

SUPPLEMENTAL REPORTS & COMMUNICATIONS II
Office of the City Clerk

City Council of the City of Napa
Special Meeting

December 11, 2018

FOR THE CITY COUNCIL OF THE CITY OF NAPA:

EVENING SESSION:

4. Administrative Reports:

4.A. Civic Center Project to Develop a City Hall Building (including Public Safety and City Administration) at 1600 First Street, a Fire Station No. 1 at 1115 Seminary Street, and a Parking Garage at 1511 Clay Street.

- Handout received December 11, 2018 from Matt Zax regarding "Building Green in Napa" article.

12/11/2018

City Council Special Meeting

12/11/18

Supplemental II - 4.A.

From: Matt Zax

Building green in Napa

From: Matt Zax

JESSICA ZIMMER

Pros share tips for tuning your home to suit wine country

Building green homes in Napa requires a combination of abiding by national standards, learning about the local natural environment, and being aware of how light and heat change over the course of a day in Napa Valley.

A typical green home rewards its owner by using less energy and water, providing a monthly saving on utilities, and maintaining cleaner indoor air than a conventional home. There are many aspects of green building to consider, from heating to materials to protecting local bird populations.

Mike Zimmer, chief building



Bob Massaro

The courtyard of the planned green Napa Creek Village.

official of Napa County, said mandatory and voluntary measures affect green residential home construction.

"The California Green Building Standards Code (which took effect Aug. 1, 2009) is the nation's first statewide green

building code," said Zimmer. "It requires that all excavated soil and land clearing of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing be reused or recycled and county policy requires developers to

seal off the property during construction, keep loose soil from getting into streams and creeks, and use hay bales, or wattles, to keep soil from washing off during the rainy season. We encourage builders to go further by installing LED lighting, water-saving appliances, solar panels, and high-efficiency water heaters, which are also cost-saving in the long run."

Zimmer said even individuals doing a remodel or a small room addition can review "green elements" of home construction with a contractor.

In California, builders should be aware of the "southwest exposure," the direction in which sunlight comes into a house.

"It helps if you orient the house so the windows and

Please see Green, Page 22

A rendering of the planned Napa Creek Village, which developers say will be the greenest housing development ever built in the county.

Bob Massaro



GREEN

From page 21

openings face the southeast. That way, you can take in more sunlight during the day. Not having to turn the lights on early in the morning and late at night saves you energy," said Zimmer.

Zimmer said people who are low-income or on a budget can get assistance to make a home green by looking to the appropriate agency.

"If you're retired and on a fixed income, different agencies in the state will repair or replace certain items for free. For example, the California Conservation Corps (CCC) will replace refrigerators, upgrade lighting, and change water fixtures for you. The California Department of Housing will assist with weatherization," said Zimmer.

Kenneth Russo, founder of **Green Builder**, a Vallejo-based contractor who builds green homes in Napa, advises several materials for green homes.

"When you build where there is a risk of fires, you should use fire-resistant glass. (You should also have) metal shutters on the exterior of windows so you may close (them) and prevent hot (embers) from entering the home. I recommend metal stud construction for homes as well. It's economical, fire-resistant, and recyclable. It doesn't get termites or wood rot," said Russo.

Russo also recommends a roof made of refractive material, which holds heat in during the winter and keeps heat out during the summer.

"It avoids the stack effect which allows infiltration of hot air into enclosed spaces. That way you do not waste heat or cooled air anywhere in the house. (Another thing you can do) is install vapor barriers underneath the home," said Russo.

Bob Massaro, CEO of **Healthy Buildings in Napa**, said the best strategy is starting with a "really good building envelope."

"Summer months in the Napa Valley can get quite warm. We design and build each home's



Adrián Gregorutti

Shade helps keep down energy consumption.

'building envelope,' walls, floors and roofs, to be very energy efficient. (This way) the residents are always comfortable and...the requirement for using air conditioning is minimized. We also put solar power on our homes to make sure each home produces as much energy as it consumes. In the building industry, that is called 'zero-net energy,'" said Massaro.

Massaro advises not using wood on the outside of a home.

"It's combustible and not allowed in many areas because of fire danger. Wood also does not weather well. We use composite materials, metal siding, and 'Smart Siding.' These are durable, low maintenance products that are quite fire resistant," said Massaro.

Massaro further advises using shading elements on the south and west sides of the windows.

"You get so much hot afternoon sun in Napa that it helps to shield windows with awnings and shutters. In addition, if you plant deciduous trees outside, they shield the homes from the sun during the hot months and allow sun to come in during the cold winter months. Of course tree and location and shade opportunities are very lot-dependent," said Massaro.

Jarrod Denton, architect with Signum Architecture, LLP in St. Helena, said if you build a well-designed and constructed home in Napa Valley, you will not need air conditioning.

"Make sure you get high-performance windows and doors. They perform eight-times better

than conventional windows and doors. A well-insulated, airtight home is almost like having a Gore-Tex jacket in a rainstorm. Moisture can escape out. Nothing is allowed in unless you choose to open up the window or doors for a pleasant breeze," said Denton.

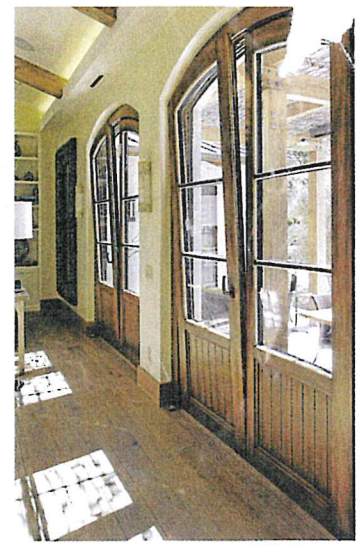
Denton also values a good ventilation system over a conventional mechanical system.

"A high-quality energy recovery ventilation system can produce six-times more fresh air ... than a normal house receives. As the fresh air is coming into the house, it works by conductivity to reduce or increase the temperature as needed. This helps the home be energy-efficient," said Denton.

Denton said it does not make sense to purchase a biodegradable storage tank for rainwater for domestic use in this region. Residents can consider using such a storage tank to store water for landscaping needs.

"Rain in Napa usually comes within a concentrated three-month period in the winter. This means a storage tank needs to be very large. The amount of rainwater you collect doesn't justify the cost. You also need to spend energy to filter it so the water remains usable throughout the summer months. It seems more economic to consider using greywater, relatively clean water from bathroom sinks, tubs, showers, and washing machines," said Denton.

Nancy Piotrowski, conservation chairwoman for the Napa-Solano Audubon Society, said green



Adrián Gregorutti

A tilt-turn door helps improve ventilation.

builders should also look into reducing risks for birds.

A 2014 report published in "The Condor: Ornithological Applications," an official journal of the American Ornithological Society, estimated that across the U.S., between 365 and 988 million birds die every year because the crash into windows.

"Look at how much the sky and the plants are reflected in your windows. If you can see big patches of sky or greenery, use screens, curtains, blinds, and even decals to break up the reflections. Consider installing shutters of glass that are not very reflective. You can even be careful during construction by putting bird tape on the windows," said Piotrowski.

Piotrowski further advised eliminating vanity lighting, which saves on energy costs, or if this lighting is desired or necessary, pointing the light sources down rather than up. This reduces birds' confusion.

"In addition, put plants within 3 feet of a home or 30 feet away from a home. Putting the greenery very close or much farther away helps steer birds away from hazards," said Piotrowski.

Piotrowski said protecting birds is like many other aspects of green building. Homeowners have the option of learning how to conserve resources as a community.

"It's not just about individual houses. When we look at how we can do things better, we also better understand our neighborhoods and the way we are constructing our towns," said Piotrowski.