



AGENDA REPORT SUMMARY

Meeting Date: July 11, 2023

Subject Adopt a resolution to authorize the City Manager to execute an Agreement between the City of Los Altos and Silicon Valley Clean Energy to accept a Community Resilience Program Grant

Prepared by: James Sandoval, Public Works Director

Reviewed by: James Sandoval, Public Works Director

Approved by: Gabriel Engeland, City Manager

Attachment(s):

A. Resolution

Initiated by:

Staff

Previous Council Consideration:

N/A

Fiscal Impact:

Accepting a Community Resilience Grant of \$125,713 from Silicon Valley Clean Energy will enable staff to implement the “Cool Pavement” coating pilot project described below. There is no cost to the City because matching funds are not required.

Because Community Resilience Grant funds are issued on a reimbursement basis, the 15% contingency fund of the Annual Resurfacing Project currently under contract with O’Grady Paving must front the project costs. There are sufficient unused contingency funds to cover the \$59,225 bid received from O’Grady Paving for the work. These grant funds will offset the use of General Fund dollars within O’Grady’s contract.

Construction of the Cool Pavement pilot is planned to occur on a yet to be determined date in August. Staff will submit the project invoice to Silicon Valley Clean Energy for reimbursement after the work is completed and invoiced by O’Grady Paving. Given that O’Grady’s bid is significantly less than the grant amount, staff is working with them to expand the application area in August. If that does not work out, staff will utilize the remaining \$66,488 of the \$125,713 to do more Cool Pavement coating in the FY 23/24 Annual Resurfacing Project scheduled to be bid out and awarded by Fall 2023.

Reviewed By:

City Manager

GE

City Attorney

JH

Finance Director

JD



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Environmental Review:

The project is exempt from review under the California Environmental Quality Act (“CEQA”) pursuant to CEQA Guidelines Section 15301 (Existing Facilities) in that the project consists of minor alterations to existing public facilities involving negligible or no expansion of existing or former uses, it will not create additional automobile lanes, and none of the circumstances described in CEQA Guidelines Section 15300.2 applies. Section 15301 expressly applies to the creation or expansion of bicycle facilities within existing rights-of-way where no additional automobile lanes are created. See 14 CCR § 15301(c).

Policy Question(s) for Council Consideration:

None

Summary:

- The City of Los Altos received a \$125,713 Community Resilience Grant from Silicon Valley Clean Energy to implement the “Cool Pavement” coating pilot project.
- Cool Pavement involves the application of a coating over roads, sidewalks, parking lots, and recreational spaces with material that lowers land surface temperature and creates a cooling effect. Cool Pavement’s basic function is to reduce the heat retained or concentrated at ground level. Depending on its material, Cool Pavement can create this cooling effect by reflecting solar heat, supporting water evaporation, or enabling water to permeate its surface.
- Staff has selected the block of State Street, between 3rd and 4th Streets to pilot the Cool Pavement coating.
- Staff is working with O’Grady Paving to schedule a weekday in August to apply the Cool Pavement material; preferably a Monday, Tuesday or Wednesday.
- This Cool Pavement project aligns with the following Council Goals and Strategies:
 - Asset Management—increasing the PCI of State Street with the use of a Cool Pavement coating in lieu of the micro-surfacing slurry material typically used.
 - Environmental Sustainability—piloting a measure to reduce the heat risk in Los Altos, per Goal 6.2 in the Los Altos Climate Action and Adaptation Plan.

Purpose

To accept a \$125,713 Community Resilience Grant from Silicon Valley Clean Energy to implement the “Cool Pavement” pilot project described below, which contributes to carrying out two Council Goals and Strategies: Asset Management and Environmental Sustainability.

Background

Silicon Valley Clean Energy (SVCE) launched its Community Energy Resilience Program in 2020 in partnership with and through the support of its Member Agencies and local stakeholders.



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The program is a \$5.15 million investment to support *community energy resilience*¹ planning efforts, build capacity, and develop local energy resilience projects at local critical community facilities.

Through this program, each Member Agency received grant allocations for planning projects and capital expenditure projects. Jurisdictions submitted grant applications over the last year under the condition that projects fit under SVCE’s definition of community energy resilience. Through this program, the City of Los Altos received a total planning grant allocation of \$24,920 and a total capital expenditure allocation of \$124,601. SVCE contracted directly with consultant Buro Happold to provide planning grant support for each member agency, including the City’s \$24,920 allocation.

Discussion/Analysis

Staff selected Cool Pavement as its proposed project in the SVCE Community Resilience Grant application. This project was awarded \$24,920 for a Cool Pavement research and planning study and \$124,601 to install it. These amounts were the maximum grant allocation that Los Altos was eligible for under the Community Resilience Program.

The December 2022, Cool Pavement research and planning study conducted by Buro Happold can be downloaded at the following link (note, it’s a 30 MB file):

[FINAL Los Altos Cool Pavements Report - Full \(Issued 12-16-2022\).pdf\(Review\) - Adobe cloud storage.](#)

An excerpt from the study explains Cool Pavement, as follows:

“Cool pavement is a self-explanatory technology: it entails the practice of paving surfaces such as roads, sidewalks, parking lots, and recreational spaces with material that lowers land surface temperature and creates a cooling effect. Cool pavement’s basic function is to reduce the heat retained or concentrated at ground level. Depending on its material, cool pavement can create this cooling effect by reflecting solar heat, supporting water evaporation, or enabling water to permeate its surface.

“Cool pavement comes in a range of material and color applications, from reflective, white pavements to porous pavements to cool coatings. Reflective, white pavements are made directly with light-colored materials with a high solar reflectance index (SRI), meaning that they reflect a high amount of sunlight and thereby reduce heat absorbed by the pavement surface.

¹ Under SVCE’s Community Energy Resilience Framework, *community energy resilience* is defined as “the ability of a community to prepare for, adapt to, withstand, and recover from power disruptions due to anticipated hazards.” Funds allocated through SVCE’s Community Energy Resilience Program must support projects that advance community energy resilience. Projects under this program can apply technical solutions, ranging from solar and battery storage to grid-independent electric vehicle charging to cool pavements, or they can support community-centered efforts to drive resilience, such as stakeholder engagement and program development.



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“Cool coatings are liquid or spray-on materials that are applied on pavement surfaces to increase reflectivity. Porous pavements are made with materials with large pores that allow water to permeate through the pavement surface, reducing heat through the evaporation of moisture stored in the pavement. Cool coatings are the primary application discussed in this report. The City of Los Altos expressed specific interest in retrofitting or covering existing paved surfaces, an activity that is best suited for cool coatings. While these are not the only options available to municipalities for use, this technology is most fitting given the expressed intent of the City.

“Users can maximize the impact of cool pavement through some combination of material type (i.e., water-, polymer-, or oil-based), coloring, and site selection, creating a notably cooler environment than would otherwise exist with conventional paving material like asphalt or concrete.^{2 3} For these reasons, cool pavements have emerged as an urban heat island (UHI) effect mitigation strategy.”

Staff has selected the block of State Street, between 3rd and 4th Streets to pilot a Cool Pavement coating. This will allow us to measure the microclimate temperature of the pilot area versus other blocks on State Street during hot summer days. We selected State Street because a number of special events are held there during the spring and summer months, such as the Farmers’ Market. Along with temperature data, staff will gain feedback from residents, vendors, staff, and/or others who attend these events to see if they notice any differences between the pilot area versus other blocks on State and Main Streets.

As of the drafting of this staff report, staff is working with O’Grady Paving to schedule a weekday in August to apply the Cool Pavement material; preferably a Monday, Tuesday or Wednesday. O’Grady has provided a bid of \$59,225, which includes removal of the existing striping, application of the Cool Pavement coating, and re-installation of the striping. The coating will be applied around the restaurant parklets, so they will not need to be removed and reinstalled.

Since Buro Happold completed the Cool Pavement study for \$23,808, SVCE has applied the \$1,112 savings to the \$124,601 installation grant, which increases the total capital expenditure grant to \$125,713. Given that O’Grady’s bid is significantly less than the grant amount, staff is working with them to expand the application area in August. If that does not work out, staff will utilize the funds to do more Cool Pavement coating in the FY 23/24 Annual Resurfacing Project.

Why did staff select Cool Pavement as the City’s proposed Community Energy Resilience project?

² Aletba, S.R.O. et al. “Thermal performance of cooling strategies for asphalt pavement: A state-of-the-art review.” *Journal of Traffic and Transportation Engineering (English Edition)*. Volume 8, Issue 3, June 2021, Pages 356-373. <<https://doi.org/10.1016/j.jtte.2021.02.001>>.

³ Beiser, Vince. “Feeling the Heat? Blame Concrete.” *Time*. 20 August 2019. <<https://time.com/5655074/concrete-urban-heat/>>.



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1. Goal 6.2 of the Los Altos Climate Action and Adaptation Plan (CAAP) recommends actions to reduce heat risk. As demonstrated in Buro Happold's study, the Cool Pavement coating has been shown to reduce the Heat Island Effect and increase heat reflectance on paved surfaces, which will assist in meeting Actions 6.2A and 6.2B in the CAAP.
2. The Cool Pavement coating will serve as a slurry sealant for the 100 block of State Street, which is needed to increase its Pavement Condition Index (PCI).
3. Staff considered other projects, such as a renewable energy project. However, a \$125K grant was not sufficient to implement a bonafide energy project without the use of significant General Fund monies.

If the Council or the public wish to see an example of a Cool Pavement application in Los Altos, please visit the parking lots of the office buildings at 280 and 300 Second Street, across from Walgreens. An in-person visit is recommended since the image on Google StreetView depicts a glare on the parking lots that makes it difficult to compare the aesthetic of the coating to uncoated pavement.

This Cool Pavement project aligns with the following Council Goals and Strategies:

1. Asset Management—increasing the PCI of State Street with the use of a Cool Pavement coating in lieu of the micro-surfacing slurry material typically used.
2. Environmental Sustainability—piloting a measure to reduce the heat risk in Los Altos, per Goal 6.2 in the CAAP.

Recommendation

The staff recommends the City Council adopt a resolution to authorize the City Manager to execute an Agreement between the City of Los Altos and Silicon Valley Clean Energy to accept a Community Resilience Program Grant of \$125,713.