

PHRC NEWS

PENNSTATE



Vol. 4, No. 3, Fall 1996

The Pennsylvania
Housing Research Center



A Publication of the Pennsylvania Housing Research Center

Fifth Annual Pennsylvania Housing Conference

The Fifth Annual Pennsylvania Housing Conference will be held on February 19-20, 1997 at the Scanti-con Conference Center in State College.

This two-day meeting is sponsored by the Pennsylvania Builders Association, the Pennsylvania Electrical Association, and the Pennsylvania Housing Research Center. Plenary sessions will be devoted to assessing the State of Housing (both nationally - NAHB, and within the Commonwealth - PBA) and the Regulatory Environment. Special sessions have been arranged to address:

- The likelihood and consequences of adopting a Statewide Building Code
- Deregulation of the Electrical Utilities and the likely consequences, especially for the home builder.
- Responding to the requirements of the Model Energy Code
- Business problems and solutions
- Builder's problems and solutions

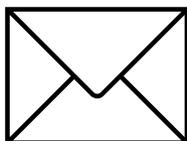
Also the usual builders software annual review will be conducted and, for those who sign-up, there will be a hands-on computer workshop.

For additional information on program content or input contact the Conference Planning Committee:

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Bob Murphy- PEA Representative- (717) 368-5257

Eric Burnett- PHRC Representative- (814) 865-2341



**WATCH THE MAIL
IN DECEMBER & JANUARY
FOR CONFERENCE
INFORMATION
REGISTRATION FORM !**

Penn College and the PHRC

Over the summer, negotiations took place with Penn College in Williamsport (an affiliate college within the Penn State System) to become a full partner in the PHRC. Given Penn College's commitment to training for the construction industry and knowing of the work of the Weatherization Unit, it seemed obvious that some form of working relationship could be mutually beneficial. As far as housing is concerned, the mission of Penn College would seem to complement what we do at University Park. Together the PHRC would be in a much better position to serve all areas of the house building industry.

We are therefore pleased to announce that, as from October 15, the PHRC will be operating from two locations and we will be attempting to develop a mutually beneficial working relationship with Penn College. In the near future, we will also be looking for a full-time Assistant Director for the PHRC -- this is to be a non-academic staff appointment. The Assistant Director will be located in State College, but will regularly spend time in Williamsport. The Assistant Director is to participate in projects, generate work and provide day-to-day management for the PHRC.

Some Thought on a Statewide Building Code

Building Codes

The purpose of most building codes is to provide minimum standards for the protection of human life, limb and health, property, the environment as well as the safety and welfare of the consumer; the general public and the owners and occupants of the building. To be truly effective a Building Code should be well-written, relevant, generally accepted and properly enforced: well written in order to be easily and unambiguously understood by all involved; relevant to facilitate willing adoption; accepted so that a uniform and consistent set of rules apply to a large number of

people and enforced to ensure common and consistent compliance.

Typically a model building code regulates the design, construction, alteration, maintenance, repair and demolition of buildings and structures. Qualified personnel should routinely inspect the building during construction, e.g., the foundations, insulation, electrical, mechanical and plumbing systems. A final inspection is then performed. All deficiencies must be corrected before the building inspector issues a "certificate of occupancy."

There are two approaches to formulating codes--prescriptive and performance. A prescriptive code prescribes what methods, materials and criteria are to be used. The Council of American Building Officials (CABO) Code for One and Two Family Dwelling is an example of a prescriptive code. A performance code specifies the objective to be accomplished and generally allows for alternate methods and materials. The Building Official and Code Administrators (BOCA) Code is an example of a performance oriented code.

There are a number of key players involved in the model code writing and adoption process. The first group consists of the building officials. This group is composed of state, county and municipal building regulatory enforcement officials. They usually comprise the main body of the voting membership in a model code organization. The building officials, using their expertise and best judgment, therefore, participate in the final decision as to whether a code change is to be accepted or not.

Fire Service officials are another key group. This group is composed of representatives from Fire Departments and Fire Marshals. Their expertise is based on day-to-day life experience, safety and the performance of buildings under real conditions.

Trade associations and manufacturers are also key players, sharing their technical expertise and providing information on new technology and advances on existing technology.

Engineers, architects, builders and code consultants are the primary users of building codes and standards. As a group, they bring to the model code revision process an expertise that derives from a hands-on, day-to-day working knowledge. From practical experience, this group understands the benefits and problems of model code application.

Model codes, such as BOCA and CABO, rely heavily upon existing standards. Standards are written to govern materials, products, processes or procedures. They detail acceptable materials and methods, especially for design and for virtually every aspect of construction. Standards also describe methods of testing that determine the physical, functional or performance characteristics of specific materials or products.

Standards are generated by design professionals in both the public and private sector. They are the result of many years of testing and research.

Most national standards are developed by voluntary standards writing organizations. There are approximately 500 such organizations in the United States that follow standards development procedures. Standard procedures are designed to achieve a national consensus of all the groups affected by the standards. There are four major standards organizations that impact on the building process: the American Society for Testing and Materials; the National Fire Protection Association; American National Standards Institute; and the National Institute of Standards and Technology of the United States Department of Commerce. The standards system in the United States and the use of standards in codes ensures that the cumulative scientific, engineering and industrial know-how of America reaches all members of the building community.

NEED

According to the Pennsylvania Department of Community Affairs, only 1,079 of the 2,572 municipalities in Pennsylvania have formally adopted some type of building code. This statistic clearly identifies one of the major problems housing consumers currently face in Pennsylvania -- the lack of any building code in more than half of the municipalities in the state. The second major problem involves the 1,079 municipalities that have adopted some type of code -- there is little uniformity in quality and little consistency in application. For the consumer the playing field is not level and the rules of the game may be variable and flexible.

The lack of a uniform state-wide building code, based on a nationally recognized model building code, means that many residents of Pennsylvania, whether they are buying or building a home, have little, if any, assurance that the house has been or will be built to an appropriate set of enforced qualitative standards.

Builders have many of the same complaints as housing consumers. Builders report shoddy workmanship. They also cite local governments where building permit fees are required and codes are in place but enforcement is nonexistent.

A SINGLE STATE-WIDE BUILDING CODE

The Pennsylvania Housing Research Center supports the adoption of a statewide uniform building code. In December 1993, Representative Ronald Buxton (D-Dauphin) introduced House Bill 2448 -- The Uniform Construction Act. In March 1995, Representatives Mike Waugh and Ronald Buxton introduced House Bill 1128. This legislation would establish the CABO Code for One and Two Family Dwelling and the BOCA Code as the uniform construction code.

Under House Bill 1128, builders would build to the 1992 CABO for One and Two Family Dwelling with the option, if needed, to comply with BOCA Code. Adoption of this legislation would supersede any local building codes. The legislation would leave enforcement of the code up to the municipality. A municipality would have the option of enforcing the code. However, even if a municipality opts to not enforce the code, builders would still have to build to the code and be subject to inspection. The builder can be required to obtain the services of a qualified inspector in those municipalities that opt not to enforce the code. This means that all new home construction would be subject to inspection. Wisely this legislation also provides for the certification and continuing education of building inspectors.

The Department of Community Affairs (DCA) would be responsible for overseeing the Act. The legislation establishes the Construction Code Evaluation Council within the DCA. The council would consist of nine appointed persons from a variety of industries. The Council would consider and rule on petitions to amend the regulations where unique/compelling circumstances exist. This means that a municipality would have to formally justify additions or alterations to a building code. Such a Council would help to ensure that local governments were adopting amendments to codes that have some benefit. The Council would also review and approve the rules and regulations necessary to administer the Code. It would be up to the DCA to make recommendations to modify the code.

Both the CABO and BOCA code are nationally recognized. They are professional codes with proven sets of standards. Twenty-one other states have adopted the BOCA Code. It would be both timely and advantageous for Pennsylvania to be the twenty-second state to adopt a state wide building code.

**The above was produced by the PHRC as a position paper on the possible adoption of a state-wide building code.*

Advisory Council Meeting

The members of the Advisory Council Committee met on October 15, 1996 at the Penn State Scanticon.

Various initiatives and changes have already occurred or are being considered, these include:

- The name change to the Pennsylvania Housing Research Center (PHRC)

- The relocation of the PHRC office from the Civil and Environmental Engineering Department to the Architectural Engineering Department
- A request for a line-item in the State budget was successful. \$175,000 was committed to the PHRC with the condition that no less than 85% to be used for projects.
- Partnership with Penn College. E. Burnett welcomed Penn College as a full partner to the PHRC. Penn College are now members of both the Advisory Council and the Operations Committee.
- The formation of a PBA committee to provide better liaison and interact with the PHRC.
- The hiring of a full-time, non-academic Assistant Director for the PHRC.
- Improving the planning for the Annual Conference. A three-person conference committee representing the PBA, PEA and PHRC was formed last April.

The following project proposals for the 1996/97 operating year were submitted to the Council members:

- ⇒ Modeling of Basement Heat Transfer and a Parametric Study of Basement Insulation Strategies for Low-Energy Housing
B. Bahnfleth / G. Yuill -- (continuing)
- ⇒ Moisture Control in Walls of Low-Rise Residential Buildings
- ⇒ Property Loss Reduction: Abnormal & Accidental Loading
E. Burnett
- ⇒ Cladding/Window Technology: Technical and Fabrication Developments
E. Burnett
- ⇒ Modeling and Optimization of Floor Systems Utilizing Alternative Materials
S. Worley / H. Manbeck -- (continuing)
- ⇒ Builder's Guide to Modular Housing (Task 1)
MABSC, PBA and PHRC
- ⇒ Multimedia Presentation System (Task 2)
MABSC and H. El-Bibany

These proposals were then discussed and prioritized by the Council Members. The following projects were then approved; funding was to be based on the availability of funding and matching funds available:

- Computing Resources - \$2,000 (to be immediately fully funded)
- Basement Investigation - \$27,000
- Alternative Structural Materials - \$25,000

- MEC - Model Energy Code - (the details of this project have still to be confirmed)
- Task 1 - Modular Housing Builder's Guide - \$6,000 (to be immediately fully funded)
- Task 2 - Modular Housing Software Development- \$21,000

The next Advisory Council meeting will be held on February 21, 1997 at the Scanticon, State College.

DIALOGUE

Michelle has attempted to make the newsletter more interesting to look at. We would also like to make this newsletter a bit livelier and to stimulate some dialogue with the readership. For instance, we would like

to encourage some correspondence with a view to possible publication.

We would welcome questions (even technical ones) and constructive feedback; for instance on PHRC's thoughts on a statewide building code. Also the readership needs to be warned that the Director has been having a house built. At the same time he has been receiving an expensive crash course on State College and Centre County and, perhaps, Pennsylvania house building practices. For both buyer and builder this has been a well-controlled but amiable learning experience. Some of these practices need to be discussed, perhaps in future newsletters. Your suggestions for improving the newsletter would be welcomed.

Technology at your Fingertips

Check out these WWW 'Hot Links'

- NAHB On-line - <http://www.nahb.com>
- BUILDER Magazine On-line - <http://www.builderonline.com>
- Building On-line - A Building Products Search Engine - <http://www.buildingonline.com>
- Construction Net - <http://www.constructionnet.net>
- National Wood Window and Door Manufacturers Assoc. - <http://www.nwwda.org>

Send questions, comments, inquiries, problems to:

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University, PA 16802



or FAX us at: (814) 863-7304

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U. Ed. ENG 92-87

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