

CONSERVATION COMMITTEE REPORT TO GV BOARD
ANNUAL MEETING – FEB. 16, 2010

Members of the Committee: Allen Hettinger (301) Ron Ward (474)
Don Perlich (463) Pat Jamieson (520) Norm Hackett (655)
Ken Baumgartner, Chr. (824) Peggy Richardson, Board Liaison (1016)

The Conservation Committee was reorganized, renamed, and chartered by the GV Board in the fall of 2009. It was formerly called the Solar Committee. Our charter (attached) is “to assist the Board of Directors in determining energy and water efficiencies which would result in savings to our Golden Vista community and lessen the impact on our environment.”

As the charter specifies, our duties are “to research benefits of any energy & water conservation system including solar, water heating, lighting, electrical, propane and natural gas and to make recommendations to the Board.”

We have met weekly and members have researched information and made contacts with others who might be useful in helping Golden Vista achieve efficiencies in the aforementioned areas. Copies of all meeting notes have gone to the Manager and the Board Liaison. In brainstorming sessions, the Committee identified four primary areas to work on: WATER & SEWER, PROPANE GAS, ELECTRICITY, and EDUCATION

WATER & SEWER is a major cost to Golden Vista. In 2009, the total cost was \$279,300 split roughly 50/50 (i.e. whatever water we use, the utility charges for sewer the next year). So, it behooves all of us to try harder to conserve and minimize our use of water. POOL COVERS, if properly utilized, can prevent evaporation, as well as reduce propane use by retaining heat. Thanks to the Board, we now have covers for the small pool and the spa. These are managed by GV Volunteers, which is greatly appreciated. We still need to further study the possibility of a cover for the large pool. However, we recognize more challenges in how a cover may need to be managed and maintained. Other items discussed that could simply be adopted by GV and its residents is to encourage the use of lo-flow toilets and lo-flow shower heads. The water conservation measures taken last year are commendable. Our compliments to the Board and the Manager for installing waterless urinals; strictly regulating once per year cleaning of park

models; once per month cleaning of patios; no more car washing in the park, etc. Now, we all need to do our part in water conservation!

Ozonators have also been researched and discussed at length. The Committee feels further study is needed (see attached Report On Ozone Generators and Pinal County Public Health report). We are also looking into the use of an ultra violet (UV) light system for pools.

PROPANE GAS cost in 2009 was \$67,900 (for 46,978 gal.). In 2008, with significantly higher prices, the cost was \$122,951 (for 49,572 gal). The Committee continues to research the use of SOLAR HEATING for both pools to reduce use of propane. Last year, we toured the facilities at Montessa at Gold Canyon, a system installed by Heliocol, which had significantly reduced their propane use. Just a couple weeks ago, members of the Committee and the GV Board toured Canyon Vista RV Resort, and looked at a solar pre-heating system installed by Sun Systems of Phoenix. Their 70,000 gal. pool is serviced by a 44 panel solar array, each panel is 4'x 12' located on the roof of the activities building. Total cost was \$42,000. In just 10 months of operation, they have reduced their propane use by over \$20,000. They expect to receive a Salt River Project (SRP) rebate in March for \$26,000. Both Montessa and Canyon Vista are Cal-Am Properties. The Manager at Canyon Vista said they intend to put solar pool heating systems in all nine of their RV parks here in The Valley.

The Conservation Committee, some Board members, and a member of the Planning & Development Committee met just this past week with Joel Dickinson, a representative of SRP. Golden Vista is eligible to apply for a solar pool heating rebate under the SRP EarthWise Solar Energy Program. He left the application forms and presented information to qualify for up to 60% of solar heating cost. He also suggested we get 3 bids, to be submitted to SRP engineers for approval of the system's design. Upon approval, the rebate funds are set aside, a contract is signed and GV would then contract for a solar installation. SRP engineers would inspect and certify proper installation. Golden Vista would be required to purchase and install a BTU meter to be read monthly and ensure performance of the system. At the end of 12 months of operation, SRP would pay a rebate of \$0.25/kWh of metered thermal energy generated by the solar heating system. So far, they have 18 systems installed and operating. As noted above, Canyon Vista's solar pool system will be paid for in one year, due to the rebate plus propane savings.

Golden Vista should take advantage of the SRP rebate program soon, before the money dries up! An SRP representative would be pleased to come back and make a presentation to the Golden Vista Board, if so desired.

Other items related to propane use were discussed. We should always keep aware of any future expansion of natural gas service to this area, as it would be cheaper than propane. Hot water heaters for the laundries and pool showers could also be considered for solar energy. SRP also has an incentive program for this, and it should be considered anytime GV needs to replace those hot water heaters.

ELECTRICITY cost GV \$58,700 in 2009. Although some recent conservation measures have been taken, there are always more ways to save energy. The Committee recommends that as incandescent and the old fluorescent light bulbs need to be replaced, that energy-efficient bulbs be used instead. Gradually, over time, this could be done. Some areas that have only occasional use could perhaps be lighted with motion-sensing lights. Gradually, over time, the park's Christmas lighting should be upgraded to LED lights. This should be encouraged for the street lighting and by individual residents as well. Sky lights or solar light tubes should be considered whenever GV is remodeling a structure, or if doing re-roofing projects.

Insulation of buildings (especially ceilings), and wrapping insulation around hot water pipes will also save energy. Heat pumps should be considered for further study. Air quality is also a concern in high use high population densities, such as the ballroom. The Committee discussed the possible addition of fresh air/free cooling equipment on the new air conditioners over the ballroom; or at least on a couple of them.

EDUCATION was another discussion topic that came up often in our discussions. Pat Jamieson has volunteered to write short articles or bullet statements for the GV monthly newsletter, VISTA VIEWS. The purpose is to encourage residents to conserve, and for others to use the newsletter as a forum for other ideas or suggestions. Posters and other information may be posted on bulletin boards as energy conservation reminders. Perhaps a dessert speaker could do a program? Signage in key areas is important, such as reminders to "turn off the lights", "turn off the spa jet pumps", "everyone must shower before entering the pools or the spa", etc.

So, as you can see, The Conservation Committee has a wide range of issues to deal with. We will continue to meet and make recommendations to the Board, and will report back as needed. The GV Manager is kept aware of our meetings and welcome to attend. She receives copies of all minutes and is kept abreast of Committee discussions. We understand that there are many proposed projects for Golden Vista, and the Board needs to determine priorities to fund. The Committee hopes some of these recommendations can be funded and implemented to enhance our park facilities and to conserve our water and energy resources. Thank you for your consideration.

Respectfully submitted: Ken Baumgartner, Chairman
Conservation Committee

Conservation Committee
February 8, 2010
Attention: Ken Baumgartner, Chairman, Lot 824

Report on Ozone Generators

Task was to find commercial pool systems that the committee could look at. Other than the City Tucson (information supplied by Peggy) this does not appear to be a widely used system in the local area but is being used in olympic pools etc. The information that I found came from a consultant at Aquatic Environmental Systems, 1733 E Mckellips Road, Tempe 480 947 3400, and reading on the internet.

Comments:

(1) The systems do work. However, it is not as simple as just adding ozone to our pool water and not using chlorine. In the City of Tucson, they use a combination of ozone, bromine and carbon dioxide. These chemicals are not put directly into the pool water, but are added to two parallel tanks that 25% of the flow of the pool water is directed through. The treated water is then sent back into the pool. Maintaining the proper Ph in a large pool is difficult and requires increased monitoring and testing. In the letter I read, dated July 2002, from the City of Tucson, it indicates that they were happy with the performance of their system at that time. I have not done any additional follow-up.

(2) I did take the time to look up ozone on the internet. It is a gas that can be manufactured from oxygen and has the ability to kill bacteria that is generated in pools. The major draw back is that it can damage the lungs of animals and humans. On ozone generators there is a warning stating that short term inhalation of high concentrations of ozone and long term inhalation of low concentrations of ozone can cause serious harmful physiological effects. Do not inhale ozone gas produced by this device.

(3) In talking with the consultant from Aquatic, his opinion was that very few pool owners are willing to put the time in required to maintain a ozonated pool and suggest that we stay with our present system.

(4) If the board wanted to pursue this system, it would my suggestion that they hire a professional in pools to design one that would fit our needs or we could create more problems than we solve. At the present time I do not feel that this is the system for our pools. There is another system that could be investigated which is a UV light system. It is more expensive but does not add any additional compounds to the water and reduces the use of chlorine.

If you have any further questions, please do not hesitate to ask.

Submitted by: Allen Hettinger, Committee Member, Lot 301

PINAL COUNTY PUBLIC HEALTH DEPARTMENT

TAMI SCHULER, Pool Inspector. 1-800-208-6897 X6863

Tami emailed us the Co/St regulations re pools. She also provided us with an invitation to her next Pool Maint. Informational Seminar to be held in March.

I asked her about ozonation and she indicated that it does not eliminate the use of chemicals. It's expensive and does require close monitoring and testing of the water. She couldn't think of any systems off the top of her head that she inspectors so there aren't many. Frequent and testing with the proper tests, cleaning of the pools seemed to be the way to solve chemical imbalance problems. Properly trained staff very important.

MARICOPA COUNTY PUBLIC HEALTH DEPARTMENT

GREG EPPERSON, Pool Inspector 1-602-506-0462

I asked him about ozone treatment and he only has 2 public pools and they were installed several years ago because of specific pathogens that were determined to be a public health problem. He also said it's expensive to install and doesn't eliminate chemicals. (And in light of the size of Maricopa county, not widely used, (my comment) .

I also talked to the Pool Engineer (Mr. Walters) who oversees the permitting of and construction of new pools. He talked a lot about the PH balnce and the intracacese of the chemical monitoring of the pools, tests being done, frequency of testings , and the *consideration of the* differences in pool useage.

Don Perlich 2-4-2010

CONCLUSION – Ozone probably is not the answer to our problems. Appears that ~~an~~ expert review and revision of our current protocol on pool testing and monitoring is the place to start before proceeding with any new system. Perhaps with a revised and expanded system of testing and monitoring, the pools could be more useable by our homeowners who now are unable to use the facility.