City Council
Special Meeting
Tuesday, September 27, 2022
5:00 PM
Council Chamber & Virtual
Amended Agenda

Pursuant to AB 361 Palo Alto City Council meetings will be held as "hybrid" meetings with the option to attend by teleconference/video conference or in person. To maximize public safety while still maintaining transparency and public access, members of the public can choose to participate from home or attend in person. Information on how the public may observe and participate in the meeting is located at the end of the agenda. Masks are strongly encouraged if attending in person.

VIRTUAL PARTICIPATION

CLICK HERE TO JOIN (https://cityofpaloalto.zoom.us/j/362027238)
Meeting ID: 362 027 238 Phone:1(669)900-6833

The meeting will be broadcast on Cable TV Channel 26, live on YouTube at https://www.youtube.com/c/cityofpaloalto, and streamed to Midpen Media Center at https://midpenmedia.org.

TIME ESTIMATES

Time estimates are provided as part of the Council's effort to manage its time at Council meetings. **Listed times are estimates only and are subject to change at any time, including while the meeting is in progress.** The Council reserves the right to use more or less time on any item, to change the order of items and/or to continue items to another meeting. Particular items may be heard before or after the time estimated on the agenda. This may occur in order to best manage the time at a meeting or to adapt to the participation of the public.

PUBLIC COMMENTS

Public Comments will be accepted both in person and via Zoom for up to three minutes or an amount of time determined by the Chair. All requests to speak will be taken until 5 minutes after the staff's presentation. Written public comments can be submitted in advance to city.council@cityofpaloalto.org and will be provided to the Council and available for inspection on the City's website. Please clearly indicate which agenda item you are referencing in your email subject line.

PowerPoints, videos, or other media to be presented during public comment are accepted only by email to city.clerk@cityofpaloalto.org at least 24 hours prior to the meeting. Once received, the City Clerk will have them shared at public comment for the specified item. To uphold strong cybersecurity management practices, USB's or other physical electronic storage devices are not accepted.

CALL TO ORDER

CLOSED SESSION (5:00 - 6:30 PM)

Public Comments: Members of the public may speak to the Closed Session item(s); three minutes per speaker.

1. CONFERENCE WITH LABOR NEGOTIATORS City Designated Representatives: City Manager and his Designees Pursuant to Merit System Rules and Regulations (Ed Shikada, Kiely Nose, Sandra Blanch, Nicholas Raisch, Tori Anthony, Molly Stump, and Terence Howzell) Employee Organization: Service Employees International Union, (SEIU) Local 521, Utilities Management and Professional Association of Palo Alto (UMPAPA)Palo Alto Peace Officers' Association (PAPOA), Palo Alto Police Management Association (PMA), International Association of Fire Fighters (IAFF) local 1319, Palo Alto Fire Chiefs Association (FCA), Management and Professional Employees (MGMT) ; Authority: Government Code Section 54957.6 (a)

SPECIAL ORDERS OF THE DAY (6:30 - 6:45 PM)

2. 2022 US Mayor Climate Protection Award Recognition

Presentation

3. Palo Alto Art Center and Palo Alto Art Center Foundation presentation of Fire Transforms exhibit and Climate Connections series

AGENDA CHANGES, ADDITIONS AND DELETIONS

PUBLIC COMMENT (6:45 - 7:00 PM)

Members of the public may speak to any item NOT on the agenda. Council reserves the right to limit the duration of Oral Communications period to 30 minutes.

CONSENT CALENDAR (7:00 - 7:05 PM)

Items will be voted on in one motion unless removed from the calendar by three Council Members.

4. Approve Minutes from the September 12, 2022 City Council Meetings

Q&A

5. Approval of Outage Management System (OMS) Contract C23184285 With Milsoft Solutions Inc. in the Amount Not to Exceed $625,994 Over a 5-Year Term

6. Adoption of a Resolution Approving and Attesting to the Veracity of the City's 2021 Annual Power Source Disclosure and Power Content Label Reports *Supplemental Memo Added*

Q&A

7. Approval of a First Amendment to Lease Between KG-Bryant, LLC, and the City of Palo Alto for the Premises Located at 526 Bryant Street for an Initial 12-month Term, at a Starting Base Rent of $5,616.11 per Month and Increasing 3 Percent Annually

Materials related to an item on this agenda submitted to the Board after distribution of the agenda packet are available for public inspection at www.CityofPaloAlto.org.

8. SECOND READING: Adoption of a Park Improvement Ordinance for Renovation of the Mitchell Park Dog Park as Recommended by the Parks and Recreation Commission (FIRST READING: September 12, 2022 PASSED: 7-0)

9. SECOND READING: Adoption of an Ordinance Approving the Police Department's Military Equipment Use Policy Under AB 481 (FIRST READING: September 12, 2022 PASSED 7-0)

CITY MANAGER COMMENTS (7:05 - 7:20 PM)

Presentation

BREAK (7:20 - 7:30 PM)

ACTION ITEMS (7:30 - 10:30 PM)

Include: Reports of Committees/Commissions, Ordinances and Resolutions, Public Hearings, Reports of Officials, Unfinished Business and Council Matters.

10. S/CAP Update and Initial Council Action: Acceptance of Sustainability and Climate Action Plan (S/CAP) Goals and Key Actions; Review of Proposed Reach Code Changes; Adoption of Resolutions Adopting Advanced Heat Pump Water Heater Program Guidelines, Creating and Funding Electrification Reserves, Amending the City's Policy on the Use of Cap and Trade Allowance Revenues, and Adopting a Carbon Neutrality Goal; Approval of Budget Amendments in the Electric Fund, Gas Fund, and General Fund; and Direction to Staff to Amend the 2022 Utilities Legislative Guidelines *Title Updated, Supplemental Memo Added*

Public Letters

Presentation

Ad Hoc Presentation

COUNCIL MEMBER QUESTIONS, COMMENTS, ANNOUNCEMENTS

Members of the public may not speak to the item(s)

ADJOURNMENT

INFORMATION REPORTS

Information reports are provided for informational purposes only to the Council and the public but are not listed for action during this meeting's agenda.

11. Independent Police Auditor's (IPA) Report of Review of Investigations as of June 1, 2022 and Police Department Use of Force Report for January - June 2022

12. Informational Report on the City's Existing Hazardous Materials Ordinance and How it Affects Residential Development

OTHER INFORMATION

Public Comment Letters

Schedule of Meetings

Materials related to an item on this agenda submitted to the Board after distribution of the agenda packet are available for public inspection at www.CityofPaloAlto.org.

PUBLIC COMMENT INSTRUCTIONS

Members of the Public may provide public comments to teleconference meetings via email, teleconference, or by phone.

1. **Written public comments** may be submitted by email to city.council@cityofpaloalto.org.

2. **Spoken public comments using a computer** will be accepted through the teleconference meeting. To address the Council, click on the link below to access a Zoom-based meeting. Please read the following instructions carefully.
   A. You may download the Zoom client or connect to the meeting in-browser. If using your browser, make sure you are using a current, up-to-date browser: Chrome 30+, Firefox 27+, Microsoft Edge 12+, Safari 7+. Certain functionality may be disabled in older browsers including Internet Explorer.
   B. You may be asked to enter an email address and name. We request that you identify yourself by name as this will be visible online and will be used to notify you that it is your turn to speak.
   C. When you wish to speak on an Agenda Item, click on "raise hand." The Clerk will activate and unmute speakers in turn. Speakers will be notified shortly before they are called to speak.
   D. When called, please limit your remarks to the time limit allotted.
   E. A timer will be shown on the computer to help keep track of your comments.

3. **Spoken public comments using a smart phone** will be accepted through the teleconference meeting. To address the Council, download the Zoom application onto your phone from the Apple App Store or Google Play Store and enter the Meeting ID below. Please follow the instructions B-E above.

4. **Spoken public comments using a phone** use the telephone number listed below. When you wish to speak on an agenda item hit *9 on your phone so we know that you wish to speak. You will be asked to provide your first and last name before addressing the Council. You will be advised how long you have to speak. When called please limit your remarks to the agenda item and time limit allotted.

CLICK HERE TO JOIN **Meeting ID: 362 027 238 Phone:1(669)900-6833**

Materials related to an item on this agenda submitted to the Board after distribution of the agenda packet are available for public inspection at www.CityofPaloAlto.org.

City of Palo Alto

(ID # 14767)

City Council Staff Report

Meeting Date: 9/27/2022 **Report Type: Special Orders of the Day**

Title: 2022 US Mayor Climate Protection Award Recognition

From: City Manager

Lead Department: City Clerk

There is no staff report for this item. A verbal presentation will be made at the meeting.

City of Palo Alto

(ID # 14766)

City Council Staff Report

Meeting Date: 9/27/2022 **Report Type: Special Orders of the Day**

Title: Palo Alto Art Center and Palo Alto Art Center Foundation presentation of Fire Transforms exhibit and Climate Connections series

From: City Manager

Lead Department: City Clerk

There is no staff report for this item. A verbal presentation will be made at the meeting.

City of Palo Alto

Office of the City Clerk

City Council CAO Report

(ID # 14786)

Meeting Date: 9/27/2022 **Report Type: Consent Calendar**

Title: **Approve Minutes from the September 12, 2022 City Council Meetings**

From: **Lesley Milton, City Clerk**

Staff recommends Council to review and approve the minutes as presented.

ATTACHMENTS:

- **Attachment4.a:** Attachment A: 20220912amCCsm (PDF)

CITY COUNCIL
DRAFT ACTION MINUTES

Special & Regular Meeting
September 12, 2022

The City Council of the City of Palo Alto met on this date in the Council Chambers and by virtual teleconference at 5:00 P.M.

Present: Burt, Cormack, DuBois, Filseth, Kou, Stone, Tanaka

Present Virtually: None

Absent: None

Special Orders of the Day

2. Appreciation for Congresswoman Anna G. Eshoo, United States Representative of California's 18thCongressional District, for advocating for the Historic Inflation Reduction Act and for securing $7 million for a variety of projects through Community Project Funding to support Palo Alto

Action: Appreciation Given

1. Appointment of Candidates for the Human Relations Commission

ORIGINAL MOTION: Mayor Burt moved, seconded by Council Member Stone to eliminate the lowest number of votes if there is no majority selected on the previous round.

SUBSTITUTE MOTION: Council Member Cormack moved seconded by Council Member Tanaka, when voting on the second round, there is N+1 candidates moving forward when there is not a majority selection the first round.

SUBSTITUTE MOTION FAILS: 2-5, Filseth, Burt, Stone, Kou, DuBois no

ORIGINAL MOTION PASSES: 7-0

First round of voting for one position on the Human Relations Commission with term ending March 31, 2023 voting for:

Donald Bar: Burt

Tracy Alejandra Navichoque: Cormack, Stone, DuBois, Kou

DRAFT ACTION MINUTES

Chitra Sharma: Filseth

Kat Snyder: Tanaka

Tracy Alejandra Navichoque with 4 votes was appointed to the Human Relations Commission with a term ending March 31, 2023.

Study Session

3. Report and Discussion on Valley Water's Purified Water Project Including Location of the Advanced Water Purification Facility at the Former Los Altos Treatment Plant Site, Reverse Osmosis Concentrate Management, Upcoming Agreements and Decisions

Action: No Action Taken

The Council Took a break from 7:05 to 7:15 pm. The City Council adjourned the Special meeting can called to order the City Council Regular meeting at 7:00 PM.

4. 70 Encina Avenue (22PLN-00198): Request for a Prescreening to Consider Rezoning the Subject Property From Community Commercial (CC) to Planned Community (PC/PHZ) to Allow Development of a Building With Approximately 20 Dwelling Units and 28 Parking Spaces. Environmental Assessment: Not a Project. The Formal Application Will be Subject to California Environmental Quality Act (CEQA) Review. Zoning District: CC (Community Commercial).

Action: No Action Taken

5. 4333 and 4345 El Camino Real [22PLN-00210]: Request by Toll Bros. for Prescreening of Their Proposal to Rezone the Subject Properties from CS to PHZ to Allow Redevelop the Two Sites with 12 Dwelling Units and 55 Dwelling Units, Respectively. Environmental Assessment: Not a Project. (7:30 – 8:30 PM)

Action: No Action Taken

Agenda Changes, Additions and Deletions

No additional comments beyond the amended agenda.

Public Comment

Consent Calendar

Council Member Tanaka registered a no vote on Agenda Item Number 7

Council Member Cormack, DuBois registered a no vote on Agenda Item Number 9.

DRAFT ACTION MINUTES

Council Member Stone, DuBois, Tanaka requested to pull item 11.

MOTION: Council Member Cormack moved, seconded by Mayor Burt to approve Agenda Item Numbers 6-10, 12 and 13 and pull Item 11 for discussion.

6. Approve Minutes from the August 8, 2022 , August 10, 2022, August 15, 2022, and the August 22, 2022 City Council Meetings

7. Approval of Amendment Number 1 to Contract Number C20177684 with SCA for Street Sweeping Services, for Modification and Increase of Contract by $1,080,674 to Include Prevailing Wages for a Revised Not to Exceed amount of $6,688,906 for the Remaining Three Years of a Five-Year Contract; and Approval of Budget Amendment in the Refuse Fund

8. Adoption of the Amended Community Development Block Grant (CDBG) Citizen Participation Plan

9. Adoption of **Resolution 10069** Authorizing Use of Teleconferencing for Council Meetings During Covid-19 State of Emergency

10. Adoption of Park Improvement Ordinance for Renovation of the Mitchell Park Dog Park as Recommended by the Parks and Recreation Commission

11. Recommendation from the Human Relations Commission on the naming of the holiday on the second Monday in October **(Pulled for discussion)**

12. Approval of Contract No. C23183740 with StreetSense CA, LLC for Economic Development Consulting Services for a Term Expiring December 31, 2025 and a Total Amount Not-to-Exceed $261,995; and Approval of a Budget Amendment in the General Fund

13. QUASI-JUDICIAL. 215/217 Alma Street {22PLN-00164}: Ratification of Director's Approval of Waiver From the Retail Preservation Ordinance for an Alternative Viable Use to Allow for an Animal Care Provider (Modern Animal) to Occupy a 4,200 Square Foot Portion of the Site. Zone District: Commercial Downtown Neighborhood with a Pedestrian Combining District (CD-N[P]). Environmental Assessment: Exempt from CEQA in Accordance With Guidelines Section 15061(b)(3) and 15301.

MOTION SPLIT FOR THE PURPOSE OF VOTING

ITEM 6, 8, 10, 12 and 13 MOTION PASSED: 7-0

ITEM 7 MOTION PASSED: 6-1, Tanaka no

ITEM 9 MOTION PASSED: 5-2, Cormack, DuBois no

DRAFT ACTION MINUTES

City Manager Comments

Action Items

14. PUBLIC HEARING: Adoption of a Resolution Confirming the Weed Abatement Report and Ordering the Cost of Abatement to be a Special Assessment on the Respective Properties Described Therein

MOTION: Council Member Cormack moved, seconded by Council Member Burt to adopt **Resolution 10070** confirming the report and ordering abatement costs to be a special assessment on the properties specified in the report.

MOTION PASSED: 7-0

15. Adoption of an Ordinance Approving the Police Department's Military Equipment Use Policy Under AB 481

MOTION: Mayor Burt moved, seconded by Council Member DuBois to adopt the draft ordinance approving the Palo Alto Police Department Military Equipment Use Policy in accordance with AB 481.

MOTION PASSED: 7-0

Pulled From Consent for Discussion

11. Recommendation from the Human Relations Commission on the naming of the holiday on the second Monday in October

MOTION: Council Member Stone moved seconded by Mayor Burt to name the second Monday of October as Indigenous People's Day and Italian Heritage Day.

MOTION PASSED: 7-0

Council Member Questions, Comments and Announcements

Adjournment: The meeting was adjourned at 11:10 P.M.

DRAFT ACTION MINUTES

ATTEST: APPROVED:

_____ _____

City Clerk Mayor

NOTE: Action minutes are prepared in accordance with Palo Alto Municipal Code (PAMC) 2.04.160(a) and (b). Summary minutes (sense) are prepared in accordance with PAMC Section 2.04.160(c). Beginning in January 2018, in accordance with Ordinance No. 5423, the City Council found action minutes and the video/audio recordings of Council proceedings to be the official records of both Council and committee proceedings. These recordings are available on the City's website.

City of Palo Alto (ID # 14173)

City Council Staff Report

Meeting Date: 9/27/2022 **Report Type: Consent Calendar**

Title: Approval of Outage Management System (OMS) Contract C23184285 With Milsoft Solutions Inc. in the Amount Not to Exceed $625,994 Over a 5-Year Term

From: City Manager

Lead Department: Utilities

Recommendation

Staff recommends that Council approve and authorize the City Manager or their designee:

1. To execute the attached Contract C23184285 with Milsoft Solutions, Inc. (Milsoft) to purchase an electric outage management system (OMS) with a standalone Interactive Voice Response (IVR) capability and texting through TextPower. The purchase cost of the system is a one-time $71,947 with an annual maintenance fee of $108,651 for 5 years.

2. To negotiate and execute one or more change orders to the contract with Milsoft for related additional but unforeseen work, which may develop during the project, the total value of which shall not exceed $10,792 or 15% of the implementation cost, for a total contract amount not to exceed $625,994

Executive Summary

The City's existing electric outage management system (OMS), iVue solution from National Information Solutions Cooperative, Inc. (NISC), was purchased in 2011. The OMS has not been upgraded due to system incompatibility and vendor constraints. As of 2021, the Electric Operations Division has determined that, due to general enhancements and unification to the City's Geographic Information System strategy, as well as the upcoming deployment of a Sensus FlexNet Advanced Metering Infrastructure, it is now preferable to upgrade or replace the current OMS to better suit the utility's current operational environment and growing needs in better service to its community at-large.

Since the beginning of calendar year 2022, there have been 19 unplanned power outages in Palo Alto, with eight considered major based on total customer impact (500 customers or greater). The last several outages underscore the importance of communicating during an outage and the Utilities Department is committing to increased community notifications. Specifically, Utilities is increasing public communication at the beginning of a major power

outage, providing updates during an outage as they become available, and alerting the community when restoration of power has taken place, with cause of power outage when known.

The new OMS is expected to substantially improve City of Palo Alto Utilities' (CPAU) ability to notify customers and mobilize resources in response to electric outages and emergencies. As published in the recent blog "Recent Power Outage Details & Utilities Follow-Up Actions Planned", the OMS will allow customers to stay informed on outage and restoration information to subscribed customers through email and text alerts. Confirmed outages will be posted directly to the outage map and available to all customers. The new system includes an internal distribution to key personnel via emails and text messages to keep staff informed of outage details and receive information in a more timely and effective manner.

Background

In order to coordinate activities and disseminate information during a planned or unplanned electric outage, the City purchased the NISC outage management system in 2011. The intent of the NISC system was to provide staff with the capability to monitor the electric system on a real-time basis from the Utility Control Center during an outage, and to improve the accuracy and timeliness of information for reporting purposes. Originally, it was envisioned that the NISC system would be able to provide information to customers about outages, both by making direct phone calls to customers in the affected areas and by responding to incoming customer inquiries. However, the NISC system did not integrate successfully with the Utilities billing system (SAP) and as a result, it never functioned as expected. The new OMS will be able to integrate information in the SAP Customer Information System, meter statuses in the Meter Data Management System, and circuitry from the GIS, which will aid in identifying the location and extent of an outage.

Discussion

When a planned or unplanned electric outage occurs, CPAU needs a system that will provide information for staff to identify the root cause and location of the problem, perform repairs quickly, as well as provide customers and management with up-to-date information on the outage and its repair status. An effective OMS system also improves reliability in the distribution system by providing historical data that can be mined to find common causes for failures and damages. By identifying common factors in electrical system failures, improvement programs can be prioritized to provide the greatest increases in reliability at the lowest cost.

On March 2, 2022, a Request for Proposal (RFP) Number 184285 for "Outage Management System and Interactive Voice Response" was issued. Staff received only two proposals. Below is a table with proposed upfront and annual operating costs, excluding texting charges. Since both proposals met the comprehensive technical (i.e. architecture, security, performance) and functional (i.e. usability, integration, reporting, notification, dispatching, external map, IVR) requirements as described in the RFP to provide a complete outage management system with a

standalone IVR Unit, staff decided to evaluate the two proposals instead of canceling and reissuing the RFP.

Summary of Solicitation Process

Proposal Title	**RFP 184285**
Proposed Length of project	12 months
Number of Proposal packages downloaded	16
Total days to Respond	25 days
Number of Proposal Received	2
Bid Range	$527,452 to $887,569
Company Name	**Amount**
Milsoft Solutions, Inc.	$527,452

The proposals were evaluated based on the following criteria. It was also specified that the weights associated with the criteria would be different for the five components of the RFP.

1. Quality and completeness of Proposal
2. Quality, performance, and effectiveness of the solution
3. Proposer's experience
4. Cost to the City
5. Proposer's financial condition and stability
6. Proposer's ability to perform the requirements within the time specified
7. Proposer's prior record of performance with City or other agencies
8. Proposer's ability to provide future maintenance, repairs, parts and/or services
9. Proposer's compliance with applicable laws, regulations, policies
10. Proposer's integration experience

Milsoft scored the highest overall points for the OMS evaluation including lowest implementation and total cost. Milsoft is a proven utility solution provider of over 30 years of experience, with more than 900 software systems across the United States. Milsoft also has a long and established successful deployment and integration track record with their business partners and customers while exceling in customer service and support.

Electric outage information in the Milsoft Solutions, Inc. will be integrated with both the GIS database and the SAP Customer Information System and will enable the identification of outage location and extent, will aid in situation analysis of crew requirements at the outage location, and can be used to set parameters for customer notifications of outages and repair schedules by phone, email, and text. Information on the outage will also be published to the Utilities web page automatically once it is accepted as an outage by the System Operator. After the completion of repairs, information saved in the system will assist in analyzing the cause of an outage.

The OMS is designed to:

- Coordinate the dispatch of crews;
- Generate management and reporting tools that can be used internally to share dashboard views of various key performance indicators;
- Verify restoration efforts by re-checking Advanced Metering Infrastructure information to confirm the power has been restored to all customers; and
- Record and review outage events to determine 'weak spots' in the system and plan for remediation.
- Power Outage Communication

One of the key features of an OMS is its ability to communicate power outage information for use by both customers and internal staff. The system will also have a variety of other communication options that can be enabled as desired, including the ability to send updates by email and text. This will allow CPAU to communicate outages to customers based on their communication preferences. Internal staff will also benefit from the OMS by having a shared interface and dashboard to input trouble calls and track progress. CPAU staff can see new trouble calls as they come in and receive outage status updates in real-time.

Timeline

It will take between six to nine months to implement the new Milsoft OMS and IVR systems depending on availability of staff and third parties for data conversion, interface development, system integration, and testing.

Resource Impact

The Milsoft Solutions, Inc. contract will cost $71,974 for the purchase of the OMS, Call Capture (IVR), and texting through TextPower, an annual maintenance cost of $108,651 for five years. The City opted in for the texting features with an annual cost of $10,308 which includes a maximum of 15,000 texts per month. A contingency amount of $10,792 is also requested for additional unforeseen work that may develop during the first year of the project. The total contract amount is not to exceed $625,994 at the end of the five-year term. Funding for the implementation and first year subscription of this contract is available in the FY 2023 Adopted Operating Budget of the Electric Fund. Funding in future years is subject to City Council approval through the annual budget process.

Policy Implications

The approval of the contract is consistent with the Council priority to improve emergency responsiveness and with the Council-approved Utilities Strategic Plan Item Numbers C1, "Receive Safe and Reliable Service," and BP4, "Serve Customers Promptly and Completely."

Environmental Review

Council action on this item is not a project as defined by CEQA because the purchase of OMS software is an organizational or administrative activity that will not result in direct or indirect physical changes in the environment. CEQA Guidelines section 15378(b)(5).

Attachments:

- **Attachment5.a:** Attachment A: Milsoft Contract, C23184285

DocuSign Envelope ID: F76E1D1A-23D2-44DB-B7A8-1CED9D74E1D9

C23184285 - Milsoft Contract for Software License and Support, with OMS, IVR & TextPower® Subscriptions

This Contract for Software License, Support, and Subscription (hereinafter referred to as "Contract") is by and between **CITY OF PALO ALTO UTILITIES, Palo Alto, CA** (hereinafter referred to as "Customer") and **Milsoft Utility Solutions, Inc.**, a Texas corporation (hereinafter referred to as "Milsoft"), and is effective on the date signed by the latter of Customer and Milsoft ("Effective Date").

Whereas, Customer has the desire and capacity to procure from Milsoft the authorized use of its proprietary software known as **OMS Subscription: DisSPatch® and Tester, FieldSyte™ powered by RC Engine, Milsoft Analytics™, Milsoft Customer Outage Alerts™, and Milsoft Personnel Notification™; Communications Subscription: Milsoft Hosted IVR™ as quoted, with Texting powered by TextPower®; also Texting & Integration Configurations and Database Conversion w/migration, supportable** (altogether, the "System"), more particularly identified in Section 1 below; *and*

Whereas, Milsoft has the desire and capability to furnish and support the System for Customer as quoted and in accordance with the terms and conditions of this Contract;

Now, therefore, in consideration of the premises, the Contract Price and the respective covenants contained herein, the Customer and Milsoft (the "parties") hereby agree as follows:

1. SYSTEM. The System (or "System Components") shall consist of the licensed System software (the "Software") and subscription services described in Milsoft **Quote # 51199**, constituting "Schedule A" for purposes of this Contract and incorporated herein by reference as if fully set forth, as well as any other software and/or services that may be added by future quote and acceptance as addenda hereto.

2. CONTRACT PRICE; TERMS OF PAYMENT. The itemized and/or aggregate pricing for the System Components, basic installation, training if included, and software license (collectively the base "Contract Price") is set forth in Schedule A, together with the terms of payment.

3. STATEMENT OF WORK. If and to the extent deemed necessary by Milsoft, the Parties shall in good faith mutually develop and agree upon a Statement of Work ("SOW") to describe and set forth with particularity the essential scope of work, technical specifics, period of performance, schedules/milestones, acceptance criteria, change orders and other requirements unique to the project. Should the Parties be unable to agree upon the SOW within **[** 30 **]** calendar days after entering into this Contract, either Party may elect to terminate this Contract by giving written notice to the other, without necessity of default, whereupon the termination shall be effective in one week (7 calendar days after notice) if no agreement as to the SOW be reached.

4. DELIVERY, INSTALLATION AND TURNOVER. For the Contract Price and in accordance with the SOW (if applicable), Milsoft shall deliver the System Components to the Customer's location identified in Schedule A and, subject to Customer's preparatory compliance as described in Section 7, shall install the System on site, or by remote electronic delivery, or combination thereof as appropriate. The Turnover Date shall be the date, after completion of installation and testing, upon which Milsoft turns over the System to Customer for fully operational use.

5. TRAINING. Milsoft shall provide basic System administration and user training to Customer's designated employees, if and as may be described in more detail in the Statement of Work or Schedule A.

6. SUPPORT SERVICES. Support is included at no additional cost for the products and services provided hereunder by Subscription. For the components of Software not covered by subscription hereunder, Customer will be eligible to participate in Milsoft's annually renewable support program (the "Support Program") for technical and user support, Software fixes/patches, and upgrades to future Software editions. The Support Program is offered at an initial annual rate of **20% of the Retail Price** of the Software, excluding any discounts, plus any applicable sales taxes. Renewal pricing is subject to change in view of software complexity and market conditions, not to exceed 20% variance from one year to the next. If payment is not received when due, Milsoft may withhold services until paid. In the event Customer declines or discontinues its participation in the Support Program, in order to again be eligible to receive support Customer may be required to upgrade and/or agree to pay an increased rate based upon the extent of maintenance missed and appropriate to the circumstances.

For purposes of this Contract, support of the Software means:

- support related to System applications;
- delivery of Software fixes/patches;
- delivery of upgrades to the latest Software versions made available by Milsoft.

Hours of support availability will be 24 hours/day, 7 days/week, year-round for outage management and Milsoft communications systems; and no less than 7:00 a.m. to 7:00 p.m. Central Time, Monday through Friday, excepting normal business holidays observed by Milsoft, for all other support issues. With prior notice and as reasonably requested, Customer shall allow online access to the System and sufficient access to Customer's premises as needed for Milsoft to provide its support services.

The services to be provided under the Support Program do not cover damages or claims due to misuse, negligence, accidents, thefts, unexplained data loss, loss of data due to Hardware failure, lack of daily backups, abuse, electrical outages, fire, flood, wind, acts of God or public enemy, or improper wiring, installation, repair or alteration by anyone other than Milsoft approved technicians. Repairs necessitated by any one or more of the above-excepted causes may be performed by Milsoft upon request, provided the Customer agrees to pay for such extra work at Milsoft's current hourly rates. Such work would not represent or imply any additional warranty or representation regarding the System, the System Components or the functionality of the System.

7. CUSTOMER'S OBLIGATIONS, PREP AND SPECS; INTEGRATION WITH 3rd-PARTY SOFTWARE.

7.1 Customer assumes responsibility for care and risk of loss of the System Components upon delivery to its location. Customer is responsible for meeting the data requirements, purchasing and providing any other hardware and/or third party software, and preparing its location for installation consistent with the specifications, requirements and recommendations per SOW, Schedule A, RFP/Response or applicable terms and conditions, at its expense. Any Customer data required for installation shall be timely delivered to Milsoft pursuant to its instructions. Customer shall also secure any permits, licenses or other governmental approvals for its installation site as may be required by applicable law or regulation, at its expense. Once a Milsoft technician is on-site as reasonably scheduled, if the installation is delayed due to failure of the Customer to have met the preparatory requirements, there may be a charge of $1,000 per day assessed until ready to proceed.

7.2 Milsoft products are generally amenable to integration with a variety of products from third-party vendors known by Milsoft to be certifiably interoperable (including but not limited to many MultiSpeak® integrations, when applicable), subject to verification, and with a range of other third-party products that may require more extensive customization. The development or provision by Milsoft of any and all interface between its products and third-party software (whether deemed necessary at the time of Milsoft product installation or as needed in the future due to change of circumstances) can only be undertaken pursuant to specific evaluation and may, at the discretion of Milsoft, require reasonable adjustment of time and/or cost.

Every interface to be developed and provided for integration with third-party products must be testable by Milsoft with consent and cooperation of the third-party vendor (whose consent and cooperation shall be provided by Customer, as Customer's responsibility) and will be specific only to the version or iteration of the third-party product in use at the time of the interface development. Customer shall be responsible for alerting Milsoft to future additions, updates or new versions of all third-party product and for providing renewed consent and cooperation of each third-party for testing, as any such changes could render the Milsoft interface less functional unless addressed. In such event, Milsoft offers no warranty for the previously provided interface, and assumes no responsibility to develop or provide additional interface without further agreement and compensation, if at all. **No other representation, warranty or promise regarding interfaces or integration between Milsoft products and third-party software is expressed or implied.**

8. SOFTWARE LICENSE.

8.1 Upon successful installation and as of the Turnover Date, Milsoft grants to Customer, and Customer accepts, a non-exclusive and non-transferable license to use the Software furnished hereunder (including modifications and enhancements furnished under the terms of this Contract, and modifications and enhancements furnished under the terms of the Support Program described in Section 6) strictly upon the terms and conditions contained herein. Title to and ownership of all Software shall remain with Milsoft or its licensors. Customer shall have no right to sell, sublicense, publish, disclose, display, assign, duplicate, alter, lease, or otherwise make available the Software to any third party. Customer shall take appropriate action with its employees, agents, contractors, consultants and other representatives or end users to ensure compliance with these terms and conditions. Customer may make copies of the Software only for backup purposes and/or archival purposes, and any such copy must contain the same copyright notice and proprietary markings that the original Software contains. Customer acknowledges the Software represent a very large-scale investment in the development of an intangible asset by Milsoft and must be strictly protected hereunder. In the event of a breach under the provisions of this Software license by Customer, upon written notice which may be given at the election of Milsoft, Customer shall forfeit all rights as licensee

under this Contract and shall immediately return the Software to Milsoft along with all documentation and source media associated therewith. Customer assumes full liability to Milsoft for any damages (*including* consequential damages), whether or not foreseen by the parties hereto, resulting directly or indirectly from any compromise of any rights owned by Milsoft and not expressly conferred under this Contract, if such damages are the result of the willful act or omission of Customer (including any employee, agent, contractor, consultant or other representative of Customer). CUSTOMER ACKNOWLEDGES THAT THE SOFTWARE IN EXECUTABLE LINE CODE FORM REMAINS A CONFIDENTIAL TRADE SECRET AND CUSTOMER AGREES NOT TO ATTEMPT TO REVERSE-ENGINEER, TRANSLATE, DECIPHER, DECOMPILE, MODIFY OR DISASSEMBLE THE SOFTWARE, NOR INCORPORATE THE SOFTWARE IN WHOLE OR IN PART INTO ANY OTHER SOFTWARE OR PRODUCT OR DEVELOP DERIVATIVE WORKS THEREFROM OR ALLOW ANY OTHER THIRD PARTY TO DO SO, WITHOUT THE EXPRESS WRITTEN CONSENT OF MILSOFT.

8.2 Unless otherwise agreed on a case-by-case basis, any other work resulting from the joint effort or collaboration of the Parties shall be jointly owned, free of restriction, and without any right or obligation of either Party to consent to or share profits or proceeds from the use or exploitation thereof. Customer agrees to take such further action, and to obtain or sign such further agreements or acknowledgments, as Milsoft may reasonably request to give effect to this paragraph.

Notwithstanding the foregoing, Milsoft shall not have ownership of, and may not license or otherwise provide to others, elements or portions of its work product that represent descriptions of, or means for executing, business functions or processes of Customer that are particular to Customer or its individual business and that are provided to Milsoft by Customer to enable Milsoft to support Customer's business environment. Before filing patent applications for any inventions that disclose any such functions or processes, Milsoft agrees to obtain Customer's consent for such disclosure. This exclusion is not intended to apply to generic programming and technology per se, but instead to business applications that can be readily recognized as unique, proprietary, or competitively sensitive in Customer's business.

9. CONFIDENTIALITY.

9.1 During performance of this Contract or in the contemplation thereof, and subject to and in conformity with Section 8, employees, agents and authorized contractors or consultants of each party to this Contract may have access to private or confidential information owned by the other party, including, but not limited to, the Software, and information concerning costs, charges, operating procedures and methods of doing business, which may be owned or controlled by the other party. With respect to any such information so accessed or acquired, each party agrees as follows: (a) all such information shall be and shall remain the exclusive property of the party which owns the information; (b) each party shall limit access to such information of the other party to their respective employees, agents and authorized contractors or consultants who have a need to know consistent with the receiving party's authorized use of such information; (c) the receiving party shall keep, and have its employees, agents and authorized contractors or consultants having access keep, all such information confidential; (d) the receiving party shall not copy, publish or disclose to others, or permit its employees, agents and authorized contractors, consultants or anyone else to copy, publish or disclose to others, any such information without the owning party's prior written consent; (e) the receiving party shall return such information to the owning party at its request; and (f) the receiving party shall use such information only for the purpose of performing its obligations hereunder.

9.2 Each party shall secure and protect the other party's confidential information in a manner consistent with the protection it provides to its own confidential information, but in any case using no less than reasonable degree of care. Each party's duties of confidentiality as regards the confidential information shall survive any cancellation, expiration or termination of this Contract. Notwithstanding the foregoing, receiving party may disclose Confidential Information as required by applicable law or by proper legal or governmental authority; in such event, receiving party shall give the owning party prompt notice of any such legal or governmental demand and reasonably cooperate with such owner in any effort to seek a protective order or otherwise to contest such required disclosure, at owner's expense. The Parties acknowledge that Customer is a local agency subject to the requirements of the California Public Records Act.

9.3 Each party at all times shall maintain appropriate internal policies and procedures reasonably sufficient to satisfy its obligations under this Section 9. Should either party or its employees, agents and authorized contractors or consultants use, disclose or attempt to use or disclose any such information in a manner contrary to this Contract, the owning party shall have the right to seek injunctive relief against such breach or threatened breach (without posting a bond or other security), in addition to any other remedies that may be available at law or in equity.

10. PRODUCT CHANGES. Milsoft reserves the right to make modifications and distribute enhancements to existing Software. In addition, upon notice to Customer of no less than one hundred eighty (180) days, Milsoft reserves the right to discontinue offering the Support Program associated with the System in place, and may require that specified upgrades to the System Components be made as a condition for continued Customer participation in the Support Program.

11. LIMITED WARRANTIES.

11.1 *Software*. Upon delivery and continuing through the first thirty (30) calendar days following the Turnover Date, Milsoft warrants exclusively that the Software shall substantially conform to, and perform in substantial accordance with, all applicable Software specifications. Milsoft represents and warrants generally that it owns the Software or that it has the right to license Customer's use of the Software in accordance with the provisions of this Contract. In event of breach or failure, Customer's exclusive remedies shall be, at the option and expense of Milsoft, either (i) to have Milsoft promptly correct any discrepancy in performance that materially impairs the appropriate functionality of the Software; or (ii) to have Milsoft refund the price paid for the licensed use of the Software, provided that Customer must allow Milsoft to de-install the Software within 30 days of Customer's timely notification to Milsoft of the discrepancy. ALL CLAIMS AND REMEDIES ARE LIMITED TO THOSE EXPRESSLY PROVIDED IN THIS CONTRACT.

11.2 *Support Services*. With respect to services provided under the Support Program or other work, Milsoft warrants exclusively that such services shall be performed in a good and workmanlike fashion. In event of breach or failure, Customer's exclusive remedies shall be, at the option and expense of Milsoft, either (i) to have Milsoft promptly correct such services, or (ii) to have Milsoft refund the price paid for the applicable portion of the services.

12. DISCLAIMER OF OTHER WARRANTIES. THERE ARE NO OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

13. GENERAL LIMITATION OF LIABILITY. THE LIABILITY OF MILSOFT, ITS LICENSORS AND ITS AFFILIATES, IF ANY, AND CUSTOMER'S SOLE AND EXCLUSIVE REMEDY FOR DAMAGES FOR ANY CLAIM OF ANY KIND WHATSOEVER WITH RESPECT TO THE PRODUCTS AND SERVICES PROVIDED BY MILSOFT, REGARDLESS OF THE LEGAL THEORY OR THE DELIVERY OR NON-DELIVERY OR ALLEGED FAILURE OF ANY PRODUCTS OR SERVICES, SHALL NOT BE GREATER THAN THE FEES ACTUALLY PAID BY CUSTOMER TO MILSOFT HEREUNDER IN CONNECTION WITH THE PRODUCTS OR SERVICES AT ISSUE DURING THE TWENTY-FOUR (24) MONTH PERIOD IMMEDIATELY PRECEDING THE DATE UPON WHICH SUCH CLAIM ACCRUED, OR, IF THERE ARE MULTIPLE CLAIMS GIVING RISE TO SUCH LIABILITY, THE MAXIMUM CUMULATIVE AMOUNT PAID BY CUSTOMER TO MILSOFT UNDER THIS AGREEMENT IN ANY CONSECUTIVE PERIOD OF THREE (3) YEARS, EXCLUDING ONLY (A) CLAIMS FOR MISAPPROPRIATION OF EITHER PARTY'S INTELLECTUAL PROPERTY RIGHTS OR NON-COMPLIANCE WITH CONFIDENTIALITY AND PRIVACY-RELATED OBLIGATIONS, (B) ENFORCEMENT OF INDEMNIFICATION OBLIGATIONS, OR (C) WILLFUL MISCONDUCT. UNDER NO CIRCUMSTANCES WILL MILSOFT, ITS LICENSORS OR ANY AFFILIATE BE LIABLE TO CUSTOMER FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR PUNITIVE DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, COMPENSATION, REIMBURSEMENT OR DAMAGES ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS, EXPENDITURES, INVESTMENTS, COMMITMENTS, BUSINESS REPUTATION OR GOODWILL, FOR LOSS OF DATA, COST OF SUBSTITUTE SOFTWARE, COST OF CAPITAL, AND THE CLAIMS OF ANY THIRD PARTY, OR FOR ANY OTHER REASON WHATSOEVER, REGARDLESS OF WHETHER SUCH CLAIM HAS ITS BASIS IN ANY THEORY OF CONTRACT, EQUITY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHER LEGAL THEORY, EVEN IF EITHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF ANY SUCH DAMAGES.

14. PAYMENT. Timely payment by Customer to Milsoft at its principal place of business of all sums due hereunder is a material element of this Contract. Unless otherwise specified in Schedule A or by a subsequent agreement of the parties in writing, payment shall be due upon billing and paid within thirty (30) days of invoice. Without limiting Milsoft's other rights and remedies for any failure of Customer to make payment, Milsoft may charge interest on all unpaid sums at the lesser of the rate of 1.5% per month or the maximum contract rate allowed by law. Milsoft has no desire to exceed the maximum amount of interest that may be contracted for, charged or received under applicable law, and any interest paid in excess of said maximum amount shall be credited toward any past due payment or refunded to Customer. *Milsoft shall handle all invoicing and collections for TextPower services as well, as provided in Schedule B.*

15. TAXES. Unless specified as such, the prices set forth herein do not include any sales, use, excise, ad valorem, property or other taxes applicable to the sale, use, license or delivery of the System Components and any related services supplied hereunder. *It is understood that as a governmental entity, Customer is not subject to or liable for taxation.*

16. FORCE MAJEURE. Neither party shall be deemed in default of any provision of this Contract, or responsible for failures in performance, resulting from any cause beyond its reasonable control, which include, without limitation, acts of God, civil or military authority, civil disturbances, war, fires, or other catastrophes. In the event of any failure or delay resulting from such causes, an equitable adjustment of schedule and any other appropriate terms and conditions shall be agreed upon by the parties.

17. NON-WAIVER. No waiver of any breach or default shall constitute waiver of subsequent breach or default. No failure or delay to exercise any right, power, or privilege under this Contract shall operate as a waiver of such right, power, or privilege; nor shall any single or partial exercise of any right, power, or privilege preclude further exercise of such right, power, or privilege.

18. TERM and TERMINATION. The initial term of Subscription(s) hereunder shall be five (5) years unless otherwise stated in Schedule A and may continue in renewal or extension thereof in the time and manner stated therein; in the absence of further written agreement or notice of cancellation or termination, agreement to extend on a month-to-month basis may be inferred so long as Customer continues to pay and Milsoft continues to accept monthly subscription payments. If at any time either party fails to perform a material obligation and does not remedy such failure within thirty (30) days following notice from the non-defaulting party, the non-defaulting party may elect to terminate this Contract by giving notice of termination to the party in default. Termination for default shall in no way prejudice the rights or remedies available to the non-defaulting party as a result of the default nor relieve Customer of its obligation to pay Milsoft for all compliant product provided and services actually rendered up to the date of termination. In the event either party breaches or defaults hereunder to the detriment of the other, in addition to other rights and remedies the party wronged shall be entitled to recover its reasonable attorney's fees and related expenses incurred, including but not limited to court costs incurred at both trial and appellate levels, in the enforcement of this Contract.

19. DISPUTE RESOLUTION. The parties will attempt in good faith to promptly resolve any dispute arising out of this Contract without resorting to litigation. Before any suit for damages may proceed, the parties shall submit to non-binding mediation by an impartial mediator, at a mutually convenient location, with each party bearing its own attorney's fees and expenses. Any dispute not so resolved by negotiation or mediation may then be submitted to a court of competent jurisdiction. Nothing contained herein, however, shall preclude the parties from first seeking temporary injunctive or other equitable relief in preservation of its rights.

20. GOVERNING LAW; CHOICE OF FORUM. The validity, performance and construction of this Contract shall be governed by the laws of the State of California (without giving effect to principles of conflicts of law). The parties agree that the Uniform Computer Information Transaction Act and the UN Convention on International Sale of Goods do not apply. Any legal claim or action shall be filed in the state or federal venue in which Customer maintains its principal municipal offices, *e.g.* Superior Court of California, County of Santa Clara or U.S. District Court, Northern District of California, unless otherwise agreed.

21. SUCCESSORS AND ASSIGNS. This Contract shall inure to the benefit of and be binding upon successors and assigns of the parties; however, Customer may not assign without the consent of Milsoft, which shall not be unreasonably withheld.

22. CONSTRUCTION AND CAPTIONS; PARTIAL INVALIDITY. Captions are for convenience only and shall not be construed to expand or limit any provision hereunder. Should any provision of this Contract be held invalid, illegal, or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Contract.

23. CONTROLLING TERMS, ORDER OF PRECEDENCE. Any terms or conditions appearing on the face or reverse side of any purchase order, preliminary quote, acknowledgment or confirmation that are different from or in addition to those required hereunder shall not be binding upon the parties, even if signed and returned, unless both parties expressly agree in writing to be bound by such. In event of any conflict or inconsistency between the main body of this Contract and the provisions of any schedule or other attachment, the provisions of this Contract shall prevail, except as to the job-specific details of Schedule A, Schedule B or applicable SOW.

24. NOTICE. All notices given under this Contract must be in writing and shall be deemed duly given only upon (a) personal hand delivery; (b) the fourth day following deposit in the United States Mail, postage paid, certified/return receipt requested; (c) delivery by a nationally recognized overnight courier service that obtains signed acknowledgment of receipt; or (d) confirmation of electronic transmission via facsimile or email; using the addresses or numbers shown below or any other address or numbers as either party may designate by ten days prior written notice given in accordance with this provision.

If to Customer:

(City of) Palo Alto Utilities

Attention: Anna Vuong

250 Hamilton Ave

Palo Alto, CA 94301

Telephone: (650)329-2528

Email: anna.vuong@cityofpaloalto.org

If to Milsoft:

Milsoft Utility Solutions, Inc.

Attn: Adam Turner, CEO of Business Operations

P.O. Box 5726

Abilene, Texas 79608

Facsimile: (325) 690-0338

Email: adam.turner@milsoft.com

25. ENTIRE AGREEMENT; AMENDMENTS; SIGNATURES. The SOW (if any) and all referenced schedules and addenda are integral parts of this Contract as if written verbatim herein. Collectively, this Contract sets forth all authorized and material representations, constitutes the parties' entire agreement and understandings with respect to the subject matter, and supersedes any and all other agreements, proposals and/or representations, subject to Milsoft's Response to Request for Proposal as Accepted (if applicable) which is incorporated herein by reference. No addendum, amendment or modification shall be effective unless in writing and duly executed by authorized representatives of both parties. Signatures may be made and/or delivered by electronic means, and any true, correct and complete copy of this fully signed instrument shall be as enforceable as the original.

IN WITNESS WHEREOF, the parties have signed by their duly authorized representatives as of the dates entered below.

CITY OF PALO ALTO UTILITIES,
City of Palo Alto, California

By:_____
(Signature)

_____
(Name & Title, typed or printed)

Date:_____

MILSOFT UTILITY SOLUTIONS, INC.

DocuSigned by:
By: Adam Turner
Adam Turner, CEO of Business Operations

Date: 8/25/2022

APPROVED AS TO FORM:

City Attorney or designee

Schedule A

Quote Number:	51199
Date Created:	03-25-2022
Account Manager:	Josh Wolf
E-mail:	josh.wolf@milsoft.com
Phone:	(800) 344-5647
Valid Until:	06-25-2022

Bill To
Anna Vuong
Palo Alto Utilities
10250, MS3C
Palo Alto, CA, 94303
USA

Milsoft Communications

Quantity	Quoted Line Item	Retail Price	Ext. Price
1.00	IVR Hosted System A dedicated hosted IVR system to include Caller ID, Second Language, Text-to-Speech, Voice Recognition, Milsoft Outage Call Handling and Milsoft TeleLink Suite. Training included.	$15,000.00	$0.00
1.00	Hosted IVR Monthly Subscription Monthly supported Subscription for dedicated IVR system. Contract term is five (5) years. Call charges billed at $0.05 per minute.	$2,800.00	$2,800.00

Subtotal:	$2,800.00
Total:	$2,800.00

Outage Management

Quantity	Quoted Line Item	Retail Price	Ext. Price
1.00	OMS Subscription w/ OMS Test System Monthly subscription of Milsoft DisSPatch® OMS & Test System. 5-year contract Milsoft Support included.	$2,750.00	$2,750.00
1.00	FieldSyte Monthly	$1,250.00	$1,250.00
1.00	Milsoft Analytics Five (5) seat addition to Milsoft Analytics (only sold in bundles of 5).	$834.00	$834.00
1.00	Milsoft Customer Outage Alerts Subscription Milsoft's Customer Outage Alerts Subscription provides email, text* and voice** notifications to external customers based on parameters set by the Milsoft customer. Notifications can be configured to send automatically or manually, based on outage criteria from Milsoft DisSPatch®. Two (2) hours Web training included, with add'l training available for $250/hour. Requires Milsoft Texting integration. The monthly price of $225 includes Milsoft Support - see Terms and Conditions. *Texting requires a 3rd party gateway (i.e., TextPower) provider to ensure compliance with all FCC, FTC, CTIA, and MMA regulations (sold separately)**Voice notifications require Milsoft IVR (hosted or on-site).	$325.00	$325.00
1.00	Milsoft Personnel Notification Subscription A monthly subscription of Milsoft Personnel Notification. Milsoft Support included.	$236.25	$236.25

Subtotal:	$5,395.25
Total:	$5,395.25

Services - One time cost

Quantity	Quoted Line Item	Retail Price	Ext. Price
1.00	Integration Configuration A Milsoft integration configured for MultiSpeak compatible products. Milsoft Support applicable.	$12,000.00	$12,000.00
1.00	Database Conversion A database conversion process. Includes a customer migration application. Milsoft Support applicable.	$27,500.00	$27,500.00

Subtotal:	$39,500.00
Total:	$39,500.00

Training - One time cost

Quantity	Quoted Line Item	Retail Price	Ext. Price
1.00	Initial OMS Setup / Training Includes: three (3) days of initial on-site OMS training, software installation and configuration, and all travel-related expenses. Recommended, but not included: two (2) days of follow-up training, 90-180 days after implementation. Milsoft Support not applicable.	$15,000.00	$15,000.00
1.00	Training OMS w/System 2 Day On-site: Follow Up Two (2) days of onsite OMS training and all related travel expenses. Curriculum chosen by Customer. Milsoft Support not applicable. A DisSPatch Test System will be included for six months at no charge. The Test system includes: A single, stand-alone license of DisSPatch® for Training, Modeling, and Simulation of the outage system.	$8,000.00	$8,000.00

Subtotal:	$23,000.00
Total:	$23,000.00

Milsoft Communications - Texting

Quantity	Quoted Line Item	Retail Price	Ext. Price
1.00	Texting Configuration The configuration of two-way texting functionality for Milsoft IVR and/or DisSPatch OMS provided through TextPower. Price includes (2) hours phone or web training. Additional telephone or web training is available for $250 per hour. Milsoft Support applicable - see Terms and Conditions.	$7,000.00	$7,000.00
1.00	Texting Subscription Monthly Texting Subscription that includes up to 15,000 texts, billed monthly. Additional texts billed separately at $0.05 per text. Communications Assurance Program (lookup of all phone numbers and loading mobiles into your "opt-in" database) billed at $0.025 per number Opt-In Processing subsequent to initial upload is billed at $0.045 per opt-in number Contract term of five (5) years.	$859.00	$859.00
1.00	TextPower Set-up Charges TextPower Set-up Charges: Local Number text-enablement (10DLC) Additional setup charges may apply as services are selected, e.g.: -- One-time registration and verification- $399 -- Interface with Client's email server - $499 -- AlertDispatcher ProTM for 2-way field crew Communication (5 group threads incl. with 10k text mthly bundle) - $750 -- Additional 5-group thread bundles - $59/mo -- Automated List Processing (ALP) allows daily FTP upload from raw CIS file setup/mapping - $799	$2,447.00	$2,447.00

Subtotal:	$10,306.00
Total:	$10,306.00

Grand Total

Subtotal:	$81,001.25
Total:	$81,001.25

Quote Acceptance:

This Quote comprises all material representations and constitutes the entire understanding between the parties to date with respect to the subject matter hereof and supersedes any and all prior representations, offers or agreements either oral or written between the parties with respect to such subject matter. This Quote shall serve as Schedule A to the Customer's contract for procurement of the Product, Training, Service and Support Program as described when applicable, or as an Addendum to Customer/Client's current contract(s) with Milsoft.

Terms and Conditions - Interactive Voice Response - Hosted System

Payment Terms

- Payment due upon receipt of invoice
- 100% of Hosted System Setup invoiced upon quote acceptance

Price Inclusion

- Support Program

Price Exclusion

- Fee ($10,000) to audit and gain compliance for a non-approved payment gateway

Subscription Terms

- Five (5) year initial term, invoiced monthly
- Automatic (1) year renewals after initial term, unless/until canceled in writing by notice given before the next contract year, renewal pricing may be subject to change
- Call Charges billed monthly at $0.05 per minute

Terms & Conditions – DisSPatch OMS Subscription with Test System

Payment Terms

- Payment due upon receipt of invoice
- Subscription invoiced monthly
- Payment must be in USD

Subscription Term

- Subscription invoiced upon installation
- Five (5) year initial term
- Automatic (5) year renewals after initial term, unless/until canceled in writing by notice given before the next contract year; renewal pricing may be subject to change

Terms & Conditions –Milsoft Customer Outage Alerts™, Personnel Notifications

Payment Terms

- Payment due upon receipt of invoice
- 100% invoiced upon quote acceptance
- Payment must be in USD

Price Exclusion

- Gateway Provider sold separately (by 3rd Party)
- Milsoft IVR and/or DisSPatch sold separately (by Milsoft)
- Support Program
    - Annual support at the rate of 20% of the retail price
    - Annual support invoiced separately upon install

Terms & Conditions - Milsoft Analytics – Subscription

Payment Terms

- Payment due upon receipt of invoice
- Subscription invoiced monthly
- Payment must be made in USD

Subscription Terms

- Five (5) licenses of Milsoft Analytics Dashboards powered by Tableau
- Includes all Milsoft system-created dashboards available for the Customers existing Milsoft application(s) now in use. Additional dashboards development will be available under separate quotation, SOW required.
- Subscription begins upon installation
- Five (5) year initial term
- Automatic (1) year renewals after initial term, unless/until canceled in writing by notice given 60 days prior to license expiration
- Support included.

Terms & Conditions - Integration Configuration

Payment Terms

- Payment due upon receipt of invoice
- 75% invoiced after quote acceptance
- 25% invoiced upon delivery of final conversion
- Payment must be in USD

Price Exclusions

- Hardware
- Support Program
    - Annual support at the rate of 20% of the full list price
    - Support invoiced separately upon completed installation

Terms & Conditions - Database Conversion

Payment Terms

- Payment due upon receipt of invoice
- 75% invoiced after quote acceptance
- 25% invoiced upon delivery of final conversion
- Payment must be in USD

Price Exclusions

- Hardware
- Microsoft® SQL Server™
- Support Program
    - Annual support at the rate of 20% of the full retail price
    - Support invoiced separately upon install

Terms & Conditions - Training (Initial, Follow-Up)

Payment Terms:

- Payment due upon receipt of invoice
- Payment must be made in USD
- 75% invoiced upon quote acceptance
- 25% invoiced upon training completion or one year from signed quote

Price Exclusion

- Costs incurred as a result of Customer requested changes

Terms & Conditions – FieldSyte™ System, powered by RC MapEngine™ - Subscription

Subscription Term

- Five (5) year initial term, unless otherwise specified on the face of this Quote; commencing upon installation.
- Automatic (1) year renewals after initial term, unless/until canceled in writing by notice given before the next contract year; renewal pricing may be subject to change.

Payment Terms

- Payment due in USD upon receipt of invoice.
- Configuration & Setup and first month covered by initial invoice.
- Subscription fees invoiced monthly at quoted rates, in advance.

Price Inclusion

- Initial Setup and Testing.
- Subscription includes Support Program.

Price Exclusion

- Underlying Milsoft® system required; sold or subscribed separately.

IMPORTANT! Customer's Hardware and Operating System (OS) Requirements
Customer, before signing below, please check online to ensure that you have current compatibility and the latest recommendations for optimum functionality of this and all Milsoft® software with your computers and devices, through the following link to our sharefile: https://www.mymilsoft.com/resources/hardware-requirements

Terms & Conditions – Texting Subscription - Powered by TextPower®

Subscription Term

- Five (5) year initial term, unless otherwise specified on the face of this Quote; commencing upon installation.
- Automatic (1) year renewals after initial term, unless/until canceled in writing by notice given before the next contract year; renewal pricing may be subject to change.

Payment Terms

- Payment due in USD upon receipt of invoice.
- Configuration & Setup fee and first month covered by initial invoice.
- Subscription fee invoiced monthly at quoted rate, in advance.
- Text fees apply as incurred (in excess of bundled monthly max), at quoted rate, in next monthly invoice.
- Communications Assurance Program (lookup of all phone numbers and loading mobiles into your "opt-in" database) billed at $0.025 per number. Opt-In Processing subsequent to initial upload is billed at $0.045 per opt-in number.

Price Inclusion

- Initial Setup and Testing.
- Number of texts per month as quoted, up to monthly max, within subscription fee.
- Subscription includes Support Program.

Price Exclusion

- Underlying Milsoft or Daffron system required; sold or subscribed separately.
- Carrier surcharges, if any.

Account Name: _____

Accepted By: _____

Printed Name: _____

Date: _____

PO# (if applicable): _____

DocuSign Envelope ID: F76E1D1A-23D2-44DB-B7A8-1CED9D74E1D9

ATTACHMENT J – OMS-IVR REQUIREMENTS
RFP184285 – Outage Management System Requirements

Module	Capability ID	Priority	Description	Response
Architecture	OMS.AR.001	Critical	The solution will include two environments (Production and Test/Training) for all solution components.	Current Base
Architecture	OMS.AR.002	Critical	The OMS has desktop clients that are compatible with Windows and Chrome. Chrome is used by most staff, but there is no City standard. List all supported browsers as a comment, as well as any plug-ins required.	Current Base
Architecture	OMS.AR.003	Critical	The OMS server(s) can operate on Windows Server 2016 or later. Describe compatible Windows OS versions and patch levels in the comments.	Current Base
Architecture	OMS.AR.004	Critical	The OMS server(s) can be deployed in a virtual machine environment (preferably VMware). Describe the supported virtualization technologies and vendors in the comments.	Current Base
Architecture	OMS.AR.005	Critical	The OMS has an architecture that provides capabilities for the archiving, reporting and storage of historical information in such a manner that operational performance is not impacted when historical reports are generated.	Current Base
Architecture	OMS.AR.006	Critical	The OMS has a mechanism for establishing redundancy (with auto fail-over) and availability greater than what can be achieved by a single server environment. Describe the mechanism used. Indicate the amount of down time that occurs during a typical hardware failure.	Partially Comply
Architecture	OMS.AR.007	Critical	The OMS shall support high availability architecture and be designed for 24x7 uptime.	Current Base
Architecture	OMS.AR.008	Critical	The OMS provides the ability to restore all performance indices data (e.g. SAIDI, MAIFI, etc.) to a backup point in the event of a computer storage failure or other catastrophic failure.	Current Base
Architecture	OMS.AR.009	Critical	The OMS shall support an open SQL database that meets the ANSI-SQL 2016 standard. Describe any database licensing requirements (for example, whether vendor-provided or CPAU-provided).	Current Base
Architecture	OMS.AR.010	Critical	The system should be designed to be used with tablets and mobile devices, in addition to PCs.	Current Base
Architecture	OMS.AR.011	Critical	The OMS system must be available during maintenance activities.	Current Base
Security	OMS.SEC.001	Critical	The OMS modules includes an audit trail of all user actions, including user credentials, date/time and action taken.	Current Base
Security	OMS.SEC.002	Critical	The OMS modules support usernames and passwords. Explain password management functionality in the comments.	Current Base
Security	OMS.SEC.003	Optional	The OMS modules support Active Directory.	Current Base

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Security	OMS.SEC.004	Critical	The OMS user sessions have session timeouts that automatically log out a user after a certain amount of user inactivity, and this period is configurable and may be turned off for certain users.	Not Provided
Security	OMS.SEC.005	Critical	The OMS supports WSS.	Current Base
Security	OMS.SEC.006	Critical	The OMS supports transport layer security via TLS/SSL.	Current Base
Security	OMS.SEC.007	Optional	The OMS supports multifactor authentication. Please describe the technologies and standards supported in the comments.	Current Base
Security	OMS.SEC.008	Critical	The OMS application supports industry standard authentication mechanisms I,nstead of proprietary authentication methods.	Current Base
Security	OMS.SEC.009	Critical	The vendor must comply with City's VISA, Vendor Cybersecurity Terms and Conditions (to be included in the final contract as an exhibit), and Information Privacy Policy (to be included in the final contract as an exhibit).	Current Base
Security	OMS.SEC.010	Critical	For systems hosted using third-party cloud services, such as AWS, the system must offer a secured, logically separated IT environment in cloud consistent with the AWS_Security_Compute_Services_Whitepaper document (https://d1.awsstatic.com/whitepapers/Security/Security_Compute_Services_Whitepaper.pdf).	Current Base
User Categories	OMS.UC.001	Critical	The OMS should support role-based security permissions.	Partially Comply
User Categories	OMS.UC.002	Critical	The OMS has the ability to restrict functionality by user categories, and each user has the ability to be assigned to one or more user category.	Partially Comply
User Categories	OMS.UC.003	Critical	The OMS supports user categories that can be restricted to have the ability to view information and not modify any data in the OMS.	Partially Comply
User Categories	OMS.UC.004	Critical	The OMS supports a user group that is restricted to edit functions that do not impact the electrical model (i.e. can do everything except for open and close devices, cut or insert jumpers, etc.).	Partially Comply
User Categories	OMS.UC.005	Critical	The OMS supports user categories that can only edit crew related information..	Partially Comply
User Categories	OMS.UC.006	Critical	The OMS supports user categories that can only edit outage details.	Partially Comply
User Categories	OMS.UC.007	Critical	The OMS supports a user categories that can perform all actions (e.g. Administrator).	Partially Comply
User Categories	OMS.UC.008	Critical	The OMS shall support a total of 6 concurrent users. This limit does not include users of the call taking application.	Current Base
Availability &	OMS.NFR.001	Critical	The OMS system shall be available 99.99% of the time, not including disaster recovery and/or planned maintenance.	Current Base

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Performance				
Availability & Performance	OMS.NFR.002	Critical	The OMS shall support appropriate tooling, test, version control, and governance facilities to expedite testing, deployment, rollback and applying code patches to application software without downtime.	Current Base
Availability & Performance	OMS.NFR.003	Critical	The OMS shall support performance logging and alerts to evaluate/notify support staff of performance issues and the performance levels.	Current Base
Availability & Performance	OMS.NFR.004	Critical	The OMS shall be capable of holding at least 365 days worth of outage data, after which it may be moved to another system for archival. The number of days may be reduced based on the ease or ability to import data from the archival system.	Current Base
Availability & Performance	OMS.NFR.005	Critical	End user response time to queries (or actions) shall be sub second for heavy user, less than 5 seconds for web client and less than 8 seconds for a mobile client under normal and event load conditions	Current Base
Availability & Performance	OMS.NFR.006	Critical	An outage shall be created within 1 second of receipt of inbound call from IVR, under blue sky or storm load, without loss of calls.	Current Base
Operator Displays	OMS.OD.001	Critical	A geographic map display window that shows all of the distribution circuits. The source data for the view is from the ESRI ArcGIS Utiliy Network Model.	Current Base
Operator Displays	OMS.OD.002	Critical	The OMS has decluttering ability to turn off displayed items (text annotations, poles, secondary roads etc.) as the user zooms out and zooms in. It has the ability to display specific map layers based on the zoom perspective, e.g. If the user is viewing a large area then only display primary conductors and major street centerlines. This capability should be configurable by the user or administrator and applicable to a user or group of users. The users should be able to select this option from a menu.	Current Base
Operator Displays	OMS.OD.003	Critical	The map viewer has the ability to load raster background data such as satellite, search light, or drive-by photo images and Google map backgrounds or equivalent. The display must include an accurate geographic representation of distribution circuits and the underlying of the land base information, e.g. street centerlines, aerial or satellite imagery. Please explain the technology used in comments.	Current Base
Operator Displays	OMS.OD.004	Critical	The map viewer has the ability to load dynamic background data from a weather data source. List the weather data sources supported in the comments.	Current Base
Operator Displays	OMS.OD.005	Critical	The ability to manually turn on and off the display of layers or groups of objects.	Current Base
Operator Displays	OMS.OD.006	Critical	The map viewer automatically loads all visible areas of the distribution system without user intervention when the user is panning and zooming around.	Current Base

Operator Displays	OMS.OD.007	Critical	The map viewer has the ability to zoom and pan to enable easy searching of components on the distribution system.	Current Base
Operator Displays	OMS.OD.008	Critical	The ability to search for devices by name, locations by address, customer by address.	Current Base
Operator Displays	OMS.OD.009	Critical	The map viewer has the ability to generate simplified views of feeders by generating an on-the-fly orthogonal schematic of a selected feeder. This function includes the ability to generate a schematic representation of one or more distribution circuits.	Current Base
Operator Displays	OMS.OD.010	Critical	The map viewer has the ability to view only selected feeders and substations	Current Base
Operator Displays	OMS.OD.011	Critical	The system provides the Admin configurable symbology for device representation on maps.	Current Base
Operator Displays	OMS.OD.012	Critical	The ability to search must support the use of wildcards and return multiple matching results for the users selection.	Current Base
Operator Displays	OMS.OD.013	Critical	The ability to open a separate magnification window to show details while keeping the main map view open and zoomed out.	Current Base
Operator Displays	OMS.OD.014	Critical	The ability to have an overview window that shows outage locations on top of regional polygons or other geographical layer showing physical features.	Current Base
Operator Displays	OMS.OD.015	Critical	The user should be able to be perform a trace from a selected point upstream, downstream or both and perform a query against attributes in the model for all of the equipment touched by the trace. The trace should be by selected phase or for all phases present.	Current Base
Operator Displays	OMS.OD.016	Critical	The symbols for all switchable devices have the ability to change automatic and manually when they are open or closed and have the ability to have unique symbols for individual phases being open or closed.	Current Base
Operator Displays	OMS.OD.017	Critical	The map viewer has the ability to dynamically color the conductors based upon the source feeder and change as the feeder extend changes due to switching.	Current Base
Operator Displays	OMS.OD.018	Critical	The map viewer represents de-energized segments with a unique color to graphically differentiate energized and de-energized sections of circuits.	Current Base
Operator Displays	OMS.OD.019	Critical	The map viewer represents the conductor segments predicted de-energized by the OMS with another unique color.	Current Base
Operator Displays	OMS.OD.021	Critical	The map viewer represents the customers predicted de-energized by the OMS with another unique color.	Current Base
Operator Displays	OMS.OD.024	Critical	The map viewer can display the locations of crews based upon their assigned work.	Current Base
Operator Displays	OMS.OD.025	Critical	The map viewer has an option to display the locations of crews based upon GPS coordinates provided by a mobile or AVL system.	Current Base
Operator Displays	OMS.OD.026	Critical	Authenticated user (with correct security permissions) has the ability to open and close at any point in the system.	Current Base

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Operator Displays	OMS.OD.027	Critical	When I device opened or closed, the system must provide immediate feedback of load warnings, loop creation and feeder tie creation. Symbology shall indicate each of these three conditions.	Current Base
Operator Displays	OMS.OD.028	Critical	The user has the ability to display all opened and closed conductors to represent cut or downed wires.	Current Base
Operator Displays	OMS.OD.029	Critical	The map viewer has the ability to display a visible indication of Normal Open points (via Arrow, Highlight, other).	Current Base
Operator Displays	OMS.OD.030	Critical	The user has the ability to insert and remove jumpers, conductors and temporary switches.	Current Base
Operator Displays	OMS.OD.031	Critical	The jumpers can be by specific phase or for all phases and be able to cross phases, i.e. connect a phase A conductor to a nominally fed phase B conductor.	Current Base
Operator Displays	OMS.OD.032	Critical	The system provides the ability to confirm outage from device on map.	Current Base
Operator Displays	OMS.OD.033	Critical	The Systems provides the ability to change incident location from one device to a different device (to actual trouble location).	Current Base
Operator Displays	OMS.OD.034	Critical	Provide the functionality to make changes to the operational electrical network, and have the changes persist through any refreshes from the GIS system.	Current Base
Operator Displays	OMS.OD.035	Critical	Graphically display safety and clearance tags in the electrical network.	Current Base
Operator Displays	OMS.OD.036	Critical	Interface with tag generation programs.	Partially Comply
Operator Displays	OMS.OD.037	Critical	Display a symbol indicating the location of customers who have initiated trouble calls.	Current Base
Operator Displays	OMS.OD.038	Critical	The system should provide the functionality to display nested outages.	Current Base
Operator Displays	OMS.OD.039	Critical	The ability to add and remove notes associated with a specific device. A device note symbol must be created and displayed adjacent to the device.	Current Base
Operator Displays	OMS.OD.040	Critical	The ability to center in the graphic window displays the location of an outage record or crew location. The centering of the outage or crew symbols is triggered by a request from the outage summary or crew summary windows.	Current Base
Operator Displays	OMS.OD.041	Critical	Provide a map display function that provides the capability to select an outage and center the outage location in the graphic display window.	Current Base
Operator Displays	OMS.OD.042	Critical	Provide a configurable OMS operator log book function which is designed to replace existing manual log book system of record keeping.	Partially Comply
Operator Displays	OMS.OD.043	Critical	The operator has the ability to ping individual AMI meters in order to verify the outage and restoration from the operator displays.	Current Base
Operator Displays	OMS.OD.044	Critical	The OMS shall display the results of the ping in the operator displays.	Current Base

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Operator Displays	OMS.OD.045	Critical	Provide functionality to display either the operational electrical network or the as-designed electrical network for an area, and highlight graphically any devices that are in a non-standard configuration.	Current Base
Reporting	OMS.RPT.001	Critical	The OMS includes standard reports using a report writing package (Crystal Reports). List any other supported report writing packages.	Current Base
Reporting	OMS.RPT.002	Critical	The OMS reports includes a report that calculates standard IEEE reliability metrics (e.g., SAIDI, CAIDI, SAIFI, and CAIFI) for a user defined time frame (past 5 years, last year, current year to date, last month, current month to date, last week and the previous day). Provide details in comments.	Current Base
Reporting	OMS.RPT.003	Critical	Standard IEEE reliability metrics should be available based on equipment, customer, circuit, cause or system wide for user defined time frames. Provide details in comments.	Current Base
Reporting	OMS.RPT.004	Critical	The OMS reports include the above report for system, regions, substations and feeders for the same periods.	Current Base
Reporting	OMS.RPT.005	Critical	The OMS reports calculate the IEEE indices with and without the inclusion of outages for major event days, as defined in IEEE 1366-2012.	Current Base
Reporting	OMS.RPT.006	Critical	The OMS tracks and reports customer calls or AMI notifications that cannot be associated to a known customer location.	Current Base
Reporting	OMS.RPT.007	Critical	The OMS includes a report that lists all outages that occurred within a range of user defined dates and may be filtered by outage cause and condition. Provide details in comments.	Current Base
Reporting	OMS.RPT.008	Critical	The OMS reports are provided in a format that supports the ability for reports to be customized without having to re-define the reports from scratch.	Current Base
Reporting	OMS.RPT.009	Critical	The OMS includes documentation and a data dictionary of all of the tables and columns used by the standard reports.	Current Base
Reporting	OMS.RPT.010	Critical	The OMS includes documentation of all additional tables that contain operational data so that reports can be extended and defined.	Current Base
Reporting	OMS.RPT.011	Critical	The OMS includes configurable dashboards or portals that can reflect current outage and system operating conditions that can be made available to a large user base internally. Describe the dashboard or portal technology and available functionality.	Current Base
Reporting	OMS.RPT.012	Critical	The OMS dashboard/portals are able to be updated so that information displayed on the portals is no older than 5 minutes.	Current Base
Reporting	OMS.RPT.013	Critical	The OMS provides an outage dashboard with related map which is configurable to display current outages and associated information.	Current Base
Reporting	OMS.RPT.014	Critical	The system should provide the ability to perform analysis and produce ad-hoc reports against historical outage data (e.g., outage cause, number of outages on a given fuse, feeder, transformer, etc. over a user defined period of time).	Current Base

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Reporting	OMS.RPT.015	Critical	The system should allow tracking of outage information on a per-customer basis, at least for important customers, so that outage durations and frequency of outages may be recorded for CEMI (Customers Experiencing Multiple Interruptions) purposes, for instance.	Current Base
Reporting	OMS.RPT.016	Critical	The system should have the ability to report historical ETR vs. actual restorations by different categories, crew, different timeframes, equipment.	Current Base
Reporting	OMS.RPT.017	Critical	The system should have the ability to edit completed outages with a logbook feature.	Current Base
Reporting	OMS.RPT.018	Critical	The system should have the ability to display dashboard on mobile platform.	Current Base
Tabular Lists	OMS.TD.001	Critical	All OMS tabular lists are dynamically updated without any operator interaction (that is, there is a configurable dynamic refresh rate).	Current Base
Tabular Lists	OMS.TD.002	Critical	The OMS has a dynamic list of grouped calls (not individual calls).	Current Base
Tabular Lists	OMS.TD.003	Critical	The OMS has a dynamic list of all calls by feeder and substation (not grouped outages).	Current Base
Tabular Lists	OMS.TD.004	Critical	The OMS has a dynamic summary list of outages and counts of outages by user defined region.	Current Base
Tabular Lists	OMS.TD.005	Critical	The OMS dynamic list of grouped calls supports a dynamic status to reflect current status of event including: acknowledge, crew on site, ETA, and restored.	Current Base
Tabular Lists	OMS.TD.006	Critical	The OMS has an outage list summary screen which displays current outages and associated information including outage number, outage status, device(s), number of trouble calls per outage number, number of affected customers per outage scenario, reported hazards, start time, assigned crew(s) and operating area.	Current Base
Tabular Lists	OMS.TD.007	Critical	All dynamic lists have sorting capability on any column, including the capability to have multiple nested sorts.	Current Base
Tabular Lists	OMS.TD.008	Critical	All dynamic lists support easy (1-click) navigation to the map viewer.	Current Base
Tabular Lists	OMS.TD.009	Critical	The OMS has a dynamic summary of reliability indices by substation and by feeder.	Current Base
Tabular Lists	OMS.TD.010	Critical	All dynamic lists have filtering capability, with the ability to filter on multiple fields.	Current Base
Tabular Lists	OMS.TD.011	Critical	All dynamic lists have the ability to save sorts and filters by user or user category.	Current Base
Tabular Lists	OMS.TD.012	Critical	Data from all tabular displays may be manually exported to Microsoft Excel and emailed to a specific user.	Current Base
Tabular Lists	OMS.TD.013	Critical	Allow for the entry of partial and complete restoration details by specifying the points on the distribution network that have been energized. Restoration times and the customers restored by the restoration steps should be recorded.	Current Base
Integration	OMS.INT.001	Critical	The OMS shall support integration to other utility applications via standard Web Services, File Exchange, and APIs, etc.	Current Base

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Integration	OMS.INT.002	Critical	The OMS shares a common electrical operations model that represents the electrical substations and circuits in the same format as the ESRI GIS (e.g. Web API, ArcGIS Feature Services, etc.)	Current Base
Integration	OMS.INT.003	Critical	The OMS model is based upon the ESRI distribution electrical GIS definitions. Identify in the comments the version supported.	Current Base
Integration	OMS.INT.004	Critical	The system must support integration with ESRI GIS and have tools within the OMS model for reviewing the electrical model updates before they are applied to the production OMS model.	Current Base
Integration	OMS.INT.005	Critical	The OMS supports integration with an AMI and MDM systems.	Current Base
Integration	OMS.INT.006	Critical	The OMS supports integration with an AMI and MDM system using MultiSpeak. Identify supported versions of MultiSpeak.	Current Base
Integration	OMS.INT.007	Critical	The OMS can use the AMI and MDM outage detection and last gasp messages to drive the outage prediction engine.	Partially Comply
Integration	OMS.INT.008	Critical	The AMI and MDM integration supports outage restoration messages (power on) to confirm and validate outage restorations.	Current Base
Integration	OMS.INT.009	Critical	The OMS can filter out AMI and MDM calls based upon factors that drive false indications, including meter pulls and non-pay disconnects.	Current Base
Integration	OMS.INT.011	Critical	The OMS supports integration with an IVR system for the purposes of taking automated trouble calls.	Current Base
Integration	OMS.INT.012	Critical	The OMS supports integration with an IVR system for the purposes of allowing callers to request outage status.	Current Base
Integration	OMS.INT.013	Critical	The OMS supports integration with an IVR system for the purposes of notifying callers they are included in a known outage.	Current Base
Integration	OMS.INT.014	Critical	The OMS supports integration with an IVR system for the purposes of notifying callers of the estimated time of restoration.	Current Base
Integration	OMS.INT.015	Critical	The OMS supports integration with an IVR system for the purposes of calling customers with changes in status, updates to estimated time of restoration, and call back.	Current Base
Integration	OMS.INT.016	Critical	The OMS must support integration with SAP CIS for Customer Information.	Current Base
Integration	OMS.INT.017	Critical	The OMS supports the integration with Advanced Control Systems (ACS) SCADA system for the purposes of obtaining breaker and switch status for all SCADA controlled devices. ACS SCADA controlled devices must be non-operable in the OMS system.	Current Base
Integration	OMS.INT.018	Critical	The OMS-ACS SCADA interface is compliant with MultiSpeak standard. Identify supported versions of MultiSpeak.	Current Base
Integration	OMS.INT.020	Critical	The system should support integration with an AVL solution. CPAU uses Verizon Connect Fleet GPS.	Current Base

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Integration	OMS.INT.021	Critical	Provide the ability to integrate with ArcGIS base maps or similar service for public mapping of outages.	Current Base
Integration	OMS.INT.022	Critical	The OMS should support integration to the Utilities Department's customer self-service portal, MyCPAU. Utilities has contracted with third party service provider, Smart Energy Water (SEW), for use (and hosting) of SEW's Smart Customer Mobile (SCM) portal. Integration will be for the purpose of sending outbound outage notifications, alerts, and updates to customers via text and email which will be triggered by the OMS but delivered to customers via the MyCPAU customer portal.	Current Base
Call Taking	OMS.CT.001	Critical	The OMS includes a call-taking module for internal and external users.	Current Base
Call Taking	OMS.CT.002	Critical	The OMS call-taking module has the ability to search for an account by entering in the caller's phone number. A caller may have one or more numbers (work, home, cell, for example).	Current Base
Call Taking	OMS.CT.003	Critical	The OMS call-taking module supports the ability to search by the caller account number.	Current Base
Call Taking	OMS.CT.004	Critical	The OMS call-taking module supports the ability to search by the caller number.	Current Base
Call Taking	OMS.CT.005	Critical	The OMS call-taking module supports the ability to search by the caller first and last name.	Current Base
Call Taking	OMS.CT.006	Critical	The OMS call-taking module supports the ability to search by the outage location address.	Current Base
Call Taking	OMS.CT.007	Critical	The OMS call-taking module has the ability for all searches listed above to include wildcards in the search.	Current Base
Call Taking	OMS.CT.008	Critical	The OMS call-taking module displays for the matched customers account the current outage status.	Current Base
Call Taking	OMS.CT.009	Critical	The OMS call-taking module displays if the customer is disconnected for non-payment.	Current Base
Call Taking	OMS.CT.010	Critical	The OMS call-taking module displays for the matched customers account the Estimated Time of Restoration Time (ETR).	Current Base
Call Taking	OMS.CT.011	Critical	The OMS call-taking module displays for the matched customers the current outage case notes.	Current Base
Call Taking	OMS.CT.012	Critical	The OMS call-taking module displays for the matched customers the current outage crew status.	Current Base
Call Taking	OMS.CT.013	Critical	The OMS call-taking module has the ability to retrieve for the matched customers the history of all outage calls taken.	Current Base
Call Taking	OMS.CT.014	Critical	The OMS call-taking module has the ability to retrieve for the matched customers the history of all outages for that account.	Current Base
Grouping	OMS.GRP.001	Critical	The OMS includes an outage call grouping function that automatically groups all calls to a common open point based upon a dynamic electrical connectivity model.	Current Base
Grouping	OMS.GRP.003	Critical	The OMS outage call grouping function is configurable with an outage prediction rules engine. Describe your rules engine.	Partially Comply

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Grouping	OMS.GRP.004	Critical	The call grouping function is performed as new calls come into the OMS in real time.	Current Base
Grouping	OMS.GRP.005	Critical	The OMS supports a mechanism for the user to manually change, override and create new groups.	Current Base
Grouping	OMS.GRP.007	Critical	The OMS grouping function uses the phases of the connectivity model and the phase location of the calls to make predictions by phase.	Current Base
Grouping	OMS.GRP.008	Critical	The OMS prediction engine does not change an outage prediction location for any outage that is confirmed by the user.	Current Base
Grouping	OMS.GRP.009	Critical	The outage prediction grouping is based upon all changes to model, including open and close of devices (by phase).	Current Base
Grouping	OMS.GRP.010	Critical	The outage prediction is based upon all changes to model including cuts and jumpers (by phase).	Current Base
Grouping	OMS.GRP.011	Critical	The OMS has the ability to separate one or multiple calls/locations from an incident for additional repair work (e.g., fixed fuse, individual customer still out).	Current Base
Grouping	OMS.GRP.012	Critical	The OMS user has the ability to confirm an outage's predicted location or device on the user's main screen and through the graphical interface.	Current Base
Grouping	OMS.GRP.013	Critical	The OMS user has the ability to identify both an outage's damaged location and its affected device.	Current Base
Grouping	OMS.GRP.014	Critical	The OMS user has the ability to associate a non-connected outage to a device.	Current Base
Grouping	OMS.GRP.015	Critical	Ability to create and view high-level incidents comprised of several individual incidents (nested incidents).	Current Base
Grouping	OMS.GRP.016	Critical	The OMS can accept and manage calls not related to a customer (e.g., intersection).	Current Base
Grouping	OMS.GRP.017	Critical	The OMS can accept and manage calls for customers without electrical connectivity.	Current Base
Grouping	OMS.GRP.018	Critical	The OMS has the ability to identify outages containing ranked priority customers (e.g., hospitals) on the user's main screen and on the graphical interface.	Current Base
Grouping	OMS.GRP.019	Critical	The OMS administrative users have the ability to configure outage priority (including customer profile, key account, cause, problem code, etc.).	Current Base
Grouping	OMS.GRP.020	Critical	The OMS administrative user has the ability to configure incident to prevent grouping based on a later event (e.g., working on wire down, then a fuse blows).	Current Base
Grouping	OMS.GRP.021	Critical	The OMS will automatically predict customers "out" that have not called in to report the outage.	Current Base
Grouping	OMS.GRP.023	Critical	The OMS has the capability to manually split existing outages into separate outages, and to merge multiple outages into a single outage.	Current Base
Grouping	OMS.GRP.024	Critical	The system must allow a dispatcher to move an outage out of an open state to an intermediate state without providing all of the info required to final close an outage.	Current Base

Grouping	OMS.GRP.025	Critical	The ability to indicate the predicted device associated with an outage is confirmed closed. The prediction engine should take the device's new status into consideration in subsequent outage prediction analysis.	Current Base
Dispatching	OMS.DSP.001	Critical	The OMS allows the user to define crews. The crew definitions must be configurable and include, but not be limited to, the following fields: number of crew members, the type of the crew, equipment information, type of vehicle associated with the crew and assign individuals to a crew.	Current Base
Dispatching	OMS.DSP.002	Critical	The crew functionality reflects when a crew goes on and off shift and make the off shift crews unavailable for assignment.	Current Base
Dispatching	OMS.DSP.003	Critical	The ability to change the working status of a crew (e.g., from unavailable to available).	Current Base
Dispatching	OMS.DSP.004	Critical	The OMS has a function to manage calling crews in for work, it tracks contact information and their history of all previous calls and whether they were reached, and came in or declined when called.	Current Base
Dispatching	OMS.DSP.005	Critical	The OMS includes the ability to configure attributes and relationships on employee and crew records.	Current Base
Dispatching	OMS.DSP.006	Critical	Crews can be defined as permanent or temporary (contractor, mutual aid). Newly created crews are immediately available for work in the system.	Current Base
Dispatching	OMS.DSP.007	Critical	THE OMS supports the ability to associate a resource (person) to multiple crews.	Current Base
Dispatching	OMS.DSP.008	Critical	The OMS supports the ability to assign (or "un-assign") outages to one or more crews at the same time or sequentially. It also provides the ability to assign or "un-assign" one or more crews to an outage.	Current Base
Dispatching	OMS.DSP.009	Critical	The OMS supports the ability to create a queue of work for a crew.	Current Base
Dispatching	OMS.DSP.010	Critical	A "Crew Summary" window indicating available crews and number of incidents that are assigned or working is provided.	Current Base
Dispatching	OMS.DSP.011	Critical	The OMS supports the ability to progress an outage through specific stages including, assigned, dispatched, working, closed and completed. Each change in status should be recorded and time stamped in an outage log.	Current Base
Dispatching	OMS.DSP.012	Critical	The OMS provides the ability for the user to indicate that a crew is at the work site.	Current Base
Dispatching	OMS.DSP.013	Critical	Allow a dispatcher to add comments or notes associated with an outage and record the comments in an outage log.	Current Base
Dispatching	OMS.DSP.014	Critical	The ability to update outage related information including outage cause, restoration steps and restoration time and type of equipment affected. The system should enforce the entry of certain fields such as restoration time, outage cause code prior to allowing a user to close an outage.	Current Base
Dispatching	OMS.DSP.015	Critical	The system should have the ability to identify additional equipment that failed as part of an outage.	Current Base

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Dispatching	OMS.DSP.016	Critical	The OMS crew functionality has the ability to be integrated with a mobile data system, but support manual management of non-mobile enabled crews in addition to the mobile enabled crews.	Current Base
Callbacks	OMS.CB.001	Critical	The OMS has a module for the purposes of managing callbacks to customers who have been restored. It must contain a dynamic list of customers restored who requested a callback.	Current Base
Callbacks	OMS.CB.002	Critical	The OMS callback module has the ability to initiate callbacks to only customers who request callbacks when restored (or those registered for notifications).	Current Base
Callbacks	OMS.CB.003	Critical	The OMS callback module also has the ability to be able to callback customers whose ETR was changed greater than a configurable amount or have a new ETR available.	Current Base
Callbacks	OMS.CB.004	Critical	The OMS callbacks module has the ability to be integrated with an IVR system for performing automatic callbacks.	Current Base
Callbacks	OMS.CB.005	Critical	The OMS callbacks module has the ability to phone via IVR, send text and/or email (configurable) messages to customers updating them at various stages of the outage restoration process (e.g., change of ETR, time when restored etc.)	Current Base
Notifications	OMS.NFY.001	Critical	The OMS includes a configurable automatic notification capability that notifies internal users via email and text message when outages are reported, predicted, revised, or restored.	Current Base
Notifications	OMS.NFY.002	Critical	The OMS notification function has the ability to notify internal users via configurable selections--email or text---when outages are confirmed.	Current Base
Notifications	OMS.NFY.003	Critical	The OMS notifications have configurable triggers for notification of each internal user based upon: size of outage, inclusion of a specific customer, or the inclusion of any critical customer.	Current Base
Notifications	OMS.NFY.004	Critical	The OMS notification function generates a notification when an ETR for an outage previously notified is created or revised. The notification message must contain a configurable set of parameters including: number of customers affected, type of customer, customer location, and affected feeders/devices.	Current Base
Notifications	OMS.NFY.005	Critical	The OMS generates a notification when an ETR (for a previously notified outage) exceeds the time by some configurable amount of time.	Current Base
Notifications	OMS.NFY.006	Critical	The OMS generates a notification for internal users when an outage is restored to service. The notification may be configured by a set of parameters as defined in OMS.NFY.004.	Current Base
Notifications	OMS.NFY.007	Critical	The OMS notification system is capable of generating notification to customers when outage is predicted, confirmed, or when ETR is created or updated.	Current Base

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Notifications	OMS.NFY.008	Critical	The OMS notification of customers includes the capability to notify those customers who desired to be notified when they are restored.	Current Base
Notifications	OMS.NFY.009	Critical	Provide capability to automatically contact a customer electronically with outage status updates using IVR.	Current Base
Notifications	OMS.NFY.010	Critical	Provide capability to automatically contact a customer electronically with outage status updates using email.	Current Base
Notifications	OMS.NFY.011	Critical	Provide capability to automatically contact a customer electronically with outage status updates using text message.	Current Base
Notifications	OMS.NFY.012	Critical	Support integration with corporate social media sites such as Twitter and Facebook, and CPAU's customer portal, which is Smart Energy Water (SEW).	Partially Comply
Notifications	OMS.NFY.013	Critical	All external notification functionality must also apply to internal users--supervisors, managers, customer service representatives, etc.--on a configurable basis.	Current Base
Notifications	OMS.NFY.014	Critical	Audible notification can be configured to play when an outage event or trouble call occurs.	Current Base
Notifications	OMS.NFY.015	Critical	Notification list for known outages for customers who enroll must have an option for time of day.	Current Base
Estimated Restoration Time	OMS.ETR.001	Critical	The OMS includes functionality to automatically generate Estimated Time of Restoration (ETR) for each outage. Provide details on how ETRs are calculated.	Current Base
Estimated Restoration Time	OMS.ETR.012	Critical	The OMS has the ability to override ETR on individual incident manually.	Current Base
Estimated Restoration Time	OMS.ETR.013	Critical	The OMS has the ability to override ETR on a group of incidents manually.	Current Base
Estimated Restoration Time	OMS.ETR.014	Critical	The OMS has the ability to configure ETR expiration alerts.	Current Base
Estimated Restoration Time	OMS.ETR.015	Critical	The OMS has the ability to disable all ETR functionality.	Current Base
Switching	OMS.SW.001	Critical	The OMS must include a tool to manually prepare switching plans that contain a sequential record of all steps taken to perform a switching job.	Current Base
Switching	OMS.SW.002	Critical	The user is able records/create switch order steps ahead of time.	Current Base
Switching	OMS.SW.003	Critical	The user is able to identify a switch order for planned outages.	Current Base

Switching	OMS.SW.004	Critical	The OMS switching module has the ability to track one or more approvals of the switching plan.	Current Base
Switching	OMS.SW.005	Critical	The OMS switching module allows users to record switching plan header information. The header information is configurable to include multiple pre-defined fields but be able to include at a minimum the following fields: description, location, project number, planned start date/time and planned end date/time.	Partially Comply
Switching	OMS.SW.006	Critical	The OMS switching module has the ability to support the creation of non-switching steps such as check load, place grounds, or any other non-switching action.	Current Base
Switching	OMS.SW.007	Critical	The OMS switching module allows switching plans to be played back against the real time model as each step is executed.	Current Base
Switching	OMS.SW.008	Critical	The OMS switching module supports the creation of steps for the placing and removing of tags, safety documents and notes.	Current Base
Switching	OMS.SW.009	Critical	The OMS switching module validates for the correct application of tags and safety documents to ensure proper isolation for safety.	Current Base
Switching	OMS.SW.010	Critical	The OMS switching module includes a function for the user to select a sequence of steps in a switching plan that is being prepared and generate the reverse sequence of steps (i.e., for each open it writes a close, etc.).	Current Base
Switching	OMS.SW.011	Critical	The OMS switching module generates a list of customers impacted by a planned outage. The lists can be exported in CSV format.	Current Base
Switching	OMS.SW.012	Critical	The OMS switching module stores and catalogs historical switching orders.	Current Base
Switching	OMS.SW.013	Critical	The user can search historical switching orders using the fields in OMS.SW.005.	Current Base
Switching	OMS.SW.014	Critical	The user can edit historical switching orders and save as new.	Current Base
External Map	OMS.EXTMAP.001	Critical	Provide an outage map that can be integrated into the CPAU website, which is mobile-responsive and can be scaled dynamically to accommodate a customer's smartphone resolution.	Current Base
External Map	OMS.EXTMAP.002	Optional	Provide an outage map through a native mobile app.	Current Base
External Map	OMS.EXTMAP.003	Critical	The outage map possesses GIS features, such as pan and zoom.	Current Base
External Map	OMS.EXTMAP.004	Critical	Displays outages by zip code boundaries.	Current Base
External Map	OMS.EXTMAP.005	Critical	Prevent the user from zooming in on the map to sufficiently identify the exact service location.	Current Base
External Map	OMS.EXTMAP.006	Critical	The outage map provides the ability to display the number of outages	Current Base
External Map	OMS.EXTMAP.007	Critical	The outage map provides the ability to display the number of affected customers.	Current Base

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External Map	OMS.EXTMAP.008	Critical	The outage map provides the ability to display ETR for each outage.	Current Base
External Map	OMS.EXTMAP.009	Optional	The outage map provides the ability to add dispatcher created notes or annotations to map.	Current Base
External Map	OMS.EXTMAP.010	Critical	The outage map provides the ability to dynamically updates based on new, dispatched, crew onsite, confirmed, or restored outages.	Current Base
External Map	OMS.EXTMAP.011	Critical	Depending on the zoom level, the outage map provides the ability to automatically display or hide different map features.	Current Base
External Map	OMS.EXTMAP.012	Critical	The outage map provides the ability refresh automatically. Describe the recommended refresh rate.	Current Base
External Map	OMS.EXTMAP.014	Optional	The outage map provides the ability for customers to report outages from the map.	Current Base
External Map	OMS.EXTMAP.015	Critical	Includes usage statistics, such as Google Analytics.	Current Base
Damage Assessment	OMS.DA.001	Optional	The OMS has screens for collecting damage assessment information. Provide details.	Current Base
Damage Assessment	OMS.DA.002	Optional	The OMS damage assessment function allows damage to be recorded at specific locations in the model.	Current Base
Damage Assessment	OMS.DA.003	Optional	Damage assessment information must include the ability to identify damage associated with poles, lines, cable and structures.	Current Base
Damage Assessment	OMS.DA.004	Optional	The damage assessment screens should show the user all current locations of predicted and confirmed outages from the OMS so that the damage assessment may be correlated with the known outages in the system.	Current Base
Damage Assessment	OMS.DA.005	Optional	The user should be able to record the counts of all types of damage.	Current Base
Damage Assessment	OMS.DA.006	Optional	The user should be able to indicate whether the damage is accessible by vehicle.	Current Base
Damage Assessment	OMS.DA.007	Optional	One damage incident must include the ability to record one or more types of damage at that location.	Current Base
Damage Assessment	OMS.DA.008	Optional	Damage assessments can be related to outages by the user in the OMS or placed at a location where there is no current predicted outage.	Current Base
Damage Assessment	OMS.DA.009	Optional	Damage assessment information must be able to be entered by a non-dispatch user type.	Current Base
Damage Assessment	OMS.DA.012	Optional	Damage assessment information must also be enterable and updatable by an external application through well documented APIs or integration methods.	Future Base Release
Damage Assessment	OMS.DA.013	Optional	The damage assessment tool must have the capability to summarize damage assessment information to quantify restoration duration.	Current Base

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Damage Assessment	OMS.DA.014	Optional	In addition to the ability to enter damage assessment in the OMS, a separate integrated damage assessment application that can run on a mobile device (phone, tablet, etc.) in a disconnected state.	Future Base Release
Damage Assessment	OMS.DA.015	Optional	The damage assessment tool must allow assessors to receive and update work in the field.	Future Base Release
Damage Assessment	OMS.DA.016	Optional	The damage assessment tool should allow assessors to view assignments not assigned to them, and review any updates or notes that are attached.	Future Base Release
Damage Assessment	OMS.DA.017	Optional	The damage assessment tool must allow assessors to report damage information in near real time.	Future Base Release
Interactive Voice Response	OMS.IVR.001	Critical	The IVR system simultaneously is able to support at least 1,000 concurrent calls with the ability of expanding during major storms.	Current Base
Interactive Voice Response	OMS.IVR.002	Critical	The IVR system directs callers through various options by using a menu of choices.	Current Base
Interactive Voice Response	OMS.IVR.003	Critical	The IVR system permits callers to respond using voice recognition.	Current Base
Interactive Voice Response	OMS.IVR.004	Critical	The IVR system permits callers to respond using touch tones.	Current Base
Interactive Voice Response	OMS.IVR.005	Critical	The IVR system has the capability to identify caller by caller ID or caller-entered, telephone number.	Current Base
Interactive Voice Response	OMS.IVR.006	Critical	The IVR system is able to associate the number called to a physical customer address .	Current Base
Interactive Voice Response	OMS.IVR.007	Critical	Further identify caller locations using text-to-speech.	Current Base
Interactive Voice Response	OMS.IVR.008	Critical	The IVR system has the ability to quickly locate a customer record using various search criteria including account number, street address and/or customer name.	Current Base
Interactive Voice Response	OMS.IVR.009	Critical	The IVR system has the ability of verifying outage location address and other information using text-to-speech technology.	Current Base
Interactive Voice Response	OMS.IVR.010	Critical	The IVR system has the ability to recognize calls from customers with multiple accounts or meters and distinguish which location is calling in the problem.	Current Base

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Interactive Voice Response	OMS.IVR.011	Critical	The IVR system provides a means for tracking all customer-recorded messages.	Current Base
Interactive Voice Response	OMS.IVR.012	Critical	The IVR system has the ability to create a record of a trouble call that includes at a minimum: customer name and address, the type of trouble, the time the trouble is reported, the transformer and feeder number that feeds the customer and customer comments.	Current Base
Interactive Voice Response	OMS.IVR.013	Critical	The IVR system has the ability to determine if a calling customer is associated with an existing outage and to display the status of the outage.	Current Base
Interactive Voice Response	OMS.IVR.014	Critical	The IVR system has the ability to recognize calls from priority customers as defined by utility.	Current Base
Interactive Voice Response	OMS.IVR.015	Critical	The IVR system has the ability to call back customers who called in using a touchtone telephone, in order to verify restoration of power and accept input from the customer indicating whether power is on or off.	Current Base
Interactive Voice Response	OMS.IVR.016	Critical	The IVR system has the ability of creating a call list of customers to notify them of any planned service interruptions.	Current Base
Interactive Voice Response	OMS.IVR.017	Critical	The IVR system has a web-based interface available to the user for monitoring and administration of the whole system.	Current Base
Interactive Voice Response	OMS.IVR.018	Critical	The IVR system supports multiple applications (inbound/outbound) to be run on separate lines simultaneously without having to dedicate circuits to either inbound or outbound.	Current Base
Interactive Voice Response	OMS.IVR.019	Critical	The IVR system has a user-friendly “flexible rules engine” to update/customize configurations for IVR options applications.	Current Base
Interactive Voice Response	OMS.IVR.020	Critical	The IVR system has a fault tolerance features/redundancy.	Current Base
Interactive Voice Response	OMS.IVR.021	Critical	Support for open standards, such as CCXML, VoiceXML, W3C, XML, H.323, etc.	
Interactive Voice Response	OMS.IVR.022	Critical	Multichannel Support: Email	Current Base
Interactive Voice Response	OMS.IVR.023	Critical	Multichannel Support: SMS-Texting	Current Base

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Interactive Voice Response	OMS.IVR.024	Critical	Provide customizable reports for analysis of calls using metadata.	Current Base
Interactive Voice Response	OMS.IVR.026	Critical	Provide online monitoring dashboards,	Current Base
Interactive Voice Response	OMS.IVR.027	Critical	Provide call volumes statistics: by transaction, by time of day, and by successful completion.	Current Base
Interactive Voice Response	OMS.IVR.028	Critical	Producing special reports in the event of outages caused by massive storm/hurricane (e.g. to track dropped calls, abandoned calls, average call time, number of people that "hit 0" - talks to a dispatcher, success rate, etc.)	Current Base
Interactive Voice Response	OMS.IVR.029	Critical	Interface using Session Initiation Protocol (SIP) - Aura Session Manager version 6.2 or later.	Partially Comply

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C23184285 – OMS Cost

Milsoft C23184285, Quote #51199	One-Time	Monthly	Annual
Milsoft Communications (IVR)		**$2,800**	**$33,600**
IVR Hosted			
IVR Hosted Monthly Subscription		$2,800	$33,600
Outage Management		**$5,395**	**$64,743**
OMS - Subscription with Test System		$2,750	$33,000
FieldSyte Monthly		$1,250	$15,000
Milsoft Analytics		$834	$10,008
Milsoft Outage alerts subscription		$325	$3,900
Milsoft Personnel Subscription		$236	$2,835
One-time costs	**$62,500**		
Integration Services	$12,000		
Database Conversion	$27,500		
Initial OMS Setup & Training	$15,000		
Training Follow up	$8,000		
TextPower	**$9,447**	**$859**	**$10,308**
Configuration	$7,000		
Subscription		$859	$10,308
Setup charges	$2,447		
Total Costs	**$71,947**	**$9,054**	**$108,651**

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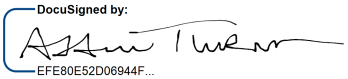
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Anna Vuong anna.vuong@cityofpaloalto.org Sr. Business Analyst - Utilities City of Palo Alto Utilities Security Level: Email, Account Authentication (None)	COPIED	Sent: 8/25/2022 3:04:18 PM

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City of Palo Alto (ID # 14660)

City Council Staff Report

Meeting Date: 9/27/2022 **Report Type: Consent Calendar**

Title: Adoption of a Resolution Approving and Attesting to the Veracity of the City's 2021 Annual Power Source Disclosure and Power Content Label Reports

Council Priority: Climate Change: Protection & Adaption

From: City Manager

Lead Department: Utilities

Recommendation

Staff recommends that the City Council adopt a resolution (Attachment A) approving and attesting to the veracity of the City's two Power Source Disclosure reports for 2021 and the City's two Power Content Labels for 2021.

Background

Senate Bill 1305 (Link) was approved in 1997 to ensure that all retail suppliers of electricity disclose to consumers the sources of energy used to provide the electric service in an accurate, reliable, and easy to understand manner. The SB 1305 Report is commonly referred to as the Power Source Disclosure (PSD) report. The City of Palo Alto is required to submit an annual PSD Report to the California Energy Commission (CEC) by June 1st of each year. The information contained in this reporting is used to prepare the annual Power Content Label (PCL), which is mailed to our customers and posted on the City's website by October 1st of each year at www.cityofpaloalto.org/powercontentlabel and on the CEC's website at energy.ca.gov/power-content-label.

Discussion

In 2017, the CEC updated the regulation[1] implementing SB 1305 making the changes retroactively effective in October 2016. (The regulation was subsequently modified in May 2020.[2]) The changes included a provision that requires utilities to engage a third-party certified

[1] "Power Source Disclosure Program Regulations," California Energy Commission, CEC-300-2017-048, October 2016. http://docketpublic.energy.ca.gov/PublicDocuments/14-OIR-01/TN216978_20170412T103905_Power_Source_Disclosure_Program_Amended_Regulations.pdf.

[2] "Modification of Regulations Governing the Power Source Disclosure Program," California Energy Commission, Docket Number: 20-PSDP-01, May 2020. https://efiling.energy.ca.gov/GetDocument.aspx?tn=232986&DocumentContentId=65451

public accountant to perform an audit to verify the specific purchases, resales, and self-consumption of energy by fuel type.[3] However, the regulation includes an exemption from the audit requirement for publicly owned electric utilities, if the governing board of the utility "submits to the Energy Commission an attestation of the veracity of each annual report and power content label for the previous year."[4]

In Palo Alto's case, this means that the PSD reports and PCLs for the City's two retail electricity products (the "standard rate" carbon neutral product and the voluntary PaloAltoGreen product, which is available to all commercial customers and allows them to pay a small premium in order to receive a power supply comprising only wind and solar generation) can both be approved by the City Council, as described above.

In 2021, CPAU's hydroelectric generation was well below long-term average levels, due to the ongoing drought conditions the state has experienced over the last several years. Also in 2021, with approval by the City Council in August 2020 (Staff Report 11556), CPAU continued its REC Exchange Program, which involves taking a regional approach to fulfilling its Carbon Neutral Electric Portfolio goals by selling renewable energy from the City's long-term renewable contracts and using the most cost-efficient renewable energy from outside the state to fulfill carbon neutrality requirements. The earnings from this program can be used for purposes such as local decarbonization or rate reduction. Although the power sourced out-of-state remains renewable and carbon-neutral, the CEC categorizes such power as "unspecified power" on the PSD and PCL documents.

Under the City's REC Exchange Program the City sold a total of 287,210 MWh of in-state renewable generation in 2021, and purchased a total of 358,408 MWh of out-of-state renewable generation, yielding $2.22 million in net revenue. Per Council's direction, for these 2021 earnings, at least one-third of this revenue will be invested locally in electrification efforts necessary to meet the City's ambitious climate goals, while the remainder will be used to offset other supply purchase costs and minimize rate increases as a way of helping the community manage the economic impacts of the pandemic.

As a result of these renewable energy sales—and the fact that the CEC's regulations do not recognize out-of-state renewable generation as an "eligible renewable" energy source—the share of the City's standard power mix that comes from eligible renewables sources was lower in 2021 (33.7%) than in many previous years, like 2019 (36.3%) or 2018 (65%). However, as noted earlier, the City's power supply remained carbon neutral in 2021 in accordance with the Council-adopted Carbon Neutral Plan (Staff Report 11556), and the City remained in compliance with the state's Renewable Portfolio Standard (RPS) mandate.

Utilities Department staff submitted the City's annual PSD reports (Exhibit A to Attachment A) for calendar year 2021(Linked Document) to the CEC in June 2022, along with the associated

[3] California Code of Regulations Title 20, Section 1394.2(a).
[4] California Code of Regulations Title 20, Section 1394.2(a)(2).

staff attestation forms. The 2021 PCLs (Exhibit B to Attachment A) (Linked Document) will be mailed to each electric utility customer as a bill insert and posted on the City's website in September 2022, in accordance with the regulation. The attached resolution (Attachment A) approves the annual PSD reports and PCLs for both the standard carbon neutral power mix and the PaloAltoGreen product and provides for Council's attestation to the veracity of these four documents as required for exemption from the third-party audit requirement.

Staff anticipates submitting the City's annual PSD report for calendar year 2022 to the CEC by June 2023 and providing the 2022 PCL to electric customers around September 2023.

Resource Impact
Adoption of the attached resolution will not result in a financial impact to the City.

Policy Implications
Adoption of the attached resolution will enable the City to comply with the CEC regulations implementing SB 1305 (California Code of Regulations, Title 20, sections 1391 to 1394).

Environmental Review
Adoption of the attached resolution is not subject to California Environmental Quality Act (CEQA) review as an administrative government activity that will not result in any direct or indirect physical change to the environment (CEQA Guidelines section 15378(b)(5)).

Attachments:

- **Attachment6.a:** Attachment A: Resolution

Resolution No. ____
Resolution of the Council of the City of Palo Alto Approving and Attesting to the Veracity of the City's 2021 Power Source Disclosure and Power Content Label Reports

R E C I T A L S

A. The California Legislature adopted Senate Bill 1305 in 1997 to ensure that all retail suppliers of electricity, including the City of Palo Alto, disclose to consumers the sources of energy used to provide electric service in an accurate, reliable and easy to understand manner.

B. The SB 1305 Report is commonly referred to as the Power Source Disclosure (PSD) report, which shows the City's electric portfolio purchases for the prior calendar year, as well as the fuel mix for the City's retail electricity sales for the prior calendar year.

C. The information contained in the PSD report is used to prepare the City's annual Power Content Label (PCL), which discloses the fuel mix of the City's retail electricity sales during the prior calendar year, as well as the fuel mix for the state as a whole, and which is mailed to the City's electric utility customers via a bill insert by October 1st every year.

D. California Code of Regs., title 20, sections 1394.2(a)(2), updated by the California Energy Commission effective May 2020, allows the City Council to approve and attest to the veracity of each PSD report and PCL for the previous year, including the reports for Palo Alto's voluntary PaloAltoGreen product, which is provided to commercial customers who participate in the PaloAltoGreen program.

E. The PSD report submissions for both the City's standard carbon neutral power portfolio, and the City's PaloAltoGreen product are prepared by the Northern California Power Agency (NCPA), a joint power authority of which Palo Alto is a member. The draft PSD reports are then checked by City staff against the City's account in the Western Renewable Energy Generation Information System (WREGIS), where the City tracks its renewable and carbon-free energy. The PaloAltoGreen renewable energy supplies are then verified by a third-party verifier, in order to achieve Green-e certification for that program.

F. In June 2022, Utilities Department staff submitted the 2021 Annual PSD reports for both the City's standard carbon neutral portfolio and the PaloAltoGreen program, to the Energy Commission in accordance with the applicable regulations.

The Council of the City of Palo Alto ("City") RESOLVES as follows:

SECTION 1. The City Council approves the submission and attests to the veracity of the 2021 Annual Power Source Disclosure reports for the City's standard carbon neutral portfolio, and for the City's voluntary PaloAltoGreen program (attached as Exhibit A to this resolution) which staff submitted to the California Energy Commission in June 2022.

SECTION 2. The City Council approves and attests to the veracity of the 2021 Annual Power Content Label reports for the City's standard carbon neutral portfolio, and for the City's voluntary PaloAltoGreen program (attached as Exhibit B to this resolution) which staff distributed to Utilities customers as an insert in their September Utilities bills.

SECTION 3. The Council finds that the adoption of this resolution is not subject to California Environmental Quality Act (CEQA) review because it is an administrative government activity that will not result in any direct or indirect physical change to the environment (CEQA Guidelines section 15378(b)(5)).

INTRODUCED AND PASSED: September 26, 2022

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

APPROVED:

_____
Assistant City Attorney

_____
City Manager

_____
Director of Utilities

_____
Director of Administrative Services

City of Palo Alto (ID # 14713)

City Council Staff Report

Meeting Date: 9/27/2022 **Report Type: Consent Calendar**

Title: Approval of a First Amendment to Lease Between KG-Bryant, LLC, and the City of Palo Alto for the Premises Located at 526 Bryant Street for an Initial 12-month Term, at a Starting Base Rent of $5,616.11 per Month and Increasing 3 Percent Annually

From: City Manager

Lead Department: Administrative Services

Recommended Motion

Staff recommends that Council authorize the City Manager to execute the First Amendment to the Lease contained in Attachment A, between KG-Bryant, LLC, and the City of Palo Alto, for office space located at 526 Bryant Street, in an amount not to exceed $675,895.46. The lease is for an initial 12-month term commencing on February 1, 2023 through January 31, 2024, with the right to automatically extend the term for four successive 12-month periods, potentially through January 31, 2028. The initial base rent is $5,616.11 per month and increases 3% annually.

Background

Planning and Development Services currently operates out of the three locations listed below.

Address	Expiration Date	Square Footage
285 Hamilton	1/31/2026	6,361
526 Bryant	1/31/2023	3,076
City Hall – 5th Floor*	N/A	4,388
Total		**13,825**

*5th Floor square footage is only 75% of the total since the floor is shared with Transportation. It also excludes elevator and restroom area.

The premises at 526 Bryant Street contain 3,076 square feet in the basement level of an approximate 14,500 square foot multitenant mixed-use office and retail building that was constructed in 1935. There is no onsite parking, but the property is located roughly half a block northwest of the Development Center (285 Hamilton Avenue) and approximately one block northwest of City Hall.

The City has been leasing 526 Bryant Street since 2017 for use by Development Services, although the premises were also used for temporary staff relocation during the renovation of floors at City Hall. Currently, the premises are occupied by fire inspectors, plan check services, and building inspectors. The premises at 526 Bryant Street, along with the other two Planning and Development Services locations at 285 Hamilton Avenue and City Hall, meet the requirements for current usage and staffing levels. Staff is seeking a lease term that aligns with the 285 Hamilton lease (which contains the option to potentially extend through January 31, 2028), while providing flexibility.

Discussion

The City currently leases approximately 3,076 square feet from KG-Bryant, LLC, in the basement level at 526 Bryant Street for use by Planning and Development Services staff (CMR 11426). The amendment to lease will allow Planning and Development Services to continue meeting its goal of helping customers build safe, healthy, and sustainable buildings that comply with applicable codes and regulations, while ensuring the safety of City staff. The new rent represents a three percent increase over the current amount. The recommended structure ensure flexibility to adapt as business needs adjust and in anticipation of a review of space upon the completion of the new Public Safety Building.

Staff has negotiated an amendment with the basic provisions listed below.

- Term: initially 12 months commencing on February 1, 2023 and expiring on January 31, 2024, with the right to automatically extend the term for four successive 12-month periods, potentially through January 31, 2028;
- Monthly base rent: initial base rent is $5,616.11 per month and increases 3% annually
    - The initial monthly base rent represents a 3% increase from the current amount.
- Operating expenses: City is responsible for a portion of operating expenses (such as taxes, insurance, maintenance and repair, janitorial, and utilities), estimated to be $4,992.89 per month at the start of the new term and projected to increase up to 3% annually.

Timeline

The current lease at 526 Bryant Street expires on January 31, 2023 and the amendment would extend the term for one to four years.

Resource Impact

The current base rent to lease 526 Bryant Street is $5,452.53 per month. The amendment scheduled to commence on February 1, 2023, will increase the base rent by 3% from the current amount to $5,616.11 and continue increasing 3% annually through January 31, 2028. Operating expenses are also estimated to increase by 3% to $4,992.89 per month at the start of the new term and continue increasing 3% annually through January 31, 2028. The annual rental costs of approximately $127,000 are budgeted in the Planning and Development Services Department and part of the FY 2023 Adopted Operating Budget. Adjustments to the budget to align with the lease terms will be recommended as part of the annual budget process, and funding in subsequent fiscal years is subject to appropriation by the Council.

Policy Implications

This recommendation does not present any changes to existing City policies.

Stakeholder Engagement

The Real Estate Division met with Planning and Development Services to determine their real estate needs. Various options were considered including searching for alternative spaces to lease as well as moving into property owned by the City. Planning and Development Services determined that the most optimal option to provide functionality and continuity in service was to extend their current lease at 526 Bryant Street. Real Estate Division and Planning and Development Services staff engaged with the owner to extend the lease.

Environmental Review

Approval of this amendment to lease is exempt from review under the California Environmental Quality Act (CEQA) because it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment (CEQA Guidelines Section 15061(b)(3)).

Attachments:

- **Attachment7.a:** Attachment A: 526 Bryant Street First Amendment to Lease

FIRST AMENDMENT TO LEASE

THIS FIRST AMENDMENT TO LEASE ("**Amendment**"), dated as of August 16, 2022 ("**Effective Date**"), is entered into by and between KG-Bryant, LLC, a California limited liability company ("**Landlord**"), and City of Palo Alto, a charter city and municipal corporation of the State of California ("**Tenant**").

RECITALS:

A. Landlord and Tenant are parties to that certain Standard Office Lease dated October 30, 2020 ("**Lease**"), whereby Tenant leases from Landlord, and Landlord leases to Tenant, those certain Premises containing approximately 3,076 square feet commonly known as 526 Bryant Street, Palo Alto, California, as more particularly described in the Lease.

B. Landlord and Tenant wish to amend the Lease in order to (i) extend the Lease Term for 12 months, and (ii) establish the Base Rent due under the Lease during the extended Term, and (iii) further amend the Lease as set forth herein.

NOW, THEREFORE, in consideration of the foregoing Recitals, the mutual covenants and agreements contained in this Amendment and other good and valuable consideration, the receipt and sufficiency of such are hereby acknowledged, Landlord and Tenant hereby agree as follows:

AGREEMENT:

1. Recitals; Definitions. The Recitals set forth above are incorporated herein as though set forth in full. Capitalized terms not defined herein have the meanings given to such terms in the Lease.

2. Extension of Lease Term. The Term of the Lease is extended to expire on January 31, 2024, unless sooner terminated pursuant to the Lease, as amended hereby.

3. Base Rent. Commencing February 1, 2023, Tenant shall pay Base Rent in accordance with the Lease as follows:

Period During Term	Base Rent per Month
February 1, 2023 – January 31, 2024	$5,616.11

4. Extension Right. Provided Tenant has not been in default and has not assigned the Lease or sublet the Premises, Tenant shall have an automatic extension right (each an "**Extension Right**") to extend the Term of this Lease for four (4) successive extension periods. The first (1st) extension period shall commence on February 1, 2024 and end on January 31, 2025 (the "**First Extension Period**"). The second (2nd) extension period shall commence on February 1, 2025 and end on January 31, 2026 (the "**Second Extension Period**"). The third (3rd) extension period shall commence on February 1, 2026 and end on January 31, 2027 (the "**Third Extension Period**"). The fourth (4th) extension period shall commence on February 1, 2027 and end on January 31, 2028 (the "**Fourth Extension Period**"). For the purposes of this Lease the term "**Extension Period**" shall mean and include the First Extension Period, the Second Extension Period, the Third Extension Period, and the Fourth Extension Period, collectively and individually as the context may so require. Tenant may decline the Extension Right by giving written notice (the "**Extension Notice**") to Landlord not later than six (6) months nor earlier than nine (9) months prior to the expiration date of the applicable Extension Period. In the event that Tenant fails timely to give such notice to Landlord, the Lease Term shall automatically extend, and no instrument of renewal or extension need be executed. All of the terms and conditions of the Lease, as amended hereby, shall apply during the Extension Periods, provided that, on the commencement date of each Extension Period, the monthly Base Rent shall increase by three percent (3%) over the Base Rent charged in the immediately preceding month of the Lease Term. If any Extension Period does not

commence for any reason, all subsequent Extension Rights shall automatically terminate and be null and void. Each Extension Right is personal to the originally named Tenant herein and may not be assigned or transferred or exercised by any other person.

5. Condition of Premises. Tenant acknowledges and agrees that Landlord shall not be obligated to refurbish or improve the Premises in any manner whatsoever or to otherwise provide funds for the improvement of the Premises, and Tenant hereby accepts the Premises "AS-IS". Tenant further acknowledges and agrees that neither Landlord nor any agent of Landlord has made any representation or warranty regarding the condition of the Premises.

6. Brokers. Landlord and Tenant represents and warrants that it has not dealt with any broker, agent, finder or other such person with respect to this Amendment. Landlord and Tenant shall indemnify, defend and hold each other harmless from any claims asserted against each other by any broker, agent, finder, or other such person claiming through such party. This Section shall survive the termination of the Lease, as hereby amended.

7. Representations and Warranties. Landlord and Tenant hereby represents, warrants, and agrees that: (a) to its knowledge, there exists no breach, default, or event of default by either party under the Lease, or any event or condition which, with notice or passage of time or both, would constitute a breach, default, or event of default by either party under the Lease; (b) the Lease continues to be a legal, valid, and binding agreement and obligation of Landlord and Tenant; and (c) Landlord and Tenant has no current offset or defense to its performance or obligations under the Lease.

8. Authority. Landlord and Tenant represents and warrants to each other that it is qualified to do business in the State of California, that it has full right and authority to enter into this Amendment, and that all persons signing on behalf of their party are authorized to do so by appropriate corporate actions.

9. No Other Modification. Landlord and Tenant agree that except as otherwise specifically modified in this Amendment, the Lease has not been modified, supplemented, amended, or otherwise changed in any way and the Lease remains in full force and effect between the parties hereto as modified by this Amendment. To the extent of any inconsistency between the terms and conditions of the Lease and the terms and conditions of this Amendment, the terms and conditions of this Amendment shall apply and govern the parties.

10. Severability. The invalidity of any provision of this Amendment, as determined by a court of competent jurisdiction, shall in no way affect the validity of any other provision hereof or of the Lease.

11. Disclosure. Pursuant to California Civil Code Section 1938, Landlord hereby notifies Tenant that as of the date of this Amendment, to Landlord's knowledge, the Premises, Building and Project have not undergone inspection by a "Certified Access Specialist" to determine whether the Premises, Building or Project meet all applicable construction-related accessibility standards under California Civil Code Section 55.53. As required by Section 1938(e) of the California Civil Code, Landlord hereby states as follows: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." To the extent of any inconsistency between the terms and conditions of this Section 11 and the terms and conditions in other parts of the Lease, the terms and conditions in the other parts of the Lease shall apply.

12. Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same agreement. This Amendment may be executed by a party's signature transmitted by electronic signatures or in pdf format ("**pdf**"), and copies of this Amendment executed and delivered by means of electronic signatures or pdf signatures shall have the same force and effect as copies hereof executed and delivered with original signatures.

IN WITNESS WHEREOF, Landlord and Tenant have caused this Amendment to be executed the date first above written.

LANDLORD:

KG-Bryant, LLC,
a California limited liability company

By: _____
Name: Kenneth Foy
Its: _____

TENANT:

City of Palo Alto,
a charter city and municipal corporation of the State of California

By: _____
Name: _____
Its: _____

Approved as to form:

By: _____
Name: _____
Its: _____

City of Palo Alto

City Council Staff Report

(ID # 14781)

Meeting Date: 9/27/2022 **Report Type: Consent Calendar**

Title: SECOND READING: Adoption of a Park Improvement Ordinance for Renovation of the Mitchell Park Dog Park as Recommended by the Parks and Recreation Commission (FIRST READING: September 12, 2022 PASSED: 7-0)

From: City Manager

Lead Department: City Clerk

This was heard by the City Council on September 12, 2022 for a first reading and was approved 7-0. No changes were made to the Ordinance; it is now before you for a second reading.

Attachments:

- **Attachment8.a:** Attachment A - Ordinance Approving and Adopting a Plan for Facility Improvements at Mitchell Park

NOT YET APPROVED

ORDINANCE NO. ____

Ordinance of the Council of the City of Palo Alto Approving and Adopting a Plan for Facility Improvements at Mitchell Park

The Council of the City of Palo Alto does ORDAIN as follows:

SECTION 1. Findings and Improvements. The City Council finds and declares that:

(a) Article VIII of the Charter of the City of Palo Alto and section 22.08.005 of the Palo Alto Municipal Code require that, before any substantial building, construction, reconstruction or development is commenced or approved, upon or with respect to any land held by the City for park purposes, the Council shall first cause to be prepared and by ordinance approve and adopt a plan therefor.

(b) Mitchell Park (the "Park") is dedicated to park purposes. (*See* Municipal Code section 22.08.180)

(c) The City intends to authorize the renovation and expansion of the dog park area.

(d) The plan of improvements shall comprise as follows:

(1) Expand the size of the existing dog park area with new 5' tall chain link fence
(2) Install a new small dog park area with 5' tall chain link fence
(3) Replace existing irrigation system
(4) Replace existing mowed turf with 'no mow' grass to reduce maintenance
(5) Add new site amenities including: bench seating and waste receptacles
(6) Establish 10' set-back along Adobe Creek
(7) Install new area drains
(8) Plant new native trees

(e) Exhibit A depicts the expected implementation of the plan of improvements.

(f) The plan of improvements described above is consistent with park, playground, recreation, and conservation purposes.

(g) The City Council desires to approve the plan of improvements described above.

SECTION 2. The City Council hereby approves the plan of improvements in the Park described in this Ordinance.

SECTION 3. The City Council finds that this ordinance falls under the California Environmental Quality Act (CEQA) exemptions found in Title 14 California Code of Regulations

Section 15301 (Existing Facilities) and Section 15303 (New Construction of Small Facilities or Structures).

SECTION 4. This ordinance shall be effective on the thirty-first day after the date of its adoption.

INTRODUCED:

PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

City Clerk	Mayor
APPROVED AS TO FORM:	APPROVED:
Assistant City Attorney	City Manager
	Director of Community Service

Mitchell Park Dog Park Expansion Exhibit - Park Improvement Ordinance

EXHIBIT A

Existing Dog Park Size:
24,263 sq.ft. or .56 acre

New Dog Park Size:
31,121 sq.ft. or .71 acre

New Small Dog Park Size:
4,335 sq.ft. or .10 acre

Overall New Dog
35,456 sq.ft. or .81 acre



City of Palo Alto

City Council Staff Report

(ID # 14782)

Meeting Date: 9/27/2022 **Report Type: Consent Calendar**

Title: SECOND READING: Adoption of an Ordinance Approving the Police Department's Military Equipment Use Policy Under AB 481 (FIRST READING: September 12, 2022 PASSED 7-0)

From: City Manager

Lead Department: City Clerk

This was heard by the City Council on September 12, 2022 for a first reading and was approved 7-0. No changes were made to the Ordinance; it is now before you for a second reading.

Attachments:

- **Attachment9.a:** Attachment A: Ordinance Approving City's Military Equipment Use Policy

NOT YET APPROVED

Ordinance No. _____

Ordinance of the Council of the City of Palo Alto Implementing AB 481 (2021) by Approving a Military Equipment Use Policy

The Council of the City of Palo Alto ORDAINS as follows:

SECTION 1. Findings and declarations. The City Council finds and declares as follows:

1. In 2021, the California Legislature and the Governor approved AB 481, which requires the City Council to approve a "Military Equipment Use Policy" in order to acquire, use, or seek funds for the use of certain equipment used by law enforcement. AB 481 is codified at Gov. Code section 7070 *et seq*.

2. The Palo Alto Police Department posted the proposed policy on its website on April 28, 2022 in compliance with Gov. Code section 7071.

3. The policy is attached to this ordinance as **Exhibit A** and is fully incorporated into this Ordinance.

4. The City Council now seeks to approve the attached Military Equipment Use Policy in compliance with AB 481.

SECTION 2. The City Council makes the following required findings in compliance with AB 481 (now codified at Gov. Code section 7071(d)(1)) as to the attached Military Equipment Use Policy:

(A) The military equipment is necessary because there is no reasonable alternative that can achieve the same objective of officer and civilian safety.

(B) The proposed military equipment use policy will safeguard the public's welfare, safety, civil rights, and civil liberties.

(C) The equipment is reasonably cost effective compared to available alternatives that can achieve the same objective of officer and civilian safety.

(D) Prior military equipment use complied with the military equipment use policy that was in effect at the time, or if prior uses did not comply with the accompanying military equipment use policy, corrective action has been taken to remedy nonconforming uses and ensure future compliance.

SECTION 3. The City Council hereby approves the attached Military Equipment Use Policy incorporated as Exhibit A to this ordinance.

SECTION 4. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each and every section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the Ordinance would be subsequently declared invalid or unconstitutional.

SECTION 5. The Council finds that adoption of this Ordinance is not a "project" within the meaning of CEQA.

SECTION 6. This Ordinance shall be effective on the thirty-first date after the date of its adoption.

SECTION 7. This Ordinance shall be uncodified.

INTRODUCED:

PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

NOT PARTICIPATING:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

_____
Assistant City Attorney

APPROVED:

_____
City Manager

_____
Chief of Police

Palo Alto Police Department Military Equipment Use Policy

PURPOSE

This policy is provided to fulfill the obligations set forth in Assembly Bill No. 481 and establishes guidelines for the acquisition, funding, use and reporting of "military equipment", as the term is defined in Government Code section 7070. These obligations include but are not limited to seeking approval on specific items deemed, by statute, to be military equipment and requirements related to compliance, annual reporting, cataloging, and complaints regarding these items.

PROCEDURE

A. DEFINITIONS

1. Governing Body – The City Council of the City of Palo Alto.

2. Military Equipment – Shall have the same meaning as defined by California Government Code § 7070(c).

B. GOVERNING BODY APPROVAL

1. The Department shall obtain approval of the governing body prior to engaging in any of the following activities:

a. Requesting military equipment made available pursuant to Section 2576a of Title 10 of the United States Code.

b. Seeking funds for military equipment including, but not limited to, applying for a grant, soliciting or accepting private, local, state, or federal funds, in-kind donations, or other donations or transfers.

c. Acquiring military equipment either permanently or temporarily, including by borrowing or leasing.

d. Collaborating with another law enforcement agency in the deployment or other use of military equipment within the territorial jurisdiction of the governing body.

e. Using any new or existing military equipment for a purpose, in a manner, or by a person not previously approved by the governing body pursuant to general order

f. Soliciting or responding to a proposal for, or entering into an agreement with, any other person or entity to seek funds for, apply to receive, acquire, use, or collaborate in the use of, military equipment.

g. Acquiring military equipment through any means not provided in a. through f.

2. In seeking the approval of the governing body, the Department shall comply with Gov. Code § 7071, which requires that the Department submit a proposed military equipment use policy, or subsequent amendments, to the City Council and the public via the law enforcement

agency's internet website at least 30 days prior to any public hearing concerning the military equipment at issue.

3. The governing body must be able to make the following findings in approving the Military Equipment Use Policy as required by Gov. Code § 7071(d)(1) in order to use military equipment:

a. The military equipment is necessary because there is no reasonable alternative that can achieve the same objective of officer and civilian safety.
b. The proposed military equipment use policy will safeguard the public's welfare, safety, civil rights, and civil liberties.
c. If purchasing the equipment, the equipment is reasonably cost effective compared to available alternatives that can achieve the same objective of officer and civilian safety.
d. Prior military equipment use complied with the military equipment use policy that was in effect at the time, or if prior uses did not comply with the accompanying military equipment use policy, corrective action has been taken to remedy nonconforming uses and ensure future compliance.

C. MILITARY EQUIPMENT ANNUAL REPORT

The Department shall submit an annual military equipment report to the governing body that addresses each type of military equipment possessed by the Department in compliance with Gov. Code § 7072.

1. The Department shall also make each annual military equipment report publicly available on its internet website for as long as the military equipment is available for use.

2. The annual military equipment report shall, at a minimum, include the following information for the immediately preceding calendar year for each type of military equipment:

a. A summary of how the military equipment was used and the purpose of its use.

b. A summary of any complaints or concerns received concerning the military equipment.

c. The results of any internal audits, any information about violations of the military equipment use policy, and any actions taken in response.

d. The total annual cost for each type of military equipment, including acquisition, personnel, training, transportation, maintenance, storage, upgrade, and other ongoing costs, and from what source funds will be provided for the military equipment in the calendar year following submission of the annual military equipment report.

e. The quantity possessed for each type of military equipment.

f. If the Department intends to acquire additional military equipment in the next year, the quantity sought for each type of military equipment.

The Department will document each use of military equipment and, via administrative review, ensure compliance with this policy. Any instances of non-compliance will be reported to the City Council via the annual military equipment report, and to the Independent Police Auditor where appropriate.

D. MILITARY EQUIPMENT USE POLICY COMPLAINTS AND CONCERNS

Pursuant to Gov. Code § 7070(d)(7), members of the public may register complaints or concerns or submit questions by any of the following means:

1. Via web form available at www.cityofpaloalto.org/PAPDequipment
2. Via phone call to: (650) 329-2406
3. Via mail sent to: Palo Alto Police Department
   Attn: Personnel and Training
   275 Forest Avenue
   Palo Alto, CA 94301

The Department is committed to responding to complaints, concerns and/or questions received through any of the above methods in a timely manner.

E. MILITARY EQUIPMENT TRAINING

Military equipment shall only be used after applicable training, including any course required by the Commission on Peace Officer Standards and Training (P.O.S.T.), has been completed, unless exigent circumstances arise.

F. MILITARY USE EQUIPMENT POLICY CONTENTS

All military use equipment kept and maintained by the Department shall be cataloged in a way which addresses each of the following requirements in compliance with Gov. Code § 7070(d):

1. A description of each type of military equipment, the quantity sought, its capabilities, expected lifespan, and product descriptions from the manufacturer of the military equipment.
2. The purposes and authorized uses for which the law enforcement agency or the state agency proposes to use each type of military equipment.
3. The fiscal impact of each type of military equipment, including the initial costs of obtaining the equipment and estimated annual costs of maintaining the equipment.
4. The legal and procedural rules that govern each authorized use.
5. The training, including any course required by the Commission on Peace Officer Standards and Training, that must be completed before any officer, agent, or employee of the law enforcement agency or the state agency is allowed to use each specific type of military

equipment to ensure the full protection of the public's welfare, safety, civil rights, and civil liberties and full adherence to the military equipment use policy.

6. The mechanisms to ensure compliance with the military equipment use policy, including which independent persons or entities have oversight authority, and, if applicable, what legally enforceable sanctions are put in place for violations of the policy.

G. USE POLICY FOR SPECIFIC EQUIPMENT

Qualifying Equipment Owned/Utilized by the Department

Equipment Type: 37mm Less Lethal Launchers and Kinetic Energy Munitions - CA Gov't Code §7070(c)(14)	
Quantity Owned/Sought: 30 owned	**Lifespan:** Approximately 15 years
Equipment Capabilities: The 37MM Less Lethal Launcher is capable of firing 37MM Kinetic Energy and Chemical Agent Munitions. Palo Alto PD only possesses "KO1" impact baton rounds in its inventory.	
Manufacturer Product Description: Sage Control Ordinance 37MM launchers are rugged, reliable, and simple to operate less lethal launchers. These launchers are light weight, versatile and used worldwide by police officers. The 37MM launcher family of products is available in single-shot ("Ace"), double-shot ("Deuce"), or magazine fed configurations. Palo Alto PD possesses the "Ace" and "Deuce" models.	
Purpose/Authorized Uses: The 37MM Less Lethal Launchers and Kinetic Energy Munitions are intended for use as a less lethal use of force option. Kinetic energy projectiles, when used properly, are less likely to result in death or serious physical injury and can be used in an attempt to de-escalate a potentially deadly situation. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved munitions. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.	
Fiscal Impacts: The initial cost of this equipment was approximately $27,000. The ongoing costs for munitions will vary and maintenance is conducted by departmental staff.	
Legal/Procedural Rules Governing Use: Use governed by applicable State, Federal and Local law, and PAPD policy, including but not limited to PAPD policy §§ 300 (Use of Force) and 308 (Control Devices and Techniques). Use will continue to be subject to an administrative Use of Force review.	

Training Required: Officers must complete a department certified 37mm course as well as regular training and qualifications as required by law and policy.
Other Notes: None.

Equipment Type: Long Range Acoustic Device (LRAD) - CA Gov't Code §7070(c)(13)	
Quantity Owned/Sought: 1	**Lifespan:** Unknown.
Equipment Capabilities: LRAD systems are a type of Acoustic Hailing Device (AHD) used to send messages over long distances. LRAD systems produce much higher sound levels (volume) than normal loudspeakers or megaphones, and can be more narrowly directed.	
Manufacturer Product Description: LRAD systems are a type of Acoustic Hailing Device (AHD) used to send messages over long distances. LRAD systems produce much higher sound levels (volume) than normal loudspeakers or megaphones. Over shorter distances, LRAD signals are loud enough to cause pain in the ears of people in their path.	
Purpose/Authorized Uses: Primarily used to communicate, from a safe distance, with armed and/or barricaded subjects, for the purpose of negotiation. Can also be used in furtherance of search and rescue operations, and to communicate lawful dispersal orders.	
Fiscal Impacts:	
Legal/Procedural Rules Governing Use: Use governed by applicable State, Federal and Local law, and PAPD policy, including but not limited to PAPD policy § 414 (Hostage and Barricade Incidents). Use will be subject to an administrative review.	
Training Required: The Palo Alto Police Department provides internal training for staff members prior to allowing them to use this equipment.	
Other Notes: This equipment is maintained and operated by members of the Department's Crisis Negotiation Team (CNT).	

Equipment Type: Diversionary Devices and Chemical Agents (tear gas) and pepper balls - CA Gov't Code §7070(c)(12)	
Quantity Owned/Sought: 108	**Lifespan:** 5 years
Equipment Capabilities: Capable of creating auditory/visual distractions, and/or deploying tear gas or pepper chemical to distract potentially dangerous individuals.	
Manufacturer Product Description: The Palo Alto Police Department uses Diversionary Devices and Chemical Agents produced by Defense Technology (DT) and Combined Tactical Systems (CTS). All Chemical Agents utilized by PAPD contain CS (Orthochlorobenzalmalononitrile) or OC (Oleoresin Capsicum). Diversionary Devices: 1. Flash-Bang (CTS-7290) a. The CTS 7290 is the standard for diversionary flash-bang devices. The 7290 produces a 165-180db and 6-8 million candela of light output.	

2. Mini-Bang (CTS-7290M)
    a. The Model 7290M Flash-Bang exhibits all of the same attributes of its larger counterpart but in a smaller and lighter package. Weighing in at just 15 ounces the new 7290M is approximately 30% lighter than the 7290 but still has the same 180db output of the 7290 and produces 6-8 million candela of light.

Chemical Agents:

1. CS 37mm Liquid Ferret Barricade Round (CTS-3330)
    a. 3330 – Liquid CS filled projectile penetrates intermediate barriers and delivers irritant agents into an adjacent room.
2. CS 37mm Liquid Ferret Barricade Round (DT-1162)
    a. The Ferret® 37 mm CS Round is a frangible projectile filled with chemical agent. Upon impacting the barrier, the nose cone ruptures and instantaneously delivers the .16 oz. agent payload inside a structure.
3. CS Flameless Tri-Chamber (DT-1032)
    a. The design of the Tri-Chamber Flameless CS Grenade allows the contents to burn within an internal can and disperse the agent safely with reduced risk of fire. The grenade is designed primarily for indoor tactical situations to detect and/or dislodge a barricaded subject. This grenade will deliver approximately .70 oz. of agent during its 20-25 seconds burn time. The Tri-Chamber Flameless Grenade can be used in crowd control as well as tactical deployment situations by Law Enforcement and Corrections, but was designed with the barricade situation in mind.
4. CS Triple Chaser Separating Canister (DT-1026)
    a. The Triple-Chaser® CS consists of three separate canisters pressed together with separating charges between each. When deployed, the canisters separate allowing increased area coverage in a short period of time. This grenade can be hand thrown or launched from a fired delivery system.
5. CS Riot Control (DT-1082)
    a. The Riot Control CS Grenade is designed specifically for outdoor use in crowd control situations with a high volume continuous burn. . This grenade can be used to conceal tactical movement or to route a crowd. The volume of smoke and agent is vast and obtrusive. .

Smoke:

1. Maximum HC (Hexachlorethane) Smoke (DT-1073)
    a. The Maximum Smoke Grenade is designed specifically for outdoor use in crowd control situations with a high volume continuous burn. This grenade can be used to conceal tactical movement or to route a crowd. The volume of non-irritant smoke and agent is vast and obtrusive.

Pepperball:

Less lethal launchers are designed for minimum time between launches and quick reload speed, so whether in a crowd control scenario, tactical or even Mobile Field Force situation, the PepperBall system offers flexibility, safety and security, all within one platform. Each launcher is air powered, with either carbon dioxide (CO2), nitrogen, or compressed air powering the launch of projectiles.
Purpose/Authorized Uses: creating explosive distractions, and/or deploying chemical agents.
Fiscal Impacts: The initial cost of the Pepperball equipment was approximately $7,920. The ongoing costs for munitions will vary and maintenance is conducted by departmental staff. The initial cost of the distraction devices and chemical agents was approximately $2,400. The ongoing costs for munitions will vary and (minimal, if any) maintenance is conducted by departmental staff.
Legal/Procedural Rules Governing Use Use governed by applicable State, Federal and Local law, and PAPD policy, including but not limited to PAPD policy §§ 300 (Use of Force), 308 (Control Devices and Techniques), and 408 (Crisis Response Unit).Use of tear gas or pepper balls will continue to be subject to an administrative Use of Force review. Use of distraction devices will be subject to an administrative review to ensure policy compliance.
Training Required: A P.O.S.T. certified Control Devices and Techniques Department chemical agent and distraction device instructor provides internal training for all members of the SWAT team prior to allowing them to use flashbang grenades or tear gas. The Department provides internal training for all members prior to allowing them to use pepper balls.
Other Notes: Distraction devices and chemical agents are exclusively maintained and operated by members of the Department's Special Weapons and Tactics Team (SWAT).

Equipment Type: Bolt Action Rifle and Ammunition - CA Gov't Code §7070(c)(10)	
Quantity Owned/Sought: 1 owned	**Lifespan:** Approximately 15 years
Equipment Capabilities: Accuracy International rifle is capable of firing a 7.62mm/.308 cal projectile bullet.	
Manufacturer Product Description: Accuracy International (AI) Accuracy Tactical bolt action rifle .308 Winchester/7.62mm NATO. 1. 20" barrel threaded 5/8x24 2. Nightforce:C622 Scope .250 MOA 3. AI Adjustable cheek piece 4. AI Two-stage trigger 5. AI 10-round .380 caliber magazine 6. AI Three-position safety	
Purpose/Authorized Uses: This rifle is authorized for use by a specially-trained, SWAT marksman only and may be deployed in any circumstance where the officer can articulate a reasonable expectation that the rifle may be needed. Examples of some general guidelines for deploying the rifle may include but are not limited to: 1. Situations where the officer reasonably anticipates an armed encounter.	

2. When the officer is faced with a situation that may require accurate and effective fire at long range. 3. Situations where an officer reasonably expects the need to meet or exceed a suspect's firepower. 4. When an officer reasonably believes that there may be a need to fire on a barricaded person or a person with a hostage. 5. When an officer reasonably believes that a suspect may be wearing body armor. 6. When authorized or requested by a supervisor.
Fiscal Impacts: This equipment was purchased by the Palo Alto Police Department at an initial cost of $6500.00. The ongoing costs for ammunition will vary and maintenance is conducted by departmental staff.
Legal/Procedural Rules Governing Use: Use governed by applicable State, Federal and Local law, and PAPD policy, including but not limited to PAPD policy §§ 300 (Use of Force), 312 (Firearms), and 408 (Crisis Response Unit).Each use will continue to be subject to an administrative Use of Force review.
Training Required: In addition to CA P.O.S.T. certified patrol rifle and CA P.O.S.T. certified standard SWAT Operator training, SWAT marksmen must successfully complete a CA P.O.S.T. certified course as well as regular SWAT marksmanship training and qualifications as required by law and policy.
Other Notes: The Palo Alto Police Department does not presently have an active-duty SWAT marksman among its staff, so there are no Palo Alto Police personnel presently authorized to use this Military Equipment.

Qualifying Equipment Owned/Utilized by Palo Alto OES

Equipment Type: Command and control vehicle – CA Gov't Code §7070(c)(5)	
Quantity Owned/Sought: 1	**Lifespan:** Approximately 20 years
Equipment Capabilities: The City of Palo Alto Office of Emergency Services (OES) has a Mobile Emergency Operations Center (MEOC) vehicle.	
Manufacturer Product Description: The MEOC is built on a 40' Freightliner chassis, 2010 Model Year.	
Purpose/Authorized Uses: The MEOC serves as a resource for public safety and coordinates with other such vehicles operated by other agencies. It is deployed to "all hazards" ranging from natural disasters, wildfires, crime, special events, and planned and unplanned disruptions to 9-1-1 and Emergency Operations Center systems and facilities.	
Fiscal Impacts: The MEOC was acquired in approximately 2010 with grant funding of $300,000 and City funding of $375,000. The ongoing costs for maintenance and operation will vary and most maintenance is conducted by City staff.	
Legal/Procedural Rules Governing Use: It is the policy of OES to use the MEOC in accordance with California State law regarding the operation of motor vehicles. Furthermore, since the MEOC is grant-funded and since the MEOC is a rare resource, the City may support mutual	

aid with the MEOC (for example wildfire response). Use will be subject to an administrative review to ensure policy compliance.
Training Required: The MEOC is a highly complex system. City staff are provided with requisite training and licensing, depending on their role in supporting the MEOC.
Other Notes: The MEOC is not a "military vehicle" but could support coordination with the National Guard, FEMA, and other cooperating agencies after a major earthquake or other disaster.

Qualifying Equipment known to be owned and/or utilized by law enforcement units with which the Palo Alto Police Department collaborates and/or participates for law enforcement purposes

Equipment Type: Unmanned Aircraft Systems (UAS/Drones) – CA Gov't Code §7070(c)(1)	
Quantity Owned/Sought: None (outside owned)	**Lifespan:** Various
Equipment Capabilities: Remotely piloted aerial vehicles capable of providing live and recorded video images captured from aerial positions, including images enhanced by Forward Looking Infrared (FLIR) and optical zoom lenses.	
Manufacturer Product Description: Various. Dependent upon the availability of mutual aid equipment and personnel at the time of need.	
Purpose/Authorized Uses: UAS/Drones may be utilized to enhance the Department's mission of protecting lives and property when other means and resources are not available or are less effective. Uses may include but are not limited to: search and rescue; suspect apprehension; crime scene documentation; tactical operations; scene security; hazard monitoring, identification and mitigation; response to emergency calls; crisis communications; legally authorized surveillance.	
Fiscal Impacts: None. Equipment owned, maintained, and operated by another agency.	
Legal/Procedural Rules Governing Use: Use governed by applicable State, Federal and Local law, Federal Aviation Administration (FAA) regulations, and PAPD policy, including but not limited to PAPD policy §§ 322 (Search and Seizure) and 352 (Outside Agency Assistance).Federal Aviation Administration (FAA) regulations . Absent a warrant or exigent circumstances, operators and observers shall adhere to FAA altitude regulations and shall not intentionally record or transmit images of any location where a person would have a reasonable expectation of privacy (e.g., residence, yard, enclosure). Operators and observers shall take reasonable precautions to avoid inadvertently recording or transmitting images of areas where there is a reasonable expectation of privacy. Upon mutual aid or other request from PAPD, UAS/Drone will be operated by the deploying agency's staff pursuant to their own policies and review.	
Training Required: Prior to piloting any UAS/Drone staff members must secure an FAA Remote Pilot License and complete all training required by our FAA COA.	
Other Notes: None.	

Equipment Type: Unmanned, remotely piloted, powered ground vehicles - CA Gov't Code §7070(c)(1)	
Quantity Owned/Sought: None (outside owned)	**Lifespan:** Various
Equipment Capabilities: Robots are capable of being remotely navigated to provide scene information and intelligence in the form of video and still images transmitted to first responders.	
Manufacturer Product Description: Various. Dependent upon the availability of mutual aid equipment and personnel at the time of need.	
Purpose/Authorized Uses: To enhance the safety of potentially dangerous situations by providing first responders with the ability to capture video and still images of hazardous areas prior to, or in lieu of, sending in personnel.	
Fiscal Impacts: None. Equipment owned, maintained, and operated by another agency.	
Legal/Procedural Rules Governing Use: Absent a warrant or exigent circumstances, operators and observers shall adhere to all applicable privacy laws and shall not intentionally record or transmit images of any location where a person would have a reasonable expectation of privacy (e.g., residence, yard, enclosure). Use governed by applicable State, Federal and Local law, Federal Aviation Administration (FAA) regulations, and PAPD policy, including but not limited to PAPD policy §§ 322 (Search and Seizure) and 352 (Outside Agency Assistance). Upon mutual aid or other request from PAPD, vehicle will be operated by deploying agency's staff pursuant to their own policies and review.	
Training Required: Subject to the policies of the deploying agency.	
Other Notes: While the Palo Alto Police Department does not own or operate this equipment, it could be deployed to an incident within city limits.	

Equipment Type: Wheeled vehicles that have a breaching apparatus attached - CA Gov't Code §7070(c)(3)	
Quantity Owned/Sought: None (outside owned)	**Lifespan:** Various
Equipment Capabilities: Capable of breaching doors, gates, and other points of entry; facilitating the safe transport of officers or civilians facing an armed suspect.	
Manufacturer Product Description: Various. Dependent upon the availability of mutual aid equipment and personnel at the time of need.	
Purpose/Authorized Uses: Breaching doors, gates, and other points of entry. Safely transporting police personnel or evacuating civilians, when facing with an armed suspect.	
Fiscal Impacts: None. Equipment owned, maintained, and operated by another agency.	
Legal/Procedural Rules Governing Use: Use governed by applicable State, Federal and Local law, and PAPD policy, including but not limited to PAPD policy §§ 322 (Search and Seizure) and 352 (Outside Agency Assistance). Upon mutual aid or other request from PAPD, vehicle will be operated by deploying agency's staff pursuant to their own policies and review.	
Training Required: Subject to the policies of the deploying agency.	
Other Notes: While the Palo Alto Police Department does not own or operate this equipment, it could be deployed to an incident within city limits.	

City of Palo Alto

City Council Staff Report

(ID # 14606)

Meeting Date: 9/27/2022 **Report Type: Action Items**

Title: S/CAP Update and Initial Council Action: Acceptance of Sustainability and Climate Action Plan (S/CAP) Goals and Key Actions; Review of Proposed Reach Code Changes; Adoption of Resolutions Adopting Advanced Heat Pump Water Heater Program Guidelines, Creating and Funding Electrification Reserves and Adopting a Carbon Neutrality Goal; and Approval of Budget Amendments in the Electric Fund, Gas Fund, and General Fund

Council Priority: Climate Change: Protection & Adaption

From: City Manager

Lead Department: Public Works

Recommendation

Staff and the Sustainability/Climate Action Plan (S/CAP) Ad Hoc Committee recommend that Council:

1. Accept the proposed S/CAP Goals and Key Actions (Attachment A) as a summary of the City's workplan under the S/CAP Framework;
2. Direct staff to implement the Advanced Heat Pump Water Heater Program by:
    A. Adopting a resolution (Attachment C) approving the Advanced Heat Pump Water Heater Program Design Guidelines;
    B. Adopting a resolution (Attachment D) creating an Electrification Reserve, establishing reserve guidelines, and transferring $4.5 million from the Electric Special Projects Reserve to the Electrification Reserve;
    C. Adopting a resolution (Attachment E) amending the City's Policy on the Use of Freely Allocated Allowances Under the State's Cap-and-Trade Program and authorizing the City Manager to use $1.25 million from the Gas Utility Cap and Trade Reserve for the Advanced Heat Pump Water Heater program; and
    D. Amending the Fiscal Year 2023 Budget Appropriation (requires a 2/3 vote) by:
        (i) For the Electric Utility Funds:
            a. Increase Electric Resource Management Operating Expenses for Contract Services by $4,763,000
            b. Decrease Electrification Reserve by $4.5 million
            c. Decrease Electric Supply Operations Reserve by $150,000
            d. Decrease Electric Distribution Operations Reserve by $86,000

(ii) For the Gas Utility Funds:
   a. Increase Gas Resource Management Operating Expenses for Contract Services by $1.25 million
   b. Decrease Gas Cap & Trade Reserve by $1.25 million

(b) For the General Fund:
   a. Increase Planning & Development Operating Expenses for Contract Services by $250,000
   b. Increase Planning and Development Services Revenue for Inspection Fees by $250,000

3. Adopt a Resolution Adopting a Carbon Neutrality Goal to Further the Climate Goals of the Sustainability and Climate Action Plan (Attachment F)
4. Direct staff to amend the 2022 Utilities Legislative Guidelines (Attachment G) to include an Electrification Workforce Development guideline

Executive Summary

Consistent with Council's adoption of "Climate Change – Protection and Adaptation" as one of the four priorities for calendar year 2022, staff is updating the Sustainability and Climate Action Plan (S/CAP) to help the City meet its sustainability goals, including its goal of reducing greenhouse gas (GHG) emissions 80 percent below 1990 levels by 2030 (the "80 x 30" goal).

The S/CAP Ad Hoc Working Group Teams have been pursuing a deeper dive into four areas that will advance the City's residential building electrification goals: Engagement, Technology, Finance, and Community Scale. Their work was incorporated into the S/CAP Goals and Key Actions and the new proposed Advanced Heat Pump Water Heater Program.

This report discusses the insights that led the Council Ad Hoc S/CAP Committee to focus the work of the Working Group and Teams on building electrification, specifically heat pump water heaters in single-family homes. It gives an overview of an Advanced Heat Pump Water Heater Pilot that could be launched upon Council confirmation of these priorities, one that would ideally become scalable to all water heaters in Palo Alto without using Electric reserves or Cap and Trade program revenues in the future. The program could be launched in late 2022 or early 2023.

A parallel and related effort is the 2022 Green Building and Energy Reach Code update taking place as part of the local adoption of Building Codes for the 2023 through 2025 code cycle. Several amendments related to building and vehicle electrification by property owners are proposed, as well as other climate-related amendments. These are discussed in the report. Staff is expecting to propose the code updates to Council for adoption in October and implementation in January 2023. The tentative date for City Council consideration of these actions is October 17, 2022.

Combined, the Advanced Heat Pump Water Heater Pilot and code amendments are expected to result in 1.3% to 1.8% of the emissions reductions needed to meet the 80 x 30 goal (1.7% to

2.5% if upstream emissions from fuel use are taken into account).[1] The goal of the pilot, however, is to successfully scale up to convert all individual gas water heaters in Palo Alto to heat pump water heaters. If that effort becomes successful, staff estimates it would result in an additional 4% to 5% emissions reduction (5% to 7% if upstream fuel emissions are taken into account).

Lastly, this report includes recommendations from the S/CAP Committee and staff to set a goal to achieve carbon neutrality by 2035 and a legislative priority on electrification workforce development.

In summary, staff is seeking Council input and consideration of the following key actions:

- Accept Council S/CAP Goals and Key Actions which will initiate CEQA review
- Review Energy Reach Code and Green Building Ordinance proposed changes in preparation for the October 17 City Council consideration and action
- Support the recommendation to launch an Advanced Heat Pump Water Heater Pilot Program and related necessary budget actions

A fuller timeline of steps the City Council and community can expect as part of consideration of the proposed recommendations and next steps, is noted in the staff report. To summarize, for City Council and public awareness, the following strategy is set out over the next three Council meetings to seek City Council input and gain public comment on various items associated with sustainability and climate action goals:

- **September 27**: Discuss and Consider Sustainability/Climate Action Plan (S/CAP) Ad Hoc Committee recommendations (Part 1, Council discussion with public comment)
- **October 3**: Sustainability/Climate Action Plan (S/CAP) Ad Hoc Committee recommendations (Part 2, potential Council action and public comment for those that did not speak on September 27)
- **October 17**: 2022 Green Building and Energy Reach Code Updates (City Council action and public comment)

Staff appreciates the leadership and focus of the S/CAP Ad Hoc Committee and S/CAP Working Group and Teams over the last seventeen months, leading up to the actions presented as part of this report for City Council consideration. This work will not only further Palo Alto's sustainability and climate action goals through its direct impacts on greenhouse gas reductions, but will lead to progress on other critically important sustainability items that will contribute overall to climate action, and have public health and safety, regional, resource conservation, and equity benefits.

Background

[1] Upstream emissions from fuel use include emissions involved in collection, processing, and transportation of fuels, including leakage. These estimates use the 20-year global warming potential of fuels.

In April 2016, City Council adopted the ambitious goal of reducing GHG emissions to 80 percent below 1990 levels by 2030[2] (the "80 x 30" goal) - 20 years ahead of the State of California 80 x 50 target, and an interim step towards California's new statewide goal of achieving carbon neutrality by 2045[3]. In November 2016 the Council adopted the S/CAP Framework[4], which has served as the road map for achieving Palo Alto's sustainability goals. In December 2017, Council accepted the 2018-2020 Sustainability Implementation Plan "Key Actions" as a summary of the City's work program[5].

In early 2020, the City launched an S/CAP update to determine the goals and key actions needed to meet its sustainability goals, including the 80 x 30 goal. While GHG emissions reduction is not the only goal of the S/CAP, it is the major one. As a result of various City-led initiatives, programs, and activities focused on climate change and sustainability, by the end of 2020 Palo Alto reduced GHG emissions an estimated 50.4 percent from the 1990 baseline, despite a population increase of 21.8 percent during that same time period.

On April 19, 2021, Council directed the Mayor to form an S/CAP Ad Hoc Committee, which held several public meetings with City staff[6]. On November 17, 2021 the S/CAP Ad Hoc Committee held the first meeting of its S/CAP Working Group, which assembled knowledgeable members of the community to consult with Council members and City staff on S/CAP implementation priorities. The Committee has provided multiple updates to Council since then, described below.

Concurrent with the S/CAP update, staff has been working to update Palo Alto's green building regulations with a target effective date of January 1, 2023. The State of California's building standards, as codified in Title 24 of the California Code of Regulations, are referred to as the California Building Standards Code. These building standards cover green building standards, building energy standards, as well as other construction standards including plumbing, electrical, and mechanical codes. Local jurisdictions can enact more stringent green building standards based on the local climatic, geologic, and topographic conditions. Cities can also adopt building energy standards that are more stringent than California's Building Energy Standards; such local energy reach code must demonstrate cost effectiveness and not preempt federal appliance efficiency standards. Since 2008, Palo Alto has adopted green building regulations and building energy standards that exceed the state's requirements; these are collectively referenced as "Reach Codes" in this staff report.

[2] https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=3534&TargetID=268

[3] In September 2018, Governor Brown signed California Executive Order B-55-18, setting the goal of achieving carbon neutrality as soon as possible, and no later than 2045. The state is to maintain net negative net emissions after 2045, meaning that GHG sinks must exceed GHG sources. The Executive Order explains that the carbon neutrality goal is layered on top of the state's existing commitments to reduce greenhouse gas emissions 40% below 1990 levels by 2030 (as codified in SB 32), and 80% below 1990 levels by 2050.

[4] https://www.cityofpaloalto.org/civicax/filebank/documents/60858

[5] https://www.cityofpaloalto.org/civicax/filebank/documents/63141

[6] https://www.cityofpaloalto.org/Departments/City-Clerk/City-Council-Committees/Sustainability-and-Climate-Action-Plan-Ad-Hoc-Committee

Discussion

A Climate Action Plan, or CAP, is a comprehensive roadmap that lays out the specific activities that an agency will undertake to reduce greenhouse gas (GHG) emissions. Palo Alto has a Sustainability and Climate Action Plan (S/CAP) because Palo Alto's plan includes sustainability areas that don't necessarily have a direct impact on greenhouse gas reductions, but have critically important sustainability, public health and safety, regional, resource conservation, and equity benefits that contribute to overall climate action.

The Intergovernmental Panel on Climate Change (IPCC), a body of the United Nations, determined that "we risk severe, pervasive and irreversible impacts" from climate change, and need "substantial" emissions reductions (of 40-70% or more) by 2030. The overwhelming majority of independent climate scientists have determined that going above a 2° C (3.5° F) rise would trigger a series of catastrophic changes to life on Earth that could not be undone. Warming above 1.5° C (2.7 ° F) risks further sea level rise, extreme weather, biodiversity loss and species extinction, as well as food scarcity and, worsening health and poverty for millions of people worldwide. 80 x 30 is the science-based target that represents the global emissions reduction required to halve emissions by 2030 and reach global net zero emissions by 2050, in order to limit global warming to 1.5 °C above pre-industrial levels.

Table of Contents:

1. Update on Council S/CAP Ad Hoc Committee Activity and Implementation Priorities
2. S/CAP Goals and Key Actions (Attachment A)
3. Proposed Energy Reach Code and Green Building Ordinance Changes
4. Advanced Heat Pump Water Heater Program (Attachment B)
5. Council Authorizations and Direction Needed (including Attachments C, D, and E)

1. Update on Council S/CAP Ad Hoc Committee Activity

Staff presented a Progress Report on the Sustainability and Climate Action Plan Update and S/CAP Ad Hoc Committee Work[7] to Council on December 13, 2021. Since then, the S/CAP Ad Hoc Committee convened four additional meetings. The recordings and materials for all of the S/CAP Ad Hoc Committee Meetings can be found at the S/CAP Ad Hoc Committee webpage[8]. Council and the Utilities Advisory Commission (UAC) held a joint study session[9] to discuss sustainability and utility related items on March 7, 2022. Staff presented the Earth Day Report[10] to Council on April 11, 2022. The Earth Day Report described the work of the S/CAP Ad Hoc Working Group teams, which has prioritized residential building electrification. The S/CAP Ad

[7] https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/2021/id.-13765-s-cap-update.pdf

[8] https://www.cityofpaloalto.org/Departments/City-Clerk/City-Council-Committees/Sustainability-and-Climate-Action-Plan-Ad-Hoc-Committee

[9] https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/agendas-minutes/city-council-agendas-minutes/2022/20220307/20220307pccsmamendedfinal-linked.pdf

[10] https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/2022/id.-14174-earth-day-report-2022-edr22.pdf

Hoc Working Group Teams held a public meeting on June 14, 2022 to discuss their progress on three areas that would advance residential building electrification goals:

- *Engagement*. The work of this team included fine-tuning messaging on residential building electrification and developing a strategy and timeline for engagement.
- *Technology*. The work of this team included reviewing current and emerging technologies and their feasibility for meeting the demands of a typical home and developing a strategy. The team also considered the influence of electrification technologies that are implemented on the electrical grid improvements that are needed.
- *Finance*. The work of this team included prioritizing the most feasible funding strategies and developing a strategy for financing S/CAP Implementation.

The working group teams also discussed an outline of a proposed Advanced Heat Pump Water Heater Pilot Program at the June 14 meeting. They agreed to have staff develop the outline into a more defined proposal. The results of that staff work and subsequent S/CAP Committee review and input is summarized in Section 3, below.

The decision to focus on heat pump water heaters was informed by several insights developed through discussions between staff and the Ad Hoc Working Group Teams:

- More technologies are available to electrify single-family homes than multi-family and commercial buildings, and at a lower price per metric ton of emissions reduced.
- Water heating is one of the two major sources of emissions in a household (space heating is the other).
- The technology for heat pump water heaters is widely available and improving.
- Replacing gas tank water heating with heat pump water heating requires fewer building modifications than replacing gas furnaces with heat pumps, except when a building has air conditioning, which most homes in Palo Alto still do not have.
- Heat pump water heaters have lower electric grid impacts than other building electrification technologies, such as space heating, which makes them an excellent technology to promote aggressively while other grid modernization efforts are ongoing. See Attachment B, Section 11 (Electric Grid Impacts) for more discussion.
- Current programs and mandates to encourage electrification are not adequate to reach the City's emissions goals. The Reach Code reaches only about 100 homes per year, and the heat pump water heater rebate program reaches fewer than that. Well over 1,000 water heaters need to be replaced each year to electrify all single-family water heating by 2030.
- It is the electrification technology with the most climate benefit compared to the cost.
- Public awareness of the need for climate action and what individual homeowners can do is low. To spur action, extensive engagement will be needed.
- Barriers to action need to be reduced. Up-front costs of conversion are high, contractors are challenging to find, and the technology is unfamiliar. Features like turnkey installation by a City contractor, simple pricing, on-bill financing, permit streamlining, and a great customer experience can go a long way toward program adoption.

- A well-run pilot could increase awareness of heat pump water heaters in the community, increase the market demand and so expand the number of contractors able to install them, and reduce the challenges to residents associated with the cost and complexity of installation. This could create conditions for a successful end of life replacement mandate in the future. Without addressing these issues, a mandate could potentially be unsuccessful given that only a minority of residents obtain permits for water heater replacements and many water heater replacements are done in an emergency.
- A well-run pilot can also create a foundation for similar programs for heat pump space heating and other electric equipment and appliances in the future.

All the insights above pointed to heat pump water heating as the most likely area the City could make rapid progress on in the near term.

While heat pump water heaters surfaced as a primary near-term focus, other critical focus areas included grid modernization (increasing grid capacity to accommodate electric vehicles and the expanded use of electricity in buildings to replace gas). Discussions also revealed the importance of outreach and engagement to the community about how to electrify efficiently, reducing costs to building owners and impacts to the electric system. This includes consideration of technologies like low-power electric vehicle chargers. Staff is proceeding with these priorities as part of its routine responsibilities to manage the electric system to accommodate future development and technologies.

The Committee was clear that the focus on heat pump water heaters does not preclude other electrification efforts from moving forward, such as multi-family and non-residential building electrification and promotion of electric vehicles and vehicle charging, so long as these efforts do not interfere with delivery of the primary areas of focus.

After this pilot is complete, the City would ideally expand it to a large scale citywide program potentially with an accompanying end of life mandate (if feasible). This will require innovation and market demand to get costs down, but the Inflation Reduction Act will likely help. Additional City Council actions will be necessary to expand the program, and staff intends to seek those actions through the annual budget process.

It is worth noting that a focus on standalone heat pump water heaters instead of central water heating that serves multiple dwelling units would mean that any pilot would primarily focus on single-family residences. Water heating in multi-family buildings is frequently centralized, with equipment that is larger and more difficult to replace with heat pumps while still maintaining adequate hot water capacity to serve all units. Space constraints contribute to this challenge. However, a pilot could still serve multi-family dwelling units that have individual water heaters that can feasibly be replaced without major building modifications.

2. S/CAP Goals and Key Actions

In addition to studying heat pump water heaters, the S/CAP Ad Hoc Committee reviewed the proposed S/CAP Goals and Key Actions. Staff drafted proposed S/CAP Goals and Key Actions in early 2020. The first two versions of the S/CAP Goals and Key Actions incorporated extensive community feedback and focused on seven areas: Energy, Mobility, Electric Vehicles, Water, Climate Adaptation and Sea Level Rise, Natural Environment, and Zero Waste. The City's consultant, AECOM, performed an impact analysis that estimated the potential GHG reduction potential of the proposed actions, estimated costs, and additional sustainability co-benefits. The third version of the S/CAP Goals and Key Actions added a new Climate action area and further refined the goals and key actions to better reflect the outcomes needed to achieve the 80 x 30 goal. The first three versions of the S/CAP Goals and Key Actions, as well as the Impact Analysis, can be found on the S/CAP Website.[11] Staff is bringing forth a new version of the S/CAP Goals and Key Actions that incorporates guidance from the S/CAP Ad Hoc Committee, S/CAP Working Groups, and S/CAP Working Group Teams. The fourth version can be found in Attachment A: S/CAP Goals and Key Actions.

The proposed S/CAP Goals and Key Actions are meant to be a high-level road map to achieving the community's 80 x 30 goal. More details and specifics will be provided in the S/CAP Workplan, which will be updated once these S/CAP Goals and Key Actions are accepted by Council.

Some of the key actions have already undergone CEQA review and are underway. Council acceptance of this updated version of the S/CAP Goals and Key Actions will allow staff to commence California Environmental Quality Act (CEQA) evaluation of the full S/CAP. Staff will return to Council as needed for additional consideration of specific S/CAP projects, policies and/or budget items which require additional resources and/or CEQA review. Once CEQA review concludes, and is certified by Council, staff anticipates bringing a complete S/CAP report for Council adoption by Earth Day of 2023.

3. Reach Codes Updates

Every three years, the State of California adopts new building standards that are codified in Title 24 of the California Code of Regulations, referred to as the California Building Standards Code. While the State sets the minimum building standards, local jurisdictions can enact more stringent local building standards based on unique local climatic, geologic, and topographic conditions. Energy reach codes that exceed state standards require a cost effectiveness study and California Energy Commission (CEC) approval.

Staff is currently in the process of developing local green building regulations and energy reach codes designed to adhere to the state's local amendment requirements and cost effectiveness standards, to present to Council in October this year, with a target effective date of January 1, 2023. The proposed all-electric requirement for new buildings will be implemented via the

[11] https://www.cityofpaloalto.org/climateaction

Green Building Code, which does not require cost-effectiveness calculations and simply requires justification based on local climatic conditions for Palo Alto, in this case because climate change could put the homes and businesses in the City at risk due to sea level rise and wildfires. The all-electric requirement can be achieved without strict adherence to the CEC approval process because the regulation deals primarily with fuel selection, rather than energy usage. Still, all-electric buildings are cost effective, as the state's building energy standards already use heat pump space heating and heat pump water heating as baseline technologies for most building types. The goal of Palo Alto's Green Building Ordinance and Energy Reach Code (collectively referred to as "Reach Codes") is to design, build, and operate a new generation of efficient, environmentally responsible, and healthy buildings. These local ordinances establish standards covering the areas of water efficiency, material conservation, resource efficiency, indoor air quality, and electric vehicle (EV) charging infrastructure. The City's Green Building Ordinance applies to new construction projects as well as additions and alterations.

The proposed 2022 Reach Codes (in effect between January 2023 and December 2025) will carry forward the requirements of the 2019 Reach Codes with additional requirements in the areas of building electrification, EV infrastructure, water efficiency, and embodied carbon in building materials. These proposed requirements are summarized at a high level in Table 1 described in detail in subsections A and B below. If adopted and approved by the CEC, they collectively will avoid over 3,420 MT CO_2-e per year, about 1% to 1.5% of the remaining emissions reductions needed to achieve the 80x30 goal (about 1.5% to 2% when upstream emissions from fuel use are included).[12]

Table 1: High-Level Summary of Proposed 2022 Reach Code and Green Building Ordinance Electrification / EV Requirements

Building type	Requirements
Single-family	• All-electric design for new single-family homes and ADUs • Adopt a "substantial remodel" definition to trigger whole home all-electric requirements • Prohibit extension of gas lines in existing homes to outdoor amenities such as fire pits and BBQs. • Require water heater replacement or addition as part of an addition or alteration to be a heat pump water heater • Require one "EV-Ready" space or space with Electric Vehicle Supply Equipment (EVSE) installed in new homes
Multi-family	• All-electric design for new multi-family buildings • Prohibit extension of gas lines in existing homes to outdoor amenities such as fire pits and BBQs. • One "EV-Ready" space or space with EVSE installed per residential unit
Non-residential	• All-electric design for new non-residential buildings • New non-residential (except hotels): EV Capable, EV Ready, or EVSE installed

[12] Using 20-year global warming potentials.

	for at least 30% of parking spaces, among which at least 15% shall have EVSE installed. • New hotels: EV capable, EV Ready, or Level 2 EVSE installed for at least 35% of parking spaces, among which at least 10% shall have EVSE installed.

A. Proposed Building Electrification Requirements

- Require all-electric design for new construction projects; this applies to low-rise residential buildings, detached accessory dwelling units (ADUs), multifamily buildings, and nonresidential buildings. Staff estimates the avoided greenhouse gas (GHG) emissions of this proposed all-electric mandate at 340 MT CO_2-e per year. By 2030, the estimated annual emissions reduction attributed to this proposed requirement is 2,700 MT CO_2-e per year.[13]

- Currently, alteration projects do not need to be rebuilt to meet the all-electric requirements. Going forward, staff proposes the following Substantial Remodel definition that triggers the all-electric building requirements: "For the purpose of electrification, substantial remodel shall mean the alteration of any structure, including cumulative projects or additions to the existing structure within any three (3) year period, that affects the removal or replacement of 50% of the linear length of the exterior weight-bearing walls of the building, 50% of the wall plate height is raised, and/or 50% of the roof structural framing." The 3-year period is measured between the first building permit issuance to the submittal of the next building permit application for any remodel or building addition. Staff estimates the avoided GHG emissions of this proposed substantial remodel definition at 90 MT/yr. By 2030, the estimated annual emissions reduction attributed to the proposed substantial remodel definition is 720 MT CO_2-e per year[14].

- Prohibit the extension of gas infrastructure in existing buildings to outdoor amenities such as pools, spas, fireplaces and grills in order to minimize the carbon footprint of this equipment. The annual GHG savings of a heat pump pool heater is estimated to be around 1.5 MT CO_2-e per year.

- Require heat pump water heater when the existing water heater is replaced, or new water heater is added as part of a residential addition or alteration project.

Staff has also considered requiring a heat pump space conditioning system when the gas furnace/boiler is replaced as part of an alteration project. However, the electric demand of a heat pump space heating system is significantly higher than that of a heat pump water heater. In discussions this spring the Council Ad Hoc S/CAP Committee

[13] This assumes that each year there are 100 new single-family projects, 25 new detached ADU projects, 8 multi-family dwelling units, and 9 new non-residential projects.
[14] This assumes that each year there are 50 single-family projects that meets the substantial remodel definition.

recommended to focus primarily on water heater conversion in the near term while electric grid modernization efforts ramped up, and a focus on space conditioning would be at odds with that prioritization. Also, while a heat pump space conditioning system offers space cooling which is a desirable feature, it will cost substantially more than simply replacing the gas furnace. Staff proposes revisiting the proposal to require a heat pump space conditioning system at a later point when the grid modernization effort is underway.

B. Proposed EV Infrastructure Requirements

- The City's proposed EV infrastructure requirements are summarized below. These requirements exceed State minimums. In the table below the terms "EV-ready" and "EV-capable" refer to definitions from the State code requirements that require certain types of infrastructure to support EV chargers in the future (the definitions are included below the table). "Level 2 EV supply equipment (EVSE)" refers to a 40 Ampere (A) EV charger, whereas a "Low Power Level 2" refers to an EV-Ready space or EV charger with a 20A electric current capacity. Low Power Level 2 EV infrastructure will be allowed in new single-family and multi-family residential buildings but not non-residential buildings.

Table 2: Summary of Proposed EV Infrastructure Requirements

Type of building	Requirements
New single-family home	One (1) EV-Ready or Level 2 EVSE installed per dwelling unit (Low Power Level 2 ok)
New multi-family building	One (1) Level 2 EV Ready with Low Power Level 2 EV Receptacle or Level 2 EVSE installed per residential unit EV Capable, EV Ready or Level 2 EVSE installed, for at least 25% of guest parking spaces, among which at least 5% (and no fewer than one) shall be Level 2 EVSE installed.
New hotels	EV capable, EV Ready, or Level 2 EVSE installed for at least 35% of parking spaces, among which at least 10% (and no fewer than one) shall be Level 2 EVSE installed.
Other new non-residential structures	EV Capable, EV Ready, or Level 2 EVSE installed for at least 30% of parking spaces, among which at least 15% (and no fewer than one) shall be Level 2 EVSE installed.

- Adopt the State's definitions for EV charging requirements in CALGreen, with the addition of a "Low Power Level 2 EV Charging receptacle" definition to allow for

lower power (20A) chargers to be installed in residential buildings. These definitions are provided below (see Figure 1 below for an illustration of these requirements):

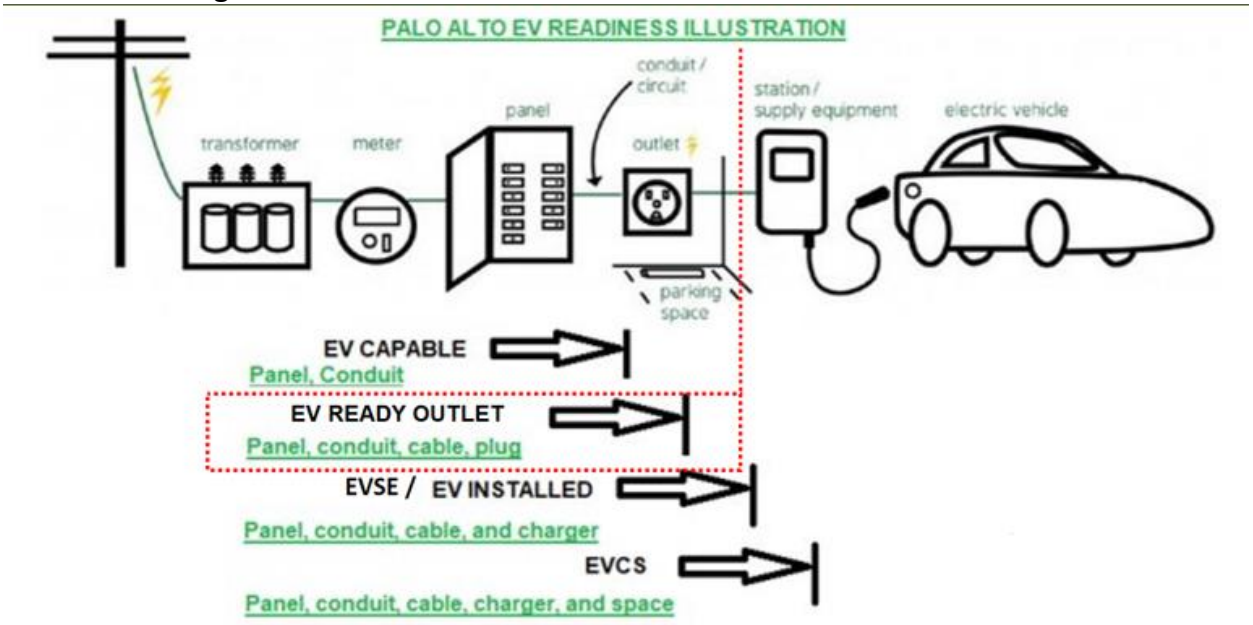
EV Capable Space: a vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways, both underground and/or surface mounted, to support EV charging

EV Ready Space: a vehicle space which is provided with a branch circuit and any necessary raceways, both underground and/or surface mounted, to accommodate EV charging, terminating in a receptacle or a charger

Level 2 EV Supply Equipment (EVSE): The 208/240 Volt 40-ampere branch circuit, and the electric vehicle charging connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises and the EV.

Low Power Level 2 EV Charging Receptacle: A 208/240 Volt 20-ampere minimum branch circuit and a receptacle for use by an EV driver to charge their EV or hybrid electric vehicle.[15]

Figure 1: Illustration of different levels of EV Readiness



The proposed EV infrastructure requirements are slightly higher than those in the current code cycle. In proposing the Low Power Level 2 EV infrastructure requirement in

[15] As defined by section the Residential CALGreen Mandatory requirements per CGBC Sections 4.106.4.1, 4.106.4.2.1 and 4.106.4.2.2.

new residential dwellings, staff acknowledges the need to balance the demand for EV charging with its impact on the electrical infrastructure to meet this demand. This includes both utility and customer equipment including the electric panel, the transformer, and the feeder line serving the building. Because the CALGreen Building Code requires that panels accommodate a 40A 208/240-Volt breaker to accommodate a future 40A EV charger, adoption of a 20A 208/240-Volt EV Charger would not necessarily result in a smaller electric panel or avoid the need for a transformer upgrade for any individual project. But 20A 208/240-Volt EV chargers would reduce peak loading on the system when utilized, and could benefit the electric grid in the long term by reducing the long-term need for transformer upgrades as electrification is more widely adopted. For an 8-hour charging session, a 40-amp Level 2 EV charger can provide 220 to 240 miles, while a 20-amp low power Level 2 EV charger can provide 110 to 120 miles. While this is more than enough to meet the daily commute needs for most people, it may be limiting for some when considering occasional peak charging needs (e.g. recharging after and before long drives).

C. Proposed Water Efficiency Requirements

- Require a vapor retardant cover for all new pools and outdoor spas (heated or not). The current Palo Alto Municipal Code contains an exception for solar-heated pools, staff is proposing to remove it because solar heating does not reduce evaporation.

- Require new cooling towers to perform potable water analysis at the project site to calculate the maximum number of cooling tower cycles, and that the cooling tower meet the maximum calculated number of cycles.

The proposed pool cover requirement reduces evaporation loss as well as energy loss for heated pools. The proposed cooling tower requirement can deliver significant water efficiency savings in a cooling tower project; as an example, increasing from three to four cycles will reduce make-up water use by 11%[16].

D. Proposed Embodied Carbon Limits in Building Materials

- Require that the use of concrete at new construction projects adhere to cement limits (prescriptive compliance path) or embodied carbon limits (performance compliance path) based on the Low Carbon Concrete Code developed by StopWaste.[17] In November 2019, Marin County was the first jurisdiction to pass a low carbon concrete code, although the code requirements have not been enforced in the past few years due to the pandemic. Based on staff research, all ready-mix concrete suppliers should be able to meet the proposed code requirements, and there are at least three large concrete suppliers in the Bay Area that meet these requirements.

[16] Water Efficiency Management Guide for Mechanical Systems, EPA, November 2017
[17] https://www.stopwaste.org/concrete

4. Advanced Heat Pump Water Heater Pilot Program

Staff has developed an Advanced Heat Pump Water Heater (HPWH) Pilot Program that could potentially be launched by mid-November. If directed by Council, staff would return to Council seeking approval of an agreement to engage the services of a consultant to launch the HPWH pilot program largely in line with the terms described in Attachment B, though these terms may change slightly as the final program details are put in place. The program would require various Council actions, summarized in Section 5, below, and the Resource Impact section. The Council actions include proposed design guidelines for the program (included in Attachment C) that are aligned with the program design. The resolutions in Attachments D and E enable funding of the program via an Electrification Reserve and Cap and Trade funds. A budget amendment would also be required, as described in the Resource Impact section.

The goal of the Advanced Heat Pump Water Heater Pilot Program is to replace 1,000 gas water heaters in residences, primarily single-family homes, with heat pump water heaters by the end of 2023. If fully subscribed, the program will reduce emissions by about 800 metric tons (MT) of carbon-dioxide-equivalent (CO_2e) per year. It is the first step in electrifying 100% of water heating in single-family homes in Palo Alto, which, if achieved, would represent about 4% to 5% of the remaining emissions reduction needed to achieve the 80 x 30 goal (5% to 7% if taking into account upstream fuel emissions at a 20-year global warming potential).

The program will make it easy for residents to get a water heater installed with one phone call to the City. The City's contractor will install the water heater for one flat price[18] so participating residents are spared the hassle of contractor selection and permitting. If the $2,700 up-front cost is too much, participants can pay $1,500 up front and $20 per month for five years, a 0% loan. Since most gas water heaters cost over $1,500 to replace, and since participants will save $5 to $20 per month on their utility bills by switching from gas water heating to efficient electric water heating using Palo Alto's low-cost, renewable electricity, the pricing with on-bill financing is competitive with a gas water heater replacement (which is often $1,500 to $2,500). And those who prefer to manage their own projects can do so and still get a rebate of up to $2,300 from the City, an increase from the current $1,500 rebate. The features and terms are described in more detail in Attachment B, Section 2 (Program Features and Terms).

On-bill financing is an innovative and important part of this program. It allows the City to offer the simple pricing described above that is competitive with a gas water heater replacement. It does introduce some operational risks and administrative complexity. For example, offering zero interest loans to customers will trigger the applicability of certain state and federal lending laws, requiring specific disclosures designed to protect consumers. If this program is approved by Council, the City plans to retain outside counsel with expertise in state and federal lending laws to ensure the City's compliance with this complex and frequently changing area of law.

The program necessarily involves some financial risks as well, if customers fail to fully repay their loans. However, staff expects that offering on-bill financing is possible to do without

[18] For most homes. Some installations (such as when a panel upgrade is required) may involve additional costs.

significant financial losses to the City's electric utility, largely because the switch to heat pump water heaters will generate additional electric utility revenue (described below) that can be used to offset the losses. Staff also expects collections activity to be low because this pilot program is targeted at single-family homeowners, and potential losses will be small compared to the size of the electric utility. One other utility, Sonoma Clean Power, is already successfully running a program like this. Staff believes these issues are manageable as discussed further in Attachment B, Section 3. Complete program details and program alternatives are described in Attachment B, Section 3 (On-bill Financing), and Section 4 (Alternatives Considered).

The initial cost of the program is expected to be $7.7 million, with $1.7 million paid for by up-front payments from participants and $1.25 million covered by revenue from the auction of carbon allowances freely allocated to the gas utility as part of the State's Cap and Trade program. $0.2 million will come from the Electric Operating Reserve and Electric Supply Reserve to fund marketing services and salaries for hourly positions to work on potential program-related customer service issues related to the billing system. The remaining $4.5 million would come from the electric utility's Electric Special Projects reserve, which will be transferred to a new Electrification Reserve and used to fund electrification projects, including customer loans, rebates, and the up-front pilot program costs. The Electrification Reserve will be funded from participant monthly payments, new electric net income,[19] and Public Benefits energy efficiency funds.[20] This funding plan is described in more detail in the Resource Impact section below and Attachment B, Sections 5 (Funding Up-Front Costs using an Electrification Reserve), 6 (Repayment of Electrification Reserve), and 7 (Program Cost and Funding Source). A resolution creating and funding an Electrification Reserve is included in Attachment D.

Funds in the Electric Special Projects Reserve are managed according to the Council-adopted ESP Reserve Guidelines,[21] which permit funds to be spent on projects of substantial size (over $1 million) and significant impact that benefit electric ratepayers. The proposed HPWH Program meets these criteria. The ESP Reserve has also been successfully used for internal loans and as collateral to satisfy debt service reserve obligations. When the ESP Reserve is used for internal loans (at lower than market interest rates) that are repaid over time, the reimbursed funds can benefit future electric ratepayers as well.

The cost allocation described above could be modified through a variety of changes to the program terms, as shown in Attachment B, Section 7, Table B.2 (also shown below). Staff is looking for Council feedback on which program terms are preferred. The Council could choose to implement alternative 1 and/or one of the three other alternatives 2a, 2b, or 2c. For example, Council could choose a $1800 up-front charge and a $25 per month, five-year term

[19] New revenues from sale of electricity to the heat pump water heaters net of the cost of the electricity supplied.
[20] Public benefits funds come from a charge that Public Utilities Code 385 requires local publicly owned electric utilities to collect from customers, which can be used to fund cost-effective demand-side management services to promote energy efficiency, low-income programs, research and development, and renewable energy. Due to Palo Alto's low electric rates and the efficiency of heat pump water heaters compared to their gas counterparts, switching to a heat pump water heater reduces electricity supply costs and promote energy efficiency.
[21] See June 20, 2022 Council Staff Report 13661

(2a), which would decrease the amount funded by reserves and Cap and Trade revenues by $570,000. Choosing the lowest cost (to CPAU) options (1 and 2c, equivalent to $1800 up front and a $25 per month payment for seven years) would result in a total cost to participants of $3,900 (as compared to $2700 under the staff proposal) and would eliminate the use of Cap and Trade funds almost entirely. Staff believes these terms would be more difficult to sell to residents than the original staff proposal, but still manageable.

Table B.2: Alternatives for Reducing Reserve and Cap and Trade Revenue Funding

	Funding Reduction
1. Increase customer's up-front payment to $1,800	$300,000
2. Change term and/or monthly charge:	
2a. $25 per month payment (no change to term)	$270,000
2b. Seven-year term (no change to payment)	$430,000
2c. Seven-year $25 per month term	$800,000

Section 7 also discusses the three potential Utilities funding sources considered for the program, Public Benefits Research and Development funding, Electric Cap and Trade funding, and Gas Cap and Trade funding. Public Benefits funding is an ongoing funding source, and up to $400,000 could be deployed from existing budgets without impacting existing energy efficiency, renewable energy, and income-qualified electricity customer programs.

Electric and Gas Cap and Trade funds come from the City's participation in the State Cap and Trade program and must be spent on greenhouse gas emissions reducing activities like building electrification. Staff chose Gas Cap and Trade revenues as the source because more funds are available ($6.1 million available in Gas Cap and Trade reserves as opposed to $1.8 million in reserve for Electric Cap and Trade). Grants were also considered as an option but were not viable given the short timelines for launching the program. Staff was unable to identify any other sources of funds for the program. The resolution in Attachment E would enable the use of Gas Cap and Trade funds for this program.

The program will also require some amendments to the FY 2023 budget for some operational costs associated with the program (marketing costs, contingency temporary staffing budget for Utilities Customer Service, and contract building inspection services for Planning and Development Services). These are discussed in the Resource Impact section below and in Attachment B, Section 8 (Program Operational Resource Needs).

Ideally this pilot program would provide the City enough experience to expand the program to enable replacement of 1,100-1,300 gas water heaters per year going forward, the estimated number of gas water heaters that reach end of life in Palo Alto annually. Using the limited amount of Cap and Trade funds available along with a low interest rate loan from the ESP Reserve means that the program is not scalable to all of Palo Alto without changes to pricing or costs, but some potential pathways to making the program scalable are discussed in Attachment B, Section 9 (Transition to a Scalable Program). The Inflation Reduction Act, which

staff is still reviewing, could significantly reduce the cost of HPWH installation, help reduce costs in the pilot program and help the City transition to a scalable program. The report also discusses other building electrification programs in the region and the country, how this program is innovative in offering turnkey installation services to all residents (they are normally offered only to income-qualified residents) and the use of a flat pricing model combined with on-bill financing (see Attachment B, Section 10, Selected Programs from Other Agencies).

A critical part of the program would be an extensive marketing and engagement effort focused on the need for climate action, various tips on how to reduce emissions, the reasons heat pump water heaters represent a great first action for the City to focus on and for homeowners to take, and the ways residents can get help from the City to install their heat pump water heater. More details on this engagement effort are included in the Stakeholder Engagement section below.

To implement this program, staff requests several Council approvals outlined in the next section.

5. Council Authorizations and Direction Needed

The attached documents and resolutions contain various Council authorizations and direction needed for staff to proceed with CEQA analysis of the S/CAP and the launch of the Advanced Heat Pump Water Heater Pilot:

1. **S/CAP Goals and Key Actions (Attachment A):** These are the Goals and Key Actions staff and the Council Ad Hoc S/CAP Committee recommends Council accept. Acceptance of these will allow staff to proceed with CEQA analysis of the S/CAP.

2. **Resolution Adopting Design Guidelines for an Advanced Heat Pump Water Heater Program (Attachment C):** These guidelines would provide Council direction on the general features of an Advanced Heat Pump Water Heater Program and would enable a pilot design consistent with that described in Section 4 above and Attachment B, Sections 2 through 4.

3. **Resolution Establishing and Transferring Funds to a New Electrification Reserve (Attachment D):** This resolution creates an Electrification Reserve that will be used for $4.5 million of the $7.7 million in projected up-front costs for the pilot. The $4.5 million would be transferred from the electric utility's Electric Special Projects Reserve and repaid over 30 years using a combination of new electric utility revenues from the added heat pump water heater electricity use (net of the cost of the electric supply), Public Benefits funding, and monthly payments of on-bill financing program participants. Of the remaining $3.2 million in up-front costs, $1.7 million would come from up-front payments from participants, and the remaining $1.25 million would be covered by gas utility Cap and Trade revenues, as described in number four, below. $0.2 million will come from the Electric Operating Reserve and Electric Supply Reserve to fund marketing services and salaries for hourly positions to work on potential customer service issues related to the billing system.

4. **Resolution Amending the City's Policy on the Use of Freely Allocated Allowances Under the State's Cap-and-Trade Program and Authorizing the City Manager to use $1.25 million from the Gas Utility Cap and Trade Reserve for the Advanced Heat Pump Water Heater program (Attachment E):** This resolution authorizes the use of $1.25 million in revenues related to the gas utility's participation in the State Cap and Trade Program for the Advanced Heat Pump Water Heater Pilot. These revenues are from prior years and are currently held in the Gas Utility Cap and Trade Reserve. The resolution also amends the Council's policy on the use of these revenues to explicitly allow them to be used for fuel switching. This is likely already permitted by the policy, but this amendment removes any doubt.

5. **Amendment to the FY 2023 Budget:** An Advanced Heat Pump Water Heater pilot would have a variety of operational needs, some of which are not accommodated in the existing budget. These operational needs and associated budget amendments are described in the Resource Impact section below.

6. **Adopt a Resolution Adopting a Carbon Neutrality Goal[22] (Attachment F):** The "80 x 30" goal is an interim step that supports California's statewide goal of achieving carbon neutrality by 2045. The basic definition of carbon neutrality is taking action towards the goal of achieving net zero emissions, which means removing as much greenhouse gas from the atmosphere as we emit. Greenhouse gases can be removed using methods like new forest growth and carbon removal (processes that remove carbon from the air and store it underground). Because of the cost and limited availability of carbon removal measures, deep emissions reductions are needed to achieve net zero emissions. The IPCC stated in its sixth assessment report that the world must reach global net zero emission by 2050 to limit global warming to 1.5 °C above pre-industrial levels. Staff and the S/CAP Committee recommend Council approve a goal to achieve carbon neutrality (as defined by the California Air Resources Board) by 2035. And then, as established in Climate Action Key Action C7 (see Attachment A), staff will evaluate how we would meet the goal.

7. **Direct staff to amend the 2022 Utilities Legislative Guidelines (Attachment G) to add an Electrification Workforce Development guideline:** There is a critical shortage of building electrification contractors, line workers, and power supply engineers necessary for electrification. Staff and the S/CAP Committee recommend adding a guideline to the City's adopted 2022 Utilities Legislative Policy Guidelines[23] to support electrification workforce development:

   "13. Support government action to expand the workforce in trades and technical disciplines necessary to support building and vehicle electrification and grid modernization."

[22] This should not be confused with the City's Carbon Neutral Electric or Gas Portfolio goals. The carbon neutrality goal proposed in this staff report would cover a wider range of emissions sources.
[23] As adopted on February 7, 2022 (Staff Report 13904)

Timeline

- September/October 2022: Council acceptance of proposed S/CAP Goals and Key Actions and proposed Advanced Heat Pump Water Heater Program Framework
- October 2022:
    - Start California Environmental Quality Act (CEQA) evaluation of S/CAP
    - 2022 Green Building and Energy Reach Code Adoption
- Late 2022 / Early 2023: Launch the Advanced Heat Pump Water Heater Program
- January 2023: Green Building and Energy Reach Code becomes effective
- March 2023: CEQA review completed
- April 2023: Council certification of CEQA and adoption of S/CAP

Resource Impact

Initiatives will be managed and funded by various departments Resources for some of the S/CAP initiatives are funded as part of the FY 2023 Adopted Operating Budget; however, it is anticipated that significant investments will be needed to pursue the expansion of S/CAP work across the City. S/CAP Climate Action Key Actions C4 and C5 (see Attachment A) involve staff studying resource needs and potential revenue sources to implement the S/CAP.

The resource needs for the Advanced Heat Pump Water Heater Program are presented in detail in Attachment B, but in summary:

- Per Attachment B Section 5 (Funding Up-Front Costs using an Electrification Reserve) and Section 7 (Program Cost and Funding Source), about $5.7 million is needed for an estimated 900 heat pump water heaters installed via the turnkey program plus 100 rebates. The funding sources for this would be:
    - $1.25 million from Gas Cap and Trade Revenues.
    - A $4.5 million Electrification Reserve funded from the electric utility's Electric Special Projects Reserve. The Electrification Reserve would be repaid over time at an interest rate equal to the City's investment reserve rate of return.
- Per Attachment B Section 6 (Repayment of Electrification Reserve), repayment of the Loan Reserve would come from:
    - $70,000 per year from new net electric sales associated with the newly installed heat pump water heaters (new sales revenues net of the cost of new electric supply)
    - $144,000 per year from monthly customer on-bill financing repayments
    - $70,000 per year from existing Public Benefits budgets (Energy efficiency). See Attachment B, Section 5 for more discussion of this funding source.
- Staff is requesting budget amendments for various operational needs to run the program:
    - $250,000 in the General Fund in the Planning and Development Services Department for contract building inspection of approximately 1,000 water heaters offset by $250,000 in revenue from inspection fees
    - $150,000 in the Electric Fund in the Utilities Department for program marketing
    - $86,000 in the Electric Fund in the Utilities Department for hourly position

salaries as a contingency budget for Utilities Customer Service, to be used in case call volumes or billing system issues related to the on-bill financing program exceed expectations. This funding is equivalent to a customer service representative position. This is an ongoing request that would be included as part of the FY 2024 annual budget cycle and subject to Council appropriation.

- A budget amendment for consulting services for updating the utility customer portal to accommodate on-bill financing is expected to be requested in December 2022 and will accompany a contract amendment for the City's portal provider, though the funding source is yet to be determined. Work will begin on the customer portal using existing budgets. The amount is still being estimated as requirements are defined, but it is expected to be about $50,000.
- A budget amendment for S/CAP-related legal expenses may also be needed. Staff is evaluating the need and potential funding sources.

An Advanced Heat Pump Water Heater pilot has a variety of operational needs, some of which are not accommodated in the existing budget. If starting this program staff recommends amending the FY 2023 budget to reflect the costs, revenues, and new resource needs of this program. The budget amendment includes the items listed in Table 3, below.

Table 3. Recommended Amendments to the FY 2023 Budget

Electric Fund	Rev	Exp
Cost of turnkey HPWH installation	$0	$4,500,000
This action increases operating expenses to cover the contractual cost of HPWH installation, less the upfront payments.		
Marketing	$0	$150,000
This action increases operating expenses to cover one-time marketing and outreach costs. Achieving 1,000 installations on a rapid time frame will require expanded City marketing in addition to partnerships with local nonprofits.		
Temporary Salaries	$0	$86,000
This action increases the temporary salary expenses to provide additional customer service support which may be needed to manage various customer service and billing issues related to the HPWH program, particularly the on-bill financing.		
Adjustments to Electric Operations Reserve	$0	$(86,000)
This action decreases the fund balance in the Electric Operations Reserve to offset adjustments recommended in this report.		
Adjustments to Electric Supply Reserve	$0	$(150,000)
This action decreases the fund balance in the Electric Supply Reserve to offset adjustments recommended in this report.		
Adjustments to Electrification Reserve	$0	$(4,500,000)
This action decreases the fund balance in the Electrification Reserve to offset adjustments recommended in this report.		
Electric Fund Subtotal	$0	$0

Gas Fund	Rev	Exp
Cost of turnkey HPWH installation	$0	$1,250,000
This action increases operating expenses to cover the contractual cost of HPWH installation, less the upfront payments.		
Adjustments to Gas Cap and Trade Reserve	$0	$(1,250,000)
This action decreases the fund balance in the Gas Cap and Trade Reserve to offset adjustments recommended in this report.		
Gas Fund Subtotal	**$0**	**$0**

General Fund	Rev	Exp
Increased contract building inspection	$250,000	$250,000
This action increases expenses to cover the costs of additional building inspections needed during the pilot period, with a commensurate offset from an anticipated increase in revenues from increased building permits.		
Adjustments to General Fund Reserve	$0	$0
This action increases the fund balance to offset adjustments recommended in this report.		
General Fund Subtotal	**$250,000**	**$250,000**

The impact to the Gas Cap and Trade and Electric Special Projects reserves is shown in Table 4. The impact to other reserves is negligible or none:

Table 4. Impact of Expenditures on Reserves

Reserve	Balance, FY 2022 Year-End	Proposed Adjustment
Electric Special Projects	$29.6 million[24]	- $4.5 million
Gas Cap and Trade	$6.7 million	- $1.25 million

Policy Implications

The S/CAP Goals and Key Actions and proposed Advanced Heat Pump Water Heater Program align with one of the top four Council Priorities for CY 2022: "Climate Change – Protection and Adaptation".

Stakeholder Engagement

Stakeholder engagement on the S/CAP Update is wide-reaching and coordinated with multiple Departments. Efforts include direct engagement, webinars, social media and other digital marketing/outreach, website updates, public signage, Ad Hoc Committee meeting participation, leveraging the City communication platforms, and more. Staff developed, and is implementing, an S/CAP Engagement Plan which identifies relevant stakeholders, proposed materials, and desired meeting milestones and outcomes. Stakeholder engagement is an integral part of the S/CAP Ad Hoc Committee's mission and one of the four areas of focus of the Working Group Teams. Since July 2021, when the S/CAP Ad Hoc Committee first convened, the City's engagement efforts have included the following summary of actions:

- Held nine S/CAP Ad Hoc Committee meetings, with public participation
- Produced or partnered on 11 in-person events and 18 virtual events
- Issued 13 digital newsletters[25] and 12 blog postings[26] related solely to the S/CAP

[24] This level accounts for an outstanding internal loan of $10 million to the Electric Supply Operations reserve to be repaid by the end of FY 2027.

- Developed a brand-new web 'hub' to consolidate all our S/CAP-related information, provide public resources, and inspire community engagement
- Updated existing webpages[27] to better reflect the on-going work on the S/CAP
- Created an S/CAP Ad Hoc Committee Webpage[28]
- Created new S/CAP Frequently Asked Questions[29] to disseminate more information on our activities
- Launched an on-line survey[30] to help inform climate and sustainability conversations taking place with the S/CAP Ad Hoc Committee and City Council
- Met with local community, advocacy, and environmental groups; and
- Communicated extensively on a one-on-one basis with numerous residents on matters related to everything from sea-level rise to GHG emissions.

To continue providing various engagement efforts, the S/CAP Ad Hoc Committee and staff will hold a community workshop on October 15 with a theme of "Making Better Choices in your Home." This workshop will focus on home electrification with staff providing information about our existing programs, electric panels, the S/CAP generally, and our proposed Advanced Heat Pump Water Heater Program. Staff is working with stakeholders such as Acterra who will provide induction cooktop demonstrations and staff will bring in e-Bikes and EV chargers to display. Palo Alto residents with experience electrifying their homes will attend to provide testimonials and speak with other residents.

For the Advanced Heat Pump Water Heater Pilot Program specifically, staff will increase our already significant stakeholder engagement efforts. In addition to the communication methods described above, staff will leverage an existing Utilities Department contract with Marketing for Change, a vendor providing communication, outreach, and marketing services. Marketing for Change is developing a marketing plan and outreach campaign based on program goals and incorporating our existing resources. The marketing plan and outreach campaign will focus at a high level on taking action on climate change, with the Advanced Heat Pump Water Heater Program as one possible action to take.

Environmental Review

Council's acceptance of the proposed S/CAP Goals and Key Actions as a summary of the City's workplan under the S/CAP Framework is exempt from review under California Environmental Quality Act (CEQA) Guidelines Section 15061(b)(3) because the action would accept a work program that is subject to change (i.e. it is non-binding) and requires further actions prior to implementation. Council's acceptance will allow staff to commence CEQA evaluation of the

[25] https://www.cityofpaloalto.org/City-Hall/Sustainability/Get-Involved/Sustainability-News
[26] https://medium.com/paloaltoconnect/tagged/sustainability
[27] https://www.cityofpaloalto.org/sustainability
[28] https://www.cityofpaloalto.org/Departments/City-Clerk/City-Council-Committees/Sustainability-and-Climate-Action-Plan-Ad-Hoc-Committee
[29] https://www.cityofpaloalto.org/City-Hall/Sustainability/SCAP/SCAP-Frequently-Asked-Questions
[30] https://www.opentownhall.com/portals/5/Issue_11175

S/CAP for Council approval. Once CEQA review concludes, staff will be able to bring a complete S/CAP report for Council adoption.

Council's approval of the Advanced Heat Pump Water Heater Program Design Guidelines, creation and funding of an Electrification Reserve, amendment of the City's Cap and Trade Revenue Utilization Policy, budget appropriations, and approval of a carbon neutrality goal are not subject to CEQA review as administrative government activities that will not result in any direct or indirect physical change to the environment (CEQA Guidelines section 15378(b)(5)). Alternatively, these approvals are exempt from review under CEQA Guidelines Section 15308, as actions taken for protection of the environment.

Attachments:

- **Attachment10.a:** Attachment A: S/CAP Goals and Key Actions
- Attachment10.b: Attachment B: Overview of Advanced Heat Pump Water Heater Program
- Attachment10.c: Attachment C: Resolution Adopting Advanced Heat Pump Water Heater Design Guidelines
- Attachment10.d: Attachment D: Resolution Establishing Electrification Loan Reserve
- Attachment10.e: Attachment E: Resolution Amending Cap and Trade Policy
- Attachment10.f: Attachment F: Resolution Adopting Carbon Neutrality Goal
- Attachment10.g: Attachment G: Amended 2022 Utilities Legislative Guidelines

2022 SUSTAINABILITY AND CLIMATE ACTION PLAN

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Goals and Key Actions



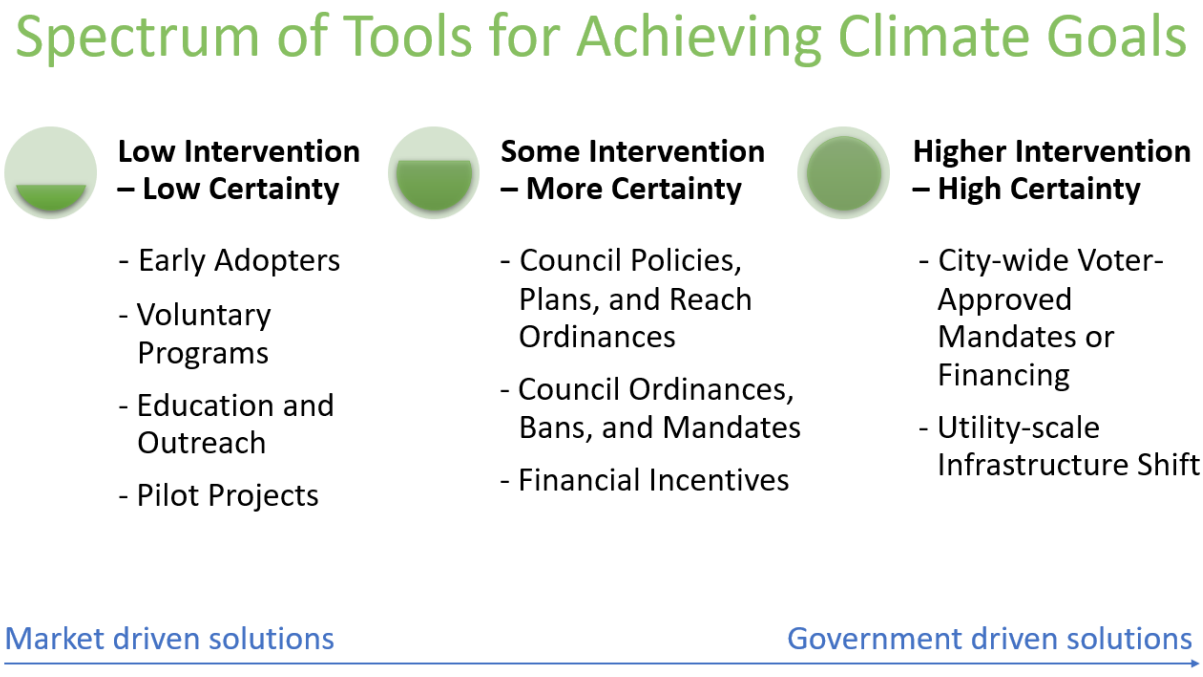
Introduction

A Climate Action Plan, or CAP, is a comprehensive roadmap that lays out the specific activities that an agency will undertake to reduce greenhouse gas (GHG) emissions. In Palo Alto, we have a Sustainability and Climate Action Plan (S/CAP) because we include sustainability areas that don't necessarily have a direct impact on GHG reductions, but have critically important sustainability, public health and safety, regional, resource conservation, and equity benefits that contribute to overall climate action. The proposed S/CAP Goals and Key Actions in this document will form the basis of the full S/CAP Report.

The City's consultant, AECOM, performed an impact analysis that estimated the potential GHG reduction potential of the proposed actions, estimated costs, and additional sustainability co-benefits, as well as the outcomes needed to meet the "80 x 30" goal to reduce GHGs 80% below 1990 levels by 2030. This document outlines proposed S/CAP Goals and Key Actions in eight areas: Climate Action, Energy, Electric Vehicles, Mobility, Water, Climate Adaptation and Sea Level Rise, Natural Environment, and Zero Waste. The Key Actions do not capture the breadth and depth of the sustainability and climate action programs and projects across the City. Rather, they are the Key Actions that we are prioritizing, based on the outcomes needed and sustainability co-benefits that were identified in the impact analysis to achieve the "80 x 30" goal. There are additional Supplemental Actions that are being implemented and developed that contribute towards the City's climate and sustainability goals but are not highlighted here. Many of the Supplemental Actions are included in the Climate Change – Protection and Adaptation Work Plan and will be included in future Work Plans.

Each of the proposed Key Actions falls along a Spectrum of Tools for Achieving Climate Goals, as shown in Figure 1. The Spectrum ranges from market driven solutions that require low intervention but also low certainty of achievement, such as voluntary programs, to government driven solutions that require higher intervention but yield high certainty of achievement, such as city-wide voter-approved mandates.

Figure 1: Spectrum of Tools for Achieving Climate Goals



Strategies to Get Us There

The Goals and Key Actions proposed in this document will work together towards achieving Palo Alto's goal to reduce GHG's 80 percent by 2030, relative to a 1990 baseline. The proposed S/CAP Goals and Key Actions are meant to be a high-level road map to achieving the community's 80 x 30 goal. More details and specifics will be provided in the S/CAP Workplan.

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SUSTAINABILITY AND CLIMATE ACTION PLAN GOALS

CLIMATE ACTION **Reduce GHG emissions 80% below 1990 levels by 2030**

- Reduce GHG emissions from the direct use of natural gas in Palo Alto's building sector by at least 60% below 1990 levels (116,400 MT CO_2e reduction)
- Modernize the electric grid to support increased electric demand and to accommodate state-of-the-art technology



- Reduce transportation related GHG emissions at least 65% below 1990 levels (215,696 MT CO_2e reduction)
- Develop a public and private charging network to support EV adoption



- Reduce total vehicle miles traveled 12% by 2030, compared to a 2019 baseline, by reducing commute vehicle miles traveled 20%, visitor vehicles miles traveled 10%, and resident vehicle miles traveled 6%
- Increase the mode share for active transportation (walking, biking) and transit from 19% to 40% of local work trips by 2030



- Reduce Palo Alto's potable water consumption 30% compared to a 1990 baseline (subject to refinement based on forthcoming California water efficiency standards expected in 2024)
- Develop a water supply portfolio which is resilient to droughts, changes in climate, and water demand and regulations, that supports our urban canopy



- Develop and adopt a multi-year Sea Level Rise Adaptation Plan including a sea level rise vulnerability assessment and adaptation plan.
- Minimize wildland fire hazards by ensuring adequate provisions for vegetation management, emergency access and communications, inter-agency firefighting, and standards for design and development within wildland areas.



- Restore and enhance resilience and biodiversity of our natural environment throughout the City
- Increase tree canopy to 40% city-wide coverage by 2030
- By 2030, achieve a 10% increase in land area that uses green stormwater infrastructure to treat urban water runoff, compared to a 2020 baseline



- Divert 95% of waste from landfills by 2030, leading to zero waste
- Implement short- and medium-term initiatives identified in the *2018 Zero Waste Plan*

Climate Action



The seven areas of the S/CAP (Energy, Electric Vehicles, Mobility, Water, Climate Adaptation and Sea Level Rise, Natural Environment, and Zero Waste) are all equally important. However, three areas – Energy, Electric Vehicles, and Mobility – have the highest potential for the largest greenhouse gas (GHG) emissions reductions. Each of these three areas has Goals and Key Actions that are specific to each area, but the overarching 80 x 30 goal and several Key Actions encompass all three.

GOAL

- Reduce GHG emissions 80% below 1990 levels by 2030

KEY ACTIONS

Community assistance

C1. Enable any resident to receive guidance on reducing their building and transportation emissions via phone consultations, interactive web applications, or communications platforms.

C2. Work with major employers, including Stanford entities, to develop custom emissions reduction plans that address commute, building, and other emissions on an employer-by-employer basis.

Staff Analysis

C3. Complete study to identify any additional Energy, EV, or Mobility key actions needed to achieve 80% reduction in greenhouse gas emissions from 1990 levels by 2030, such as electrification of additional multifamily or commercial end uses, greater electrification of vehicles, or other emissions reduction actions not already identified in this Plan.

C4. Complete a technical and legal study of the staffing and other resources needed to operate programs, services, and related City processes at a high enough capacity to accommodate all necessary emissions reduction activities through 2030.

C5. Complete a technical and legal study of funding alternatives, such as a carbon tax, parcel taxes, or other community funding mechanisms.

C6. Complete an affordability study to identify vulnerable populations and businesses who may need help with electrification and the scale of subsidy needed. Develop a Council-approved affordability policy to guide incentive and program funding design.

C7. Complete a study of carbon neutrality options, including the potential contribution of expansion of the Palo Alto urban canopy in achieving carbon neutrality goals.

Staff and Council action

C8. Present options for Council consideration to accelerate EV, Mobility, and Energy emissions reduction activities identified in this Plan through mandates or price signals, such as building emissions performance standards, carbon pricing, on-sale or replace-on-burnout ordinances, parking rules in public and private spaces, and withdrawal of gas by a date certain.

KEY PERFORMANCE INDICATORS

- GHG reductions
- Community awareness
- Participation in Climate Pledge

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Energy

Building efficiency and electrification are key to achieving Palo Alto's - and California's – greenhouse gas (GHG) reduction goals. Overcoming building electrification barriers at both the local and regional level will be necessary to increase market adoption in existing buildings. Electrification and building energy efficiency are important strategies to meeting the City's aggressive GHG reduction goal. It is critical to modernize the City's electric grid to accommodate the technologies that will enable this transformation.

In California, buildings account for 70 percent of total electricity use[1] and 20 percent of total GHG emissions[2]. In 2020, buildings in the residential and commercial/industrial sectors accounted for 34.9 percent of total emissions in Palo Alto, with 17.9 percent from residential, 13.9 percent from commercial, and 3.1 percent from industrial.

In order to reach Palo Alto's 2030 emissions reduction target, natural gas consumption will need to decline significantly through a combination of energy efficiency and electrification. Energy efficiency is simply using less energy to perform the same task; for example, replacing a low-efficiency gas furnace with a high-efficiency gas furnace. Electrification is the practice of replacing equipment in buildings that is powered by natural gas, including gas furnaces and gas water heaters, with electric equipment, such as air source heat pumps and heat pump water heaters.

GOAL

- Reduce GHG emissions from the direct use of natural gas in Palo Alto's building sector by at least 60% below 1990 levels (116,400 MT CO_2e reduction)
- Modernize the electric grid to support increased electric demand and to accommodate state-of-the-art technology

KEY ACTIONS

Reduce greenhouse gas emissions in appliances and equipment

E1. Reduce all or nearly all greenhouse gas emissions in single-family appliances and equipment, including water heating, space heating, cooking, clothes drying, and other appliances that use natural gas.

E2. Reduce greenhouse gas emissions in non-residential equipment, including mixed-fuel rooftop packaged HVAC units, cooking equipment, and small nonresidential gas appliances.

Reduce natural gas use in buildings

E3. Partner with major facility owners to reduce gas use in major facilities by at least 20%.

E4. Reduce natural gas usage at City facilities.

Make it affordable

E5. Support income-qualified residents and vulnerable businesses with electrification efforts while ensuring affordability of on-going utility bills.

[1] California Energy Commission. (2018). Energy Consumption Database Management System. Retrieved from http://www.ecdms.energy.ca.gov/elecbyutil.aspx

[2] California Air Resources Board. (2019) California Greenhouse Gas Emissions for 2000 to 2017. Retrieved from https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

E6. Develop electric rate options for electrified homes, EV charging, and solar + storage microgrid customers.

Paving the road to electrification

E7. Use codes and ordinances - such as the energy reach code, green building ordinance, zoning code, or other mandates - to facilitate electrification in both existing buildings and new-construction projects where feasible.

E8. Develop and implement an electric grid modernization plan to increase capacity and resilience.

E9. Seek additional electrification opportunities in commercial and multi-family buildings to contribute as much as possible towards achieving an additional 8% city-wide emissions reduction below 1990 levels.

KEY PERFORMANCE INDICATORS

- GHG emissions from natural gas use in buildings (single-family, multifamily, nonresidential)
- Percentage of single-family households with no gas connections
- Percentage of gas use reduction in major facilities and City facilities

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Transportation

In California, more than 50 percent of total GHG emissions stem from transportation. The primary driver of emissions is from cars and trucks. In Palo Alto, 61.9 percent of emissions come from transportation, with 56.4 percent from on-road vehicles.

Reducing transportation emissions requires addressing three areas: 1) reducing the carbon intensity of fuels, 2) increasing vehicle efficiency, and 3) reducing vehicle miles travelled (VMT). Each area is significant, layered, and complex. And while delving into details is not appropriate for this document, we acknowledge the importance of this sector by creating two transportation-related action areas: electric vehicles and mobility. The electric vehicle (EV) and mobility plans work in synch to jointly reduce GHG emissions and VMT.

Transportation trends

As of 2019, electric vehicles made up 7.8 percent of total new car sales in California.[3] In Palo Alto, electric vehicles made up 29 percent of total new car sales in 2017[4] – the highest rate in the US – with electric vehicles comprising 10 percent of total registered vehicles in 2020. In September 2020, Governor Newsom issued an Executive Order directing the state to require that, by 2035, all new cars and passenger trucks sold in California be zero-emission vehicles. And in January 2021, General Motors announced it would phase out petroleum-powered cars and trucks and sell only vehicles that have zero tailpipe emissions by 2035.

While these are all positive trends towards reducing transportation-related emissions, addressing the third component, reducing VMT, is considerably more difficult. Californians have driven more and more miles per year over the past five decades, whether for necessity or convenience.

If we all chose to power half of our shorter vehicle trips with our feet instead of petroleum, we would save about $575 million in fuel costs and about 2 million metric tons of CO_2 emissions per year. That's the equivalent of taking approximately 400,000 cars off the road annually.[5]

[3] California Air Resources Board. (2019). Sales of electric cars breaking records in California. Retrieved from https://ww2.arb.ca.gov/news/sales-electric-cars-breaking-records-california

[4] International Council on Clean Transportation. (2018) California's continued electric vehicle market development. Retrieved from https://theicct.org/sites/default/files/publications/CA-cityEV-Briefing-20180507.pdf

[5] United States Environmental Protection Agency. (n.d.). Green Vehicle Guide. https://www.epa.gov/greenvehicles/what-if-we-kept-our-cars-parked-trips-less-one-mile

Electric Vehicles



More than half of Palo Alto's emissions come from transportation, making adoption of Electric Vehicles (EVs) a crucial component to reaching our carbon reduction goals. Compared to fossil fuel vehicles, EVs are cheaper to drive, have lower maintenance costs, and produce no emissions. Driving and charging an EV in Palo Alto especially makes sense given the City's carbon neutral electricity supply and low electric retail rates. Greenhouse gas (GHG) emissions are a function of two factors: the carbon intensity (GHG/VMT) of fuels, addressed here, and Vehicle Miles Traveled (VMT), addressed in the next section. The EV and Mobility plans work in synch to jointly reduce GHG emissions and Vehicle Miles Traveled.

In order to reach Palo Alto's 2030 emissions reduction target, strategies to reduce the carbon intensity of fuels will need to be implemented.

GOAL

- Reduce transportation related GHG emissions at least 65% below 1990 levels (215,696 MT CO_2e reduction)
- Develop a public and private charging network to support EV adoption

KEY ACTIONS

Education, awareness, and collaboration

EV1. Raise awareness of financial and emission savings of alternative transportation modes, micromobility (such as e-bikes and e-scooters), EVs, the economics of these transportation modes compared to gasoline vehicles, and available incentives.

EV2. Collaborate with regional partners, other agencies, and local nonprofit partners to promote EV adoption regionally to reduce commuter and visitor emissions.

EV3. Partner with employers and business districts to promote commuter EV adoption and EV charging access as well as alternative commute promotion.

EV4. Facilitate the adoption of EVs, e-bikes and other light EVs.

EV5. When offering programs to facilitate EV adoption, EV charger installation, or building electrification, promote alternative transportation modes and infrastructure to support adoption (such as bicycle or micromobility infrastructure) as well where feasible.

Expand EV infrastructure

EV6. Expand access to on-site EV charging access for multi-family residents.

EV7. Improve access to EV charging for income-qualified residents.

EV8. Evaluate mandates or other mechanisms to ensure EV charging capacity is available to support EV growth.

Electrify fleet vehicles

EV9. Convert all Palo Alto municipal vehicles to EVs when feasible and when the replacement is operationally acceptable.

EV10. Support state policy efforts to electrify fleet vehicles, including delivery trucks

KEY PERFORMANCE INDICATORS

- GHG emissions from vehicle travel
- Percentage of registered EV vehicles in Palo Alto

- Percentage of new vehicle sales that are EVs
- Percentage of multifamily residents with access to overnight EV charging
- Gasoline sales in Palo Alto

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Mobility



Road transportation represents the largest percentage of Palo Alto's existing carbon footprint – and a congestion headache. Greenhouse gas (GHG) emissions are a function of two factors: Vehicle Miles Traveled (VMT), addressed here, and the carbon intensity (GHG/VMT) of fuels, addressed in the previous section. Reducing GHG/VMT is largely driven by Federal Standards, state policy, and vehicle offerings (including fuel efficiency and EVs). However, VMT reduction and EV adoption can be influenced by local programs and policies, including roadway engineering, land use, and zoning, since these elements affect travel mode choice.

In order to reach Palo Alto's 2030 emissions reduction target, strategies to reduce VMT will need to be implemented.

GOALS

- Reduce total vehicle miles traveled 12% by 2030, compared to a 2019 baseline, by reducing commute vehicle miles traveled 20%, visitor vehicles miles traveled 10%, and resident vehicle miles traveled 6%
- Increase the mode share for active transportation (walking, biking) and transit from 19% to 40% of local work trips by 2030

KEY ACTIONS

Promote alternatives to single occupancy car trips

M1. Implement transportation and land use infrastructure investments, programs, policies, and incentives to increase the mode share for active transportation (walking, biking) and transit for local work trips.

M2. Expand the availability of transit and shared mobility services from 61% of residents to 100% of all residents, including a bike/scooter shared micro-mobility service to provide last-mile connections, an on-demand shuttle / transit service pilot, and Neighborhood Mobility Hubs.

M3. Update and implement the Bicycle and Pedestrian Transportation Plan to expand bicycle and pedestrian infrastructure and establish a Vision Zero data collection and analysis program to target safety improvements.

M4. Improve Transportation Demand Management for employees and residents, including adopting a TDM Ordinance, allocating funding to scale up TDM programming, establishing a Safe Routes for Older Adults/Aging in Place program, and continuing the Safe Routes to School program.

Change the way we think about parking cars

M5. Implement smart parking infrastructure in public garages and proposals for Council to price parking in business districts, including implementing an optional Healthy Climate Fee, ideally on gas vehicles, to partially offset GHG emissions from driving to support alternative modes in Palo Alto.

Learn how we can grow without increasing GHG emissions

M6. Conduct a land use and transportation study to identify scenarios, changes, services, and programs that would reduce greenhouse gas emissions and accommodate projected housing growth without increasing transportation sector emissions. Include mobility equity needs analysis.

M7. Continue to implement the City's Housing Element of the Comprehensive Plan to improve jobs - housing balance and reduce vehicle miles traveled (VMT).

M8. Improve transit and traffic flow through programs to install transit signal priority equipment, implement traffic signal equipment improvements, and improve transit times.

Leverage current tools to foster mobility-related GHG reductions

M9. Utilize development regulations and standards to continue creating a housing density and land use mix that supports transit and non-SOV (Single Occupancy Vehicle) transportation modes.

M10. Utilize pricing, fees, and other program and policy tools to encourage reductions in GHGs and VMT.

KEY PERFORMANCE INDICATORS

- Total VMT
- Commute mode share for all modes
- Commute Benefits participation by City employees
- Transit ridership, the proportion of residents within a quarter-mile walkshed of frequent transit, and the proportion of residents covered by on-demand transit services (data may not be available every year)
- Number and proportion of residents within a 10-minute walk of retail land uses (data may not be available every year)
- Number of businesses participating in TDM programs (when regional TDM Program data becomes available)

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Water



Water is a limited resource in California, and its availability will be further impacted by climate change and new environmental regulations. Both potable water supplies and hydroelectric needs could be challenged by long-term shifts in California's precipitation regime. With shifting climate patterns, and significant long-term water supply uncertainty, it would be prudent to reduce water consumption while exploring ways to capture and store water, as well as to increase the availability and use of recycled water.

Water reuse will increase in importance as California's population expands and climate change and new environmental regulations pose uncertainties in imported water supply availability. Whether a water supply shortage exists or not, "Making Water Conservation a California Way of Life" is a concept embraced by the City.

In 2020, wastewater accounted for 0.4 percent of Palo Alto's GHG emissions. While the Goals and Key Actions for water don't explicitly address GHG reduction, energy and water use are linked. Energy is needed to transport and to treat water, treat wastewater, and heat domestic hot water in homes and businesses across California. Approximately 20 percent of California's electricity and approximately 30 percent of natural gas used by homes and businesses across the state is dedicated to pumping, treating, and heating water.

GOALS

- Reduce Palo Alto's potable water consumption 30% compared to a 1990 baseline (subject to refinement based on forthcoming California water efficiency standards expected in 2024[6])
- Develop a water supply portfolio which is resilient to droughts, changes in climate, and water demand and regulations, that supports our urban canopy

KEY ACTIONS

W1. Maximize cost-effective water conservation and efficiency through incentives, outreach/education, and other programs.

W2. Design and build a salt removal facility for the Regional Water Quality Control Plant.

W3. Develop and implement projects that result from a "One Water" Portfolio for Palo Alto[7], including but not limited to: stormwater, recycled water, on-site reuse, conservation, groundwater.

W4. Develop a tool for dynamic water planning in the future.

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[6] The California Water Action Plan, first released in 2014 and updated in 2016, is a roadmap to water resilience and reliability. Ten principles define California's Water Action Plan, including "Make Conservation a California Way of Life." Executive Order (B-37-16) instructed State agencies to help Californians adopt permanent changes to use water more wisely. In 2018 the legislature enacted SB 606 and AB 1668 that provide new requirements for water conservation and drought. Resulting new regulations will establish water budgets for urban water suppliers based upon state adopted water use efficiency standards for residential indoor and outdoor water use, outdoor irrigation of landscape areas, water loss, and local service area characteristics.

[7] A "One Water" approach envisions managing all water in an integrated, inclusive, and sustainable manner that is more resilient to the impacts of climate change. The One Water approach recognizes that water must be managed in ways that respect and respond to the natural flows of watersheds and the natural ecosystem, geology, and hydrology of an area. projects and programs focus on achieving multiple benefits—economic, environmental, and social.

KEY PERFORMANCE INDICATORS

- Estimated indoor per capita residential water consumption
- Estimated outdoor residential water consumption for irrigation
- Water consumption of commercial customers with irrigation meters
- Amount of recycled water used in Palo Alto
- Volume of stormwater that is captured and reused

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Climate Adaptation and Sea Level Rise



Climate adaptation refers to the actions taken to improve a community's resilience when confronted with the impacts of climate change. Actions that reduce the net amount of GHG emissions are emissions reductions or climate mitigation. Climate adaptation planning is most effective at the local level. Effective adaptation planning and management entails dealing with uncertainty. It is a long-term process that should allow immediate action when necessary and adjust to changing conditions and new knowledge.

One focus of climate adaption is sea level rise. The State of California anticipates that relative sea level rise projections stemming from GHG emissions and related climate change pose significant economic, environmental and social risks to communities along the San Francisco Bay Shoreline, including the City of Palo Alto. Sea level rise in San Francisco Bay is anticipated to range between three feet to more than ten feet by 2100 with rising tides likely thereafter. In Palo Alto, many City services and infrastructure that are essential to the City's public health, safety, and economy are located within areas that are predicted to be inundated by Bay water if adaptation measures are not implemented.

Another focus of climate adaption is preparation for and protection from wildfires. Climate change is expected to increase the frequency, intensity, and duration of wildfire events, especially here in California. On the West Coast, it is projected that an average 1 °C temperature increase could increase the median burned area per year as much as 600 percent in some forests.[8] GHG emissions from wildfires are not currently included in community GHG inventories. From 2000 – 2019, wildfire-related GHG emissions in California averaged approximately 14 million metric tons (MMT) of CO_2. The California Air Resources Board (CARB) projects that CA wildfire emissions in 2020 were about 112 MMT CO_2.[9]

While this document focuses primarily on sea level rise and secondarily on wildfire protection, the City is pursuing many other climate protection and adaption strategies. The City is also working on addressing extreme weather and natural disasters such as floods.

GOALS

- Develop and adopt a multi-year Sea Level Rise Adaptation Plan including a sea level rise vulnerability assessment and adaptation plan
- Minimize wildland fire hazards by ensuring adequate provisions for vegetation management, emergency access and communications, inter-agency firefighting, and standards for design and development within wildland areas.

KEY ACTIONS

Minimize the impacts of sea level rise

S1. Complete a Sea Level Rise Vulnerability Assessment to identify risks and hazards to the Palo Alto Baylands, City infrastructure, and residential and business property, considering high tide, 100-year coastal storm event scenarios and rising shallow groundwater impacts.

[8] US Department of Agriculture. (2012). Effects of Climatic Variability and Change on Forest Ecosystems: A Comprehensive Science Synthesis for the U.S. Forest Sector. https://www.fs.fed.us/pnw/pubs/pnw_gtr870/pnw_gtr870.pdf

[9] California Air Resources Board (2020). Greenhouse Gas Emissions of Contemporary Wildfire, Prescribed Fire, and Forest Management Activities. https://ww3.arb.ca.gov/cc/inventory/pubs/ca_ghg_wildfire_forestmanagement.pdf

S2. Develop and implement a Sea Level Rise Adaptation Plan with goals to 1) Preserve and Expand Habitat, and 2) Protect City and Community Assets, and Private Property.

S3. Determine levee alignment and begin design process for a levee project that protects the Palo Alto community from sea level rise, and incorporates other related priorities including habitat restoration, recreation, transportation, City facilities, and community properties.

S4. Complete bridge improvements and identify protection strategies from significant flood events

Minimize the impacts of wildland fire hazards

S5. Implement the Foothills Fire Management Plan to balance conservation of natural resources with reduction of fire hazards especially in open space areas.

S6. Minimize fire hazards by maintaining low density zoning in wildland fire hazard areas and enforcing building codes for fire resistant construction.

S7. Work collaboratively with other jurisdictions and agencies to reduce wildfire hazards in and around Palo Alto, with an emphasis on effective vegetation management and mutual aid agreements.

S8. Implement of CAL FIRE recommended programs in educating and involving the local community to diminish potential loss caused by wildfire and identify prevention measures to reduce those risks.

KEY PERFORMANCE INDICATORS

- Percent of vulnerable locations protected from 3 feet of sea level rise
- Percent of properties protected from San Francisquito Creek flooding
- Progress towards sea level rise levee alignments
- Implementation of Foothills Fire Management Plan mitigation measures

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Natural Environment



Sustainability is not only about mitigation, adaptation, and resilience, but also regeneration – identifying opportunities for renewal, restoration, carbon sequestration, and growth of our natural environment. Palo Alto will continue to build and restore the natural environment and its ecosystem services and bio-capacity that supports it, including soils, tree canopy, biodiversity, and other components. Enhancing and maintaining Green Stormwater Infrastructure will use natural areas and systems to provide habitat, flood protection, stormwater management, cleaner air, cleaner water, and human health enhancement.

Many actions that address climate vulnerability and risk also reverse emissions of greenhouse gases (GHGs) into the atmosphere. Shade trees absorb, or sequester, carbon dioxide from the atmosphere. Studies show that a young tree sapling can sequester anywhere from 1.0 to 1.3 pounds of carbon each year, while a 50-year-old tree can sequester over 100 pounds annually.[10] Restoration of wetlands can both sequester carbon and be implemented in a way that may protect shoreline communities and habitats from sea-level rise and storm surge. Healthy soils on farmland also play an important role in absorbing carbon.

Actions to sequester carbon in trees, soils, and vegetation can increase biodiversity of plants and animals and minimize stormwater runoff by mitigating impacts from impervious surfaces and providing opportunities to capture and use rain while also treating runoff pollutants. Biodiversity is critical to the health of City parks and other open spaces. Natural area conservation and retrofit of impervious areas protect natural resources and environmental features that sequester carbon, reduce stormwater runoff, promote infiltration, prevent soil erosion, and increase ecosystem biodiversity.

GOALS

- Restore and enhance resilience and biodiversity of our natural environment throughout the City
- Increase tree canopy to 40% city-wide coverage by 2030
- By 2030, achieve a 10% increase in land area that uses green stormwater infrastructure to treat urban water runoff, compared to a 2020 baseline[11]

KEY ACTIONS

Maintain and protect tree canopy

N1. Develop programs to plant trees to increase tree canopy – that will be integrated with traditional tree planting programs and Green Stormwater Infrastructure programs – and provide carbon sequestration, improve water quality, capture stormwater when feasible, and reduce the urban heat island effect.

N2. Ensure No Net Tree Canopy Loss for all projects.

N3. Continue to review the use of pesticides in all parks and open space preserves to identify opportunities to further reduce and eliminate the use of pesticides.

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[10] U.S. Department of Energy Energy Information Administration. (1998). Method for Calculating Carbon Sequestration by Trees in Urban and Suburban Settings. https://www3.epa.gov/climatechange/Downloads/method-calculating-carbon-sequestration-trees-urban-and-suburban-settings.pdf

[11] Green Stormwater Infrastructure (GSI) goals will be finalized once additional quantification work is conducted over the next two years to provide accurate, realistic and publicly vetted metrics.

N4. Enhance pollinator habitat by including native plants and pollinator-friendly plant landscaping with all park improvement projects when feasible.

N5. Establish a baseline and Key Performance Indicator for carbon storage of tree canopy in the public right-of-way and City-owned property.

Restore and enhance biodiversity

N6. Evaluate and modify plant palette selection in project plans to maximize biodiversity and soil health to adapt to the changing climate and incorporate buffers for existing natural ecosystems.

N7. Coordinate implementation of the Urban Forest Master Plan, Parks Master Plan, and other city-wide planning efforts through interdepartmental collaboration.

N8. Expand the requirements of the Water Efficient Landscape Ordinance (WELO) to increase native and drought-tolerant species composition.

N9. Phase out gas-powered lawn and garden equipment, in compliance with California's AB 1346.

Reduce pollutants entering the Bay

N10. Establish policies and ordinance changes as needed to support the Green Stormwater Infrastructure Plan.

N11. Incorporate Green Stormwater Infrastructure in future municipal projects, including public right-of-way.

KEY PERFORMANCE INDICATORS

- City-wide Tree Canopy coverage
- Native species on City property and in new landscape projects (to measure biodiversity)
- Land area that uses green stormwater infrastructure to treat urban water runoff

DRAFT

Zero Waste



Zero Waste is a holistic approach to managing materials in a closed loop system (circular economy), where all discarded materials are designed to become resources. Reducing waste is an important strategy for both greenhouse gas (GHG) emissions reductions and overall sustainability. Approximately 42% of GHG emissions in the U.S. are associated with the flow of materials through the economy, from extraction or harvest of materials and food, production and transport of goods, provision of services, reuse of materials, recycling, composting, and disposal.

Palo Alto's current diversion rate is 84%. Diversion includes all waste prevention, reuse, recycling, and composting activities that divert materials from landfills. Getting to the 95% diversion goal will require refinement and enforcement of existing programs, the addition of new policies and programs, fostering producer and consumer responsibility and building community collaboration on waste prevention.

In 2020, solid waste accounted for 1.7 percent of Palo Alto's GHG emissions, which can be reduced through key actions that reduce waste, conserve resources, and prevent pollution.

GOALS

- Divert 95% of waste from landfills by 2030, leading to zero waste
- Implement short- and medium-term initiatives identified in the *2018 Zero Waste Plan*

KEY ACTIONS

Education and outreach

ZW1. Encourage food waste[12] prevention and require edible food recovery for human consumption from commercial food generators.

ZW2. Promote residential food waste reduction.

ZW3. Champion waste prevention, reduction, reusables, and the sharing economy (e.g., promote adoption of a "Zero Waste lifestyle", stimulate value of reuse, repair, and access to sharing goods over ownership).

ZW4. Provide waste prevention technical assistance to the commercial sector.

Collaborate on and expand policies

ZW5. Prioritize domestic processing of recyclable materials and collaborate with stakeholders on legislation to spur domestic recycling and require traceability of materials processing.

ZW6. Eliminate single-use disposable containers by expanding the Disposable Foodware Ordinance.

ZW7. Expand the Deconstruction and Construction Materials Management Ordinance.

ZW8. Implement Reach Code standard for low carbon construction materials.

KEY PERFORMANCE INDICATORS

- Diversion rate
- Number of *Zero Waste Plan*[13] initiatives implemented

[12] "Food waste" refers to edible food that is not eaten, goes bad and is thrown away. It does not include food scraps such as banana peels, apple cores, and bones – they should be composted.

[13] www.cityofpaloalto.org/zwplan

Attachment B: Overview of Advanced Heat Pump Water Heater Pilot Program

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1. Executive Summary
2. Prelimimary Program Features and Terms
3. On-bill Financing Program
4. Alternatives Considered
5. Up-front Costs and Electrification Reserve
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7. Program Cost and Funding Source
8. Program Operational Resource Needs
9. Transition to a Scalable Program
10. Selected Programs from Other Agencies
11. Electric Grid Impacts

1. Executive Summary

The goal of the Advanced Heat Pump Water Heater Pilot Program is to replace 1000 gas water heaters in residences, primarily single-family homes, with heat pump water heaters by the end of 2023. The program will reduce emissions by 800 metric tons (MT) of carbon-dioxide-equivalent (CO_2-e) per year. It is the first step in electrifying 100% of water heating in single-family homes in Palo Alto, which, if achieved, would represent an estimated additional 12,330 MT CO_2-e per year (about 4% to 5% of remaining emissions reductions needed to achieve 80% below 1990 levels, about 5% to 7% when upstream emissions from fuel use are included[1]). The program will make it easy for residents to get a water heater installed starting with one phone call to the City. The City's contractor will install the water heater for one flat price[2] so participating residents are spared the hassle of contractor selection and permitting. If the $2700 up-front cost is too much, participants can pay $1500 up front and $20 per month for five years, a 0% loan. Since most gas water heaters cost over $1500 to replace, and since participants will save $5 per month to $20 per month on their utility bills by switching from gas water heating to efficient electric water heating using Palo Alto's low-cost, renewable electricity, the pricing with on-bill financing is competitive with a gas water heater replacement. And those who prefer to manage their own projects can do so and still get a rebate of $2300 from the City, an increase from the current $1200 rebate.

The up-front cost of the program is expected to be $7.4 million, with $1.7 million paid for by up-front payments from participants and $1.2 million by revenue from the auction of carbon allowances freely allocated to the gas utility as part of the State's Cap and Trade program. The remaining $4.5 million will come from the electric utility's Electric Special Projects reserve, which will be transferred to an Electrification Reserve and used to fund customer loans, rebates, and the up-front cost of the program. The Electrification Reserve will be repaid over time from

[1] Upstream emissions from fuel use include emissions involved in collection, processing, and transportation of fuels, including leakage. These estimates use the 20-year global warming potential of fuels.
[2] For most homes. Some installations (such as when a panel upgrade is required) may involve additional costs.

participant monthly payments, new electric net income,[3] and Public Benefits energy efficiency funds.[4] The program will also require some amendments to the FY 2023 budget for some operational costs associated with the program (marketing costs, contingency temporary staffing budget for Utilities Customer Service, and contract building inspection services for Planning and Development Services).

Ideally, this pilot program would provide the City enough experience to expand the program to enable replacement of 1100-1300 gas water heaters per year going forward, the estimated number of gas water heaters that reach end of life in Palo Alto annually. Because of the need for additional funding and the use of internal financing at a low interest rate the program is not scalable to all of Palo Alto without changes to pricing or costs, but some potential pathways to making the program scalable are discussed in this report. The Inflation Reduction Act, which staff is still reviewing, could significantly reduce the cost of HPWH installation, help reduce costs in the pilot program, and help the City transition to a scalable program. The report also discusses other building electrification programs in the region and the country, and how this program is innovative in offering turnkey installation services to all residents (they are normally offered only to income-qualified residents) and the use of a flat pricing model combined with on-bill financing.

2. Preliminary Program Features and Terms

Nearly every single-family home has a gas water heater, as do some multi-family units[5]. Very few homes have electrified so far. Staff estimates under 200 homes are without gas service. With over 15,000 single-family homes in Palo Alto, and with most gas water heaters lasting 13-15 years, staff estimates between 1100 and 1400 gas water heaters are replaced each year. This program aims to have as many as 1000 gas water heaters replaced with heat pump water heaters between program launch and the end of 2023.

Heat pump water heaters are not as well-known as gas tank water heaters and involve more complicated installations that involve both plumbing and electrical work, unlike gas water heaters. A new electrical circuit, venting of air to the outside, a drain line for compressor condensation, and capping of gas plumbing might be required. In some homes the water heater location might need to be moved if the space is insufficient, and a panel upgrade might be required. With more complexity comes a more expensive installation, and the water heater itself is more expensive as well. And it is challenging for homeowners to manage these installations themselves. The technology is unfamiliar, it can be challenging to find contractors and evaluate bids, and it is always complicated for homeowners to coordinate a permitting process.

Staff has developed a preliminary program design and funding allocation that is designed to remove these hassles. To get a new heat pump water heater a homeowner will just need to call

[3] New revenues from sale of electricity to the heat pump water heaters net of the cost of the electricity

[4] Public benefits funds come from a charge that Public Utilities Code 385 requires local publicly owned electric utilities to collect from customers, which can be used to fund cost-effective demand-side management services to promote energy efficiency, low-income programs, research and development, and renewable energy. Due to Palo Alto's low electric rates and the efficiency of heat pump water heaters compared to their gas counterparts, switching to a heat pump water heater reduces electricity supply costs and promote energy efficiency.

[5] Most multi-family buildings have central water heating for all units

the City's Home Efficiency Genie, who will answer questions and talk them through their goals and program options. If they would like to have the City's contractor replace their gas water heater, the contractor will come to their home, do a complete home efficiency and electrification assessment, deliver them a report, let them know if there are any additional costs,[6] and offer them on-bill financing options. If the homeowner decides to proceed they will schedule a time, sign a participation agreement, and the contractor will install their water heater, managing the permitting and building inspection on the homeowner's behalf. Afterward the contractor will answer any questions about the installation and make sure the homeowner is satisfied, and the homeowner will be able to contact the Home Efficiency Genie with questions over the long term. The equipment itself will have a twelve-year warranty, while labor will be covered for one year (staff is exploring adding an extended labor warranty up to five years).

The program would offer participating residents two options for installation with various pricing and financing alternatives:

1. Have the City's contractor install a heat pump water heater. Participants will have two payment options:
    a. On-bill financing program: $1500 up front with a $20 per month utility bill charge for five years, OR
    b. No financing: $2700 up front
2. Find their own contractor (potentially with the help of the City's Home Efficiency Genie service) and be eligible to receive a $2300 rebate. This is intended to make the expected out of pocket cost for turnkey and self-managed install participants similar.[7]
    a. When the program is first launched there will be no City-sponsored financing option available for residents who find their own contractor. Staff is working to get the City access to the State's GoGreen Financing program, which, if adopted by Council, would allow residents to find a certified contractor, receive the City's rebate, and get financing from a local credit union for the cost of the project.
3. Income-qualified customers would be eligible for free direct installation.

Staff is still reviewing the newly approved Inflation Reduction Act. It appears this bill would add State-administered rebates for building electrification, including rebates as high as $1750 for income-qualified residents (potentially up to 150% of area median income) and 30% Federal tax credits up to $2000. Both could reduce costs for pilot program participants, though the State-administered rebates may take some time to set up. The tax credits apply to equipment installed starting in January 2023. One outstanding question is whether the tax credit could be received for the full cost of equipment for on-bill financing participants or rebate recipients. Staff

[6] The City's flat pricing will include the most common costs of a heat pump water heater installation, such as adding venting, a condensate drain line, and an additional electric circuit, but will not include less common additional costs to prepare the home for the water heater installation, such as enlarging a room, moving the water heater to a new location, or upgrading the electrical panel. However, the resident will be able to hire the City's contractor to do the additional work if they choose.

[7] Assuming a market price for installed heat pump water heaters of $4500-$5500, a $2300 rebate is roughly equivalent to the up-front turnkey cost of $2700.

is researching this question and may reconfigure program terms and pricing if needed to enable residents to claim the full credit.

An estimated 20% of homes in Palo Alto are rented out. This program would also be available to landlords, and staff plans to create informational materials that interested renters could share with their landlords. Landlords and renters could agree independently on how to share the costs. Staff does not expect landlords to be interested in the on-bill financing program, and there are challenges in implementing landlord participation in the billing system, since landlords for single-family homes typically are not the account holder of the utility bills for the rental unit. But staff will track interest and investigate billing system improvements if needed.

This combination of program features would provide several benefits:

- It would promote awareness of the need to reduce emissions in the home to combat climate change and help people understand what they need to do.
- It would make it easier for residents to find a contractor to get a HPWH installed. They could either find their own contractor or use the City's contractor.
- It would create a simple, uniform, and transparent pricing structure for new HPWH installations, allowing residents to easily decide whether a HPWH was affordable for them with a single call to the City without the hassle of finding contractors and obtaining several quotes.
- It would create a pricing structure for a HPWH installation that is attractive relative to the cost of a new gas water heater. Staff estimates a gas tank water heater costs $1800 to $2000 (or even higher) to replace[8] and costs more to run than a HPWH thanks to Palo Alto's low-priced electricity. The pricing above ($1500 up front and $20/month on the bill) has a lower up-front cost than a gas water heater replacement, and the ongoing monthly payment would be offset by a $5 per month to $20 per month bill savings for most residents.
- The extensive public awareness campaign, the ambitious goal of installing 1000 water heaters, the inclusion of rebates, and the eventual inclusion of GoGreen financing could attract more contractors to Palo Alto, jump-starting the local market and eventually reducing the need for the more expensive turnkey program to drive the market.
- It would lay the foundation for an eventual end of life water heater replacement mandate.

3. On-bill Financing Program

Staff has developed a preliminary set of on-bill financing options for participating customers to guide Council's consideration. If Council approves moving forward with the program, staff will work with a contractor with relevant experience to craft a complete set of program terms and parameters. Legal counsel with expertise in lending regulations and the variety of consumer protection disclosures and conditions will also be retained to ensure compliance.

[8] This is based on a gas tank water heater. Gas tankless water heaters present greater complexity to replace with heat pump water heaters and may not be good candidates for this program. Gas tankless water heater replacements will need further investigation.

Staff's proposed terms assume a cost to the homeowner of $2700. To offer terms of $1500 up front and $20 per month, terms comparable to a gas water heater installation and the savings associated with switching to a heat pump water heater, an on-bill financing program is required. Staff is proposing to make 0% loans of $1200 ($20/month for five years) as part of this program. In sections 5 (Up-front Costs and Electrification Reserve) and 6 (Repayment of Electrification Reserve) below this report describes how the program's up-front costs would be funded from an Electrification Reserve funded from electric utility funds, and how the Electrification Reserve could be paid back over time with interest. Because repayment comes from a variety of sources (new electric utility net income, energy efficiency funds) it is possible to provide a 0% loan to program participants and pay the interest to the Electrification Reserve from these other internal sources, meaning the Electrification Reserve is kept whole.

A 0% loan program is expected to reduce the number of loan-related disclosures the City would need to provide if it runs a financing program. And putting the loan repayment on the utility bill makes it more likely the loan will be repaid, since utility bills are usually a high priority expense. On the other hand, this type of loan can complicate the process of moving to a new home. If the homeowners sells their home they must pay off the on-bill loan, and this can be a significant expense. If the owner takes the loan into account when planning the sale they likely will be able to pay it off without too much trouble, but if not, it could be a large unexpected expense on their final utility bill. This could lead to the final utility bill being left unpaid either accidentally or intentionally, leading to collections issues. Despite this, however, staff believes the potential losses associated with this pilot are small because the value of homes in Palo Alto is high and most homeowners are expected to have adequate equity to pay the final bill. As a result, staff is proposing to run the on-bill financing program without credit checks, simply checking to ensure the homeowner has not defaulted on their utility bill in the last six months.

This would be similar to the standards for Sonoma Clean Power's 0% loan program. They have been running a 0% on-bill financing program for over a year. They have had multiple homeowners sell homes and have not run into any issues with collections. About 20% of homeowners who participate in their electrification programs take advantage of the loan program. This is lower than staff's assumption that two thirds of participants in Palo Alto's turnkey program will participate, but Sonoma's program is different. Sonoma does not provide installation services nor a simple pricing model, they simply provide loans and rebates for participants who select and negotiate with their own contractors. Staff expects Palo Alto's participation rate to be higher.

Running an on-bill financing program does come with some administrative complexity:

- A suite of documents will need to be drafted to implement the program, including a Policy and Procedural Manual for use by the City's contractor and City staff, a Site Assessment Agreement permitting the City's contractor to assess potential customer's residence to determine whether a HPWH is a feasible option, a Program Participation Agreement setting forth the terms and conditions for the project, including repayment terms, and various customer feedback and contractor reporting documents. These documents will be drafted by the City's contractor and reviewed and revised by the City's legal team.

- There are several changes to be made in the utility billing system and utility customer portal to accommodate the program. Most of these changes can be completed by the time the program launches. Some changes related to the way the loan program is presented on the utility customer portal may not be ready until a month or two after the first installations are completed. However, staff believes that the earliest adopters of the program will understand the delay and can be reassured by Utilities Customer Service if they call in.
- Staff is also wary of a potential increase in service calls to the Utilities customer service center, since this is an unfamiliar type of loan and a new utility charge. In case call volumes increase more extensively than expected, staff is proposing some contingency temporary salary budget for customer service staffing (see Section 8, Program Operational Resource Needs, below).

If this 0% on-bill financing model is successful it could be used for other programs in the future. For this reason and the other reasons listed above, staff recommends implementing a 0% on-bill financing program.

Staff did consider joining the State's GoGreen Financing program as an alternative, but that program would not have allowed the pricing model staff proposed above and likely could not be available on the City's launch timeline. Staff is still pursuing a potential partnership with GoGreen as a complementary program that could be used to finance items not covered by the City's on-bill financing program (such as energy or water efficiency improvements, other electrification measures, or panel upgrades) or for residents who manage their own installations and are seeking a source of financing. There are also contractors and credit unions who partner with the GoGreen program, so this program will add to the list of contractors the City can provide to customers who want to obtain their own quotes. And if this pilot program is expanded to all water heaters in Palo Alto, staff would like to explore whether the City could seek a deeper partnership in the future and use GoGreen or a similar State program as a potential outside source of capital for the City's expanded on-bill financing program.

4. Alternatives Considered

In developing this program staff considered various alternatives for each element of the program, as summarized in Table 1 below.

Table 1: Program Alternatives Considered

Program Element	Recommended	Alternatives Considered	Why Not Recommended
Program size	1000 heat pump water heaters	1000 turnkey installations + 1000 rebates = 2000 water heaters	Costs for the turnkey program were higher than expected.
Installation options	1. Turnkey install by City 2. Self-install with rebate	Eliminate the turnkey option due to the expense	The City's rebate-only program has generated under 100 applications, and a turnkey program seems necessary.
Financing options	1. Utility on-bill financing (not "tariffed")	GoGreen Financing only, without on-bill financing	Timeline for launching GoGreen Financing is uncertain, on-bill

Program Element	Recommended	Alternatives Considered	Why Not Recommended
	2. GoGreen financing (possible future program addition)		financing allows incorporation of incentives directly into pricing
		"Tariffed" on-bill financing[9]	Requires monthly bill savings exceeding the monthly charge, this requirement cannot be met
On-bill financing term	5 years ($20/month)	7 years ($25/month)	This alternative reduces the need for additional funding, but the longer repayment period and higher monthly payment may intimidate potential participants
On-bill financing charge amount	$20/month (5 year term)	$27/month or $35/month (7 year or 5 year term)	These options allow shorter financing terms at no additional cost, but exceed the amount staff expect participants would pay
Appliances included in the program	Heat pump water heaters	Heat pump space heaters, Induction cooktops, and other building equipment and appliances	Heat pump water heaters have the lowest grid impact. Grid modernization efforts in progress will allow other appliances to be rapidly adopted in modernized areas without overwhelming electric utility staff.
Up-front payments for turnkey program with on-bill financing	$1500	$1800 or higher	Staff believes $1500 is a simple price to market and appears attractive compared to the cost of a gas water heater replacement.

5. Funding Up-Front Costs using an Electrification Reserve

Figure 1 below shows the up-front costs of the program. Staff is assuming that 90% of program participants use the turnkey program and 10% use the rebate program. This would result in a total of $7.4 million in funding needs.

- About $7.2 million for the up-front costs associated with the turnkey program (which equates to 900 water heater installations at about $7,990 per water heater)
- About $230,000 for rebates (which equates to 100 rebates at $2300 per rebate)

Staff is assuming two-thirds of turnkey program participants will use the on-bill financing program, paying $1500 up front. The other one third are assumed to simply pay $2700 up front. This results in $1.7 million in up-front payments. This results in a net need for $5.7 million in up-front payments from City funds. This will be difficult to absorb from existing budgets. In addition, raising electric rates reduces the cost-effectiveness of electrification programs and so could be a

[9] This specialized pricing approach allows a monthly charge to be attached to the meter instead of the property owner and can be transferred to a new owner on sale of a home, eliminating the need to pay a loan balance upon home sale.

counter-productive way to raise funding. Staff is instead recommending establishing an Electrification Reserve in the utility using funds from the Electric Special Projects Reserve.

This newly created Electrification Reserve would be used to track funding of City building, appliance and vehicle electrification projects and programs, including development and implementation costs and associated financial incentives, loans and rebates for participating customers. The reserve may be funded by any lawful source of funds available for such programs, including new or ongoing utility revenues derived from customer participation.

The first use of the Electrification Reserve would be to fund loans to customers for building electrification projects, and to amortize the up-front costs over time to more closely match benefits as they accrue to the electric utility. The electric utility benefits from new heat pump water heater installations by receiving increased net income (new sales revenue net of the increased utility cost of supplying electricity to the heat pumps). This net income can be used to repay the Electrification Reserve over time. In addition, new heat pump water heaters are an energy efficiency measure. They heat water more efficiently and at lower cost than a gas water heater. This means they are eligible for Public Benefits energy efficiency funding.[10] These benefits will accrue slowly over time, but as they accrue they can be used to fund the Electrification Reserve. And as the loans are paid back the Reserve will accumulate funds that can be used to make more loans.

The repayment of the Electrification Reserve will be done at the rate of return on the City's investment portfolio (1.6% to 3%) rather than at market interest rates for utility debt (currently around 4.25%). Staff estimates that it would cost about $1.9 million more to repay the Electrification Reserve at market interest rates. This is relevant when considering the pricing needed to scale the program up, since there are not enough available utility funds to fund an Electrification Reserve large enough for a program to cover all heat pump water heaters in Palo Alto. This means it would be necessary to attract outside capital using market interest rates, with significantly higher program pricing.

Staff is recommending funding the Electrification Reserve by transferring $4.5 million from the Electric Special Projects Reserve.[11] The Electric Special Projects Reserve has a balance of $29.6 million as of July 1, 2022, with internal loans of $10 million outstanding to the reserve to be repaid by the end of FY 2027 ($10 million to the Electric Supply Operations Reserve).

6. Repayment of Electrification Reserve

[10] Public Benefits revenue comes from a surcharge imposed on all electric bills per State Public Utilities Code Section 385. Public Benefits charge revenue is required to be spent on cost-effective energy efficiency, low-income programs, research and development, and renewable energy.

[11] The Electric Special Projects Reserve was created in 2015 from the Calaveras Reserve, a reserve fund created in the late 1990s to offset potential stranded costs from California's transition to a competitive market for electricity. These stranded costs did not materialize and the Council changed the name to the Electric Special Projects Reserve, which was intended to fund innovative utility projects (CMR 5716).

A sample repayment schedule for the Electrification Reserve is shown as Exhibit A to this Attachment. This is a hypothetical repayment schedule assuming 1000 water heaters are installed by the end of 2023. It assumes 90% of participants use the turnkey installation program and two thirds of those use the on-bill financing program. The remaining 10% of participants are expected to seek rebates. Staff does not have a projection of how long it will actually take to get the water heaters installed. It could take more time or less time. But the attachment is useful for understanding the long-term repayment schedule involved in funding these improvements.

The repayment schedule assumes that some of the up-front costs are amortized over 30 years while others are amortized over ten. This is because some of the costs of installing an electric heat pump water heater involve reconfiguring the house and its energy and water systems to accommodate a different type of appliance. These reconfigurations will only need to be done once and can be used even when the heat pump water heater is replaced by a new heat pump water heater after 10-15 years, so it is appropriate to amortize those costs over a 30-year period.

Repayment of the Electrification Reserve could come from the following sources:

- $70,000 per year from new net electric sales income associated with the newly installed heat pump water heaters (new sales revenues net of the cost of new electric supply)
- $144,000 per year from monthly customer repayments
- $70,000 per year from existing Public Benefits budgets (Energy efficiency).[12] See section 5, above, for more discussion of this funding source.

The repayment schedule repays $4.5 million of the Electrification Reserve plus $1.4 million in interest, but some additional funding is still required, as discussed below.

7. Program Additional Cost and Funding Source

The funding sources described in Section 5 are not sufficient to fully repay the up-front costs of the program. They repay approximately $4.5 million in principal over the life of the program (and 1.4 million in interest), but since the necessary up-front funding is $5.7 million ($7.4 million in total up-front costs less $1.7 million in participant up-front payments), that means that an estimated additional $1.2 million is required to fully fund the program.

This amount could be reduced through a variety of changes to the program terms, as shown in Table 2. Staff is looking for Council feedback on which program terms are most acceptable. Choosing the largest funding reduction options (Option 1, $1800 up front payment, and Option 2c, $25 per month for seven years) would result in a higher cost to participants of $3900 ($1800 up front and $25 per month for seven years) but would eliminate the need for additional funding from the City almost completely. Staff believes these terms would be more difficult to sell to residents than the original staff proposal, but still manageable.

[12] Public Benefits revenue comes from a surcharge imposed on all electric bills per State Public Utilities Code Section 385. Public Benefits charge revenue is required to be spent on cost-effective energy efficiency, low-income programs, research and development, and renewable energy.

Table 2: Alternatives for Reducing Program Costs

	Cost Reduction
1. Increase up-front payment to $1800	$300,000
2. Change term and/or monthly charge:	
2a. $25/month payment (no change to term)	$270,000
2b. Seven year term (no change to payment)	$430,000
2c. Seven year, $25/month term	$800,000

If Council maintains any sort of additional funding need for the program, staff has considered three potential funding sources:

1. Public Benefits Research and Development funding (up to $400,000 per year available)
2. Electric Utility Cap and Trade revenue ($1.76 million available in reserves as of July 1, 2022)
3. Gas Utility Cap and Trade revenue ($7.4 million available in reserves as of July 1, 2022)

Public Benefits revenue comes from a surcharge imposed on all electric bills per State Public Utilities Code Section 385. Public Benefits charge revenue is required to be spent on cost-effective energy efficiency, low-income programs, research and development, and renewable energy. Research and development funding is appropriate in this case because the Heat Pump Water Heater Advanced Pilot is intended to develop the pricing, financing, and installation practices to enable scaling of the program to all water heaters in Palo Alto. Staff does not recommend using Public Benefits funds to extend the pilot beyond the first 1000 water heaters. This funding source is limited, since the City's $4 million per year in Public Benefits revenue must fund all of the City's energy efficiency programs and low-income programs while paying off some commercial solar rebates that were approved several years ago but are paid off over multiple years. There is not enough money in the budget to fund the entire program cost in a single year. Staff can absorb the necessary funding into the Public Benefits budget over several years, but this would require an additional $1.2 million be added to the Electrification Reserve, since the payments would have to be made over time.

To reduce the amount needed in the Electrification Reserve, staff is recommending using gas utility Cap and Trade revenue as the funding source. These revenues are available due to the City's gas utility's mandated participation in the State's Cap and Trade program, which generates costs to the City's gas and electric utilities, but also revenues that are intended to be used for greenhouse gas reducing activities.[13] These revenues must be used within ten years or returned to ratepayers in the form of a dividend. This revenue source is declining in value and will not be available after 2030, so it is most appropriate for one-time expenses, such as pilot programs.

[13] The Cap and Trade program requires various emissions-producing entities, including gas utilities, to buy emissions allowances equal to the greenhouse gas emissions they produce. The State creates these emissions allowances, allocates them to utilities, and then requires that the utilities auction most of them off rather than use them for compliance. The resulting revenue must be used for emissions reducing activities or returned to ratepayers as a flat "dividend." It cannot be used to offset the cost of gas.

The use of these revenues is governed by State law and a Council policy on the use of these revenues adopted January 26, 2015.[14] The Council policy allowed the use of Gas Cap and Trade Revenue for the following:

- Investment in energy efficiency programs for the natural gas portfolio and retail customers;
- Purchases or investment in cost-effective renewable biogas resources for the gas portfolio;
- Investment in other carbon reduction activities for the natural gas utility, including system maintenance or replacement to reduce fugitive gas emissions; and
- Rebates to natural gas retail ratepayers.[15]

The policy expresses a preference for greenhouse gas reduction activities over rebates. And while building electrification is not listed as an allowed use, the policy does not preclude using these revenues for that purpose.[16] Building electrification is consistent with California Air Resources Board (CARB) regulations governing the use of these funds and is a benefit to gas ratepayers. If using this funding source, staff would bring a resolution to Council to add building electrification to the list of allowed uses under the Council's policy to avoid any future confusion.

The relevant sections of State law (California Code of Regulations 95893) require that these revenues be used as follows:

- CCR 95893(a) requires that "Any allowances allocated to natural gas suppliers must be used exclusively for the benefit of retail ratepayers of each such natural gas supplier, consistent with the goals of AB 32, and may not be used for the benefit of entities or persons other than such ratepayer." The attached resolution finds that given the expected increasing cost of gas due to maintenance, the transition away from natural gas for climate reasons, and given that Palo Alto's gas ratepayers represent the same group of community members as its electric ratepayers, building electrification to switch uses away from gas is to the benefit of gas ratepayers.
- CCR 95893(d) and (e) list the uses allowed by State law for these revenues. Building electrification is not explicitly listed. However, CCR 95893(d)(3)(B) states it may be used for "Other GHG emissions reduction activities," and the resolution includes findings for Council regarding building electrification being consistent with this provision. Staff has spoken with multiple CARB gas supplier allowance allocation staff members who have advised that a customer fuel switching program is an allowable use of gas allowance value, provided the program expenditures adhere to the limitations in CCR 95893(d). .

[14] Staff Report ID 5397, Use of Cap and Trade Compliance Revenue

[15] In this case "rebates" refers to a periodic credit to the customer bill, similar to PG&E's biannual "Climate Credit"

[16] This was stated in Staff Report ID 5397, Use of Cap and Trade Revenue, page 5: "Some *[Utilities Advisory Commission]* commissioners asked if funding for "fuel switching" programs to provide incentives for customers to change from gas-fueled to electric appliances (e.g. water heaters and space heating equipment) could be added to the list of potential uses of the allowance revenue. Staff indicated that fuel switching programs were not precluded from the proposed policy, but reminded that any program funded from the revenue must be beneficial for gas ratepayers." There was also a motion to explicitly add fuel switching as an approved use, but the UAC rejected this motion until additional cost effectiveness analysis could be done.

8. Program Operational Resource Needs

If starting this program, staff recommends adoption of a budget amendment to adjust the FY 2023 budget to reflect the costs, revenues, and new resource needs of this program. The budget amendment would include the items listed in Table 3, below.

The budget amendment includes additional funding for certain operational aspects of the program:

- The up-front payments to the City's turnkey installation contractor require a large budget addition, but will not impact rates because they will be funded from the Electrification Reserve.
- An addition of $86,000 for temporary salaries for Utilities Customer Service. This would enable the hiring of up to two half-time hourlies to field calls from participants regarding their loan balances. This is requested based on the projected call volumes typically handled by staff (as opposed to the installation contractor) from program participants. Those participants who join the on-bill loan program will likely generate additional call volumes based on our conversations with a community choice aggregator (CCA) running a similar loan program. Staff plans to equip program operators to handle calls on their own and provide self-service tools for participants, and hopes not to use this temporary salary budget, but recommends putting it in place in case operational impacts do materialize.
- An additional $250,000 in contract inspection time for Planning and Development Services, paid for by new permit revenues. One thousand water heater inspections in a single year is roughly equal to a single FTE and cannot be absorbed with existing resources. However, hiring in-house staff for this function would not be prudent for a pilot program.
- An additional $150,000 for program marketing and engagement. This program will require a combination of extensive City marketing and extensive partnership with local nonprofits and individual advocates to promote the program. The participation goals are higher than for any other sustainability program the City has run.

Table 3: Contents of Upcoming Proposed Budget Amendment

Item		Cost/(Revenue)	Type	Description
Up-front costs				
1	Cost of turnkey HPWH installation (Electrification Reserve share)	$4,500,000	New one-time cost	The contractual cost of HPWH installation less the up-front payment. These costs will be paid from the Electrification Reserve.
2	Cost of turnkey HPWH installation (Cap and Trade revenue share)	$1,250,000	New one-time cost	The first 800 participants will pay a discounted up-front cost, with discounts decreasing with every few hundred customers. These discounts will be funded by Cap and Trade revenues.

Item		Cost/(Revenue)	Type	Description
3	Increased contract building inspection budget	250,000	New one-time cost	This is for contract inspectors to manage the increased number of building inspections needed during the pilot period funded by increased permit revenue (below)
4	Increased building permit revenue	($250,000)	New one-time revenue	This represents the increased building permit revenue during the pilot period
5	Increased marketing budget	$150,000	New one-time cost	Achieving 1000 installations on a rapid time frame will require expanded City marketing in addition to partnerships with local nonprofits
10	Increased temporary salary budget	$86,000	New ongoing cost	Additional customer service staffing that *may* be needed to manage various customer service and billing issues related to the HPWH program, particularly the on-bill financing.
11	Increased funding for utility customer portal provider to accommodate on-bill financing	To be determined and requested in December 2022, but estimated at about $50,000	New one-time cost	A budget amendment is expected to be requested in December 2022 and will accompany a contract amendment for the City's portal provider. Work will begin on the customer portal using existing budgets.

Additional budget changes would be added as part of the FY 2024 budget to reflect ongoing changes to electric and gas revenues and expenses as well as the ongoing participant repayments of on-bill financing loans. This may include additional funding for legal expenses related to on-bill financing implementation.

9. Transition to a Scalable Program

Ideally, lessons learned in the pilot program will enable the program to be scaled to enable replacement of the 1100-1300 gas water heaters that reach end of life each year. To move to a fully scalable program after this pilot the additional funding described in section 7 would need to be eliminated. There is not enough additional funding available to scale this program to all single-family homes in Palo Alto and those multi-family homes with individual water heaters. To scale this program further, staff will need to reduce the program costs for turnkey installations, reconfigure the program to use more cost-effective methods, or find additional funding. With both tax credits and rebates available, the Inflation Reduction Act may provide enough funding to scale the program, possibly even without cost reductions. More research is needed and the City may need to gather more information as the program is implemented. It is also possible this pilot program may simply create enough momentum in the local water heater replacement market that the City can retire the turnkey aspect of the program and scale the water heater

program by simply focusing on outreach, rebates, and possibly third party financing programs like the GoGreen financing program.

The repayment of the Electrification Reserve will be done at the rate of return on the City's investment portfolio (1.6% to 3%) rather than at market interest rates for utility debt (currently around 4.25%). Staff estimates that it would cost about $1.9 million more to repay the Loan Reserve at market interest rates. This is relevant when considering the pricing needed to scale the program up, since there are not enough available utility reserves to fund an Electrification Reserve large enough for a program to cover all heat pump water heaters in Palo Alto. This means it would be necessary to attract outside capital using market interest rates, and that would increase the pricing needed to repay the capital.

10. Selected Programs from Other Agencies

Palo Alto is not the only community working on building electrification programs. More programs are summarized in Exhibit B, below. BayREN currently offers a $1000 HPWH rebate to residents in the nine Bay Area counties (excluding Palo Alto, Healdsburg, City of Alameda and Silicon Valley Power customers). In some jurisdictions, additional customer incentives are offered by the local community choice aggregator or local government, e.g. Peninsula Clean Energy (PCE), Silicon Valley Clean Energy, and Marin County offers an additional HPWH incentive of $1000; Redwood City offers a $500 HPWH rebate that can be layered on top of the BayREN and PCE rebates. SMUD currently offers a HPWH rebate of $2,500, with additional rebates available for adding electric circuit in preparation for appliance electrification.

At the state level, SB 1477 (2018) has created a TECH Clean California Initiative (TECH) to drive market adoption of heat pump space heating and water heating technologies in single family homes by targeting upstream and midstream market actors such as contractors and manufacturers. TECH provides contractor training and a contractor incentive of $1000 for each HPWH and HP HVAC installation project, although Palo Alto residents are ineligible for the TECH incentive since the program is funded by the cap and trade allowance revenues from gas investor owned utilities. As of May this year, SB 1477 funds for contractor incentives are fully reserved in PG&E and SDGE service territories; additional funding may be available pending adoption of SB 1261 (Stern).

Besides incentive and rebates, financing programs are available to support electrification projects. The California investor owned utilities (IOUs) currently offer a GoGreen Financing program to provide low-cost financing for energy retrofit projects to IOU customers. GoGreen covers a wide range of measures including shell insulation, efficiency upgrades, HPWHs, etc. Sonoma Clean Power offers 0% on-bill financing for loans of up to $10,000 for the installation of energy efficient and low carbon technologies. Note that customers apply for these programs.

The most comprehensive electrification program is currently undertaken by the City of Ithaca in New York, with the goal to fully decarbonize all 6,000 buildings within the city by 2030. The city has 30,000 residents, and more than 40% of Ithaca's home are more than 100 years old. Ithaca

is partnering with BlocPower to implement this goal by targeting the electrification of 600 commercial buildings and 1,000 residential buildings in the next 3 to 4 years.

One thing that distinguishes the planned Palo Alto program from most others is its ambition. This advanced pilot program in Palo Alto is larger as a share of population than others in the region, and it is intended to ultimately be scalable to all water heaters in the community.

The other thing that distinguishes Palo Alto from many of these other communities is its municipal utility. Palo Alto has an electric distribution system it must maintain. Other communities can provide incentives independently of the local utility. In some cases, the local utility could delay electrification projects until it can upgrade local transformer capacity (which could take as long as a year). Other agencies running electrification programs are not likely to be held responsible for these delays, but in Palo Alto, providing an electrification incentive, mandate, or other program that the City's distribution system was unable to accommodate could lead to a backlash against electrification efforts. The Grid Modernization effort discussed previously in this report will take a little time, but will lead to a greater pace of electrification than is likely possible in surrounding communities. The State is only beginning to discuss the capability of investor-owned utility distribution systems to handle electrification and establish requirements that they upgrade to accommodate it.

11. Electric Grid Impacts

One reason to focus on heat pump water heaters is that it has some of the lowest electric grid impacts of any building electrification technology. A significant area of discussion of the Council Ad Hoc S/CAP Committee related to electric grid impacts. The Committee heard from the Utilities Engineering team about the way the electric grid had originally been designed and the impact electrification was having. Historically, mixed-fuel Palo Alto homes had about a 3 kW peak load, which allowed the City to comfortably put as many as 10-15 homes on a single transformer. That equation is changing, given that a single electric vehicle charger can exceed 3 kW when charging. This means more transformers are needed, particularly in residential areas. In addition, the rise of more loads that use inverters and more solar panels and battery systems in Palo Alto means modernization of the grid is needed to avoid some of the more complex impacts these systems can have on an electric grid. The City is starting on a grid modernization study to evaluate upgrade needs and is expected to complete it in 2022 and begin modernization soon after. However, as the grid modernization effort ramps up, engineering capacity for unplanned transformer upgrades due to customer electrification efforts may be limited. The S/CAP Committee heard from Utilities engineering staff about its high vacancy rate (eleven vacant positions of seventeen budgeted) and challenges with recruitment and retention. In addition, electric vehicle chargers and large solar and battery systems are being installed more frequently, which requires more engineering time to review and occasional engineering and operations time to perform upgrades. There was agreement that to manage grid impacts while the modernization effort got off the ground there was a need to innovate to address recruitment and retention issues and to focus initial incentive programs on technologies like heat pump water heaters that have less of an impact on the electric system. Staff also intends to help residents electrify in grid-friendly ways where feasible, such as by communicating low-wattage solutions for vehicle charging and

building electrification and providing incentives. Staff is evaluating programs and communication materials to launch alongside a heat pump water heater program to mitigate the grid impacts of high-wattage EV chargers and other high wattage electrification and to help people understand how to set their technologies to operate in a grid-friendly manner.

Exhibit A: Electrification Reserve Repayment Schedule

Repayment of Electrification Loan Reserve																															
All amounts in thousands of dollars ($000)																															
Funding Needed	$7,422																														
Upfront Cutomer Payments	($1,710)																														
Cap & Trade	($1,215)																														
Electric Loan Reserve Initial Balance	$4,500																														
	Fiscal Year:																														
	2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**
Electrification Loan Reserve Beginning Balance	4,500	3	221	439	657	875	1,093	1,311	1,529	1,747	1,965	2,183	2,366	2,549	2,732	2,915	3,098	3,281	3,465	3,648	3,831	4,014	4,197	4,380	4,563	4,747	4,930	5,113	5,296	5,479	5,662
Expenses:																															
Turnkey Installation Cost	(4,497)																														
Repayment:																															
Annual deposit to Electrification Loan Reserve (30-year repayment)		173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173	173
Annual deposit to Electrification Loan Reserve (10-year repayment)		35	35	35	35	35	35	35	35	35	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Annual deposit to Electrification Loan Reserve (Rebates, 30-year repayment)		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
TOTAL		218	218	218	218	218	218	218	218	218	218	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183
Electrification Loan Reserve Ending Balance	3	221	439	657	875	1,093	1,311	1,529	1,747	1,965	2,183	2,366	2,549	2,732	2,915	3,098	3,281	3,465	3,648	3,831	4,014	4,197	4,380	4,563	4,747	4,930	5,113	5,296	5,479	5,662	5,846
Funding sources for repayment																															
Participant Monthly Payments		144	144	144	144	144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Electric Sales Net Income		64	67	68	71	74	77	81	84	88	92	96	100	104	108	112	117	121	125	130	135	140	145	150	156	160	165	170	175	181	191
Energy Supply Savings (PB EE)		69	71	71	72	73	75	76	78	80	81	83	83	79	75	71	67	62	58	53	48	43	38	33	27	23	18	13	8	3	-
TOTAL**		277	282	283	286	291	152	157	162	168	173	179	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	183	191
*Assume 1000 HPWHs installed immediately at the start of FY23 and loan is paid down each year prior to interest accruing (including in FY23)																															
**Note: Surpluses in years FY 2024 to FY 2028 are used to offset deficits In years FY 2029 to FY2033																															

Exhibit B: Selected Programs from Other Agencies

Abbreviations:
HPWH = Heat Pump Water Heater
HVAC = Heating, Ventilation, and Air Conditioning

Organization	Service Territory	Heat Pump Water Heater Program	Other Electrification Programs
BayREN	All nine Bay Areas counties, excluding publicly owned utilities like Palo Alto, Healdsburg, City of Alameda and Silicon Valley Power customers	$1000 customer rebate	Rebates available for heat pump HVAC ($1,000), induction range or cooktop ($750), heat pump dryer ($300) wall/attic insulation (up to $2,500), air sealing (up to $150), duct sealing or replacement (up to $800)
Peninsula Clean Energy (PCE)	San Mateo County	$1000 rebate (combines with BayREN rebate for $2000 total)	Additional $1,000 HPWH rebate for income qualifying customers
City of Redwood City	Redwood City	$500 rebate (combines with PCE and BayREN rebates for $2500 total)	Rebate for heat pump HVAC ($500), panel upgrade ($500), additional $500 rebate for income-qualified customers
Silicon Valley Clean Energy (SVCE)	Santa Clara County (excluding Palo Alto, Santa Clara, and San Jose)	$1000 rebate (combines with BayREN rebate for $2000 total)	Rebate for panel upgrade ($1500), additional $1,500 rebate for income-qualified customers
Marin County Energy (MCE)	Marin County	$1000 rebate (combines with BayREN rebate for $2000 total)	Additional $1,000 rebate for income-qualified customers

Exhibit B: Selected Programs from Other Agencies

Organization	Service Territory	Heat Pump Water Heater Program	Other Electrification Programs
Sonoma Clean Power (SCP)	Sonoma County (excluding publicly owned utilities like Healdsburg and Ukiah)	$3,100 rebate (combines with BayREN rebate for $4,100 total) 0% loans available for up to $10,000 in electrification projects, including HPWH	Rebate for heat pump HVAC ($3,000), heat pump dryer ($500), induction cooktop ($500)
Sacramento Municipal Utility District (SMUD)	Most of Sacramento County (and small, adjoining portions of Placer and Yolo Counties).	$2500 rebate	Rebate for induction cooktop ($750), heat pump HVAC ($3000), panel upgrade to support electrification ($2,500)
Energy-Smart Homes	Investor-owned utility electric customers that are not eligible for any Regional Area Network programs, including BayREN programs	$450 rebate	Rebate for ductless minisplit ($325 per ton), central heat pump ($90 per ton), heat pump dryer ($500)
TECH Clean California	Customers of Pacific Gas and Electric, Southern California Edison, San Diego Gas and Electric, and SoCal Gas	$1000 contractor rebate (as of May 2022, incentives fully reserved for PG&E and SDGE customers; additional funding may be available pending passage of SB 1261)	Multifamily heat pump incentives, Contractor workforce education & training, multiple regional pilots
City of Ithaca, New York	Ithaca, New York		Goal to fully decarbonize all 6,000 buildings in the city by 2030, 1,000 buildings in the next 3-4 years.

Attachment C

Resolution No. ____
Resolution of the Council of the City of Palo Alto Adopting Design Guidelines for an Advanced Heat Pump Water Heater Pilot Program to Further the City's Sustainability and Climate Action Plan Goals

R E C I T A L S

A. The Council has approved a Sustainability and Climate Action Plan Goal of 80% emissions reduction from 1990 levels by 2030, a Framework, and an Implementation Plan. A preliminary impact analysis reviewed by the Council on April 19, 2020 demonstrated that building and vehicle electrification was a critical part of achieving these goals.

B. The Council intends to establish various programs to promote building, appliance and vehicle electrification. Given State and Federal action on electric vehicles, local governments can be most effective in developing programs to promote electric vehicle charging and building electrification.

C. The Council finds that heat pump water heater technology is widely available, significantly reduces emissions when compared to natural gas water heating, and is a familiar technology that will allow the community to take immediate, manageable steps to reduce greenhouse gas emissions.

D. The Council finds that heat pump water heaters have lower grid impacts than other building electrification measures. The City's electric utility is undertaking a grid modernization effort, and Council wishes to prioritize heat pump water heaters while this grid modernization gets underway.

E. As a result, the Council wishes to prioritize the development of an ambitious Advanced Heat Pump Water Heater Pilot Program to convert gas water heaters to heat pump water heaters.

The Council of the City of Palo Alto ("City") RESOLVES as follows:

SECTION 1. The Council makes the following findings:

a) Prioritizing action on Advanced Heat Pump Water Heater Pilot Program ("the HPWH Program") does not preclude action on electrifying other types of equipment, action on Goals or Key Actions in other areas of the Sustainability and Climate Action Plan (such as Electric Vehicles or Mobility), or other parallel efforts to improve electric system reliability, streamline permitting, promote low-wattage vehicle charging and electrification strategies, or other barrier reduction strategies. The Council encourages continuing staff action and expects additional discussions in these areas.

b) The HPWH Program would benefit electric ratepayers by increasing utilization of the electric distribution system, spreading the cost of maintaining the system over more units sold, and decreasing costs for all ratepayers in the long term.

c) The HPWH Program would benefit gas ratepayers by avoiding future increasing environmental and transmission charges on gas use, by helping ratepayers begin an orderly, planned transition from natural gas use consistent with State and local climate goals, and by helping ratepayers adopt the most cost-effective method of heating water, lowering their utility bills overall.

d) The HPWH Program is a "cost-effective demand-side management service to promote energy efficiency and energy conservation" under State Public Utilities Code 385(a)(3) because the cost of heating water using efficient heat pumps and low-cost Palo Alto electricity is lower than the cost of heating water using a gas water heater.

SECTION 2. The Council approves the Design Guidelines for an Advanced Heat Pump Water Heater Pilot Program (Exhibit A).

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SECTION 3. The Council finds that the adoption of this resolution is not subject to California Environmental Quality Act (CEQA) review because it is an administrative government activity that will not result in any direct or indirect physical change to the environment (CEQA Guidelines section 15378(b)(5)).

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

_____
Assistant City Attorney

APPROVED:

_____
City Manager

_____
Director of Utilities

_____
Director of Administrative Services

Exhibit A to Resolution No. _____
Adopted by Council on _____

Advanced Heat Pump Water Heater Pilot Design Guidelines

The following design guidelines are intended to guide the development of an Advanced Heat Pump Water Heater Pilot Program ("the HPWH Program"):

1. The goal of the HPWH Program should be to achieve at least 1000 conversions of gas water heaters to heat pump water heaters with the goal of transitioning to a full-scale program intended to convert all gas water heaters in Palo Alto to heat pump water heaters.
2. The HPWH Program should include a marketing effort sufficient to increase awareness of the climate benefits and utility bill savings of heat pump water heaters over gas water heaters.
3. The HPWH Program should reduce barriers to residents in installing heat pump water heaters by measures including, but not limited to:
    a. Turnkey installation of heat pump water heaters by a City contractor
    b. Utility on-bill financing
    c. Enhanced rebates
    d. Partnership with third party financing programs
4. The HPWH Program should offer pricing to early participants attractive enough to compete with gas water heater installations.
5. The HPWH Program should take advantage of all utility-related benefits, such as increased revenues and decreased energy supply costs, to minimize program costs.
6. When setting participant pricing, staff should ensure that a) the HPWH Program is attractive to residents but that b) the HPWH Program achieves its goals within the amount of funding provided by utility-related benefits and any Council-approved funds.
7. On-bill financing should be attractive to participants, easy to understand, simple to administer, and accessible, which could involve features such as:
    a. Uniform loan amounts that do not vary by project
    b. Monthly payments that are similar to the on-bill savings experienced by most participants
    c. Simple qualifications to participate (e.g. history of utility bill payment instead of using credit scores for qualification)

Attachment D

Resolution No. ____
Resolution of the Council of the City of Palo Alto Establishing an Electrification Reserve and Amending the Electric Utility Reserves Management Practices

R E C I T A L S

A. The Council has approved a Sustainability and Climate Action Plan Goal of 80% reduction from 1990 levels by 2030, a Framework, and an Implementation Plan. A preliminary impact analysis reviewed by the Council on April 19, 2020 demonstrated that building and vehicle electrification was a critical part of achieving these goals.

B. The Council intends to establish various programs to promote building, appliance and vehicle electrification. Simple, easy to access financing can help residents and businesses in Palo Alto participate in these programs.

C. These programs are intended to be large in scale, potentially reaching thousands of homeowners and businesses, and are expected to require significant start up and operational funding.

D. The Council wishes to establish a reserve that could be used to fund building, appliance and vehicle electrification projects and programs, including rebates and other financial incentives designed to assist residents and businesses with these projects.

E. The Council wishes to establish an Advanced Heat Pump Water Heater Pilot Program and fund the Electrification Reserve sufficiently to administer this program.

The Council of the City of Palo Alto ("City") RESOLVES as follows:

SECTION 1. The Council authorizes the City Manager or his designee to establish an Electrification Reserve in the City's Electric Utility Distribution Fund.

SECTION 2. The Council amends the Electric Utility Reserves Management Practices (Appendix B of the FY 2023 Electric Utility Financial Plan) as shown in Exhibit A to establish management practices for the Electrification reserve.

SECTION 3. The Council hereby approves the following reserve transfer:

a. Up to $4,500,000 in FY 2023 from the Electric Special Projects Reserve to the Electrification Reserve.

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SECTION 4. The Council finds that the adoption of this resolution is not subject to California Environmental Quality Act (CEQA) review because it is an administrative government activity that will not result in any direct or indirect physical change to the environment (CEQA Guidelines section 15378(b)(5)).

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

_____
Assistant City Attorney

APPROVED:

_____
City Manager

_____
Director of Utilities

_____
Director of Administrative Services

6056668

Exhibit A to Resolution No. _____
Adopted by Council on _____

ELECTRIC UTILITY RESERVES MANAGEMENT PRACTICES

The following reserves management practices are used when developing the Electric Utility Financial Plan:

Section 1. Definitions

a) "Financial Planning Period" – The Financial Planning Period is the range of future fiscal years covered by the Financial Plan. For example, if the Financial Plan delivered in conjunction with the FY 2015 budget includes projections for FY 2015 to FY 2019, FY 2015 to FY 2019 would be the Financial Planning Period.
b) "Fund Balance" – As used in these Reserves Management Practices, Fund Balance refers to the Utility's Unrestricted Net Assets.
c) "Net Assets" - The Government Accounting Standards Board defines a Utility's Net Assets as the difference between its assets and liabilities.
d) "Unrestricted Net Assets" - The portion of the Utility's Net Assets not invested in capital assets (net of related debt) or restricted for debt service or other restricted purposes.

Section 2. Supply Fund Reserves

The Electric Supply Fund Balance is reserved for the following purposes:

a) For existing contracts, as described in Section 4 (Reserve for Commitments)
b) For operating budgets reappropriated from previous years, as described in Section 5 (Reserve for Reappropriations)
c) For special projects for the benefit of the Electric Utility ratepayers, as described in Section 6 (Electric Special Projects Reserve)
d) For year to year balancing of costs associated with the Electric Utility's hydroelectric resources, as described in Section 7 (Hydroelectric Stabilization Reserve)
e) For rate stabilization, as described in Section 1.d) (Rate Stabilization Reserves)
f) For operating contingencies, as described in Section 12 (Operations Reserves)
g) Any funds not included in the other reserves will be considered Unassigned Reserves and shall be returned to ratepayers or assigned a specific purpose as described in Section 13 (Unassigned Reserves).

Section 3. Distribution Fund Reserves

The Electric Distribution Fund Balance is reserved for the following purposes:

a) For existing contracts, as described in Section 4 (Reserves for Commitments)
b) For operating and capital budgets reappropriated from previous years, as described in Section 5 (Reserves for Reappropriations)
c) As an offset to underground loan receivables, as described in Section 8 (Underground Loan Reserve)
d) To hold Public Benefit Program funds collected but not yet spent, as described in Section 9 (Public Benefits Reserve)

e) For cash flow management and contingencies related to the Electric Utility's Capital Improvement Program (CIP), as described in Section 10 (CIP Reserve)
f) For rate stabilization, as described in Section 11.d) (Rate Stabilization Reserves)
g) For operating contingencies, as described in Section 12 (Operations Reserves)
h) For tracking of Low Carbon Fuel Standard (LCFS) revenues as described in Section 15 (LCFS Reserve)
i) For tracking of Cap and Trade Program revenues as described in Section 16 (Cap and Trade Reserve)
~~g)~~j) For electrification programs, as described in Section 17 (Electrification Reserve)
~~h)~~k) Any funds not included in the other reserves will be considered Unassigned Reserves and shall be returned to ratepayers or assigned a specific purpose as described in Section 14 (Unassigned Reserves).

Section 4. Reserves for Commitments

At the end of each fiscal year the Electric Supply Fund and Electric Distribution Fund Reserves for Commitments will be set to an amount equal to the total remaining spending authority for all contracts in force for the Electric Supply Fund and Electric Distribution Fund, respectively, at that time.

Section 5. Reserves for Reappropriations

At the end of each fiscal year the Electric Supply Fund and Electric Distribution Fund Reserves for Reappropriations will be set to an amount equal to the amount of all remaining capital and non-capital budgets that will be reappropriated to the following fiscal year for each Fund in accordance with Palo Alto Municipal Code Section 2.28.090.

Section 6. Electric Special Projects Reserve

The Electric Special Projects Reserve (ESP Reserve) will be managed in accordance with the policies set forth in Resolution 9206 (Resolution of the Council of the City of Palo Alto Approving Renaming the Calaveras Reserve to the Electric Special Project Reserve and Adoption of Electric Special Project Reserve Guidelines). These policies are included from Resolution 9206 as amended to refer to the reserves structure set forth in these Reserves Management Practices:

a) The purpose of the ESP Reserve is to fund projects that benefit electric ratepayers;
b) The ESP Reserve funds must be used for projects of significant impact;
c) Projects proposed for funding must demonstrate a need and value to electric ratepayers. The projects must have verifiable value and must not be speculative, or high-risk in nature;
d) Projects proposed for funding must be substantial in size, requiring funding of at least $1 million;
e) Set a goal to commit funds by the end of FY 2025;
f) Any uncommitted funds remaining at the end of FY 2030 will be transferred to the Electric Supply Operations Reserve and the ESP Reserve will be closed;

Section 7. Hydroelectric Stabilization Reserve

The Hydroelectric Stabilization Reserve is used to manage the supply cost impacts associated with variations in generation from hydroelectric resources. Staff will manage the Hydroelectric

Stabilization Reserve as follows:

a) Projected Hydro Output: Near the end of each fiscal year, staff will determine the actual and expected hydro output for that fiscal year, compare that to the long-term average annual output level (495,957 MWh as of March 2018), and multiply the difference by the average of the monthly round-the-clock forward market prices for each month of the current fiscal year.
b) Changes in Reserves. Staff is authorized to transfer the amount described in Sec. 7(a) from the Operations Reserve to the Hydroelectric Stabilization Reserve for hydro output deviations above long-term average levels, or transfer this amount from the Hydroelectric Stabilization Reserve to the Operations Reserve for hydro output deviations below long-term average levels.
c) Implementation of HRA. The level of the Hydroelectric Stabilization Reserve *after* the transfers described above shall be the basis for staff's determination, with Council approval, of whether to implement the Hydro Rate Adjuster (Electric Rate E-HRA) for the following fiscal year.
d) Reserve Guidelines. Staff will manage the Hydroelectric Stabilization Reserve according to the following guideline levels:

Minimum Level	$3 million
Target Level	$19 million
Maximum Level	$35 million

Section 8. Underground Loan Reserve

At the end of each fiscal year, the Underground Loan Reserve will be adjusted by the principal payments made against outstanding underground loans.

Section 9. Public Benefits Reserve

The Public Benefits Reserve will be increased by the amount of unspent Public Benefits Revenues remaining at the end of each fiscal year. Expenditure of these funds requires action by the City Council.

Section 10. CIP Reserve

The CIP Reserve is used to manage cash flow for capital projects and acts as a reserve for capital contingencies. Staff will manage the CIP Reserve according to the following practices:

a) The following guideline levels are set forth for the CIP Reserve. These guideline levels are calculated for each fiscal year of the Financial Planning Period and approved by Council resolution.

Minimum Level	20% of the maximum CIP Reserve guideline level
Maximum Level	Average annual (12 month)[1] CIP budget, for 48 months of budgeted CIP expenses[2]

[1] Each month is calculated based upon 1/12 of the annual budget.

[2] For example, in the Financial Plan for FY 2021, the 48 month period to use to derive the annual average is FY 2021 through FY 2024. In the FY 2022 Financial Plan, the 48 month period to use to derive the annual average would be FY 2022 through FY 2025 etc.

b) Changes in Reserves: Staff is authorized to transfer funds between the CIP Reserve and the Reserve for Commitments when funds are added to or removed from the Reserve for Commitments as a result of a change in contractual commitments related to CIP projects. Any other additions to or withdrawals from the CIP reserve require Council action.

c) Minimum Level:
   i) If, at the end of any fiscal year, the minimum guideline is not met, staff shall present a plan to the City Council to replenish the reserve. The plan shall be delivered by the end of the following fiscal year, and shall, at a minimum, result in the reserve reaching its minimum level by the end of the next fiscal year. For example, if the CIP Reserve is below its minimum level at the end of FY 2017, staff must present a plan by June 30, 2018 to return the reserve to its minimum level by June 30, 2019. In addition, staff may present, and the Council may adopt, an alternative plan that takes longer than one year to replenish the reserve, or that does so in a shorter period of time.

d) Maximum Level: If there are funds in this reserve in excess of the maximum level staff must propose in the next Financial Plan to transfer these funds to another reserve or return them to ratepayers in the funds to ratepayers, or designate a specific use of funds for CIP investments that will be made by the end of the next Financial Planning period. Staff may also seek City Council to approve holding funds in this reserve in excess of the maximum level if they are held for a specific future purpose related to the CIP.

Section 11. Rate Stabilization Reserves

Funds may be added to the Electric Supply or Distribution Fund's Rate Stabilization Reserves by action of the City Council and held to manage the trajectory of future year rate increases. Withdrawal of funds from either Rate Stabilization Reserve requires action by the City Council. If there are funds in either Rate Stabilization Reserve at the end of any fiscal year, any subsequent Electric Utility Financial Plan must result in the withdrawal of all funds from this Reserve by the end of the Financial Planning Period. The Council may approve exceptions to this requirement, when proposed by staff to provide greater rate stabilization to customers.

Section 12. Operations Reserves

The Electric Supply Fund and Electric Distribution Fund Operations Reserves are used to manage normal variations in the costs of providing electric service and as a reserve for contingencies. Any portion of the Electric Utility's Fund Balance not included in the reserves described in Section 4 to 11 above will be included in the appropriate Operations Reserve unless the reserve has reached its maximum level as set forth in Section 12 (e) below. Staff will manage the Operations Reserves according to the following practices:

a) The following guideline levels are set forth for the Electric Supply Fund Operations Reserve. These guideline levels are calculated for each fiscal year of the Financial Planning Period based on the levels of Operations and Maintenance (O&M) and commodity expense forecasted for that year in the Financial Plan.

Minimum Level	60 days of Supply Fund O&M and commodity expense
Target Level	90 days of Supply Fund O&M and commodity expense
Maximum Level	120 days of Supply Fund O&M and commodity expense

b) The following guideline levels are set forth for the Electric Distribution Fund Operations Reserve. These guideline levels are calculated for each fiscal year of the Financial Planning Period based on the levels of O&M expense forecasted for that year in the Financial Plan.

Minimum Level	60 days of Distribution Fund O&M expense
Target Level	90 days of Distribution Fund O&M expense
Maximum Level	120 days of Distribution Fund O&M expense

c) Minimum Level: If, at the end of any fiscal year, the funds remaining in the Supply Fund or Distribution Fund's Operations Reserve are lower than the minimum level set forth above, staff shall present a plan to the City Council to replenish the reserve. The plan shall be delivered within six months of the end of the fiscal year, and shall, at a minimum, result in the reserve reaching its minimum level by the end of the following fiscal year. For example, if the Operations Reserve is below its minimum level at the end of FY 2014, staff must present a plan by December 31, 2014 to return the reserve to its minimum level by June 30, 2015. In addition, staff may present an alternative plan that takes longer than one year to replenish the reserve.

d) Target Level: If, at the end of any fiscal year, either Operations Reserve is higher or lower than the target level, any Financial Plan created for the Electric Utility shall be designed to return both Operations Reserves to their target levels by the end of the forecast period.

e) Maximum Level: If, at any time, either Operations Reserve reaches its maximum level, no funds may be added to this Reserve. Any further increase in that fund's Fund Balance shall be automatically included in the Unassigned Reserve described in Section 13, below.

Section 13. Unassigned Reserves

If the Operations Reserve in either the Electric Supply Fund or the Electric Distribution Fund reaches its maximum level, any further additions to that fund's Fund Balance will be held in the Unassigned Reserve. If there are any funds in either Unassigned Reserve at the end of any fiscal year, the next Financial Plan presented to the City Council must include a plan to assign them to a specific purpose or return them to the Electric Utility ratepayers by the end of the first fiscal year of the next Financial Planning Period. For example, if there were funds in the Unassigned Reserves at the end of FY 2016, and the next Financial Planning Period is FY 2017 through FY 2021, the Financial Plan shall include a plan to return or assign the funds in the Unassigned Reserve by the end of FY 2017. Staff may present an alternative plan that retains these funds or returns them over a longer period of time.

Section 14. Intra-Utility Transfers between Supply and Distribution Funds

Transfers between Electric Distribution Fund Reserves and Electric Supply Fund Reserves are permitted if consistent with the purposes of the two reserves involved in the transfer. Such transfers require action by the City Council.

Section 15. Low Carbon Fuel Standard (LCFS) Reserve

This reserve tracks revenues earned via the sale of Low Carbon Fuel Credits allocated by the California Air Resources Board to the City, as well as expenses incurred, in accordance with California's Low Caron Fuel Standard program. At the end of each fiscal year, the LCFS Reserve will be adjusted by the net of revenues and expenses associated with California's LCFS program.

Section 16. Cap and Trade Program Reserve

This reserve tracks unspent or unallocated revenues from the sale of carbon allowances freely allocated by the California Air Resources Board to the electric utility, under the State's Cap and Trade Program. Funds in this Reserve are managed in accordance with the City's Policy on the Use of Freely Allocated Allowances under the State's Cap and Trade Program (the Policy), adopted by Council Resolution 9487 in January 2015.

Section 17. Electrification Reserve

This reserve is used to track funding of City building, appliance and vehicle electrification projects and programs, including development and implementation costs and associated financial incentives, loans and rebates for participating customers. The reserve may be funded by any lawful source of funds available for such programs, including new or ongoing utility revenues derived from customer participation. The reserve balance shall be annually adjusted based on the net of revenues and expenses associated with the City's building, appliance and vehicle electrification projects and programs using this reserve.

Attachment E

Resolution No. ____
Resolution of the Council of the City of Palo Alto Amending the City's Policy on the Use of Freely Allocated Allowances Under the State's Cap-and-Trade Program and Authorizing the City Manager to use $1.25 million from the Gas Utility Cap and Trade Reserve for the Advanced Heat Pump Water Heater program

R E C I T A L S

A. The Global Warming Solutions Act, also known as Assembly Bill 32 (AB 32), as amended by Senate Bill 32 (2016), requires that California's Greenhouse Gas {GHG) emissions be reduced 40% below 1990 levels by 2030, and authorized the California Air Resources Board (CARB) to develop regulations to reach this goal.

B. Under the terms of CARB's cap-and-trade regulations, including Title 17 California Code of Regulations Sections 95892 (d)(2) and 95893 (d)(3), the City is required to sell a portion of these allocated allowances in the auctions conducted by CARB and utilize the auction sale proceeds "exclusively for the benefit of retail electric ratepayers" (for the electric utility) or "exclusively for the benefit of retail ratepayers of each natural gas supplier" (for the gas utility) and "consistent with the goals of AB 32".

C. On January 26, 2015 the Council approved a Policy on the Use of Freely Allocated Allowances Under the State's Cap and Trade Program (Resolution 9487).

D. The Council of the City of Palo Alto supports the state's AB 32 goals and intends to implement the City's Policy on the Use of Freely Allocated Allowances Under the State's Cap- and-Trade Program (formerly titled the Cap-and-Trade Revenue Utilization Policy) in furtherance of these goals.

E. The Council has approved a Sustainability and Climate Action Plan Goal of 80% emissions reduction from 1990 levels by 2030, a Framework, and an Implementation Plan. A preliminary impact analysis reviewed by the Council on April 19, 2020 demonstrated that building and vehicle electrification was a critical part of achieving these emissions reduction goals.

F. The Council intends to establish various programs to promote building, appliance and vehicle electrification, which will require significant funding. The Council wants to amend the previously approved policy to clearly state its intention to use revenues from the sale of City's Gas Cap and Trade allowances for building, appliance and vehicle electrification.

The Council of the City of Palo Alto ("City") RESOLVES as follows:

SECTION 1. The Council finds that the use of revenues from the auction of freely allocated Gas Utility allowances under the State's Cap and Trade program to promote building, appliance and vehicle electrification, when such conversions also reduce greenhouse gas emissions,

provides a variety of benefits to the City's gas customers, including:

a. furthering State and local climate protection goals by reducing natural gas-related emissions due to the long-term and orderly transition away from natural gas to carbon neutral electricity;
b. avoiding increasing environmental and transmission charges on gas use;
c. decreasing the energy cost of operating equipment, vehicles, and appliances due to Palo Alto's low electricity costs;
d. avoiding increasing natural gas distribution system maintenance costs.

SECTION 2. The Council finds that because nearly all members of the community use both natural gas and electricity, fuel switching from natural gas to electricity reduces energy costs and greenhouse gas emissions and facilitates an orderly transition away from natural gas at the lowest feasible cost, it is of benefit to both gas and electric ratepayers to use revenues from auction of both gas and electric allowances under the State's Cap and Trade program to promote fuel switching.

SECTION 3. The City's Policy on the Use of Freely Allocated Allowances Under the State's Cap-and-Trade Program is amended as shown in Exhibit A.

SECTION 4. The Council grants the City Manager or his designee the authority to implement the Policy on the Use of Freely Allocated Allowances Under the State's Cap-and-Trade Program and to use allowances and allocate auction revenues to projects or expenditures as defined in Exhibit A.

SECTION 5. The Council affirms the use of up to $1.25 million in revenues from gas utility participation in the State's Cap and Trade program to fund an Advanced Heat Pump Water Heater Pilot, as described in Staff Report 14606.

SECTION 6. The Council finds that the implementation of this Policy, including the use of revenue derived from it, and the expenditures of funds necessary to implement it, represent the City's cost of regulatory compliance with the state's cap-and-trade program and are consistent with the goals of AB 32. Such costs therefore represent the reasonable costs of providing service to CPAU's gas customers.

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SECTION 7. The Council finds that the amendment of this policy does not meet the definition of a "project" under the California Environmental Quality Act, as defined by California Public Resource Code Section 21065.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

APPROVED:

_____
Assistant City Attorney

_____
City Manager

_____
Director of Utilities

_____
Director of Administrative Services

6056672

Exhibit A to Resolution No. _____
Adopted by Council on _____

CITY OF PALO ALTO POLICY ON THE USE OF FREELY ALLOCATED ALLOWANCES UNDER THE STATE'S CAP-AND-TRADE PROGRAM

This Policy applies to freely allocated greenhouse gas (GHG) emission allowances from the California Air Resources Board (CARB) to the City of Palo Alto's electric and natural gas distribution utilities ("Allocated Allowances"). The City Manager or his designee is authorized to use Allocated Allowances and any resulting revenue in any lawful manner consistent with this policy.

The City's Policy on the Use of Freely Allocated Allowances for the Electric Utility is as follows:

1. The City shall abide by CARB's regulations by using the auction proceeds and allowance value obtained from the City's allocated allowances for the exclusive benefit of the City's electric retail ratepayers, consistent with the goals of the Global Warming Solutions Act, also known as Assembly Bill 32 (AB 32), and not for the benefit of entities or persons other than such ratepayers.

2. The following uses of the City's auction proceeds are permitted:
   a) Purchases or investment in renewable resources (outside Palo Alto or locally) for the electric portfolio;
   b) Investment in energy efficiency programs for the electric portfolio and retail customers;
   c) Fuel switching from other fuels to electricity that reduces greenhouse gas emissions;
   ~~c)~~d) Investment in other carbon reduction activities, including those required to achieve a carbon-neutral electric portfolio; and
   ~~d)~~e) Rebates to electric retail ratepayers.

3. Allocated allowances may also be used to meet the City's electric utility's compliance obligations for electricity scheduled into the California Independent System Operator Markets, should state law eventually permit this action.

4. Council will receive annual reports on the allowance revenues and expenditures associated with complying with CARB regulations and this policy.

5. Additional Council approval will be required for any rebates to electric ratepayers proposed under this Policy.

The City's Policy on the Use of Freely Allocated Allowances for the Gas Utility is as follows:

1. The City shall abide by CARB's regulations by using the auction proceeds for the exclusive benefit of the City's natural gas retail ratepayers, consistent with the goals of the Global Warming Solutions Act, also known as Assembly Bill 32 (AB32), and not for the benefit of entities or persons other than such ratepayers.

2. A portion of the Allocated Allowances can be used to meet the City's natural gas utility's compliance obligations, and the remaining Allocated Allowances will be consigned to auction.

3. The following uses of the City's auction proceeds from the sale of Allocated Allowances are permitted, with a preference that greenhouse gas reduction measures be pursued before providing rebates:
   a. Investment in energy efficiency programs for the natural gas portfolio and retail customers;
   b. Purchases or investment in cost effective renewable bio-gas resources for the gas portfolio;
   c. Fuel switching from natural gas to electricity that reduces greenhouse gas emissions;
   ~~c.~~d. Investment in other carbon reduction activities for the natural gas utility, including system maintenance or replacement to reduce fugitive gas emissions;
   ~~d.~~e. Rebates to natural gas retail ratepayers. Rebates, if provided, must be allocated on a non-volumetric basis ~~-~~as stated in Title 17 CCR Section 95893 (d)(3).

4. Council will receive annual reports on the use of Allocated Allowances, including the use of auction revenues and expenditures associated with complying with CARB regulations and this policy.

5. Additional Council approval will be required for any rebates to natural gas ratepayers proposed under this policy.

Attachment F

Resolution No. ____
Resolution of the Council of the City of Palo Alto Adopting a Carbon Neutrality Goal to Further the Climate Goals of the Sustainability and Climate Action Plan

R E C I T A L S

A. In December 2007, Council adopted the City's Climate Protection Plan which set a greenhouse gas (GHG) emissions reduction goal of 20% reduction by the year 2020.

B. In March 2013, Council approved Resolution 9322 directing staff to achieve carbon neutrality for the electric supply portfolio by 2013 through the use of a combination of hydroelectric resources, long-term renewable resources and short-term renewable energy resources and/or renewable energy certificates (RECs).

C. In 2013, Council established the Office of Sustainability to work with other City departments to bring a sharper strategic focus, better interdepartmental synergy, and greater momentum to the City's sustainability and climate initiatives.

D. In April 2016, Council adopted a GHG emissions reduction goal of 80% reduction by the year 2030, relative to a 1990 baseline (the "80 x 30" goal). In 2016, the City and Community reduced GHG emissions an estimated 37% relative to the 1990 baseline.

E. In December 2016, Council approved Resolution 9649 directing staff to achieve carbon neutrality for the natural gas supply portfolio by 2018 through the use of high-quality environmental offsets and physical "biogas" or "biomethane".

F. In September 2018, Governor Brown issued California Executive Order B-55-18, setting the goal to achieve carbon neutrality as soon as possible, by 2045 at the latest, and achieve and maintain net negative emissions from that point forward. As defined by the California Air Resources Board, "Carbon neutrality means that all GHG emissions emitted into the atmosphere are balanced in equal measure by GHGs that are removed from the atmosphere, either through carbon sinks or carbon capture and storage".

G. In 2020, the City and Community reduced GHG emissions an estimated 50.6% relative to the 1990 baseline.

H. In April 2021, Council directed the Mayor to form a Sustainability and Climate Action Plan (S/CAP) Ad Hoc Committee to guide the development, implementation, communication, and future community engagement of the S/CAP. In April 2022, the S/CAP Ad Hoc Committee began discussions on carbon neutrality. The "80 x 30" goal is an interim step that supports California's statewide goal of achieving carbon neutrality by 2045.

I. As a result, the Council wishes to adopt a carbon neutrality goal to further the climate goals of the S/CAP beyond the "80 x 30" goal, and direct staff to evaluate how the City would meet a carbon neutrality goal.

The Council of the City of Palo Alto ("City") RESOLVES as follows:

SECTION 1. The Council hereby approves a goal to achieve carbon neutrality by 2035.

SECTION 2. The Council finds that the adoption of this resolution is not subject to California Environmental Quality Act (CEQA) review because it is an administrative government activity that will not result in any direct or indirect physical change to the environment (CEQA Guidelines section 15378(b)(5)).

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

APPROVED:

_____
Assistant City Attorney

_____
City Manager

_____
Director of Utilities

_____
Director of Administrative Services

Attachment G

Utilities Legislative Policy Guidelines: 2022 Update

City of Palo Alto Utilities Department (CPAU) staff will use the below guidelines as well as the City's guidelines to help determine any advocacy position or action on Utilities-related issues. Formal advocacy, such as submitting written letters or comments and meeting with policymakers and/or staff, requires the approval of the Utilities Director or his designee.

1. Seek to preserve local government flexibility, discretion, accountability, and oversight of matters impacting utility programs, services, activities, and rates. Oppose action that could hamper or minimize this flexibility or discretion.

2. Where possible, seek funding and program incentives.

3. Advocate for reasonable government action with minimal customer impact that allows for flexibility and implementation feasibility.

4. Advocate for locally-designed conservation or efficiency programs. Support reasonable State conservation or efficiency requirements that consider local populations, environment, and resources.

5. Inform state and federal policymakers about CPAU's current programs, services, goals, and reporting requirements.

6. Oppose unnecessary, unreasonable, impractical, or costly rates or mandates.

7. Collaborate with and support the efforts of regional agencies and associations whose goals align with ours.

8. Advocate for fair cost allocation and support the principle of beneficiary pays.

9. Support efforts to maintain or improve the security and reliability of our infrastructure.

10. Support government action that cost effectively reduces greenhouse gas emissions.

11. Promote locally-designed residential and commercial electrification programs.

12. Support government action allowing CPAU to maintain customer confidentiality.

13. Support government action to expand the workforce in trades and technical disciplines necessary to support building and vehicle electrification and grid modernization.

City of Palo Alto

City Council Staff Report

(ID # 14789)

Meeting Date: 9/27/2022 **Report Type: Information Reports**

Title: Independent Police Auditor's (IPA) Report of Review of Investigations as of June 1, 2022 and Police Department Use of Force Report for January - June 2022

From: City Manager

Lead Department: City Manager

Independent Police Auditor's Report on Investigations Completed as of June 1, 2022:

Since 2006, Palo Alto has utilized an Independent Police Auditor (IPA) to conduct secondary review of certain investigations of uniformed Police Department personnel and provide related services. Since the inception of the independent police auditing program, the City has contracted with the Office of Independent Review (OIR Group), to provide these services. The following report transmits the Independent Police Auditor Report on Investigations Completed as of June 1, 2022.

Attachment A contains the IPA report for investigations completed as of June 1, 2022 and **Attachment B** contains the Complaint table.

For reference, the prior IPA report was published on February 14, 2022 as an Informational Item, see Item 11 (starts on packet page 256). The Police Department's website lists all past Independent Police Auditor Reports, here. For an overview of the history of the expanded scope of the IPA work, please visit the City's Race and Equity webpage at: www.cityofpaloalto.org/raceandequity.

POLICE DEPARTMENT'S RESPONSE TO IPA RECOMMENDATIONS

On March 14, 2022, the City Council directed the Police Department to provide written responses to future IPA recommendations (Minutes). The first report of Police Department responses to the IPA report after the March City Council action was June 20, 2022 (Page 827 of PDF is report #14472).

Attachment C has the Department's responses to the current IPA Report on Investigations Completed as of June 1, 2022.

POLICE DEPARTMENT'S USE OF FORCE REPORT FOR JANUARY 2022-JUNE 2022

In 2020, the City Council directed staff to include use of force information when transmitting the IPA reports to the City Council. This information was reported on an annual basis for the first report shared in February 2022.

Attachment D contains the Department's Use of Force Report for January 2022 – June 2022.

PROCESS TO FILE A COMPLAINT TO THE IPA

The public can find more information about filing a complaint through the link here: https://www.cityofpaloalto.org/Departments/Police/Accountability/Employee-Complaint

Complaints may also be directed to the Independent Police Auditor as follows:

Contact: Mr. Mike Gennaco Phone: (323) 412-0334 Email: Michael.gennaco@oirgroup.com	Or mail to: OIR Group 1443 E. Washington Blvd., #234 Pasadena, CA 91104

Attachments:

- **Attachment11.a:** Attachment A: Palo Alto Report FINAL 9-10-22
- Attachment11.b: Attachment B: Palo Alto Complaint Table 9-22
- Attachment11.c: Attachment C: PAPD Response to OIR Recommendations Jan-Jun 2022
- Attachment11.d: Attachment D: PAPD Use of Force Supplemental Report Jan-Jun 2022

INDEPENDENT POLICE AUDITORS' REPORT

Review of Investigations Completed as of June 1, 2022

Presented to the Honorable City Council

City of Palo Alto

September 2022

Prepared by: Michael Gennaco and Stephen Connolly

Independent Police Auditors for
the City of Palo Alto

OIR GROUP

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Introduction

This Report constitutes OIR Group's[1] second submission to the City for the year 2022, in keeping with the City Council's recently revised framework for both our timeline and scope of work. It includes discussion of fifteen separate matters that were investigated internally by the Palo Alto Police Department in the latter part of 2021 and the first several months of this year.

Seven of the cases discussed were complaints that were initiated by members of the public across a range of allegations. (The eighth investigation was initiated internally by PAPD). The Department conducted its review, often by relying on body-worn camera recordings that provided definitive evidence about the actions of the officers. Unquestionably, the City's shift to that technology in recent years has had a significant impact on the investigation process. And because our contract provides us with total access to those materials, we are able to develop our own independent impressions with a new level of thoroughness and transparency.

The Department found that the officers had violated policy in two of the eight cases. We concurred with that assessment based on the available evidence. Importantly, though, the analysis does not end at that "bottom line question." As discussed below, several of the other cases produced moments in which PAPD found aspects of officer performance that warranted attention and response, even when formal discipline was not warranted. This is an encouraging approach to the discipline process – as a chance to utilize public feedback and the review system to enhance effectiveness in the future. Additionally, our independent scrutiny led to other insights that we hope the Department will act upon.

We also looked at one Taser deployment and six other force incidents that resulted in a hospital trip (though often for precautionary reasons only). In each instance, the force was found to be reasonable and justified, and we concurred with those assessments. As with the complaint allegations, part of our endorsement of the PAPD conclusions was a function of the rigorous review process that they have adopted. While it is not always

[1] OIR Group is a team of police practices experts based in southern California. It is led by Michael Gennaco, a former federal prosecutor and a nationally recognized expert in the field of civilian oversight of law enforcement. Since 2007, OIR Group has served as Palo Alto's Independent Police Monitor. www.oirgroup.com

flawless, it does make a concerted effort to review such incidents in holistic, thorough ways that hold officers to an appropriate standard.[2]

With regard to the force cases in particular, several of them involved individuals with apparent mental health concerns. This is not a new phenomenon, but it is one that is being subjected to new expectations for law enforcement and new contributions from other resources – including teams of mental health experts. That reality informs much of the discussion below. And it will continue to be a focal point, especially during a time of transition in which jurisdictions all over the country – including Palo Alto – experiment with alternative approaches.

As we mention below, the City launched its own "Psychiatric Emergency Response Team" model in November of 2021 to supplement a county-wide concept that had previously existed. Other support-based initiatives are also in the works. We look forward to future opportunities to assess how PAPD is integrating these concepts into its own operations. Our understanding from Department personnel at various rank levels is that the help is very welcome – and that PAPD officers deserve credit for the countless past incidences of successful resolution when calls for service have involved people in mental health crisis. Ideally, the experience and skill of Department members in this important arena will translate well to modified roles and new strategies.

With regard to mental health issues and the other encounters described below, our individual case summaries and analyses are accompanied by recommendations for adjustments to Department practice. These ideas arise from the specific incidents in question, but are meant to have future applicability in terms of refinements to systemic approaches or officer performance.

While we have been making such recommendations since the outset of our time in Palo Alto, and have had numerous interactions with Department leadership over the years as to their viability and implementation, the Department had not been formally accountable for responding in a public-facing way. That changed during the most recent report cycle. At the request of the City Council, the Department issued a written response to each of the recommendations in our last report, and will presumably continue to do so with the thirteen new suggestions that are discussed below. We are pleased to note that the Department agreed with each of the nineteen recommendations that emerged in the last Report, and made several responsive modifications to its policies and procedures.

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[2] We also take this opportunity to note that we have been informed by PAPD about two "weapon point" incidents that were recently tracked and evaluated by the Department in keeping with its use of force guidelines. Review of such events – and the Department's handling of them – is part of our scope. We recently received the relevant documentation and look forward to discussing these cases in our next Report.

Since the time of our last submission, the Chief has announced his retirement from the Department. We appreciate the approach he took to our work from the outset of his tenure in Palo Alto. He made a concerted effort to develop more regular communication with us and to instill that expectation among his subordinates. We also appreciate his receptivity to feedback and to ideas about best practices, and we note the enhancements to internal review protocols that occurred during his tenure. Accordingly, we take this opportunity to thank him and wish him well.

External Complaint Investigations

Case 1: Allegation that PAPD Failed to Properly Investigate Allegations of Elder Abuse

Factual Overview

PAPD received an allegation that a Palo Alto resident was the victim of elder abuse and that the Department had failed to conduct a proper investigation. The multitude of allegations included concerns that two individuals who had assumed caretaking duties for the victim were forcing her to sign documents without reading them to her, were not wearing protective equipment when caring for her during the pandemic and were not acting in the general best interests of the victim.

PAPD opened an investigation into the allegations. The investigation consisted of a detailed analysis of the work the PAPD detective had done on the case, including recorded evidence of interviews. The investigation noted that the alleged victim had been contacted numerous times by PAPD and had never expressed concern that the two named individuals had been taking advantage of her or forced her to sign documents. The investigation included review of a call for service initiated by the complainant in which two uniformed PAPD officers responded -- again, with no allegations by the victim of wrongdoing. The investigation also included contact with the County's Division of Adult Protective Services, who had several encounters with the alleged victim and had found no concerns regarding how she was being cared for.

Outcome and Analysis

As a result of this extensive document and file review, PAPD determined that the allegations against the detective were not substantiated.

To its credit, PAPD did note that on the call for service, the two responding officers appropriately activated their body-worn cameras when they arrived at the location, but at one point both turned them off to confer privately with each other. When the officers resumed contact with witnesses, one of the officers failed to re-activate his body-worn camera. PAPD recommended that the officer receive verbal counseling on the Department's expectation that body-worn cameras are to be activated whenever PAPD personnel are interacting with the public in an investigative capacity.

IPA Review and Analysis

IPA reviewed all body-worn camera footage and underlying reports and documents relating to this matter. IPA concurs with PAPD's finding and credits the Department for its careful review of the incident, resulting in identification of the body-worn camera "failure to re-activate" issue.

Case 2: Allegation of Inappropriate Remarks

Factual Overview

A PAPD officer responded to the emergency room of a local hospital regarding a report of an alleged sexual assault that occurred four days prior. Two victim advocates also responded to the hospital to provide support for the victim. The complainant, the senior victim advocate, alleged that during a conversation about the case the PAPD officer made an inappropriate joke and comment which she found offensive. The complainant reported the incident to her supervisor, who then filed a complaint against the officer. PAPD opened an internal investigation into the incident.

The complainant told PAPD that on the date in question she approached the officer to obtain information about the case needed for documentation. During their initial conversation, the complainant and officer joked about the fact that both were left-handed. The officer advised the complainant that he had not worked with advocates before, and she told him what their duties were. When she mentioned counseling services, he pulled her and her trainee advocate aside.

The complainant said that the officer then began expressing his grievances about their client. The officer told her that the client had three prior reports with no corroborating evidence and that she had mental health issues. The officer told the advocate that the alleged victim was wasting everyone's time with her allegations. The complainant said she then explained that the advocates' role was to support the client and not to determine the credibility of the allegations. According to the complainant, the officer continued to express his grievances and said the client was wasting law enforcement money and the time of themselves and the attending nurses.

The complainant said she eventually told the officer that it seemed as if he wanted a solution from her and that she did not have one. At that point, the officer pulled out his handcuffs and said, "well since you're useless to me, I guess I'm going to have to arrest you." The complainant said that the officer was not laughing, and his demeanor was different from when they were initially joking around about being left-handed.

The complainant said she asked the officer if he thought that was funny, and told him that it wasn't funny and "not cool". The complainant said the officer just looked at her. She said she then told the officer, "I don't know if you can tell, but I am black. You can't joke like that with me." The complainant said that the officer replied, "Oh, so you're gonna' pull the race card?" The complainant said that she told the officer, "Unfortunately, that's the reality of the world I live in" and explained to him that he cannot think that what's going on in the media is not going to affect people. The complainant added: "Yes, I am going to

pull it because it's the truth for me, it's my truth". The officer then stopped talking to her and walked away.[3]

The trainee advocate largely corroborated the account provided by the complainant, but believed that the officer intended no harm or disrespect. She said that the officer wanted to share his opinion about the victim, but in her view, it was not the right place or time to do so.

The officer's account of the incident was also not significantly divergent from that provided by the complainant. He said that after twenty minutes of light-hearted conversation, he lifted his handcuff case cover (unsure if he pulled the handcuffs out of the case), laughed and may have jokingly motioned with his other hand to turn around. The officer admitted that it was bad judgment to make such a joke at that particular time and place but did not intend to offend anyone. The officer said that he recalled then asking her if she was now going to play the "card". The officer said he was flabbergasted and speechless over how the conversation had turned and walked away as an effort at de-escalation.

PAPD Review

After the interview of the officer, the supervisor took time to counsel him about the need to maintain conversations at a professional level and advised that he needed to be more sensitive regarding the type of humor he presented, especially considering the current political and social climate. The officer was also told that if a misunderstanding was to occur, it would behoove him to apologize and advise that he meant no offense.

The Department's reviewer of the completed investigation concluded that the evidence did not establish any type of discourteous, disrespectful, or discriminatory treatment by the officer. The reviewer determined that the problem arose from a misreading of the situation by the officer and a failure to recognize that the conversation's tone had shifted away from the initial light banter. The reviewer further concluded that the officer did not factor in the complainant's race or perceived personal beliefs before making his ill-timed attempt at humor.

The reviewer opined that the officer should have been more aware of the setting, direction, and tenor of the interaction. The reviewer also noted that an apology by the officer would have likely prevented the situation from escalating. However, in spite of these shortcomings, the reviewer nonetheless recommended that the allegation of discourtesy result in a finding of "exonerated".

[3] While the officer was equipped with a body-worn camera, he did not activate it during his visit to the hospital out of respect for the privacy concerns of the sexual assault victim, which is consistent with Departmental policy and expectations.

The Department notified the complainant of this result. The letter explained that the "exonerated" finding meant that the investigation had revealed that the alleged acts did occur but were consistent with the Department's policy and procedures.

IPA Review and Analysis

The investigation was thorough and required commendable perseverance from the investigator to obtain the cooperation of the reporting organization and the complainant.

With regard to the disposition, as detailed above, PAPD determined that while the responding officer could have handled the call more professionally, it did not find that the acts resulted in a violation of the Department's policy prohibiting "discourteous, disrespectful, or discriminatory treatment". This finding rested largely on the belief that the officer had intended his comments about "arresting" the advocate to be in jest and were not intended to be discourteous, disrespectful, or discriminatory.

PAPD's analysis, however, failed to consider the earlier derogatory remarks made by the officer about the victim nor the "race card" comment. First, it was not appropriate for the officer to be making comments about the credibility or mental health of the victim in the way he was doing and to the advocates, particularly his comments about the victim wasting everyone's time. Officers are obligated to closely hold investigative information related to potential criminal charges, and it was not appropriate for this officer to disclose such information to those assigned to represent the interests of the victim.

More significantly, the "race card" comment was *not* intended in jest but was the officer's apparently offended reaction to the advocate's stated concerns about the encounter in light of her race. Instead of apologizing over an innocently intended joke, the officer chose to dismiss the woman's perspective and thus compounded her discomfort. The totality of the officer's conduct and comments should have been considered in determining whether the officer violated the Department's discourtesy policy.

Moreover, PAPD failed to consider whether the remarks and conduct of the officer violated other aspects of its policy manual. PAPD's standards of conduct also advise members that it is a violation of those rules to commit "[a]ny act … that brings discredit to [PAPD]". As PAPD acknowledges, the way in which the officer comported himself during this encounter was not in the best tradition of 21st Century policing. PAPD should have considered whether the officer's behavior amounted to a violation of this policy.

The largest shortcoming in the Department's process, however, came in the notification to the complainant. Even though the supervisor had counselled the officer on his sub-optimal performance, including his failure to apologize, the letter to the complainant does not contain any such elucidation. Instead, the letter could only leave her with the impression that PAPD had no issues with how the officer comported himself during their encounter. Even if the "bottom line" regarding policy had been that no formal violation

occurred, the letter should have informed the complainant that concerns had been identified, and that the Department had instituted a "course correction" accordingly.

Moreover, since PAPD had suggested the officer should have apologized when he realized that his comments had been received poorly, the letter could have included that apology – or better yet, a command staff member could have reached out to the complainant personally to register such a sentiment. That type of thoughtful contrition would go a long way toward restoring trust with the advocate and her colleagues – fellow public servants who will presumably continue to encounter PAPD professionally. Instead, the Department's very limited and technical response was a lost opportunity.

> RECOMMENDATION 1: PAPD should consider all potential policy violations and the context of any encounter in determining whether its members violated Departmental rules.
>
> RECOMMENDATION 2: In preparing letters to complainants, PAPD should advise when sub-optimal conduct has been identified and, where relevant, advise that appropriate intervention occurred.
>
> RECOMMENDATION 3: When an appropriate apology is not forthcoming from a member, command staff should apologize on behalf of the Department.

Case 3: Allegation of Inappropriate Treatment During Mental Health Call

Factual Overview

The complainant called a suicide crisis line and reported suicidal ideations. PAPD officers were dispatched to her location to evaluate her for a possible mental health hold pursuant to W&I 5150. The complainant met the criteria and was transported to a local hospital of her choice. The complainant subsequently alleged that the responding officers caused irreparable trauma and damage to her reputation and self-esteem.

Specifically, the complainant alleged the following:

- The officers manipulated her trust and forcefully removed her from her hotel room.
- Officers treated her like a criminal, humiliating her as they paraded her past her family and hotel guests in the lobby into the back of the police car.
- Officers were rude and dismissive and showed no concern in regard to the discomfort caused by the handcuffs.
- Officers refused to listen to her and had inadequate training to evaluate or handle mental health issues.
- Officers left her stranded at the hospital after she was discharged.

PAPD reviewed the body camera footage of responding officers as well as all supporting documentation in order to evaluate the allegations. It determined that responding officers considered the complainant's suicidal comments upon their arrival and talked to the hotline personnel before making the determination to involuntary transport her for a mental health evaluation. PAPD found that responding officers were patient, professional, and empathetic and went out of their way to make sure the patient was not humiliated. It noted that prior to leaving the hotel room, the officers collected personal items desired by the complainant and placed a large coat over her arms to conceal the fact that she was handcuffed. PAPD further found that responding officers explained several times that the handcuffs were required and checked them for proper fit. PAPD found that after responding officers learned that the complainant had a treating doctor at a particular hospital, they transported her to that facility.

PAPD further found that after officers arrived at the hospital, they promptly removed the handcuffs while still in the admitting area although normal procedure is not to do so until the patient is formally admitted. PAPD noted that all officers are required to have training in regard to behavioral health evaluations and holds. Finally, PAPD found that officers informed the complainant's mother where they were going and what the process was.

Based on this review, PAPD found that the allegations made by the complainant were without merit.

IPA Review and Analysis

IPA reviewed the body worn camera footage and underlying documentation and found no violations of policy regarding the responding officer's performance. While the responding officers did yeoman's work with regard to the decision to commit the complainant for evaluation, the documents did not indicate whether there was any consideration to contact a mental health clinician to assist with this call. There were no indicia of security concerns regarding the behavior of the complainant and the addition of a clinician could have assisted in the determination to commit as well as making the commitment process as smooth as possible. If there was no mental health clinician available to assist with the call, PAPD should have documented that fact in supporting paperwork.[4]

While PAPD's internal review process is important to evaluate any performance issues by responding officers, a review by mental health clinicians of the encounter could provide some helpful feedback on best strategies to handle these calls for service. Protocols would likely need to be developed between agencies that address confidentiality and

[4] There is escalating interest in bringing mental health clinicians on board to respond and/or assist to mental health calls. As of November 2021, Palo Alto has a PERT team (Psychiatric Emergency Response Team), the County of Santa Clara has a Mobile Crisis Response Team that is available to PAPD, and there is work underfoot to create a Trusted Response Urgent Support Team in the County. Documentation of incidents where a mental health clinician could have assisted but was not available could engender increased support and resources for these programs.

privacy concerns for both the patients, officers, and mental health clinicians. But these obstacles should not be insurmountable when the goal is simply to provide feedback for purposes of training and enhanced future performance.[5] In a context of rapidly evolving societal understanding and expectations, the Department could benefit from the expertise that clinicians can provide in dealing with those in mental health crisis – even as "after the fact" advisors on alternative strategies to consider.

> RECOMMENDATION 4: In mental health calls, PAPD should document whether a mental health clinician was contacted and if not, why not.
>
> RECOMMENDATION 5: PAPD should develop protocols with the mental health agencies who are co-responding to mental health calls so that clinicians are able to review body-worn camera footage and provide feedback on ways to improve that response.

Case 4: Allegations of False Reporting Leading to Conviction

Factual Overview

This complaint was submitted to the Department some five years after the underlying incident (and shortly after the denial of the complainant's "Petition for a Writ of Habeas Corpus" in conjunction with the same matter). The man cited specific aspects of the police report and Affidavit of Probable Cause that he claimed were false and/or perjurious.

The original police involvement related to a "battery in progress" call involving two adult males who had been living in different vehicles that had been parked near each other for a few days. A verbal confrontation over littering in the area had escalated into a physical confrontation that left one of the men with different injuries – including a possible stab wound in his arm – that required a trip to the hospital for treatment.

After taking voluntary statements from both involved parties, the responding officers determined that the complainant was the aggressor and took him into custody. They also conducted an evidentiary search of his van (with his consent) and collected several items. A detective was assigned to the case and eventually submitted it for filing with the District Attorney's Office. The man was ultimately charged with assault with a deadly weapon and pled "no contest," which was the precursor to his conviction for the incident.

In spite of his plea, the man subsequently engaged in a strenuous effort to challenge that result on a variety of grounds (including ineffective assistance of counsel). His petition was rejected by the court. Several months later, he filed his complaint by email and included a number of specific critiques of the PAPD documents that had been used against him.

PAPD Review and Outcome

The Department handled this case as a "Supervisory Inquiry Investigation." The video from the patrol cars' then-existing in-car camera system had been purged in keeping with regular retention standards. However, the reviewer was able to assess the complainant's various contentions in relation to the disputed documents themselves. The reviewer concluded that the different allegations were undermined by a subjectivity that clashed with the facts and other evidence, and by a tendency to focus on semantic distinctions that did not carry larger significance, and did not comprise proof of wrongdoing on the part of the officers.

The reviewer found that the complaint was appropriate for disposition at the initial investigation phase, and the Department's leadership concurred with the "Unfounded" determination.

IPA Review and Analysis

We reviewed the original reports as well as the voluminous paperwork that the complainant had submitted as part of his petition for relief in the courts (and which he had made available to the Department in support of his relatively brief complaint). We concurred with the Department's finding that the disputed police reports were based on thorough, seemingly objective investigation and were supported by physical evidence.[6]

The man's fervor in challenging his criminal conviction was impressive, but was ultimately unsuccessful.[7] It is telling that, in his subsequent turn to the Department's complaint process, he also cited the blameworthiness of the prosecutor and his own counsel for what he perceived to be their contributions to his unfair treatment. Even assuming his complete sincerity, the analysis that fueled his different contentions seems to have been greatly influenced by his personal stake in the matter. PAPD gave his allegations appropriate consideration, and reached a valid result in its administrative review.

[6] The detective's report also acknowledges the questions raised by the differing versions of the participants, as well as the presence of blood evidence in the complainant's van – which the victim had denied entering.

[7] He accounted for his "no contest" plea by explaining that he had seen it as his best chance for reuniting with his dog, which had been with him for several years and was euthanized during his time in custody.

Case 5: Complaint Regarding Officer Conduct during Detention and Arrest

Factual Overview

This complaint was initiated by a man who was arrested for "annoying/molesting" juvenile females by allegedly engaging in masturbatory behavior while following them. The reporting parties told police they had experienced similar behavior from the man a few days earlier.

Based on a description from the juveniles, officers detained the complainant for an extended period while questioning him about his recent actions. He acknowledged a brief encounter with the young women as they were all at a traffic light, but denied any improper behavior. However, cell phone video appeared to support the reporting parties' contentions, and they positively identified him and expressed their wish to make a citizen's arrest for his conduct.

The written complaint that the man eventually filed had three components, all of which were directed at the primary officer. The first related to the officer's characterization of the cell phone video as showing him intending to gratify himself sexually; the man disputed this evidence and seemed to resent the accusation. He also alleged that the officer had been chewing tobacco and spitting during the initial phase of his detention, and that the officer had eaten a burrito while back at the station and in the presence of the complainant. He considered both of these actions to be disrespectful and a form of bullying.

PAPD Review and Outcome

The Department handled this matter as a "Supervisory Inquiry Investigation." Although the complainant did not respond to initial attempts to contact him by phone after he submitted his brief written complaint, the handling supervisor (who was also involved in the original police response) happened to see the man a short time later while on patrol. He spoke briefly with the complainant, who essentially just reiterated the same concerns.

The body-worn camera video of the main officer and his colleagues provided a comprehensive version of the issues raised by the complainant. Accordingly, no additional interviews were done.

The reviewer determined that the officer's interactions with the complainant regarding the cell phone video and what it portrayed were appropriate to the investigatory context, and the officer was exonerated of wrongdoing. Similarly, the reviewer found that the officer had in fact eaten in the man's presence, but that such conduct was neither prohibited by policy nor adverse in any substantive effects on the complainant in his time in custody.

The allegation relating to chewing tobacco reached a different outcome. There, the reviewer determined that the conduct had occurred, and that it was specifically prohibited per Department policy. That violation was "sustained," with a low-level intervention occurring as a result.

IPA Review and Analysis

We had the opportunity to review the body-worn camera recordings and documents relating to this incident. We concurred with the outcomes as to the various elements of the complaint.

The questioning about the cell phone video was certainly persistent, and the officer seemed oddly determined to prompt a confession from the man in spite of his repeated denial of wrongdoing or inappropriate intent. (The video spoke for itself on some level, and by that point the decision to arrest had been made.) That said, the officer's line of questioning was not substantively improper, and he was not disrespectful or demeaning in pursuing the issue of sexual misconduct.

We also found the split decision regarding the "burrito" and "tobacco" aspects of the complaint to have been rightfully decided. The specific policy section barring tobacco use was clearly violated, and the "eating on duty" is a practical reality of long policing shifts that did not rise to the level of discourteous conduct. Taken together, the complaints offered a useful reminder that, for better or worse, even routine officer behavior is closely scrutinized by the public and contributes to the overall impression of the agency.

We note two additional points from our own review of the materials. First, the notification letter to the complainant omitted the outcome of the most significant of the three allegations: the disputed reference to sexually inappropriate behavior that was found to have been in policy. We have no reason to think this was anything other than an inadvertent error, but multi-part complaints should be addressed in methodical and complete fashion in the close-out letters.

Second, we noted that the supervisor who handled the investigation was on-scene for much of the detention period that preceded the arrest, and presumably observed the tobacco chewing and spitting behavior that prompted part of the complaint (and which was prevalent in the videos). While it was addressed appropriately in the investigation, it is clearly preferable for supervisors to monitor the conduct of their subordinates on their own initiative.

Case 6: Complaint Disputing Arrest of Third Party (and Associated Officer Conduct)

Factual Overview

This complainant contacted the IPA Office in the aftermath of his girlfriend's arrest on charges of domestic violence and resisting arrest. As the victim of the alleged initial crime, he thought the arrest was inappropriate for what was simply an "argument," and claimed that the officers had used excessive force in escorting her from the premises.

The complainant was amenable to being contacted by a Department representative, and ended up elaborating on his concerns in the context of a phone call: along with reiterating his original concerns, he complained that the officers had taken photos without his permission and had reported events inaccurately.

The underlying incident had been a call for service that was initiated by the facility manager at the apartment complex where the woman lived. He had heard signs of a disturbance and "people hitting each other." Responding officers contacted the complainant. He was shirtless and showed signs of physical injury.

He informed officers that she had been drinking while watching football on television, and had gotten into a conflict with neighbors over noise. This had deteriorated into a physical confrontation with the complainant. He said she had scratched him and described other attempts at injuring him that he had warded off. A witness who lived nearby also gave a statement saying that he had heard the disturbance and looked into the door of the relevant apartment; he claimed to have seen the woman punching the man several times.

The officers decided to take the woman into custody on domestic violence charges. She was uncooperative, and at one point during efforts to bring her to a patrol car she kicked backwards at one of the officers and struck him in the leg. Officers used controlling force against her at that point, but it did not result in injury.

PAPD Review and Outcome

The Department handled this as a "Supervisory Inquiry Investigation," based on the reviewer's ability to make an assessment through review of available evidence and without interviewing involved personnel. The handling supervisor framed the allegations as a "service complaint" of sorts, with the idea that "the allegations are directed at the policies and procedures of the Department and not behavior specific to the officers at the scene." Accordingly, no individual officers were named.

The complaint itself (and each of its component parts) was deemed "Unfounded." While it is true that the complainant had not wished to press charges or pursue police action as a result of the encounter, it was also true that his own statements corroborated the notion that he had been the victim of a domestic assault. In such a circumstance, under

California law the officers were required to arrest the man's girlfriend – at which point her failure to cooperate and her resistance of the police escort precipitated the limited physical force that was used against her. Accordingly, his contention that the arrest was wrongful – and that the force was therefore inherently excessive – lacked validity. Nor were there improprieties in the investigation or accuracy issues in the subsequent report.

IPA Review and Analysis

We concur with the outcome in this matter. The complainant's frustrations with the consequences of the arrest were understandable – particularly in light of his status as the victim of the crime in question and his belief that his preferences should have been more influential. Nonetheless, the body-worn camera evidence clearly supports the actions of the officers in their assessment of the situation and subsequent actions.

We do note that there was a supervisor on scene from the outset of the call, and that he ended up going "hands-on" with the woman in reaction to her kicking back at one of the escorting officers. He helped press her against the wall and gave her commands to stop resisting. This was despite the fact that the woman was already in cuffs and that two other officers were there to respond. Though the supervisor's reaction was proportionate and perhaps reflexive, it is preferable for supervisors to remain detached from direct physical contact with arrestees where possible. Here, the immediate presence of available personnel who could have handled the subject supports that idea as it applies to these circumstances.[8]

> RECOMMENDATION 6: As needed, PAPD should reinforce to supervisory staff the principle that, barring exigent circumstances, supervisors should refrain from direct physical engagement with subjects, so as to maintain their ability to manage the operation as a whole.

[8] In discussions with PAPD leadership about this case, we were told that the Department's recognizes that physical detachment by supervisors is recognized as preferable. At the same time, they cited an expectation that a supervisor will intervene to assist as needed, and referenced recent staffing challenges that have occasionally put supervisors into more of a "front line" role than is optimal. We respect these points, though our views about their applicability to this specific case may diverge.

Case 7: Complaint by Arrestee Regarding Officer Conduct in a Domestic Violence Investigation

Factual Overview

This complaint was submitted by a man approximately one week after his arrest on domestic violence charges; the victim in the case was his wife. The complainant disputed the allegations against him and blamed his wife for the conflict that had prompted the police response. The written complaint focused primarily on one of the handling officers. It claimed that the officer had taken the side of the wife without justification, had left him in the radio car for an undue period of time, and had mocked and discriminated against him because of his accent and Muslim heritage.

The case was assigned to a supervisor, who resolved it as a "Supervisory Inquiry Investigation." An interview with the complainant had clarified some of the individual items within his written allegations, and the body-worn camera recordings and other evidence sufficed to reach a determination as to the legitimacy of those claims. All were characterized as "unfounded."

The main issue was the man's contention that the lead officer had "rushed to judgment" in his response to the disputed version of events. However, the body-worn camera recordings showed the objective, reasonable, and thorough efforts of the officer to assess the situation and draw conclusions from available evidence. The officer also showed due diligence in assessing the potential influence of drugs on the woman's behavior, which the man had alleged as the source of the problem. There was no evidence of racial or religious discrimination.

Other contentions were also readily refuted. For example, the detention in the car was approximately half as long as the man had asserted, and the disputed exchange over the man's accent seemed like honest and short-lived confusion regarding the pronunciation of a particular word. Accordingly, the reviewer determined that the complaint was "Unfounded" in both its parts and whole.

IPA Review and Analysis

The investigative memo did a creditable job of parsing out and addressing the individual concerns within the complaint. We had the opportunity to review the body-worn camera recordings and found that they tracked the reviewer's specific findings in ways that corroborated the appropriateness of the case outcome.

As the reviewer noted, the heart of the complaint seems to have been the man's insistence that he was innocent of physically assaulting his wife. Disputed versions of such events are, of course, commonplace. The officer who took over the investigation at

the scene, and who became the focal point of the man's subsequent allegations, seemed to navigate this reality in an experienced and objective way. The arrest led to the filing of misdemeanor charges by the District Attorney's Office, and the encounter itself appears to have been professional in a way that belies the various allegations.

Internally Generated Complaint

Case 1: Inadequate Police Response to Allegation of Elder Abuse

Factual Overview

A PAPD officer was working uniformed patrol when he was dispatched to conduct a welfare check on an unhoused woman. The reporting party was a concerned citizen that reported that an unknown person had argued with the woman and had taken her watch. When the officer arrived, the woman advised the officer that she had been physically battered by a male earlier in the day, that she had sustained injuries to her head and face, that she was 71 years old, and that she desired prosecution. The officer told the woman she should call back if or when the subject returned.

Another incident occurred later that day involving the woman, including allegations that she had been physically and sexually assaulted. A police report was generated and the case was assigned to a PAPD detective. The detective assigned to the incident researched prior calls involving the woman and discovered the earlier call; however, there was no accompanying police report. Nor had there been an apparent referral to Adult Protective Services. These discoveries raised concerns about the adequacy of the uniformed patrol officer's documentation and lack of follow up. To its credit, PAPD self-initiated an administrative investigation relating to those concerns.

PAPD Review

PAPD reviewed its policy regarding "Adult Abuse" and noted that the policy followed state law in requiring the officer to prepare a police report and make a referral to Adult Protective Services under circumstances such as those he encountered in his contact with the woman. As a result, the Department determined that a violation of policy had occurred.

PAPD also determined that, because the officer expressed remorse and accepted responsibility for his failure to comply with policy, a non-disciplinary remediation was appropriate. The reviewer further recommended that PAPD conduct briefing training on mandated reporting for adult abuse, child abuse and mandatory arrests as set out in the law and policy. We were advised by PAPD that a training bulletin and briefings were held in accordance with the recommendation.

IPA Review and Analysis

As noted above and to its credit, PAPD self-initiated an investigation into the incident when it discovered a potential violation of policy. IPA reviewed the materials in the case, including the body camera footage, and concurs with the outcome and remedial action undertaken. Moreover, and significantly, once the Department recognized a potential systemic gap in understanding among its officers relating to the law and policy expectations for elder abuse calls for service, it prepared a training bulletin and pushed that training out to its staff.

Taser Deployment

Case 1: Taser Deployment Along with Pepperball Munitions During Mental Health Crisis

Factual Overview

In the early afternoon, PAPD received a call for service from the parents of an adult male. The father reported that the son had ordered him to leave their residence and had thrown a trash can at him. The mother reported that the son had choked her and pulled her hair the previous day. Both parents reported that the son had been diagnosed as a schizophrenic. A review of call history indicated many prior PAPD responses to address the son's conduct. The officers called the Mobile Crisis Response Team ("MCRT") to the scene to assist.[9] The son declined to communicate with any of the officers or clinicians. The on-duty PAPD supervisor elected to de-escalate the situation by leaving in the hopes that the son would calm down if they left.

In the early morning hours of the next day (about 12 hours later), the father again called PAPD and reported that the son had wakened him and forced him to leave the house. Responding officers spent over an hour trying to communicate with the son and de-escalate the situation, first from outside the house. The son made threats to harm the officers. Gaining no cooperation from the son, officers entered the house and tried to negotiate with him. As they entered the house, the senior officer (who was doing most of the negotiation as a result of being trained as a crisis negotiator) advised that they would use inert "pepper ball" rounds as the first force option. The son became verbally violent and abusive and threw a stool and spit at one of the officers, while moving up to the second floor of the residence.

Officers continued to talk with the son and persuaded him to come down the stairs by agreeing to his request that they reposition themselves. As the son moved toward the

[9] The family reported that the MCRT had also visited the son earlier in the week but had not been able to assist.

kitchen area, two officers simultaneously deployed less than lethal weapons. One used the PepperBall launcher[10] and the other a Taser. The son immediately fell to the floor and was taken into custody. Paramedics were called to examine the son, and he was transported to a local hospital for medical treatment. The son sustained five abrasions from the pepper ball projectiles: one under his left chest, one on the right side of his stomach, and three in the middle of his stomach. The son sustained a puncture wound on the left side of his back from a Taser probe. Finally, the son had two abrasions to his back, that may have been caused when he fell into the closet door as he went down.

The son was placed on a 5150 hold and left with hospital staff. The assault allegations were referred to the District Attorney's Office.

PAPD Outcome and Analysis

The PAPD reviewer assigned to assess the incident considered the assessment of the situation that had been developed by the on-scene supervisors. They had determined that the family was not safe in their own home, that the son had repeatedly used force and violence against his own family members, that the son was not communicating to help resolve the problem, that the son was suffering from a mental health disorder and that his behavior appeared to be worsening, in addition to having committed several assaults on his parents in the previous 24 hours. Accordingly, the on-scene supervisors had concluded that if the son would not come out of the house voluntarily, it would be necessary to enter the house to take him into custody.

The PAPD reviewer supported this conclusion, and found that it was ultimately necessary for the officers to use force to resolve the situation in light of the son's ongoing resistance. The PAPD noted that the officers showed restraint by not deploying the less lethal options while the son was on the second floor or the stairs, in light of the added risk of significant injuries that a fall might have caused.

The reviewer opined that it was reasonable for the officers to believe that allowing the son to walk away and into another room would have created an even more dangerous situation. At the same time, the PAPD reviewer noted that the supervisor who deployed the Taser[11] and the officer who deployed the PepperBall made simultaneous and independent decisions to use their weapons. The reviewer further observed that there was no discussion regarding the timing of weapon deployment. Nonetheless, the

[10] The PepperBall less-lethal weapon is a launching platform that shoots hard plastic spheres that are designed to burst upon impact. One option is to have the spheres filled with a pepper irritant; in this case, inert spheres filled with talcum powder were used.

[11] A review of the Taser data and use caused PAPD reviewers to conclude that, while the two probes struck the son's back and clothing respectively, the Taser did not achieve full neuromuscular incapacitation, rendering its use ineffective.

reviewer concluded that the use of force to accomplish the arrest of the son was reasonable and consistent with PAPD's force policy.

IPA Review and Analysis

IPA reviewed the body-worn camera footage and reports relating to the incident and identified the following issues:

Involvement of the Mobile Crisis Response Team

As noted above, when PAPD visited the same residence some twelve hours prior, it had called the MCRT. Moreover, according to the parents, they had called MCRT earlier in the week for assistance with their son. The MCRT is a relatively new initiative sponsored by Santa Clara County; it is intended to provide mental health clinicians to assist individuals going through a mental health crisis.[12] According to the parents and PAPD reporting, the MCRT response on both occasions had proven ineffective.

When PAPD returned to the residence in the late evening hours, however, there is no indicia that responding officers again reached out to MCRT. While PAPD's investigative report referenced MCRT being part of earlier calls to the residence, there are no reports regarding the unit's involvement or observations. Nor did the incident reports provide details about whether PAPD called MCRT for assistance with the incident that led to the force, or (if applicable) why the decision was made not to call.

Since the plan is for MCRT (or PERT or TRUST) to be more involved in assisting PAPD on calls involving persons in mental health crisis, it is important to learn whether Department personnel are able to take advantage of those clinician's expertise on relevant calls. This is also another case in which PAPD could benefit from an after-action review of body-worn camera footage by a mental health clinician. Accordingly, this is another case supporting Recommendations 4 and 5 above. It is also important to develop protocols on how the clinician's role is to be documented when assisting PAPD on such calls for service. Given the new prominence of such resources and the heightened public expectations as to their utilization, it makes sense to start incorporating this element into the Department's formal record of relevant operations.

> RECOMMENDATION 7: PAPD should work with the various agencies assisting the Department on mental health calls to develop protocols on how clinicians will document their participation on joint mental health calls.

[12] Although feedback has been positive when MCRT *is* involved, it should be noted that the "business hours" for the unit have been limited, and that Palo Alto's location has often been an obstacle to timely response in this county-wide program. Ideally, the City's own new initiatives will enhance the availability and involvement of such resources.

Use of Force Issues

As noted above, PAPD found that the two supervisors and other responding officers had not developed a plan on the first less lethal option to be used, considering it had PepperBall munitions, a Taser, and a SAGE less lethal platform[13] inside the residence. And PAPD concluded that the simultaneous decision to use both the PepperBall munitions and the Taser were based on "independent" actions by the operators. However, as officers enter the house, at least one officer can be heard on the body camera footage stating that PepperBall would be the "first option".

Thus, it appears that the responding officers did at least have a brief pre-engagement discussion about which of the three force weapons on scene were to be the "first option". Yet, when it came time to deploy, a supervising officer decided to deploy the Taser simultaneous to the numerous PepperBall rounds that were being fired. Yet, nowhere in the PAPD reports or its analysis is there any exploration of this divergence from the initial "plan". Nor was there any analysis of the advisability of deploying two force options simultaneously in the manner done in this incident. We recognize that circumstances change rapidly, and that officers must have flexibility to deviate (in either direction) from their initial plans in response to the conditions before them. Our point is simply that a reckoning with the change that occurred here was warranted, even if it affirmed the decision-making as it played out.[14]

Finally, the officer who deployed the PepperBall rounds indicated in his report that he fired nine times using the launcher, but only six rounds came out of the device due to an apparent malfunction. Yet there was no analysis by PAPD about the equipment malfunction nor any apparent further exploration of what occurred and how it could or should be addressed for future reference.

> RECOMMENDATION 8: PAPD should ensure sufficient fact collection to explain any divergences from the initial tactical plan.
>
> RECOMMENDATION 9: During use of force reviews, PAPD should research "causes" for any equipment that does not operate as intended.

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[13] The SAGE platform is another less lethal device that delivers what are known in common parlance as 37 mm "rubber bullets".

[14] In discussion with PAPD personnel familiar with the incident, we were told that these topics were in fact debriefed and addressed by the involved parties, as is routinely the case. This is encouraging. But, as we have said before, documentation that captures such efforts creates a useful record and need not involve a significant amount of extra work.

Other Uses of Force

Case One: Takedown of Subject in Mental Health Crisis

Factual Overview

A PAPD officer responded to a call for service and upon arrival observed a man in the lanes of a busy street. Upon contact, the man uttered irrational statements such as advising the officer to shoot him while making gun gestures with his hand. The man did not comply with the officer's instructions. The officer grabbed the man by his arm and pulled him to the ground. Another officer arrived shortly thereafter and both officers placed the man in handcuffs.

The officer walked the man to a nearby bench. While seated on the bench, the man started screaming and attempted to stand up. Spittle was coming out of the man's mouth as he screamed. A spit hood was placed on the man's head and a hobble on his legs. Paramedics were called to treat the man. Due to his behavior, paramedics injected the man with a sedative at the scene. The man was then transferred to an ambulance gurney and placed in the ambulance. Paramedics transported the man to a local hospital, where he was placed on a 5150 hold.

The man sustained an abrasion on his right elbow from being taken to the ground. Civilian witnesses said that the man had blood on his face prior to officers contacting him. The investigation was unable to discern how the man's facial injury had occurred. The officer sustained an abrasion to his left knee and pain to his knee and shoulder. The backup officer complained of back pain as a result of carrying the man to the gurney.

PAPD Review

PAPD determined that the officer acted properly in using force. It noted that the man was in the roadway of a busy street, his behavior was bizarre, and he posed a safety risk to himself and passing motorists. The PAPD reviewer noted that the officer first tried verbal commands, but the man was not responsive or compliant. The reviewer concluded that the man's response provided an indication to the officer that he was either unwilling or unable to control himself and follow the officer's directions.

The PAPD reviewer noted that when the officer placed his hands on the man, he dropped down to the ground into a prone position at which point the handcuffs were applied. The reviewer noted that after he was handcuffed, the on-scene officers removed the man from the road.

To the credit of PAPD, the supporting documentation prepared by the first level supervisor expressly discusses what de-escalation techniques the first officer used (low level verbal volume, instructions, non-threatening posture, slow approach, and calm commands).

IPA Analysis

IPA reviewed the incident report, the reviewing reports, and the body camera footage of the responding officers. While IPA agrees with PAPD's use of force analysis and conclusion regarding the appropriateness of the force, as set out above, a review of the incident shows that after he was handcuffed, his behavior escalated to the point where the officers applied a spit hood and hobble and had to physically carry him to the ambulance.

There is no reference to whether the MCRT was available to respond to the incident. While the initial efforts to take the man into custody unfolded in a way that precluded waiting for an MCRT response, the period of time after handcuffing (and after the dissipation of immediate public safety concerns) saw a marked deterioration that could well have benefitted from a mental health clinician's presence. While there were no indicia that PAPD officers did anything to aggravate the man or the situation, a clinician may have been able to better relate to the man and help keep the situation from deteriorating the way that it did.

If such a response were not feasible, the incident still might have provided a worthwhile opportunity to consult with MCRT. The body camera footage could have been provided for review to determine whether any other strategies could have been deployed to address the agitation displayed by the man after he had been handcuffed. Feedback from an individual skilled in dealing with those in mental health crises could have provided helpful insight to officers on how best to deal with future similar situations, and we encourage the Department to think proactively as it adapts to this important new County resource. To that end, this is yet a third incident supporting Recommendations 4 and 5 above relating to documentation of any efforts to request assistance from a mental health clinician and an after review by mental health clinicians of body worn camera footage of the incident.

Case Two: Takedown of Aggressive Subject

Factual Overview:

This use of force incident involved a team takedown and ensuing struggle to handcuff and restrain an extremely resistant subject. The subject – a twenty-nine-year-old man – received minor scrapes and abrasions in the incident and complained of pain in his wrists.[15] He was brought to the hospital for evaluation for treatment and cleared for booking at the jail.

[15] Four of the involved officers also suffered minor injuries in the encounter.

This encounter occurred in the mid-afternoon hours. The subject was driving a company vehicle when he pulled up alongside a PAPD supervisor who was driving a marked police car. The man made a point of aggressively berating the supervisor without apparent provocation. He soon pulled to the side of the road, and the supervisor pulled in behind him to further evaluate the situation. He stayed about 100 feet away as the man approached him and again launched into a profane verbal tirade that was an odd mixture of aggression and insistence that the police couldn't do anything to him, since he hadn't committed a crime.

The supervisor remained calm and continued efforts to communicate with the man; meanwhile, he called for backup, and several additional units responded. An odd standoff ensued, with the man continuing his verbal aggression but also making no attempt to leave or expressing a clear rationale for his antagonism.

The supervisor eventually made the decision to disengage and send the assembled officers, including himself, away from the scene. However, this effort to de-escalate was short lived – the subject got in his own vehicle and began operating it in a manner that nearly caused a police car to be struck. Another responding supervisor made an enforcement stop, and officers surrounded the man in a semi-circle after he exited his own car and stood in the roadway.

This time, the original supervisor brought out a pepper ball launcher, and a K-9 unit was also on scene to engage if necessary. After a brief period of additional (and fruitless) attempts to calm him and take him peacefully into custody, and having no reason to believe he was armed, officers made the decision to go "hands-on." Multiple officers participated in grabbing the man, taking him to the ground as he struggled, and pulling his arms behind his back so he could be handcuffed. One officer used a knee strike to the subject's arm during this process. A hobble restraint was also placed around his legs.

Medical personnel responded, and the man was restrained on a gurney and taken to the emergency room for treatment and evaluation.[16] The supervisor who first encountered the man made a brief attempt to interview him there and got very little information. He had slightly more success during a second interview back at the police station. The man was considerably calmer by then, and acknowledged that he was having a "bad day." He appeared to be having personal problems and spoke about systemic conspiracies. At one point in the second interview, he apologized for his behavior.

The reviewer who assessed the force found it to be reasonable and proportional to the resistance being offered by the subject.

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[16] He was also blood tested based on suspicions that he had been driving under the influence of alcohol.

IPA Review and Analysis

We had the opportunity to review the reports and camera recordings and other available evidence, and we concur that the force was justified and consistent with Department policy. This was a strange incident, since the man's behavior was so unusually – and inexplicably – antagonistic.[17] A few different aspects seemed noteworthy.

First, the efforts at de-escalation were commendable. In spite of the man's aggressive, verbally belligerent posture, the supervisor who first came into contact with him remained calm and professional in his interactions. He maintained distance, called for backup, did his best to understand what was going on, and then made the decision to disengage from the situation on behalf of himself and the other assembled officers.

After the erratic driving led to the enforcement stop, the officers were again restrained and thoughtful in their actions. A police dog and pepper ball launcher were available but not used, and the team takedown was handled in a decisive, effective manner.

Once the man was in custody and put into a seated position on the ground, a female officer spoke with him in a mild, reassuring manner that had a marked influence on his demeanor. Her eye contact, empathy, and affirmation were all very effective in lessening his agitation and hostility. Ideally, this approach would have been noted and reinforced as part of the formal review process.

With this in mind, we take this opportunity to mention the template the PAPD has adopted as its "Short Form UOF Memorandum." It has various fields for data entry and narratives that help ensure an organized, comprehensive response to evidence-gathering and evaluation. It seems to be a useful and constructive tool.

One thought for potentially enhancing it would be inclusion of space to document peripheral issues that have been identified and perhaps merit further action. These could range from minor performance improvements (addressed through counseling or training) to identified equipment issues. Another potential category could be commendations for effective work. In this case, de-escalation efforts and the female officer's communication skills were both deserving of recognition that we hope occurred.

> RECOMMENDATION 10: The Department's force review template for supervisors should include space for identifying issues and learning

[17] While his mental well-being was brought into question by his behavior and some of his specific statements, the rapidly unfolding nature of the event did not lend itself to the enlisting of a mental health clinician, at least not initially. However, as we say elsewhere and emphasize here, reviewers should discuss the feasibility (or not) of dispatching a clinician whenever a force incident occurs as a routine part of the force review process.

opportunities of various kinds, as a precursor to additional follow-up as warranted.

Case Three: Takedown at End of Foot Pursuit

The subject in this case was contacted by a PAPD officer for smoking marijuana in public. He chose to flee on foot, and a pursuit was initiated that lasted for several blocks. A different officer finally grabbed him, and he went to the ground, at which point a brief struggle ensued before officers got him into handcuffs.

While seated on the ground, the man became unresponsive. Officers recognized that the white powdery substance around his mouth suggested he had been ingesting drugs as he attempted to get away. They administered "Narcan" to counter the effects of a possible overdose.

Medical personnel transported the man to the hospital[18], and he was treated for his drug ingestion as well as complaints regarding pain in his wrists and neck.[19] He was eventually cited for applicable charges and then released at the hospital by PAPD handling officers.

PAPD Review:

The Department found the use of force to be within policy. It was relatively minor in nature and limited to grabbing, pushing, and grappling as officers apprehended the man and then worked to handcuff him.

The Department also noted that the incident involved a foot pursuit, which has its own policy for authorizing and guiding officer behavior. The pursuit was also evaluated as being within policy.

The original assessment was done by a supervisor, and then reviewed by two higher levels of command. At the highest level (though not before), a brief memo noted that the recording of the incident featured a couple of uses of profanity by the officer who first contacted the subject. Interestingly (and in a way we considered reasonable), the initial instance – in the midst of efforts to apprehend the man – was acknowledged as an acceptable "tactic." The second, however, was deemed problematic because it seemed more a product of frustration/anger than calculation. The memo noted that verbal counseling would be arranged to address this concern.

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[18] This case fell within the parameters of the IPA scope of work as a consequence of the hospital transport; however, it is unlikely that his condition would have merited that level of medical attention were it not for concerns about drug intoxication.

[19] One of the involved officers scraped his knee in the course of taking the subject into custody, resulting in an abrasion.

IPA Review and Analysis:

This use of force was minor and was dictated by the subject's non-compliance. We concur that it was consistent with policy. We also noted the involved officers' awareness of health concerns once they had successfully handcuffed the man, and were impressed by their actions in trying to facilitate his breathing and then administering Narcan to address his brief loss of consciousness.

Procedurally, the review process appears to have been appropriately thorough. The Department made two attempts, a few days apart, to get a statement from the man regarding his experience of the incident. His first comments were of negligible value (and quantity) because of his physical condition. [20] To the credit of the supervisor who was evaluating the force, he went to the County jail and requested to speak with the subject, who declined to participate.

We also appreciate command staff's engagement with the profanity concerns. This has long been a point of interest for us in reviewing PAPD incidents, and the approach that was taken here seems consistent with the recommendations we have made in the past.

Case Four: Less Lethal Weapons Used on Resistant Vandalism Suspect

Factual Overview

This incident began with a call for service regarding a man who was creating a disturbance at an outdoor shopping area during afternoon hours. Responding officers eventually located the man, who was in his early thirties, and found him to be contentious but not directly aggressive. Because he stated that he was waiting for a ride share service and intending to leave the area, officers were content to resolve the situation that way. However, no ride materialized, and in the interim the man became verbally abusive to the point where alternative strategies (such as a citizen's arrest by a retail worker) were being considered.

As the officers re-engaged with the man, he suddenly ran away. Again, they considered this a potentially satisfactory resolution and did not endeavor to chase him. Unfortunately, though, he then vandalized two vehicles by smashing their windshields with a metallic water bottle.

Multiple officers then responded, and they soon located him on the ground floor balcony outside a hotel room. He was standing on the railing – a slightly precarious posture in

[20] The officer's persistence in trying to get information from the man was notable and bordered on the questionable, particularly in light of the man's repeated expressions of discomfort and his disinclination to be cooperative. This seemed more pronounced as the conversation shifted from the topic of force/injuries to the man's motivation for ingesting drugs during the pursuit.

which, on at least one side, he could have fallen several feet. He was agitated and yelling that he had a gun, with his hands inside his jacket as if to simulate holding one. He alternated between threatening statements and recurring references to having an unnamed disability.

Due to the man's erratic behavior, the proximity of hotel guests, and his references to a weapon, the on-scene supervisors made the decision to effectuate an arrest plan. The first step, though, was to enlist one of the officers who was both already at the location and trained in crisis negotiation. He made several attempts to engage the man in a calm way and attempt to start a dialogue.[21] [22] These did not enlist any response.

Accordingly, the supervisors moved into the next stage of their planning. With a large number of officers available, containments were established and officers were assigned a range of responsibilities. This included two officers with different types of less-lethal munitions. The first was a pepper ball launcher, and the second was a "Sage" launcher (which fired a hard plastic round). Other officers provided cover of various kinds, including a ballistic shield.

The plan was to start with the pepper ball rounds, which were aimed at the wall nearby the man. When these did not seem to alter his behavior, the other officer fired one round with the Sage weapon. It struck the subject in the buttocks and effectuated his safe dismount from the railing. He then surrendered without further incident and was taken into custody.

Though he was transported to the hospital for routine clearance prior to booking, he refused any medical care. He was apparently uninjured. He also declined to speak with the supervisor t who attempted to interview him about the incident.

PAPD Review and Outcome

A second level supervisor evaluated this case, in part because of the involvement of several supervisors at the scene (one of whom used the pepper ball launcher). He reviewed the considerable amount of available evidence (including a surveillance camera from the hotel that provided an additional vantage point) and applied methodically to the relevant policy guidelines. In doing so, he determined that the force was reasonable and necessary.

[21] This included references to the man's assertions of a disability; the negotiator asked if he wanted to talk about it and said they would be happy to provide assistance/a trip to the hospital.

[22] Creditably, the canine handler on-scene gave effective commands to his service dog (which was ultimately not involved in the apprehension) so that the dog would remain quiet and not distract from de-escalation efforts.

The reviewer also singled out the patience and restraint that were manifested by officers at different stages of the incident.

OIR Group Review and Analysis

We concurred with the analysis that the force was justified by the circumstances and reasonable in its execution. Additionally, we thought several aspects of the PAPD response to this incident were praiseworthy.

These included the restraint of the original officers who responded to the shopping mall and the efforts of the crisis negotiator to establish a peaceful resolution to the situation. The tactical planning was thoughtful, efficient, coordinated, and well-communicated, particularly in light of the swiftness with which the whole problem was neutralized. And it was obviously a successful outcome. The force was used in a controlled manner and brought about a positive result in a minimally invasive way.

In the significant amount of video recordings that we saw regarding the incident, the overall professionalism of the officers also made an impression. Therefore, the brief instances that deviated from that standard stood out in a way that seems worth mentioning. Although it was not audible to the public – or to the subject himself – there were instances of profanity that were nonetheless recorded, and potentially discoverable in future proceedings. Most pointedly, one of the officers who ultimately used force volunteered for the assignment by saying, “I’ll fucking light him up” in a cavalier way that certainly would have played badly in the aftermath of a worse outcome. (Nor was it reflective of this officer’s overall performance in the incident, which had many attributes.)

We recognize that very few of us would enjoy being judged by the candid or offhand remarks we make to colleagues without consciousness of an outside audience. However, the era of ubiquitous recording is certainly upon law enforcement, and reminders about the importance of professionalism – and the unintended consequences of off-color remarks on duty – are accordingly as worthwhile as ever. The officer’s comment should have been identified by the reviewer; it was disappointing that it was not.

> RECOMMENDATION 11: The Department should use individual instances of questionable “on camera” commentary or actions as a basis for reminding personnel of the importance of professionalism, particularly with regard to deployment of force.

Case Five: Takedown of Assaultive Subject

Factual Overview:

This use of force involved an adult female subject who was contacted by officers at a train station. A request for information that had initially been consensual – and had concluded – eventually led officers to do a warrant check on the woman when she was recognized by another officer who happened past the location of the original stop.

After the woman was re-contacted, she became anxious during the waiting period as the records were researched, making it clear to the officers that she did not want to be arrested or taken to jail. It turned out that she did in fact have two felony warrants. When it became clear that her arrest was imminent, she approached the officers aggressively in frustration and was ordered back. As one officer moved in to place her into handcuffs, the woman punched him in the head with a closed fist.[23]

The three officers on scene then wrestled her to the ground and overcame her resistance to put her into handcuffs. Due to the woman's own complaint of pain in various body parts (she was also bleeding from the lip, which had initially prompted officers to summon paramedics), she was transported to the hospital and then cleared for booking.

PAPD Review and Outcome

The Department reviewers were able to assess the incident thoroughly based on officer reports and extensive body-worn camera recordings. A sergeant interviewed the subject, who was angry over the encounter and critical of the officers' actions in detaining her and using force.

The initial reviewer determined that the force was limited and was justified by the subject's assaultive and resistive behavior. Efforts to de-escalate were expressly analyzed, and the officers' controlled demeanor and efforts to maintain distance and offer reassurance during the "records check" were cited as relevant tactics that were consistent with expectations.

At the next level of review, the supervisor concurred with the above, and added a concern about one of the officer's report-writing. The lead officer had failed to document the initial phase of the encounter with the subject, when she had been with someone else and was allowed to leave before being recognized by a later-arriving officer. Though it was covered by another officer's report and evident from the body-worn camera recordings, the supervisors rightly observed that it was a relevant part of the overall incident and should have been included.[24] This supervisor documented the issue and addressed it with both the officer and the initial reviewer in a counseling session.

OIR Group Review and Analysis

We concurred that the force was proportionate to the circumstances and within policy. This case also illustrated a couple of the strengths of the Department's current review process.

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[23] His injury did not require medical treatment.

[24] We also note that the third officer's supplemental report regarding his own involvement (which included participating in the force/arrest) was not included in the packet of information we received, though it is referenced at other points in the case records.

First was the express emphasis on de-escalation, which is part of the template that frames the expectations for supervisorial evaluation. The overt, consistent attention to these concepts undoubtedly helps to frame the mindset of officers as they encounter confrontational situations.

Second was the fruits of the "multi-tiered" approach that PAPD takes to reviewing force incidents. Inevitably, a second set of eyes (and one of a higher rank and presumably a different perspective) is likely to result in a more complete, rigorous assessment. Here, the issue of report-writing deficiency was caught and addressed appropriately. This meant that a more comprehensive and effective review had occurred, which is obviously to the credit of the Department and presumably to the benefit of future performance.

One thing that was *not* referenced was some of the main officer's commentary in the moments after the arrest. He used a couple of profanities in relating to colleagues that she had "clocked him" prior to the takedown, and then casually said, "Bitch is crazy." At the risk of belaboring this point, and while recognizing that context matters, we say again that such remarks do not reflect well on the professionalism or attitudes of the involved parties, and should be a continued point of scrutiny and attention for PAPD management.

Case Six: Multiple Officers Grappling with Subject to Overcome Resistance

Factual Overview

The Department received a report of a female subject in her 40's whom family members said had been both suicidal and assaultive to them in response to their efforts to intervene. Officers responded to the call, spoke with family members (one of whom showed a bite mark that the subject had recently inflicted on her) and then contacted the woman inside the storage unit where she had been residing.

The subject denied being suicidal and refused to cooperate with the officers, instead telling them repeatedly to get out. They believed she was also under the influence of drugs and/or alcohol. One of the officers was trained in Crisis Negotiation and attempted different techniques in an effort to develop rapport and enlist her voluntary cooperation, but these were unavailing.

The officers decided that the woman met the criteria for a 72-hour involuntary psychiatric hold as a danger to herself and others. Accordingly, they attempted to take physical control of her, but she screamed and otherwise resisted. They were able to get her into handcuffs in less than a minute, but she continued to struggle against being placed in the back of the patrol car. Another struggle to accomplish this ensued. Eventually the two officers and a supervisor who were on-scene succeeded in pulling her into the vehicle, where she was then transported to the hospital for an assessment of any injuries.

PAPD Review and Outcome

A different supervisor than the one who had participated in the arrest ended up conducting the interview with the subject at the hospital; she was willing to speak and to sign a waiver to give the Department access to medical records from the incident. She complained of pain to her shoulder, elbow, and knee, and directed most of her frustration at the lone female officer who had been involved.

The main assessment of the force was handled by a higher-level supervisor. He reviewed the reports and the relevant body-worn camera footage and determined that the force had been controlled and within policy as a response to her resistance. He also prepared a short and separate memo documenting a "training point" for one of the officers. The supervisor noted that one of the officers had taken hold of the woman somewhat abruptly once the decision to take her into custody had been made. He directed his subordinate to speak with the officer regarding this decision-making, and the question of whether a verbal opportunity for compliance would have been more effective.

Interesting, the subordinate supervisor reported back that the conversation had been "productive," and that the officer had explained his decision-making in a way that seemed thoughtful and justified under the circumstances. The reviewer accepted this explanation and recommended no further action, citing the importance of officer discretion and the legitimacy of the cited rationales.

OIR Group Review and Outcome

We concurred with the Department's analysis that the amount of force was limited and necessary to overcome the woman's resistance, which was considerable.[25] While her compromised condition and lack of cooperation made it likely that she would physically struggle, the call for service and accompanying investigation suggested the need for an intervention. While the input of a mental health professional could have been of assistance, the officers' course of action was driven by the sole intention to enlist a professional evaluation of her mental well-being in the form of the involuntary commitment. As we set out in more detail in case descriptions above, we believe that the availability of a mental health clinician to respond to these events (and whether there was thought to summon such assistance) should be part of any report and review by PAPD.

We also noted and take the opportunity to commend the "critical distance" that PAPD imposed at a couple of different stages of the process, by having uninvolved personnel conduct the interview with the subject and then the formal assessment of the force deployment. Elsewhere in this Report, we speak to the value of this practice, and it is

[25] The woman was somewhat emotional as they sought to get her into the vehicle; per the video recordings, her behavior – and other facts – belied several of the allegations that she directed against the female officer when she was interviewed at the hospital.

encouraging to see that the Department appears to have made a conscious effort in this regard. Since this is the chronologically most recent case that we have reviewed, we are hopeful that it reflects the beginnings of a consistent standard.

While this was a significant positive, we also noted that our materials did not include medical records that would verify – or refute – some of her allegations as to significant injury she supposedly suffered from her arms being wrenched, etc. (There were photographs of the woman from the hospital, which the supervisor took during interview process.). Because she provided a voluntary waiver, this information was presumably available and would have contributed to the completeness of the package.[26]

Conclusion

We continue to appreciate our role in the City's commitment to a more transparent, accountable police agency. We hope this Report accomplishes a few different things in service of that goal: a more rigorous process, heightened public awareness, and a forum for discussion that might further enhance the Department's responsiveness to Council and the Palo Alto community.

[26] This is consistent with Recommendation Eighteen in our last Report, which the Department has endorsed.

INDEPENDENT POLICE AUDITORS' REPORT:
Addendum to September 2022 Public Report re Cases

Presented to the Honorable City Council

City of Palo Alto

September 2022

Prepared by: Michael Gennaco and Stephen Connolly
Independent Police Auditors for
the City of Palo Alto

OIR GROUP

confidential draft

Case Totals: Summary and Trend Analysis

Our September 2022 Report on misconduct and force investigations is the second of the calendar year, and our second submission pursuant to an expanded scope of work with the City. In February of this year, and as part of the revised scope, we provided an addendum to our usual summary of individual cases. It was a table in response to the request for a "statistical breakdown of the number of complaints /investigations and any developing trends."

That previous table encompassed ten matters – a small initial grouping that did not yield statistically significant patterns or suggest trends in the demographics of complainants or the nature of issues in dispute. However, as we said at the time, the concept of such collective review is a worthy one, and we looked forward to continuing the effort with additional data.

With that in mind, we have prepared the attached table to correspond with our latest report. It tracks the eight misconduct cases that were completed during this cycle.

Interestingly, the current group corresponds in some respects to the last set of ten, insofar as the dominant "trend" appears to be the lack of a noticeable pattern or prevailing feature. There were seven cases initiated by a public complaint (as opposed to being generated by PAPD leadership). This number is largely consistent with past reporting periods in terms of volume. Allegations of bias – always a topic of sensitivity and concern – were not prominent; in fact, only one case included it (peripherally) as an issue. The body-worn camera evidence dispelled the supposed bases for the man's assertion.

In five of the seven cases, the essence of the concern was some form of disagreement over the legitimacy of an arrest. Each of these claims was rejected by the Department in the ensuing investigation, and we concurred with those results.

Going forward, we will continue to evaluate cases with an eye toward identifying issues that merit attention by PAPD's administration. For now, we are pleased to be building a baseline of information that will provide a useful backdrop for future reports.

Complaint/Investigation	Outcome
Allegation that PAPD had failed to properly investigate/respond to allegations by complainant that a third party was the victim of elder abuse.	Exonerated
Allegation that an officer had made offensive comments to victim advocates during the response to an alleged sexual assault	Exonerated
Allegation that an officer had failed to properly document and otherwise pursue an allegation of elder abuse by an unhoused individual	Sustained
Allegation that officers had mishandled the involuntary hold of a woman with suicidal ideations.	No misconduct identified
Allegation of false reporting by subject who sought to overturn his guilty plea for battery a few years after the incident.	No misconduct identified
Allegation of officer rudeness and mistaken judgement in the context of an arrest for "annoying/molesting" juveniles.	Sustained for chewing tobacco; Exonerated for other allegations
Allegation that officers mishandled a call for service in which he was the alleged victim of domestic violence, including an improper arrest and excessive force against his partner.	Unfounded
Allegation that PAPD had wrongly focused on complainant as the suspect in a domestic dispute with his wife, and had treated him disrespectfully during his detention and arrest based on his Muslim heritage.	Unfounded

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CITY OF PALO ALTO

DATE: **SEPTEMBER 12, 2022**

TO: **HONORABLE CITY COUNCIL**

FROM: **CHIEF ANDREW BINDER**

SUBJECT: **POLICE DEPARTMENT RESPONSE TO IPA RECOMMENDATIONS JAN-JUN 2022**

RECOMMENDATION 1: PAPD should consider all potential policy violations and the context of any encounter in determining whether its members violated Departmental rules.

The Department agrees with this recommendation and will continue to review investigations for any policy violations.

RECOMMENDATION 2: In preparing letters to complainants, PAPD should advise when sub-optimal conduct has been identified and, where relevant, advise that appropriate intervention occurred.

The Department agrees with this recommendation and will craft written responses to complainants that are more informative.

RECOMMENDATION 3: When an appropriate apology is not forthcoming from a member, command staff should apologize on behalf of the Department.

The Department agrees that responses to complainants should include an apology for the negative interaction with our employees.

RECOMMENDATION 4: In mental health calls, PAPD should document whether a mental health clinician was contacted and if not, why not.

The Department agrees that incident documentation should include all steps taken to resolve incidents and document the involvement of mental health professionals. The Department's policy on responding to mental health calls (Policy 418.8) states that officers should consider using community health resources in the response, as appropriate for the situation.

RECOMMENDATION 5: PAPD should develop protocols with the mental health agencies who are co-responding to mental health calls so that clinicians are able to review body-worn camera footage and provide feedback on ways to improve that response.

The Department has a response protocol in place for the joint Santa Clara County Behavioral Health Services and Palo Alto Police PERT team deployment involving emergent mental health calls for service and a referral process to the PERT team for follow-up outside of the teams' working hours. Community response teams will ask for and receive law enforcement assistance if conditions are unsafe for responding civilian workers. The Department will work with the CMO to coordinate the refinement of

response protocols with other agencies. Consistent with state law and HIPPA, department policy prohibits releasing BWC footage outside of the legal process.

RECOMMENDATION 6: As needed, PAPD should reinforce to supervisory staff the principle that, barring exigent circumstances, supervisors should refrain from direct physical engagement with subjects, so as to maintain their ability to manage the operation as a whole.

The Department agrees and does reinforce these concepts during tactical training. Supervisors are expected to respond appropriately to any physical threat to themselves or others when those circumstances occur to ensure the safety of all personnel present at a field incident.

RECOMMENDATION 7: PAPD should work with the various agencies assisting the Department on mental health calls to develop protocols on how clinicians will document their participation on joint mental health calls.

The Department welcomes working with community mental health resources on policy development and will work with the CMO to coordinate the refinement of response protocols.

RECOMMENDATION 8: PAPD should ensure sufficient fact collection to explain any divergences from the initial tactical plan.

The Department agrees that fact collection should include tactical plan development, modifications, and implementation. The referenced case included similar information on the tactical response and was found to be within policy.

RECOMMENDATION 9: During use of force reviews, PAPD should research "causes" for any equipment that does not operate as intended.

The Department agrees with this recommendation. The Department, after this incident, replaced the equipment that failed during the incident.

RECOMMENDATION 10: The Department's force review template for supervisors should include space for identifying issues and learning opportunities of various kinds, as a precursor to additional follow-up as warranted.

The Department agrees and has updated the use of force template to prompt the investigator to assess the incident response for learning opportunities.

RECOMMENDATION 11: The Department should use individual instances of questionable "on camera" commentary or actions as a basis for reminding personnel of the importance of professionalism, particularly with regard to deployment of force.

The Department's review processes include addressing policy violations or improper behaviors that are observed as a result of the internal investigation process and agrees that those behaviors should be addressed with the involved officers.

CITY OF PALO ALTO

DATE: **SEPTEMBER 12, 2022**

TO: **HONORABLE CITY COUNCIL**

FROM: **CHIEF ANDREW BINDER**

SUBJECT: **USE OF FORCE REPORT SUPPLEMENT TO OIR REPORT DATED AUGUST 2022**

This memorandum responds to the City Council's November 2020 direction to provide use of force summary data which encompasses all use of force incidents in which a "Supervisor's Report on Use of Force" has been completed by the Police Department as a cover memorandum to each Independent Police Auditor (IPA) report. Most commonly, a Supervisor's Report is completed when there is a visible or apparent physical injury, the subject complains of pain, or the subject alleges they were injured. The Police Policy Manual requires that all uses of force by Police Department members "be documented promptly, completely, and accurately in an appropriate report." Such reports are required to be reviewed by a supervisor and approved in writing. In certain circumstances, section §300.5.2 of the Police Policy Manual enumerates the circumstances where the "Supervisor's Report on Use of Force" also requires review up to and including the Office of the Chief.

This summary covers the period of January 1, 2022, through June 30, 2022.

Summary

From January 1, 2022, through June 30, 2022, the Police Department responded to 19,351 calls for service and effected 487 arrests. During that time, officers used no more than bodily force[1] on four occasions (on four total subjects). No other uses of force occurred during the time period. The August 2022 IPA report covers eight use of force incidents due to the fact that four of those incidents happened before January 2022.

Of the four use of force incidents occurring in the first half of 2022, the Department forwarded two of them to the IPA for review and recommendations, as they met the criteria for the IPA's expanded scope of administrative review established by the City Council in November 2020. The expanded criteria for IPA review of use of force reports include all administrative use of force reports where a baton, chemical agent, Taser, less-lethal projectile, canine, or firearm is used, and all cases where the subject's injuries necessitate any treatment beyond minor medical treatment in the field. The IPA's reviews of these two cases appear in the current IPA report before you.

The remaining two cases did not meet the criteria set forth by the City Council, and so the Department did not forward them to the IPA.

[1] Bodily force includes control holds, takedowns, or other uses of the body that does not involve the use of a tool.

Firearm Pointed at Person

The Independent Police Auditor's scope of services was expanded in July 2021 to include cases when a firearm is pointed at a subject. From January 1, 2022, through June 30, 2022, officers pointed a firearm at a person on three occasions. The Department recently forwarded details on these encounters to the Independent Police Auditor, and we expect them to detail their review and recommendations in their next report.

January-June 2022 Use of Force Summary

Type of Force	Number of Cases	Auditor Review Status
Physical Strength	4	2 reviewed in current IPA Report, 2 not require review
Taser	0	
Canine	0	
Baton/Other	0	
Firearm Pointed at Person	3*	Sent to IPA August 2022

*One of these cases was also one of the two aforementioned use of force cases that did not meet the criteria set forth by City Council to send to the Independent Police Auditor from a use of force standpoint; however, the Department sent the case to the IPA since a firearm was pointed at the person.

City of Palo Alto (ID # 14662)

City Council Staff Report

Report Type: Information Reports **Meeting Date: 9/27/2022**

Summary Title: Hazardous Materials Ordinance Informational Report

Title: Informational Report on the City's Existing Hazardous Materials Ordinance and How it Affects Residential Development

From: City Manager

Lead Department: Planning and Development Services

Recommendation:

This is an information report describing the results of staff's research regarding the implications of the City's existing Hazardous Materials Ordinances (HazMat). No action is required now. Staff intends to return to the Planning and Transportation Commission (PTC) and City Council in the future to add clarifying language to the existing ordinance.

Background:

On March 21, 2022, during its consideration of the City's Housing Element update, the City Council reviewed and endorsed a recommended list of housing inventory sites. These sites were identified by staff, the Housing Element Working Group, and the Planning and Transportation Commission. This list of housing sites contains areas where the City anticipates planning for at least 6,600 housing units over the next eight-year housing cycle. The sites include locations within the Stanford Research Park and other industrial areas of the City.

Through a regular departmental coordination meeting between the City's Planning and Building Divisions, staff noted an increase in requests for tenant improvements to establish lab space in various locations in the City, which could impact the Council's housing policy interests. These facilities typically contain hazardous materials that are regulated by local, State, and Federal requirements. The Zoning Code currently prohibits certain uses of hazardous materials from being located within 300 feet of a residentially zoned property. A conditional use permit is required for a business to handle, store, or use hazardous materials when there is a residential zone located between 300 and 600 feet of the subject site.

Staff has since obtained more information about the pending applications and reviewed the

City's regulatory framework and procedures for processing applications with hazardous materials. Based on this review, staff believes that the existing ordinance provides sufficient safeguards to allow for housing to proceed in the areas the City Council has already recommended. If a Tier 2 Hazardous Material Facility (HMF) would alter the availability of a housing inventory site, staff can return to City Council to address the issue.

Discussion:

City Ordinance No. 5381 defines Tier 1 and Tier 2 HMFs[1] by reference to California Health and Safety Code Division 20, Chapter 6.95, but it was not immediately clear to staff which parts of that state law were relevant. The Fire department personnel and consultant the City had retained to perform this work in 2016 no longer work with the City. Staff was unable to find enough information in the archived files associated with that code update to determine the answer quickly. As a result, staff revisited staff reports from when Ordinance 5381 was adopted, as well as the relevant Building and Fire codes, to understand how to classify facilities that propose hazardous material storage.

Ordinance 5381 established multiple trigger points to determine whether a facility will qualify as a Tier 1 or 2 HMF. The first trigger points is identified in Palo Alto Municipal Code (PAMC) 18.04.030(a)(66)(A) where it identifies that a Hazardous Materials Tier is "*a manufacturing or processing use that utilizes, handles, and/or stores particular types and quantities of hazardous materials.*" Throughout various land use table in the municipal code, only four uses fall under the Manufacturing and Processing category: Research and Development, Manufacturing, Warehousing and Distribution, and Recycling Centers. This would mean that if a use isn't one of these four uses, then it would never be classified as any type of HMF; even if the site might meet other HMF requirements regarding chemical storage on site (e.g. community center or school pools).

In establishing the existing definitions in PAMC 18.04.030(a)(66) for Tier 1 and Tier 2 HMFs, the staff report associated with Ordinance 5381 equated another trigger threshold to the

[1] Tier 1 means uses with quantities of hazardous materials that are not defined as Toxic or Highly Toxic hazardous materials and that are both above the threshold quantities in Health and Safety Code Division 20, Chapter 6.95 and below the Title 19 thresholds of the California Code of Regulations.

Tier 2 means uses with quantities of Toxic or Highly Toxic hazardous materials that are both above the threshold quantities in Health and Safety Code Division 20, Chapter 6.95 and below the Title 19 thresholds of the California Code of Regulations.

Tier 3 means uses with quantities of hazardous materials above the Title 19 thresholds of the California Code of Regulations.

requirements to submit a Hazardous Materials Business Plan (HMBP).[2] An HMBP is required through the County EPA's Certified Unified Program Agency (CUPA) for facilities that store, use, or handle an amount equal to or greater than 55 gallons, 500 pounds, or 200 cubic feet of regulated material on-site. Ordinance 5381 also redefined uses that stored hazardous materials, regardless of toxicity, above the quantities specified in Title 19 of the California Code of Regulations (Title 19) as Tier 3 facilities, and prohibited them throughout the City. Effectively, this created a floor and a ceiling for hazardous material classification in Palo Alto.

Fire Department staff have highlighted that the 55-gallon, 500-pound, or 200-cubic foot thresholds have been long-standing triggers for the creation of an HMBP and have not substantially changed since their initial adoption. The Fire Department staff noted, however, that the list of chemicals identified in Title 19 is not an exhaustive list nor is it treated as a cap on the total quantity of chemicals that can be stored on-site by other jurisdictions, just Palo Alto's cap. As a result, chemicals that do not appear on Title 19 would have no limit to the allowable quantity that could be stored on site. There does not appear to be an overt policy in the Zoning, Building, or Fire code to limit the quantity of chemicals stored on site which are not identified in Title 19. Additionally, the Fire department felt that creating a limit for non-specified chemicals would be arbitrary; there is no obvious regulation or policy in other sections of the Fire code to clearly link to a commonly understood limit.

Per the Building Code, hazardous materials are stored within Control Areas in a building. Each Control Area has a Maximum Allowable Quantity (MAQ) that is permitted to be stored within that space. The MAQ stored within a Control Area may be increased depending on how the storage facility is designed/improved (e.g. with fire sprinklers, ventilation, etc.). Depending on the size and number of building stories, the Building Code allows multiple Control Areas on each floor. Only when the quantities of chemicals stored exceed the MAQs of the Control Areas will a storage space be required to be classified as an H occupancy. Toxic and highly toxic chemicals that exceed the MAQ allowances are stored within an H-4 Building Code occupancy class. This is consistent with the definition of toxic and highly toxic hazardous materials that was adopted under Ordinance 5831.[3]

[2] Santa Clara County Department of Environmental Health's Hazardous Materials Compliance Division is the CUPA and administers the Hazardous Waste Generator Program and Tiered Permitting (California Health and Safety Code Chapter 6.5), Underground Storage Tank Program (California Health and Safety Code Chapter 6.7) and the Risk Management Program (California Health and Safety Code Chapter 6.95). As a Participating Agency, the Palo Alto Fire Department administers the Hazardous Materials Business Plans requirement (California Health and Safety Code Chapter 6.95) and Aboveground Storage Tank (California Health and Safety Code Chapter 6.67).

[3] PAMC 18.04.030(a)(66)(B): "Toxic and Highly Toxic hazardous materials" means substances defined in the California Fire Code Chapter 2, as amended, and as adopted and amended by Title 17 of the City Municipal Code, and subject to requirements of "High-hazard Group H-4" of the State Building Code, as buildings that use, handle, or store hazardous materials that are considered health hazards.

To summarize, staff determined the following criteria are necessary to determine whether a facility should be classified as a Tier 1 or Tier 2 HMF:

Table 1: Hazardous Materials Tier Qualifications

Tier 1 HMF Qualifications	Tier 2 HMF Qualifications
a. Is the existing or proposed use a manufacturing or processing use (R&D, Manufacturing, Warehousing and Distribution, or Recycling Center) b. A facility must store hazardous materials equal to or above 55 gallons, 500 pounds, or 200 cubic feet; c. The quantities of hazardous chemicals stored on site cannot exceed the amounts listed in Title 19.	a. Is the existing or proposed use a manufacturing or processing use (R&D, Manufacturing, Warehousing and Distribution, or Recycling Center) b. A facility must store toxic or highly toxic hazardous materials equal to or above 55 gallons, 500 pounds, or 200 cubic feet; c. These are stored within an H-4 building occupancy; d. The quantities of toxic or highly toxic hazardous chemicals stored on site cannot exceed the amounts listed in Title 19.

Four important distinctions arose from this research:

1) If a use is not a Manufacturing and Processing use, then it would never be classified as any type of HMF; even if the site might meet other HMF requirements (e.g. community center or school pools).
2) Any chemicals stored on site, regardless of their toxicity, that are below 55 gallons, 500 pounds, or 200 cubic feet for both Tiers are not classified as any type of HMF; This is true even if the quantity of toxic or highly toxic chemicals held on site exceeds the MAQ allowances and is stored in an H-4 occupancy.
3) Title 19 is a list that is managed by the federal government, is not exhaustive, and is only treated as a cap on the total quantities of chemicals that could be stored on a property within the City of Palo Alto. There is no commonly understood cap for chemicals that are not on the Title 19 list.
4) The policies that apply to Tier 2 HMFs in Palo Alto are narrowly focused.

<u>Policy Issue: Research and Laboratory Uses as Potential Constraints on Housing Inventory Sites</u>
Through the Housing Element update, the City is identifying housing inventory sites in the Stanford Research Park and multiple industrial/manufacturing zone districts. Per PAMC 18.20.040(b)(2) and 18.42.200(c)(vi)(b), new Tier 2 hazardous materials facilities must be located 300 feet away from residential land uses and sensitive receptors.

There were several pending applications involving hazardous materials on file with the City, including multiple applications within the Stanford Research Park. Staff has been able to confirm that those applications do not propose Tier 2 HMFs on site nor do they propose to expand storage facilities that would be classified as Tier 2 HMFs today, which existed prior to the 2016 ordinance. Additionally, staff understands from Stanford University representatives that, as landowner, the University does not currently permit new Tier 2 hazardous materials from being handled, stored, or used within the Research Park.

Three other pending applications are in the GM and ROLM districts; it is unknown at this time if the applicants for those proposed facilities intend to use hazardous materials that may qualify as a Tier 2 HMF, as staff is waiting to receive additional information from the applicants. In conjunction with reviewing these pending applications, staff is also reviewing the presence of existing Tier 2 facilities in Palo Alto to determine if further adjustment to the City's Housing Element sites are needed. New Tier 2 facilities in these districts could undermine the City's interest in placing more housing units in this part of the City.

Regulatory Issue: Ambiguity in the City's Hazardous Materials Ordinances

In addition to the housing policy considerations, the different tiered hazardous materials definitions in the Zoning Code are confusing and may warrant revision. For example, the City's current definitions reference quantities from the Fire Code that could be more clearly stated in the Zoning Code. This would save the need for staff and applicants to 'crosswalk' between city and state ordinances which are unfamiliar, and allow clarity for staff and applicants regarding the areas of concern for the City. Given the chemical quantities listed in "a" of Table 1 haven't significantly changed since the code was adopted, staff believes this provision would not need to be regularly updated by City Council. Other aspects, such as those listed as #1 and #2 of the 2016 Ordinance could also be clarified in a future ordinance update.

Summary of Key Issues:

Staff is seeing an increase in building permit applications for the handling, storage, and use of hazardous materials. Depending on the type and quantity of materials being used, the establishment of these land uses may frustrate the City's interest in placing housing development in certain areas of the City. While staff believes the existing ordinance provides sufficient safeguards for the proposed housing inventory sites, staff may return in the future to enact ordinances to prevent Tier 2 HMFs from being constructed near housing inventory sites.

Policy Implications:

There are no policy implications at this time as an emergency ordinance is not proposed. Staff is currently focused on researching where Tier 2 HMFs may exist in the City relative to the proposed housing inventory sites indicated in the Housing Element.

Resource Impact:

There is no recommendation in this report. In the future, staff intends to return to the PTC to add clarifying language to the City's existing ordinance. This language would seek to resolve the need to crosswalk multiple sections of the Building, Fire, and Zoning codes regarding the quantities and criteria necessary to determine what falls under a Tier 2 Hazardous Material Facility. Consultant services may be necessary to augment staff work. Staff has not identified a funding source at this time but it is anticipated any costs can be absorbed through department budgets.

Timeline:

Staff intends to return to the PTC later this year or early next year with clarifying language about the City's HazMat ordinance.

Stakeholder Engagement:

On August 11, 2022, staff met with representatives of the Stanford Research Park to advise the University of the previously proposed temporary moratorium and this information report. At that meeting, representatives from Stanford verbally agreed with staff's understanding of the City's existing ordinance and acknowledged that Stanford is not intending to propose uses in the Stanford Research Park that would fall under the Tier 2 HMF criteria listed above. Staff communicated to Stanford that if a Tier 2 HMF were proposed near a housing inventory site, that staff would likely return to the City Council with an emergency ordinance. Additional outreach to the broader community would follow for the drafting of potentially new, clarifying regulations.

Environmental Review:

No action is necessary on this item. As a result, this item is not subject to Environmental Review by CEQA.

Attachments:

Attachment12.a: Attachment A: Ordinance 5831 (PDF)

SETTLEMENT AND MUTUAL RELEASE AGREEMENT

This Settlement and Mutual Release Agreement (this "Agreement") is made between the City of Palo Alto ("City") and Communications & Power Industries LLC ("CPI") (each, a "Party" and together, the "Parties").

Background

A. On February 29, 2016, the Palo Alto City Council introduced and adopted on first reading two ordinances, the "Hazardous Material Ordinance", attached as Exhibit 1 amending the Municipal Code to regulate hazardous materials, and the "Amortization Ordinance" attached as Exhibit 2 addressing uses that would become non-conforming at CPI. The City Council finally adopted both ordinances on second reading on March 21, 2016.

B. The Hazardous Materials Ordinance establishes new regulations of hazardous materials uses in Palo Alto. Under its terms, several uses of hazardous materials at CPI became non-conforming.

C. The Amortization Ordinance establishes the following schedule for bringing the CPI non-conforming uses into conformity with the Municipal Code: December 31, 2052 for the Tier 2 hazardous materials uses in Buildings 1A and 1B; and either December 31, 2026 or December 31, 2031 (contingent on execution of this Agreement) for the Tier 2 hazardous materials uses in Building 2.

D. The Amortization Ordinance is based on two amortization studies completed in 2011/2012, one by the City concluding that the plating shop facility in Building 2 could be amortized by 2026, and one by CPI concluding that the plating shop facility cannot be amortized separately from the entire facility, and concluding that the entire facility could be amortized by 2052.

E. CPI disputes the lawfulness of the Hazardous Materials Ordinance and the 2026 date for amortizing Building 2 uses in the Amortization Ordinance. The City contends both are lawful exercises of legislative authority.

F. The Amortization Ordinance attached as Exhibit 2 reflects a negotiated compromise that provides CPI an option, contingent on execution of this Agreement, to extend the amortization date for the non-conforming hazardous materials uses in Building 2 to 2031 provided that the non-conforming hazardous materials uses are terminated rather than relocated on the site. Pursuant to the Amortization Ordinance, in order to elect the extended amortization date, CPI must exercise such election by December 31, 2021.

G. The Parties wish to avoid the cost, difficulty and uncertainty of litigation and to finally settle and resolve their disagreements regarding the adoption, including the terms, of the Hazardous Materials Ordinance and the Amortization Ordinance by entering into this Agreement under the terms set out below. In addition, the Parties wish to provide for the administration and implementation of the Amortization Ordinance from the date of execution of this Agreement through 2052, under the terms set out below. By entering into this Agreement, neither Party admits

any fault or wrongdoing, nor concedes that the legal or factual positions taken by the other Party in this matter were correct.

Now therefore, the Parties agree as follows:

Agreement

1. The Parties agree to the Settlement Terms attached hereto as Exhibit 3, which is fully incorporated into and made a part of this Agreement.

2. CPI agrees not to institute or maintain any lawsuit, claim, or other judicial or administrative proceeding against the City challenging the validity of the Hazardous Materials Ordinance (Exhibit 1) or Amortization Ordinance (Exhibit 2). All claims by and between the Parties regarding the adoption, including the terms, of the Hazardous Materials Ordinance and Amortization Ordinance shall be considered compromised and settled, without the admission of fault or liability by any Party or conceding that any legal or factual positions of the other Party were correct. Each Party agrees to waive and release, in favor of the other Party and all employees, directors, officers, members, agents, contractors, attorneys and representatives of the other Party, all claims, demands, causes of action, rights, damages, costs, expenses, compensation, and legal entitlements of any kind or nature (including claims for attorneys' fees), known and unknown, arising out of or relating to the adoption, including the terms, of the Hazardous Materials Ordinance and Amortization Ordinance and to accept the terms stated in this Agreement in full accord and satisfaction thereof.

3. The Parties intend this Agreement as a complete resolution of all disputes between and among them arising from or relating in any way to the adoption of the Hazardous Materials Ordinance and Amortization Ordinance. In accordance with this intention, the Parties waive the protection of Civil Code section 1542, which provides:

> "A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor."

4. Each Party to this Agreement will bear full responsibility for all costs, including without limitation attorneys' fees, incurred by that Party with respect to this Agreement and its implementation.

5. This Agreement may be executed in counterparts. Copies containing facsimile or other electronically transmitted (such as by .pdf) signatures are be deemed an original. All signature pages collectively shall constitute a single instrument.

6. Each Party represents and warrants that the person executing this Agreement on behalf of such Party: (a) is authorized by his or her respective organization to execute this Agreement; (b) is acting within the scope of his or her authority as officers or duly authorized representatives of his or her respective organization; and (c) execution of the Agreement constitutes a legally binding and enforceable obligation of such Party.

7. Each Party represents that in entering into this Agreement, it has relied upon the legal advice of its attorneys, who are the attorneys of the Party's own choice. Each Party further represents that the terms of this Agreement have been completely read by that Party, and that these terms are fully understood and voluntarily accepted by both the Party's attorneys and the Party. Each Party and counsel for each Party has reviewed and revised, or had the opportunity to revise this Agreement; and accordingly the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party is not applicable and therefore shall not be employed in the interpretation of this Agreement or any mutually executed amendment of it.

8. This Agreement is made and entered into in the State of California and in all respects shall be interpreted, enforced, and governed under California law.

9. The Parties intend that this Agreement is binding and fully admissible for purposes of its enforcement and no provision in this Agreement is intended or shall create any enforcement or other rights in any third party.

10. This Agreement shall be binding upon, and inure to the benefit of, the Parties and their respective agents, successors, and assigns.

11. Any notices permitted by, required by, arising out of or relating to this Agreement, including, but not limited to, enforcement of this Agreement, shall be effective three calendar days after mailing via First Class U.S. Mail to the following addresses of the Parties:

For the City

City Manager
City of Palo Alto
250 Hamilton Avenue, 7th Floor
Palo Alto, California 94301

With a copy to

City Attorney
City of Palo Alto
250 Hamilton Avenue, 8th Floor
Palo Alto, California 94301

For CPI

Communications & Power Industries LLC
Attention: Robert A. Fickett, President
811 Hansen Way
Palo Alto, CA 94304

With a copy to

Elizabeth (Betsy) Lake, Esq.
Holland & Knight
50 California Street; Suite 2800
San Francisco, California 94111

Any Party may change its address(es) by a written notice delivered to the others.

12. This Agreement constitutes the entire agreement between the Parties hereto and may not be modified, amended, or waived, except in writing duly executed by both Parties.

[Signatures On Next Page]

Communications & Power Industries LLC
a Delaware limited liability company

By: _____
Robert A. Fickett
President

Date: Apr. 15, 2016

Approved as to Form:
Holland & Knight, LLP, Attorneys for CPI

By: _____
Elizabeth Lake

CITY OF PALO ALTO

By: _____
City Manager

Date: _____

Approved as to Form:
PALO ALTO CITY ATTORNEY

By: _____
MOLLY S. STUMP
Attorneys for CITY OF PALO ALTO

Exhibit 1: Hazardous Materials Ordinance

Exhibit 2: Amortization Ordinance

Exhibit 3: Settlement Terms

Exhibit 1:
Hazardous Material Ordinance

Exhibit 1

Ordinance No. 5381
Ordinance of the Council of the City of Palo Alto
Amending Zoning Regulations related to Hazardous Materials Use, Storage, and Handling in the Office, Research, and Manufacturing Zoning Districts

The Council of the City of Palo Alto does ORDAIN as follows:

SECTION 1. Findings and Declarations. The City Council finds and declares as follows:

A. The City of Palo Alto is committed to ensuring the quality of life, including public health, safety, and welfare, of its residential neighborhoods, as evidenced by Goal L-3 of the City's Comprehensive Plan, which calls for the protection and enhancement of safe, attractive residential neighborhoods.

B. There are businesses within the City that because of the types and quantities of hazardous materials used, handled, and/or stored onsite may pose offsite health, safety, and welfare effects.

C. In 2007, the City Council amended the Palo Alto Municipal Code to prohibit uses that have acutely hazardous materials above thresholds identified in Title 19 of the California Code of Regulations within 300 feet of residential zoned properties or existing residential properties within a non-residential zone. There are currently no such uses within Palo Alto, however the City is concerned that new such uses could present a risk regardless of their distance from residential uses.

D. The City is also concerned that there may be uses within the City, both at this time and potentially in the future, which involve hazardous materials that do not exceed thresholds identified in Title 19, but that nonetheless may present a risk of offsite health, safety and welfare effects, particularly if they are located within proximity to land uses such as residences, schools, daycare centers, elder care facilities and similar uses whose occupants may be more susceptible than the general population to the adverse effects of exposure to toxic chemicals and other pollutants.

E. On October 6, 2014, the City Council discussed issues associated with Communication & Power Industries, LLC (CPI), which is located in the Stanford Research Park but is immediately adjacent to a residential neighborhood. The Council directed staff to prepare an ordinance that would identify appropriate hazardous materials thresholds, considering the spectrum of businesses, facilities, and buildings in the City, and possibly establish tiers for the facilities covered that take into account the quantities and types of hazardous materials used, handled, and/or stored onsite and their proximity to land uses that could experience health effects if an accidental release of hazardous materials were to occur and travel off site.

F. The California Health and Safety Code at Division 20, Chapter 6.95 identifies threshold quantities of hazardous materials (referred to as "CUPA thresholds") above which businesses are required to prepare Hazardous Materials Business Plans. Hazardous Materials Business Plans, among other things, must include an inventory of hazardous materials onsite and an emergency response plan that identifies the steps, actions, and communications to be performed in the event of an accidental release. The State Legislature recognizes that "the information provided by business and area plans is necessary in order to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of hazardous materials into the workplace and environment."

G. A subset of the uses subject to the requirements of Health and Safety Code Division 20, Chapter 6.95 are considered to involve acutely hazardous materials that may result in health effects upon an accidental release. These include those defined as toxic or highly toxic by the California Fire Code Chapter 2.

H. Establishing a minimum distance between these hazardous materials users in the City's industrial zoning districts and sensitive receptors will be protective of public health, safety and welfare by preventing new uses of this type from locating within proximity of existing sensitive receptors, and by preventing new sensitive receptors within industrial zoning districts, when they would be within proximity of these hazardous materials uses.

I. Similarly, preventing establishment of new uses using these hazardous materials above thresholds defined in Title 19 of the California Code of Regulations will be protective of public health, safety and welfare by eliminating the risk of exposure due to accidental releases from these uses.

J. Existing uses and sensitive receptors within industrial zoning districts that do not comply with this ordinance would become legal and non-conforming uses. Those uses would be prevented from expanding or intensifying and could be subject to termination through amortization.

SECTION 2. Section 18.04.030 (Definitions) of Chapter 18.04 (Definitions) of the Palo Alto Municipal Code is hereby amended to read as follows:

(a)

. . .

(66) Hazardous Materials.

(A) "Hazardous Materials Tier" means a manufacturing or processing use that utilizes, handles, and/or stores particular types and quantities of hazardous materials as follows:

(i) "Tier 1" means uses with quantities of hazardous materials that are not defined as Toxic or Highly Toxic hazardous materials and that are both above

the threshold quantities in Health and Safety Code Division 20, Chapter 6.95 and below the Title 19 thresholds of the California Code of Regulations.

(ii) "Tier 2" means uses with quantities of Toxic or Highly Toxic hazardous materials that are both above the threshold quantities in Health and Safety Code Division 20, Chapter 6.95 and below the Title 19 thresholds of the California Code of Regulations.

(iii) "Tier 3" means uses with quantities of hazardous materials above the Title 19 thresholds of the California Code of Regulations.

(B) "Toxic and Highly Toxic hazardous materials" means substances defined in the California Fire Code Chapter 2, as amended, and as adopted and amended by Title 17 of the City Municipal Code, and subject to requirements of 'High-hazard Group H-4' of the State Building Code, as buildings that use, handle, or store hazardous materials that are considered health hazards.

. . .

(127.7) "Sensitive Receptors" means land uses such as residences, schools, daycare centers and homes, homes for the elderly, convalescent homes and similar uses whose occupants may be more susceptible than the general population to the adverse effects of exposure to toxic chemicals and other pollutants.

. . .

SECTION 3. Section 18.20.030 (Land Uses), Table 1 (Industrial/Manufacturing District Land Uses) of Chapter 18.20 (Office, Research, and Manufacturing [MOR, ROLM, RP and GM] Districts) of the Palo Alto Municipal Code is hereby amended to read as follows:

(a) Permitted and Conditionally Permitted Land Uses

Table 1 lists the land uses permitted or conditionally permitted in the industrial and manufacturing districts.

Table 1
Industrial/Manufacturing District Land Uses
[P = Permitted Use CUP = Conditional Use Permit Required]

	MOR	ROLM ROLM(E)	RP RP(5)	GM	Subject to regulations in Chapter:
ACCESSORY AND SUPPORT USES					
Accessory facilities and	P	P	P	P	Chs. 18.40, 18.42

activities customarily associated with or essential to permitted uses, and operated incidental to the principal use.					
Automatic Teller Machines	P	P	P	P	18.20.030(d)
Home Occupations, when accessory to permitted residential uses.	P	P	P	P	Chs. 18.40, 18.42
EDUCATIONAL, RELIGIOUS, AND ASSEMBLY USES					
Business and Trade Schools				P	
Religious Institutions		P	P	P	
Colleges and Universities	P	P	P		
Private Clubs, Lodges, or Fraternal Organizations	CUP	CUP	CUP	CUP	
Private Schools (K-12)	CUP	CUP	CUP	CUP	
HEALTH CARE SERVICES					
Ambulance Services	CUP				
Convalescent Facilities	CUP	CUP	CUP	CUP	18.23.100(B)
Medical Office	P	CUP	CUP		
Medical Research	P	P	P		18.20.030(c)
Medical Support Retail	P				18.20.030(b)
Medical Support Services	P				18.20.030(b)
MANUFACTURING AND PROCESSING USES					
Manufacturing		P	P	P	18.23.100(B)
Recycling Centers		CUP	CUP	CUP	
Research and Development	CUP	P	P	P	18.23.100(B)
Warehousing and		P	P	P	

Distribution					
OFFICE USES					
Administrative Office Services		P	P	CUP	
Financial Services		CUP	CUP		
Professional and General Business Office		P	P		
PUBLIC/QUASI-PUBLIC USES					
Service and Equipment Yards				P	
Utility Facilities				CUP	
Utility Facilities essential to provision of utility services but excluding construction/storage yards, maintenance facilities, or corporation yards	CUP	CUP	CUP		
RECREATION USES					
Commercial Recreation		CUP	CUP	CUP	
Neighborhood Recreational Centers	CUP				
RESIDENTIAL USES					
Single-Family	Not permitted				18.20.040(b)
Two-Family	Not permitted				
Multiple-Family	CUP	CUP	CUP		
Residential Care Homes	P	CUP ~~P~~	CUP ~~P~~	CUP	18.23.100(B)
RETAIL USES					
Eating and Drinking Services, excluding drive-in and take-out services		CUP	CUP	CUP	
Retail Services		CUP	CUP	CUP	
SERVICE USES					
Animal Care, excluding				P	

boarding and kennels					
Boarding and Kennels				CUP	
Day Care Centers	P	CUP ~~P~~	CUP ~~P~~	CUP	18.23.100(B)
Emergency Shelters for the Homeless		P (ROLM(E)			18.20.030(d)
Family Day Care Homes					
Small Family Day Care	P	CUP ~~P~~	CUP ~~P~~	CUP ~~P~~	18.23.100(B)
Large Family Day Care	P	CUP ~~P~~	CUP ~~P~~	CUP ~~P~~	18.23.100(B)
General Business Services				P	
Lodging					
Hotels providing not more than 10% of rooms with kitchens	CUP				
Mortuaries and Funeral Homes				P	
Personal Services		CUP	CUP	CUP	
Vehicle Services					
Automobile Service Stations, subject to site and design review in accord with the provisions of Chapter 18.30(G)		CUP	CUP		
Automotive Services				CUP	
Off-site new vehicle storage for auto dealerships located in Palo Alto		CUP		CUP	
TEMPORARY USES					
Temporary Parking Facilities, provided that such facilities shall remain no more than five years	CUP	CUP	CUP	CUP	

TRANSPORTATION USES					
Passenger Transportation Terminals				CUP	

SECTION 4. Subsections (b) and (c) of Section 18.20.040 (Site Development Standards) of Chapter 18.20 (Office, Research, and Manufacturing [MOR, ROLM, RP and GM] Districts) of the Palo Alto Municipal Code is hereby amended to read as follows:

. . .

(b) Development Standards for Exclusively Residential Uses

Residential uses shall be permitted in the MOR, RP, RP(5), ROLM, ROLM(E), ~~and GM~~ zoning districts, subject to the following criteria.

(1) It is the intent of these provisions that a compatible transition be provided from lower density residential zones to higher density residential or non-residential zones. The Village Residential development type should be evaluated for use in transition areas and will provide the greatest flexibility to provide a mix of residence types compatible with adjacent neighborhoods.

(2) No new single-family or two-family residential development is permitted in any of the office, research and manufacturing districts, and no new residential development is permitted within 300 feet of an existing Hazardous Materials Tier 2 use. Existing single-family and two-family uses and existing residential development within 300 feet of an existing Hazardous Materials Tier 2 use shall be permitted to remain, consistent with the provisions of Chapter 18.70 (Nonconforming Uses and Noncomplying Facilities).

(3) MOR District. All multi-family development in the MOR zoning district shall be permitted subject to approval of a conditional use permit and compliance with the development standards prescribed for the RM-30 zoning district.

(4) RP and RP(5) Districts. All multi-family development in the RP, and RP(5) zoning districts that is located within 150 feet of an R-E, R-1, R-2, RMD, or similar density residential PC zone shall be permitted subject to the provisions above in 18.20.040(b)(2), approval of a conditional use permit, and compliance with the development standards prescribed for the RM-15 zoning district, including Village Residential development types. Multi-family development in the MOR, RP, and RP(5) zoning districts that is located greater than 150 feet from an R-E, R-1, R-2, RMD, or low density residential PC shall be permitted subject to the provisions above in 18.20.040(b)(2), approval of a conditional use permit, and compliance with the development standards prescribed for the RM-30 zoning district.

(5) ROLM (E) District. All multi-family development in the ROLM(E) zoning district shall be permitted subject to the provisions above in 18.20.040(b)(2), approval of a conditional use permit, and compliance with the development standards prescribed for the RM-15 zoning district.

(6) ROLM District. All multi-family development in the ROLM zoning district shall be permitted subject to the provisions above in 18.20.040(b)(2), approval of a conditional use permit, and compliance with the development standards prescribed for the RM-30 zoning district.

(7) GM District. All residential development is prohibited in the GM zoning district.

(c) Development Standards for Mixed (Residential and Nonresidential) Uses in the MOR, ROLM, ROLM(E), RP, and RP(5) ~~and GM~~ zoning Districts

Mixed (residential and nonresidential) uses shall be permitted in the MOR, ROLM, ROLM(E), RP, and RP(5) ~~and GM~~ zoning districts, subject to the following criteria:

(1) It is the intent of these provisions that a compatible transition be provided from lower density residential zones to higher density residential, non-residential, or mixed use zones. The Village Residential development type should be evaluated for use in transition areas and will provide the greatest flexibility to provide a mix of residence types compatible with adjacent neighborhoods.

(2) New sensitive receptor land uses shall not be permitted within 300 feet of a Hazardous Materials Tier 2 or Tier 3 use. Existing sensitive receptors shall be permitted to remain, consistent with the provisions of Chapter 18.70 (Nonconforming Uses and Noncomplying Facilities).

(3)~~(2)~~ ROLM(E) District. Mixed (residential and nonresidential) development in the ROLM(E) zoning district shall be permitted, subject to the provisions above in 18.20.040(c)(2), approval of a conditional use permit, determination that the nonresidential use is allowable in the district and that the residential component of the development complies with the development standards prescribed for the RM-15 zoning district. The maximum floor area ratio (FAR) for mixed use development is 0.3 to 1.

(4)~~(3)~~ ROLM District. Mixed (residential and nonresidential) development in the ROLM zoning district shall be permitted, subject to the provisions above in 18.20.040(c)(2), approval of a conditional use permit, determination that the nonresidential use is allowable in the district and that the residential component of the development complies with the development standards prescribed for the RM-30 zoning district. The maximum floor area ratio (FAR) for mixed use development is 0.4 to 1.

(5)~~(4)~~ GM District. Mixed use (residential and nonresidential) development is prohibited in the GM zoning district.

In computing residential densities for mixed (residential and nonresidential) uses, the density calculation for the residential use shall be based on the entire site, including the nonresidential portion of the site.

SECTION 5. Section 18.20.050 (Performance Criteria) of Chapter 18.20 (Office, Research, and Manufacturing [MOR, ROLM, RP and GM] Districts) of the Palo Alto Municipal Code is hereby amended to read as follows:

All development in the Office/Research/Manufacturing zoning districts shall comply with the requirements and guidelines outlined in Chapter 18.23. Such requirements and guidelines are intended to reduce the impacts of these non-residential uses on surrounding residential districts and other sensitive receptors.

SECTION 6. Subsection (B) of Section 18.23.100 (Hazardous Materials) of Chapter 18.23 (Performance Criteria for Multiple Family, Commercial, Manufacturing and Planned Community Districts) of the Palo Alto Municipal Code is hereby amended to read as follows:

(B) Requirements

(i) The project shall be designed to comply with all safety, fire and building codes for the storage, use and handling of the hazardous materials involved.

(ii) Any new structure that is designated an "H" occupancy (storage, use and handling of specified types and quantities of hazardous materials), or any existing structure that is converted to an "H" occupancy, as specified by the California Building Code, shall be designed in accordance with the currently adopted California Building Code and Fire Code.

(iii) Where a use or building or area ~~used for~~ supporting such storage, use and/or handling is located within 150 feet of a sensitive receptor, residential zoning district or parcel with existing residential uses located within nonresidential zones ~~residential zoning district or of properties with existing residential uses located within nonresidential zones (residential properties)~~, the business owner shall provide a report to the fire department addressing the adequacy of the emergency contingency plan, which addresses safety of the nearby sensitive receptor or residential zones ~~residential area~~, including but not limited to, procedures for accidental releases or other emergencies, and other protective measures as required by Health and Safety Code Division 20, Chapter 6.95, upon:

(a) A change in the types of hazardous materials stored, used or handled on the site resulting in quantities above the reporting threshold established in California Health and Safety Code Division 20, Chapter 6.95; ~~and/~~or

(b) A 100% or greater increase in the quantities of a previously disclosed hazardous material stored, used or handled on the site at buildings or areas already above the reporting threshold established in California Health and Safety Code Division 20, Chapter 6.95; ~~and/~~or

(c) Release/threatened release incidents.

(iv) For any such use or facility outlined in (iii) above, upon application for any building permit for improvements that would result in a change in the types of hazardous materials stored, used or handled on the site or an increase in the quantities of hazardous materials stored, used or handled on the site, the city shall provide written notice to the owners, ~~and~~ operators, and occupants of ~~residents of~~ all sensitive receptors and residentially zoned parcels~~residential property~~ within 150 feet from the property line, not later than ten days after issuance of the building permit. The notice shall inform the ~~property~~ the sensitive receptor or residentially zoned property owners, operators, and occupants that an application has been received, the nature of the request (such as the type of materials), that the fire department and building department have determined the project to be in compliance with relevant hazardous materials regulations, and that the application and details are on file with the fire department and/or building department.

(v) New Hazardous Materials Tier 1 manufacturing uses and new facilities (buildings or areas) or modifications to existing facilities accommodating such uses shall be permitted subject to compliance with the development standards prescribed for the relevant industrial/manufacturing zoning district and the reporting and noticing requirements identified above in Section 18.23.100(B)(iii).

(vi) New Hazardous Materials Tier 2 manufacturing uses and new facilities (buildings or areas), or modifications to existing facilities accommodating these uses shall be permitted subject to compliance with the development standards prescribed for the relevant industrial/manufacturing zoning district and the reporting and noticing requirements identified above in Section 18.23.100(B)iii, provided:

(a) approval by the fire chief of an emergency response plan that specifically addresses toxic and highly toxic hazardous materials that exceed the quantities specified in Section 17.16.025 of the Municipal Code shall be required;

(b) approval of a conditional use permit shall be required together with notification by the City to owners, operators, and occupants of sensitive receptors or residentially zoned land within 600 feet; and

(c) notwithstanding the provisions above, in no event shall such use, facility, or improvement be allowed in the MOR zoning district or be allowed closer than 300 feet

to a sensitive receptor or residentially zoned land if such facility or improvement is located in a ROLM, ROLM(E), RP, RP(5), or GM district.

(vii) No Hazardous Materials Tier 3 uses shall be permitted in the City of Palo Alto.

(~~vii~~viii) No facility proposing the use of BioSafety Level 4 etiological agents shall be permitted in the city of Palo Alto.

SECTION 7. Section 18.70.020 through Section 18.70.100 (regarding changes to nonconforming uses and noncomplying facilities) of Chapter 18.70 (Nonconforming Uses and Noncomplying Facilities) of the Palo Alto Municipal Code is hereby amended as follows:

18.70.020 Nonconforming use - Expansion.

(a) A nonconforming use shall not be altered, enlarged, expanded, or extended, except as provided in subsection (b) this prohibition shall include any moving, enlargement, extension, expansion or alteration of a nonconforming use which:

(1) Increases the site area or floor area occupied by such use on the same or any additional site;

(2) Increases the number of structures or the size of any structure housing such nonconforming use or portion thereof.

(b) A nonconforming use which occupies a portion of a building may be expanded to include additional floor area within the same building; provided that:

(1) Without substantial remodeling or reconstruction, the portion of building into which expansion is proposed is not reasonably susceptible to use or occupancy by a conforming use. The determination of whether a portion of a building is reasonably susceptible to use or occupancy by a conforming use shall be made by the building official and shall take into consideration, but not be limited to, the following:

(A) Whether any required remodeling or reconstruction would involve structural alterations;

(B) Whether the building was designed and constructed for the nonconforming use occupying the building or portion thereof, or uses of similar intensity or classification;

(C) The degree of privacy, separation, and protection afforded the portion of the building into which expansion is proposed from intrusion, interference, noise, and similar effects resulting from or generated by the nonconforming use;

(D) Availability of access to the portion of the building into which expansion is proposed.

(2) Such expansion within the building does not create, cause, or increase any additional nonconformance or noncompliance with the requirements of this title.

(3) Nothing contained in this section authorizes a change in the nature of a nonconforming use contrary to the provision of Section 18.70.030.

18.70.030 Nonconforming use - Change.

(a) Except as provided in subsection (b), a nonconforming use shall not be changed to or replaced by any use except a conforming use.

(b) A nonconforming use may be changed to or replaced by another nonconforming use which would have been permitted under the most recent zoning classification of the property under which the nonconforming use was a conforming use and which is of no higher occupancy rating than the existing nonconforming use as defined by Title 16 subject to the following limitations:

(1) The change or replacement shall not increase the extent of the nonconformity, or the nature of the activity, or the site area or floor area occupied by the nonconforming use on the site, except as may be provided by Section 18.70.020(b).

(2) Any period of temporary vacancy or discontinuance associated with such change or replacement shall not exceed the limitations established by Section 18.70.040.

(3) Such change or replacement of nonconforming use to or by another nonconforming use shall be permitted only if the building, or portion of a building, presently occupied by the nonconforming use is not reasonably capable of conversion to accommodate use and occupancy by a conforming use, without substantial reconstruction or remodeling. The building official shall determine whether the building, or portion of a building, is reasonably capable of such conversion. Said determination shall take into consideration, but not be limited to, the following:

(A) Whether changes in the nature of the building or a portion of the building would be required by Title 16 or similar regulations in order to convert the use of the building, or portion of the building, to a conforming use;

(B) Whether any reconstruction or remodeling necessary to convert the use and occupancy of the building, or a portion of the building, involves structural alterations;

(C) Whether the building, or portion of the building, was originally designed and constructed for the particular existing nonconforming use or uses of similar character.

(c) A nonconforming use which is changed to or replaced by a conforming use shall not be reestablished, and any portion of a site or any portion of a building, the use of which changes from a nonconforming to a conforming use, shall not thereafter be used except to accommodate a conforming use.

18.70.040 Nonconforming use - Discontinuance.

(a) On any site having facilities thereon valued at less than one thousand dollars, any nonconforming use, other than a residential use, which is discontinued or abandoned or otherwise ceases operation and use of the site for a period of six months or longer shall not be resumed, reestablished, or continued, and all subsequent use of such site and facilities thereon shall conform to this title.

(b) On any site not subject to subsection (a), a nonconforming use of facilities designed and constructed for nonresidential purposes which is discontinued or abandoned or otherwise ceases operation and use of the site for a period of one year or more shall not be resumed, and all subsequent use of such site and facilities thereon shall conform to this title.

(c) Notwithstanding the provisions of Section 18.70.030, or the provisions of subsections (a) and (b) of this section, in any residential district, a nonresidential, nonconforming use occupying facilities originally designed and constructed for residential use which is discontinued or abandoned or otherwise ceases operation and

use of the site for a period of ninety days or greater shall not be continued or recommenced, and any subsequent use of the site and facilities shall conform to this title. This provision shall not be construed to prevent a change of ownership or management of such nonconforming use; provided, that any cessation of operation of the use is solely in connection with the transfer of ownership or management to a specifically designated person or entity and is solely for the purpose of accomplishing any transfer of title, equipment, operational control, or similar purpose.

18.70.050 Nonconforming use - Maintenance and repair of facility.

Facilities occupied or used by a nonconforming use permitted by this chapter shall be subject to the following provisions governing maintenance, repairs, alterations, or replacement:

(a) Normal and routine maintenance of any structure for the purpose of preserving its existing condition, retarding or eliminating wear and tear or physical depreciation, or complying with the requirements of law, shall be permitted.

(b) Incidental alteration shall be permitted, provided the value of the incidental alterations in any one-year period shall not exceed twenty percent of the value of the facility prior to such alterations.

(c) Structural alterations or enlargement of the facility shall be permitted only to accommodate a conforming use, or when made to comply with the requirements of law.

18.70.060 Nonconforming use - Replacement of facility.

A facility, used or occupied wholly or partly by one or more nonconforming uses, which is damaged or destroyed by any means except ordinary wear and tear and depreciation, may be reconstructed or replaced only for occupancy or use by a conforming use, except in the following instances:

(a) Where none of the nonconforming uses is subject to termination as provided by Section 18.70.070, reconstruction or replacement for continued occupancy or use by such nonconforming use shall be permitted only in accord with the following limitations:

(1) The extent of nonconformity, or the intensity of activity, or the site area or floor area occupied by the nonconforming use subsequent to reconstruction or replacement of the facility shall not exceed that existing prior to reconstruction or replacement.

(2) Reconstruction or replacement shall be subject to all applicable laws, regulations, and procedures otherwise governing construction on the site.

(b) When one or more of the nonconforming uses is subject to termination as provided by Section 18.70.070, reconstruction or replacement for continued occupancy or use by such nonconforming use shall be permitted only in accord with the following limitations:

(1) During the first one-third of the applicable termination period of such use, the facility may be reconstructed or replaced; provided the value of such reconstruction or replacement shall not exceed seventy-five percent of the value of the facility prior to damage or destruction.

(2) During the second one-third of the applicable termination period of such use, the facility may be reconstructed or replaced; provided the value of such reconstruction or replacement shall not exceed fifty percent of the value of the facility prior to damage or destruction.

(3) During the last one-third of the applicable termination period of such use, the facility may be reconstructed or replaced; provided the value of such reconstruction or replacement shall not exceed twenty-five percent of the value of the facility prior to damage or destruction.

(4) Any reconstruction or replacement permitted in this chapter shall not extend or otherwise modify the required termination date established by Section 18.70.070 and applied to the nonconforming use prior to such reconstruction or replacement. Said termination date shall apply to all portions of the site or structure, including those portions reconstructed or replaced.

18.70.070 Nonconforming use - Required termination.

(a) In any district, a nonconforming, nonresidential use occupying a site having facilities thereon valued at less than one thousand dollars, shall be terminated within five years from the effective date of this section, or within five years from the date such use becomes nonconforming, whichever date is later, and within such time the improvements shall either be removed, or converted or modified to accommodate a conforming use.

(b) In any district, a nonconforming, nonresidential use of a site not subject to subsection (a) of this section shall be terminated in accord with the following provisions and schedules:

(1) When occupying or using facilities designed and built for residential use, the nonconforming use shall be terminated within ten years from July 20, 1978, or within ten years from the date such use becomes nonconforming, whichever date is later, and within such time the improvements shall either be removed, or converted or modified to accommodate a conforming use.

(2) When occupying or using facilities designed or built for nonresidential use, the nonconforming use shall be terminated, and the facilities shall be converted or modified to accommodate a conforming use, or shall be removed at or before the time limit prescribed in subdivision (3) of this subsection; provided, however, that unless a site-specific amortization study is prepared, no such termination, removal, or conversion shall be required within fifteen years from July 30, 1978, or within fifteen years from the date such use became nonconforming, whichever date is later; provided, however, that uses which were made non-conforming as a result of the 1974 Fire Zone 1 Study, by Ordinance No. 2777, adopted March 25, 1974, shall terminate on November 23, 1990; and provided, further, that any use made nonconforming by said Ordinance No. 2777, the primary purpose of which is to prepare and deliver food to senior citizens, shut-ins and others with limited mobility may remain and shall not be subject to termination pursuant to this section. Such uses shall be permitted to remodel, improve or replace site improvements in accordance with applicable site development regulations,

provided that any such remodeling, improvement or replacement shall not result in any increased floor area.

Notwithstanding the dates of termination of uses required by this subsection (b)(2), the required termination dates of the following uses shall be as hereinafter set forth:

(A) The nonconforming use(s) of the property at 440-460 Page Mill Road for nonprofit orthomolecular and molecular medical research functions shall terminate on or before July 20, 1998.

(B) The nonconforming use of the property at 464 Colorado Avenue for a dance studio and associated parking shall terminate on or before July 20, 2003.

(C) The nonconforming use of the property at 440 Pepper Street for an art studio specializing exclusively in the medium of monotype printmaking and associated instructional uses shall terminate on or before July 20, 2018. Nothing in this ordinance shall be construed to create a vested right for the nonconforming uses to remain after July 20, 2003.

(D) The nonconforming use of the property at 4277 Miranda for a gero-psychiatric skilled nursing facility shall terminate on or before January 20, 1994.

(E) The nonconforming uses of the property at 3200 Park Boulevard/340 Portage Avenue/Olive Avenue for retail, research and development, warehouse, and storage uses are permitted in approximately the same ratio of uses existing as of October 16, 2006, subject to the following limitations: (1) retail uses shall not exceed 60,000 square feet, and (2) truck deliveries and other noisy outdoor activities shall be limited to the hours of 8:00 a.m. to 9:00 p.m. weekdays and 9:00 a.m. to 9:00 p.m. weekends.

(F) The nonconforming use of the property at 2011 El Camino Real for tire sales and installation shall terminate on or before April 26, 2009.

Such uses shall be permitted to remodel, improve or replace site improvements in accordance with applicable site development regulations, provided that any such remodeling, improvement or replacement shall not result in any increased floor area or increase in intensity of the use, nor any loss of parking.

(3) The following schedule shall govern the period of time for termination of nonconforming uses specified in subdivision (2) of this subsection unless a site-specific amortization study is prepared:

Type of Construction Defined by Building Code	Age of Structure Computed From Date of Construction
Type I – Totally noncombustible	35 years
Type II – Fire resistive	35 years
Type III – Noncombustible exterior, combustible interior	30 years
Type IV – Heavy timber	30 years
Type II – Nonrated	25 years
Type V – Wood frame	20 years

(4) Nothing contained in this subsection shall extend or otherwise modify any termination date provided by any previously existing ordinance for any use which became nonconforming under such ordinance prior to the effective date of this section. Such termination dates for such previously existing nonconforming uses are incorporated in this section and shall remain in effect.

(c) The director of planning and community environment shall determine those properties the use of which were lawfully existing uses permitted or conditionally permitted, in the districts in which they were located immediately prior to July 20, 1978, and which uses were rendered nonconforming by reason of the adoption of this title on July 20, 1978, and those properties which, prior to July 20, 1978, were located in an R-1 district which was imposed by reason of annexation of the property to the city without benefit of prezoning, the uses of which were lawfully existing uses permitted or conditionally permitted operating subject to a conditional use permit prior to the date of annexation. Written notice of such nonconformance shall be mailed to the owner of record of each such property and to the occupant of the property. Within two years of the date of mailing of such notice, any owner of such property, lessee of such property with the written consent of owners, or purchaser of such property when acting pursuant to a contract of sale in writing duly executed and acknowledged by both the buyer and the owner of record, may apply to have such property excepted from the termination provisions of this section. Said application may be made to the director of planning and community environment in such form as may be prescribed by the director of planning and community environment. Said application shall include, but not be limited to, a statement of the location and size of the property, the nature of its use on July 20, 1978, a statement of reasons establishing that the use is compatible with and will not be detrimental to the uses designated in the Comprehensive Plan for the surrounding area and properties, a map of the subject property indicating the location of all parcels of real property within a distance of three hundred feet from the exterior boundary of the subject property, a list as shown in the last equalized assessment roll, of the name and address of the owner of record of each such parcel, and such other information as may be required by the director of planning and community environment.

(1) Such application shall be accompanied by such fee as is prescribed in the municipal fee schedule.

(2) Upon receipt of such application, the director of planning and community environment shall so inform the chairperson of the planning commission who shall set a date for a public hearing on the application which shall be held within a reasonable time from the date of filing of the application. Notice of the hearing shall be given by publication once in a local newspaper at least twelve days prior to the hearing and by mail to owners and occupants of real property within 300 feet of the subject property.

(3) Upon the date set for hearing, the planning commission shall conduct a public hearing thereon, unless, for cause, the commission shall on that date continue the matter. Upon conclusion of the hearing, the commission shall determine whether the use of the property on July 20, 1978, is compatible and not detrimental to the land uses designated in the Comprehensive Plan for the surrounding areas of properties. In the event the commission so finds, it shall recommend to the city council that the use shall

be exempted from the termination provisions of this section. The commission may recommend such conditions as it may find necessary to insure compatibility including, but not limited to, required improvement of or modifications to existing improvements on the property, limitations on hours of operation, limitation on the nature of operations, and a specified term of years for which the exception shall be granted.

(4) Upon receipt of the recommendation of the planning commission, the city council shall consider the application within a reasonable time. The council may, at its option, conduct a public hearing on the matter.

In the event the council finds the use of the subject property to be compatible with and not detrimental to those land uses designated in the Comprehensive Plan for the surrounding area and properties, it shall, by motion, except said use from the termination provisions of this section. In granting such exception, the council may include such conditions as are deemed necessary to insure such compatibility, including, but not limited to, the conditions set out in subsection (c)(3) of this section.

(5) Any use which is excepted from the termination provisions of this section, and which is changed pursuant to Section 18.70.030 shall be subject to the termination provisions of this section as though no exception had been granted.

(6) Any use excepted from the termination provisions of this section shall be permitted to remodel, improve, or replace site improvements on the same site, without the necessity to comply with site development regulations, for continual use and occupancy by the same use; provided, that any such remodeling, improvement, or replacement shall not result in increased floor area, number of dwelling units, height, length, or any other increase in the size of the improvement.

(d) Notwithstanding the provisions of this section, any off-street parking lot which was lawfully existing and not subject to any required termination provisions of any predecessor ordinance on the effective date of this section, and which on that date was and continues to be used accessory to a lawful conforming permitted use, shall be permitted to continue in existence and use for the life of the principal use to which it is accessory, regardless of whether said parking lot and principal use are located in the same district.

18.70.080 Noncomplying facility - Enlargement.

(a) Except as specifically permitted by subsections (b) and (c) hereof or by Section 18.12.050(a), no enlargement, expansion, or other addition or improvement to a noncomplying facility shall be permitted which increases the noncompliance. This section shall not be construed to prohibit enlargement or improvement of a facility, otherwise permitted by this title, which does not affect the particular degree of or manner in which the facility does not comply with one or more provisions of this title.

(b) Except in areas designated as special study areas, the director of planning and community environment may permit minor additions of floor area to noncomplying facilities in the commercial CC, CS and CN zones and in the industrial MOR, ROLM, RP and GM districts, subject to applicable site development regulations, for purposes of on-site employee amenities, resource conservation, or code compliance, upon the determination that such minor additions will not, of themselves, generate substantial

additional employment. Such additions may include, but not be limited to, the following:

(1) Area designed and used solely for providing on-site services to employees of the facility, such as recreational facilities, credit unions, cafeterias and day care facilities;

(2) Area designated for resource conservation, such as trash compactors, recycling and thermal storage facilities; and

(3) Area designed and required for hazardous materials storage facilities, handicapped access, and seismic upgrades.

18.70.090 Noncomplying facility - Maintenance and repair.

(a) Normal and routine maintenance of a noncomplying facility shall be permitted for the purpose of preserving its existing condition, retarding or eliminating wear and tear or physical depreciation, or complying with the requirements of law.

(b) Incidental alterations to a noncomplying facility shall be permitted, provided such alterations do not increase the degree of noncompliance, or otherwise increase the discrepancy between existing conditions and the requirements of this title.

(c) Structural alterations to a noncomplying facility shall be permitted when necessary to comply with the requirements of law, or to accommodate a conforming use when such alterations do not increase the degree of noncompliance, or otherwise increase the discrepancy between existing conditions and requirements of this title.

18.70.100 Noncomplying facility - Replacement.

A noncomplying facility which is damaged or destroyed by any means except ordinary wear and tear and depreciation may be reconstructed only as a complying facility, except as follows:

(a) When the damage or destruction of a noncomplying facility affects only a portion of the facility that did not constitute or contribute to the noncompliance, said portion may be repaired or reconstructed to its previous configuration.

(b) When the damage or destruction of a noncomplying facility affects a portion of the facility that constituted or contributed to the noncompliance, any replacement or reconstruction to such damaged portion shall be accomplished in such manner as not to reinstate the noncompliance or degree of noncompliance caused by the destroyed or damaged portion of the facility, and otherwise in full compliance with this title; however, if the cost to replace or reconstruct the noncomplying portion of the facility to its previous configuration does not exceed fifty percent of the total cost to replace or reconstruct the facility in conformance with this subsection, then the damaged noncomplying portion may be replaced or reconstructed to its previous configuration. In no event shall such replacement or construction create, cause, or increase any noncompliance with the requirements of this title.

(c) Notwithstanding subsections (a) and (b) hereof, a noncomplying facility in the commercial CS, CN and CC zones and the industrial MOR, ROLM, RP and GM districts, except for those areas designated as special study areas, existing on August 1, 1989, which when built was a complying facility, shall be permitted to be remodeled, improved or replaced in accordance with applicable site development regulations other

than floor area ratio, provided that any such remodeling, improvement or replacement shall not result in increased floor area.

(d) Notwithstanding subsections (a), (b) and (c) hereof, a noncomplying facility housing a conforming use in the R-1 and RE zones, which when built was a complying facility, which is damaged or destroyed by non-willful means (i.e., acts of God) shall be permitted to be replaced, on the same site, and in its previous configuration, without necessity to comply with the current site development regulations, provided that any such replacement shall not result in increased floor area, height, length or any other increase in the size of the facility.

(e) Except as otherwise provided in this section with regard to replacement or reconstruction of a portion of a facility to its previous noncomplying condition, all reconstruction shall be subject to all applicable laws, regulations, and procedures otherwise governing construction on the site at the time said construction is undertaken.

SECTION 8. Section 17.16.010 (Hazardous Materials Management Plan) of Chapter 17.16 (Hazardous Materials Management Plan) of the Palo Alto Municipal Code is hereby amended as follows:

Each applicant for a permit, a renewed permit, or an amended permit pursuant to this title shall file a written plan, for the fire chief's approval, to be known as a hazardous materials management plan (HMMP), which shall demonstrate the suitable storage of hazardous materials. The HMMP may be amended at any time with the consent of the fire chief. The HMMP shall be a public record except as otherwise specified. Section 18.23.100 in Title 18 identifies notification requirements of the availability of the HMMP. Approval of the HMMP shall mean that the HMMP has provided adequate information for the purposes of evaluating the permit approval. Such approval shall not be understood to mean that the city has made an independent determination of the adequacy of that which is described in the HMMP.

SECTION 9. Section 17.16.025 (Supplemental requirements for emergency response plans) of Chapter 17.16 (Hazardous Materials Management Plan) of the Palo Alto Municipal Code is hereby amended to read as follows:

(a) In addition to the HMMP requirements set forth in this chapter, any person who handles a hazardous material or a mixture containing a hazardous material, which has a quantity at any one time during the reporting year equal to or greater than a total weight of five hundred pounds, or a total volume of fifty-five gallons, or two hundred cubic feet at standard temperature and pressure (STP) for compressed gas shall establish and implement a plan for emergency response to a release or threatened release of a hazardous material pursuant to this section. Said plan, including the hazardous materials inventory statement (the "HMIS") described in Chapter 17.20 of this title, shall comprise the "business plan" for purposes of Chapter 6.95 of Title 20 of

the California Health and Safety Code. Section 18.23.100 in Title 18 identifies notification requirements of the availability of the business plan.

SECTION 10. Subsection (a) of Section 17.20.020 (Information required) of Chapter 17.20 (Hazardous Materials Inventory) of the Palo Alto Municipal Code is hereby amended to read as follows:

(a) Information shall be included in the HMIS for each hazardous material or mixture containing a hazardous material stored or handled in a facility (aggregated over all such materials stored in one or more storage facilities) where the aggregate quantity throughout the facility at any one time during the reporting year is equal to or greater than five hundred pounds in weight for solids, fifty-five gallons for liquids, or two hundred cubic feet at standard temperature and pressure (STP) for compressed gases. Additionally, an HMIS also shall be filed for any "acutely hazardous materials" stored on site~~,~~ above threshold reporting quantities pursuant to 40 CFR Part 355, Appendix A ~~42 U.S.C. 11001~~.

...

SECTION 11. If any section, subsection, clause or phrase of this Ordinance is for any reason held to be invalid, such decision shall not affect the validity of the remaining portion or sections of the Ordinance. The Council hereby declares that it would have adopted the Ordinance and each section, subsection, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be held invalid.

SECTION 12. The City Council finds that this ordinance falls under the California Environmental Quality Act (CEQA) exemption found in Title 14 California Code of Regulations Section 15308 (Class 8, Actions for Protection of the Environment), because it is designed to assure the maintenance, enhancement, or protection of the environment and involves procedures for the protection of the environment aimed at reducing risks to sensitive receptors associated with potential accidental releases of hazardous materials.

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SECTION 13. This ordinance shall be effective on the commencement of the thirty-first day after the date of its adoption.

INTRODUCED: February 28, 2016

PASSED: March 21, 2016

AYES: BERMAN, BURT, DUBOIS, FILSETH, HOLMAN, KNISS, SCHARFF, SCHMID, WOLBACH

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

DocuSigned by:
Beth Minor
45F05502DB71492...
City Clerk

DocuSigned by:
Patrick Burt
0B8A2FFEE5FA473...
Mayor

APPROVED AS TO FORM:

DocuSigned by:
Molly Stump
39A473B653574A9...
City Attorney

APPROVED:

DocuSigned by:
39E7298FB2064DB...
City Manager

DocuSigned by:
for Hillary Gitelman
293CF322E1294F6...
Director of Planning and Community Environment

DocuSigned by:
229154BC80A8476...
Director of Administrative Services

151104 sh 0140147

Exhibit 2:
Amortization Ordinance

Exhibit 2

Ordinance No. 5382
Ordinance of the Council of the City of Palo Alto
Amending Zoning Regulations to Amortize Non-Conforming Hazardous Materials
Uses at Communications & Power Industries LLC, Located 607-811 Hansen Way

The Council of the City of Palo Alto does ORDAIN as follows:

SECTION 1. Findings and Declarations. The City Council finds and declares as follows:

A. The City of Palo Alto is committed to ensuring the quality of life, including public health, safety, and welfare, of its residential neighborhoods, as evidenced by Goal L-3 of the City's Comprehensive Plan, which calls for the protection and enhancement of safe, attractive residential neighborhoods.

B. There are facilities within the City that because of the types and quantities of hazardous materials used, handled, and/or stored may pose offsite health, safety, and welfare effects. One such facility is Communications & Power Industries LLC (CPI), 607-811 Hansen Way. CPI is located within the Stanford Research Park and is also immediately adjacent to a residential neighborhood.

C. In 2007, the City Council amended the Palo Alto Municipal Code to prohibit new businesses that have acutely hazardous materials above thresholds identified in Title 19 of the California Code of Regulations within 300 feet of residential zoned properties or existing residential properties within a non-residential zone. In 2007, CPI used and stored acutely hazardous materials above the Title 19 thresholds. Subsequently, CPI reduced its use and storage of hazardous materials.

D. In February 2016, the Council amended the Municipal Code to further address potential risks presented by uses that involve hazardous materials that do not exceed thresholds identified in Title 19, but that nonetheless may present a risk of offsite health, safety and welfare effects, particularly if they are located within proximity to land uses such as residences, schools, daycare centers, elder care facilities and similar uses whose occupants may be more susceptible than the general population to the adverse effects of exposure to toxic chemicals and other pollutants.

E. The Council established a minimum distance between users of acutely hazardous materials that are defined as toxic or highly toxic by the California Fire Code Chapter 2 in the City's industrial zoning districts, and sensitive receptors, defined as residences, schools, daycare centers, elder care facilities and similar uses.

F. The uses in buildings 1A, 1B and 2 at CPI are subject to this regulation and are legal and non-conforming under its terms. Under the Municipal Code, CPI may not expand or intensify the non-conforming uses. In addition, the Council wishes to establish a schedule to phase out the non-conforming uses through amortization.

G. In 2011, the City retained the real estate economics firm CB Richard Ellis to prepare a study to determine when CPI's plating shop use could be terminated. The study concluded that 20 years from the date of the studied investments, or 2026 would provide a reasonable amortization period.

H. CPI subsequently retained another consultant to provide a separate study of this issue, concluding that the plating shop could not be separated from the rest of the facility, and that approximately 40 years would provide a reasonable amortization period for the entire facility.

I. The City retained an additional consultant, AECOM Inc., to assist the City with various tasks related to hazardous materials regulation, including conducting a peer review of the prior amortization studies. AECOM found the methods and conclusions of both studies to be generally valid, subject to several assumptions and clarifications.

J. In the interest of promoting the health, safety and welfare of residents, the City desires to encourage CPI to terminate or relocate the non-conforming hazardous materials uses associated with the plating shop out of Palo Alto at the earliest feasible date.

SECTION 2. Section 18.70.070 (Nonconforming use – Required termination) of Chapter 18.70 (Nonconforming Uses and Noncomplying Facilities) of the Palo Alto Municipal Code is hereby amended to add Subsection (b)(2)(G) as follows:

(G)

1) The non-conforming hazardous materials uses located within the plating shop in Building 2 and the associated chemical storage area at 811 Hansen Way shall terminate or be relocated greater than 300 feet from sensitive receptors and residentially zoned parcels on or before December 31, 2026. The non-conforming hazardous materials uses located within Buildings 1A and 1B at 607 Hansen Way shall terminate or be relocated greater than 300 feet from sensitive receptors and residentially zoned parcels on or before December 31, 2052.

2) As an incentive for the owner of the facilities at 811 Hansen Way to pursue new technologies and terminate the non-conforming hazardous materials uses in the plating shop in Building 2 and the associated chemical storage area rather than relocating them on site to a location greater than 300 feet from sensitive receptors and residentially zoned parcels, the owner may elect in writing, no later than December 31, 2021, to terminate the non-conforming hazardous materials uses in the plating shop in Building 2 and the associated chemical storage area rather than relocating them on the site. The election shall be irrevocable. If the owner makes the election above, the termination date shall be extended to and the termination shall occur no later than December 31, 2031. The City may enforce the termination of the uses effective December 31, 2031 by injunctive relief or other lawful means. This subsection 18.70.070(b)(2)(G)(2) is contingent on the City and the owner entering

into a binding implementation agreement no later than the effective date of this ordinance.

SECTION 3. If any section, subsection, clause or phrase of this Ordinance is for any reason held to be invalid, such decision shall not affect the validity of the remaining portion or sections of the Ordinance. The Council hereby declares that it would have adopted the Ordinance and each section, subsection, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be held invalid.

SECTION 4. The City Council finds that this ordinance falls under the California Environmental Quality Act (CEQA) exemption found in Title 14 California Code of Regulations Section 15308 (Class 8, Actions for Protection of the Environment), because it is designed to assure the maintenance, enhancement, or protection of the environment and involves procedures for the protection of the environment aimed at reducing risks to sensitive receptors associated with potential accidental releases of hazardous materials.

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SECTION 5. This ordinance shall be effective on the commencement of the thirty-first day after the date of its adoption.

INTRODUCED: February 28, 2016

PASSED: March 21, 2016

AYES: BERMAN, BURT, DUBOIS, FILSETH, HOLMAN, KNISS, SCHARFF, SCHMID, WOLBACH

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

DocuSigned by:
Beth Minor
45E855020B71492...
City Clerk

DocuSigned by:
0B8A2FFEE5FA473...
Mayor

APPROVED AS TO FORM:

DocuSigned by:
Molly Stump
39A473B65357A9...
City Attorney

APPROVED:

DocuSigned by:
39E7298FB2064DB...
City Manager

DocuSigned by:
for Hillary Gitelman
293CE322E1794E6...
Director of Planning and Community Environment

DocuSigned by:
229154BC80A8476...
Director of Administrative Services

151104 sh 0140146

Exhibit 3:
Settlement Terms

Exhibit 3

March 16, 2016

SETTLEMENT TERMS

between the City of Palo Alto ("City") and Communications & Power Industries LLC ("CPI")

1. This Agreement implements section 18.70.070(b)(2)(G) of the Palo Alto Municipal Code, which provides a schedule for amortizing non-conforming hazardous materials uses at Communications & Power Industries LLC ("CPI").

2. Amortization Option 2 – Section 18.70.070(b)(2)(G)(2)

    a. Section 18.70.070(b)(2)(G)(2) was adopted as an incentive for CPI to pursue new technologies and business processes and terminate the non-conforming hazardous materials uses in Building 2 and the associated chemical storage area at 811 Hansen Way rather than relocating them on the site as provided in section 18.70.070(b)(2)(G)(1). Accordingly, CPI may make the election provided for in Section 18.70.070(b)(2)(G)(2). The City and CPI agree that if CPI makes this election, the termination date for the non-conforming hazardous materials uses in Building 2 and the associated chemical storage area at 811 Hansen Way shall be extended from December 31, 2026 to December 31, 2031, and CPI shall not relocate these non-conforming hazardous materials uses anywhere within the City of Palo Alto.

    b. To make the election provided for in Palo Alto Municipal Code section 18.70.070(b)(2)(G)(2), CPI shall send the City a letter, on or before December 31, 2021, stating its agreement to terminate the non-conforming hazardous materials uses in Building 2 and the associated chemical storage area at 811 Hansen Way. The letter shall be addressed to the City Manager, signed by a CPI authorized officer, and personally served on the City Clerk. It shall be irrevocable upon receipt by the City Clerk.

3. Amortization Option 1 – Section 18.70.070(b)(2)(G)(1)

    a. If CPI does not make the election provided for in Palo Alto Municipal Code section 18.70.070(b)(2)(G)(2) and decides to relocate its non-conforming hazardous materials uses in Building 2 and the associated chemical storage area to an area greater than 300 feet from sensitive receptors (either on the existing site or elsewhere in Palo Alto), the City agrees to make a good faith effort to timely process the required permits for the relocation, and CPI agrees to timely submit and process its application. The parties acknowledge the need for ample time given that applications for new hazardous materials facilities can take significant time to process and involve delays that are outside of the City and CPI's control.

4. CPI agrees to conform to the amortization schedules in Section 18.70.070(b)(2)(G). CPI agrees that this paragraph is enforceable by immediate entry of an injunction against it to effectuate compliance with the amortization schedules in Section 18.70.070(b)(2)(G). The City agrees it will first provide CPI with a 60 day notice and opportunity to cure.

5. Beginning on the effective date of this Agreement, the City agrees that, except to the extent required by state or federal law, or judicial order (not sought by the City), the City will not apply any new or additional local hazardous materials zoning requirements that it may adopt (whether by new ordinance, amendment, regulation or otherwise) to the plating shop at CPI. Notwithstanding the above, the City may apply to the CPI plating shop all of the following: (a) local provisions implementing state-adopted amendments to the Uniform Fire Code, Building Code and other model codes adopted by the California Building Standards Commission, (b) changes to the state Health and Safety Code provisions that the City administers, and (c) other regulations adopted by the state that apply generally to categories of hazardous materials users throughout the state.

6. Nothing in this Agreement will waive CPI's obligation to comply with state and local law regarding hazardous materials storage and use, including obtaining all required permits and inspections associated with physical changes to its buildings and changes in the hazardous materials used on site; and, if applicable, the City agrees to process such permits as provided in paragraph 3a.

7. The City reserves the right to pursue all remedies available in state and local law to abate any nuisance and safeguard public health and safety, including but not limited to actions under Civil Code section 3490, et seq. for public nuisance. Nothing in this Agreement will impair the City's right, in accordance with applicable law, to take immediate action in the event of a release of hazardous materials that violates existing laws or regulations or that requires immediate reporting to the State Office of Emergency Services (OES) under state law or regulations. Notwithstanding any other term of this Agreement, the City will lawfully and vigorously pursue all available and appropriate remedies to address and resolve any actual threat to community health and safety. The City agrees to contact CPI directly, and before taking legal action regarding any such matter addressed in this paragraph 7, to seek an amicable resolution without legal action.

8. CPI agrees to use reasonable efforts to perpetuate "good neighbor" practices, including neighborhood communication, maintenance of an emergency phone number, and scheduling non-emergency large truck deliveries not earlier than 8:00 am or later than 6:00 pm. If requested by CPI or the Barron Park Neighborhood Association, the City agrees to participate in and facilitate such practices.

9. Nothing in this Agreement shall waive CPI's obligation under applicable law to report and certify hazardous materials used on an annual basis and to prepare a hazardous

materials management plan under Palo Alto Municipal Code, Title 17 (Hazardous Materials Storage), Chapter 17.20 (Hazardous Materials Inventory); and Chapter 17.16 (Hazardous Materials Management Plan), the contents of which shall include but not be limited to emergency response plans and procedures, as required by applicable law. To the extent information is public under state and federal law, and subject to Fire Department approval, the City will make that information available for public inspection, in accordance with applicable law, during regular business hours at the Palo Alto Fire Department offices, 250 Hamilton Avenue, Palo Alto.

10. Nothing in this Agreement shall waive the City's rights to conduct inspections, in accordance with applicable law, for the purpose of ascertaining compliance with Palo Alto Municipal Code, Title 17 (Hazardous Materials Storage) and causing to be corrected any conditions which constitute a violation of the Palo Alto Municipal Code Title 17 or with any other statute, code, rule or regulation within the City's jurisdiction affecting the storage of hazardous materials. It is the City's intention to conduct at least one unannounced inspection of CPI's hazardous materials uses per year, and to increase the frequency of inspections of Building 2 and the associated chemical storage area at 811 Hansen Way within the last five years of the applicable amortization provided for in Palo Alto Municipal Code section 18.70.070(b)(2)(G).

11. The City will, in accordance with applicable law and in good faith, investigate hazardous materials incidents and any potential violation of law or this Agreement. As part of its investigation, the City will notify CPI in order to obtain CPI's explanation of the matter. The City may retain outside experts as it determines appropriate. CPI will cooperate with reasonable inquiries from the City. Following any such investigation, the City will send the record of determination of the investigation results to CPI and will make the record available to the public, including any responses from CPI.

Schedule of Meetings

Published September 15, 2022

This is a courtesy notice only. Meeting dates, times, and locations are subject to change. Almost all Palo Alto Council and some Standing Committee meetings are cablecast live on Channel 26. If there happens to be concurrent meetings, one meeting will be broadcast on Channel 29.

Meetings are held in-person and by virtual teleconference.

THURSDAY, September 15
Architectural Review Board Meeting, 8:30 a.m.
City School Liaison Committee Meeting, 8:30 a.m.
Public Art Commission Meeting, 7:00 p.m.

MONDAY, September 19
Sp. City Council Meeting, 5:00 p.m.

TUESDAY, September 20
Finance Committee Meeting, 5:30 p.m.

WEDNESDAY, September 21
Rail Committee Meeting, 1:00 p.m.

THURSDAY, September 22
Historic Resources Board Meeting, 8:30 a.m.

TUESDAY, September 27
Sp. City Council Meeting, 5:00 p.m.

TUESDAY, September 27
Parks and Recreation Commission Meeting, 7:00 p.m.

WEDNESDAY, September 28
Planning and Transportation Commission Meeting, 6:00 p.m.

MONDAY, October 3
Sp. City Council Meeting, 5:00 p.m.

TUESDAY, October 4
Finance Committee Meeting, 5:30 p.m.

THURSDAY, October 6
Architectural Review Board Meeting, 8:30 a.m.

TUESDAY, October 11
Policy and Services Committee Meeting, 7:00 p.m.

WEDNESDAY, October 12
Utilities Advisory Commission Meeting, 6:00 p.m.
Planning and Transportation Commission Meeting, 6:00 p.m.

Persons with disabilities who require auxiliary aids or services in using City facilities or programs, or who would like information on the City's compliance with the Americans with Disabilities Act (ADA) of 1990, may contact: ADA Coordinator, City of Palo Alto, 650-329-2550 (voice) or 329-1199 (TDD), ada@cityofpaloalto.org. Listening assistive devices are available in the Council Chambers. Sign langua provided upon request with 72 hours advance notice. Please advise the City Clerk's Office (650-329-2571) of meetings or changes by 3:00 p.m. on Wednesdays for inclusion in the following week's

City of Palo Alto

(ID # 14810)

City Council Supplemental Report
Item 6

Meeting Date: 9/27/2022 **Report Type:**

Title: Title: Adoption of a Resolution Approving and Attesting to the Veracity of the City's 2021 Annual Power Source Disclosure and Power Content Label

From: City Clerk

Recommendation

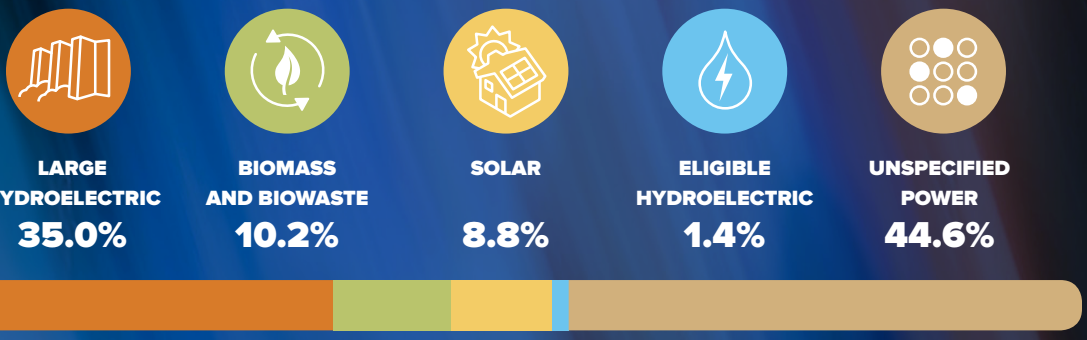
This supplemental report is attaching two documents that are referenced in the draft resolution. The attachments were linked in the original staff report, and have been attached for clarity of the administrative record.

Attachments:

- 2020 Annual Power Content Label Report
- Power Source Disclosure Report

CHECK OUT PALO ALTO'S POWER CONTENT LABEL FOR 2020

WHERE DOES OUR ELECTRICITY COME FROM?



100% CARBON-NEUTRAL ELECTRICITY SINCE 2013

Like a nutrition facts label that shows the ingredients in food, the Power Content Label shows the sources of electricity purchased by City of Palo Alto Utilities to power local homes and businesses.

Carbon-neutral electricity comes from a variety of sources, including renewable resources like solar, wind and small hydroelectric plants. Large hydroelectric sources are also carbon-free, but the state of California doesn't consider them renewable.

Since 2016 the City of Palo Alto Utilities has had long-term contracts with California-based renewable energy providers to provide 100% Carbon Neutral power to the community. In 2020, as the value of in-state renewable energy rose, CPAU began taking a regional approach to purchasing power, selling its high priced in-state renewable energy and buying the most cost-efficient renewable energy from outside the state. This program generates earnings ($2.9M in 2020) which are being split between pandemic rate relief and investments in local decarbonization efforts necessary to meet our ambitious climate goals. Although the power sourced out-of-state remains carbon-neutral, it's not recognized as renewable by the state and instead is labeled as "unspecified." But CPAU retains its long-term contracts, and when this in-state / out-of-state energy exchange program ends, the Power Content Label will look like it did in 2019: 100% renewable and carbon-neutral sources.

Palo Alto is reducing greenhouse gas emissions to 80% below 1990 levels by 2030

POWER SOURCES IN 2020

CPAU power sources include five solar PV projects, two wind projects, five landfill gas-fired projects, the Calaveras hydroelectric project, and the Western Area Power Administration (Western) contract, which is sourced from Central Valley Project hydroelectric facilities. All of these resources are located in California. Power supply percentages vary annually based on the available output from our contracted generators. In 2020, CPAU's hydroelectric generation was somewhat lower than long-term average levels due to relatively dry weather conditions, so CPAU needed to purchase additional renewable generation from other utilities in the western US.

Find more details at
cityofpaloalto.org/PowerContentLabel and cityofpaloalto.org/CarbonNeutral

CITY OF PALO ALTO UTILITIES

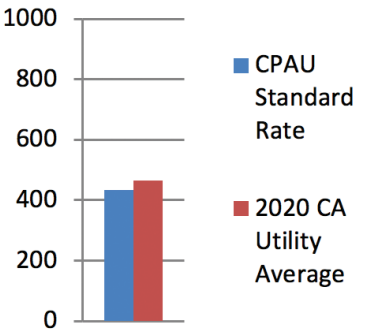
Individuals with disabilities who require accommodations to access City facilities, services or programs, or who would like information on the City's compliance with the Americans with Disabilities Act (ADA) of 1990, may contact the City's ADA Coordinator at (650) 329-2368 (voice) or email ada@cityofpaloalto.org

09/21 ♻ Printed on 100% post-consumer recycled paper, bleached without chlorine

2020 POWER CONTENT LABEL

City of Palo Alto Utilities

cityofpaloalto.org/PowerContentLabel

Greenhouse Gas Emissions Intensity (lbs CO_2e/MWh)		Energy Resources	CPAU Standard Rate	2020 CA Power Mix
CPAU Standard Rate	2020 CA Utility Average	**Eligible Renewable**[1]	**20.4%**	**33.1%**
		Biomass & Biowaste	10.2%	2.5%
434	**466**	Geothermal	0.0%	4.9%
		Eligible Hydroelectric	1.4%	1.4%
		Solar	8.8%	13.2%
		Wind	0.0%	11.1%
		Coal	**0.0%**	**2.7%**
		Large Hydroelectric	**35.0%**	**12.2%**
		Natural Gas	**0.0%**	**37.1%**
		Nuclear	**0.0%**	**9.3%**
		Other	**0.0%**	**0.2%**
		Unspecified Power[2]	**44.6%**	**5.4%**
		TOTAL	**100.0%**	**100.0%**
Percentage of Retail Sales Covered by Retired Unbundled RECs[3]:			**41%**	

[1]The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.

[2]Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.

[3]Renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled renewable energy credits (RECs) represent renewable generation that was not delivered to serve retail sales. Unbundled RECs are not reflected in the power mix or GHG emissions intensities above.

For specific information about this electricity portfolio, contact:	**City of Palo Alto Utilities** **(650) 329-2161**
For general information about the Power Content Label, visit:	http://www.energy.ca.gov/pcl/
For additional questions, please contact the California Energy Commission at:	Toll-free in California: 844-454-2906 Outside California: 916-653-0237

CHECK OUT PALO ALTO'S POWER CONTENT LABEL FOR 2020

WHERE DOES OUR ELECTRICITY COME FROM?

LARGE HYDROELECTRIC	BIOMASS AND BIOWASTE	SOLAR	ELIGIBLE HYDROELECTRIC	UNSPECIFIED POWER
35.0%	10.2%	8.8%	1.4%	44.6%

100% CARBON-NEUTRAL ELECTRICITY SINCE 2013

Like a nutrition facts label that shows the ingredients in food, the Power Content Label shows the sources of electricity purchased by City of Palo Alto Utilities to power local homes and businesses.

Carbon-neutral electricity comes from a variety of sources, including renewable resources like solar, wind and small hydroelectric plants. Large hydroelectric sources are also carbon-free, but the state of California doesn't consider them renewable.

Since 2016 the City of Palo Alto Utilities has had long-term contracts with California-based renewable energy providers to provide 100% Carbon Neutral power to the community. In 2020, as the value of in-state renewable energy rose, CPAU began taking a regional approach to purchasing power, selling its high priced in-state renewable energy and buying the most cost-efficient renewable energy from outside the state. This program generates earnings ($2.9M in 2020) which are being split between pandemic rate relief and investments in local decarbonization efforts necessary to meet our ambitious climate goals. Although the power sourced out-of-state remains carbon-neutral, it's not recognized as renewable by the state and instead is labeled as "unspecified." But CPAU retains its long-term contracts, and when this in-state / out-of-state energy exchange program ends, the Power Content Label will look like it did in 2019: 100% renewable and carbon-neutral sources.

Palo Alto is reducing greenhouse gas emissions to 80% below 1990 levels by 2030

POWER SOURCES IN 2020 CPAU power sources include five solar PV projects, two wind projects, five landfill gas-fired projects, the Calaveras hydroelectric project, and the Western Area Power Administration (Western) contract, which is sourced from Central Valley Project hydroelectric facilities. All of these resources are located in California. Power supply percentages vary annually based on the available output from our contracted generators. In 2020, CPAU's hydroelectric generation was somewhat lower than long-term average levels due to relatively dry weather conditions, so CPAU needed to purchase additional renewable generation from other utilities in the western US.

PaloAltoGreen's[a] Prospective[b] Product Content Label for 2021 Consists of 100% Wind Energy[c]

[a] PaloAltoGreen is a voluntary renewable energy program from City of Palo Alto Utilities that matches up to 100% of your estimated monthly electricity usage with Green-e® certified Renewable Energy Credits (RECs) from new renewable energy resources, specifically from generation facilities that first began commercial operation in the last 15 years.

[b] Prospective Product Content Label: These figures reflect the renewables that we have contracted to provide. Actual figures may vary according to resource availability. We will annually report to you before October 1st of next year in the form of a Historical Product Content Label the actual resource mix of the electricity you purchased.

[c] Sourced from wind energy RECs located in the western U.S. (CA, OR, WA, ID, NV, UT, AZ, MT, WY, CO, or NM) or Canada (BC or AB).

PaloAltoGreen™

PaloAltoGreen is Green-e® Energy certified and meets the environmental and consumer-protection standards set forth by the nonprofit Center for Resource Solutions.

Green-e Energy CERTIFIED

For more information on Green-e® Certified Energy, call 1-888-63-GREEN or visit **green-e.org**

PaloAltoGreen 2020 Historical Product Content Label (reflected in the "Palo Alto Green" column of the table on page 2): These figures reflect the power delivered to PaloAltoGreen's customers in 2020. Solar energy and wind energy sourced from California facilities.

Find more details at cityofpaloalto.org/PowerContentLabel and cityofpaloalto.org/CarbonNeutral

CITY OF PALO ALTO UTILITIES

Individuals with disabilities who require accommodations to access City facilities, services or programs, or who would like information on the City's compliance with the Americans with Disabilities Act (ADA) of 1990, may contact the City's ADA Coordinator at (650) 329-2368 (voice) or email ada@cityofpaloalto.org

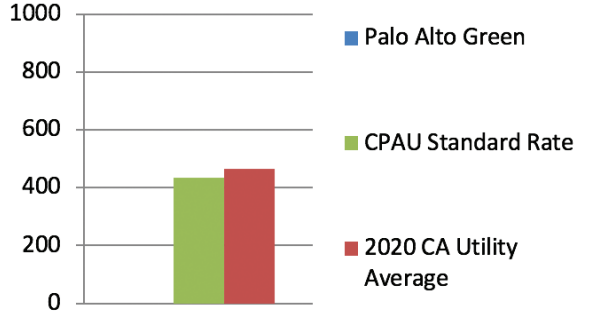
09/21 ♻ Printed on 100% post-consumer recycled paper, bleached without chlorine

2020 POWER CONTENT LABEL

City of Palo Alto Utilities

cityofpaloalto.org/PowerContentLabel

Greenhouse Gas Emissions Intensity (lbs CO_2e/MWh)		
Palo Alto Green	CPAU Standard Rate	2020 CA Utility Average
0	**434**	**466**



Energy Resources	Palo Alto Green	CPAU Standard Rate	2020 CA Power Mix
Eligible Renewable[1]	**100.0%**	**20.4%**	**33.1%**
Biomass & Biowaste	0.0%	10.2%	2.5%
Geothermal	0.0%	0.0%	4.9%
Eligible Hydroelectric	0.0%	1.4%	1.4%
Solar	17.2%	8.8%	13.2%
Wind	82.8%	0.0%	11.1%
Coal	**0.0%**	**0.0%**	**2.7%**
Large Hydroelectric	**0.0%**	**35.0%**	**12.2%**
Natural Gas	**0.0%**	**0.0%**	**37.1%**
Nuclear	**0.0%**	**0.0%**	**9.3%**
Other	**0.0%**	**0.0%**	**0.2%**
Unspecified Power[2]	**0.0%**	**44.6%**	**5.4%**
TOTAL	**100.0%**	**100.0%**	**100.0%**
Percentage of Retail Sales Covered by Retired Unbundled RECs[3]**:**	**0%**	**41%**	

[1]The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.

[2]Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.

[3]Renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled renewable energy credits (RECs) represent renewable generation that was not delivered to serve retail sales. Unbundled RECs are not reflected in the power mix or GHG emissions intensities above.

For specific information about this electricity portfolio, contact:	**City of Palo Alto Utilities (650) 329-2161**
For general information about the Power Content Label, visit:	http://www.energy.ca.gov/pcl/
For additional questions, please contact the California Energy Commission at:	Toll-free in California: 844-454-2906 Outside California: 916-653-0237

2020 POWER SOURCE DISCLOSURE ANNUAL REPORT
For the Year Ending December 31, 2020

Retail suppliers are required to use the posted template and are not allowed to make edits to this format. Please complete all requested information.

GENERAL INSTRUCTIONS

RETAIL SUPPLIER NAME
City of Palo Alto Utilities

ELECTRICITY PORTFOLIO NAME
Standard

CONTACT INFORMATION	
NAME	James Stack
TITLE	Senior Resource Planner
MAILING ADDRESS	250 Hamilton Ave.
CITY, STATE, ZIP	Palo Alto, CA 94301
PHONE	(650) 329-2314
EMAIL	james.stack@cityofpaloalto.org
WEBSITE URL FOR PCL POSTING	www.cityofpaloalto.org/powercontentlabel

Submit the Annual Report and signed Attestation in PDF format with the Excel version of the Annual Report to PSDprogram@energy.ca.gov. Remember to complete the Retail Supplier Name, Electricity Portfolio Name, and contact information above, and submit separate reports and attestations for each additional portfolio if multiple were offered in the previous year.

NOTE: Information submitted in this report is not automatically held confidential. If your company wishes the information submitted to be considered confidential an authorized representative must submit an application for confidential designation (CEC-13), which can be found on the California Energy Commissions's website at https://www.energy.ca.gov/about/divisions-and-offices/chief-counsels-office.

If you have questions, contact Power Source Disclosure (PSD) staff at PSDprogram@energy.ca.gov or (916) 639-0573.

2020 POWER SOURCE DISCLOSURE ANNUAL REPORT
SCHEDULE 1: PROCUREMENTS AND RETAIL SALES
For the Year Ending December 31, 2020
City of Palo Alto Electric Utility
Standard

Instructions: Enter information about power procurements underlying this electricity portfolio for which your company is filing the Annual Report. Insert additional rows as needed. All fields in white should be filled out. **Fields in grey auto-populate as needed and should not be filled out.** For EIA IDs for unspecified power or specified system mixes from asset-controlling suppliers, enter "unspecified", "BPA," "Powerex,", or "Tacoma" as applicable. For specified procurements of ACS power, use the ACS Procurement Calculator to calculate the resource breakdown comprising the ACS system mix. **Procurements of unspecified power must not be entered as line items below; unspecified power will be calculated automatically in cell N9**. Unbundled RECs must not be entered on Schedule 1; these products must be entered on Schedule 2. At the bottom portion of the schedule, provide the other electricity end-uses that are not retail sales including, but not limited to transmission and distribution losses or municipal street lighting. Amounts should be in megawatt-hours.

Retail Sales (MWh)	**799,875**
Net Specified Procurement (MWh)	443,069
Unspecified Power (MWh)	356,806
Procurement to be adjusted	-
Net Specified Natural Gas	-
Net Specified Coal & Other Fossil Fuels	-
Net Specified Nuclear, Large Hydro, Renewables, and ACS Power	443,069
GHG Emissions (excludes grandfathered emissions)	157,539
GHG Emissions Intensity (in MT CO_2e/MWh)	0.1970

DIRECTLY DELIVERED RENEWABLES

Facility Name	Fuel Type	State or Province	WREGIS ID	RPS ID	N/A	EIA ID	Gross MWh Procured	MWh Resold	Net MWh Procured	Adjusted Net MWh Procured	GHG Emissions Factor (in MT CO2e/MWh)	GHG Emissions (in MT CO_2e)	N/A
Ameresco Johnson Canyon - Ameresco Johnson (	Biomass & biowa	CA	W3397	61353		58397	8,305		8,305	8,305	0.5579	4,633	
Ameresco Keller Canyon - Ameresco Keller Canyo	Biomass & biowa	CA	W2071	61298		56897	12,076		12,076	12,076	0.0027	33	
Ameresco Ox Mountain - Ameresco Ox Mountain	Biomass & biowa	CA	W2033	60022		56895	30,867		30,867	30,867	0.0027	83	
Ameresco San Joaquin - Ameresco San Joaquin	Biomass & biowa	CA	W3883	62433		58436	23,397		23,397	23,397	0.0026	61	
Ameresco Santa Cruz Energy - Santa Cruz	Biomass & biowa	CA	W2014	61297		56428	6,899		6,899	6,899	0.0023	16	
Lewiston Powerplant - Lewiston	Eligible hydro	CA	W 1108	61044		977	235		235	235	-	-	
Nimbus Powerplant - Nimbus Plant (2)	Eligible hydro	CA	W 1161	61045		444	7,100		7,100	7,100	-	-	
Spicer_1_Units - Spicer Meadow Project	Eligible hydro	CA	W 1260	61580		54554	2,989		2,989	2,989	-	-	
Stampede Powerplant - Stampede (2)	Eligible hydro	CA	W 1177	61046		7066	1,036		1,036	1,036	-	-	
275 Cambridge Ave. Parking Garage - 275 Cambr	Solar	CA	W5649	63982		P228	412		412	412	-	-	
445 Bryant St. Parking Garage - 445 Bryant St. Pa	Solar	CA	W5647	63610		P229	356		356	356	-	-	
475 Cambridge Ave. Parking Garage - 475 Cambr	Solar	CA	W5650	63981		P230	456		456	456	-	-	
520 Webster St. Parking Garage - 520 Webster St	Solar	CA	W5648	63611		P231	564		564	564	-	-	
Frontier Solar - Crow Creek Solar I	Solar	CA	W4962	62248		60039	16,449		16,449	16,449	-	-	
EE Kettleman Land - Centaurus - EE Kettleman La	Solar	CA	W4695	62422		59633	11,090		11,090	11,090	-	-	
Elevation Solar C - Elevation Solar C	Solar	CA	W5298	63192		59964	12,249		12,249	12,249	-	-	
Hayworth Solar - Hayworth Solar	Solar	CA	W4719	62744		59009	8,360		8,360	8,360	-	-	
HP Inc. - Palo Alto HQ	Solar	CA	W7686	64036		62732	1,922		1,922	1,922	-	-	
Unitarian Universalist Church of Palo Alto - UUCP/	Solar	CA	W7382	63983		P232	204		204	204	-	-	
Western Antelope Blue Sky Ranch B - Western An	Solar	CA	W5300	61518		59961	18,248		18,248	18,248	-	-	

FIRMED-AND-SHAPED IMPORTS

Facility Name	Fuel Type	State or Province	WREGIS ID	RPS ID	EIA ID of REC Source	EIA ID of Substitute Power	Gross MWh Procured	MWh Resold	Net MWh Procured	Adjusted Net MWh Procured	GHG Emissions Factor (in MT CO2e/MWh)	GHG Emissions (in MT CO_2e)	Eligible for Grandfathered Emissions?
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		

SPECIFIED NON-RENEWABLE PROCUREMENTS

Facility Name	Fuel Type	State or Province	N/A	N/A	N/A	EIA ID	Gross MWh Procured	MWh Resold	Net MWh Procured	Adjusted Net MWh Procured	GHG Emissions Factor (in MT CO2e/MWh)	GHG Emissions (in MT CO_2e)	N/A
Collierville	Large hydro	CA				54555	72,415		72,415	72,415	-	-	
WAPA - Folsom	Large hydro	CA				441	17,269		17,269	17,269	-	-	
WAPA - Gianelli	Large hydro	CA				448	5,448		5,448	5,448	-	-	
WAPA - Judge F Carr	Large hydro	CA				442	22,606		22,606	22,606	-	-	
WAPA - Keswick	Large hydro	CA				443	16,166		16,166	16,166	-	-	
WAPA - New Melones	Large hydro	CA				6158	22,172		22,172	22,172	-	-	
WAPA - ONeill	Large hydro	CA				446	189		189	189	-	-	
WAPA - Shasta	Large hydro	CA				445	82,529		82,529	82,529	-	-	
WAPA - Spring Creek	Large hydro	CA				450	19,477		19,477	19,477	-	-	
WAPA - Trinity	Large hydro	CA				451	21,586		21,586	21,586	-	-	

PROCUREMENTS FROM ASSET-CONTROLLING SUPPLIERS

Facility Name	Fuel Type	N/A	N/A	N/A	N/A	EIA ID	Gross MWh Procured	MWh Resold	Net MWh Procured	Adjusted Net MWh Procured	GHG Emissions Factor (in MT CO2e/MWh)	GHG Emissions (in MT CO_2e)	N/A
										-	#N/A		
										-	#N/A		
										-	#N/A		
										-	#N/A		

END USES OTHER THAN RETAIL SALES	MWh

2020 POWER SOURCE DISCLOSURE ANNUAL REPORT
SCHEDULE 2: RETIRED UNBUNDLED RECS
For the Year Ending December 31, 2020
City of Palo Alto Electric Utility
Standard

INSTRUCTIONS: Enter information about retired unbundled RECs associated with this electricity portfolio. Insert additional rows as needed. All fields in white should be filled out. Fields in grey auto-populate as needed and should not be filled out.

			Total Retired Unbundled RECs	325,186

RETIRED UNBUNDLED RECS				
Facility Name	**Fuel Type**	**State or Province**	**RPS ID**	**Total Retired (in MWh)**
Calligan Creek Hydroelectric Project	Eligible hydro	WA	63934	3,501
Hancock Creek Hydroelectric Project	Eligible hydro	WA	63935	4,133
Youngs Creek Hydroelectric Project	Eligible hydro	WA	62016	4,366
Campbell Hill - Campbell Hill	Wind	WY	61017	14,186
Carousel Wind - Carousel Wind	Wind	CO	63340	228,000
Colorado Highlands Wind - Colorado Highland	Wind	CO	61229	50,000
Dunlap I - Dunlap I	Wind	WY	61188	21,000

2020 POWER SOURCE DISCLOSURE ANNUAL REPORT
SCHEDULE 3: POWER CONTENT LABEL DATA
For the Year Ending December 31, 2020
City of Palo Alto Electric Utility
Standard

Instructions: No data input is needed on this schedule. Retail suppliers should use these auto-populated calculations to fill out their Power Content Labels.

	Adjusted Net Procured (MWh)	Percent of Total Retail Sales
Renewable Procurements	163,214	20.4%
Biomass & Biowaste	81,544	10.2%
Geothermal	-	0.0%
Eligible Hydroelectric	11,360	1.4%
Solar	70,310	8.8%
Wind	-	0.0%
Coal	-	0.0%
Large Hydroelectric	279,855	35.0%
Natural gas	-	0.0%
Nuclear	-	0.0%
Other	-	0.0%
Unspecified Power	356,806	44.6%
Total	**799,875**	**100.0%**

Total Retail Sales (MWh)	**799,875**
GHG Emissions Intensity (converted to lbs CO_2e/MWh)	**434**
Percentage of Retail Sales Covered by Retired Unbundled RECs	**40.7%**

POWER SOURCE DISCLOSURE ANNUAL REPORT
ATTESTATION FORM
for the year ending December 31, 2020
CITY OF PALO ALTO UTILITIES
STANDARD PRODUCT

I, James Stack, Senior Resource Planner, declare under penalty of perjury, that the statements contained in this report including Schedules 1, 2, and 3 are true and correct and that I, as an authorized agent of City of Palo Alto Utilities, have authority to submit this report on the company's behalf. I further declare that the megawatt-hours claimed as specified purchases as shown in these Schedules were, to the best of my knowledge, sold once and only once to retail customers.

Name: James Stack

Representing (Retail Supplier): City of Palo Alto Utilities

Signature: 

Dated: June 16, 2021

Executed at: Palo Alto, CA

2020 POWER SOURCE DISCLOSURE ANNUAL REPORT
For the Year Ending December 31, 2020

Retail suppliers are required to use the posted template and are not allowed to make edits to this format. Please complete all requested information.

GENERAL INSTRUCTIONS

RETAIL SUPPLIER NAME
City of Palo Alto Utilities

ELECTRICITY PORTFOLIO NAME
PaloAltoGreen

CONTACT INFORMATION	
NAME	James Stack
TITLE	Senior Resource Planner
MAILING ADDRESS	250 Hamilton Ave.
CITY, STATE, ZIP	Palo Alto, CA 94301
PHONE	(650) 329-2314
EMAIL	james.stack@cityofpaloalto.org
WEBSITE URL FOR PCL POSTING	www.cityofpaloalto.org/powercontentlabel

Submit the Annual Report and signed Attestation in PDF format with the Excel version of the Annual Report to PSDprogram@energy.ca.gov. Remember to complete the Retail Supplier Name, Electricity Portfolio Name, and contact information above, and submit separate reports and attestations for each additional portfolio if multiple were offered in the previous year.

NOTE: Information submitted in this report is not automatically held confidential. If your company wishes the information submitted to be considered confidential an authorized representative must submit an application for confidential designation (CEC-13), which can be found on the California Energy Commissions's website at https://www.energy.ca.gov/about/divisions-and-offices/chief-counsels-office.

If you have questions, contact Power Source Disclosure (PSD) staff at PSDprogram@energy.ca.gov or (916) 639-0573.

2020 POWER SOURCE DISCLOSURE ANNUAL REPORT
SCHEDULE 1: PROCUREMENTS AND RETAIL SALES
For the Year Ending December 31, 2020
City of Palo Alto Electric Utility
PaloAltoGreen

Instructions: Enter information about power procurements underlying this electricity portfolio for which your company is filing the Annual Report. Insert additional rows as needed. All fields in white should be filled out. **Fields in grey auto-populate as needed and should not be filled out.** For EIA IDs for unspecified power or specified system mixes from asset-controlling suppliers, enter "unspecified", "BPA," "Powerex,", or "Tacoma" as applicable. For specified procurements of ACS power, use the ACS Procurement Calculator to calculate the resource breakdown comprising the ACS system mix. **Procurements of unspecified power must not be entered as line items below; unspecified power will be calculated automatically in cell N9**. Unbundled RECs must not be entered on Schedule 1; these products must be entered on Schedule 2. At the bottom portion of the schedule, provide the other electricity end-uses that are not retail sales including, but not limited to transmission and distribution losses or municipal street lighting. Amounts should be in megawatt-hours.

Retail Sales (MWh)	**25,594**
Net Specified Procurement (MWh)	25,594
Unspecified Power (MWh)	-
Procurement to be adjusted	-
Net Specified Natural Gas	-
Net Specified Coal & Other Fossil Fuels	-
Net Specified Nuclear, Large Hydro, Renewables, and ACS Power	25,594
GHG Emissions (excludes grandfathered emissions)	0
GHG Emissions Intensity (in MT CO_2e/MWh)	0.0000

DIRECTLY DELIVERED RENEWABLES

Facility Name	Fuel Type	State or Province	WREGIS ID	RPS ID	N/A	EIA ID	Gross MWh Procured	MWh Resold	Net MWh Procured	Adjusted Net MWh Procured	GHG Emissions Factor (in MT CO2e/MWh)	GHG Emissions (in MT CO_2e)	N/A
Western Antelope Blue Sky Ranch B - Western An	Solar	CA	W5300	61518		59961	4,414		4,414	4,414	-	-	
High Winds - High Winds, LLC	Wind	CA	W229	60726		56075	5,109		5,109	5,109	-	-	
Shiloh I Wind Project - Shiloh I Wind Project LLC	Wind	CA	W231	60488		56362	16,071		16,071	16,071	-	-	

FIRMED-AND-SHAPED IMPORTS

Facility Name	Fuel Type	State or Province	WREGIS ID	RPS ID	EIA ID of REC Source	EIA ID of Substitute Power	Gross MWh Procured	MWh Resold	Net MWh Procured	Adjusted Net MWh Procured	GHG Emissions Factor (in MT CO2e/MWh)	GHG Emissions (in MT CO_2e)	Eligible for Grandfathered Emissions?
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		

SPECIFIED NON-RENEWABLE PROCUREMENTS

Facility Name	Fuel Type	State or Province	N/A	N/A	N/A	EIA ID	Gross MWh Procured	MWh Resold	Net MWh Procured	Adjusted Net MWh Procured	GHG Emissions Factor (in MT CO2e/MWh)	GHG Emissions (in MT CO_2e)	N/A
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		
									-	-	#N/A		

PROCUREMENTS FROM ASSET-CONTROLLING SUPPLIERS

Facility Name	Fuel Type	N/A	N/A	N/A	N/A	EIA ID	Gross MWh Procured	MWh Resold	Net MWh Procured	Adjusted Net MWh Procured	GHG Emissions Factor (in MT CO2e/MWh)	GHG Emissions (in MT CO_2e)	N/A

END USES OTHER THAN RETAIL SALES	MWh

2020 POWER SOURCE DISCLOSURE ANNUAL REPORT
SCHEDULE 3: POWER CONTENT LABEL DATA
For the Year Ending December 31, 2020
City of Palo Alto Electric Utility
PaloAltoGreen

Instructions: No data input is needed on this schedule. Retail suppliers should use these auto-populated calculations to fill out their Power Content Labels.

	Adjusted Net Procured (MWh)	Percent of Total Retail Sales
Renewable Procurements	25,594	100.0%
Biomass & Biowaste	-	0.0%
Geothermal	-	0.0%
Eligible Hydroelectric	-	0.0%
Solar	4,414	17.2%
Wind	21,180	82.8%
Coal	-	0.0%
Large Hydroelectric	-	0.0%
Natural gas	-	0.0%
Nuclear	-	0.0%
Other	-	0.0%
Unspecified Power	-	0.0%
Total	**25,594**	**100.0%**

Total Retail Sales (MWh)	**25,594**
GHG Emissions Intensity (converted to lbs CO_2e/MWh)	**-**
Percentage of Retail Sales Covered by Retired Unbundled RECs	**0.0%**

POWER SOURCE DISCLOSURE ANNUAL REPORT
ATTESTATION FORM
for the year ending December 31, 2020
CITY OF PALO ALTO UTILITIES
PALOALTOGREEN

I, James Stack, Senior Resource Planner, declare under penalty of perjury, that the statements contained in this report including Schedules 1, 2, and 3 are true and correct and that I, as an authorized agent of City of Palo Alto Utilities, have authority to submit this report on the company's behalf. I further declare that the megawatt-hours claimed as specified purchases as shown in these Schedules were, to the best of my knowledge, sold once and only once to retail customers.

Name: James Stack

Representing (Retail Supplier): City of Palo Alto Utilities

Signature: 

Dated: May 29, 2021

Executed at: Palo Alto, CA

City of Palo Alto

(ID # 14812)

City Council Supplemental Report
Item 10

Meeting Date: 9/27/2022 **Report Type:**

Title: S/CAP Update and Initial Council Action: Acceptance of Sustainability and Climate Action Plan (S/CAP) Goals and Key Actions; Review of Proposed Reach Code Changes; Adoption of Resolutions Adopting Advanced Heat Pump Water Heater Program Guidelines, Creating and Funding Electrification Reserves, Amending the City's Policy on the Use of Cap and Trade Allowance Revenues, and Adopting a Carbon Neutrality Goal; Approval of Budget Amendments in the Electric Fund, Gas Fund, and General Fund; and Direction to Staff to Amend the 2022 Utilities Legislative Guidelines

From: City Manager

Lead Department: Public Works

Recommendation

This supplemental report is attaching a memo from the S/CAP Ad Hoc Committee further describing the S/CAP process and council recommendations.

Attachments:

- **SCAP Ad hoc report to CC**

To: Council Colleagues

From: S/CAP Ad hoc Committee

Climate Projects and Future Directions

Since the December 2021 Staff update, the SCAP Council Ad-hoc Committee, working with staff and community members has pushed forward on pragmatic steps to achieve our 80% GHG reduction by 2030 goal. While challenging to achieve, we believe we can still meet this goal through a focused effort.

Among the many necessary programs, we are first focused on implementing heat pump water heaters as a pilot leading to a scalable rollout across the city. Each ad-hoc member led a working team focused on three key challenges - technology, financing, and communication. Each team made valuable progress contributing to the proposal presented to Council. By focusing on efforts to implement a key program that reduces GHG from single-family homes, Palo Alto can take concrete steps towards that goal, while we continue to move forward with efforts in grid resilience, transportation, commercial buildings, and other challenges. The ad-hoc believes this focused strategy is required to effect real change and that this pilot will lay the groundwork for the additional building electrification programs that will be needed.

The update to the Climate Action Plan represents the best thinking of a large, diverse group of people, including our knowledgeable staff. We are proud of this document and believe it outlines the steps to achieve our goal, and beyond. Additional programs and policies, beyond the hot water heat pump program, are both critical and complex. Staff and the community will need to work together to accomplish these. Future Councils will need to take additional policy actions that range from providing incentives to requiring changes.

Finally, the Ad hoc recommends a Council discussion of how to move the climate action policies forward. The current Ad hoc will soon be concluding its work and ongoing Council engagement will be necessary for success. Options include establishing a new ad hoc with a specific focus, forming a Council standing committee, creating a new board or commission to formally include knowledgeable community members, and/or creating a blue-ribbon task force.

Lessons Learned, Technical Questions, and Recommendations

This memo supplements the 9/27/22 SCAP Staff Report, https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/agendas-minutes/city-council-agendas-minutes/2022/20220927/20220927pccsmlinked-updated.pdf, which covers our proposed Reach Code updates, updated SCAP Goals and Key Actions, and the proposed Heat Pump Water Heater Program. The memo summarizes “lessons learned” through the Ad hoc Committee process, identifies questions and prospective actions for further analysis and discussion, and makes recommendations for Council actions that are critical to meeting the City’s 80/30 Goal.

Lessons Learned

The Council S/CAP Ad hoc Committee, city staff, and community advisors have identified "lessons learned" that will inform our electrification program and the City's ability to meet its 8030 Climate Goal: 1. Electric Utility system capacity, 2. the value of efficient low-watt home appliances, 3. the relationship of transportation/electric vehicle electrification with building electrification, 4. the importance of proceeding with the electrification of existing commercial buildings and, 5. next goals for the city.

1. **Utility System and Capacity.** City-wide electricity demand is anticipated to increase two to three times over the next decade upon full electrification, requiring additional renewable commodity purchases, system-wide upgrades to residential transformers, and other Electric Utility infrastructure.
    - *State grid capacity*. Currently, and in the coming years, the capacity of the State's grid to meet energy use and peak load demands is a major state project as California expands its renewable energy proportion and power demand increases due to statewide electrification. However, additional low-cost, renewable electricity supplies (through Power Purchase Agreements) are available at prices projected to be at or below current portfolio costs (SunShot).
    - *Equipment and workforce shortages jeopardize our ability to keep up with utility system investments required for electrification*. Currently, supplies are constrained for transformers required to upgrade our in-city capacity. More critically, there is a severe and growing shortage of high-voltage technicians and power-supply engineers, as well as general-purpose electricians. The workforce shortage has grown over the past decade and will become severely more acute in the coming years for all entities pursuing electrification. Currently, ~50% of city power supply engineer positions are unfilled and the need for these specialists will increase significantly due to upcoming electrification throughout the State. A State initiated training program should be adopted as soon as possible to increase workforce capacity.
    - *Over-sized, high-wattage home EV chargers stress our utility system.* A primary driver of the need for residential capacity/transformer upgrades has been our high adoption rate of home EV chargers, particularly high wattage models (40-50A/240V Level 2). EV manufacturers have promoted fast chargers to reduce "range anxiety" among EV buyers but residents may not need them. We are starting to recognize the negative impacts of those charger sizes on broader electrification goals and need better data on how this is impacting our grid system. Outside experts, our upcoming AMI pilot program, and other utilities that already use Smart Meters, will help us better quantify how much of our grid challenges are due to oversized EV chargers.
    - *EV charging should be done during the day when renewable generation is highest and cheapest.* Initially, owners were told to charge at home overnight when electricity demand was lower, but the reality is we have excess solar during the day, so from a GHG standpoint, it's best to charge EVs then. This could be encouraged by adopting time-based electricity rates, expanding city-owned chargers in public places and on city streets, and incentivizing employers to install charging stations at all large parking lots (Washington Post article).

- *Methane has severe GHG impacts during generation and transmission.* This is in addition to emissions from burning it. Methane has a 20X greater GHG impact over the next 20 years than CO2 emissions (IEA report).

2. **Efficient, low-watt home appliances provide advantages to the city grid, as well as cost and health benefits to consumers.** Community education is needed to share this information:
   - Methane (natural gas) in the home is more harmful to health, particularly children, than is widely known. Gas cooking stoves are the primary source of these indoor pollutants (Slate and Stanford news articles).
   - Most Heat Pump Water Heaters (HPWHs) are moderately low wattage and do not cause high enough load demands to trigger system (transformer) upgrades.
   - A pilot program of full-home electrification can proceed in residential locations that have already had or will soon have transformer upgrades.
   - Efficient, low-watt appliances (and more efficient EV chargers) help avoid costly home electric panel upgrades and reduce the need for city-grid upgrades. A watt "diet" calculator is available so you can see how to manage your electric load.
   - Wildfire smoke concurrent with hot weather periods is increasing the adoption of home air conditioners among residents (article). Heat pump furnaces can also serve as air conditioners, improving their cost-effectiveness.

3. **EV Charging – The Transportation/Building Nexus**
   - As discussed above, oversized home EV chargers are constraining our ability to electrify homes and expand home EV charging. EV manufacturers and vehicle dealers are recommending powerful 40 to 50 amp/240 volt Level 2 chargers to reduce range anxiety in their customers. This results in unnecessary, costly panel upgrades for homeowners and cumulatively triggers transformer capacity limitations.
   - Distributed generation and storage of solar energy will have significant benefits on our system infrastructure needs and energy management. Area microgrids will play an increasing role in strengthening our resiliency. In the coming years, energy storage through EV batteries (bi-directional charging) will be broadly integrated with building energy needs and will provide massive energy storage capacity. Our planning needs to include advancements in vehicle and battery capabilities to enable widespread 2-way charging (V2H and V2G) that are likely to have favorable impacts on system capacity, reliability, resiliency, and consumer electricity costs.
   - EV chargers in commercial locations should match vehicle recharging with optimal hours of energy generation. Our non-residential charger network needs to continue rapid expansion. In addition to the high growth in EVs operated by commuters and residents, EV charging should occur preferentially during the daytime at commercial locations when renewables are most plentiful and electricity cost will be lowest. The city has validated scaling of publicly owned chargers that provide more affordable charging rates than privately owned chargers. City rates currently cover capital (excluding from the transformer to the charger), maintenance, and energy costs.

4. **Electrification of Existing Commercial Buildings.** Technology advancements in Variable Refrigerant Flow (VRF) and heat pump Rooftop Units (RTU) provide efficient technologies to replace methane-based heating and cooling systems (roof-mounted Gas Packs)**,** https://slipstreaminc.org/blog/state-of-commercial-electrification-hvac-vrf**.** **"**Smart building" technologies can improve energy while providing significantly healthier (lower sick leave) "and more comfortable work environments, https://www.epa.gov/report-environment/indoor-air-quality.

5. **Goals**
    - *Carbon Neutrality.* Palo Alto leads most cities in GHG reductions but, unlike other agencies, has not committed to a "carbon neutrality" goal. The California Air Resources Board (CARB) has defined carbon reductions and offsets and/or sequestration (preferred) as mechanisms to achieve carbon neutrality. *Based on Palo Alto's leading carbon reduction status and 8030 goal, carbon neutrality by 2030 is consistent with our trendlines.* For example, if the city achieves 70% GHG reductions by 2030 and continues to purchase carbon offsets (or sequestration credits) equivalent to what we currently purchase to offset our methane use (32% of our remaining GHGs), we would meet or exceed carbon-neutrality by 2030 (Carbon Neutral Cities organization)
    - *Scope 3 Emission Reductions*. Future decarbonization accounting is likely to transition to measuring Scope 3 emissions which include upstream and consumption-based emissions. Early actions to reduce or offset our Scope 3 emissions (i.e. use of low carbon construction materials, reduced waste generation, in-city carbon capture, high-value sustainable offsets) are environmentally responsible and will better prepare us to meet future goals.

Questions for Near-term Analysis.

Informed decision making on future actions will be dependent on filling data and information gaps. The following topics need to be evaluated in the year ahead:

a. Smart Meter Data. What data can the city obtain to inform strategic decisions through its initial 1000 Smart Meters (Advanced Meter Infrastructure or AMI) in the coming months or through data from other utilities that have already adopted AMIs?
b. Commercial HVAC Systems. What cost-effectiveness studies are needed, such as for the conversion of Gas Packs to commercial heat pump HVAC systems upon end-of-life (EOL) mandates? What portion of commercial HVAC systems are candidates for conversion? What permitting changes are needed to incentivize such conversions?
c. Transformer Capacity Issues. What residential electrification actions trigger transformer load-demand studies and transformer upgrades? To what extent do oversized EV chargers play such a role?
d. Local Transit Impacts. How much GHGs would be reduced by restoring the city shuttle system?
e. Impacts of Future Renewable Contracts. What are the estimated electricity commodity costs to the city from a 2-3X increase in renewable contracts over the coming decade?
f. Energy Storage Impacts on Local System Reliability. What are the pros and cons of remote utility-scale batteries associated with city Power Purchase Agreements (PPAs) compared to such batteries at in-city utility sites? Which approach will provide greater reliability and resiliency, and which is more cost-effective?
g. CEQA. Which elements of an expanded plan for electrification require CEQA analysis and which can proceed sooner because they are exempt?

Future considerations

The City's most immediate project is its innovative conversion to electric Heat Pump Waters Heaters (HPWHs) upon End of Life for low-density housing. That program is intended to be a

model for subsequent residential building electrification programs. However, achieving 80 by 30 will require a set of programs that go beyond our HPWH initiative.

The following items should be reconciled with the draft 3-Year S/CAP Plan, along with more frequent Reach Code updates in the coming years due to rapidly evolving technologies and needs:

- Commercial Building Electrification. **End-of-Life (EOL) conversions for Commercial HVAC systems.** Variable Refrigerant Flow (VRF) and heat pump Rooftop Units (RTU) provide efficient technologies to replace methane heating and cooling systems**,** https://slipstreaminc.org/blog/state-of-commercial-electrification-hvac-vrf
- Home Electrification.
    - Identify which home electrification actions are triggering costly load studies that cause delays for homeowners and necessitate transformer upgrades.
    - Plan a full-home electrification pilot for homes that are served by transformers that are already, or soon to be, upgraded in capacity.
    - Consider the installation of home air-conditioning as a trigger for incentivizing or requiring electrification upgrades. As home A/C is being more adopted due to climate impacts such as wildfire smoke and increased summer temperatures, the value of heat pump HVAC systems (along with air filtration systems) increases due to their ability to provide heating and cooling through one unit.
- EV Charging
    - **Rightsizing**. *Promote the adoption of low amp Level 2 chargers for homes will mitigate in-city grid capacity constraints* that risk hindering building and vehicle electrification programs. The city should initiate education, incentives, and other potential measures. https://www.chargepoint.com/resources/how-choose-home-ev-charger
    - On-street, city-owned Level 2 charging for multi-family, commercial, and single-family homes lacking garages or driveways will help address equity and expanded EV adoption issues.
    - **Multi-family EV charging**. Develop an adoption plan for Multi-Family EV charging.
        a. A partial solution has been adopted by other cities that have piloted the installation of city-owned on-street Level 2 chargers (including installed from light poles and power pole power) with modest charging rates (lower and more equitable-than privately owned chargers) covering capital and maintenance costs. https://electrek.co/2019/11/13/la-adds-hundreds-of-ev-chargers-to-streetlights-giving-renters-a-place-to-plug-in/
    - Expand commercial area chargers to accommodate charging with green power during peak generation (lowest cost) time of day. Expanded privately and publicly owned commercial chargers can serve as the backbone of green energy storage during daytime peak renewable generation/lowest cost energy. The city has validated the scaling of publicly owned chargers providing more affordable charging rates than privately owned chargers. City rates currently cover capital (excluding from the transformer to the charger), maintenance, and energy costs.
    - Pilot on-street (light pole and power pole) Level 2 charging for residences without garages or driveways.
- Smart Systems.
    - Advanced Metering Infrastructure (AMI) Pilot. Determine the best strategic placement of the CPAU's 1000 Smart Meters pilot in Q4 2022 to determine optimal scenarios and locations for pilot programs.

  - Determine what program changes are anticipated from a full-scale Smart Meter roll-out.
  - Evaluate the benefits of Smart Panels and Smart Breakers in reducing panel and transformer upgrades while reducing consumer energy costs through managing the time of use. https://redwoodenergy.net/watt-diet-calculator/
  - Look into emerging V2H (vehicle-to-home) and V2G (vehicle-to-grid) technologies to provide for lower consumer energy costs (based on upcoming time-of-use pricing), improve reliability and resilience, and reduce system upgrade needs.
- Microgrids.
  - Explore the creation of area microgrids for new and existing housing and commercial developments. Virtual microgrids comprised of distributed generation, energy storage at home, and vehicle-to-grid technology (V2G) can offer flexibility to our overall electrical system.
- Climate Impact Mitigations. Analyze the economic and social effects of mitigating climate impacts:
  - Wildfire Risks. *Evaluate the public safety, public health, ecological impacts, GHG emissions, flood protection impacts, and the private, business, and city infrastructure costs from local large-scale wildfires.*
  - Sea level rise based on the latest scientific estimates, including elevated groundwater impacts.
  - Riverine flood risk increases from more severe storm events/storm surges in the bay, combined with sea level rise and wildfire impact on watersheds.
- Leveraging Resources.
  - Officially recognize community climate partners, including the Palo Alto Student Climate Coalition (PASCC), Palo Alto 350.org, Acterra, Stanford University, and others.

Future Evaluations

- Additional renewable supplies**.** Plan for and implement PPA contracts to meet projected increases in demand from electrification.
- Identify which carbon draw-down methods and measures to reduce carbon from consumption would be most effective.
- Plan for the future role of distributed generation and storage on grid resilience. Evaluate the role of local solar generation paired with battery storage (in households and larger microgrids) in grid reliability and capacity needs, including the impacts of 2-way EV charging.

Proposed Council Actions

- **2030 Carbon Neutrality Goal** based on CARB definitions of a combination of carbon reductions with carbon offsets or sequestration.
- **Legislative Advocacy**
  a. **Electrification Workforce Development.** Advocate for a statewide program to address the critical shortage of high voltage line workers, and power supply engineers.
- **High-Efficiency Commercial Rooftop (RTU) HVAC Electrification Upon End of Life (EOL).** Evaluate cost-effectiveness, including through leveraging of outside experts, followed by a plan for conversion to electric systems upon EOL.

- **EV Charger Expansion in Response to Growing Demand, Environmental, and Equity Goals.** Develop programs to meet projected demand for chargers, including multi-family housing, and for charging at commercial locations.
- **Rightsizing of Home EV Chargers to Enable Home Electrification.** Develop a plan to promote rightsized chargers through consumer education, permit streamlining, reduced permit costs, and other measures.
- **Decide how Council will manage this work going forward**. Choose a structure and commit to educating the city about the changes that will need to be made.