Doing It Right: Phil’s Story

To do it right, there are at least a couple of ways to build a straw bale house. One is to hire straw building professionals whose projects you admire to mostly design and build your dream home. Another is to educate yourself as much as possible about the right way to build with straw before setting out to create your building project, mostly by yourself. Phil McGoohan did the latter. His ten year association with CASBA is a great example for those who choose this path.

Phil can tell you exactly what started him down the path of building his own home: Helen and Scott Nearing’s Living the Good Life, which he read in the early 1970s while living in New England. A sense of empowerment, financial independence and personal gratification flowed from the idea of building all or most of his own home. The book made a lasting impression and he dreamed of building is own home from stone.

When Phil retired in 2002 from a long and varied work life that began as a high school French teacher and ended as a boiler maker, he began looking into the options of alternative building more seriously. He now lived in California, and building with stone had lost its appeal. For a while, rammed earth held his attention. He doesn’t remember exactly when building with straw entered his mind. It could have been during a visit to the Real Goods Store in Hopland, California, or listening to Pete Gang during a green building presentation, or thumbing through one of many books about straw buildings. Whatever it was, it stuck. Between looking for land and helping remodel various family members’ homes, he began learning as much as he could about building with straw.

I first met Phil in 2004 at a CASBA workshop, the first workshop that built a permanent structure (Woodland). He had attended a CASBA conference a few years before that. He arrived at Ray’s farm with his sisters, Rita and Catherine, to gain hands-on experience. No building chore was too tedious or mundane for Phil, who enthusiastically embraced everything and anything that needed doing, including a multiple-hour shift feeding rice straw into a shredder!
Since then, Phil has attended several other CASBA straw building/plastering workshops (Rough & Ready, Monterey, Santa Rosa), as well as events hosted by Bill and Athena Steen and Vital Systems. Phil volunteered many hours in between, above and beyond workshops, to gain more experience; he really does his homework! He is always busy writing in his ever-present notebook, which is no doubt a treasure trove to straw builders.

In 2003, Phil and his wife Ruth, found land in the foothills just north of the Sacramento Valley. It is a beautiful oak savannah on the crown of a hill with views in all directions: east to Mount Lassen, south towards the Sacramento Valley, west to the coast range beyond Redding, and north to Mt. Shasta.

In 2011, Phil began a 20’ x 26’ addition to an existing garage workshop as a warm-up for the next summer’s house building. He hired CASBA’s own Darcey Donovan (engineer) and Bill Donovan (general contractor) to get him started. During a recent fall weekend, Bill organized a group of experienced bale raisers (C.J., Cavet, Lauren Daley, Jim Furness and Jane Holland, Jim Reiland and Joy Rogalla, Kathy and Storm Gregor) to help Phil’s family, friends, and neighbors put the walls up. We all arrived on Friday night, ate a terrific meal and slept comfortably in the large house already on the site. In the morning, two teams started from opposite corners and worked their way towards a central doorway and the adjoining garage, cutting, notching and stacked the bales around door and window bucks and Hardy frames. The long, cold and wet Saturday ended with mostly complete bale walls and a wonderful celebratory meal prepared by Phil’s family and neighbors. Sunday morning was spent straightening walls and through-tying external bamboo pins.

As Phil says, it’s his temperament to really understand something before tackling it on his own and many of us have benefited from and been inspired by his tireless work and enthusiasm on our projects.

Our thanks to Phil for cheerfully helping others and for illustrating a great path to building a straw bale house. Because Phil and Ruth are such supportive, giving people, we are happy to have the opportunity to lend our hands for them as they have for us. They are truly part of the CASBA community and an example of getting it right.

~Jim Reiland and Kathy Gregor

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**Straw Bale Code Update:**

**Bad News / Good News**

The story continues regarding efforts to further develop a strawbale construction building code and have it included in the major model building codes. The bad news is that in October an obscure procedural move eliminated Strawbale Construction from the International Green Construction Code (IGCC) just weeks before the Final Action Hearing in November. It had a chance to be retained by a Hearing vote, but now that outcome will never be known.

The good news is that during the 2-year IGCC process, improvements were made to the section and both allies and opponents were identified. Specific objections and concerns were expressed. One broad criticism was that Strawbale Construction did not belong in the IGCC, but belonged in the International Building Code (IBC). I publicly disagreed with the first half of that criticism (the International Code Council had even solicited strawbale for the IGCC), but I completely agreed with the second half. Regardless of the IGCC outcome, a strawbale proposal for the IBC was planned. The IBC and the International Residential Code (IRC) are where strawbale construction ultimately belongs. These model codes are the basis for the building code in virtually every jurisdiction in the United States.

On January 3, 2012 a revised section on Strawbale Construction will be submitted to the ICC to be considered for the 2015 International Building Code. Since October, a Task Force including Mark Aschheim (PE, Professor of Civil Engineering at Santa Clara University), Kevin Donahue (Structural Engineer), Jane Andersen (Structural Engineer), and myself have been re-evaluating the structural provisions of the strawbale code. The Structural Engineers Association of California (SEAOC) and the Building Seismic Safety Council (BSSC) have also been engaged to review and comment on the structural provisions. SEAOC, once an opponent, is rapidly becoming an ally. Dan Smith (Architect) and I have been re-evaluating the non-structural aspects of the proposed code.

Support is needed. Unlike major industries such as steel, wood, and concrete, strawbale construction proponents do not have access to the same financial resources and support. Nonetheless, expenses are incurred during an effort of this type, including travel and lodging costs for hearings, which in 2012 will occur in Dallas and Oregon. It is vital that our volunteer advocates attend these hearing to testify on behalf of the proposed straw-
bale code. Please consider donating to CASBA for this purpose.

The voluntary guidelines in California (Health & Safety Code 18944) are long outdated and not always recognized by the local building department. The inclusion of strawbale construction in the International Building Code will go a long way towards legitimizing strawbale construction in California, the nation, and even throughout the world.

~Martin Hammer

Martin Hammer is an architect in Berkeley, a long time CASBA member and strawbale building code advocate. Direct any inquiries to mfhammer@pacbell.net or 510-525-0525.

**Fewer Risk Factors, Please**

The reason this issue of the Journal is quite late is that a few days after the deadline for submissions, my husband, business partner, and muddy buddy Mike Long, was diagnosed with lymphoma (a form of cancer). He is 45 and very healthy, so this came as quite a shock. Suddenly, we found ourselves learning more about cancer.

A staggering 1 in 4 people will get a form of cancer in their lives. Doctors still cannot say conclusively what causes cancer, they can only list a myriad of “risk factors.” Living in California, we all see those little signs posted saying “This product is know to the state of California to cause cancer.” It seems those risk factors are everywhere.

A friend commented that it seemed somehow unfair that a natural builder should get cancer. But I’d be the first to admit that even our “greenest” houses still contain unhealthy materials. And building is only one small part of the big picture. But it is the part of the picture I have chosen to dedicate my life to. If by continuing to help people use clay plaster instead of drywall, or straw instead of plywood, I can cause there to be a few less risk factors, that will be my drop in the bucket. And if everyone can make a small difference in the field where they are focused, maybe together we can make a big change.

Mike is doing well and his prognosis is good but wouldn’t it be nice if fewer people had to go through something like this?

~ Rebecca Tasker, editor

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**Honoring Judy Knox**

Judy Knox passed away in her home in Tucson on December 24, 2011. Judy is considered an early pioneer and champion of straw bale building. With her husband, Matts Myhrman, she formed Out on Bale and the first publication dedicated to straw bale building: The Last Straw Journal.

With a background in community organizing and social justice, Judy brought a spirit of inclusiveness to the emerging straw bale movement and encouraged many to get involved. She saw straw bale building as a way to empower people and show them what they are able to do. As a woman in the mostly male world of construction, she surely influenced the unusually high proportion of women represented in the straw bale building community today.

Judy is survived by her two children, Phillip and Tan-ya; her husband, Matts; her brother, Timothy, and four grandchildren.

The Foster’s Daily Democrat of New Hampshire states that there will be two memorial services: in Tucson March 3 and in Durham N.H. on March 15. Contact lizardtimknox@comcast.net for details. Memorial donations may be sent to the Nature Conservancy or NPR.

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*Judy Knox and Matts Myhrman at a CASBA event.*
On a somber note, the Straw Bale Community lost one of its pioneer leaders with the passing of Judy Knox. Judy and Matts effectively started and nurtured the straw bale revival in this country. Their vision and dedication, plus their unwavering energy, made it happen. Judy always sought the route of the champion and instilled the vision of a champion in all that came into contact with her. Judy was instrumental in enrolling /enlisting / kidnapping Joy and me into this route in life and we shall forever be grateful. While we mourn her passing, we rejoice at having had her in our lives.

The coming year should be an exciting one for all of us baleheads: not only will CASBA host its usual Spring Conference, but the Colorado Straw Building Association (COSBA) is hosting the 2012 International Conference at Estes Park Colorado in September of this year. Registration details for both conferences will be forthcoming in the very near future. CASBA has offered to help COSBA make this a great event.

We are currently planning our workshop for this year up here in Angels Camp, details are being discussed.

This is membership renewal season. We hope that you will continue to support CASBA with your memberships. We still have a long way to go with the inclusion of Straw Bale into the various codes but, thanks to the work of Martin Hammer, progress is being made. Martin has also been central in working to restore housing, schools and other damaged buildings in Haiti: we thank Martin for his dedication, efforts and energy.

Work is progressing on our revision of the Detail Book. A dedicated crew, working under to direction of Jim Reiland, Joy Rogalla and John Swearingen, is rapidly closing in on the final details and we hope to publish the new book this year.

Joy and I also want to thank the Advisory Board – a group of individuals who help us steer CASBA toward a positive and growing future. And of course we want to thank Rebecca Tasker for her work on this Journal, and CJ Cavet for her work with the workshops and on the web site.

So with your help, support and participation CASBA, can continue to be the premier association, in the forefront of the straw bale building community and continue its lead in innovation and dedication.

A VERY HAPPY NEW YEAR TO EACH OF YOU! MAY 2012 BRING PROSPERITY AND PEACE.

THANKS,

~ Maurice Bennett

WWW.STRAWBUILDING.ORG

If you haven’t been to the web site recently, stop by and check it out. CJ Cavet and others have greatly improved the look and the content. To help us continue to improve the web site, we welcome your insights and suggestions.

Also, there will be a new way to highlight your business on the web site: enhanced listings will be available soon. Contact CJ for more information (cjbwpv@sbcglobal.net).
The innovative, original American system of straw bale construction has been warmly and increasingly embraced as a beautiful and ecologically sustainable construction alternative for France and other countries of the European Union. Traditional French plasters have been used extensively as coatings for EU straw bale construction. The article below is based on the presentation “Plaster - An Ecological Material for Restoration and Construction” delivered by Frédéric Charpentier, consulting architect for Maisons Paysannes de France at the 2010 Bâtir Ecologique (Ecological Building) conference in Paris.

Currently, a number of coatings are utilized for straw bale construction: cob and other clay or earth based coatings, lime stuccos of varying degrees of hydraulicity as well as traditional or Portland cement. The primary need of an exterior coating is to protect the insulating straw substrate against damage by water and fire. All mineral based coatings properly applied can achieve this fundamental purpose. Additionally, an ideal coating would possess the following properties:

- high breathability
- porosity
- fire resistance in addition to incombustibility
- low embodied energy
- ease of installation
- a beautiful aesthetic

Traditional French gypsum plasters such as Stuc Pierre and Terre de Séléné exhibit the above characteristics. The importance of breathability, the capacity of a coating to transmit water vapor, is widely known for monolithic substrate construction. Often less understood are the benefits of a porous coating. To be sure, guidelines are to be followed to prevent water migration due to capillary action; however, the porosity of gypsum allows for the evacuation of condensation or water penetration caused by structural cracks or extensive inundation.

As with all mineral based coatings, gypsum is a non-combustible material. However gypsum plaster, technically known as calcium sulfate hemi-hydrate when combined with water, returns to gypsum or calcium di-hydrate (CaSO₄·2H₂O) chemically combining calcium sulfate with two water molecules. When exposed to fire, a wall coated with gypsum plaster will release water vapor which retards the spread of fire and maintains the temperature in the adjoining room less than 350°F thus inhibiting the spread of fire via spontaneous combustion and often starving the fire through lack of oxygen. In this way gypsum plaster is not just incombustible but actively functions as a fire retardant.

This same chemical property of raw gypsum allows the manufacture of gypsum plaster to be achieved at comparatively low temperatures. Typically gypsum is baked in a horizontal kiln at the relatively low temperature of under 500°F for a couple of hours under autoclave conditions to create plaster. This is considerably less than the embodied energy expended in lime (1500°F) or Portland cement (2700°F) stuccos. Unlike hydraulic limes and cements, gypsum coatings can be removed and recycled as a plaster.
Another property of gypsum plaster is that it is lightweight and self-binding. Average weights of coatings are between 5 to 6 lb per ft at 1 inch thickness. As added water is bound chemically in the set there is no shrinkage of the coating and no need for sanded aggregates to bind the material. For this reason gypsum plaster can be applied as thick as 1” in a single coat. The set is reached in a few hours. As a result, plaster can be applied so long as there is not a frost the same day. Plaster is first applied as a scratch coat directly over straw bale or lath to a thickness necessary to fill in the inconsistencies of the substrate. The rapidity of set also permits a subsequent coat to be applied the following day. Generally this can be applied at less than 1” thickness to achieve a planar surface. In Europe, wool wood sheathing such as Fibralith is often utilized to supplement insulating performance and eliminate the need for a scratch coat. This relative ease of application is an attractive quality for both professionals and DIY’s.

Not to be forgotten is a most important aspect of sustainability; beauty. The surface of the plaster can be finished with scraped, sanded, washed or even ashlar cut techniques so as to appear like limestone block. Running and casting versions can be utilized for running cornices, adding quoins and decorative ornamentation. Often shells, chaulk, limestone, shale and straw are added in the finish coat for strictly aesthetic effect. French plaster is a proven coating technology that has been utilized for centuries in hundreds of thousands of buildings in Paris, Normandy, Toulouse and throughout Europe.

The Vieujot family has maintained continual manufacturer of gypsum plaster of Paris since 1880. In 1996 Plâtres Vieujot established Plâtre.com to better serve the market for decorative, ecological and restoration coatings of gypsum, clay, hydraulic and aérienne lime.

Contributed by Patrick Webb
US Technical Consultant
Plâtre.com
patrick.webb@platre.com

CASBA would like to extend a welcome to
Patrick Webb and Plâtre as new members.

Two string rice straw bales available:

Rick Green of Benchmark Development/R S Green Construction is now handling 2 string rice straw bales in addition to his 3 string bales. His website is www.mybenchmark.us Also, those in the San Luis Obispo area might contact Martin Family Farms to see what Steve might have on hand. His contact number: 805-995-2100.

~Dennis La Grande
dlagrande@frontiernet.net

CASBA Workshops Update:
2011’s workshops

The project that was planned as the workshop building in Nevada County in 2011 is almost complete. It is a permitted agricultural building with a 32’ x 24’ post and beam structure core that has straw bale infill on three sides. The south side is standard framing because it has several windows and a door plus a 32’ x 10’ green house attached to it. This core is topped with a gambrel-roofed second story for storage and has a 32’ x 8’ covered porch on the north side as shelter for animals. The host, John Archer, and his family plan to raise farm animals for food production: chickens, turkeys, fish in tanks in the green house in addition to the goats they already have for brush clearing. The core of the structure will also be used as a canning and butchering kitchen.

The plaster used on the straw bale exterior walls was a lime-clay plaster because John was concerned that since the property is at the top of a hill, wind-driven rains would damage the walls. A small work party
applied a thick base coat on the exterior of the three straw walls. Since the color and strength of the mix was appealing to John and his family, they plan to use it to finish the exterior and the interior.

The poor economy reduced the number of people registering for the workshops, so we only had one workshop out of the three planned: the details workshop, which was less expensive because it was a one day event. In view of the experience this summer and until the economy recovers, we will consider some changes to our workshop schedule and cost structure to make it more affordable for those interested in learning.

The lack of registrants did not stop the project from progressing. Work parties were organized by CASBA to make sure the host had assistance in two labor-intensive parts of the project: bale raising and exterior plastering to make the structure weather tight. The few people that had registered were invited to participate along a crew of committed CASBA members. Bill Donovan, a CASBA member and general contractor, was hired by John to build the structure and also led the work parties. This was a good learning experience on a hybrid straw bale structure.

For 2012:

Now for 2012, we have a very exiting and different project planned: an above-ground straw bale root cellar possibly with a living roof. The location will be near Angel’s Camp and the dates and building plans will be decided.

~ CJ Cavet
Mud in Your Hands

I have found that since I started working with earthen plasters, I have become attracted to “mud” in all forms. I feel very connected to the material since I am intimate with it so much of the time: mixing it, putting it on walls, sculpting it, firing it, trying to garden in it, cleaning up from it. It is in my hands, on my clothes, on my skin, in my hair.... It is the Earth, and I love it!

When my grandchildren gave me seed bombs for Mother’s Day, I really appreciated a gift from the Earth, formed by their hands, filled with their hearts, where they, too, felt the connection. I would like to share this idea with you, in case you have not seen seed bombs before. The note my grandchildren wrote explains it all, so I will quote.

*These parcels contain “seed bombs,” in Japanese, tuchi dango, “earth dumpling.” Rolled by loving hands they consist of real Rough and Ready* clay, worm castings and Peaceful Valley’s deer resistant flower mix. Directions: Simply toss where ever you wish a burst of blooming beauty and the dumpling will disintegrate with time and moisture.*

I can hardly wait to cast my seed bombs and see what appears in the spring!

~ Kathy Gregor

A Summary of the CASBA Advisory Board Meeting

The CASBA advisory board met in a conference call on Wednesday, November 30, 2011, to discuss several items. Participants in the call were Maurice Bennett, Joy Bennett, David Arkin, C.J. Cavet, Lesley Christiana, Kathy Gregor, Ray Sheehy, Jim Reiland, with John Swearingen able to join for a short time.

The matters on the agenda that were discussed were:

1. Through the operation of our PayPal button on the website, we will be able to renew memberships, buy articles from our store, donate, and process other money exchanges. We hope this will be more convenient for transactions.

2. Progress on the website was reported. It is through much work and input that it is becoming an improved site. There is a lot of potential and the need for cooperation to gather and submit information for the website.

3. The annual Spring Conference was discussed. The International Straw Building Conference in Colorado being planned for September might have bearing on our planned conference, since we are possibly helping COSBA with the international conference, and CASBA members are encouraged to attend. The CASBA Spring Conference will not be in Southern California this year. Decisions about the Spring Conference will be made by January.

4. Progress of the Detail Book is on schedule with drafts to be ready spring of 2012.

5. A summer 2012 workshop is being planned for a small building in Angels Camp.

6. Paid advertising in the CASBA Journal was open for discussion, with more research needed to make a decision.

7. Expanding our membership is one of our goals for 2012. We have started with letters written to past members and people who might be interested in joining CASBA.

8. We will be sending an e-newsletter along with our CASBA Journal that will bring more information to members and others.

9. CASBA has no planned events scheduled for 2012.
We are looking into events where we could possibly participate.

10. Financially, we are feeling the effects of low membership and slow economy, being a volunteer, non-profit organization.

We adjourned with a list of actions for us to work on, regarding the topics. Our goal is to guide CASBA into a successful future, living up to our mission statement.

submitted by Kathy Gregor

The Keynote Speaker will be John Straube, Ph.D., P.Eng. a specialist building science engineer who has been deeply involved in the areas of building enclosure design, moisture physics, and whole building performance as a consultant, researcher, and educator. Energy-efficient, healthy, durable and sustainable building designs are a general goal of his research which is often supported by advanced computer simulation, laboratory testing and full-scale natural exposure performance monitoring.

Considered an international expert in moisture-related building problems, his building science expertise has been applied to moldy roofs, failed masonry, leaky EIFS cladding, insulating Mongolian yurts, wet basements, rotting crawlspaces and attics, historically sensitive retrofits, and litigation support for buildings as diverse as commercial office towers, manufactured housing, and sustainable strawbale homes.

The Featured Speaker will be Bernard Amadei. Dr. Amadei is Professor of Civil Engineering at the University of Colorado at Boulder. He received his PhD in 1982 from the University of California at Berkeley. Dr. Amadei is the Director of the Mortenson Center in Engineering for Developing Communities at CU Boulder and holds the Mortenson Endowed Chair in Global Engineering. He is also the Founding President of Engineers Without Borders - USA and the co-founder of the Engineers Without Borders-International network. Among other distinctions, Dr. Amadei is a 2007 co-recipient of the Heinz Award for the Environment, the recipient of the 2008 ENR Award of Excellence, and an elected member of the U.S. National Academy of Engineering.

Prof. Amadei’s current interests cover the topics of sustainability and international development. At the University of Colorado at Boulder, Prof. Amadei directs the Mortenson Center in Engineering for Developing Communities (www.edc-cu.org). Its overall mission is to educate globally responsible engineering students and professionals who can offer sustainable and appropriate solutions to the endemic problems faced by developing communities worldwide.
The last Straw Poll asked whether it should it be “straw bale building” “strawbale building” or “straw-bale building” and received zero answers. This is probably due to the fact that almost no one saw the last issue of the Journal because of distribution issues (ie: it doesn’t get sent to anyone at the moment). Maybe the straw poll for this issue should be “Did you see the last issue of the Journal? The one with the mesh testing article and the article about Alaska?” Cast your vote by emailing rebecca@simpleconstruct.net

**Upcoming Natural Building Events:**

**Feb 11 - 12, 2012:** Claylin Earthen Floor Training - 2 day intensive training in earthen floors, EcoNest, Ashland, OR, www.claylin.com/learn/trainings.php

**Feb 18 - 20, 2012:** Basics of Cob - introduction to building with cob, Live Earth Farm, Santa Cruz, CA, www.cruzincob.com

**March 2 -4, 2012:** Earthen Finishes - comprehensive introduction to earthen plaster taught by Kurt Gardella, Director of Education for Adobe in Action, Joshua Tree, CA, contact Ben at office@g-o-l-e-m.com or (760) 278-1134.

**March 10 - 17, 2012:** 7 Day Cordwood Bathroom Workshop - how to build a shower and bath house using cordwood, Texas Natural Builders, Waller, TX, www.texasnaturalbuilders.info


**March 21 - April 6, 2012:** Natural Building in Costa Rica - explore the design/build process using earth, straw, cob, stone, site-milled wood, bamboo, etc. in the Costa Rican rainforest, Yestermorrow Design/Build School, www.yestermorrow.org/workshops/detail/natural-building-in-costa-rica

**April 1 - May 31, 2012:** Internship - Immerse yourself in a living and building community at the Strawbale Studio, outside Oxford, MI, www.strawbalestudio.org

**April 5 - 8, 2012:** From the Ground Up with Cob - natural stone foundation, loadbearing cob walls, natural paints & plasters, earthen floor, Berea, KY, www.disputantacob.com

**April 8, 2012:** Texas Natural Builders Straw Bale Workshop - 7 day straw bale workshop covering foundation through plaster, Texas Natural Builders, Hempstead, TX, www.texasnaturalbuilders.info

**April 9 - Aug 31, 2012:** Sustainable Construction Certificate program - 5-month, full time program involves students in every aspect of making a highly sustainable building, The Endeavour Centre, Peterborough, Ontario, Canada, www.endeavourcentre.org

**April 29 - June 8, 2012:** Natural Building Apprenticeship - 6-week intensive journey into the creation of a small shelter from start to finish, using natural materials, in the beautiful Southern CA mountains, Quail Springs, Maricopa, CA, www.quailsprings.org

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**Project Profile of the Quarter**

This is a feature that was started in the last issue to encourage members to submit projects to be profiled here in the journal. All you need to do is send at least one photo (approximately 200 dpi at 3”x 4” JPEG format) and the info below (or more) to rebecca@simpleconstruct.net Since no submissions were received, I am leaving this area blank and encouraging you to send info about your projects for the coming issues.

Name & location:

Date completed:

Type of building:

Use of building:

Interior square footage:

Features:

Architect:

Builder:
A note from the editor: The journal is produced four times a year. It relies on receiving submissions from CASBA members. Please send your articles, letters, photos, project profiles, etc. to rebecca@simpleconstruct.net. The next deadlines are: March 20, 2012 and June 20, 2012.

Thank you! ~ Rebecca Tasker, editor

The California Straw Building Association
(209) 785-7077 www.strawbuilding.org

CASBA is a non-profit organization whose members are architects, engineers, builders, and people interested in straw building. Our mission is to “further the practice of straw bale building by exchanging current information and practical experience, promoting and conducting research and testing, and making that body of knowledge available to working professionals and the public at large.”

The California Straw Building Association
P.O. box 1293, Angels Camp, CA 95222

Upcoming Natural Building Events continued:


June 8 - 17, 2012: SunDog 9 day workshop - this workshop is designed to teach ordinary people the skills to build their own cob cottages, SunDog School of Natural Building, Point Arena, CA, www.sundog-builders.net

June 18 - 22, 2012: Timber Framing Workshop - we will lay out and cut the joinery for a complete frame, assemble it, and have a barn raising, Heartwood School, Washington, MA, www.heartwoodschool.com

June 29 - July 2, 2012: Plasters for Natural Buildings - a four-day hands-on workshop about earthen plasters, Dirt Craft Natural Building, Happy Bug Farms, Saskatoon, SK, Canada, www.dirtcraft.ca

July 29 - Sept 14, 2012: Sustainable Shelter Workshop - This 7 week course teaching skills to design/build/renovate your own home using simple, natural materials, Aprovecho Research and Education Center, Cottage Grove, OR, www.aprovecho.net