Because 6 protected trees and 5 s~~S~~treet ~~designated~~ trees (those within street rights-of-way) are proposed to be removed as part of the proposed PSB project, Palo Alto Municipal Code Title 8 (Trees and Vegetation) Chapters 8.04 and 8.10 would apply to the project to require on-site tree replacement or off-site replacement and mitigation in accordance with the standards in the City's Tree Technical Manual (Section 8.10.050(d)(2)). Without adequate replacement or other mitigation as set forth in the Tree Technical Manual, the project would be inconsistent with the Municipal Code tree protection provisions. This potential inconsistency with the tree protection policy and these tree removals are considered a ***potentially significant impact*** (see criterion [e] in subsection 6.3.1, "Significance Criteria," above).

Mitigation 6-2. Prior to removal of the protected trees and street trees, the applicant shall obtain a tree removal permit issued by the City of Palo Alto Urban Forestry Division for the removal of any and all protected, designated, or street trees (referred to collectively as "Regulated Trees"). In all cases, replacement trees would be required as a condition of the tree removal permit, and the project applicant must demonstrate to the satisfaction of the City that there is no alternative that could preserve the tree(s) on-site. The project applicant must provide an evaluation and summary for any Regulated Tree (the collective term for any protected, designated, or street tree) proposed to be removed.

The applicant shall be required, in accordance with the Tree Protection and Management Regulations (PAMC 8.10) and Tree Technical Manual (PAMC 8.10.120), to replace the tree canopy for the six (6) protected trees, in accordance with the tree canopy formula identified in the Tree Technical Manual (TTM, 3.20). If the tree canopy cannot be replaced on-site, the canopy shall be replaced off-site as close to the project site as feasible. If trees are being replaced off-site, the applicant must submit a Tree Planting Plan to the Urban Forestry Division and obtain the Urban Forestry Division's approval of the plan prior to issuance of a building permit. The Tree Planting Plan must include:

- The canopy calculation for trees removed and the number of trees planned to replace them, consistent with the formula identified in the Tree Technical Manual
- The specific location where the new trees would be planted with specific baseline information about that proposed site (e.g., surrounding vegetation or development)
- The species of trees to be planted

(continued)

Mitigation 6-2 (continued):

- Specific planting details (e.g., size of sapling, size of containers, irrigation plan)
- Success criteria
- Monitoring and maintenance schedule

Replacement tree planting will be monitored by a qualified arborist. To verify the success of replacement trees, monitoring shall occur for two years after initial planting. After the two-year period, the arborist will determine if the trees are capable of surviving without further maintenance. Implementation of this measure would reduce the impact to a ***less-than-significant level.***

the earthquake source (e.g., magnitude, location, and area of causative fault surface), distance from the fault, and amplification effects of local geologic deposits. Project improvements could be exposed to strong seismic ground shaking and related risk of loss or injury in the event of an earthquake on one of the active or potentially active faults in the region. In general, ground-shaking hazards are most pronounced in areas that are underlain by loosely consolidated soil/sediment. Potential risks to life and property from these seismic hazards are expected to be adequately mitigated by existing laws, regulations, and polices, including the CBC and the City's development review procedures.

When earthquake faults within the Bay Area's nine-county area were considered, the USGS estimated that the probability of a MW ("Magnitude") 6.7 or greater earthquake prior to year 2043~~36~~ is ~~63~~72 percent, or roughly a ~~two-thirds~~three-quarters probability over this timeframe.[1] Individually, the forecasted probability for a given fault to produce a MW 6.7 or greater seismic event by the year 2036~~43~~ is as follows: 3~~1~~1 percent for the Hayward Fault, 2~~1~~1 percent for the San Andreas Fault, 2~~7~~6 percent for the Calaveras Fault, and 6 percent for the San Gregorio Fault. The probability of a 7.0 or greater earthquake in the Bay Area by 2043 is 51 percent, and the probability of a 7.5 or greater earthquake by 2043 is 20 percent.

Earthquakes of this magnitude can create ground accelerations severe enough to cause major damage to structures and foundations not designed to resist the forces generated by earthquakes. Underground utility lines are also susceptible to damage where they lack sufficient flexibility to accommodate the seismic ground motion. In the event of an earthquake of ~~this~~7.2 magnitude on the San Andreas Fault, the seismic forecasts presented on the Association of Bay Area Governments' website (developed by a cooperative working group that included the USGS and the California Geological Survey [CGS]) suggest that most parts of Palo Alto ~~southwest of US 101~~, including the PSB project site, are expected to experience "very strong" shaking (i.e., Modified Mercali Intensity [MMI] VII~~I~~), ~~whereas most parts of Palo Alto east of US 101 are expected to experience "very strong" shaking (MMI VIII)~~. The probability of an MMI VIII earthquake at the PSB project site is at least 10 percent over the next 50 years.[2]

(2) Landslides. Landslides are gravity-driven movements of earth materials that may include rock, soil, unconsolidated sediment, or combinations of these materials. The rate of landslide movement can vary considerably. Some move rapidly as in a soil or rock avalanche, while other landslides creep or move slowly for extended periods of time. Although the susceptibility of a given area to landslides depends on many variables, the factors that influence landslide hazards are well understood, and include slope material, slope steepness, geological structure, water content, vegetation coverage, proximity to manufactured cuts, and earthquake ground shaking.

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[1] United States Geological Survey, 201~~4~~5, ~~2008 Bay Area Earthquake Probabilities.~~Earthquake Outlook for the San Francisco Bay Region 2014-2043 (revised August 16, 2016). Available online at: https://pubs.er.usgs.gov/publication/fs20163020, ~~http://earthquake.usgs.gov/regional/nca/ucerf/,~~ accessed on March 7, 2018.~~February 3, 2015 by Placeworks for the Comprehensive Plan Update EIR.~~

[2] Association of Bay Area Governments, 201~~3~~8, ~~Geographic Information Systems, Earthquake Shaking Scenarios, 2012, United States Geological Survey, 2013.~~Resilience Program. Available online at: http://gis.abag.ca.gov/website/Hazards/, ~~http://resilience.abag.ca.gov/earthquakes/santaclara/,~~ accessed on March 7, 2018.~~February 3, 2015 by Placeworks for the Comprehensive Plan Update EIR.~~

Landslides have the potential to occur within Palo Alto, most notably on some of the hilly slopes west of Interstate 280. The PSB project site is relatively flat and is not subject to landslides.

(3) Liquefaction. Soil liquefaction is a process that occurs in water-saturated, unconsolidated sediment due to ground shaking. During liquefaction, soils lose strength and ground failure may

occur, affecting structures and improvements. Soils most susceptible to liquefaction are loose- to medium-dense, saturated granular soils with poor drainage, including Bay mud and artificial fill.

Liquefaction generally occurs in areas where moist, fine-grained, cohesionless sediment or fill materials are subjected to strong, seismically induced ground shaking. Under certain circumstances, the ground shaking can temporarily transform an otherwise solid, granular material to a fluid state. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may subside and suffer major structural damage. Liquefaction is most often triggered by seismic shaking, but it can also be caused by improper grading, landslides, or other factors. In dry soils, seismic shaking may cause soil to consolidate rather than flow, a process known as densification. Assuming a MW 7.8 earthquake on the San Andreas Fault, the USGS estimated that the liquefaction potential in Palo Alto ranges from 0 to 5 percent in the western hill areas, and from 5 to 10 percent in the area immediately southwest of US 101.[1]

Detailed evaluations and maps prepared by the CGS show that a significant portion of the eastern part of the EIR Study Area lies within State-designated liquefaction hazard zones.[2,3] These zones dominate a broad area, extending northeast from the vicinity of Alma Street, past US 101, and as far northeast as the shore of San Francisco Bay. In addition, the area flanking San Francisquito Creek near the northwest edge of Palo Alto has been mapped by the State as a liquefaction hazard zone.

According to City Comprehensive Plan Update Liquefaction Susceptibility map, the PSB project site is in an area of “Moderate” liquefaction susceptibility.

8.2 REGULATORY SETTING

The State of California and the City of Palo Alto have established laws and regulations that pertain to geology (including seismicity) and soils. The following laws and regulations are relevant to the CEQA review process for the proposed PSB project. There are no federal regulations regarding geology and soils applicable to the proposed project.

8.2.1 State Regulations

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface fault rupture to structures used for human

[1]United States Geological Survey, 2008, Liquefaction Hazard Maps for Three Earthquake Scenarios for the Communities of San Jose, Campbell, Cupertino, Los Altos, Los Gatos, Milpitas, Mountain View, Palo Alto, Santa Clara, Saratoga, and Sunnyvale, Northern Santa Clara County, California, by Thomas L. Holzer, Thomas E. Noce, and Michael J. Bennett, Open File Report 2008-1270.

[2]California Geological Survey, 2006, Seismic Hazards Zones, Palo Alto Quadrangle, Official Map, released October 18, 2006. Scale 1:24,000.

[3]California Geological Survey, 2006, Seismic Hazards Zones, Palo Alto Quadrangle, Official Map, released October 18, 2006. Scale 1:24,000.

Expose people or property to major geologic hazards that cannot be mitigated through the use of standard engineering design and seismic safety techniques (Significance Criterion [f])?

According to the Romig Engineers geotechnical report, some portions (sand and sandy silt strata) of the soil could experience liquefaction during an earthquake. However, risks to life and property from these seismic hazards would be adequately mitigated by existing laws, regulations, and polices, including the California Building Code and the City's development review procedures, which require a site-specific geotechnical investigation be prepared by a licensed professional for proposed developments for seismic design categories C, D, E, and F (see section 8.2, Regulatory Setting, above). The final geotechnical investigation based on construction-level plans would be reviewed by City staff prior to issuance of building permits to ensure compliance.

The Palo Alto Public Safety Building (PSB) will be designed in accordance with the requirements for Essential Services Buildings specified in the 2016 California Building Code (CBC) and the Essential Services Buildings Safety Act of 1986. The earthquake ground motion values used to compute the seismic design forces are determined using a USGS design tool which applies mapped seismic hazards to a specific site (from the 2010 ASCE-7 Standard). The project geotechnical report identifies the following significant earthquake faults and their potential maximum Richter Magnitudes (RM) for this site:

- San Andreas Fault: RM = 7.9
- Hayward Fault: RM = 7.1
- Calaveras Fault: RM = 6.8
- San Gregorio Fault: RM = 7.3

Through probabilistic analysis of the maximum considered events (MCE) considering the distance to the respective USGS-mapped faults, site soil properties and other variables, the USGS design tool determines site-specific MCE earthquake ground accelerations which are the basis for the seismic design forces developed under the provisions of the 2016 CBC.

The seismic design intent and expected performance according to the 2016 CBC, is "Essential Services Buildings constructed pursuant to these rules and regulations are designed and constructed to resist the forces…generated by major earthquakes of the intensity and severity of the strongest anticipated at the building site (MCE) without catastrophic collapse, but may experience some repairable architectural or structural damage. An essential services building as designed and constructed shall be capable of providing essential services to the public after a disaster. In addition, the equipment and other accessories which are necessary for the continued functioning of the essential services operation shall be anchored and braced to resist earthquake forces."

And from the Essential Services Buildings Seismic Safety Act, "It is the intent that the nonstructural components vital to the operation of essential services buildings shall also be able to resist, insofar as practical, the forces generated by earthquakes."

In summary, through following the CBC provisions, immediate occupancy of the PSB is expected after a major seismic event. However, there is the possibility that the structure and critical building infrastructure systems may suffer some damage which could be temporarily disruptive to a fully operational PSB.

Expansive soils are likely to be encountered on the project site, given the underlying Holocene Formation and the presence of clayey soils noted in the geotechnical report. However, review and permitting of specific development projects would involve characterization and consideration of site-specific geologic and soils conditions, and implementation of individual project mitigations, where needed. State and local planning, building, and engineering regulations also address structures, excavation, foundations, retaining walls, and grading activities (see section 8.2, Regulatory Setting, above).

According to the Romig Engineers geotechnical report, the primary geotechnical concerns for the proposed project are: (1) the need for temporary shoring of the basement excavations; (2) the likelihood that ground water will be present above the depth of the basement excavations, requiring dewatering; (3) the need to design and waterproof the floors and walls of the basement and access tunnel; and (4) the likelihood of severe ground shaking during a major earthquake. The geotechnical report's site-specific recommendations are described below under Mitigation 8-1.

Impact 8-1: Geotechnical Hazards Associated with Project Excavation and Grading. The project's proposed excavation and grading activities have the potential to create conditions that would potentially compromise the safety or stability of proposed project improvements. The preliminary site-specific geotechnical investigation (Romig Engineers, May 2016) made initial assessments of these conditions, but a construction-level geotechnical investigation will be needed to adequately address all grading and excavation activities on the proposed Public Safety Building and California Avenue Parking Garage (PSB project) site. Without such a detailed study--and without the associated supervision of an engineering geologist or geotechnical engineer during project grading and construction--the safety and long-term stability of existing and proposed project improvements cannot be assured. These possible excavation and grading hazards represent a ***potentially significant impact*** (see criteria [a], [c], [d], and [f] in subsection 8.3.1, "Significance Criteria," above).

11.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the proposed PSB project would have a significant impact related to hydrology and water quality if it would:

(a) Violate any water quality standards or waste discharge requirements;

(b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);

(c) Substantially alter the existing drainage pattern (increase the rate, volume, or flow duration of storm water runoff) of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in new or increased flooding on- or off-site;

(d) Result in stream bank instability;

(e) Significantly alter the existing drainage pattern (increase the rate, volume, or flow duration) of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff, in a manner which would increase flooding on- or off-site;

(f) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;

(g) Provide substantial additional sources of pollutants associated with urban runoff or otherwise substantially degrade water quality;

(h) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;

(i) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

(j) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or

(k) Expose people or structures to a significant risk of loss, injury, or death resulting from inundation by seiche, tsunami, or mudflow.

Regarding criterion (b), according to the City of Palo Alto Urban Water Management Plan, the City does not use groundwater during normal water years~~;~~. Dewatering that may be required during construction would be nominal in comparison to the total groundwater supply in the Santa Clara Sub-basin, which was historically noted to be approximately 350,000 acre-feet (AF) according to the 2012 Santa Clara Valley Water District (SCVWD) Groundwater Management Plan. The proposed project covers 2.23 acres, only a portion of which would be excavated

[1] CEQA Guidelines, appendix G, items VIII (a) through (i) and XVI (a).

below the anticipated water table. Even assuming that the entire site would be excavated to the maximum depth, the amount of water that would be removed would be less than .01 percent of the total aquifer and, therefore, would not result in a noticeable decrease in the groundwater volume or level, especially given that this removal would occur only once during construction and not on a continual basis, and that the aquifer is replenished by annual rainwater filtration. The proposed project does not include any increase in impervious surfaces; therefore, anticipated groundwater recharge into the aquifer would not change as a result of the project. ~~t~~Therefore, impacts to groundwater supplies or recharge for public consumption would be less-than-significant. Regarding the need for dewatering of contaminated groundwater during project construction, this issue is discussed in EIR chapter 10 (Hazards and Hazardous Materials), section 10.3.3 (Impacts and Mitigations). Mitigation 10-1 describes dewatering requirements, including implementation of the City's

standard dewatering requirements (see "Construction Dewatering System Policy" in section 11.2.3, above). With implementation of Mitigation 10-1, including the City's standard dewatering requirements, construction impacts of dewatering would be less-than-significant.

Regarding criterion (d), the project site is not located near a stream. There would be no impact, and this issue is not discussed further.

Regarding criterion (f), storm water infrastructure *capacity* is discussed in chapter 16 (Utilities and Service Systems) of this EIR.

Regarding criteria (h) and (i), the PSB project site is not located in a 100-year flood hazard area as mapped by FEMA, nor is it located in an area vulnerable to sea level rise (Comprehensive Plan EIR Figure 4.8.4 – Sea Level Rise).

Regarding criterion (j), on the Dam Inundation Map for the Comprehensive Plan Update EIR (Figure 4.8-5), the PSB project site is shown as on the edge of the dam inundation zone for Lagunita Reservoir. Based on the discussion in section 11.1 (Setting – Dam Inundation), dam inundation is not considered a potential impact for the PSB project.

Regarding criterion (k), a seiche is a tidal change in an enclosed or semi-enclosed water body caused by sustained high winds or an earthquake. A tsunami is a series of waves created when a body of water such as an ocean is rapidly displaced on a massive scale, most commonly as the result of an earthquake.

The project site is not near a lake and is not located close enough to San Francisco Bay to experience a seiche (there are no published maps or information on seiche hazards in the Bay Area). Also, the project site and vicinity are not in a Tsunami Inundation Area as identified by the State of California Department of Conservation (Mountain View Quadrangle Tsunami Inundation Map, viewed 10/5/17). The project site is relatively level and would not be susceptible to mudflow. These issues are not discussed further.

11.3.2 Proposed PSB Project Components

The project site consists of two paved parking lots totaling approximately 2.23 acres. Generally, the perimeters of the lots are planted with trees, bushes, and other plants (see earlier Figure 4.1A – Existing Aerial View). Overall, the project site is approximately 90 percent covered with impermeable pavement. The proposed PSB project would include new landscaping, also primarily along the project perimeter, resulting in a similar permeable surface coverage (see earlier Figure 4.1B – Visual Simulation: Aerial View). However, as described below, the proposed PSB project would include rain gardens for storm water treatment, trees with relatively low water requirements, a water-conserving demonstration garden, and a fully automated, water-efficient irrigation system, which would improve hydrology and water quality over existing conditions.

Chapter 3 (Project Description) of this EIR describes and illustrates various components of the proposed PSB project design that address hydrology and water quality. These include:

- An extensive, integrated landscaping and tree planting program, with raised planters that will provide rain gardens for storm water treatment along Sherman Avenue and Park Avenue

Mitigation 13-3. To reduce potential stationary source noise levels associated with the operation of the proposed project, the City and/or it's designated contractors, contractor's representatives, or other appropriate personnel shall:

- *Site equipment away from residential areas.* Garage ventilation fans and public safety building generators, fire pumps, and heating and air conditioning equipment shall be located outside of setbacks and screened from view from residential areas.
- *Enclose and/or Shield Stationary Noise-Generating Equipment.* The City shall enclose, shield, baffle, or otherwise attenuate noise generated from garage ventilation fans and public safety building generators, fire pumps, and heating and air conditioning equipment. The attenuation achieved through such enclosure, shielding, and/or baffling shall be sufficient to comply with Section 9.10.050(a) of the Municipal Code~~, which is estimated to be 78.2 dBA.~~
- *Prepare Acoustical Study.* In accordance with Chapters 9.10 and 18.23 of the Municipal Code, the City shall have an acoustical analysis prepared by a licensed acoustical engineer that demonstrates:
  - The proposed parking garage's generator would comply with the requirements of the City's Noise Ordinance (Section 9.10.050, as excepted).
  - The proposed parking garages ventilation fans would not result in a calculated Ldn of 63.0 at sensitive residential receptor locations.
  - The proposed public safety building fire pump, back-up generator, and heating and air conditioning equipment would comply with the requirements of the City's Noise Ordinance (Section 9.10.050, as excepted) and would not result in a calculated increase of more than 3.0 dB Ldn at sensitive receptor locations.

  The acoustical analysis shall be based on the final project design, reflect the actual equipment type and location at the project site, and the actual noise enclosure, shielding, or other attenuation measures included in the final project design. If the acoustical study demonstrates the noise levels from these sources would be at or within 5 dB less than the Noise Ordinance limits, the City shall demonstrate through monitoring that the equipment complies with the anticipated noise levels.

Implementation of these measures would ensure the project is designed and constructed in a manner consistent with the City's Municipal Code requirements and would reduce this impact to a ***less-than-significant level***.

- To enhance safety for pedestrians, it is recommended that signage and or warning systems be installed at all driveways to notify pedestrians of approaching vehicles and to make drivers aware of potential conflicts with pedestrians.

15.1.4 Other Transportation Considerations

The project's PSB related traffic is expected to add minimal traffic to the adjacent residential streets on Birch Street and Park Boulevard. However, due to the nominal increase in traffic from the project and the ample capacity on those roadways, it is not anticipated that the project will result in any impacts to the adjacent neighborhoods.

The vehicle miles traveled (VMT) for a new development project is estimated by adding the VMT for all vehicles generated by a site or use. VMT was calculated for the PSB but not the parking structure, as the PSB would be generating new traffic to the site and parking facilities would not. The VMT was calculated for years 2020 and 2040, which are the two future years of the MTC MPO Travel Demand Model. Based on the project's expected number of employees ~~trip generation~~ and the trip lengths from the California Household Travel Survey~~MTC's travel demand model~~, the project's average weekday VMT (generated by the PSB) would be approximately ~~2,250~~ 2,918 VMT under 2020 Conditions, which equates to ~~15~~ 18.2 VMT per employee, and ~~2,700~~ 3,015 VMT under 2040 Conditions, which equates to 18.8 VMT per employee. The average trip length for employees at the proposed project is estimated to be more than 15 percent below the regional averages, which would result in a less-than-significant impact for VMT (assuming current draft regulations in regards to SB 743 were in effect, which currently are anticipated to be required by July 1, 2019).

Lastly, a queueing analysis was conducted for critical left-turn movements at study signalized intersections. Based on the analysis, there would be no significant impact to queueing at the study intersections.

15.2 INTRODUCTION

This EIR chapter presents results of the Transportation Impact Analysis (TIA) conducted by Fehr & Peers for the proposed Public Safety Building (PSB) and California Avenue Parking Garage ("the PSB project") on Sherman Avenue in the City of Palo Alto. The analysis was conducted to evaluate the effects of the project on the surrounding transportation system and to identify measures to mitigate any significant mobility impacts. The TIA was prepared following guidelines of the City of Palo Alto and Santa Clara Valley Transportation Authority (VTA), the congestion management agency for Santa Clara County. This chapter provides a detailed project description and outlines the Project Study area, analysis methodologies, and significance criteria.

15.2.1 Project Description

The site location is shown on Figure 15.1, and the proposed site plans are shown on Figure 15.2a and Figure 15.2b. The project site is in the Evergreen Park neighborhood of Palo Alto at the corner of Sherman Avenue and Birch Street. The existing site currently comprises public Parking Lots C-6 and C-7. The PSB would be developed on Lot C-6 and the public parking

structure on Lot C-7. The sites are generally bounded by Jacaranda Lane to the north, Sherman Avenue to the south, Park Boulevard to the east, and Ash Street to the west. The

[Note to reader: Continue to page 15-7, attached.]

proposed project would remove the existing surface parking lots (which total approximately 310 parking spaces) to construct a new three-story PSB of approximately 45,000 to 50,000 square feet (excluding accessory site buildings) for approximately 160 employees and a new public parking structure with 636 parking spaces (i.e., 326 net new spaces).

15.2.2 Study Area

Project impacts on the study area roadway facilities were determined by measuring the effect project traffic would have on intersection operations during the morning (6:00 to 9:00 AM) and evening (4:00 to 7:00 PM) peak periods. A total of 10 intersections, as shown on Figure 15.1, were selected as study locations. These locations are:

(1) Study Intersections.

1. Park Boulevard / Sherman Avenue
2. Park Boulevard / Page Mill Road
3. Birch Street / Sherman Avenue
4. Birch Street / Grant Street
5. Birch Street / Sheridan Avenue
6. Ash Street / California Street
7. El Camino Real / Cambridge Avenue
8. El Camino Real / California Avenue
9. El Camino Real / Page Mill Road
10. Middlefield Road / Oregon Expressway

VTA's *Transportation Impact Analysis Guidelines* (VTA, 2014) indicate that intersections should be analyzed if the proposed project adds 10 or more peak hour vehicles per lane to any intersection movement. The listed intersections were selected based on VTA's ten trip per lane guideline.

(2) Freeway Segments. According to VTA's TIA guidelines, a freeway segment analysis should be included if the project meets one of the following requirements:

1. The proposed development project is expected to add traffic equal to at least one percent of a freeway segment's capacity.

2. The proposed development project is adjacent to one of the freeway segment's access or egress points.

3. Based on engineering judgment, Lead Agency staff determines that the freeway segment should be included in the analysis.

The nearest freeways to the project site are I-280 and US 101, which are approximately three miles and two miles away, respectively. The capacity for a freeway mixed-flow lane for freeway facilities greater than two lanes in one direction is 2,300 vehicles per hour per lane (vphpl), 2,200 vphpl for freeway facilities with two lanes or less in one direction, and 1,650 vphpl for High Occupancy Vehicle (HOV) lanes. The segment of I-280 between Alpine Road and El Monte Road has a direction capacity of 9,200 vphpl, and the segment of US 101 between San Antonio Avenue and Embarcadero Road has a one direction capacity of 8,550 vphpl.

15.7.1 Site Access and Circulation

(1) Public Safety Building (PSB). The PSB site plan, developed by RossDrulisCusenbery Architecture, presents three access points to the site:

- *Primary inbound/outbound driveway on Sherman Avenue* – This driveway would be located approximately 85 feet west of Park Avenue and would provide access to the below-grade parking.

- *Secondary inbound/outbound driveway on Birch Street* – This driveway would be located immediately adjacent to the Jacaranda Lane alley driveway. This adjacent driveway configuration would result in potential turning movement conflicts for the vehicles leaving the PSB driveway or Jacaranda Lane. For example, if a vehicle is trying to turn right out of the PSB driveway while another vehicle on Jacaranda Lane is trying to turn left, the two vehicles could potentially conflict due to the close proximity and potential confusion over vehicle right-of-way. Portions of the existing median on Birch Street would need to be removed to allow left-turns out of the PSB driveway.

Recommendation: Prohibit left-turns out of the Jacaranda Lane alley and provide full-access at the PSB's gated driveway. The vehicles on Jacaranda Lane that are destined for areas to the south would need to circulate around the block onto California Avenue, then Ash Street in order to access their southern destination. With the removal of the on-site parking lots as part of the project, the volumes on Jacaranda Lane would be substantially reduced, and the restricted left-turn movement would only affect a small number of vehicles.

(2) Public Parking Structure. The parking structure would consist of six levels total: four levels above grade and two basement levels. The parking structure internal ramps would be on the north side with access to the up ramp on the west and the down ramp on the east side.

The structure would be supported by one full access driveway on Sherman Avenue, approximately 90 feet to center of ramp west from the corner of Birch Street. Similar to the PSB primary driveway, having the driveway closer to the adjacent east intersecting street (i.e., Park Boulevard for the PSB driveway and Birch Street for the parking structure driveway) reduces the potential for queue spillback into the adjacent intersections (i.e., Birch Street and Ash Street). For eastbound vehicles on Sherman Avenue trying to turn left into the structure, they must yield to westbound traffic, but they would have ample queuing storage on Sherman Avenue to make the movement without impeding traffic on Ash Street. For westbound vehicles on Sherman Avenue that need to turn right into the structure, they are not required to stop for conflicting movements (except for pedestrians walking on the sidewalk crossing the parking structure driveway), so the queues would be negligible.

Eleven (11) morning peak hour trips and seventeen (17) evening peak hour trips are anticipated to make a left turn from Sherman Avenue into the parking structure. Opposing volumes (i.e., traveling westbound) on Sherman Avenue are relatively low: less than 100 vehicles during the morning peak hour and 150 vehicles during the evening peak hour under cumulative future conditions. Therefore, wait times for turning left into the structure are not anticipated to average more than a few seconds.

If the parking structure is operated with a payment system, gates may be required at the entrance where each driver would receive a ticket upon entering. As discussed in the trip

generation section, the parking structure is anticipated to generate approximately 116 inbound trips in the PM peak hour, which would equate to an average of approximately two vehicles per minute entering the structure. Even at the maximum anticipated queue of twice the average, or four vehicles, gating the entrance to the parking structure is not anticipated to adversely affect operations, given the ample capacity available on Sherman Avenue.

Recommendations: As parking structure plan refinements proceed, the following recommendations should be considered to enhance the vehicle circulation and reduce vehicle conflicts in the parking structure:

- The parking layout should avoid perpendicular parking spaces at the end of the aisles so that drivers can back in and out of the space easily and reduce potential conflicts.

- Stripe all driveways with a double yellow centerline to delineate the separation of entering and exiting traffic.

15.7.2 Pedestrian and Bicycle Access and Circulation

(1) Pedestrians. The PSB project site is supported by sidewalks on all adjacent roadways, except along Jacaranda Lane, which is an alley and will primarily serve only delivery trucks and police vehicles once the project is built and operational. The project site is adjacent to multiple restaurants and retail shops on California Avenue, and it is expected that PSB employees and people parking in the structure will walk to California Avenue to eat, shop, or obtain services. Currently, two pedestrian walkways between buildings connect California Avenue to Jacaranda Lane, and would provide direct access to the PSB and parking structure.

Recommendations: As the site plan refinements proceed, the following recommendations should be considered to enhance the pedestrian circulation and reduce conflicts in the parking structure:

- The parking structure will include stairwells on the northeast and northwest corners of the structure, adjacent to Jacaranda Lane. A clear pedestrian crosswalk should be provided on Jacaranda Lane to connect patrons between the structure and the walkway to California Avenue.

- Pedestrian and vehicle conflicts could potentially occur at project driveways, when a car is exiting while pedestrians are using the sidewalk that crosses the driveway. To enhance safety for pedestrians, it is recommended that signage and/or warning systems be installed at the entry/exit point of the parking garage (both on Sherman Avenue for the parking structure, the Birch Street gated driveway for the PSB, and the Jacaranda Lane gated driveway for the police department vehicles) to alert motorists of potential pedestrian conflicts. These signs or systems should also inform pedestrians that they should exercise caution when crossing the driveway.

(2) Bicycles. Palo Alto Municipal Code (PAMC) Section 18.52.040 stipulates that one bicycle parking space per 2,500 feet of gross floor area is required, with a mix of 80 percent for long-term parking and 20 percent for short-term parking. As a result, the PSB would need to provide 18 parking spaces for bikes (14 long-term bike spaces and 4 short-term spaces). These spaces should be conveniently located at building entrances or in visible areas for guests and employees. The applicant should ensure the following measures are integrated into the project plans:

- Class I long-term bicycle parking, such as lockers or a secured room, for employee use and long-term parking; and

- Inverted U-style bicycle racks for short-term bicycle parking.

15.8.1 Neighborhood Impacts

Since the proposed project is located in the Mayfield neighborhood, it would add some project trips to the residential streets, such as Birch Street and Park Boulevard. It is estimated that trips associated with the PSB would add a maximum of 40 trips during the PM peak hour on Birch Street between Sheridan Avenue and Oregon Expressway. Given that Birch Street is uncontrolled along this segment, the minimal traffic volume increase related to the project would result in a nominal increase in traffic delay on Birch Street.

Additionally, the El Camino Real/Page Mill Expressway intersection would increase in average delay as a result of the PSB project. However, the increase would be negligible (i.e., less than 2 seconds) and is not expected to result in any new cut-through traffic in the Mayfield neighborhood or in the adjacent neighborhoods of College Terrace, Evergreen Park, and Ventura.

The neighborhood impacts described above would be ***less than significant.***

Mitigation. No significant impact has been identified; no mitigation is required.

15.8.2 ~~Vehicle Miles Traveled (VMT)~~Trip Length Data Source

This section describes the methodology used to calculate the average weekday Vehicle Miles Traveled (VMT) associated with the proposed PSB project. VMT is presented for informational purposes. However, the values shown here are typically used as inputs to other technical studies such as air quality and greenhouse gas emissions (see chapters 5 and 9, respectively, of this EIR).

VMT is considered a useful metric in understanding the overall impacts of a project on the transportation system. VMT is often expressed on a “per capita” or “per employee” basis to understand the relative efficiency of one project versus another. By definition, one VMT occurs when a single vehicle is driven one mile. The VMT for a new development project is estimated by adding the VMT for all vehicles generated by a site or use. In addition, the VMT values in this section represent vehicular miles of travel for an entire weekday. Lastly, VMT values in this section represent the full length of a given trip, and are not truncated at city, county, or regional boundaries.

(1) VMT Estimate. Many factors affect travel behavior, such as density, diversity of land uses, design of the transportation network, distance to high-quality transit, and demographics (the “Ds”). Typically, low-density development at great distance from other land uses, and located in areas with poor access to transit, generate more automobile travel compared to development located in urban areas.

VMT measurement has one primary limitation: it is not directly observed and therefore cannot be easily measured. The amount of VMT can be estimated based on extensive surveys of residents, visitors, and employees, or by using a validated travel demand model that estimates vehicle demand and identifies the origin and destination of every trip (providing the travel distance for each trip). Travel demand model estimation is typically done only for larger-scale projects than the proposed PSB project.

To estimate the VMT for the PSB project, Fehr & Peers used the data from ~~the MainStreet tool, which is a web application developed by Fehr & Peers and the Environmental Protection Agency (EPA). The model recognizes that traffic generation by mixed-use and other forms of sustainable development relates closely to the density, diversity, design, destination accessibility, travel proximity, and scale of development. The model estimates the percentage of daily and peak hour trips that remain to the project site, as well as external transit, walk, and vehicle mode splits.~~

~~In addition to calculating a project's trip generation, MainStreet is also designed with the flexibility to use custom trip data from travel surveys from a variety of sources, including~~ the 2013 California Household Travel Survey [CHTS], which provides average trip lengths by trip purpose and geographic area, or regional travel demand model's trip lengths to calculate a project's VMT. Based on the CHTS, home-based work trips for employees within the applicable census tract in Palo Alto is 9.6 miles.

~~VMT was calculated only for the PSB and not the public parking structure. As described under *Trip Generation Estimates* (section 15.4.2), parking facilities are not typically traffic generators by themselves. Trips are actually generated by the nearby retail, office and residential uses, and parking lots or structures simply provide vehicle storage. The parking structure trips are generally going to be existing vehicles that currently park at Lots C-6, C-7, or adjacent facilities (e.g., street parking, Lot C-8) but would then park in the new parking structure upon its completion. Consequently, the parking structure would generate a negligible amount of VMT, and it is likely that it would actually reduce VMT in the area since it will reduce the need for vehicles to circulate around the study area trying to find an available parking space on the street. Furthermore, since the PSB component of the project would relocate employees from the existing PSB in downtown to the new location on Sherman Avenue, the project is not expected to generate significant additional regional trips, but rather redistribute them to a new location in Palo Alto.~~

The VMT was calculated for years 2020 and 2040, which are the two future years of the MTC MPO Travel Demand Model. It is estimated that the PSB will have 160 employees. Assuming that each employee travels to and from work once a day (i.e., one trip per direction or two total trips) and that on average there is an absenteeism of five percent to account for vacation, sick-time, and other commitments, then the total weekday 2020 VMT for the PSB would be 2,918 miles (160 employees x 9.6 miles x 2 trips x 95 percent = 2,918 miles of travel). Normalizing the VMT by employee, then the 2020 VMT per employee would be 18.2 miles (2,918 miles/160 employees = 18.2 miles/employee).

Based on available data from the VTA travel demand model, home-based work trip VMT between the years 2013 and 2030 will increase by three percent from 9.11 miles to 9.41 miles. Assuming the same trend for the trip length data from the CHTS, then the year 2040 trip length would be 9.9 miles (9.7 miles x 1.03 = 9.9 miles). Applying the same VMT calculation assumptions as for 2020, then the 2040 VMT for the PSB would be 3,015 miles (160 employees x 9.9 miles x 2 trips x 95 percent = 3,015 miles of travel). Normalizing the VMT by employee, then the 2040 VMT per employee would be 18.2 miles (2,918 miles /160 employees = 18.8 miles/employee).~~Based on the project's trip generation and the trip lengths from MTC's travel demand model, the project's average weekday VMT (generated by the PSB) would be approximately 2,250 VMT under 2020 Conditions, which equates to 15 VMT per employee, and 2,700 VMT under 2040 Conditions, which equates to 18 VMT per employee.~~

(2) Senate Bill (SB) 743 Assessment. On September 27, 2013, Governor Jerry Brown signed SB 743 into law, starting a process that is expected to fundamentally change the way transportation impact analysis is conducted under CEQA. Within the State's CEQA Guidelines, these changes will include elimination of auto delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant transportation impacts. Since the adoption of SB 743, the Office of Planning and Research (OPR) has been working on guidelines and regulations to implement SB 743 and the required shift to VMT as the criterion for transportation impacts under CEQA. In November 2017, OPR released proposed new regulations (amendments to the State CEQA Guidelines[1]). ~~In January 2016, the Governor's Office of Planning and Research (OPR) issued the Draft Guidance,~~ which provided ~~initial~~ recommendations for updating the State's CEQA Guidelines in response to SB 743 and ~~contained~~ included recommended specifications for VMT analysis in an accompanying "Technical Advisory on Evaluating Transportation Impacts in CEQA" ("Technical Advisory"). ~~The guidance recommended use of *automobile* Vehicle Miles Traveled, or VMT, as the preferred CEQA transportation metric, along with the elimination of auto delay/LOS for CEQA purposes statewide. For land use projects, the Technical Advisory specifies that automobile VMT be measured by land use type for specific trip purposes or tours depending on the type of forecasting model being used. A revised Technical Advisory was issued in November 2017. The OPR "Final Proposed Updates to the CEQA Guidelines" have been submitted to the State Resources Agency, which will provide the revised CEQA Guidelines~~

[1]The State CEQA Guidelines are found at California Code of Regulations, title 14, section 15000 et seq.

~~for public review and comment before a decision on formal approval. Based on the "Final Proposed Updates to the CEQA Guidelines," lead agencies will have up to two years to implement the revised CEQA Guidelines upon their formal approval, which could occur later in 2018.~~

OPR's Technical Advisory contains specifications for VMT analysis methodology and recommendations for significance thresholds. The ~~Technical Advisory~~ OPR Guidance contains sufficient information to inform lead agencies about how to prepare for the upcoming transition to VMT. However, the final implementation steps for SB 743 have not yet been completed and, therefore, implementation of SB 743 is not required until July 1, 2019.~~State Resources Agency has not yet adopted the CEQA Guidelines Updates and, therefore, compliance with the OPR Technical Advisory is not yet mandatory.~~

In January 2018, the California Natural Resources Agency released the proposed CEQA Guidelines rulemaking materials for section 15064.3 (Determining the Significance of Transportation Impacts). Pending expected adoption in mid-2018, the proposed new CEQA Guidelines are currently scheduled to apply statewide on July 1, 2019.

As noted above, the results of this analysis are for informational purposes because the City ~~of Palo Alto~~ has yet to adopt VMT thresholds; therefore, there is no formal significance criteria set for the VMT analysis. However, in order to understand the ~~PSB~~ project's contribution to the transportation network, the OPR Technical Advisory recommendations were used. ~~At the time this EIR analysis was prepared,~~ OPR's ~~*Revised Proposed Changes to the CEQA Guidelines* (January 2016) and proposed~~ *Technical Advisory on Evaluating Transportation Impacts in CEQA* ~~were consulted to~~ identifies~~y~~ the following significance criteria~~on~~ to assess VMT ~~(this criterion has been retained in the final OPR documents)~~:

1. The project will be considered to result in a significant impact to VMT if project-related VMT exceeds the following numeric thresholds:

   - **Workers Per Capita VMT:** A project exceeding a level of 15 percent below existing regional VMT per employee.

VMT Impact Results. For this analysis, VMT per employee results were compared to the Project Transportation Analysis Zone (TAZ) from the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) regional model. Existing VMT data by TAZ was not available, so the Projected VMT estimates for Year 2020 and 2040 were used.

As shown in Table 15-12, the average trip length for employees at the proposed PSB project is estimated to be more than 15 percent **below** the regional averages. Therefore, using the criteria and methodology described above, the proposed project's VMT impact would result in less-than-significant impacts, assuming the California Natural Resources Agency rulemaking in regards to SB 743 were in effect (currently anticipated for July 1, 2019).

It should be noted that a VMT analysis under the OPR's proposed November 2017 guidelines and the January 2018 California Natural Resources Agency's proposed rulemaking would likely not be required for the PSB. Per the Metropolitan Transportation Commission (MTC), the PSB

is within its 2017 Transit Priority Areas[1] (TSP) (generally within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor). The January 2018 California Natural Resources Agency draft rulemaking recommends that projects within a TSP should be presumed to cause a less-than-significant transportation impact and that they would not require a transportation impact assessment or VMT analysis under CEQA Guidelines section 15064.3(b)(1). ~~As noted in the beginning of this section 15.8, this VMT description is provided for information only, not as a significance criterion for evaluating environmental impacts.~~

15.8.3 Queuing Analysis

The addition of PSB project traffic along the roadway network has the potential to add vehicles to left-turn movements, causing the left-turn queue to exceed the turn pocket storage length. Queues that exceed the turn pocket storage length have the potential to impede through traffic movement along an approach. Potentially affected signalized intersections were selected for this evaluation based on where the PSB project would add at least five (5) vehicles to a study intersection with a left-turn pocket, which include the following three movements at two intersections:

[1] MTC, 2017 Transit Priority Project Eligible Area.

Table 15-12
DAILY VEHICLE MILES TRAVELED PER CAPITA

	Bay Area				Project			
	2020		2040		2020		2040	
Land Use	**Regional Average**	**85% of Regional Average**	**Regional Average**	**85% of Regional Average**	**VMT**	**VMT < 85% Regional Average**	**VMT**	**VMT < 85% Regional Average**
Employee (VMT per Capita)[1]	25.3	21.5	23.2	19.7	~~15~~18.2	YES	18.8	YES

SOURCE: Fehr & Peers, 2017.

1. MTC Model results at analytics.mtc.ca.gov/foswiki/Main/PlanBayAreaVmtPerWorker and accessed in June 201~~7~~8.

- Intersection 8El Camino Real/California Avenue – Westbound left-turn pocket
- Intersection 9El Camino Real/Page Mill Road – Southbound left-turn pocket
- Intersection 9El Camino Real/Page Mill Road – Westbound left-turn pocket

The 95th percentile queues from the TRAFFIX LOS analysis were used to evaluate the projected queues at the identified left-turn movements. The results of the left-turn queue analysis are presented in Table 15-13.

For purposes of this analysis, operational deficiencies were considered to occur under conditions where project traffic causes the queue in a left-turn pocket to extend beyond the turn pocket length by 25 feet or more (i.e., the length needed for one vehicle). Where the vehicle queue already exceeds the turn pocket storage under No Project conditions, a queuing deficiency would occur if project traffic extends the queue by 25 feet or more.

Based on the queue analysis presented in Table 15-13, the southbound and westbound left-turn pockets at El Camino Real/Page Mill Road are projected to serve queues that exceed capacity under Cumulative Conditions without and with the PSB project. However, the addition of project trips for this movement would not extend the queue more than the No Project Conditions, so there would be no project-generated queuing deficiency at the El Camino Real/Page Mill Road intersection.

The southbound left-turn pocket at El Camino Real/California Avenue is also expected to exceed the available storage under Existing, Background, and Cumulative Conditions without and with the PSB project. Under Existing and Background Conditions, the southbound queue remains the same without and with the project, so there would be no project-generated queuing deficiency for those two scenarios. Under Cumulative Conditions, the southbound left-turn queue increases by 25 feet, which is considered a deficiency under Cumulative plus Project Conditions. However, this increase in queue length is considered ***less than significant*** because it could likely be accommodated by adjusting the signal timings and/or the signal phases, without requiring the construction of any physical improvements.

Mitigation. No significant impact has been identified; no mitigation is required.