

AGENDA DESCRIPTION:

Consideration and possible action to select a roofing option for the Ladera Linda Park Community Center building as part of the detailed construction drawings phase

RECOMMENDED COUNCIL ACTION:

- (1) Direct Staff to commence with additional study of the selected roofing option for Ladera Linda Park Community Center building as part of the detailed construction drawings phase.

FISCAL IMPACT: Sufficient funds are currently budgeted.

Amount Budgeted:	\$616,509
Additional Appropriation:	\$0
Account Number(s):	334-400-8405-8004: \$300,000
	334-400-8405-8402: \$316,509

ORIGINATED BY: Matt Waters, Senior Administrative Analyst 
REVIEWED BY: Cory Linder, Director of Recreation and Parks 
APPROVED BY: Doug Willmore, City Manager 

ATTACHED SUPPORTING DOCUMENTS:

- A. August 20, 2019 Ladera Linda Park Master Plan (page A-1)
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BACKGROUND AND DISCUSSION:

The City Council approved the Ladera Linda Parks Master Plan on August 20, 2019, and authorized Staff and the architecture design firm, Johnson Favaro, to proceed to the second phase of the project, the development of detailed construction drawings. The overall park layout and building design were both approved, with the exception of the Council wanting to revisit options regarding the building's roof.

The proposed conceptual plan called for a green, living roof which would consist of saturated, lightweight soil contained in trays with mature plant cover. The green roof had been presented at meetings with Staff, members of the City Council, interested parties, individual residents, and adjacent homeowners associations. While concerns were raised about the maintenance expense and the possibility for leaks, there was also some mixed support for this approach due to its naturalistic design.

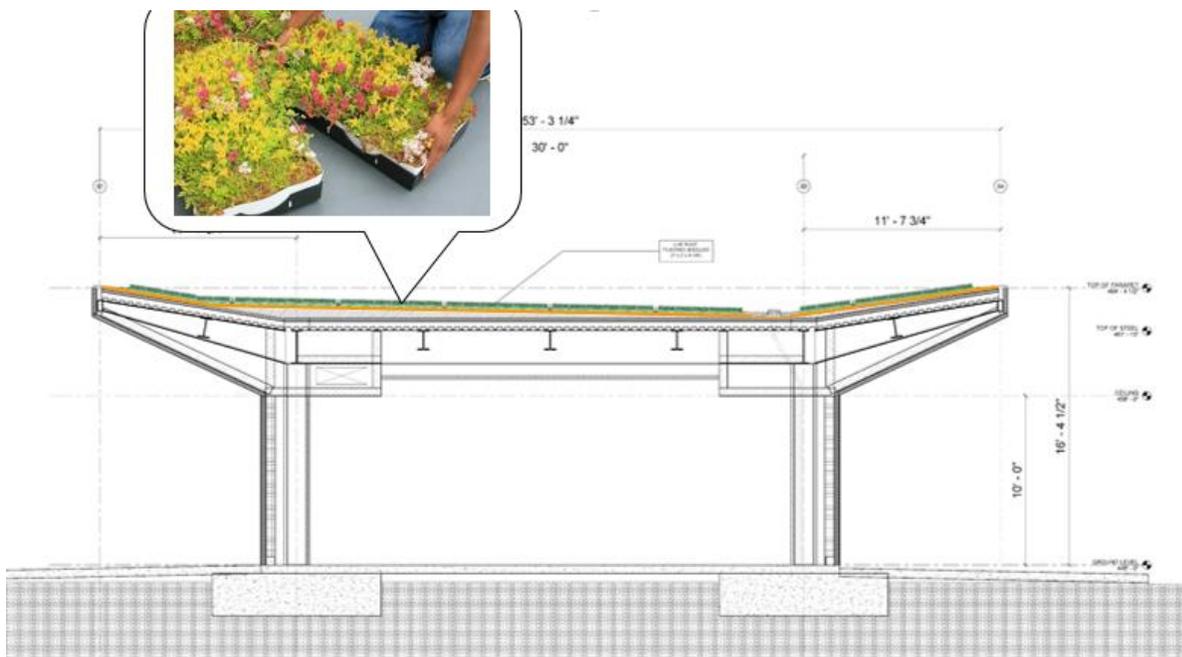
The City Council directed Staff to come back with additional information and financial analyses of three roof options: (1) the initial concept of a green roof; (2) solar/photovoltaic; and (3) a traditional roof. Johnson Favaro has also included a membrane roof/gravel finish roof as a fourth option.

Below are analyses of the proposed roofing options based on technical description and attributes, appearance, and cost.

GREEN ROOF



Simulation of Ladera Linda green roof option as shown in the August 20, 2019 staff report.



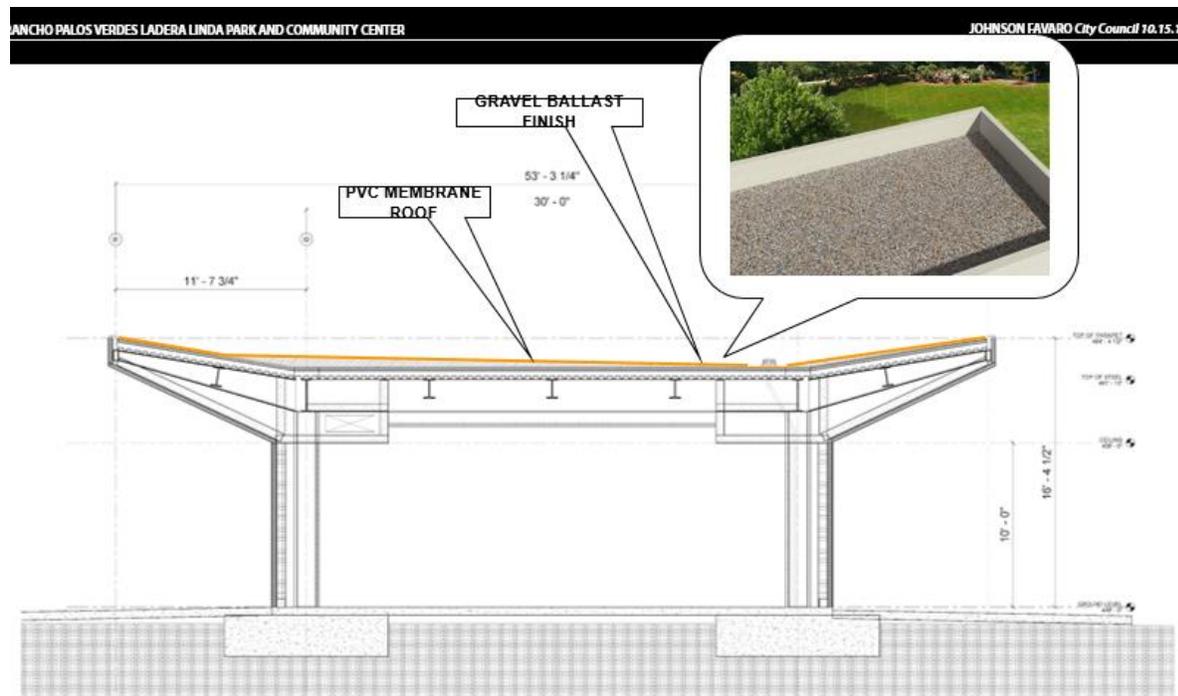
Detail of planting modules in trays laid out on green roof.

Green Roof Details

- 1) Plants grown to maturity before delivery
- 2) Utilizes drought-tolerant plants
- 3) Seamless: Soil-to-soil contact allows for shared moisture and nutrients
- 4) Requires irrigation and maintenance
- 5) Storm water management benefits
- 6) Offers additional building insulation
- 7) More fire resistant than traditional roof
- 8) Limited view impact
- 9) Naturalistic design
- 10) Increased roof life span due to reduced exposure to elements

Estimated cost: \$454,000

MEMBRANE ROOF/GRAVEL FINISH ROOF





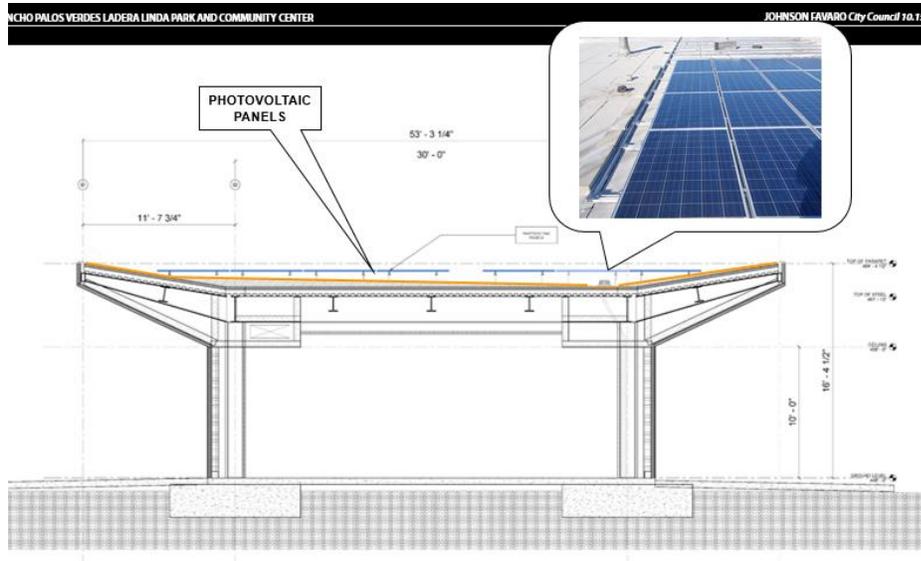
Simulation of Ladera Linda gravel roof option

Membrane Roof/Gravel Finish Details

- Low up-front costs
- Improved appearance as compared to required “cool roof” with no gravel finish
- Tested, traditional roofing technology

Estimated cost: \$91,000

SOLAR ROOF/PHOTOVOLTAIC PANELS





Simulation of Ladera Linda solar roof/photovoltaic panels

Solar Roof/Photovoltaic Panels Details

- Option to either enter into purchase power agreement (PPA) or other lease/financing options, or purchase equipment outright.
- Will produce power for the building and site that is 100% renewable.

Estimated cost: \$0 for PPA solar system.

Comparison of PPA & Cash Purchase Responsibilities

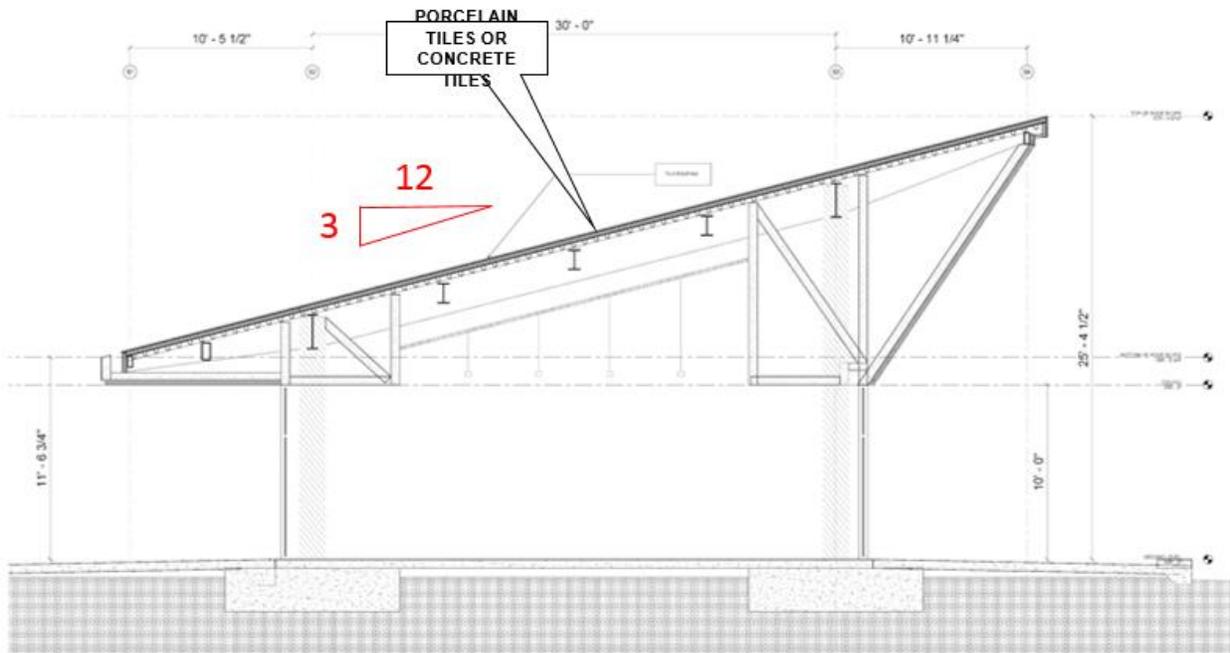
	Power Purchase Agreement	Cash Purchase
Ownership	20-25-Year commitment to purchase the energy	Own
Maintenance Included	Yes	No
Monitoring Included	Yes	No
Upfront Payment	No	Yes
System Buyout	Optional	N/A

PPA lease option/ownership comparison: PPAs are financial agreements offered by solar developers for the design, permitting, financing, installation, and maintenance of solar and battery systems. The upfront cost is \$0. With a PPA, the City would agree to purchase power for a 20 year period at a set price, after which they would own the system. One of the advantages of a PPA, is you are able to lock in a cost of power over the 20 years and not left to fluctuations of the market. In addition, under a PPA, the City would pay no money for the system at the time of installation. However, the City would also not receive the savings that would come more rapidly from owning its own system. In the case of a PPA, the solar installer is making a profit on the installation of a system

for 20 years. Finally, in a PPA, the City is also only paying for power that is produced, and doesn't pay for equipment that may malfunction or need repair. Meaning, if a panel or inverter malfunctions and is off line, the City is not paying for anything until it is repaired and back on line. Finally, if the City owns the system outright, it is more difficult to take advantage of the tax credits available. A PPA allows a developer to take advantage of the tax credits.

If the City Council decides to pursue a PV option, typically the City would issue an RFP to solar developers and installers and ask for two options: the City purchasing and owning the system outright or the City negotiating a PPA. Given the current environment, it is likely that the City would get multiple responses from reputable solar providers and could then choose what was best at the time. If the Council decides to go this route, staff recommends that the City Council make the decision between a PPA and owning the system at the time it received the responses to the RFP.

TRADITIONAL ROOF



Simulation of two versions of Ladera Linda traditional roof

Traditional Roof Details

- Initial increased capital cost; taller structure, built-in gutters; more expensive roofing finish, more interior finishes due to higher volume
- Taller building profile
- More interior volume means more air to heat and cool
- Variety of possible roofing materials

Estimated cost: \$1.22million

Roofing Options Cost Comparison

Roofing Type	Estimated Cost
Membrane Roof/Gravel Finish	\$91,000
Green Roof	\$454,000
Solar Roof/Photovoltaic Panels PPA*	\$0
Traditional Roof	\$1,220,000

**If the solar roof option is selected, an RFP process to analyze PPA and purchase option would be recommended.*

ALTERNATIVES:

In addition to the Staff recommendation, the following alternative actions are available for the City Council's consideration:

1. Provide alternative direction to Staff regarding roofing options.