

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
BUILDING CODES COMMITTEE

May 20, 2009

Maricopa Association of Governments Office
Cholla Room
Phoenix, Arizona

COMMITTEE MEMBERS

Michael Clack, Scottsdale, Chair
Ken Sowers, Avondale
Phil Marcotte, Buckeye
*Mike Tibbett, Carefree
Mike Baxley, Cave Creek
*Alex Banachowski, Chandler
*Mary Dickson, El Mirage
*Peter Johnson, Fountain Hills
*John Smith, Gila Bend
*Jo Rene DeVeau, Gila River Indian
Community
A- Ben Cox for Ray Patten, Gilbert
Bryan Woodcox for Deborah Mazoyer,
Glendale
Bill King for Ed Kulik, Goodyear

John Rae for Chuck Ransom, Litchfield
Park
Tom Ewers, Maricopa County
A-Steven Hether, Mesa
Bob Lee, Paradise Valley
*Dennis Marks, Peoria
Jason Blakely for Tom Wandrie, Phoenix
*Dean Wise, Queen Creek
Forrest Fielder, Surprise
A-Michael Williams, Tempe
*Mario Rochin, Tolleson
John Stigsell, Youngtown
Rick DeStefano, Wickenburg
Rus Brock, Home Builders Association

V-Those members participating via
videoconference

OTHERS IN ATTENDANCE

Steve Gross, MAG
Heidi Pahl, MAG
Mark Skidmore, American Solar Electric
Lisa Prichard, Arizona Masonry Guild
William Criager, CBH Consulting Engineers
Ed Freyermuth, Arizona Masonry Guild
Steve Ast, Shasta Pools
Paul Mason, Shasta Pools
Rick Campbell, Roy Co.
Ed Peaser, Scottsdale
Dave Endres, Superlite Block
Mike Summers, Top Quality Masonry
Steve Le Claire, AZ Block 2000

*Those members neither present nor
represented by proxy.

A-Those members participating via
audioconference

1. Call to Order

Michael Clack, Chair, called to order the May 20, 2009 meeting of the MAG Building Codes Committee (BCC) at 2:00 p.m.

2. Introductions

Voting members Steven Hether, Michael Williams, and proxy Ben Cox attended via telephone conference call. All members introduced themselves.

3. April 15, 2009 Meeting Minutes

It was moved by Ken Sowers, seconded by Bryan Woodcox and unanimously recommended to approve the April 15, 2009 meeting minutes.

4. Call to the Audience

There were no comments from audience.

5. Comments From the Committee

Bob Lee mentioned that he gave a presentation to the ASU Sustainable Cities Network (SCN) about the MAG BCC effort to create a region-wide uniform permitting process and standard for solar photovoltaic structures and service. Mr. Lee said the goal is to have the structural engineers, electrical contractors, and solar industry professionals work together to create this uniform standard.

Michael Clack said that Cheryl Mullis could not attend the meeting today but provided him a brief update to share with the committee. Mr. Clack said the solar providers are meeting and research is still under way with regards to installation of solar/photovoltaic (PV) systems on roofs. He reported that Ryan Dexter with Structural Building Components Association (SBCA) has spoken with Michael Neary. He said that Michael Neary is going to provide Ryan Dexter with a list of solar companies so that a telephone conference can be arranged to begin discussing some of the concerns with solar PV systems on existing roofs and how roof load is going to carry them.

Jason Blakely announced that the City of Phoenix is offering Technical Code Training sponsored by Central Arizona Chapter International Code Council (ICC). He distributed a handout. He said training is free and there are several classes offered. Bob Lee asked how many people per class. Jason Blakely responded that Phoenix will accommodate the number of people registered for each class.

5. Arizona Masonry

Lisa Prichard and members of the Arizona Masonry Guild (AMG) gave a presentation on details for a six inch thick masonry fence. She said that the Arizona Masonry Guild will be meeting individually with representatives from each MAG member agency. She said that the AMG is asking for feedback from the MAG BCC with a goal to ensure quality masonry construction and a consistent set of details.

Bob Lee asked if the fence that runs between the house and side property line is an interior fence. Ed Freyermuth replied yes, this applies to interior fences only.

John Stigsell asked if the Arizona Masonry Guild is requiring a special certified masonry inspector. Ed Freyermuth replied yes, but a third party inspector can also do the inspection if a small town does not have a masonry inspector.

Bob Lee said that the 6 inch CMU Standard Fence Wall handout says per City of Phoenix amendments. Mr. Lee asked what the cities and towns that did not amend that section of the 2006 IBC are supposed to do. Bill Krieger replied that question has been discussed and they decided to use ASCE code 02. An update to ASCE code 2 will come out in 2010.

Bob Lee pointed out that ASCE 7 was written by peers of the AMG not city/town officials. Bill Krieger agreed and added that academia has a large influence into the new codes. He said there is a difference between theory and practice so it is critical to be rational, realistic and provide an economically competitive design that works safely.

Bob Lee said that the AMG is encouraging member agencies to adopt the Phoenix amendments. Bill Krieger replied yes, or have a variance per job.

Forrest Fielder said they are asking for 60 for reinforcement standard. It used to be 40 for the standard for masonry design. Bill Krieger said most rebar comes in 60.

Forrest Fielder said there were some alternate footing sections that could be used between pilasters. Bill said they are using trenching. Previous designs have shown a small drill pier and those are still legitimate designs.

Bob Lee noticed another change on standard bucket from 16 inches wide to 2 feet wide, so more passes, more time, more money. Special inspection is going to add to expense of contractor. Bill Krieger agreed, it is going to add cost, but there will be assurance that walls will be built correctly. Rus Brock said he met with the AMG and they are aware of the Home Builders Association (HBA) concerns in terms of increased cost and HBA is willing to let AMG move forward with their document. Rus Brock noted that a jurisdiction does not have to require a special inspection.

Ben Cox asked about soil values. Bill Krieger gave an example with the 1000 PSF soil bearing.

Rick Campbell said as an AMG member, he encourages the special inspection by a municipality or third party inspector.

Michael Clack asked if a new fence or replacement fence on the property of an existing home requires a special inspection. Bill Krieger replied that it is the decision of the building inspector.

Bob Lee said he will provide this handout to contractors and homeowners as it is a valuable resource.

Tom Ewers asked the impact of turning every grade level block on its side for drainage. Bill Krieger responded that as long as blocks are between graded cells with rebar it would not be a problem.

Michael Clack asked if there were any consideration to head waters that may be impacting it. Bill Krieger replied that these walls cannot be used as dams and no consideration was given to withstand flowing water.

Ben Cox asked if there was any discussion for a design opportunity for an 8 foot fence. He noted that the Town of Gilbert allows 8 foot fences. Bill Krieger replied that these walls have been designed for 6 feet fences and sometimes wind storms knock over fences that are taller than 6 feet. Forrest Fielder asked how tall to build a fence for homes that share a common rear line and are at different grades, putting the wall in a parcel retaining situation. Bill Krieger replied that these walls are not retaining walls and should not be considered retaining walls. He said the 6 foot fence is built on top of a 2 foot retaining wall. Michael Clack said how to measure the wall and the height of the wall is determined by zoning regulation.

Lisa Prichard said they have an ADOT Task Force for developing sound proofing walls.

Bill King asked if sound wall comparison to ICC will be done. Bill Krieger said AASHTO has a special publication addressing sound walls along freeways and roadways. He said the intent is that it will work with ICC and AASHTO. Goodyear had instance recently where ADOT standards were not in compliance with ICC so were not accepted by Goodyear.

7. Shasta Pools Geothermal Heat Pump

Steve Ast gave a presentation on Shasta Pools and Spas use of ground-source or geothermal heat pumps with a pool to replace a home HVAC unit to heat and cool the home. He said this is viewed as a more sustainable and energy-efficient way of heating and cooling a home.

Steve Ast distributed a BLU eQ brochure which markets Shasta Pools and Spas most efficient heating and cooling system. He said geothermal needs moisture in the ground and this is hard to find in Arizona soils. He said this system has a 20 year life span and rated 30 EER. It is safe, clean, quiet, reliable and flexible. He said a home in the Town of Buckeye Watson Estates has a geothermal heat pump installation. He said essentially this technology heats and cools the home with the swimming pool. He mentioned that one concern in Arizona is that the pool does not get too warm otherwise geothermal may not work. He said there is usually a separate body of water next to pool that takes the excess heat (e.g. hot tub or fountain).

Bob Lee asked if they are operating continuously. Steve Ast replied that it is same installation as a regular heat pump, the duct work is different, and it has a computerized thermostat showing stage 1 and stage 2. He said geothermal heat pumps run a little longer than traditional HVAC systems, and they run in low speed (stage 1) mostly. He said APS gives a 50 percent rebate on the system. He said the Federal government enacted a 30 percent tax credit for home systems. He said a typical new home cost for this geothermal installation is about \$25,000. Steve Ast said that one problem in Arizona is that appraisers do not know how to value geothermal heat pumps used for cooling and heating.

Steve Ast mentioned that for new builds, the pool has to have water in it for geothermal to start working.

Forrest Fielder asked if there were any conclusions on evaporation rates of swimming pools. Steve Ast replied no, but in hot summer days a pool typically loses a quarter to half inch of water per day. He said Shasta is researching ways to make a swimming pool more sustainable and more energy efficient.

Kevin Morrow asked if full load in terms of kilowatt demand is the same as a heat pump. Steve Ast replied yes, stage 2 uses similar loads as a heat pump.

Michael Clack asked what additional costs are required for a new home and new pool that has the geothermal heat pump installed. Steve Ast replied that all costs are figured into the rebate program. Mr. Ast responded that for an average home, there is \$11,000 to 13,000 of underground work. He said home square footage is matched to size of the pool.

Michael Clack asked what kinds of challenges are faced with existing homes. Steve Ast replied that the only challenge is running existing refrigerant and heat lines to possibly a different place, such as the garage. Steve Ast said Shasta has partnered with leading air conditioning manufacturers to retrofit existing homes with a Shasta geothermal install.

8. Electric Car Infrastructure

Nissan North America, ECotality, and MAG have agreed to develop electrical charging stations in anticipation of Nissan's commercial all Electric Vehicle (EV) release in the U.S. in 2010. The Nissan EV is expected to have a range of 100 miles on a single charge and be able to be charged within four to eight hours via a 220-volt outlet. Kevin Morrow of eTec discussed the infrastructure needed in residences and commercial areas for the EV to be a success.

Tom Ewers asked for the difference between an EV parking space and a normal parking space. Kevin Morrow said size of a parking space is bigger for EV.

Bill King asked if Ecotality plans to pre-qualify owners to ensure house has the load necessary to support the EV. Kevin Morrow replied that a flow chart has been created and car companies are working on it.

Michael Clack asked if the cost of the EV charger is included in the car purchase. Kevin Morrow replied no, but there are credits available when an EV is purchased. Michael Clack asked if any consideration been given to working with NFPA and ICC to create electric charge station codes. Kevin Morrow said the NEC already has language to accommodate the EV. He said this code was created in 1996. Michael Clack said this sounds similar to when homes were retrofitted with clothes dryers. Mr. Clack said demand should drive the EV electric charge install into homes. Mr. Morrow said it is a cost saver if you can do it ahead of time.

Tom Ewers asked if intervals between charging are based on distance or time. Kevin Morrow replied distance. He said the EV can sit for several weeks unused and not lose any energy.

Michael Clack said one challenge might be capacity of older homes to accept the extra load needed by the EV. Rus Brock said one of the other challenges is that the utility provider will ask that all transformers and service feeds be upgraded to handle wiring for EV in a new build. The advent of plug-in vehicles is really pushing the smart meter. Michael Clack said he likes the concept but the details may cause problems in getting a streamlined permitting process. Mr. Clack emphasized that his main concern is safety, to ensure a qualified electrician understands how to upgrade a house for an EV.

Bob Lee said in the early stages the few companies that will install equipment for the EV in homes will be reputable and knowledgeable but just like solar PV, as the EV becomes more popular, more companies will be creating and these new companies may not have the expertise and knowledge to properly retrofit a home for the EV. Kevin Morrow said that eTec is working closely with all parties.

Forrest Fielder said as streamlined as cities might get, utility companies also need to get on board.

Bill King asked if there are any hydrogen emission problems with Level 2 chargers in the garage. He asked if anyone going to make them with the gassing battery. Kevin Morrow responded no, the wall box needs to talk to the car and it is an integrated system. Mr. Morrow said that mistake was made in the 1990s and the Original Equipment Manufacturers (OEMs) will not go down that path again.

9. MAG Building Inspectors/Plans Examiners (BI/PE) Forum Update

Michael Clack explained that Cheryl Mullis was not in attendance, therefore there was no update on this item.

10. Updated MAG Building Codes Committee Membership

Chairman Michael Clack reminded members to keep their membership information current and to report any changes to Heidi Pahl.

11. Update Survey of Code Adoption

Ken Sowers suggested a new topic on who is going to be adopting the new set of I-codes. Bob Lee suggested that MAG add a column to the survey of code adoption spreadsheet with proposed month and year of anticipated effective date for ICC effective date. Heidi Pahl said if that would be helpful to committee members then MAG staff could add the column to the table. Tom Ewers said Maricopa County will be adopting the 2009 codes at the end of 2009 or beginning of 2010. Bob Lee said he heard that the City of Phoenix wants a high ISO rating which means they will want to adopt the 2009 codes early 2010 with an effective date of July 1, 2010.

Ken Sowers asked to receive more information on legislative bills impacting the MAG BCC.

12. Topics for Future Agendas

Forrest Fielder said the Arizona Corporation Commission (ACC) is currently considering a rate case for major utilities and new energy standards.

Ken Sowers suggested limiting the number of guest speakers to two per meeting to allow each guest speaker adequate time for presentation with questions and answers.

13. Adjournment

The meeting adjourned at 4:10 p.m.