The Red Barn

Bedford County, VA

Fall, 2008

community design
assistance center

College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University

The Community Design Assistance Center (CDAC) is an Outreach of the College of Architecture and Urban Studies at Virginia Tech that assists communities, neighborhood groups, and non-profit organizations in providing the natural and built environments through design, planning, policy, and research. Through the integration of the learning and working environment, the Center will execute projects that link instruction and research and share its knowledge base with the general public.

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Shouib Ma'bdeh, Michael Stokes, and Elizabeth Gilboy discuss the Red Barn

Project team members Shouib Ma'bdeh hand Antonia Ciaverella

Acknowledgements

The CDAC Team would like to thank:

Members of the Bedford area community, including, in part:
Michael Stokes, Director, Bedford County Parks and Recreation
Herb Crowder
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Wyatt Woody, Bedford County Associations

Homestead Preserve Dairy Barn Complex:
Sally Johnson, Executive Director, Virginia Hot Springs Preservation Trust

Community Design Assistance Center Project Review Panel:
Brenda Landes (with assistance from John Shields, Principal), CDAC Alumna and LEED certified Architect at MarshWitt Associates

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Project Description:

In March of 2007, Bedford County Parks and Recreation Department (BCPRD) contacted the Community Design Assistance Center regarding assistance in helping determine alternative uses for a 1930s barn, referred to as the "Red Barn".

Northern view of the Red Barn

"The 'Red Barn' is a Sears & Roebuck kit barn purchased by Bedford County in the mid 1930s to function as a dairy barn in association with the County's first farm operations. The farm land is currently being developed as Bedford County's first public park and options for the barn are being considered. From just securing the barn to prevent visitors to Falling Creek Park from accessing it, securing the barn with exterior repairs, converting it to offices for Bedford County Parks and Recreation Department, converting to BCPRD offices with a loft area for meetings and special events, to offices with loft repairs and a caterer's kitchen, a variety of options exist.

Southern view of the Red Barn

The 'Red Barn' is a structure of significant historical value and with restoration can be a valued asset to Bedford County and its future. Bedford County citizens and visitors to the area will be afforded a view of rural history and depending upon the extent of the renovations, may be able to schedule a reception, reunion, or some other special event in the barn. The structure could serve as the offices for BCPRD, being adjacent to Falling Creek Park, and provide indoor space for programming while still providing space for other public and private events. There are currently few public facilities in Bedford County available to the public for the type of events identified above."[1]

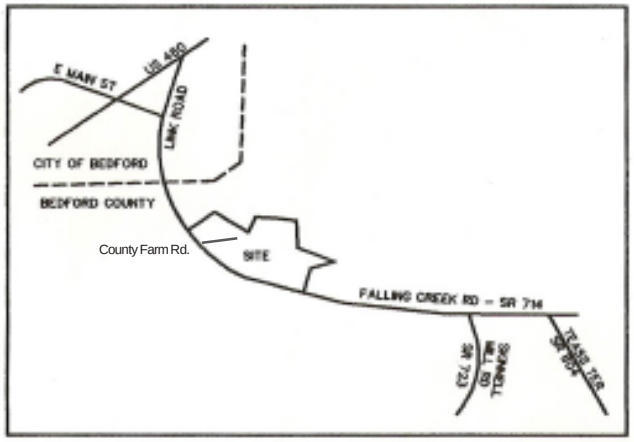
The Community Design Assistance Center (CDAC) assisted the BCPRD in the four following aeas:

- Determining how the community would like to see the Red Barn used;
- Measuring the building to prepare a rough as-built drawing;
- Developing a conceptual design depicting those uses;
- Preparing rendered sketches of the design ideas for use in fundraising.

1. Quoted directly from the client application fo CDAC.

Project Location:

Bedford County is located in south central Virginia somewhat between Roanoke County and the City of Lynchburg. To the north are Botetourt, Rockbridge, and Amherst Counties. To the south are Franklin and Pittsylvania Counties while to the east is Campbell County. The Red Barn is located approximately 1 mile from US Rt. 460 on County Farm Road (formerly Poor Farm Road) behind the Bedford County Nursing Home and near the entrance to the newly created 250 acre Falling Creek Park. It is also located in close proximity to the old County nursing home and various other smaller structures owned by the County including a small historic brick structure. The Barn overlooks a portion of the 250 acre site.



Location of the site a long Falling Creek Road

Virginia map with Bedford County highlighted

Property boundries of the County Property

General location of the Site within the County

Aerial view of the County Property

The process generally involved a visit to the site and barn, obtaining base map materials to create a base map, photographing and measuring the barn, conducting a community meeting to obtain ideas for reuse, developing two concepts and presenting to the public for comment, and revising the concepts into one final conceptual design.

Bedford County Parks and Recreation was interested in both "green" architecture and preserving the architectural integrity and character of the building. Basic research was conducted on LEED (Leadership in Energy and Environmental Design) and a site visit made to the Homestead Dairy. LEED "… encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria. It is a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality."[2] The United States Green Building Council (USGBC) created LEED as a rating system for green building.

This report summarizes the design process and concepts developed throughout the process.

[2] U.S. Green Building Council, 9/29/08
http://www.usgbc.org/DisplayPage.aspx?CategoryID=19

In the mid-1800s about 95% of Bedford's population lived on farms and about 70% of those families owned land. Crops grown during this period of time included primarily tobacco, corn, oats, and wheat. Corn was consumed by people and livestock. "..the shelled grain could be processed into liquor, which was used as a medicine for practically any and all ailments."[3] Lesser amounts of buckwheat and rye were also grown as well as hops, which was used in making alcoholic beverages. Vegetables grown included primarily Irish and sweet potatoes, beans, and peas. Apples and peaches were grown after about 1850. In the mid-century, Bedford led all other counties in the Commonwealth in the production of hemp and flax. Small quantities of sugar, made from maple sap and beets, was also produced. After about 1860 cane was grown and made into molasses. A very small number of people raised silkworms and produced small quantities of cloth. Farmers also grew clover and a variety of grasses that were used for livestock.

Typical livestock of the mid-1800s included horses, mules, oxen, cattle, sheep, and swine with pork serving as the most common form of meat in people's diets. The sheep that were raised in the area were raised for meat and wool. Around 1847 one of the local farmers introduced a new type of sheep to the area. "Testimonials from wool merchants in New York and elsewhere described the Bedford wool as comparable to 'the best German wool'…".[3]

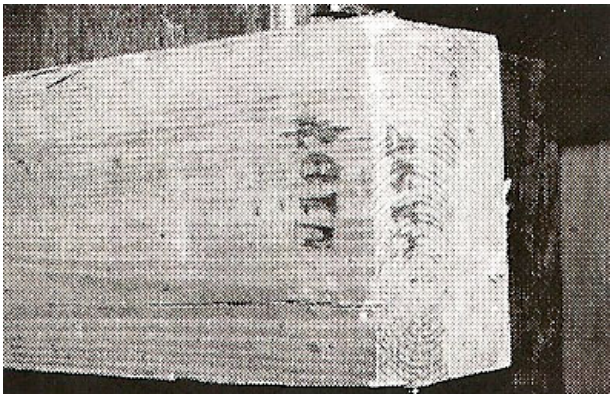
The Bedford Agricultural Society was created in the 1830s. The Society sponsored an annual exhibition in Liberty of livestock and "domestic manufacturing" along with a contest for exhibiting one's skill in ploughing. Awards were given in eight areas: grain and flour; roots (potatoes, carrots, sugar beets); grasses and clover; horses; ploughing; cattle, swine, and sheep; domestic cotton, wool, and silk manufacture; and butter and cheese.

[3] Daniel, W. Harrison.
Bedford County, Virginia, 1840-1860: The history of an upper Piedmont county in the late antebellum era; 1985 (printing date). pp 78-84 (publisher or printing company unknown)

According to the *Bedford Democrat* dated May, 1937, the barn, (the Red Barn) which was considered a "' model' structure" was "modern in every detail", and was built in about 1936 at a cost of about $5,000. Three buildings comprised the Bedford County Almshouse including the (Red) barn, the superintendants home, and the dormitory. At the time of the article, the dormitory was "taxed to capacity" housing 29 adults and 14 children. A large farm tract surrounded the "institution" that helped provide food for residents. Each person had his or her "duties to perform…making the work light and well distributed."(See article in Appendix)

Pre-cut wood stamped in the middle of the board

Though the barn building is thought to be a Sears Kit Barn building, the Design Team, along with Michael Stokes, Director of Parks and Recreation, wanted to see if it was possible to determine whether that was accurate of not. According to The Book Of Barns, a Sears Roebuck reprint of the 1919 catalog, authenticating Sears barns is one of the great challenges for architectural historians and researchers. Sears no longer has sales records and hence the locations of most Sears barns are not known.



Pre-cut wood stamped near the end of the board

Sears Barns that were not pre-cut are more difficult to authenticate than those that were pre-cut as the wood on pre-cut barns was stamped somewhere toward the end of each board in dark blue, black, or gray ink. The size of the letters and numbers are just over 1 inch high. They typically included a capital letter followed by one or more numerals.

Several other companies also made mail order barns. These included Gordon-Van Tine out of Davenport, Iowa (1906-1946); Harris Brothers out of Chicago (1912-1931); and Montgomery Ward out of Chicago (1910-1931). Gordon-Van Tine and Montgomery Ward used grease pencil to handwrite the numbers usually on the middle of the board. Harris Brothers boards are stenciled in ink usually in the middle of the board.

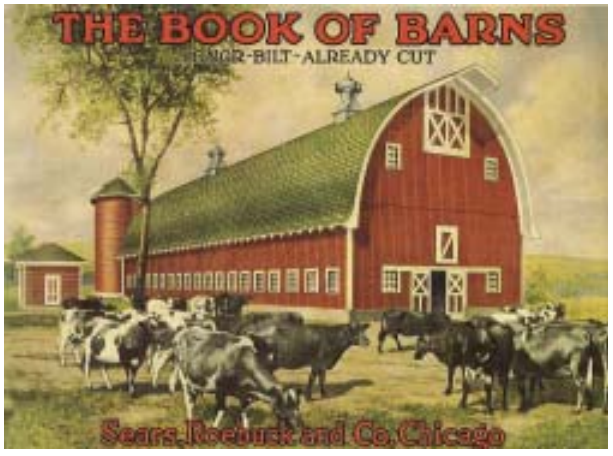
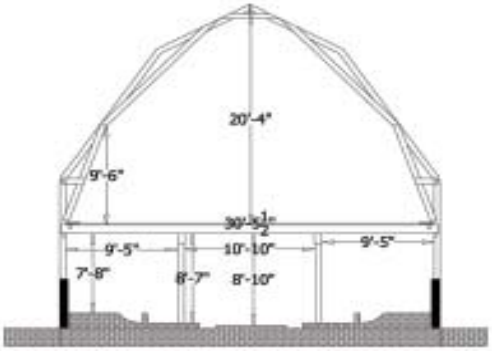


Image on the front cover of The Book of Barns

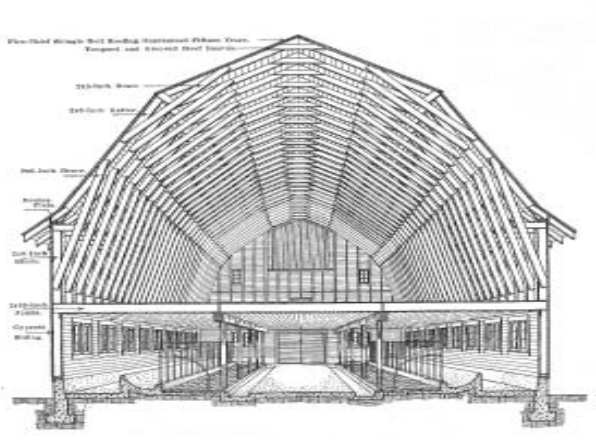
A brief review of The Book of Barns, does not show any barn that exactly matches the Bedford

Red Barn. The roof line is slightly different and all of the Sears Barns appear to come with “Fire Chief Shingle Roll Roofing”. The images below from the Sears catalog and of the Red Barn show the similarities and differences. The Bedford Red Barn currently has a sheet metal roof. Fire Chief roofing was guaranteed for 15 years, so if it is a Sears barn, it may be that the roof was later replaced with metal.

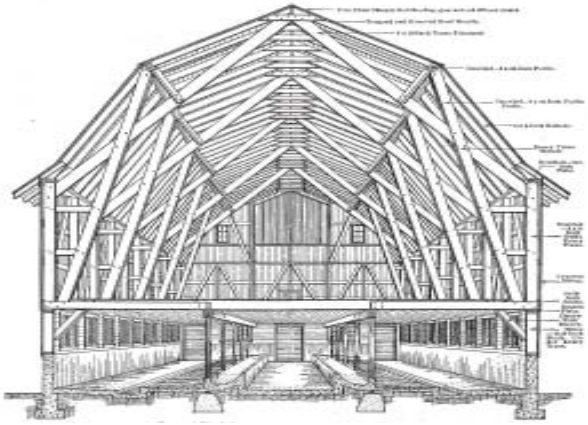


Cross-section of athe Red Barn; approximately 32' wide

This image depicts a similar roof line, though aspects of the roof differ and the window and door layout differ greatly.



Cross-section of a Sears barn with a braced rafter roof construction based on a 36' wide barn



Cross-section of a Sears Barn with a trussed roof construction for a 36' wide barn

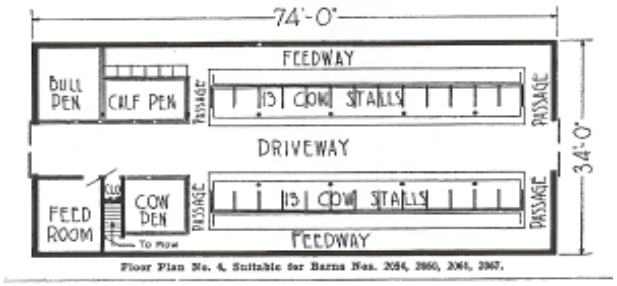
The southeastern corner of the Red Barn

This image depicts some similarities to the Red Barn including the hay doors and how they open and the sliding main doors. However the roofline differs.

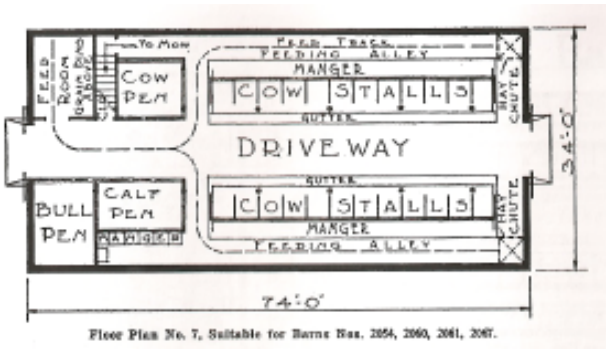
In addition, the Design Team and Michael Stokes, did a basic review of interior wood and did not find that any of the wood was stamped. Also all the Sears Barn floor plans in this catalog include doors at both ends of the building whereas the Red Barn does not include any access at the western end. The floor plans indicated on page 40-42 of the 1919 catalog are the closest to the Red Barn layout, but do not exactly match the lay-out of the Red Barn or the exterior dimensions of the Red Barn.

There are a few floor plans that are similar in lay-out and close in exterior dimensions. The Design Team measured the exterior dimensions of the Red Barn as 72'6" X 31'9" or roughly 73'X32'.

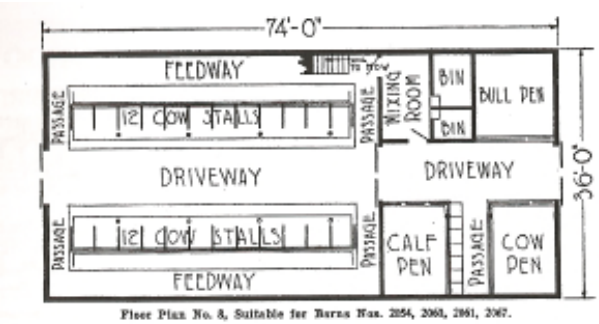
It is important that a thorough investigation be conducted to determine if the Red Barn is a Kit Barn, a pre-cut barn and if so, from which company it came. An architectural historian or representative from the Department of Historic Resources may be a good starting place to first determine if the Red Barn is in fact a kit barn and if so, from which company. The National Trust for Historic Preservation's *Barn Again*! program or the Virginia Department of Historic Register nomination is an appropriate step. The plusses and minuses of such a nomination should be carefully considered and discussed.



Floor Plan No. 4, Suitable for Barns Nos. 2054, 2060, 2061, 2067.

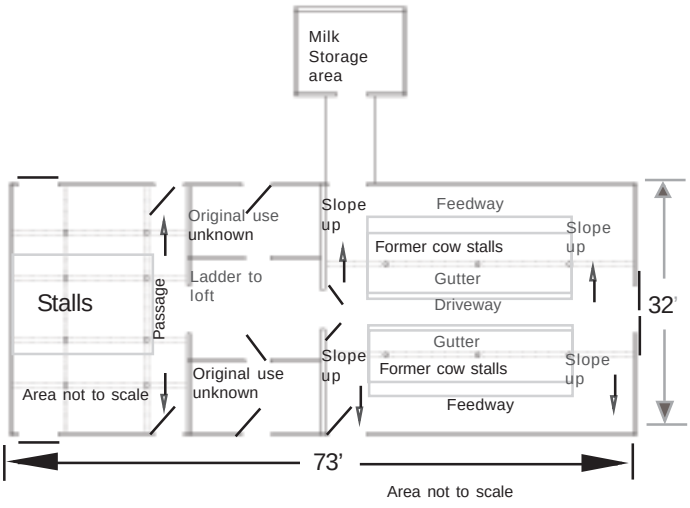


Floor Plan No. 7, Suitable for Barns Nos. 2054, 2060, 2061, 2067.



Floor Plan No. 8, Suitable for Barns Nos. 2054, 2060, 2061, 2067.

The above three floor plans are examples of Sears kit barn floor plans.



Above is the floor plan layout of the Red Barn.

The Red Barn used to serve as part of the County's poor farm at which residents could work in the dairy barn. One view from the barn is towards the park and fields that are reminders of the barn's agricultural past. (see pullouts for panoramic views)

The Red Barn is situated between the new nursing home and the Falling Creek Park. Nearby are the former nursing home, a large parking lot that serves the park, an old home that now serves as administrative offices for the County, and a small historic, brick structure.

The side of the Red Barn most visible upon vehicular entry is the north side. This side includes a small separate structure, likely a milk storage room, that is attached the main building via a covered walkway. The façade includes several windows and a door into the barn's dairy area (at the eastern end of the building), a door into the center area of the building and a door and a sliding door into the stall area (western end of building). The main entry point to the building is from the east. The eastern side also includes a few windows and two hay doors. The southern side of the barn overlooks a large expanse of open park property and receives much southern exposure. It has a similar door and window layout as the northern side. The western side, which is the location of the stall area, does not contain any doors, but does have a number of windows and only one hay door.

The Red Barn appears to retain its structural integrity and does not appear to have suffered significant water damage throughout the years. The first floor has stalls and concrete troughs from its days as a dairy barn. The hay loft, accessible via a steep set of stairs, is a large open space. Both floors have windows and doors throughout creating large bright spaces that could lend themselves to any number of uses. The foot print of the barn is approximately 73' x 32'.

The building was measured and photographed by the design team. Dimensions of main aspects of the structure were taken and used to create

conceptual as-built drawings. These drawings indicate the foot print, general floor plan, and locations of windows and doors. A conceptual site plan was also created that indicates the location of the barn in relation to other nearby structures and includes a basic layout of the road system and parking areas. No floor plan or measurements are known to be available prior to this time. This information may be very helpful as the County investigates applying for historic register nomination and applies for grants.

On the following pages are images and measured drawings of the building. The panoramic views provide a sense of the structure itself as well as the context. Included are: panoramics of each side of the building and one panoramic of the view from the southern side of the barn. The barn overlooks both a large expanse of open space as well as a portion of the park. Several other images are included in the pullouts and depict aspects of the exterior of the building and the site. Other pullouts include images of the interior of the barn. Lastly is a pullout of images of an historic structure on the site that possibly served as servants quarters.

Included are:

- Panoramics of each side
- Exterior images
- Interior images
- As-built first floor plan and cross-section
- An historic structure on the site that possi bly served as a Sevants' quarters

The Red Barn - North Side Panoramic

Falling Creek Park and parking lot

The Red Barn

New Nursing Home →

The Red Barn - East Side Panoramic

Open Space

The Red Barn

New Nursing Home

Old Nursing Home

The Red Barn - South Side Panoramic

County Offices

Red Barn

Old Nursing Home
Faling Creek Park Parking

The Red Barn - West Side

Old Nursing Home *Red Barn* *Open Space*

The Red Barn - Southern View Panoramic

Looking from the south side of the Red Barn: A view of Falling Creek Park and the open space behind the Red Barn

The Red Barn - Existing Conditions Exterior

South side of barn

Southern side

Southern side

Dormer on roof

Shouib Ma'bdeh and Antonia Ciaverella measuring the exterior of the barn

Dormers on the roof on northern side of barn

Hay door detail eastern side

Window detail in the milking area of the barn

The Red Barn - Existing Conditions Exterior

Western side of adjacent building; perhaps formerly a milk storage room

Eastern side of the adjacent building

Northwest side of the Red Barn with adjacent building

Overhang detail - southern side

Antonia Ciaverella and Shouib Ma'bdeh measure one of the doors

Siding on the southern side of the barn

Southern side of adjacent building

Window detail

The Red Barn - Existing Interior Conditions First Floor, Eastern End

Looking west through the milking area to the center of the barn. The original gutters and the medicine cabinet are intact (to the right of the open doors).

Taken from the southeastern corner looking northwest. On the far left is the feedway area, just to the right of the feedway area is the cow stall area with gutters visible. The double doors lead to mid-barn. Just to the right of the double doors is a small cabinet area that was used to hold medicines and other treatments for the animals. The door to the far right, on the northern side of the building, leads to the adjacent building (perhaps a milk storage area).

Looking southwest from about the location of the main doors. One of the two gutters from the cow milking area can be seen in this image.

Looking from the dairy area to the stables on the western end.

Within the milking area looking northeast

First floor feedway and windows

Lighting in the ceiling

Ceiling detail

Bottles of old cattle medicine

The Red Barn - Existing Interior Conditions - First Floor, Middle Area

Middle area looking west toward the stalls; stairs lead up to the loft.

Stairs to the loft; the original ladder to the loft can be seen under the stairs.

Stairs to the loft area

Middle section of the barn, looking east into the milking area

Middle section looking southeast

The Red Barn - Existing Conditions Loft

Western wall

Eastern wall

A panoramic view of the way the rafters arch in the center of the roof

Construction wall dtail

Roof and western wall

Loft western wall

Constrcution wall detail

Vent

Southwest corner

Construction detail close up

The Red Barn - Existing Interior Conditions - Stall Area

Stalls of the western end of the barn; door at left is on the southern face of the barn

The stall area

Stall area looking northwest

The Red Barn - Existing Conditions - Construction Details

Door frame and studs on concrete wall

Joists and beams

Construction detail with bolt

Bolt

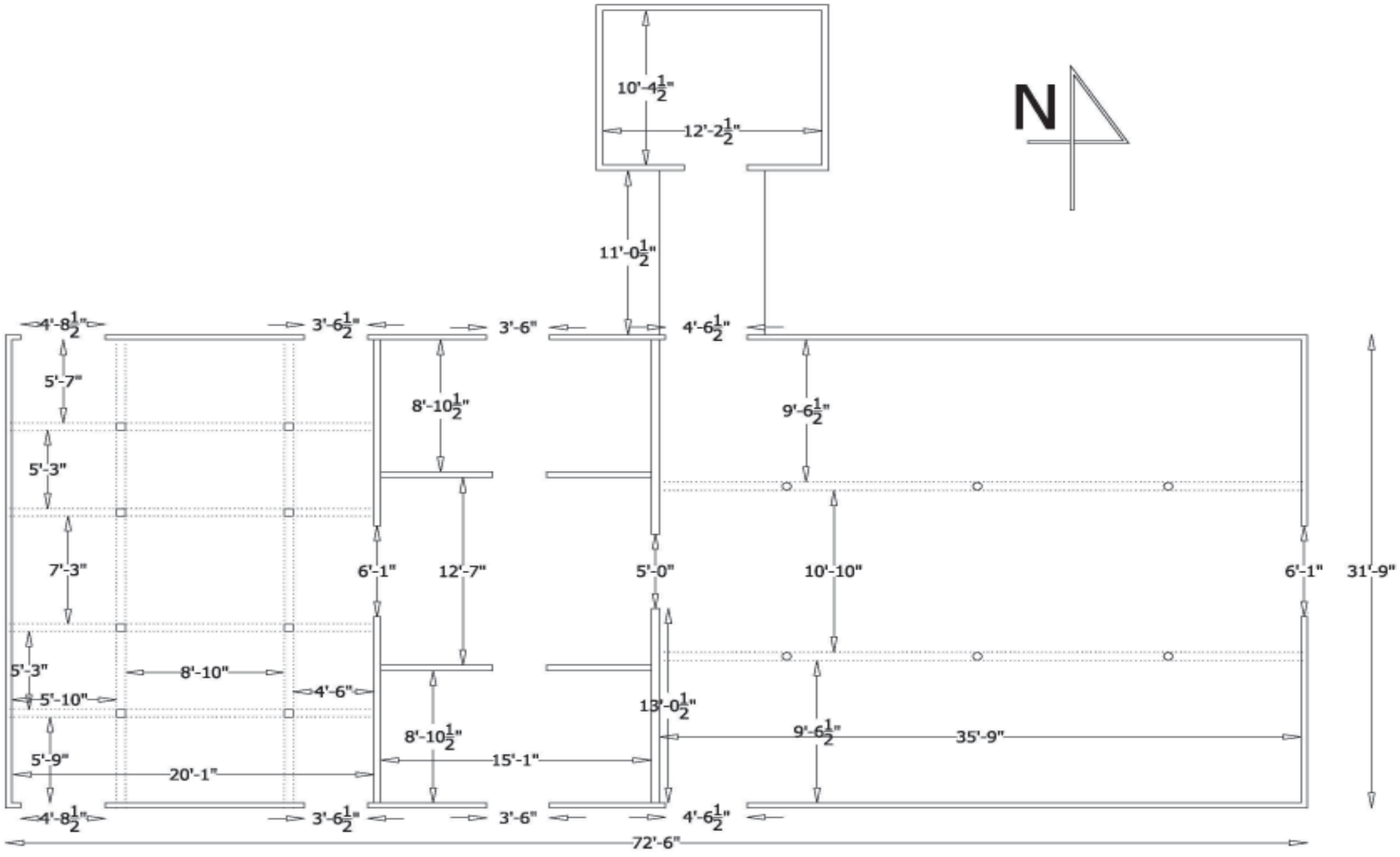
Stud detail

The Red Barn - Miscellaneous

View looking south out back of barn

Old Pepsi bottles

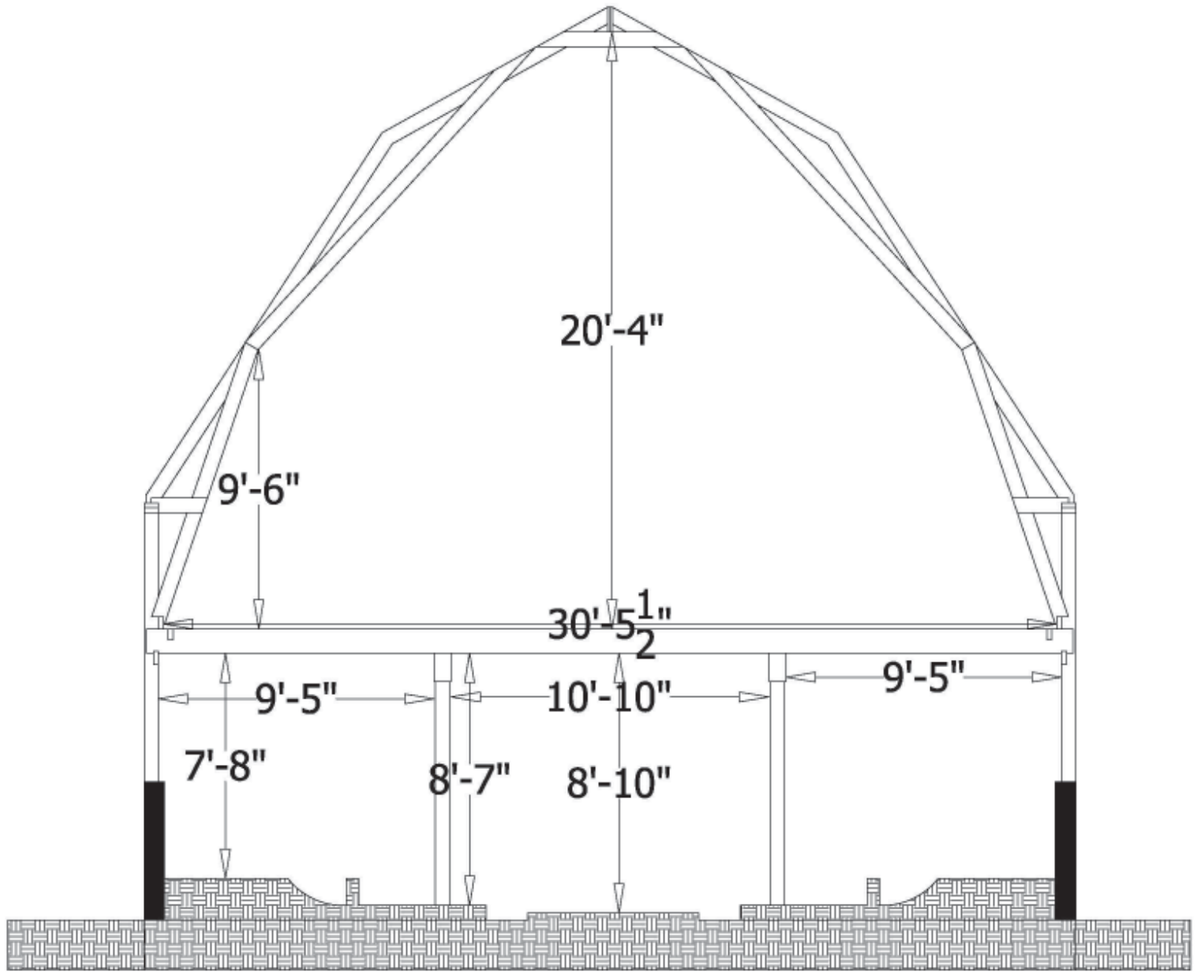
Red Barn - Conceptual As-built Drawing



First Floor Plan

Not to scale

Red Barn - Section with dimensions



Not to scale

Servants’ Quarters

Left side

Left side and front

Front

Front right window

Left rear window and rotted roof

Right rear window and rotted roof

Right rear crumbling foundation

Cracked foundation at back of building

Examples of Renovated Barns:

Before beginning design work, the Design Team researched other similar examples of renovated barns and obtained information about the National Registry of Historic Places.

Old Dairy Community Center; Homestead Preserve, Hotsprings, VA

On April 16th, 2008 members of the Design Center team and Michael Stokes, Director of Parks and Recreation for the County, were given a tour of the renovated Homestead Dairy complex by Sally Johnson, Executive Director of the Virginia Hot Spring Preservation Trust. The team thought it important to look at a successful renovation and reuse of another barn. The Homestead Dairy Barns Complex is listed on the National Register of Historic Places. The gable-roofed main barn is visible from Route 220.

The old dairy barn at Homestead Dairy

Currently located on about 12 acres, the Homestead Dairy Barns were built in 1928 by the Virginia Hot Springs Company to support the operations of the nearby Homestead Resort. The operations ran continuously from 1928 until 1956. "The seven contributing buildings of the Homestead Dairy Barns complex display elements of both the Colonial Revival and Craftsman styles … and are arranged in a manner consistent with dairying practices in the second quarter of the twentieth century. The complex is anchored by the Main Barn with its attached tile double silos, from which emanate a Bottling Building, Milking Barn, Calving Barn, and Ham House. The Main Barn is a three-story frame structure built on cement sills and measures eighty feet by thirty six feet (about 7' longer and 4' wider than The Red Barn). A stucco-clad frame hyphen connects the Main Barn to a pair of tile silos to the South. In 1947, trucks began making twice-daily trips to Washington and Baltimore for meat, seafood, and produce, a practice that continued throughout the remainder of the twentieth century. However, the dairy continued in production with a remodeling and expansion of the Milking Barn completed in 1962. The dairy continued in operation, serving The Homestead's culinary needs, until the 1970's when employee costs and

The renovated barn with tile silos

The "hyphen" area that connects the tile silo (left) to the barn (right) at loft level

government regulations ceased to make these operations economically viable."[4] (www.homestedapreserve.com)

The renovated structures now include uses such as a community gathering place, meeting rooms, fitness center, swimming pools, and a spa. The main floor of the Main Barn includes administrative offices. The loft of the Main Barn, now called Trimble Hall in honor of one of the long time dairy Barn employees, contains a spacious area that is often used for large gatherings/functions.

Trimble Hall - The grand hall in the renovated loft space

The tour of the Homestead Dairy was very informative. As can be seen from the images on these pages and on the pull-out pages, the agricultural and architectural character of the facility was kept intact. This helps honor and preserve the agricultural heritage of the area, while now serving as a showpiece. Much attention was paid to small details such as utilizing period-appropriate lighting styles, meticulously refinishing wood, incorporating period appropriate architectural character of the barn into seemingly mundane aspects of design (office space dividers, restroom stall doors, etc), and making modern-day needs as inconspicuous as possible. This includes, for example, "hiding" sockets in the walls and floor, a large screen in the wall, and duct-work in the ceiling. On the construction end, insulation was added to the exterior of the existing roof and new roofing of the same exact style added on top of that. Removable storm windows were added so existing windows could remain, but have more insulation qualities. Stairs were added in an inconspicuous location that also allowed for them to address fire code requirements.

Community room in renovated support barn building

The facility is 3 floors including a basement, a first floor, and a second floor (the loft area). An elevator was incorporated for handicapped accessibility and for aiding the transport of food and other items for catering. Restrooms are

Administrative offices in "stalls"

[4] Scripps, Beth. Frazier Associates. Homestead Dairy Barns, National Register of Historic Places Registration Form, 5/1/06.

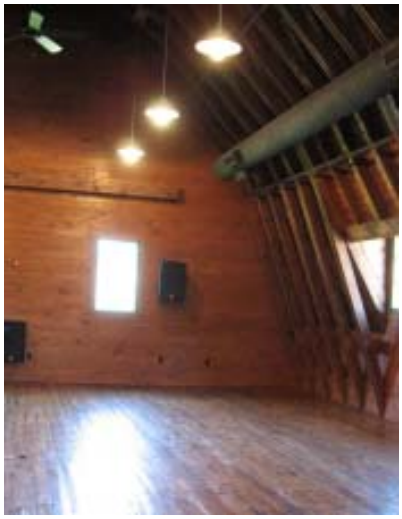
located on the first floor close to the elevator and a reasonable distance from the stairs. From the discussion with Ms. Johnson while on the tour and reflecting on what could have been done differently, it seems the largest drawback they have run into is not having any food preparation space in the loft for caterers. What they have ended up doing is putting up temporary dividers in the loft and creating a temporary preparation area behind the divider for the caterers.

The following are a few images comparing the Red Barn to the homestead, and images of the interior and exterior of the Homestead Dairy Barn.

Red Barn loft center view

Homestead Dairy Barn loft center view. A large screen is hidden within the horizontal piece of wood. Rather than hurt the architectural integrity of the building by formally hiding ductwork, it was unobtrusively incorporated.

Red Barn looking into corner



Homestead looking into corner

Red Barn loft wall

Homestead loft wall

Red Barn loft ceiling

Homestead loft ceiling

Red Barn loft detail

Homestead loft detail

Homestead Dairy Barn - Exterior

Plantings and fencing

Homestead Dairy panoramic view

Door in tile silo

Homestead panoramic view to pool

View of the Homestead Dairy Barns

Homestead Dairy Barn - Exterior

Roofing detail

Exterior lighting

Exterior lighting

Milk jug and signage

Exterior lighting

Drainage

Barn roof

Homestead Dairy Barn - First Floor

Interior lighting

Door lock detail

Interior decor - ham

Sliding door

Restroom door

Interior lighting

Interior construction detail

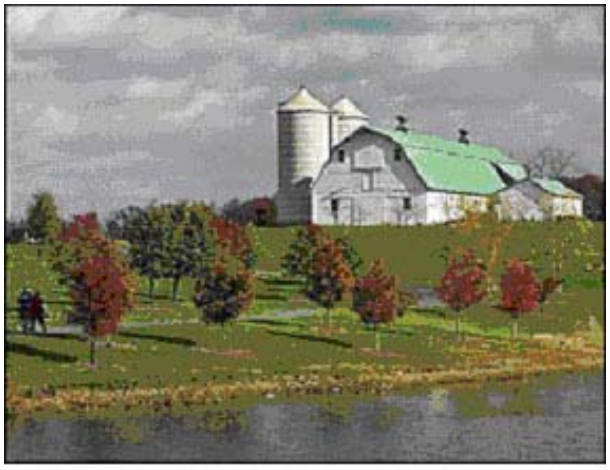
Interior office space

Office area

Homestead wall decor

Mooseum; Montgomery County, MD

The Mooseum was formerly a dairy barn and now functions as a museum. The museum contains exhibits and events that teach about the dairy industry and significance of the industry to local heritage and economic development. Types of events at the Mooseum have included a Family Picnic on the Farm, an Ice Cream Social, and a Heritage Farm Tour. School groups frequently visit for tours. The museum includes, in part, a shop selling dairy cow related items and crafts, a childrens' library, and a model of the original farmhouse on the site. Mooseum staff conduct oral histories and are currently working on a mapping project. The oral history project is to preserve the dairy industry through the memories of those who lived it. For the mapping project, they are mapping locations of dairy farms in the county for a particular time period. Information about the Mooseum is included in the Appendix.
(www.mooseum.com)



Mooseum Barn On Hill (www.mooseum.com)

Mooseum Interior (www.mooseum.com)

Yoder Barn Theatre; Newport News, VA

Yoder Barn Theatre is a renovated barn that is now used as a performance venue. The Theatre provides a variety of entertainment including musicals, concerts, plays, and folk operas. The barn was given to Christopher Newport University by the Yoder family and the Yoder Preservation Trust, Inc. in March 2007.
(www.Vptheatre.com/aboutus_auditorium.html)

Yoder Barn (www.Vptheatre.com/boutus_auditorium.html)

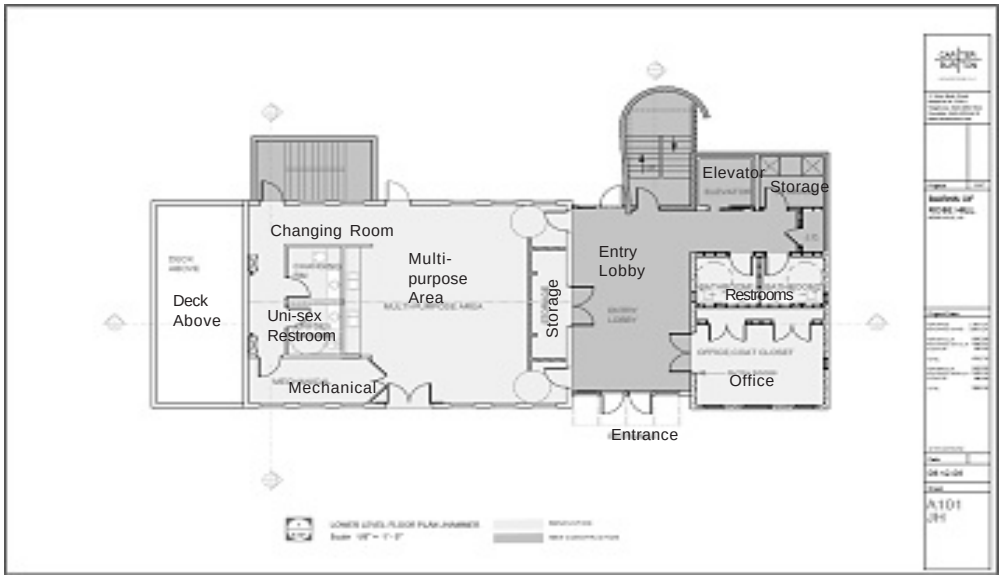
The Barns of Rose Hill; Berryville, VA

This renovation process is currentlyunderway. The purpose is to create a community space that reflects the community's agricultural heritage and speaks to community character. It is planned the space will be used for learning, creativity, entertainment, and celebration.
(www.barnsofrosehill.com)

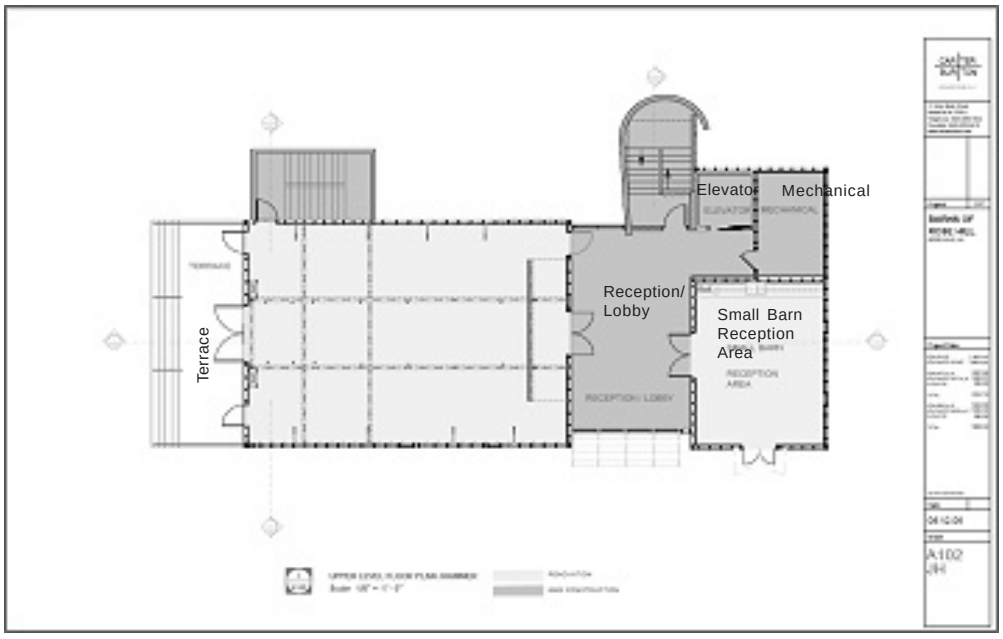
Yoder Barn (www.Vptheatre.com/boutus_auditorium.html)

Barns at Rose Hill before renovations

Barns at Rose Hill proposed renovations



Barns at Rose Hill first floor



Barns at Rose Hill 2nd floor
(source for all images above: www.barnsofrosehill.com)

Barns at Wolf Trap National Park;Vienna, VA

The Barns at Wolf Trap are comprised of two adjacent 18th century barns. Unlike other examples of renovated barns described in this report, these barns were moved from upstate New York with the specific goal of creating an informal setting for a concert space that utilized the acoustical quality of the wooden barn. The Barns is a gift from Catherine Filene Shouse, Wolf Trap's founder. (http://www.wolf-trap.org/ *Learn_About_Wolf_Trap/History/ Barns_History.aspx)*

Barn at Wolf Trap Learn_About_Wolf_Trap/History/ Barns_History.aspx)

Dorey Barn; Varina, Henrico County, VA

"The 400 acre property consisted of a farmhouse, dairy barn, bunk house, tenant farmhouse, chicken house, spring house, silo, and a small barn." (from web site) Widow Belle Ferguson Dorey, whose husband Fred Orwin Dorey died in 1973, sold the property to Henrico County in 1979 and opened as a park in 1984. The renovated dairy barn opened to the public in 1992 and now serves as the Dorey Recreation Center. *(http://www.henricohistoricalsociety.org/ varina.doreybarn.html)*

Dorey Barn (http://www.henricohistoricalsociety.org/ varina.doreybarn.html)

Historic Register:
The Community Design Assistance Center recommends contacting Mark Wagner with the Department of Historic Preservation, as the immediate next step in the process. Mr. Wagner specializes in old barns.

The DHR web site offers a good bit of information as well (www.dhr.virginia.gov). The formal recognition of an historic property means that the property is listed on the National Register of Historic Places. One benefit of Historic Register listing is the historic tax credits that become available for building rehabilitation, which can make the rehabilitation more affordable. Income tax credits of 25% of eligible expenses are available through the Virginia Rehabilitation Tax Credit Program and an additional 20% credit available through the Federal Tax credit Program (www.dhr.virginia.gov/homepage_general/finance.htm).

"Property owners who …participate in the federal or state tax credit programs, or accept a federal or state rehabilitation grant, must abide by certain restrictions on alterations or demolitions associated with those programs. Otherwise, only local building codes and permit requirements must be satisfied, as with any property." (www.dhr.virginia.gov/registers/register_faq.htm) This can be discussed further with a DHR representative within the context of the Red Barn.

The DHR web site also has a section on "Incentives and Grants", including information about the tax credits and on state grants available to local governments and non-profit organizations for rehabilitation, maintenance, and operation of sites or facilities. Information from the web site that is included in the Appendix includes Frequently Asked Questions, Incentives and Grants, Federal and State Rehabilitation Tax Credits, and Facts About Virginia's Historic Rehabilitation Tax Credit.

Another benefit of registration is the "legitimate" recognition of the historic value of a property and which can also encourage future commitment to its stewardship. There is no fee for the registration process unless a consultant is hired to complete the nomination paperwork. The DHR web site, under Frequently Asked Questions (included in Appendix), includes a link of consultants.

The Homestead Preserve utilized Frazier & Associates to prepare their Historic Register nomination paperwork. Such consultants can also prepare Historic Structure Reports (HSR) for historic structures. "The HSR typically contains a detailed history of the property, an architectural history and evolution of its construction, an assessment of its historical and architectural significance, and an assessment of condition. It then provides recommendations for treatments of its materials and features along with photographs and drawings to document all of the above."[1] As there is question about whether or not The Red Barn is a Sears Kit Barn, or perhaps another brand of kit barn, it is recommended that a professional be hired to do a thorough analysis of the structure and research as to whether it is in fact a Sears Kit Barn. Since Sears did not keep records about sales, if it is a Sears Kit Barn, it may have additional historical significance and could bring greater awareness to the barn at a broader level (state and national).

Valuable information included in the Appendix includes:

- Information about the Virginia Department of Historic Resources
- Frequently Asked Questions about the Historic Register
- A Listing of Incentives and Grants
- Rehabilitation Tax Credits
- Facts about Virginia's Historic Rehabilitation Tax Credit
- The National Trust for Historic Preservation's "Barn Again!" Program
- Answers to Barn Again! Questions
- Financial Help for Barn Preservation Projects

[1] *www.frazierassociates.com*

- Barn Again! Publication and Merchandise Listing
- National Barn Alliance Information
- Barns by Mail: Pre-cut Kit Barns by Mail-Order Catalog in the Midwest from 1900-1930 “Preservation Success Sto ries” in Virginia.

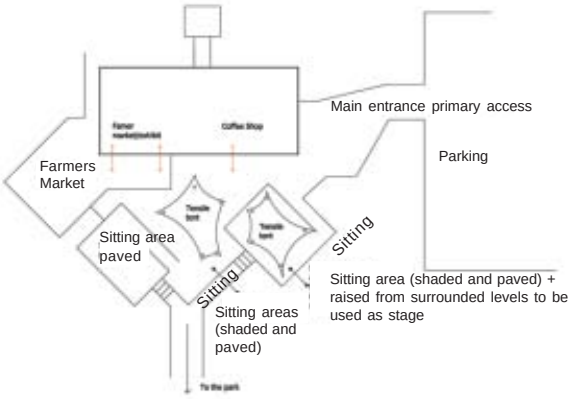
The design process began with a Stakeholders meeting on 4/2/08 followed closely by a community meeting on Friday April 4th. Notes from both meetings are included in the Appendix. At both meetings participants brainstormed thoughts and ideas about the barn. General discussion included that Bedford has no area for banquets, local sports teams, or other associations, and that the barn should be a community space. There is not enough room at the Visitors Center and hotels don't have banquet halls.

Shouib Mabdeh meets with a stakeholders group to brainstorm ideas about the Barn on April 3rd.

Additional Comments:

- Keep the use as a working barn and use it as an educational opportunity for children
- Do we want an income generator or an in come drainer?
- Determine how we want the barn used in a general sense: Education? Multi-use? Community events? Theater? How can the barn be tied to the park?
- The barn should be multi-generational just like the park is.
- Could a farmers' market be at the site in conjunction with the barn? It would be con venient if bringing children to the park and would be educational in terms of rural heri tage a(what crops used to be grown here).
- Could part of the barn be used for crafts (looming, weaving) that were typical of 100 years ago?
- Could live animals be outside and available for educational demonstrations, such as sheering?
- Could there be farm demonstration days?
- Use the barn for storage.
- Check into placing the barn on the historic register.
- Hold the County fair at the site.
- Exhibit farm equipment.
- Have a rural life museum.
- Make it appealing to a large percentage of people.

On May 15th, 2008, Shouib Ma'bdeh and Antonia Ciaverella presented preliminary conceptual ideas at a community meeting. The following is a summary of both the concepts presented and comments. Full notes/comments from the meeting are included in the Appendix. The preliminary onceptual designs are located on the next few pages.



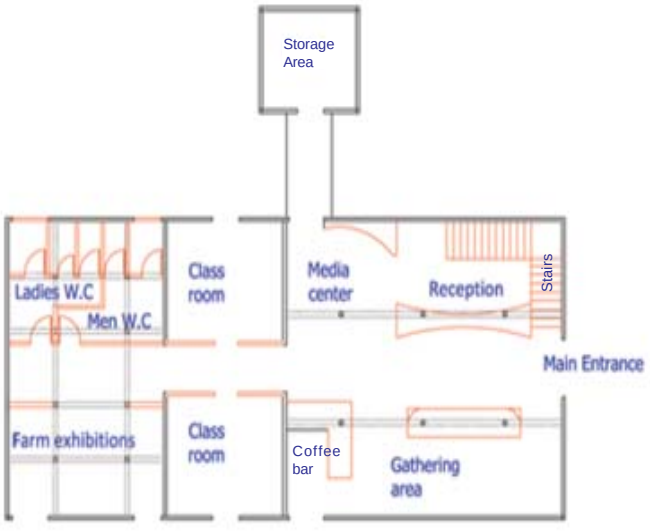
Concept one site plan

Concept One:
Site Plan
The site plan includes primary access from the current parking lot to the east side of the building and to the site on the southern side of the building. On the southern side in the back are a farmers' market off of the southwestern corner of the building, a paved sitting area, a tensile tent (see Appendix for a detailed description) centrally located on the grass, and a tensile tent located on a paved area. A coffee shop is located at the eastern end of the building with access onto the green space. The farmers' market is partially located inside the western end of the barn and also includes an exhibit space (for exhibiting local crafts or educational displays, etc).

An example of a tensile tent

Concept One Floor Plan:
One enters the building from the eastern side (parking lot side). Once inside there is a gathering area, reception area, media center, and coffee bar. Stairs to upstairs are located in the northeast corner, just to the right upon entering the barn. A door on the southern side of the building near the coffee bar opens to the outdoor greenspace. About mid-building are two small classrooms. In the western area of the building are restrooms and a farmers' market/exhibit space. The small structure to the north of the building serves as storage space.

The gathering area is proposed to be a place where people can sit and enjoy their coffee or tea, read newspapers, and socialize with one another. The recommended style of furniture is steel and glass to make a contrast between the old structure and the new materials. The Media Centers will contain community publications, announcement space for local events, books about the area, a photographic



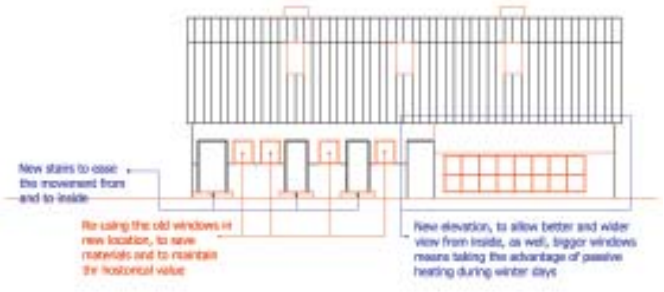
Concept One first floor plan

exhibit, and a small craft gallery. The coffee bar Corner is for in the cooler weather when people would like to sit inside and serve themselves coffee or tea. The small classrooms could also serve as meeting spaces. The farm exhibition area can be easily connected to the outside as overflow for the weekly farmers' market or can serve as a stand-alone shop for crafts and local productions.

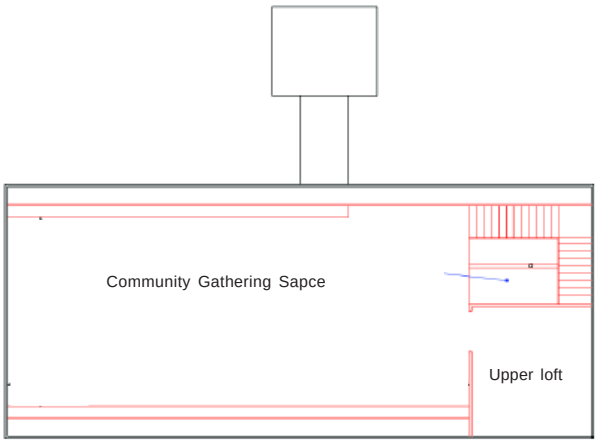
This concept suggests keeping as much of the original materials as possible in the floor while creating a flat floor for easy movement and circulation. Recommended materials include concrete, timbers, and two small areas of glass. The floor includes two grooves. It is recommended that light sources be included in this space with thick glass on top of it. This would illuminate the space at night and could be used for visual aesthetics. Labels could be put under the glass in selected areas to explain the original function of the barn.

It is suggested that the south facing façade be changed slightly to provide more window space and hence natural light. On the south facing wall at the eastern end of the building, it is suggested that all the windows be removed and a continuous panel of windows be installed. This will help create a better view to the outside. It is suggested that these windows be installed between existing windows on the south western side of the building. Likewise it is recommended that the three dormers be changed to a system that will allow natural light. The installation of the windows will help the entire barn with natural light, ventilation, and help with passive heating in colder weather.

Concept One Second Floor Plan:
The area near the stairs is open to the area below. If more space is needed, this open area could be changed to an area for food preparations or for more storage. On the southeastern corner is an area for storage. The rest of the upstairs is recommended to remain open for large gatherings (see drawing 4).



An elevation of the south face of Concept One. It is envisioned that the additional windows would help with passive heating and cooling.



Concept One Second floor plan

It is recommended an air handling unit be added in each of the two cupolas and that ducts be installed in the structural system in the ceiling.

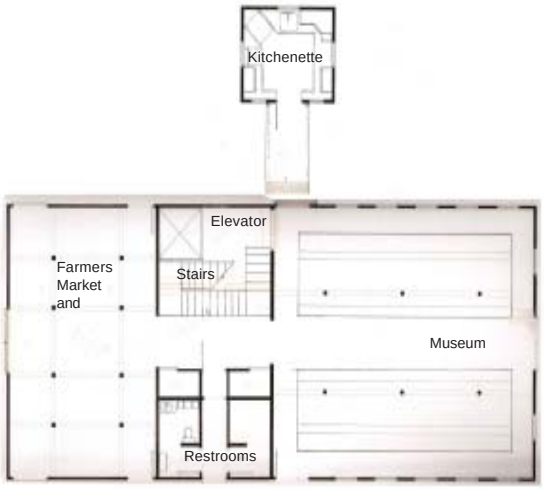
Exterior:
It is recommended that a Double Envelope system be installed in the roof. A metal layer is added to the exterior of the roof, that looks like the original roof. Air will heat up under this layer thus creating a vacuum. When hot air reaches the highest point, the air handling unit will blow hot air through the ducts and into the upstairs space (see Appendix).

Comments:

- Like the idea of a deck better than a patior area.
- Add historical fencing to the farmers' market area.
- Flip the floor plan so eastern uses are on the western side and vice versa.
- The classroom spaces are too small. Upstairs could be used for classroom space
- Too much distance between upstairs and restrooms.
- If there are sky lights, a shading system will be needed.
- Add an elevator.

Concept Two:

The second option also has main access from the east side of the building and secondary access at the southern side. Visitors enter into a museum space (the former milking area). The original double doors leading from the milking area to the center of the building are retained. The southern, center of the building contains restrooms and storage, while the northern, center area of the building contains an elevator and restrooms. Located nearby the elevator is the former milk storage building. The concept recommends this become a kitchenette/food preparation area for caterers or for functions requiring food preparations. Based on discussions with Sally Johnson, Executive Director, Virginia Hot Springs Preservation Trust, a drawback of the renovated Homestead Dairy Barn was the lack of a food preparation area. The food preparation area is proposed near an elevator for convenience to the second floor of the barn. The western end of the building is proposed for the farmers' market, a display area, and for people to display and demonstrate various local crafts.



Concept Two first floor plan

Outside there is a large garden area that has trees and other plants grown that are representative of what was historically grown. The garden would serve both as a park-like setting as well as be an educational tool.

Comments:

- Like the demonstration area with the antiquey items
- Like having a bathroom downstairs.
- Like the garden space for the community to experience and learn from. A question is who would maintain it. Suggestions in cluded in part, Liberty University, Future Farmers of America, 4-H, Central Virginia Community College Horticulture Program, and Master Gardeners.
- Can the downstairs be open during the day and access to the upstairs be closed off?
- Like that the integrity of the building has been kept.

On 5/16/08 Elizabeth Gilboy and Antonia Ciaverella met with architects Brenda Landes and John Shields of MarshWitt Associates in Roanoke. Brenda Landes is an alumna of the Community Design Assistance Center and serves on the Design Center's Review Panel (a group of professionals that reviews student work). John Shields is a colleague who also attended the meeting. The following are generalcomments about the initial two conceptual designs.

- The building will most likely need a point person or docent, meaning there should be a space for that person
- Check building codes regarding assembly use
- The building must have 2 exits (both enclosed)
- The square footage of the upstairs provides enough space for a maximum of 320 people. Floor loads must be taken into consideration.
- There must be a lot of toilet facilities.
- A3 Occupancy is the most restrictive. That requires 3 water closets for women and 2 for men. It also requires the facility be sprinkled. One question is where will the water come from? Does the County have access to water? Another question is whether there is enough flow/pressure from the source. This question should be answered now rather than getting through a lot of design work and then finding out the renovations cannot happen because there is not enough water pressure for the sprinkler system. Get a mechanical engineer out there or contact Magic City Sprinkler or East Coast Fire Protection. They could tell you. [It was subsequently confirmed with Michael Stokes that water is available and water pressure would be adequate.]
- There are code requirements about mixing occupancies.

The architects had the following comments specific to the two intitial concepts.

Concept #1:

- The stairs are too close to the wall. Look at the stairs in relation to the structure.
- The base of the stairs near the main entry is not good. Stairs must be enclosed by fire resistant material. Put them discretely to the outside. The silo idea is good. The height distance for any stair area is 6'8".
- The "pit" areas in the dairy area may simply be "dung channels". Get a dairy farmer out there to look at it. If it is a "dung channel" there might not be any need to put light ing in it and cover it with plexi-glass.
- Storage would have a higher load require ment. Keep this in mind when designing storage for upper area.
- A ground source heat pump would be good. It is expensive at the outset, but will save money in the long run. It is very green.
- The duct system in the roof as proposed won't work. Look into fabric ducts. The air leaks through the fabric. They are more ex pensive, but visually less obtrusive.

Concept #2:

- ADA – At the end of a set of stairs, the hand rail must extend 12" for ADA requirements. The minimum width of stairs is 44". The US Dept of Justice has information online for ADA design standards. It is free to download. There is a charge for the ANSCI standards.
- Elevator – the standard size is 5'9" x 7'4" for the interior shaft. The pit for a hole-less hydraulic elevator is 4'. Move the elevator to the outside of the building. The move ment from the loads in the elevator effects the building. There is also a fire code issue. It is more expensive to put it outside, but not much more. It needs to be away from the outside wall.
- Insulation – foam board insulation over the exterior of the concrete walls could work. Take off the existing roof and put insulation (as suggested in Concept #1).

- Check out the old mill building in Purcellville that is now a restaurant. They left the interior as it was and added insulation to the exterior then put new siding over that.
- Mechanicals –a location for mechanicals will be needed.
- Natural gas – is natural gas available?
- Parking - Check the Bedford County Zoning Ordinance to compare the number of people in the facility and the number of parking space required. Ask if the park parking spaces could be used or if spaces have to be added.

Magnolias at the Mill Restaurant (www.purcellvillerestaurant.com)

On June 9th Shouib Ma'bdeh and Antonia Ciaveralla presented revised concepts based on comments received at the previous meeting and feedback from the CDAC Review Panal architects. Below are descriptions about the concepts along with a summary of comments from the client team. A few general comments included having roofing over any decking that leads to the upstairs and the need for signage to direct people to the main entrance and parking. It was suggested that zoning may need to be checked to determine if the park parking lot would provide enough parking for the barn facility once a final use and maximum number of possible attendees is determined. Full comments are included in the Appendix. Comments specific to each design are noted below.

Concept One:

Design Statement:

The barn has played an important part of most farms and agricultural communities. Renovating an existing barn is usually justifiable if building a new barn is more expensive or when the farm has a great historical value, like in this case. The first goal of this concept is to create a space for the Bedford community to share and use for their daily activities and special events. Bearing this in mind, the second goal incorporates environmental (or green) design concepts.

A view of the proposed entry area. The elevator stairs are located within the silo.

Two main aspects are kept constant through the development of this proposal: These include keeping the Red Barn visually consistant and embodying "green" design in the concepts.

Keeping the Barn visually consistant to the maximum possible level means the main structural system and form of the Barn's body will stay the same as it was built in the 1930s. The main elements taken into consideration are: the roofing materials and colors, the outside cladding color, and the unique and amazing visual experience of the upper loft. The aim of all these considerations is to maintain the historical value of the Barn for the senior citizens, and to keep

Barn's image in the new generation's minds and culture.

Embodying environmental design concepts in the designs begins with conserving the Barn itself. This is a great and appreciated environmental decision. Introducing other new concepts like natural ventilation, day lighting, and passive heating and cooling, will raise the environmental level of the Barn and make sure renovating and up-keeping the "new barn" is, over the longer term, not costly.

A birds eye view of the entry area, silo, and decking

Concept one can be divided spatially into four main zones:
1. Ground floor for daily community activities: Breakfast, coffee, newspaper reading, and a small welcoming center.

2. Upper floor for special events: gatherings, weddings, movies, shows, and dinners.

3. Farmers market: Where local products can be presented and sold.

4. Outdoor areas: Where people can linger, enjoying the great view with some relief and fresh air, while their children are playing in the nearby park. It is a new community space where people can meet and gather as it was during dairy barn days!

A birds eye view depicting the proposed windows on the southside and skylights

A view of the western end showing an external set of stairs

Revisions from the previous meeting to the site plan include adding a deck area on the southern side of the building, paving from the parking lot to the main entrance, formal paved areas for gathering spaces on the southern side of the building, a flower garden, and a paved area for the farmers' market.

Revisions to the building concept included adding two sets of external stairs and an elevator. One set of stairs and the elevator are hidden within a silo that has been recommended to the northwest area of the barn. A covered walkway has been added that connects the silo with the stairs and elevator to the barn building. The first floor concept also entails removing the small classroom spaces and putting restrooms mid-building (which in-

A prespective of the sitting areas, market area, and deck

creases the farmers market/exhibition space), flipping the media center and coffee/snack areas, and putting a food preparation area in the former milk storage area. A sidewalk leads from the food preparation area to the elevator and stairs.

The second floor serves as the space for special functions and large groups and includes an area that is open to the first floor.

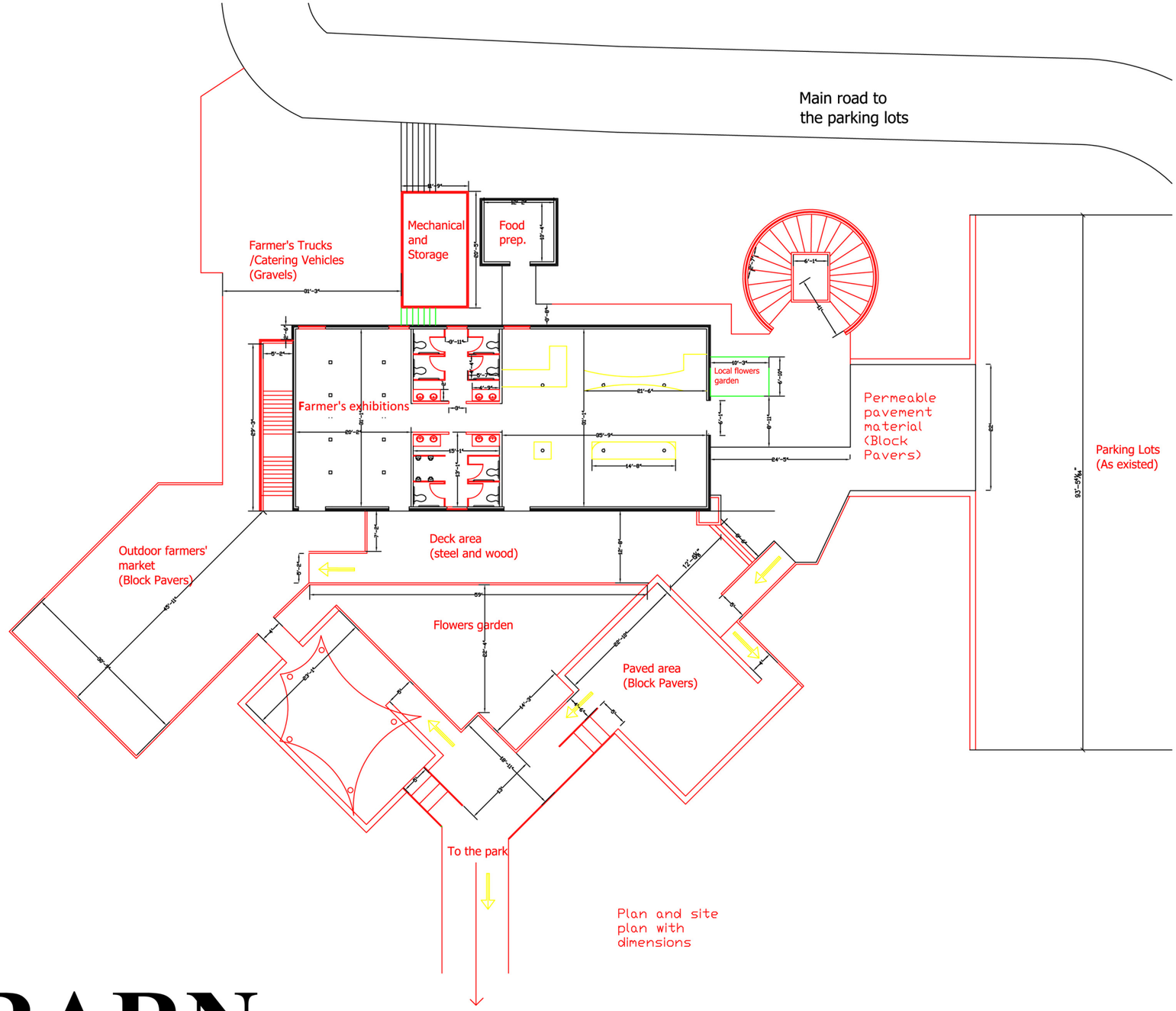
A birds eye view of the barn and site

Comments/Questions:

- Roofing may need to be researched further
- How would the insulation in the walls be done?
- For the tensile structure, would it have to be permanent or could the post holders be in the ground and posts be removable?
- Is the heating system in the floor?
- Make the silo look a little better.

Included on the following pages are:

- Site Plan
- First Floor Plan
- Second Floor Plan
- South and West Elevations
- North and East Elevations
- Building Sections



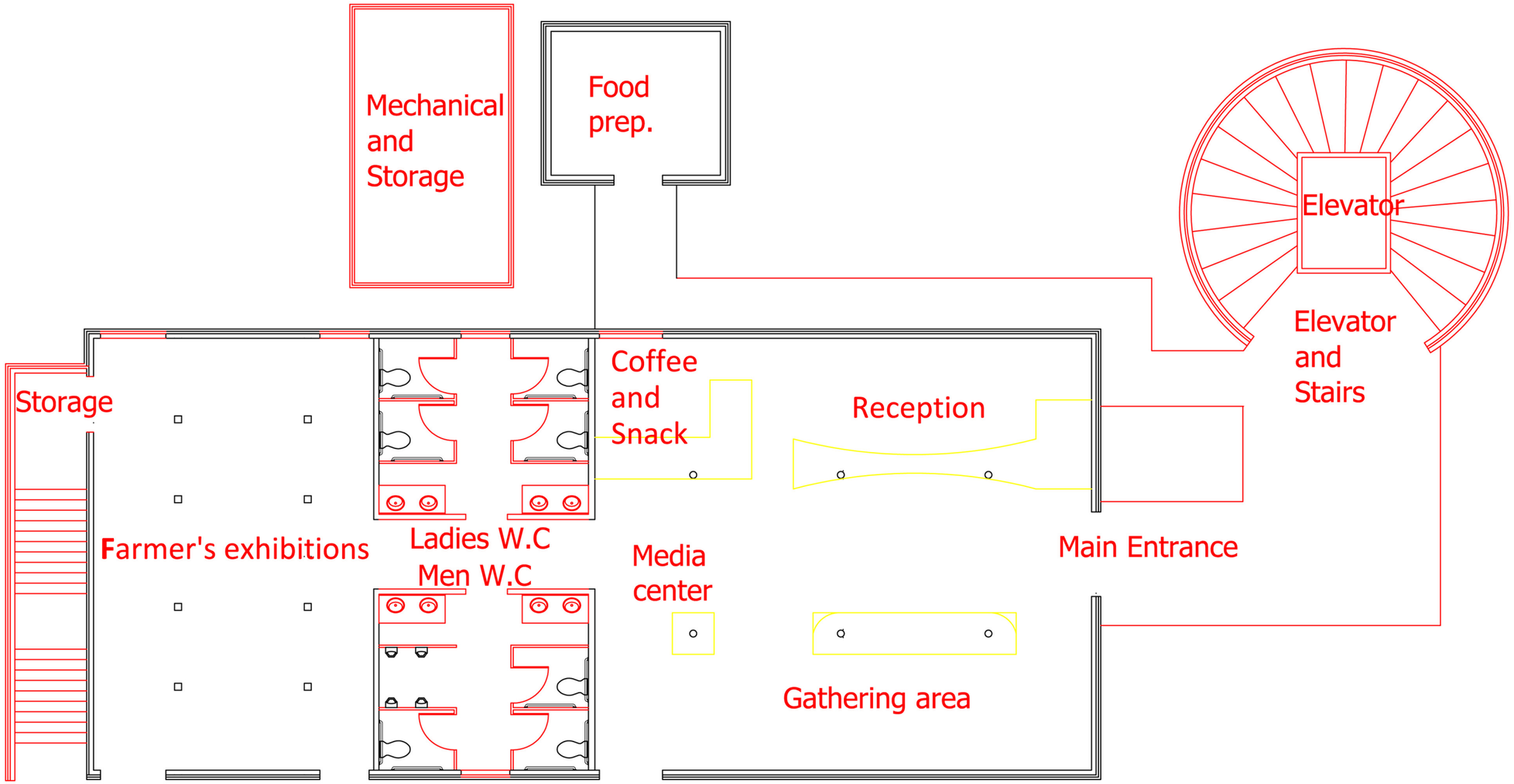
RED BARN

Bedford, VA

Dimensioned Site Plan

Designed by Shouib Nouh Ma'edeh
June 9, 2008

community design assistance center
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University



Proposed plan for Ground floor
1. Original elements in White
2. Proposed elements in Red
3. Proposed furniture in Yellow

RED BARN

Bedford, VA

First Floor Plan

scale 1/4”

Designed by Shouib Nouh Ma’edeh
June 9, 2008

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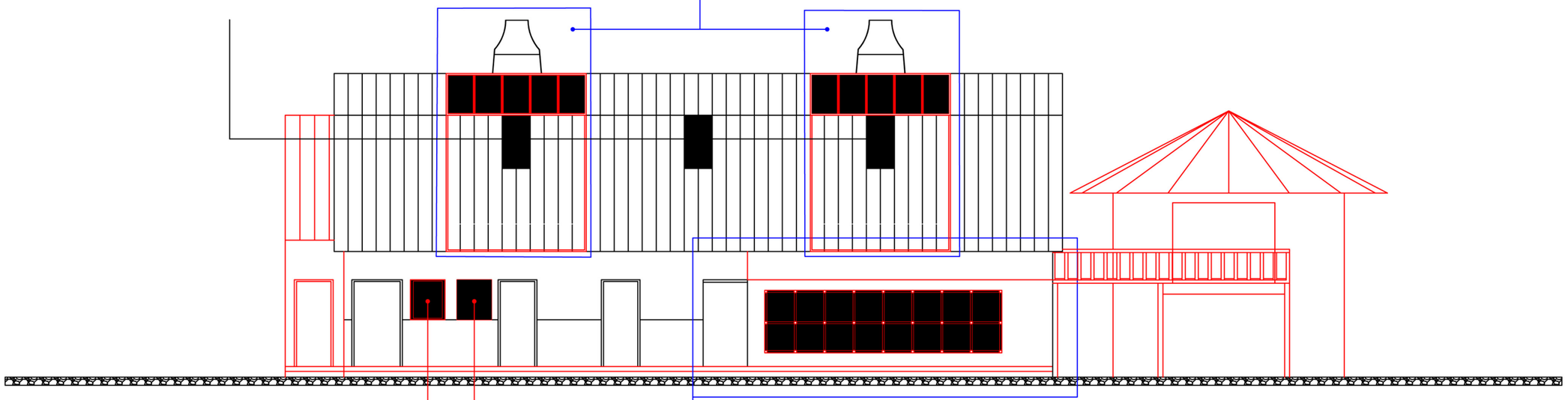
Existed openings
The will be used for natural lighting
and for ventilation purposes.

Double envelop roof system.
The lower part has a cavity underneath
and the upper part made out of glass
to help heat up the air and a fan in the
top to distribute hot air inside the
building



Re-using the old windows in
new location, to save
materials and to maintain
the historical value

New elevation, to allow better and wider
view from inside, as well, bigger windows
means taking the advantage of passive
heating during winter days

Southern Elevation
1. Original elements in White
2. Proposed elements in Red
3. Glass for dayliting and view in Blue
4. Glass in the double roofing system in Cyan

RED BARN

Bedford, VA

South Elevation

scale 1/8”

Designed by Shouib Nouh Ma’edeh
June 9, 2008

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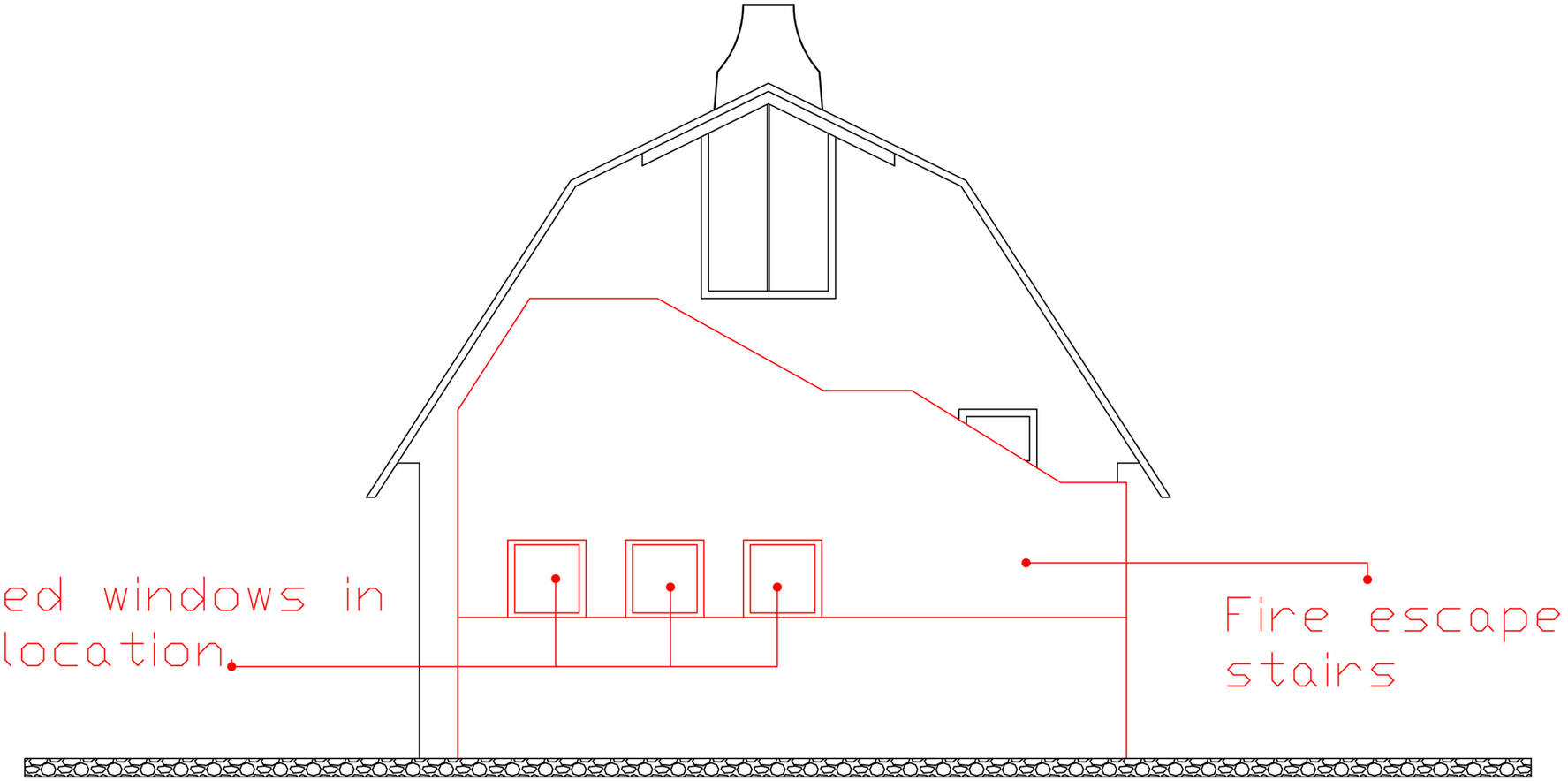


Western Elevation
1. Original elements in White
2. Proposed elements in Red

RED BARN

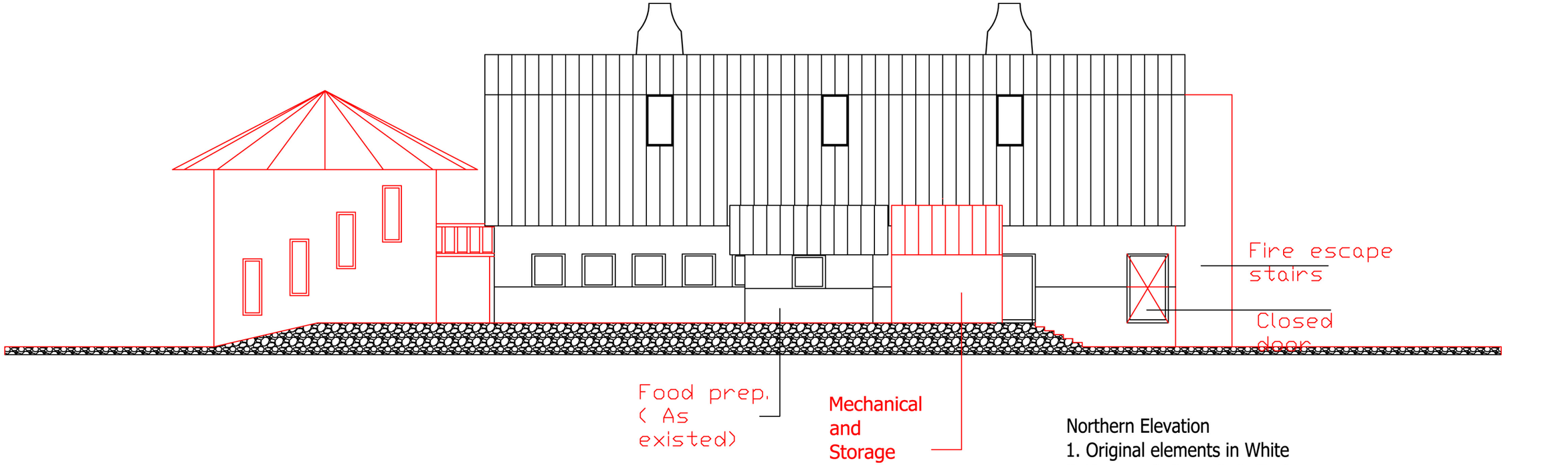
Bedford, VA

West Elevation

scale 1/8”

Designed by Shouib Nouh Ma’edeh
June 9, 2008

community design assistance center
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University



Northern Elevation
1. Original elements in White
2. Proposed elements in Red

RED BARN

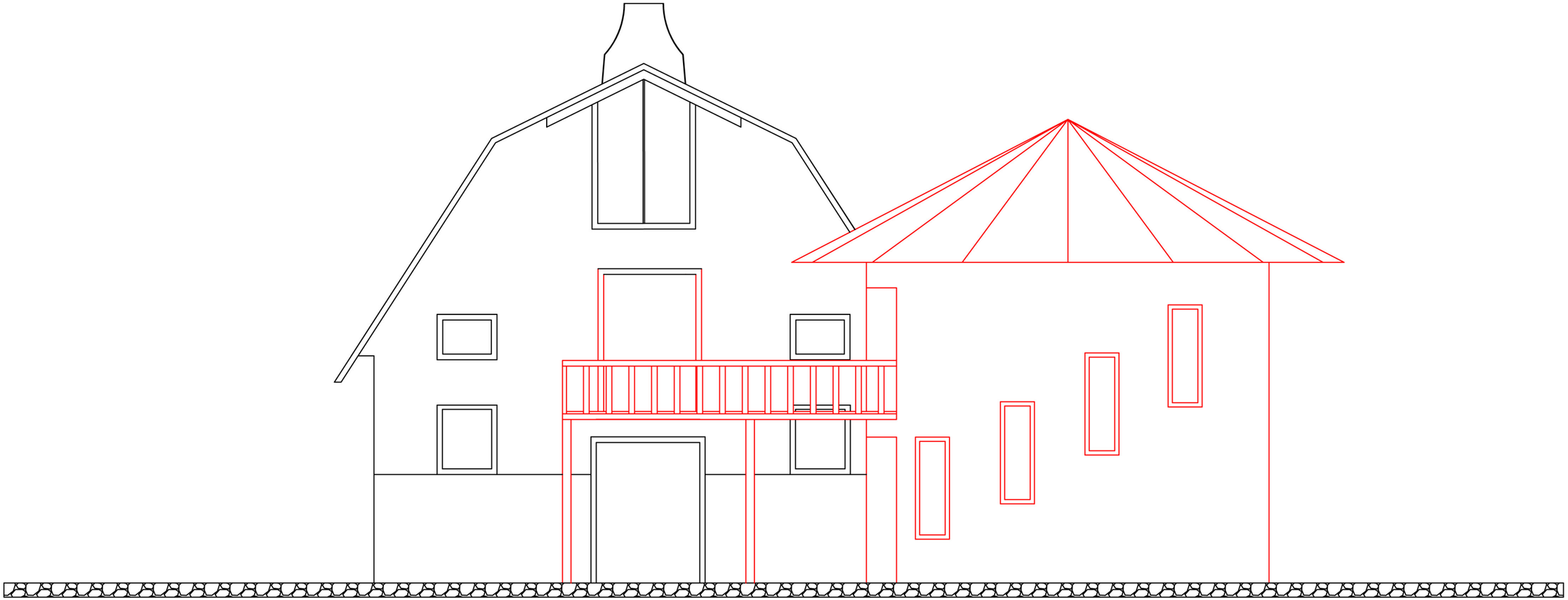
Bedford, VA

North Elevation

scale 1/8”

Designed by Shouib Nouh Ma’edeh
June 9, 2008

community design assistance center
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University



Eastern Elevation
1. Original elements in White
2. Proposed elements in Red

RED BARN

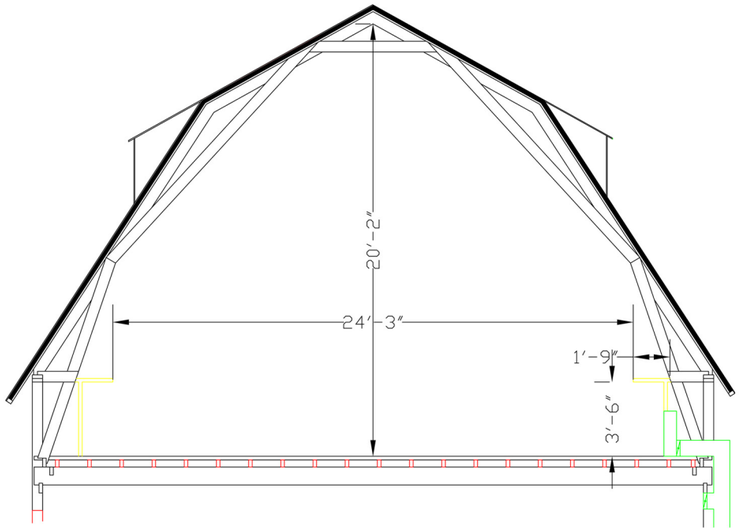
Bedford, VA

East Elevation

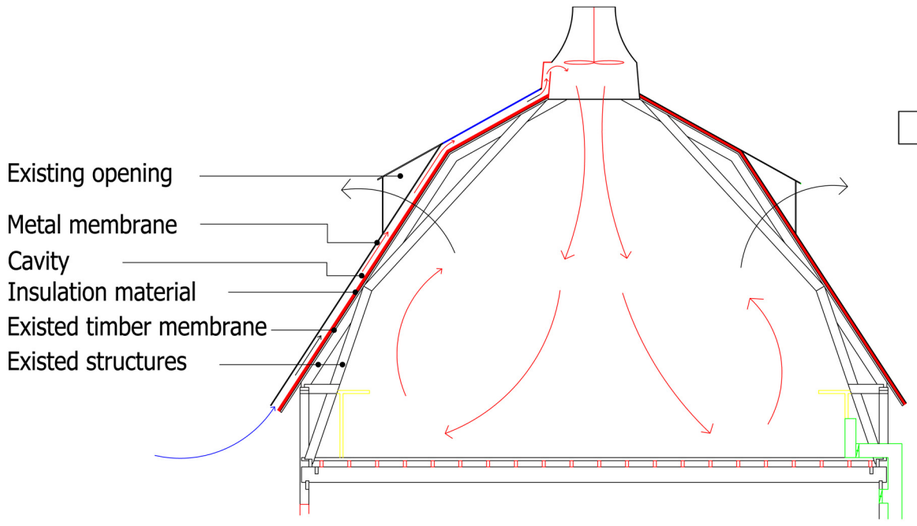
scale 1/8”

Designed by Shouib Nouh Ma’edeh
June 9, 2008

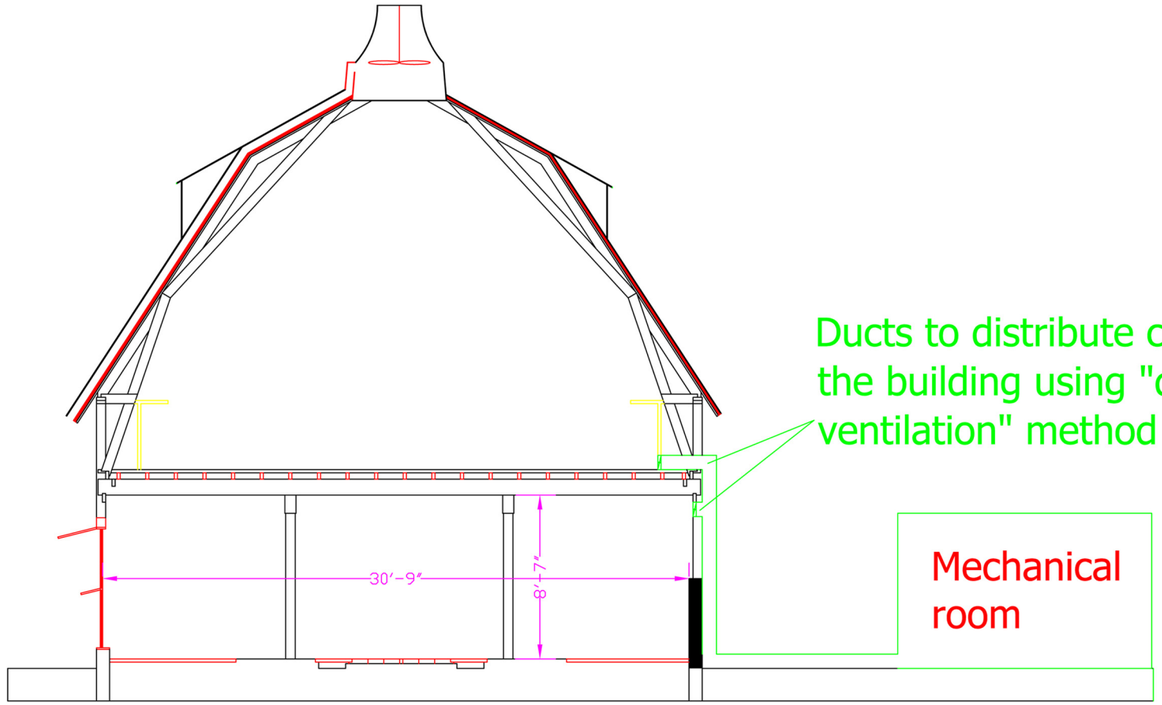
community design assistance center
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University



Section through roof where is no double roof



Section through double roofing system
showing the hot air circulation and the materials



Proposed plan for Ground floor
1. Original elements in White
2. Proposed elements in Red
3. Proposed furniture in Yellow
4. HVAC system in Green

RED BARN

Bedford, VA

Building Sections

scale 1/4”

Designed by Shouib Nouh Ma’edeh
June 9, 2008

community design assistance center
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University

Concept Two:
Concept Two includes a Museum, Farmers' Market and Artisan Gallery, a Public Garden, Picnic and Theater Space, and an Assembly Hall.

Design Statement:
Arrival to the barn becomes a departure as one first enters the museum space. Recollections of 1930's dairy farming surround the visitor, engaging his imagination as he traverses the history presently before him. Feeling as though time stands still within these red walls, the visitor is suspended; she bridges time while walking the museum. Once, she milks a cow! And smiling, proudly sips the freshly bottled milk while others enjoy homemade milkshakes, ice cream, and hot chocolate from the barn's market.

The market is extraordinary! Farmers and artisans display their wares on transformable stalls; locally grown fruits, vegetables, herbs, flowers, jams, cheeses, and baked goods fill the space on market day. Hand-crafted pottery, quilts, stationery, purses, and shawls accompany them. This room is never empty; when market is not present, the visitor discovers an art gallery, or a workshop for learning crafts, or yet still, a family celebrating a birthday! The space seems boundless, unconfined, transformable, ever-changing, and energetic.

The visitor experiences this microcosm expanding towards the horizon, at every direction extending its floor beyond the structure, reaching for the ends of the earth. "How it must yearn to climb the distant mountains!" perceives the visitor. The floor reaches out, blanketing the ground as it travels its topography, leading the feet of the visitor towards a garden. A familiarity presides within this gentle space. The visitor picks fruit from the trees, and watches others collect berries and flowers. Children run over from the nearby playground and scurry up a tree for a snack; tree-climbing was always the visitor's favorite childhood pastime. He listens to all the birds' songs, trying to prop-

erly identify them; he thoughtfully consults a brochure obtained from the museum. Here, she reads not only about the wildlife native to Bedford, but also about the agriculture represented by this garden. The nature trail leads the visitor around the grounds and back to the barn.

Music fills the air! As the visitor approaches, she notices a crowd upon the blanket of floor; finding a spot, she sits cross-legged, continuing to savor what was gleaned from the walk, followed by a swift gulp of the milk earned earlier. The band played through dinner, and the visitor noticed families with picnic baskets arriving for the festivities. The children found it difficult to concentrate on food with a playground so nearby. With the band's final song, came evening.

Accompanying evening, was a party of elegantly dressed men and women who proceeded upstairs to a most majestic space! Uninterrupted views of the expanse of the barn, its structure, craftsmanship, and beauty overwhelm the guests. Night falls, and as the visitor turns to leave, he glances once more at the dairy barn now illumined with a soft glow, and the sound of smiles.

Floor Plan Layout:
The floor plan drawings on the following pages depict the proposed arrangement of uses within the barn. Visitors enter from the eastern end of the building on the main floor. Handicapped access is through the silo on the western side of the building. An elevator within the silo brings the visitor to the second floor. When entering from the main entry, the visitor enters the museum space, which is the former milking area. A food preparation area is proposed in the former milk storage building. Mid-barn storage, mechanicals, and restrooms are proposed. A Farmers' Market and Artisan Gallery are proposed in the western end of the barn. The large event gathering space is proposed for the second floor. The elevation drawings depict the location of the proposed silos.

Comments/Questions:

- Regarding the silo, it might be a long way to get to the elevator from the main door.
- Try moving the silo to the northeast corner of the barn?
- Put the elevator inside the building.
- Put handicap parking at the northwest area of the building?

It was recommended that the design team move forward with Concept Two and incorporate comments into that concept.

The Red Barn

Bedford, VA

Designed by: Antonia Ciaverella
with images from National Geographic
July 19, 2008

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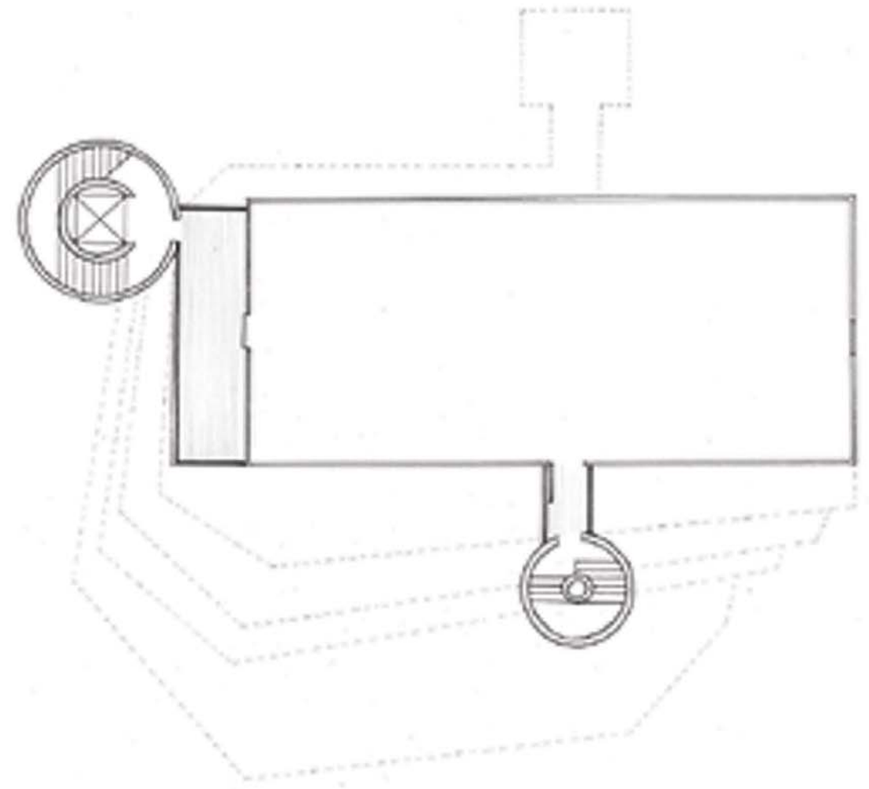

RED BARN

Bedford, VA

Second Floor Plan

scale 1/8"

Designed by: Antonia Ciaverella
June 9, 2008

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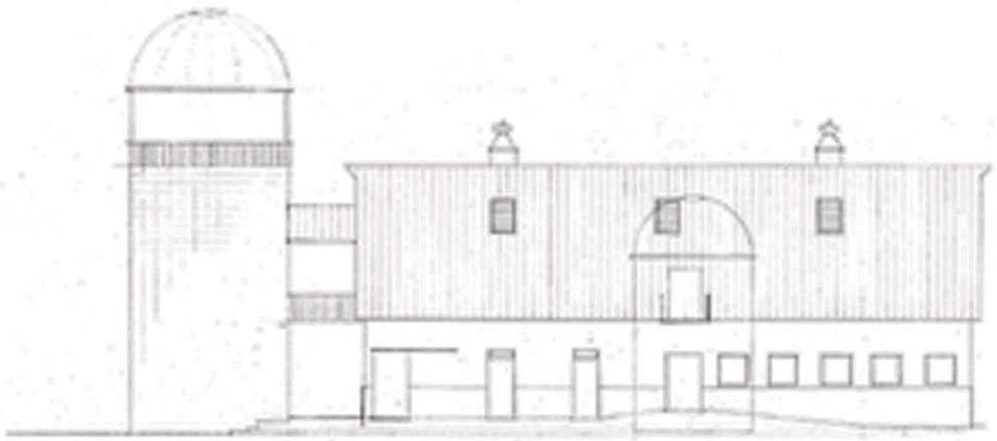
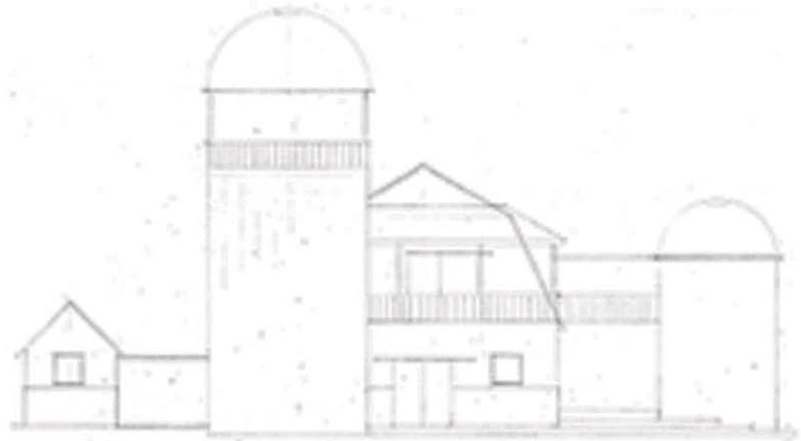


South Elevation



West Elevation

RED BARN

Bedford, VA

South&West Elevations

scale 1/8"

Designed by: Antonia Ciaverella
June 9, 2008

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On June 23rd, a final draft concept was presented based on feedback at the previous meeting. The main purpose of this meeting was to review, discuss, and decide on locations for the two silos and on the general layout of the vehicular road system, especially as it related to handicapped drop-off (see sketches on the following page). All of the options include an elevator in the western silo for ADA accessibility to the second floor community space that is connected to the second floor with an enclosed pedestrian walkway. Each option also includes stairs in the southern silo and are also connected to the second floor via an enclosed pedestrian walkway.

Option 1:
Option 1 includes a silo on the western end of the barn with an elevator for handicapped accessibility that connects to the large community gathering space on the second floor of the barn. The walkway is an enclosed pedestrian walkway. Another silo is located on the southern side, about two-thirds of the way toward the eastern side of the building. This silo includes stairs and is also connected to the second story community gathering space.

The proposed vehicular circulation responds to the silo at the western end of the building by recommending a drop-off circle that would provide the opportunity to drop people off at the northern side of the silo.

Option 2:
Option 2 includes a silo at the northwest corner of the barn, includes an elevator for ADA accessibility to the second floor community space, and connects on the second level via an enclosed pedestrian walkway. Another silo is located on the southern side, about two-thirds of the way towards the eastern side of the building. This silo includes stairs and a covered pedestrian walkway to the community space.

As the western silo is positioned more to the front of the barn, it calls for a vehicular drop-off area that brings people further into the site and drops them off at the western side of the silo.

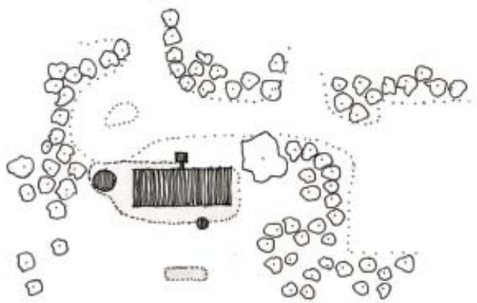
Option 3:
Option 3 concept includes a silo at the northwestern corner of the barn and another at the southeastern corner. The location of the second silo differs from the previous concepts. The vehicular drop-off sequence is similar to coption 2, however does not bring the vehicles as close to the silo for drop-off.

Comments about options:
- Have a rustic looking building outside that can be used for storage.
- Include stairs in the silo.
- Use the downstairs space for a demonstra tion area
- Close off access to the upper space when not in use.
- Keep the integrity of the building!

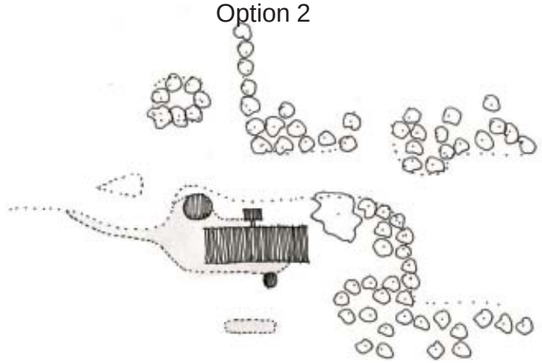
The Red Barn - Concept comparisons

Automobile Entry Sequence

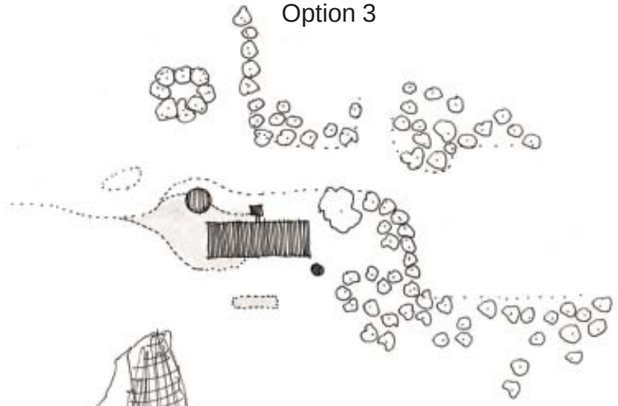
Option 1



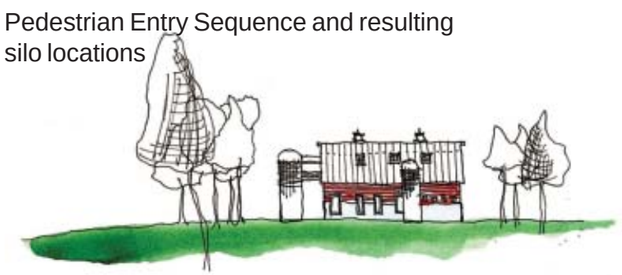
Option 2



Option 3



Pedestrian Entry Sequence and resulting silo locations



Green Building Systems:
It is generally recommended that green building systems be kept in mind for the future construction. Additional information about green building systems can be found in the Appendix. Applied examples can be found on web sites related to the Virginia Tech Solar Houses (http://vtsolar.arch.vt.edu/ and www.vtsolar.arch.vt.edu).

Posibilities include:
Geothermal Systems
Utilizes stable underground temperatures (upper 10' maintains at 50-60' year round) to heat a facility. In winter, heat from the warmer ground goes through a heat exchanger into the house. In summer, hot air from the house is pulled back through the heat exchanger into the cooler ground.

Radiant Cooling System:
Relies on chilled water pipes to distribute cooling throughout a building rather than relying on cooled air. Pipes can be run though flooring or ceilings and maintain surface temperatures at about 65'.

Displacement Ventilation System:
Provides conditioned air and ventilation. Supply air mixes with room air to provide a nearly uniform temperature throughout the space in comparison to HVAC which sends air out at high velocity at about 20' below the desired room temperature.

Final Design Concept:
The following pages contain the final drawing for the Red Barn. Descriptions of these drawings are:
1. The Storyboard: This describes the general idea for uses and character of the Red Barn.

2. Site Plan with possible handicap drop-off scenarios. This decribes general locations for various existing and proposed uses on the site. It also includes two possible scenarios for handicap drop-off near the western silo. Two options

for vehicular circulation are provided. Both suggest removing parking along the entrance road to narrow the entrance road, reduce visual clutter, and hence provide a more scenic entry sequence that better frames the historic, renovated Red Barn. This is to give the sense that one is arriving to and seeing the Barn as it may have been in the past.

The first option retains most of the new Nursing Home parking. The drawback is that entry and egress to the parking area is not as clear cut as Option Two and the Nursing Home and Red Barn share the same entrance (only for handicapped access for the Red Barn).

The second option uses a portion of the Nursing Home parking lot to create the drop-off circle by the northwestern silo. The benefit is that the Nursing Home and the Red Barn handicapped access area both have their own entrance and egress, making for clearer vehicular circulation. The drawback is that it uses a portion of the Nursing Home parking spaces to create this circulation pattern.

3. The Public Garden: This concept diagram lists and provides images of possible plants and annuals to include in the public garden area. The Public Garden includes the area located behind the Red Barn and wraps around the back of Falling Creek Park. It is comprised of three sections including a crop area, a livestock area, and an area for fruit trees. All of the areas are connected via various paths, which also connect to Falling Creek Park.

The crop area would be planted with crops that were historically grown in the Bedford area, such as corn, oats, wheat, and tobacco. This can be used both as a recreational area as well as an opportunity to complement the displays in the barn that capture, reflect, and educate, about the history of the area. The livestock area would include cows, goats, chickens, and pigs, and serve a similar purpose. Fruit trees would be grown in another area also reflecting that which was historically grown in the area, but also providing a lovely area for recreation and for children to play.

4. Farmers Market Collage: The collage depicts a sense of character recommended for the Farmers Market.

5. First Floor Plan: The plan indicates both by labels and character sketches, proposed uses for the renovated Red Barn. The plan incorporates comments from attendees at the 6/9/08 public meeting.

Museum Space:
Visitors enter on the east side of the building through the same doors that now exist (though renovated). Inside is a museum area that keeps the integrity of the milking area, including keeping the medicine cabinet to the right of the doors that enter into the middle section of the barn. The museum area includes an exhibit of farming and dairy practices from the early years of the Bedford area. To keep the historic character of the interior space, existing windows and beams are kept. The ramped flooring is also kept allowing a circuitous walkway around the exhibit.

Kitchen Preparation Area:
The former milk storage area now serves as an area for caterers, or others, to make final food preparations before and during events held upstairs.

Central-Barn Area:
The central area of the barn includes mens' and womens' restrooms, a mechanical room/ storage area, and the original ladder to access the upstairs area. It is recommended that the ladder remain for historical and educational purposes and be sectioned off in some manner to prevent users, and especially children, from attempting such a temptation.

Farmers Market Area:
The central area of the barn is separated by historic doors and includes an open area for an indoor farmers market. When the market is not in season or being used for this purpose, the open space can be used for local

artisans to display and demonstrate historic crafts (such as weaving, sewing, etc). The center of the eastern wall opens to the western silo.

Western Silo:
The western silo is located about mid-point along the western wall. It includes an elevator and set of stairs to the second floor. The stairs follow the curvature of the silo. The exterior door to access the silo can either be on the south face or the north face depending on how the vehicular drop-off for handicapped access is ultimately designed.

Southern Silo:
The second silo is located about mid-point on the southern wall of the barn. Stairs within follow the curvature of the silo. Access is through the museum space or on the western side of the silo.

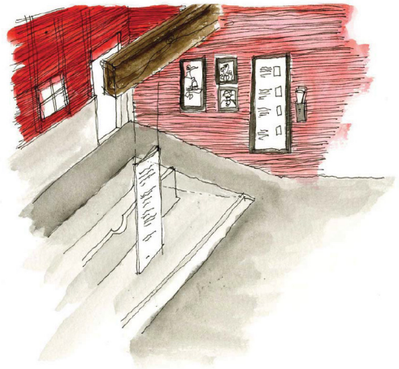
6. Second Floor Plan: The second floor contains a large community gathering space that can be rented out for large functions. This drawing indicates the use of the second floor as an assembly hall and includes an elevation sketch of each side of the proposed renovated Red Barn. This space can be rented out for functions such as reunions, weddings, or large community gatherings.

7. Autumn Perspective: This rendered perspective sketch depicts what a visitor might see upon approaching the Red Barn from the main vehicular access area.

8. Summer Perspective: This rendered perspective sketch depicts what a visitor might see when out in the community garden.

Arrival to the barn becomes a departure as the visitors first enter the museum space. Recollections of 1930s dairy farming fill the room, engaging their imaginations as they traverse the history presently before them.

1.



Feeling as though time stands still within these red walls, the visitors are suspended; they bridge time while walking the museum.

2.

Once, they milk a cow! And smiling, proudly sip the freshly bottled milk while others enjoy home-made milkshakes, ice-cream, and hot chocolate from the barn's farmers market.

3.

The market is extraordinary! Farmers and artisans display their wares on transformable stalls; locally grown fruits, vegetables, herbs, flowers, jams, cheeses, and baked goods fill the space on market day.

4.

This room is never empty; when market is not present, the visitors discover an art gallery, or a workshop for learning crafts, or a family celebrating a birthday! The room seems boundless, unconfined, transformable, ever-changing, and energetic.

5.

6.

The visitors reach a garden. A familiarity presides within this gentle space. The visitors pick fruit from the trees, and watch others collect berries and flowers.

7.

Children run over from the nearby playground and scurry up a tree for a snack; tree-climbing was always a favorite childhood pastime.

8.

They listen to all the birds' songs. Trying to properly identify them, they thoughtfully consult a brochure obtained from the museum. Here, they read not only about the wildlife native to Bedford, but also about the agriculture represented by this garden.

9.

10.

The children found it difficult to concentrate on food with a playground so nearby.

With the band's final song, came evening. Accompanying evening, was a party of elegantly dressed men and women who proceeded upstairs to a most majestic space! Uninterrupted views of the expanse of the barn, its structure, craftsmanship, and beauty overwhelm the guests.

Night falls, and as the visitors turn to leave, they glance once more at the dairy barn now illumined with a soft glow, and the sound of smiles.

The Red Barn

Bedford, VA

Storyboard

Designed by: Antonia Ciaverella

July 19, 2008

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(Lake)

Historic Building

Historic Building

Old Nursing Home

Nursing Home Parking

H.C. drop-off

New Nursing Home

The Red Barn

Picnic Area

Parking for Park

Performance Area w/ decking and removable tensile structure

(Forest)

Proposed Public Garden

Playground

Park (existing)

(Forest)

The Red Barn

Bedford, VA

Possible Handicap Drop-off Scenarios

Designed by: Antonia Ciaverella

July 19, 2008

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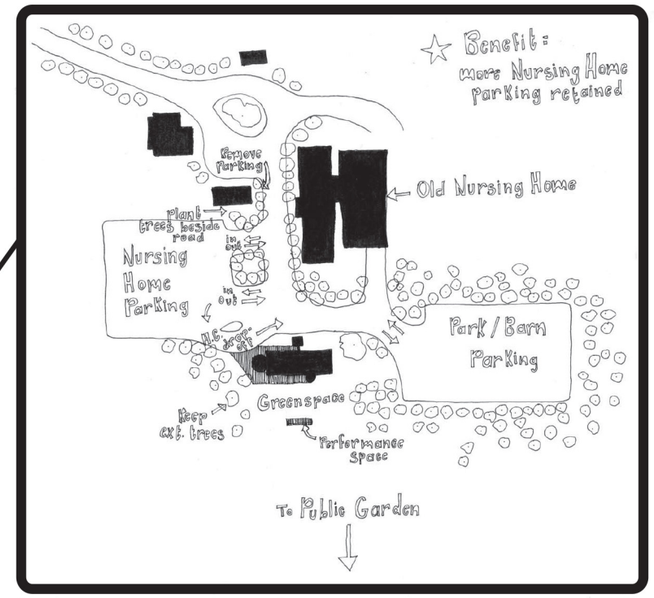

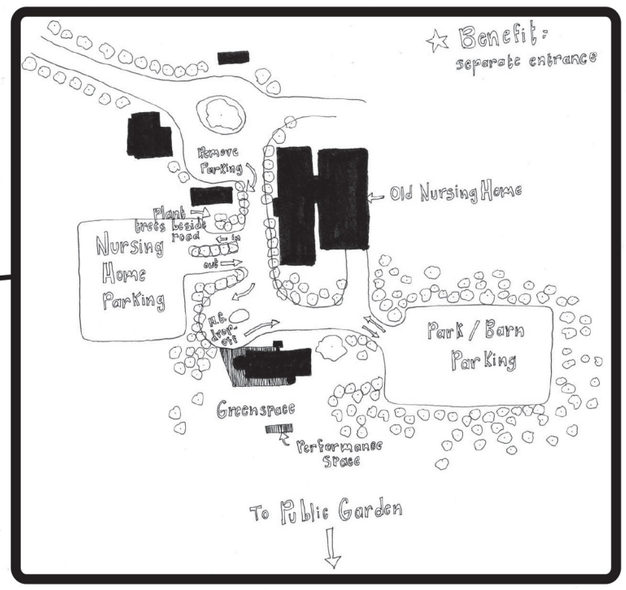

The Red Barn

Bedford, VA

Public Garden

Designed by: Antonia Ciaverella

July 19, 2008

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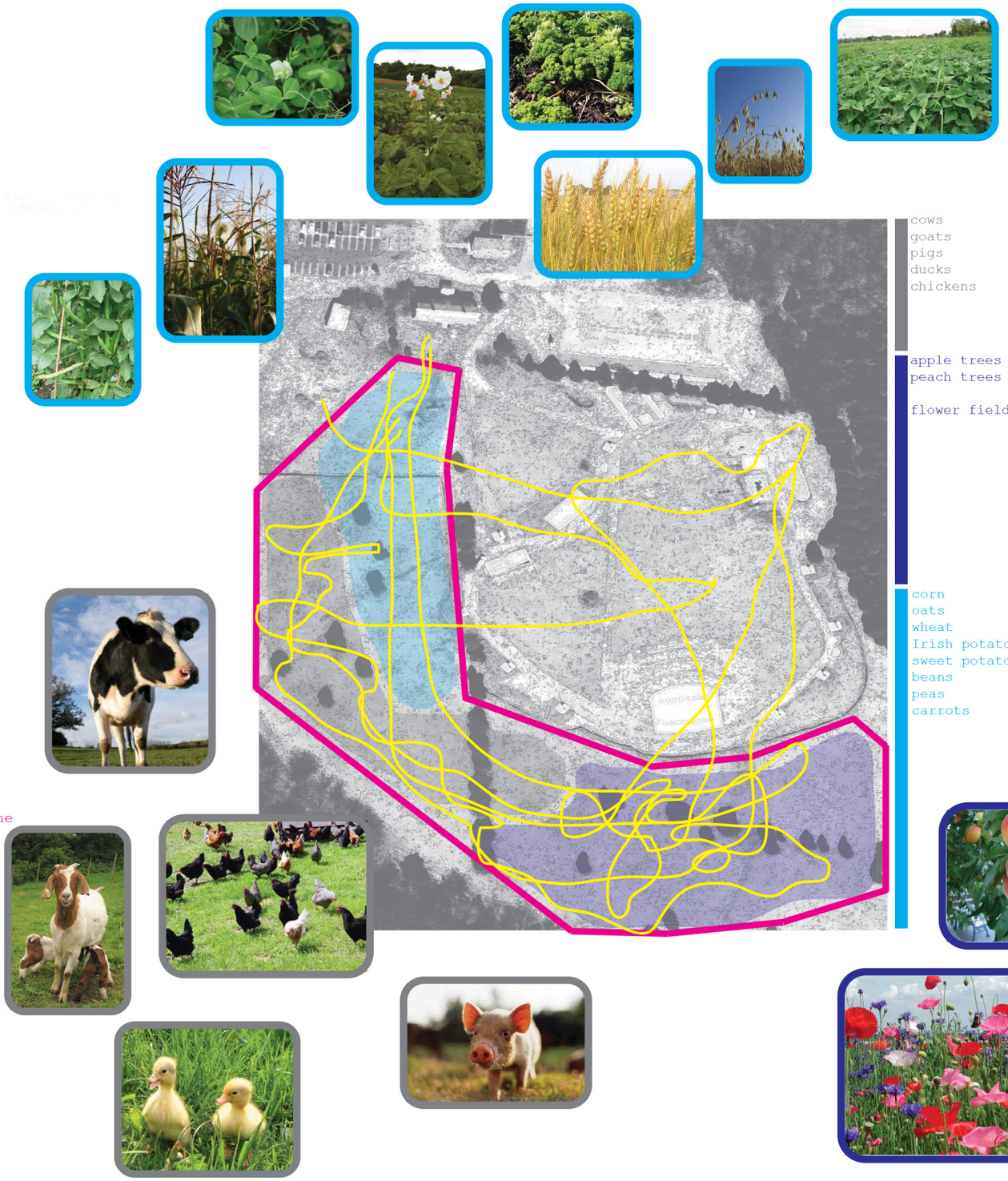
corn
oats
wheat
tobacco
Irish potatoes
sweet potatoes
beans
peas
hemp
flax
sugar
maplesap
sugar beets
hops
molassas
honey
apples
peaches
clover
rye
milk
butter
cheese
wool
grain
flour
carrots
cotton
silk
wool carpeting
hearth rugs
blankets
tablecloths
wool counterpane
cotton counterpane
silk vesting
sewing silk
wine
timothy
orchard grass
furniture
carriages
buggies
saddles
bridles
iron work
wagons
shoes
flour barrels
tobacco boxes
printing
book bindinag

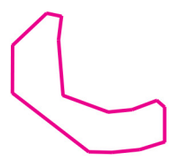


cows
goats
pigs
ducks
chickens

apple trees
peach trees

flower fields

corn
oats
wheat
Irish potatoes
sweet potatoes
beans
peas
carrots



density analysis

RED BARN

Bedford, VA

Picnic&Theater Space

Designed by: Antonia Ciaverella
June 9, 2008

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1_ Preparation Area

2_ Museum Space

3_ Storage Area

4_ Women’s Restroom

5_ Mechanical Room

6_ Men’s Restroom

7_ Farmer’s Market&Artisan Gallery

8_ Picnic&Theater Area

RED BARN

Bedford, VA

N

First Floor Plan

scale 1/4"

Designed by: Antonia Ciaverella
June 9, 2008

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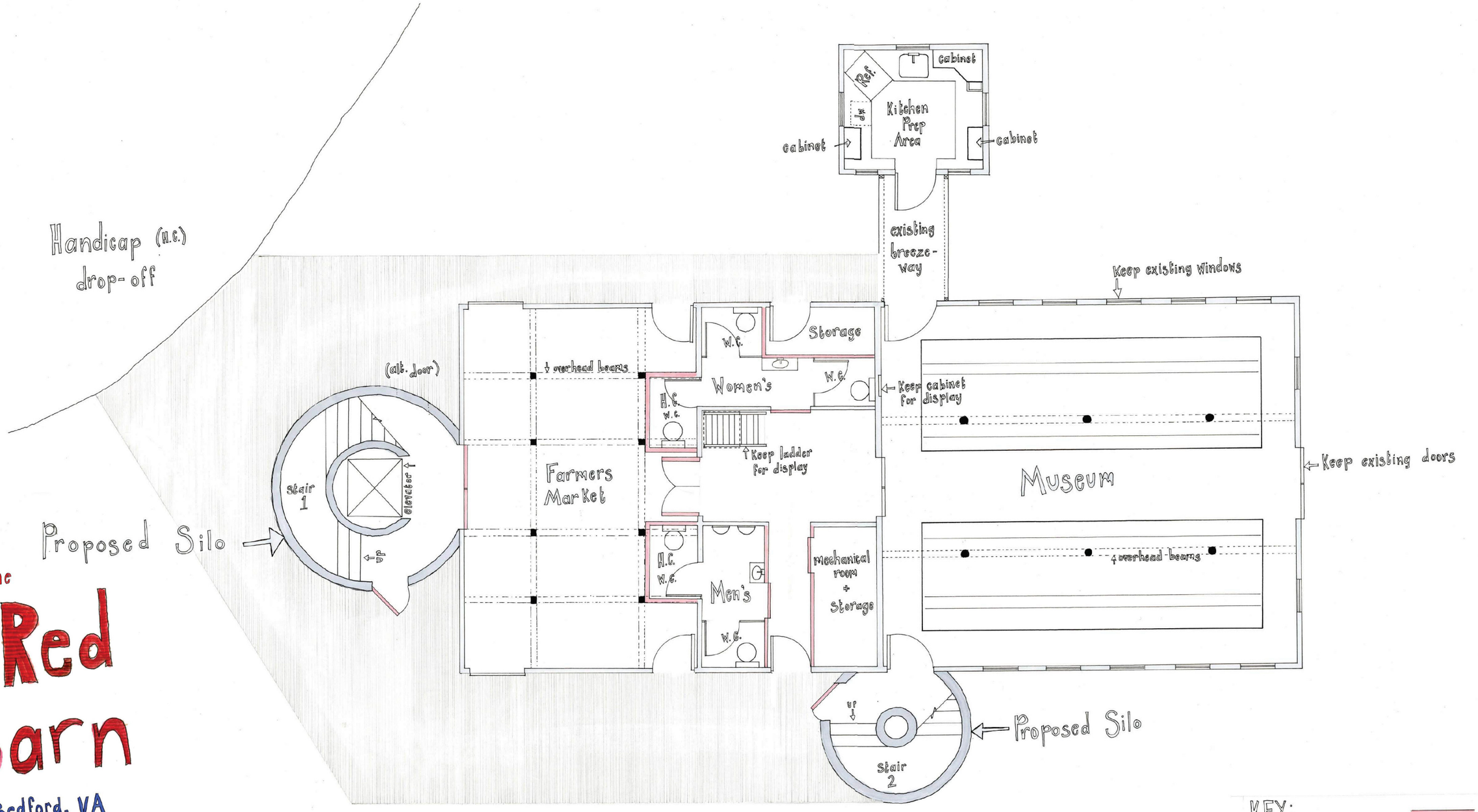

The Red Barn

Bedford, VA

First Floor Plan

Designed by: Antonia Ciaverella

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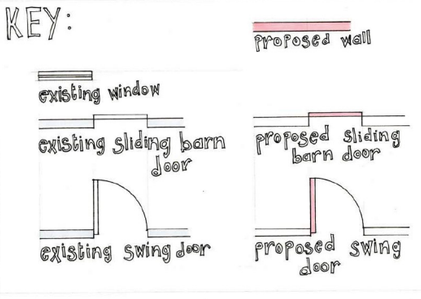
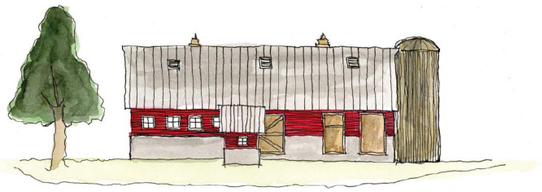
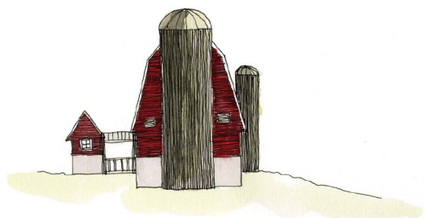
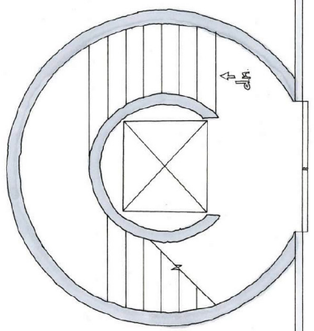




North

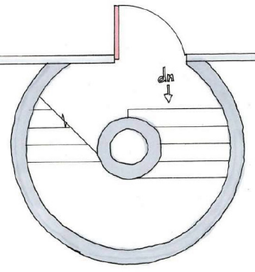


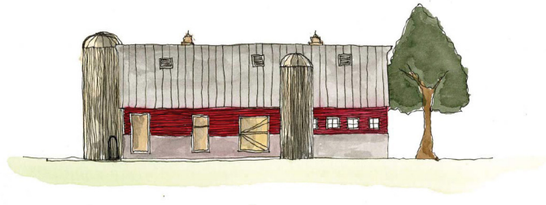
West



Assembly Hall

East





South

The Red Barn

Bedford, VA

Second Floor Plan

Designed by: Antonia Ciaverella

July 19, 2008

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Virginia Polytechnic Institute and State University

KEY:

existing sliding barn door

proposed swing door

The Red Barn

Bedford, VA

Elevations

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July 19, 2008

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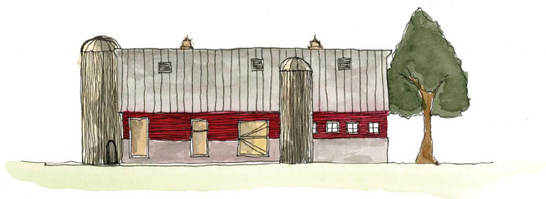
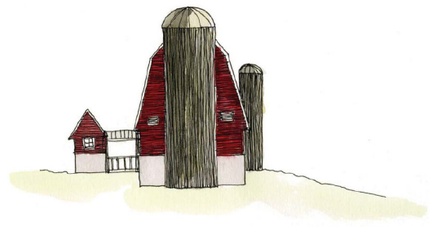
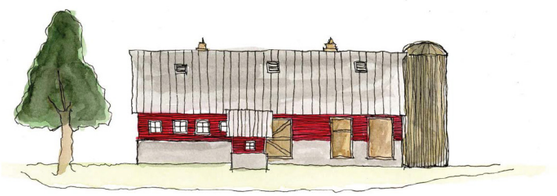
East



South



West



North

Revisit history, revitalize the future!

The Red Barn

Bedford, VA

Designed by: Antonia Ciaverella

July 19, 2008

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Museum

Arrival to the barn becomes a departure as one first enters the museum space. Recollections of 1930's dairy farming surround the visitor, engaging his imagination as he traverses the history presently before him. Feeling as though time stands still within these red walls,

the visitor is suspended;

he bridges time while walking the museum. Once, he milks a cow! And smiling, proudly sips the freshly bottled milk while others enjoy homemade milkshakes, ice-cream, and hot chocolate from the barn's market.

Farmer's Market & Artisan Gallery

The market is extraordinary! Farmers and artisans display their wares on transformable stalls; locally grown fruits, vegetables, herbs, flowers, jams, cheeses, and baked goods fill the space on market day. Hand-crafted pottery, quilts, stationery, purses, and shawls accompany them. This room is never empty; when market is not present, the visitor discovers an art-gallery, or a workshop for learning crafts, or yet still, a family celebrating a birthday! The space seems boundless, unconfined, transformable, ever-changing, and energetic. The visitor experiences this microcosm expanding towards the horizon, at every direction extending its floor beyond the structure, reaching for the ends of the earth. "How it must yearn to climb the distant mountains!" perceives the visitor. The floor reaches out, blanketing the ground as it travels its topography, leading the feet of the visitor towards a garden.

Public Garden

A familiarity presides within this gentle space. The visitor picks fruit from the trees, and watches others collect berries and flowers. Children run over from the nearby playground and scurry up a tree for a snack; tree-climbing was always the visitor's favorite childhood pastime. He listens to all the birds' songs, trying to properly identify them; he thoughtfully consults a brochure obtained from the museum. Here, he reads not only about the wildlife native to Bedford, but also about the agriculture represented by this garden. The nature trail leads the visitor around the grounds and back to the barn.

Picnic & Theater Space

Music fills the air! As the visitor approaches, he notices a crowd upon the blanket of floor; finding a spot, he sits cross-legged, continuing to savor what he gleaned from his walk, followed by a swift gulp of the milk he earned earlier. The band played through dinner, and the visitor noticed families with picnic baskets arriving for the festivities. The children found it difficult to concentrate on food with a playground so nearby.

With the band's final song, came evening. Accompanying evening, was a party of elegantly dressed men and women who proceeded upstairs to a most majestic space! Uninterrupted views of the expanse of the barn, its structure, craftsmanship, and beauty overwhelm the guests.

Assembly Hall

Night falls, and as the visitor turns to leave, he glances once more at the dairy barn now illumined with a soft glow, and the sound of smiles.

RED BARN

Bedford, VA

Design Statement

Designed by: Antonia Ciaverella
June 9, 2008

community design assistance center
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University

The Red Barn

Bedford, VA

Designed by: Antonia Ciaverella
with images from National Geographic
July 19, 2008

cd community design
ac assistance center

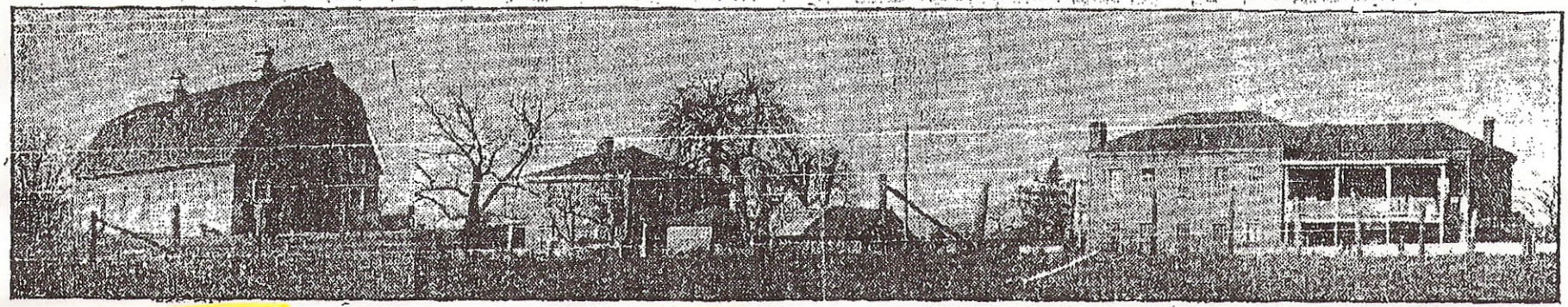
College of Architecture and Urban Studies
Virginia Polytechnic Institute and State University

Conclusion

The information provided in this report, such as contacting the Department of Historic Resources (DHR), information from DHR, examples of other successful renovated barns, and conceptual measured drawings of the barn, provide a strong foundation of information. Combined with a conceptual design that honors, celebrates, and revisits the agricultural history of the County, while also being forward thinking through green renovations, this provides an opportunity to create an exceptional community facility that can become a showcase at both the state and national levels.

- View of the Farm Home where Bedford County cares for its indigent citizens
- Bedford Red Barn Stakeholders Meeting 4/2/08
- Bedford Red Barn Community Meeting 4/4/08
- Examples of Renovated Barns
- DHR No.2 Insulation
- DHR No.3 Retrofitting Historic Windows
- Historic Register Frequently Asked Questions
- Historic Register Incentives and Grants
- Historic Register Federal and State Rehabilitation Tax Credits
- Facts About Virginia's Historic Rehabilitation Tax Credit
- National Trust for Historic Preservation Recognition Award Winner's Iverson Farm
- National Trust for Historic Preservation Recognition Award Winner's Waywood Farm
- National Trust for Historic Preservation: About Barn Again!
- National Trust for Historic Preservation: Answers to Barn Again! Questions
- National Trust for Historic Preservation: Financial Help for Barn Preservation Projects
- National Trust for Historic Preservation: Publication merchandise

View of The Farm Home Where Bedford County Cares For Its Indigent Citizens



The three buildings shown above comprise the Bedford county almshouse where a total of 43 indigent persons are cared for with public funds. On the left is the new $5,000 barn, built about a year ago, which is considered a "model" structure, modern in every detail. The building in the center of the group is the home of the superintendent, A. B. Parker, who has held the post for the last five years. On the right is the dormitory where 29 adults—17 white and 12 colored—live together with 14 children—12 white and two colored. The negro quarters are shown in the picture. White residents live on the other side of the building.

Most of the residents are suffering the infirmaties of age, but are able to do their share of the labor incident to the operation of the institution. A regular schedule of work, each person having his duties to perform, is in operation, making the work light and well distributed. Often the children residents, upon reaching a workable age, are given homes with citizens of the county. They are sent to the county schools as soon as their age and ability permits if homes are not found for them.

Some of the foodstuffs consumed are produced on the large farm which surrounds the institution. Medical assistance is furnished by the county and residents are confined upon the slightest development of any illness. Every precaution for the prevention of disease among them is taken. One of the residents, a negress, is reported to be over 100 years old, but enjoys the best of health most of the time, according to the superintendent.

The facilities of the dormitory are taxed to capacity at present, Superintendent Parker said, but he may be forced to make room for several new residents in the near future. The superintendent is shown in front of the new barn, conversing with Claude Harrison, Sr., co-publisher of The Bedford Democrat.

Bedford Red Barn Stakeholders Meeting
Wed, 4/2/08
11:30-1

Name	Organization	Phone	Email
S. Adams	Bedford Visitors Center	434-299-7299	
Michael Stokes	BCPRD	540-586-7682	m.stokes@co.bedford.va.us
Wyatt Woody	Bedford County Associations	540-875-8889	w.woody@co.bedford.va.us
Penny Champaign	BCPRD	540-586-7682	
Herb Crowder	Bedford Retired	540-586-4875	
Allyna Jones	Citizen	540-586-6864	jgjones@msc.com
Sharon Rose	BCPRD	540-586-7682	s.rose@co.bedford.ca.us

Comments:

- Check out Wolftrapp up by Washington DC. It is a former barn that is now an arts/amphitheater
- Keep the use as a working barn! That is what it was historically so keep it that way. It could be a good educational opportunity for the children. Have live animals there.
- We need to think about whether we want an income generator or an income drainer (which a working farm/barn would be).
- Funding – Michael Stokes has requested seed money. To date, the Board of Supervisors has not dedicated any money to this project at this time. The project will need donations and grants.
- Use – the use may depend on what funding we can get (the funding dictates the use). Are Southern States and the Farm Bureau possible sources for funding?
- Could this be similar to the D Day Memorial in that the goal is education? Though who would then sponsor would be a question.
- Old Deed – Michael Stokes thought he had a copy of the old deed for the poor farm.
- How will the park be used? Education? Multi-use? Community events? Theater? What is the whole concept for the park? How can the barn be tied into the park? The park is:
  - multi-generational with the playground, picnic, shuffleboard, exercise stations, ADA paved trail, opportunities for the entire population, and passive vs active.
  - cultural - It also has opportunities for cultural events (one picnic shelter is shaped like an amphitheater)
  - educational – interpretive trails
- The Barn use should be multi-generational just like the park.
- The Bath County barn has been renovated for use as a community center with areas for classes. Bedford has no area for banquets, local sports teams, or other associations to use.
- Could a famers' market be at the site in conjunction with the barn. Not to have it in the barn, but outside. T would be convenient if bringing children to the park. This could provide an opportunity for incorporating educational aspects (the rural heritage of the area and what crops used to grow here).
- The barn should have a community purpose. Could boy scouts rent for events? Wed dings? Reunions?

- Could there be a deck off the back side for such events?
- There is already an arts center in Bedford, but it is for the fine arts. Could part of the barn be renovated something like the barn in Floyd with "stalls" for looming, weaving, crafts as they were done 100 years ago. Could live animals be outside and available for such things as sheering?
- Other ideas for the "stalls" include:
    - Display areas for history
    - Community room upstairs
    - Multiple educational rooms
    - Make the lower space so it can be rotated (quilting a few weeks, stained glass a few weeks, etc)
    - Use partitions instead of walls
    - Make it into a computer lab
- Make the barn as much of a community building as possible
- How would it be heated?
- There are so few places to have large meetings, reunions, or wedding receptions. We keep getting calls. It is needed for all ages. It's a good central location. The Welcome Center meeting room is not large enough. Hotels don't have banquet halls (the new hotel can only hold 100).
- The barn could provide an economic boost to hotels if people come to reunions and weddings at the barn. Special Olympics also needs a place. The Visitors Center has to turn people away as well because the space is not big enough. There is a tourism/economic benefit if we draw people to hotels.
- The building should be checked for termite damage and to make sure it is structurally sound.
- Are there environmental waste issues? Underground tanks or trash piles?
- Could there be Farm Demonstration Days? We could obtain donations of equipment from farmers then put it all out on display.
- Sports equipment is stored all over the County. The former nursing home could be used for offices and to store equipment.
- The road used to be called Poor House Road.

Bedford Red Barn Community Meeting
April 4, 2008

- Purpose of meeting was to discuss thoughts, ideas and best use of old red barn at Falling Creek. The Board of Supervisors had requested that this be looked into for different uses.
- Kathleen Guzi explained purpose of meeting and asked that everyone be respectful of other peoples' ideas – that this was just the beginning.
- Michael explained about Virginia Tech Community Design Assistance Center being involved. Other communities have turned older buildings into areas of interest and useful purposes. We also want to preserve our rural heritage.
- Randy Nixon from the City of Bedford asked what condition the inside of the building was like. Michael stated it had about 2,000 square feet of wooden floors. A community center could be an option which is a real need in the area. This could be used for wedding receptions, banquets or community events.
- Herb White asked why the old nursing home was not being used and if the recreation department was going to be able to use it. He suggested possibly using the old barn for storage.
- Betty Gereau stated the barn might be able to be placed on the Historical Register. It was built around 1935 for $5,000 and thought to be a "Sears's kit". Betty spoke about other areas and possible funding due to the historic nature.
- Michael stated we were looking at this as a shared endeavor with private and public funding.
- Someone else suggested maybe holding a county fair at the site.
- Most people thought we should at least fix the outside first to maintain it. Another sugges tion was to have a forestry and equipment exhibit or a rural life museum or historic district.
- Ruby Dooley agreed that it should be preserved, but we needed a large room for meetings. She felt it should only be used by adults – that children would tear it up.
- Others spoke in favor of preserving barn, but were opposed to any tax funding for this project. Felt it should be a community effort.
- Someone asked who would make the final decision on the use or future of the barn. It would be the Board of Supervisors.
- Scott Baker of the Extension Service stated that Madison County had a master plan that incorporated the use of an older building with Parks and Recreation for a mixed use. He thought maybe having a weekly or monthly farmers market would be a draw for citizens and visitors.
- Whatever we do it should be appealing to a large percentage of people.

Bedford Red Barn Stakeholders Meeting
5/15/08

Present:
Lynn Scott, Tourism, 540-587-5683, lynn@visitbedford.com
Michael Stokes, Bedford County Parks & Recreation
Mike Trussell, Stellar One, 540-587-6611
Sue Trussell, Bedford Woman's Club/Tourism, 540-587-6611, buffie133@verizon.net
One other not listed

Comments about Concept #1:
Site design:

- Like the idea of a deck better than a patio area unless the paved seating area could have some kind of rustic feel to it so it blends into the barn character. Perhaps a 10' deck off the back?
- Add historical character fencing to the farmers market exterior area to separate uses?

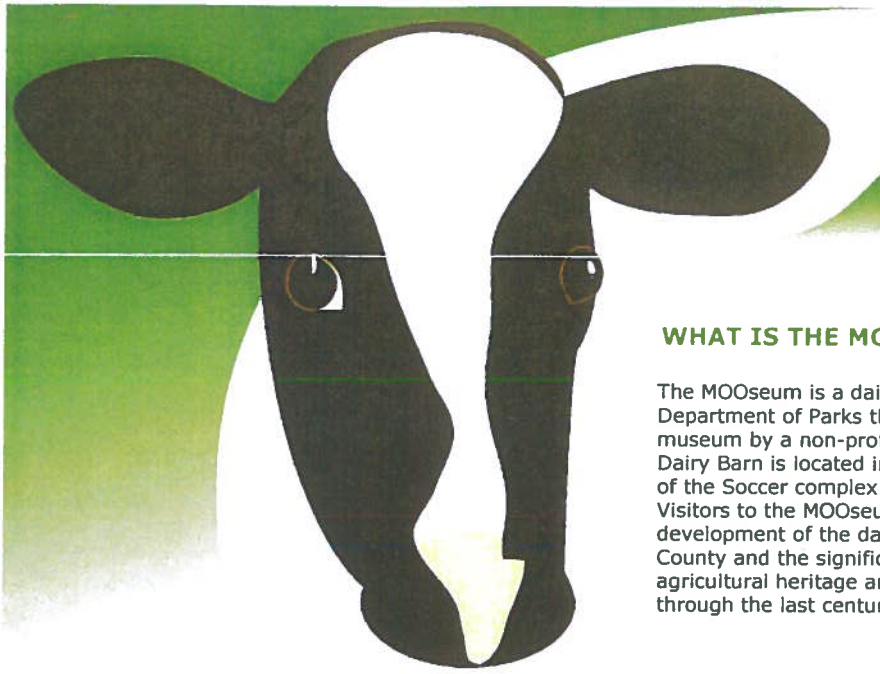
First Floor:

- Flip your floor plan so that the farm exhibitions and restrooms are on the right/east side of the building and the gathering area is on the left/west side.
- The classrooms are too small. Upstairs can be used for classes. One suggestion is to use the top/north side classroom space for the catering prep area. Another is to use the bot tom/southern side classroom as a restroom.
- Build a rustic looking building outside that looks like some kind of farming support building and use that for a storage area.
- There is too much distance between the restrooms and the upstairs/stairs to upstairs.
- What is the Media Center/what function does it serve?
- Like the steel/glass concept as long as steel has an antique look. No art deco!
- If the restrooms are at the right/east side of the building, it's ok to have only one of the indentations in the floor preserved.
-

Second Floor:

- If there are sky lights, a shading system will be needed. If the light is coming in the side dormer area, should be ok.
- Add an elevator; perhaps an exterior one made to look like a silo.
- Add exterior stairs; maybe include stairs in silo as well?
- **Comments about Concept #2:**
- Like the demonstration area with antiquey items
- Like the bathrooms downstairs
- Like the garden space for the community to experience and learn from. Have plots to show what is grown locally? Question is who will maintain it? Suggestions included Staunton River group, Liberty University, Future Farmers of America, 4-H, CVCC Horticulture w aith Claire Robinson, Master Gardeners.
- Really like the interior open space. Keep upstairs open. Downstairs doesn't have to be for functions. Lots of kids have never been in a barn.
- Able to keep lower level open during the day and close off access to upstairs?

- Could interior farmers market area be flexible enough to be used for functions as well?
- Could volunteers be used to monitor the space?
- Like the restrooms as designed with east access to the outside. Take away the closets to make the bathrooms larger.
- Like that the integrity of the building has been kept.
- Have information about local birds and plants that can be seen at the park.
- Silo – have an outdoor space with a view like at Homestead Dairy



MOOseum

WHAT IS THE MOOSEUM ?

The MOOseum is a dairy barn owned by the Department of Parks that is being developed into a museum by a non-profit organization. The King Dairy Barn is located in Germantown in the middle of the Soccer complex.
Visitors to the MOOseum learn about the development of the dairy industry in Montgomery County and the significance the industry is to our agricultural heritage and economic development through the last century.

Telling the story of the dairy farms and farmers in Montgomery County ...

About · Around the Barn · Programs · Directions · Contact

18028 Central Park Circle, South Germantown Recreational Park, Boyds, Maryland

M-NCPPC

MONTGOMERY COUNTY DEPARTMENT OF PARK AND PLANNING

THE MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION

9500 Brunett Avenue
Silver Spring, Maryland 20901

MCPB Agenda Item # 2
MCPB Date October 20, 2005

October 14, 2005

MEMORANDUM

TO: Montgomery County Planning Board

FROM: Michael F. Riley, Chief, Park Development Division (PDD) MR
Mary Ellen Venzke, CIP Manager, PDD MEV

SUBJECT: Proposed FY07-12 Parks CIP Work Session #4

Staff Recommendation

- Approve staff recommendations related to cited projects for inclusion in the FY07-12 Capital Improvements Program (CIP)
- Approve the Planning Board recommended Parks FY07-12 CIP for transmittal to the County Executive & County Council

CIP Schedule

This is the fourth and final work session on the proposed Parks FY07-12 CIP. This work session will provide the Board with staff recommendations for revisions to the existing South Germantown Soccer and Non-Soccer PDFs; staff recommendations for an interim skate park at Takoma Piney Branch Local Park; a briefing by County-wide Planning division on the report of programming options for the Agricultural History Farm; and a full set of project description forms (PDFs) for inclusion in the FY07-12 CIP. Staff seeks approval of the FY07-12 CIP for transmittal to the County Executive.

Staff has included a complete set of project description forms (PDFs) for new projects and projects continuing from the FY05-10 CIP, although staff will continue to make minor text edits and/or adjustments to PDFs before the final transmittal to the County. The Board's recommended FY07-12 CIP will be forwarded to the County Executive and County Council by November 1st, as required by State law.

The County Executive will recommend a proposed FY07-12 CIP by January 15, 2006. The County Council will hold public hearings on the proposed CIP for the entire County,

for the expenditure of $132,000 in public funds to complete site and infrastructure work necessary to support the Racquet and Fitness Center. It is anticipated that funds already appropriated for Phase 1 will be sufficient to cover this expense, so no additional appropriation is requested for this work. The expenditure of the funds will be programmed in FY06. It is anticipated that the Council will act on the lease amendment prior to adoption of the CIP.

Germantown Indoor Swim Center:

The Montgomery County Revenue Authority is constructing the Germantown Indoor Swim Center within the park. The adopted PDF included an expenditure of a contribution of $319,000 from the Revenue Authority in return for the Commission providing site and infrastructure improvements in advance of the construction of the swim center. The majority of $319,000 has been spent on site work, but $30,000 of it was allocated to pay for the Commission's staff costs for monitoring the project. The swim center is scheduled to open in November 2005, so the remainder of the contribution will be spent in FY06.

South Germantown Recreational Park: **Non-Soccer Facilities**, PDF No. 998729

Completion of non-soccer facilities:

The same contractor that defaulted on Phase 1 of the SoccerPlex was under contract to perform site and infrastructure work associated with non-soccer facilities. Consequently, construction of non-soccer facilities (splash playground, an adventure playground, etc.) has not been fully completed or appropriately closed out with regulatory agencies that issued permits for the project. Some progress has occurred in the past months towards completion of the contract work, but final completion of work and settlement of related claims has not occurred. Since the work is not yet complete, a portion of the non-soccer appropriation has not been spent.

King Dairy Barn Mooseum:

The King Dairy Barn Mooseum was incorporated in the South Germantown Recreation Park Master Plan during the planning and design phases of the Soccerplex and Non-Soccerplex facilities.

During that time supporters of retaining the barn pointed to the fact that Montgomery County has a significant history of dairy farms with 285 operating dairies in 1952. This has decreased significantly and now there are only 11 operating dairy farms located in the County. The Commission purchased this 1930's dairy barn in the late 1960's, and restored it in 2001-2002. The 2005 draft Strategic Plan for Cultural Resources in Parks lists the James King Barn as one of 20 top priority Park owned projects and part of the Farming History Cluster.

In FY2000, the Council made the decision to keep the King Dairy Barn and approved a supplemental appropriation of $422,000 for stabilization and renovation. The Commission then received an unsolicited proposal from a group to operate the Barn as heritage museum and educational center. The mission at that time, which remains today is for using the Barn to provide an opportunity to educate the public about the importance of dairy farming in

Montgomery County along with how milk and milk products were produced, processed and distributed for consumption. The Mooseum Group has evolved from a loosely knit group and is now incorporated and received its non-profit status from the IRS in June 2003. The Museum is led by Barbara McGraw (whose Grandfather built the barn) and consists of a Board of Directors comprised of 12 individuals and an advisory group.

After various improvements were made, the Mooseum was given a "temporary" Use and Occupancy permit by the Montgomery County Department of Permitting Services and Department of Fire and Rescue. For two seasons, during the June National Dairy Month in 2002 and 2003, the Mooseum offered barn tours, programming and exhibits inside the barn. However, since that time the Mooseum has been unable to use the Barn and has had to offer it's programs on the outside of the building because the permitting agencies require additional life safety improvements to the barn prior to issuing a permanent use and occupancy permit. This year their programming on the outside of the barn has approached 700 visitors with a significant portion consisting of Elementary School groups. In addition, their annual fund raising event at the Water's House exceeded 125 people this year.

In late 2003, a decision was made to hire an Architect with experience in barn conversions to provide as-built plans and construction document for the alterations. The challenge to both staff and the consultant has been to maintain and preserve the character and integrity of the barn, while meeting the code requirements triggered by changing the use of the barn from agricultural to assembly. The major addition and renovation items required include a fire alarm and suppression system requiring an addition on the Dairy Building for a sprinkler valve room, new water line and fire hydrant, new storefront doors with panic hardware, new ramps both inside and outside for handicapped, and railings for accessibility and safety issues. Completion of the renovations will allow the Mooseum to occupy the first floor of the Barn and provide opportunities to increase the educational programs, display dairy equipment that has been donated, and increase their fund raising capacity.

The total estimate for the project is $550,000. Staff estimates that $331,000 of the unspent balance from the non-soccer appropriation can be dedicated to the Mooseum. Therefore, an additional $219,000 is needed for the project. Staff recommends seeking this additional appropriation in FY07 and reflecting its expenditure in FY07.

2) Interim Skate Park at Takoma Piney Branch Local Park

Staff recommends programming up to $75,000 in current FY07 funding out of the Minor New Construction–Local Parks PDF for an interim skateboard park contingent upon agreement with the City of Takoma Park on operation of the facility.

On March 4, 2002, the Board approved a request from the City of Takoma Park for conversion of the tennis courts at Takoma-Piney Branch Local Park to a skateboard facility that the City would operate. The city intended to acquire grant funding for the facility. To date, the City has been unsuccessful in funding the facility.

Montgomery Parks FOUNDATION

Friends Groups

▪ Agricultural History Farm Park ▪ Brookside Gardens
▪ Black Hill Nature Programs ▪ **King Dairy Barn Mooseum**
▪ First Tee ▪ Oakley Cabin and the Underground Railroad
▪ Locust Grove Nature Center ▪ Friends of Woodstock Equestrian Park ▪ Friends of Recreation ▪ Friends of Norwood Park

Be a park partner!

The King Dairy Barn Mooseum is a heritage museum and educational center at the James and Macie King Barn located in the South Germantown Recreational Park in Germantown, Maryland.

The museum educates the public about the importance of the dairy industry to the early 20th century growth. It demonstrates how the milk and milk products were produced, processed and distributed throughout the metropolitan area. The museum shows how dairy farming as an economic enterprise contributed to the County's financial strength during the depression years to the peak production years of the 1950's.

There are numerous volunteer opportunities at the museum. For more information or to volunteer, please contact:

King Dairy Barn Mooseum
P.O. Box 76
Boyds, MD 20841-0076
or
Waters House at Pleasant Fields
12535 Milestone Manor Lane
Germantown, Maryland 20841

301-528-6530

6910 Greentree Road, Bethesda, MD 20817 301.767.0002 | 301.767.0054 fax

Many made a beeline for the "milking station," where a bucket of milklike liquid hung between wooden cutouts of a cow. Students sat on a small wooden stool and pulled on rubber teats on the bottom of the bucket, squirting milk into a pail.

"It looks like more hard work, but I'm not going to give up," said first-grader Matthew Johnson as he waited in line.

After he had taken his turn, Matthew changed his opinion. "I'd like to milk the cow instead of getting milk from the store," he said.

For first-grader Ananya Tadikonda, the milking station was a highlight.

"It was really fun," she said. "Our hands got milky, and it was funny because it was coming out of a fake cow."

Parent Amy Haines, who was monitoring the milking station, said the event helps remind students that their neighborhood used to be a farm. "We live here. We just don't see animals like a cow," she said. "Some kids never had an opportunity to do this. It's a great opportunity to see an actual cow."

Another popular center was the obstacle course, in which students had to leap a cardboard fence, jump over a pile of wood-chip "manure," run around a cardboard feeding trough and don a sack to hop back to the finish line. Some students decided to take shortcuts.

"Everybody has to jump over the pile of manure in the middle there," reminded parent Lori Fein, who invented the course a few years ago.

Other stations included a ring toss, a center where students could examine samples of cow hair and milk under microscopes, a table covered with examples of dairy products and stations where students could read books about cows while sitting on hay bales.

Over at the cow-petting station, the 3-year-old Holstein and a 2-month-old Jersey calf, both on loan from a local farm, attracted plenty of attention. Putt Willett, who owns a farm in Laytonsville, stood ready to field students' questions about where milk comes from.

"It's certainly simplistic for first and second grades," he said. "I need to think like a first-grader when answering questions."

D'Agnese, the second-grade teacher, praised the dozens of parents who turn out every year to run the stations at the event and send in the $5 donation per student to help pay for it.

"The neat thing about it for me, being a teacher, is bringing parents in," he said. "They have just as much stake as we do."

Festival Offers Window Into County's History

Heritage Days Opens Doors to 42 Sites

By Sarah Marston
Washington Post Staff Writer
Thursday, June 26, 2008; Page GZ06

Surrounded by new developments, strip malls and construction, it's easy for residents to forget the rich history spread throughout Montgomery County.

Heritage Tourism Alliance of Montgomery County's Heritage Days serves as a strong yearly reminder. This weekend, the 11th annual celebration will explore Montgomery's legacy by spotlighting 42 historical sites.

This year's event is about "more sights, more music, more food and more fun," said Peggy Erickson, the alliance's executive director. "We have a fun weekend for families with everything from rock and roll to C&O Canal music to wine tasting at the Sugarloaf Mountain Vineyard."

Most sites will be open Saturday and Sunday for free tours from noon to 4 p.m.

Highlights include the second public viewing Sunday of the one-room cabin on Old Georgetown Road in Bethesda that was once the home of Josiah Henson, the slave whose 1849 autobiography inspired Harriet Beecher Stowe's novel "Uncle Tom's Cabin." Henson lived in the cabin from 1795 to 1825 before escaping to freedom in Canada.

"It's a great opportunity to explore Josiah Henson's background, examine the log structure . . . and learn about a historical figure who was important on a national and international level," said Shirl Spicer, museum manager for the Montgomery County Department of Parks.

A panel of historians will discuss Henson from noon to 1:15 p.m. Saturday (limited to 200 people), and tours of the cabin will be available from 1:30 to 4 p.m. with advance registration. (Go to http://www.parkpass.org or call 301-495-2580 to reserve a time.) No reservations are required for Sunday tours.

Civil War enthusiasts will be able to enjoy the first public tours of Blockhouse Point Conservation Park in Potomac, the home of an 1862 Civil War outpost camp and blockhouse. Visitors will take a two-mile hike to the camp site where Union soldiers stood guard to protect the Potomac River from Confederate troops.

The site is "important because it's one of the last remaining Civil War sites in the county that hasn't experienced disturbance," said Don Housley, a volunteer associate with the county Parks Department and former chairman of Wheaton High School's history department. "On Saturday, we plan to have excavations open, with volunteers working on the site."

Heritage Days also offers cultural and children's activities. The Latvian Museum in Rockville will celebrate Latvian American culture with cookie-making, folk dancing and arts and crafts. The King Barn Dairy MOOseum in Germantown will invite kids to "milk" a faux cow and

This weekend, the King Barn Dairy MOOseum in Germantown will invite kids to "milk" a faux cow and churn butter into cream as part of Heritage Days. (By Don Burgess)

churn butter into cream. Silver Spring's Gateway Heliport Gallery will screen a documentary on a local 1960s African American teen television dance program, and plane lovers can watch model airplanes take to the air at the DC/RC Radio Control Club in Boyds.

For a full schedule and information, call 301-515-0753 or visit http://www.heritagemontgomery.org.

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POTOMAC PRIMARY

Election Results

Obama and McCain swept the region on February 12.

Exhibit Explores Dairy Farm History

Operations Once Thrived in County

By Joe Beck
Gazette Staff Writer
Thursday, October 16, 2008; Page GZ05

Bethesda resident Barbara McGraw has worked nearly a decade to bring a museum to what is left of her childhood stomping grounds: a solitary white dairy barn at the South Germantown Recreational Park.

McGraw and a group of volunteers with the King Barn Dairy Mooseum project recently unveiled an exhibit at the Waters House History Center that gives visitors a glimpse of the dairy farms that once thrived in Montgomery County.

The exhibit's centerpiece is a map tracing the locations of more than 300 dairy farms documented over the past nine years as once having operated in the county. In the past year, nearly 100 farms were added to the map. Montgomery's five remaining dairy farms also are on the map.

Karen Lottes, education director for the county historical society, said Montgomery has not had any comparable listing of dairy farms. The operations included on the map span roughly the past 100 years.

The exhibit, which runs through Nov. 1, includes a reproduction of a 1930s farm kitchen, displaying utensils, furniture and other everyday possessions that pay tribute to the role of women in farming operations of that era. Paintings depicting farm life and transcripts of interviews with retired farmers are part of the exhibit.

McGraw, a descendant of one the county's most prominent dairy families, said she is heartened when she sees how the map strikes a chord among retired farmers.

She is a member of a committee that has been working nearly a decade to open the King Dairy Barn Mooseum at the South Germantown Recreational Park, 695 acres once occupied mostly by her grandparents' herd of 122 dairy cattle.

McGraw said the map and accompanying exhibits give people a taste of what they can expect to find when the Mooseum opens, which she said will be late next year.

"We needed to find a vehicle linking our organization to the families that developed the industry, and the map provided a good way to do that," she said.

Charles Burroughs of Rockville came up with the idea of mapping the history of dairy farming after meeting McGraw in 1999. Burroughs, a retired employee with the National Oceanic and Atmospheric Administration with an interest in cartography, said the map has "a great constituency with these old farmers."

"They just look at it and say, 'Oh, you left out a farm.' They seem to appreciate that we recognize their livelihood," Burroughs said.

Ed Burdette, 65, of Laytonsville is one of the farmers who played a major role in filling out the map. McGraw describes his knowledge about dairy farming in the county as "encyclopedic."

Burdette, who retired from farming in 1994 after 35 years, estimates the county had more than 400 dairy farms at the peak of the industry, which he places from 1945 to 1955. Today's five farms work a total of well less than 1,000 cows, said Doug Tregoning, an agent with the Montgomery County Extension Office.

Montgomery was a tobacco-growing area for much of its history, but the arrival of improved roads and refrigeration and Washington's growing population in the early part of the 20th century transformed the county into a dairy hub, Burdette said.

"It's good to let people know there was something here before 270," he said, referring to the interstate. "When 270 came through, that was the beginning of the end of the dairy business because of the increase in land values. Labor was hard to come by because there were so many other opportunities for people to work."

The King Dairy Barn Mooseum exhibit is at the Waters House History Center, 12535 Milestone Manor Lane in Germantown, from 10 a.m. until 4 p.m. Wednesdays and Saturdays through Nov. 1. Tours can be arranged by calling 301-528-6530.

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MONTGOMERY COUNTY HISTORICAL SOCIETY

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THE MONTGOMERY COUNTY HISTORICAL SOCIETY, INC.
111 W. Montgomery Avenue
Rockville, MD 20850
301-340-2825

info@montgomeryhistory.org

MCHS is supported in part by the Arts & Humanities Council of Montgomery County, the Maryland Historical Trust, Montgomery County Government, and the City of Rockville

Montgomery County Historical Society
Calendar of Events 2008

For more information or to make reservations, please call 301-340-2825. If there is a cost for the program, pre-paid reservations are required. You may charge reservations by phone or send check to: MCHS, 111 West Montgomery Avenue, Rockville, MD 20850.

For information on current and upcoming exhibit go to those pages.

On-Going

Second Sunday of the Month, 12-4:00
Dr. Stonestreet holds office hours at the Stonestreet Museum of 19th Century Medicine
Dr. Edward E. Stonestreet (as portrayed by Clarence Hickey) holds his regular office hours the second Sunday of every month. Learn the realities of medical treatments during this period as Dr. Stonestreet shares his medical knowledge and teaches visitors to make pills and remove bullets. The Stonestreet Museum of 19th Century Medicine was Dr. Stonestreet's Rockville office from 1852 to 1903. Included with museum admission (members free).

First Friday of the Month from 10:30-12:30
Genealogy Help at the Jane C. Sween Library
1st Friday help sessions are open to anyone needing help. Some month's have a specific topic or theme and others are more nuts and bolts. MCHS's Librarian Patricia Andersen and trained volunteers will help answer your genealogical questions. Included with admission (members free). 301-340-2974/ pandersen@montgomeryhistory.org. It is recommended you call first to determine the month's topic.

Programs and Events

Oral History Panel on Farming: Sunday, October 19 at 3:00

MCHS & the King Barn Dairy MOOseum are hosting an oral history panel exploring dairying activities in the County, what dairy farming was like and the importance of it to the economic prosperity of the county in the 1900s. The panel includes Bill Duvall and Ed Burdette and will be moderated by Cindy Pfanstiehl of Montgomery College. This program is held in conjunction with the exhibit on dairy farming at the Waters House, 12535 Milestone Manor Lane, Germantown. Admission is free, but reservations are required, 301-515-2887.

Genealogy Club: *Show and Tell*: Wednesday, October 22 at 7:30
Come prepared to talk about a genealogical success story or show us a technique you've used to get past a brick wall. The Rockville Senior Center, 1150 Carnation Dr., Rockville. Free.

***Using the Internet for Genealogical Research:* A Four Week Course**
The Genealogy Club and the Rockville Library are co-sponsoring a free four session class on genealogical research on the internet. The first session will also include a brief introduction to beginning genealogy. Other topics include Rootsweb, Cyndislist, and websites from the National Archives and Library of Congress. There will be in-depth classes on FamilySearch and Heritage Quest. The classes will be held in the Rockville Library's PC lab on Thursdays October 23, October 30, November 6 and November 13 from 6:30 to 8:00PM. Registrants must be adept at using the internet. You must register on-line on the Montgomery County Library website **www.montgomerycountymd.gov/libraries**. On the top right, there is a drop-down menu titled "Most Popular Pages". Select "Calendar of

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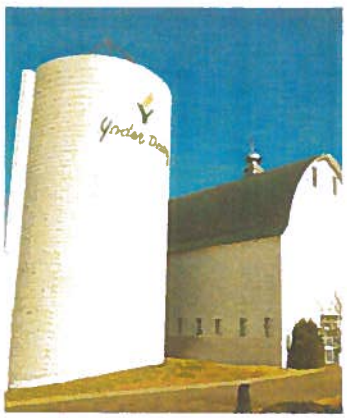
Christopher Newport University's Yoder Barn in Newport News

The Yoder Barn was built in 1935 by the Yoder family following a fire that destroyed their original barn built in 1899. The Yoders ran a dairy farm until 1969 when they closed their processing plant operation to raise beef cattle and farm crops. Upon the sale of the main farm land in 1995, the family donated property they owned a quarter of a mile away to a community theater project on which the current Yoder barn was moved to serve as the theater's structure.

The Yoder Barn Theatre was given to Christopher Newport University by the Yoder family and the Yoder Preservation Trust, Inc. on March 15, 2007.

The Yoder Barn
660 Hamilton Drive
Newport News, VA 23602



Directions

The West
I-64 East to Exit 256-A, Oyster Point Road • Merge onto Oyster Point Road (VA-171 W) • Turn right onto Criston Drive • Turn left onto Hamilton Drive

The East
I-64 West to Exit 256-A, Oyster Point Road • Merge onto Oyster Point Road (VA-171 W) • Turn right onto Criston Drive • Turn left onto Hamilton Drive

Dining | Shopping | Lodging

The Critics Rave!

"Virginia Premiere Theatre with its exceptional productions is a major addition to our artistic environment ... our region will be greatly enriched"

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Mayor of Williamsburg

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– Portfolio Magazine

"An extraordinary life, on stage ... well done ..."

– David Nicholson,
The Daily Press

"Peter Moore's direction is just right all the time. Lausanne Davis-Carpenter's sets and Todd Cooke's lighting are most effective. Don't miss this one."

– Edgar Loessin,
WHRO Public Radio

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CNU's Yoder Barn [TRR's Historic Venue on the Pennisula]

CNU's Yoder Barn Theatre is a well-known landmark on the Peninsula of Virginia. The barn was built in 1935 by the Yoder family following a fire that destroyed their original barn built in 1899. The Yoders ran a dairy farm until 1969 when they closed their processing plant operation to raise beef cattle and farm crops. Upon the sale of the main farm land in 1995, the family donated property they owned a quarter of a mile away to a community theatre project on which the current Yoder barn was moved to serve as the Theatre's structure.

In the spring of 2007, this landmark was given to Christopher Newport University by the Yoder family and the Yoder Preservation Trust, Inc. The official donation was presented to CNU's President Paul Trible, marking the third chapter for the barn that housed dairy cows from 1935 to 1969, later a community theatre and now it is home to Tidewater Regional Repertory Theatre.

Tickets | Tidewater Regional Repertory Theatre

Our Premiere Production | A Best-Loved American Story | One of the Funniest Plays...Ever!

ticketmaster | CNU HOME | The City of Newport News

Yoder Barn Theatre - Newport News Culture

Show All

Newport News Attractions (14)
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Museums (3)
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Newport News
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Hotel Features
Outdoor Pool (1)
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Yoder Barn Theatre Information

Name	Yoder Barn Theatre
Brief Description	The restored dairy barn makes a beautiful performance venue.
Type	Attraction
Category	Newport News Virginia Culture
Description	From Hayloft to Symphony Hall, built in 1935, the Historic Yoder Barn in Newport News, Virginia has stood as a Peninsula landmark for over 60 years. It was once a home for cows. Now the Yoder Barn is preserved as a theater providing a variety of quality entertainment from musicals and plays to concerts and folk operas. Imagine...watching a professionally produced, Broadway style musical in the nostalgic setting of a fully renovated dairy barn! Up-to-date theatrical lighting blends with rustic charm to create the most unique performance space in the area. Excellent acoustics provide a remarkable location for a variety of concerts from singers to symphonies. Music soars in the open rafters of the gothic style arch roof and there isn't a bad seat in the house! Nominated for best small performance venue in Hampton Roads by Port Folio Weekly Magazine!
Address	660 Hamilton Drive
CSZ	Newport News, VA 23602
Cost	Varies with performance
Website	www.yoderbarn.com
Additional Information	Additional Information
Last Updated	8/2/2007
Add	Create an online Newport News vacation itinerary. You can use WeGoPlaces.com to plan your free online Newport News vacation itinerary! Click the "Add" button to add Yoder Barn Theatre to your Newport News vacation itinerary.

Where is Yoder Barn Theatre?

What's Nearby?

State of Maryland
2006 Bond Bill Fact Sheet

1. Senate LR #	Bill #	House LR #	Bill #	2. Name of Project
3521	SB979	3480	HB1573	Creation of a State Debt – Montgomery County - King Farm Dairy MOOseum

3. Senate Bill Sponsors	House Bill Sponsors
Sen. Garagiola and Hogan	Del. Cryor, et. al.
4. Jurisdiction (County or Baltimore City)	**5. Requested Amount**
Montgomery County	$219,000.

6. Purpose of Bill

Authorizing the creation of a State Debt to serve as a grant to the Maryland-National Capital Park and Planning Commission for the design, construction, repair, renovation, reconstruction, and capital equipping of the King Farm Dairy MOOseum.

7. Matching Fund Requirements

This bill requires a standard match.

8. Special Provisions

Prior to the issuance of the bonds, the grantee shall grant and convey to the Maryland Historical Trust a perpetual preservation easement.

9. Description and Purpose of Grantee Organization (3000 characters maximum)

The purpose of the KBDM is to develop the King Barn into a dairy museum (the MOOseum)as an education-based heritage landmark that is compatible with, and enhancing to, the surrounding park and region. This museum is one of only four in the nation devoted to dairying and the only one in the Eastern U.S.

King Barn Dairy MOOseum was granted 501C3 non-profit status in June 2003 (#01-0703621) and is a Registered Charity in the State of Maryland (#14529).

The MOOseum intends to use the Barn to display collections of dairy-related artifacts and equipment directly related to production, processing and sale of milk and milk products. Areas will be set aside for displays and demonstrations relating to dairy herds, milk, and milk products. A media-area/library is being created that will provide a home for related publications, the gathering of oral histories from area residents involved in dairying and related businesses, as well as photographic and videographic exhibition.

The MOOseum will be sponsoring educational programs for all ages, with emphasis on telling the story of milk production to the County's children. With the continued expansion of residential and commercial use into traditionally agricultural areas our children are becoming disconnected with the realities of food production and the MOOseum will provide an excellent resource bridging the gap between producer and consumer.

Special events, particularly during the summer months, will bring in live animals and demonstrations of milk-related activities: milking, cream separation, butter, ice cream and cheese-making. Story-telling/oral history sessions relating to life on the farm will also be featured.

Since the Barn was built during the Depression Era of the '30's, many of the programs and displays will relate to life on a Dairy Farm during the first half of the 20th Century: distribution systems, labor practices, and changes in milking and cattle breeding methods. Special attention will also be paid to the role of farm women through their past and current involvement in the Cooperative Farm Women's Market which continues to be held twice weekly nearby.

10. Description and Purpose of Project (3000 characters maximum)

In the late 1960's the King Farm was sold to the Montgomery County Park's Department (MCPD) with the understanding that the homestead would be maintained to become the centerpiece of a proposed regional park in an area of the county that was facing commercial and residential encroachment. Thirty-five years later, that park has become a reality, with the King Barn the only building on the site preserved by the County, through the efforts of it's farm family and friends of agricultural throughout the County. In 2000 the site and building were repaired as part of the development of South Germantown Recreational Park (Maryland Soccerplex) and the Barn was made available by the Parks Department to the King Barn Dairy MOOseum, Inc., through a Right of Entry Agreement to begin the process of telling the story of dairying. The Montgomery County Planning Board gave it's unanimous approval for the MOOseum project proposal in April, 2002.

Beginning in June of 2002 the Dairy MOOseum began a brief series of open days to introduce itself to the County with a "Temporary Use and Occupancy Permit" issued by the MCDepartment of Permitting Services and Department of Fire and Rescue. For two seasons the MOOseum offered barn tours, programming and exhibits inside the barn. However, since that time the MOOseum has been unable to use the Barn and has had to offer it's programs on the outside of the building because the permitting agencies require additional life safety improvements to the barn.

In 2004 a decision was made to hire an Architect with experience in barn conversions to provide as-built plans and construction documents for necessary life safety improvements to the barn. The challenge to both the MOOseum, MCPD and the architect has been to maintain and preserve the character and integrity of the barn while meeting the code requirements triggered by changing the use of the barn from agricultural to assembly.

The major additions and renovation items required include a fire alarm and suppression system requiring an addition on the Dairy Building for a sprinkler valve room, new water line and fire hydrant, new storefront doors with panic hardware, new ramps both inside and outside for the handicapped, and railings for accessibility and safety issues.

Completion of the renovations will allow the MOOseum to open the first floor of the Barn to the public and thereby provide opportunities to increase the educational programs, install permanent displays, and increase fund raising capabilities which are necessary to further enhance ongoing and future programming.

Round all amounts to the nearest $1,000. The totals in Items 11 (Estimated Capital Costs) and 12 (Proposed Funding Sources) must match. The proposed funding sources must not include the value of real property unless an equivalent value is shown under Estimated Capital Costs.

11. Estimated Capital Costs

Acquisition	
Design	
Construction	$550,000
Equipment	
Total	$550,000

12. Proposed Funding Sources – (List all funding sources and amounts.)

Source	Amount
Montgomery County Parks Department - South Germantown Recreational Park fund for Non-Soccer Amenities	$331,000
Successful Maryland State Bond Bill Request, 2006	$219,000

Total	$550,000

13. Project Schedule

Begin Design	Complete Design	Begin Construction	Complete Construction
completed	completed	Autumn 2006	May 2007

14. Total Private Funds and Pledges Raised as of January 2006	15. Current Number of People Served Annually at Project Site	16. Number of People to be Served Annually After the Project is Complete
$48,000	<1500 (est.)	2-3000 (est.)

17. Other State Capital Grants to Recipients in Past 15 Years

Legislative Session	Amount	Purpose

18. Legal Name and Address of Grantee	Project Address (If Different)
King Barn Dairy MOOseum, Inc	PO Box 76, Boyds, MD 20841-0076

19. Contact Name and Title	Contact Phone	Email Address
Barbara McGraw President, Board of Directors	301-229-4385	bdmcgraw@earthlink.net
Garner B. Duvall, Jr. Vice President, Board of Directors	301-279-0596	maryandbillduvall@verizon.net
Carol K. English Secretary/Treasurer, Board of Directors	301-320-5524	ckkenglish@aol.com

20. Legislative District in Which Project is Located	15

21. Legal Status of Grantee (Please Check one)

Local Govt.	For Profit	Non Profit	Federal
☐	☐	☒	☐

22. Grantee Legal Representative	
Name:	Frank Cornelius
Phone:	301-762-9292
Address:	
932 Hungerford Drive, #34A Rockville, MD 20850	

23. If Match Includes Real Property:	
Has An Appraisal Been Done?	Yes/No
If Yes, List Appraisal Dates and Value	

24. Impact of Project on Staffing and Operating Cost at Project Site

Current # of Employees	Projected # of Employees	Current Operating Budget	Projected Operating Budget
0	0	$15,080	

25. Ownership of Property (Info Requested by Treasurer's Office for bond issuance purposes)

A. Will the grantee own or lease (pick one) the property to be improved?	Lease
B. If owned, does the grantee plan to sell within 15 years?	
C. Does the grantee intend to lease any portion of the property to others?	no

D. If property is owned by grantee and any space is to be leased, provide the following:

Lessee	Terms of Lease	Cost Covered by Lease	Square Footage Leased

E. If property is leased by grantee – Provide the following:

Name of Leaser	Length of Lease	Options to Renew
King Barn Dairy MOOseum, Inc.	A Right of Entry Agreement was established between MCPD and KBDM in 2000.	It has been verbally agreed by the owners (MCPD) and KBDM that a lease will be granted when public access improvements have been completed and the barn has been issued with a permanent use and occupancy permit.

26. Building Square Footage:	
Current Space GSF	10,000
Space to Be Renovated GSF	5,000
New GSF	
27. Year of Construction of Any Structures Proposed for Renovation, Restoration or Conversion	1930
28. Comments: (3000 characters maximum)	

Over the years, Montgomery County's dairy farmers have been a community within which the individual dairy owners worked and cooperated together. Their prized herds, lands, dairies, farm clubs, organizations and associations enabled them to build a dairy industry with a reputation extending to state and national levels. The James and Macie King farmstead, with it's then "state-of-the-art" 1930's dairy barn, was an example of the success of dairy farming in the first half of the 20th century. At their peak, the dairy farms of Montgomery County exceeded 300 in number and were the main agricultural activity in the county. Today there remain only a handful, closing a chapter on what was once the pride of a vibrant agricultural community in America.

Although our inability to use the interior of the Barn since the Summer of 2003 (because the building does not meet the County Department of Permitting Services and Fire & Safety requirements for a building used for public assembly) has presented challenges, the MOOseum continues it's programming each year with activities "Around the Barn" using the barn as a monumental piece of public sculpture and a centerpiece for our activities, as well as at other sites in the County. KBDM is also actively engaged in acquiring a collection of artifacts, researching the County's Dairy Story through mapping activities, recording oral and pictoral histories of farm families, including our special interest in the Farm Women's Market in anticipation of gaining full public access in the near future.

Educational programming has proved a highlight during our development stage We have begun a strong relationship with many area public and private schools. Matsunaga Elementary in Germantown for the past two years has brought nearly 200 2nd graders to visit each Spring. The program is being widened to include the 1st grade this year and a newly opened elementary school in Germantown intends to participate in the same program. The program includes activities that cross the entire curriculum - reading, math, science, environmental studies, local history, economics and fine arts. It is our hope that the program will eventually be available to Maryland schools beyond Montgomery County.

In 2004 and 2005 KBDM was invited to place an exhibit at Water's House (administered by the Montgomery County Historical Society) in Germantown.. These exhibits, which highlighted our programs and collections, gave us another venue for reaching out to the public, with private tours to Church groups, Scout and School groups and Senior's clubs. In 2005 we integrated this program with an "Around the Barn" walking tour of the barn, which publication was made possible by a grant from Heritage Montgomery. Visitors were encouraged to expand their visit beyond Water's House to the Barn and finally to visit farm markets in the Germantown area. Water's House has invited us to place another month-long exhibit in September 2006.

www.dhr.virginia.gov/pdf-files/insulation1.pdf

FYI No. 2

INSULATION

Many rehabilitation projects include proposals for insulation and weatherization. These treatments have the potential to obscure, alter, or destroy historic spatial character-defining features and added savings. Storm windows, double-glazing, additional attic and basement insulation, efficient HVAC systems, insulated ducting and piping, caulking, and quality weatherstripping are all cost-effective techniques to upgrade the energy efficiency of the overall building envelope with minimal impact to historic fabric.

Wood Frame Buildings

The addition of wall insulation in a wood frame building is generally not recommended because the costs are high, the potential for damage to the building materials is higher, and the potential benefit is negligible. National Park Service regulations 67.7 (c) state that, in nearly all instances, the introduction of insulation into cavity walls of wood frame buildings, where damage to historic fabric would result, will be grounds for denial of certification. This includes:

--The use of water-based foam insulation injected into walls. These types generally shrink during curing, and therefore provide inadequate insulation. Additionally, these foams require the introduction of substantial quantities of water into the frame of the building, with short-range and long-range potential for moisture damage and materials failure.

--The use of any system requiring holes drilled in exterior siding to allow for injection of insulation.

--The use of any insulation without a proper vapor barrier on the warm side.

Vapor Barriers

Heated air inside a building will support more moisture than cold, outside winter air. This warm air passes through uninsulated wall cavities. The moisture-laden vapor reaches dew point on the back side of exterior sheathing. Air movement within the uninsulated cavity allows this condensation to evaporate.

Where wall cavities are insulated, the moisture cannot evaporate, and it is held within the insulation where it can damage wood framing members. Wet insulation material provides no insulation value.

To avoid moisture damage and insure maximum thermal efficiency, a proper vapor barrier must be provided on the warm side of all insulation materials. A vapor barrier can be provided by the following methods.

a. foil facing material on fiberglass insulation.

b. Kraft paper facing only if it is backed with a bituminous or tar-like coating. Kraft paper alone is not a vapor barrier.

c. Polyethylene sheeting placed between the insulation and new plaster or sheetrock.

d. "Vapor Barrier Paints" or other primers which provide a "perm rating" of 1.0 or less. These are applied to plaster or sheetrock wall and ceiling surfaces.

Additional Information Request

If insulation is considered as part of your project, please specify or provide for each type:

1._____ locations.

2._____ methods of installation.

3._____ the increased thickness of affected wall or ceiling surfaces.

4._____ the impact on existing plaster cornice, wainscot, door and window casings and base trim. If any of these features or any wall or ceiling surfaces are to be moved, provide section drawings detailing before- and after-rehabilitation conditions.

5._____ the means of providing a vapor barrier.

For other weatherization techniques, please specify or provide:

6._____ narrative description of techniques proposed.

7._____ overall building envelope energy loss calculations for all other weatherization techniques versus insulation.

Please Note

Inappropriate weatherization or insulation techniques may result in denial of certification. Please contact the Department of Historic Resources at (804) 367-2323 if you require assistance.

FYI No. 3

RETROFITTING HISTORIC WINDOWS

Updated 15 June 2002

Old windows frequently are primary sources of heat loss. Broken glass, loose glazing compound, warped sash, etc., deterioration of old elements. . . . Additionally, many old windows have only a single thickness of glass. . . and substantial gaps between elements, allowing significant infiltration. A variety of retrofit techniques can provide a historic window with thermal efficiency equaling or exceeding that of typical replacement window units. These methods are generally less expensive than wholesale replacement, and they can insure that the greatest amount of historic material is retained in a rehabilitation. Reworking historic window sash for proper fit and operation, installation of high quality weather-stripping, additional layers of glazing, and storm windows are common means of resolving this problem.

Storm Windows are often part of effective window retrofitting procedures. Storm window treatments should be consistent with the character and detail of the historic window opening and overall facade. New units must completely fill the window opening without the use of infill panels. Meeting rails and mullions must align with those of the primary window sash. Glazed areas should match the configuration of the primary sash where possible. In most applications, tinted glass or glazing films should not be used.

When interior storms are used, sufficient ventilation must be provided at the historic prime sash to avoid moisture condensation that will damage the historic window elements. The correct approach to using interior storms is to create a seal on the interior storm while allowing some ventilation around the primary window.

Where the above concerns can be met, the following storm window treatments may be appropriate:

a. Exterior wood storms.

b. Exterior or interior aluminum storms with a factory-applied baked enamel finish to match the prime sash and exterior window trim colors. Bronzed or "silver" mill-finish treatments are generally not appropriate.

c. Interior storm units which do not damage historic materials.

Additional glazing is another way to increase the thermal performance of existing window units. Multiple glazing layers can be provided by the following techniques:

a. The routing of existing sash to accept new (removable) interior or exterior "storm panels." In divided or multi-paned sash, interior panels allow for an undisturbed exterior appearance.

b. The installation of permanent additional glazing, usually implemented with heat-activated desiccant compounds which provide the required moisture control between glass layers.

The additional glazing adds weight to the sash. If the sash operates with sash pulleys and counterweights, the counterweights should be augmented to compensate for the increased weight of the sash.

Other energy measures should always be considered as part of an overall package. The goal of appropriate weatherization measures is to increase the thermal efficiency of the overall building envelope while retaining all repairable historic material in place. The following techniques may meet these criteria and should be explored:

a. Extra insulation in attic, ceiling, and basement locations.

b. Caulking.

c. High quality weather-stripping at doors and windows.

d. Efficient mechanical systems.

e. Insulation of ducting and piping.

ADDITIONAL INFORMATION REQUEST: Please specify or provide:

1._____ Location and description of all window retrofitting techniques.

2._____ Manufacturer's literature for all window retrofitting techniques.

3._____ Location, material, finish, and configuration for storm window units.

4._____ R-value estimates for retrofit options versus all others.

5._____ Life-cycle cost estimates for repair and retrofit options versus all others; estimated pay-back period for each option.

PLEASE NOTE: Inappropriate window retrofitting techniques may result in loss of

architectural integrity and denial of certification for Certified Historic Rehabilitations. Please contact the Department of Historic Resources at (804) 367-2323 if you require assistance.

- ARCHAEOLOGY
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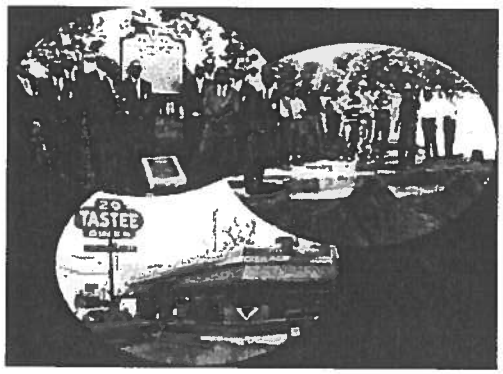
The Virginia Department of Historic Resources is the State Historic Preservation Office. Our mission is to foster, encourage, and support the stewardship of Virginia's significant historic, architectural, archaeological, and cultural resources.



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Historic Registers

Frequently Asked Questions

What are the benefits of registration? Registration is an honor bestowed on historic properties by the state and federal governments. It recognizes the historic value of a property and encourages present and future owners to continue to exercise good stewardship. Owners of registered properties may donate historic preservation *easements* (which can reduce real estate taxes), qualify for the state and federal historic rehabilitation *tax credits*, receive technical assistance from department staff for maintenance and rehabilitation projects, and purchase plaques that mark the property's significance.

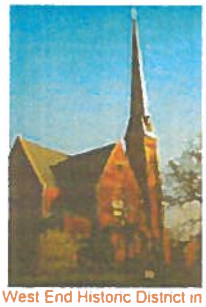
Is registration expensive? No fees are charged for any part of the registration process. Many property owners successfully complete the Preliminary Information Forms and National Register of Historic Places nominations with advice from department staff. Others, however, may wish to pay a consultant to do the work for them. We suggest that they review our *Consultants Directory* and contact several consultants to compare estimated costs. There are costs associated with ordering a *register plaque* for a historic property, and, again, contacting suppliers and comparing estimated costs is recommended.

Will anyone be able to stop me if I want to alter or tear down my property once it's registered? Not as a result of registration. Property owners who donate historic preservation easements, participate in the federal or state tax credit programs, or accept a federal or *state rehabilitation grant* must abide by certain restrictions on alterations or demolitions associated with those programs. Otherwise, only local building codes and permit requirements must be satisfied, as with any property.

Some friends live in a historic district, and they tell me that they have to get permission from a board to repair their porch or paint their house. Will I have officials looking over my shoulder if I register my house? No. Only locally designated historic districts are subject to local zoning ordinances and procedures. Sometimes, a property or district may be listed at the national, state, and local levels but it is only the local designation that places restrictions on private owners.

Do I have to open my property to the public if it is registered? No. Listing in the National Register of Historic Places or the Virginia Landmarks Register does not require that you open your

The Rice House is the most significant example of International Style domestic architecture in Richmond. Listed on the registers in 1999



The Old West End Historic District in Danville contains one of Virginia's most concentrated collection of Victorian and 1900s residences. The First Baptist Church sits on Main Street. Listed on the registers in 1973

The Sidna Allen House, in Carroll County, was briefly home to Allen who was convicted for participating in the Hillsville Massacre of 1912. His house, an expression of the Queen Anne style, was confiscated. Listed on the registers in 1974

The Commodore Theatre, in Portsmouth, opened in 1945. It still serves as a movie-dinner theater today. Listed on the registers in 1997

- ARCHAEOLOGY
- ARCHIVAL RESEARCH
- CERTIFIED LOCAL GOVERNMENT
- EASEMENTS
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- HISTORIC REGISTERS
- INCENTIVES & GRANTS
- REGIONAL OFFICES
- SURVEY & PLANNING
- TAX CREDITS

Incentives & Grants

Now available: *Financial Incentives and Opportunities for Historic Preservation and Archaeology in Virginia* (PDF)

The following department programs offer a variety of financial assistance for historic preservation. If you are interested in any of the programs, select their titles for more information.

Archaeological Threatened Sites. Archaeological sites are some of Virginia's most fragile resources. The Threatened Sites Program offers emergency funding for archaeological sites endangered by erosion, impending development, or vandalism. The program has saved archaeological remnants at 75-plus sites across Virginia, providing important information about our past that would have been lost.

Certified Local Government Grants. Certified Local Governments are eligible for grants that can be used to survey architectural and archaeological resources, prepare nominations to the National Register of Historic Places, create preservation planning documents and programs, create public education programs, and rehabilitate publicly owned buildings listed on the national register.

Civil War Historic Site Preservation Fund. In 2008 the General Assembly authorized the Department of Historic Resources to award $5-plus million in competitive grants to private non-profit organizations to match federal and other monies for the preservation of any endangered Virginia Civil War historic site listed in the "Report on the Nation's Civil War Battlefields," which was issued in 1993 by the National Park Service's congressionally endorsed Civil War Sites Advisory Commission.

Easements. By donating historic preservation easements on their properties, owners are eligible for several financial incentives. The value of an easement, determined by an appraiser, can be deducted from federal taxable income, and up to 50% of the value of the easement may be claimed as a credit against state income taxes. Donation of an easement may stabilize or lower property taxes and can lower inheritance taxes. By eliminating the right to develop the property further, owners lower its estate value. Forty percent of the value of the land included in the easement donation may be excluded from a descendant's estate.

Rehabilitation Tax Credits. Interested in rehabilitating a historic building? Property owners who complete a certified rehabilitation of a significant historic building can receive an income tax credit on 25% of their eligible expenses through the Virginia Rehabilitation Tax Credit Program and an additional 20% credit through the Federal Rehabilitation Tax Credit Program.

State Grants. General Assembly grants are available to local governments, nonprofit historical associations, organizations, and museums for rehabilitation, maintenance, and operation of sites or facilities, or maintenance of collections and exhibitions. Here is the *state grants application form*.

Survey & Planning Cost Share Program. Through the cost share program, localities can partner with DHR to take stock of their historic resources. By knowing all of what it has, a locality can then make sound decisions about planning development. The department partially funds and fully administers the projects, relieving often over-burdened local planning officials.

State Grants to Nonstate Agencies.

For information on applying to the Governor for nonstate agency funding in the Governor's next budget proposal to the General Assembly, please contact Ann Andrus, (804) 367-2323, ext. 133.

Other Preservation Funding

FACTS ABOUT VIRGINIA'S HISTORIC REHABILITATION TAX CREDIT

The state Rehabilitation Tax Credit has been in effect since 1997. Modeled on the highly successful federal rehabilitation tax credit, it has already spurred private investment of over $316 million in the rehabilitation of more than 264 landmark buildings. But the benefits of the rehabilitation tax credit extend far beyond historic preservation. The credit is responsible for:

- Economic benefits, including new jobs, increased household income, and enhanced local revenue;
- Smart growth and sustainable development, by promoting urban revitalization and efficient redevelopment and contributing to the conservation of open space and natural resources;
- Significant social benefits such as restoration of community fabric, improved housing stock (including a substantial number of low and moderate income housing units), inner-city economic development, community preservation, and economic integration.
- Other benefits, including educational resources, promotion of a sense of community and stewardship, and preservation of a vital part of Virginians' identity.

ECONOMIC BENEFITS OF REHABILITATION

- Job creation: An economic study conducted in 1996 showed that for each $1 million spent on rehabilitation, 3.4 more jobs are created than for each $1 million spent on new construction. This is because rehabilitation, while generally cost-competitive overall with new construction, is much more labor intensive. The study showed that for each $1 million spent on rehabilitation, 15.6 jobs are created in the construction industry and 14.2 jobs elsewhere in the economy. According to the study, since the inception of the federal tax credit, the rehabilitation of some 900 historic buildings, with investment of over $350 million, had created 12,697 jobs: 6,647 in the construction trades, and 6,050 elsewhere. Since that study, over $305 million additional dollars have been invested in rehabilitation projects. Applying the figures cited above, this means over 9,000 additional jobs just since 1996: 4,700 in the construction industry, and 4,300 elsewhere. (In 2001 alone, over $100 million worth of investment was certified for the state credit, resulting in over 1,500 jobs in the construction industry and over 1,400 elsewhere in the economy.)

- Increase in household income: The study further showed that household incomes in Virginia had been increased by nearly $275 million through the rehabilitation activity: $153 million directly to those involved in construction and another $122 million to workers in other fields. Again, because rehabilitation is more labor-intensive than new construction, it creates more household wealth. Each $1 million spent on rehabilitation adds $53,500 more to household income than an equivalent amount spent on new construction. Applying the formula from the study, the investment since 1996 of over $305 million has resulted in an increase of over $16 million in household income, well over $5 million of that resulting from projects completed in the past year alone.

- Enhanced local revenues: Rehabilitation activity, and the increased property value that results, enhances local property tax revenue. Studies from various localities have shown that property values in historic districts often rise significantly faster than property values in the community as a whole. For example, between 1980 and 1990, assessments in Richmond's Shockoe Slip rose by 245%, in contrast to the citywide increase of 8.9%. Similarly, between 1987 and 1995, commercial properties outside of historic districts in Staunton appreciated an average of 25.2%, while commercial properties within historic districts appreciated by average rates that ranged from 27.2% to 256.4%. Much of this increase was due to rehabilitation activity driven by the federal tax credit.

- Business and retail activity: Rehabilitation of historic buildings in downtown areas results in enhanced retail and business activity. Through the Virginia Main Street program, over 1,763 new businesses and 4,182 new jobs have been created in historic Virginia communities, and through investment of over $141 million tracked through the program, some 3,000 buildings have been rehabilitated.

- Catalyst effect: Rehabilitation activity serves as a catalyst for additional economic development. The rehabilitation of a single prominent building is in some cases sufficient to galvanize the revitalization of an entire area. In other cases, a series of smaller rehabilitations can ultimately result in the "critical mass" necessary to bring the neighborhood back to prosperity. The dynamics vary from case to case, but examples abound of historic neighborhoods that were once unfashionable, depressed, and dangerous but are now among the most vibrant and desirable real estate in the Commonwealth.

- Tourism: A study by the Virginia Division of Tourism has shown that visitors who stop at historic attractions stay longer, visit twice as many places, and spend, on average, over 2 ½ times more money than do other visitors. Through the use of the rehabilitation tax credits, these destination attractions are supported by historic neighborhoods where visitors can stay in bed and breakfast inns, shop in restored commercial areas, dine in creatively adapted buildings, and stroll through living neighborhoods showcasing a wealth of historic architecture and settlement patterns.

- Infrastructure: Rehabilitation projects make use of existing infrastructure, eliminating the need for taxpayer dollars to construct new roads, water and sewer lines, and gas, electrical, and telephone lines.

- Stabilization effect: There is evidence that rehabilitation activity is often a counter-cyclical activity that can stabilize local economies during slow times. There are a number of reasons for this. For example, the majority of rehabilitation projects are modest in scale, making them affordable when large-scale new construction is not. In addition, rehabilitation projects can be done in stages, making them more feasible during times of short cash flow. Finally, because local laborers and suppliers tend to get a larger share of the total expenditure in rehabilitation projects than in new construction, the benefits tend to be more concentrated locally.

SUSTAINABLE DEVELOPMENT AND SMART GROWTH

- Urban revitalization: Rehabilitation represents one of the most potent tools available for urban revitalization and inner-city redevelopment. Healthy and vibrant cities serve as a check on sprawl and the loss of urban population.

- Efficient development: Rehabilitation of historic buildings focuses on the reuse of existing assets, both infrastructure and buildings. Use of existing infrastructure, which has already been paid for with taxpayer dollars, represents a fiscally responsible policy. In addition, especially if demolition costs are figured in, the cost of rehabilitation is often less than new construction, resulting in more efficient development.

- Open space preservation: Rehabilitation of historic buildings for new uses reduces sprawl and the destruction of open space and agricultural resources.

- Reduced automobile dependence: Historic districts are typically located in or adjacent to downtown areas. By concentrating business, commercial, and residential uses in a limited area, redevelopment projects reduce dependence on automobiles, thereby conserving energy resources, enhancing air quality, reducing traffic congestion, and often improving quality of life for local residents.

- Conservation of resources: Because rehabilitation projects require fewer new materials, and fewer energy resources for transportation of materials, rehabilitation is a more environmentally friendly development approach than new construction.

- Reduced pressure on landfills: A growing concern for Virginia localities is the high cost, both economic and environmental, of solid waste disposal. By preventing demolitions, rehabilitation projects significantly reduce pressure on landfills.

SOCIAL BENEFITS

- Inner-city revitalization: The poor, the elderly, small business owners, and single parents are disproportionately located in older, inner-city neighborhoods. Historic preservation and rehabilitation of older buildings often directs economic activity where it is most urgently needed.

- Improved housing stock: The National Park Service reports that during Fiscal Year 2000, 5,740 housing units were rehabilitated nationwide, and 11,530 new housing units were created using the federal tax credit. Although numbers specific to Virginia are not available, it should be pointed out that in the northeast region, of which Virginia is a part, 62% of projects specified housing as a final use.

- Affordable housing: The National Park Service's report further states that 6,668 low and moderate income housing units were produced using the federal credit, the highest number since 1986. This is 38% of the total housing units completed. Investors often combine other incentives such as low-income housing credits with the rehabilitation credits to make their projects more financially attractive.

- Leveraging of private investment: Economic incentives are an excellent way to catalyze private investment for considerable public benefit. Particularly when rehabilitation tax credits are combined with other incentives such as low-income housing credits or enterprise zone credits, major public policy goals are met using private dollars.

- Community preservation: Rehabilitation projects tend to preserve social networks and traditional community ties by keeping older neighborhoods intact. Furthermore, by focusing on a variety of neighborhoods and resource types, rehabilitation projects represent an effective response to the challenges presented by a diverse multicultural society.

- Economic integration: Historic districts typically contain mixed uses and a variety of building types. They are also often located near public transportation lines, and social infrastructure – churches, schools, and neighborhood groups – are in place. As a result historic districts can, and often do, accommodate residents and property owners of all socioeconomic classes.

OTHER BENEFITS

- Sense of community: Rehabilitation of historic neighborhoods promotes a general sense of community – of who we are and who we have been. By preserving the tangible evidence of past generations, we allow people to be a part of something bigger than themselves.

- Educational resources: Historic buildings represent a primary document for the study of history, architecture, art, and culture. Rehabilitation preserves unique information.

- Stewardship: Rehabilitation represents good stewardship. Preservation of cultural resources for future generations is an investment in the future.

- Virginia's identity: Respect for the past has been a hallmark of the Commonwealth's citizens for generations, and is a defining characteristic of Virginia's identity. Our heritage is rich and diverse, and we continue to feel passionate about preserving it.

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Rehabilitation Tax Credits

Federal and State Rehabilitation Tax Credits

PLEASE NOTE *For folks completing tax-credit projects, the Part 3 application "Request for Certification of Completed Work" must be filed* ***within one year of the completion date*** *for the project.*

The preservation of historic buildings benefits communities. Historic places connect us to our heritage and enrich the quality of our lives in countless intangible ways, but their preservation also provides demonstrable economic benefits. Through the federal and state Rehabilitation Tax Credit programs, property owners are given substantial incentives for private investment in preservation, resulting in enormous advantages to the public. Since the state program's inception in 1997, the program has spurred private investment of approximately $1.5 billion in the rehabilitation of more than 1,200 landmark buildings. This investment in turn has generated an economic impact of nearly $1.6 billion in the Commonwealth and created more than 10,700 jobs and $444 million in associated wages and salaries (for more information, see this January 2008 publication *Prosperity through Preservation*). This money represents costs paid into the construction industry for architects, contractors, craftsmen, and suppliers, with a corresponding increase in local employment. The capital improvement to the buildings results in dramatic increases in local property taxes, as well as a general enhancement in commercial activity. The rehabilitated buildings provide desperately needed housing (in many cases, low- and moderate-income housing), and office, retail, and other commercial space. The communities benefit from property improvement, blight removal, and increased occupancy of buildings in historic core neighborhoods.

State and federal rehabilitation tax credits can be combined to leverage 45% of eligible expenses making multi-million dollar projects possible across Virginia.

DHR's Tax Credit E-Newsletters

Facts About Virginia's Tax Credit Program

Final Virginia Regulations

Forms

Frequently Asked Questions about Tax Credits

Prosperity through Preservation (Jan. 2008 report)

Publications, Preservation Briefs, Technical Reports and Updates

Rehabilitation Success Stories

Sample Description of Rehabilitation Proposal

Selected VLR/NR Historic District Maps

Both the federal and state tax credit programs are administered in Virginia through the Department of Historic Resources.

State tax credits are available for owner-occupied, as well as income-producing buildings. If your property is income-producing, you may also be able to take advantage of the *federal tax credits*. For more information about the state tax credits, please read the additional pages on this Web site. Also, information and assistance with tax-credit projects may be requested from the Richmond office or from the regional office in your area:

Richmond	*Ann Andrus*	(804) 367-2323
Tidewater	*Camille Bowman*	(757) 886-2818
Roanoke	*Michael Pulice*	(540) 857-7586
Northern	*David Edwards*	(540) 868-7030

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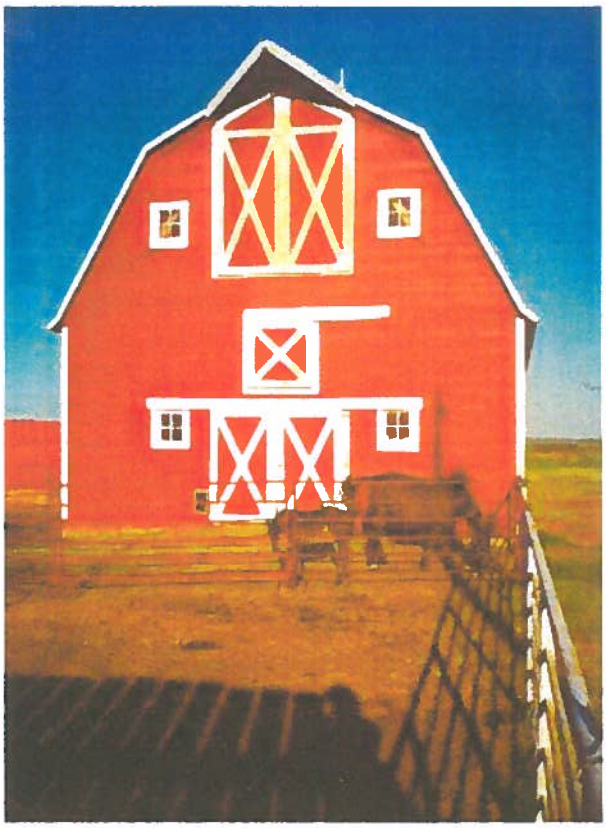
Iverson Farm

Recognition Award Winner

Location: North Dakota
Year of Award: 2000
Original Use: Dairy, Hay, Horses
Current Use: Hay, Horses

Maynard Iverson and his son Deon raise registered Angus and Buelingo cattle, wheat, durham, oats and barley on three farms in northwest North Dakota. Maynard and his wife Joetta bought the Iverson Farm from Maynard's cousin in 1988. Since then, they have improved the farm and outbuildings, and have transformed a rundown farmstead into what visitors describe as a "story book" farm.


Iverson Farm-Tioga, ND after rehabilitation.

The centerpiece of the farm is a gambrel-roofed barn built in 1930 by the original owner, Magnis Strand. The barn had been neglected for many years, and was "leaning, leaking and rocking in the wind," says Iverson. The Iversons started by replacing the roof and the rotted sills. They installed new bracing inside, repaired the windows, and painted the barn a bright red with white trim. On the inside, they have built stalls and pens for their new enterprise – raising registered quarter horses. They hope to build up to a herd of 15 – 20 mares.

Outside the barn, the Iversons built corrals for the horses and planted a windbreak. They planted several new rows of trees along the lane, as well as lilacs and chokecherries in the yard. Next they plan to tackle the old granary and the pump house, which will be converted to a tack shed. "We like to have things look nice," says Joetta. "I've used a paintbrush a lot."

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Waywood Farm

Recognition Award Winner

Location: Ohio
Year of Award: 2000
Original Use: Dairy
Current Use: Equipment Storage, Livestock

When they married in 1896, Ed and Sylvia Yates received the best wedding gift any young farming couple could hope for – a new barn. Nick and May Waynar purchased the farm from the Yates' in 1944, and used the barn to house their Holstein cows. A year later, they purchased the farm across the road, and moved its matching barn next to the Yates barn. "The half-mile move was quite a feat," recalls May Waynar. "Logs were used to roll the barn, and lumber used to create a temporary bridge over the ditch."

Waywood Farm-Bloomdale, OH after rehabilitation.

The Waynars sold their dairy herd in 1969 and when Nick Waynar died suddenly in 1995, May discontinued farming and auctioned off the farm machinery. The barns sat empty and unused and the future of the farm was uncertain. But the next generation of Waynars decided that they wanted to keep the farm in the family and maintain the buildings. The buildings were repaired and freshly painted, and are now housing the latest Waynar enterprise, the raising and breeding of alpacas. The spacious barns provide excellent shelter, birthing space and feed storage.

"It is through the efforts of the second and third generation of Waynars on Waywood Farm that these wonderful old barns will continue to serve as functional farm buildings," wrote May Waynar in her BARN AGAIN! award nomination. "In an era when old barns are exchanged for new or just allowed to collapse, the Waywood Farm barns stand as a symbol of the agricultural history of Wood County, Ohio. As the senior member of this enterprise, it's such a joy to me to see the activity on the farm," May adds.

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About BARN AGAIN!

NATIONAL TRUST FOR HISTORIC PRESERVATION

When the National Trust for Historic Preservation and Successful Farming magazine launched BARN AGAIN! in 1987, historic barns were considered doomed. Obsolete for modern farming needs and too expensive to maintain as family heirlooms, old barns appeared destined to be preserved only in photographs and memories.

Several years and hundreds of success stories later, that attitude is changing. Through demonstration projects, case studies, publications, technical assistance, and an awards program, BARN AGAIN!, has been chipping away at the widely accepted premise that new is better. The program has shown how historic barns can be adapted for new farming uses ranging from dairy, hog, and cattle operations to machinery or grain storage. Barn preservation techniques have proven to be cost-effective alternatives to tearing down the old barn and putting up a new building.

The BARN AGAIN! program provides advice, information, and referrals to an average of 700 barn owners each year.

For more information about BARN AGAIN!, call 303/623-1504.
• **Visit the National Trust for Historic Preservation >>**

Awards

The annual BARN AGAIN! awards draw national attention to the personal efforts of farmers and ranchers who have preserved their buildings. Award-winning projects are used as models to demonstrate preservation techniques and new uses for older barns.
• **BARN AGAIN! Awards >>**
• **Download the 2008 BARN AGAIN! entry form >>**

Publications

Technical guides, such as the Barn Aid series, provide practical information for owners of historic barns.
• **BARN AGAIN! publications >>**
• **More recommended reading >>**
• **Answers to BARN AGAIN! questions >>**

Local preservation programs

See if your state or county has a local barn preservation program in place. These groups provide support for barn rehabilitation projects.
• **Find a local group >>**

Financial help

Some federal, state, and local programs are available, to help defray the costs of a barn preservation project. Get the scoop on financial aid available for barn restoration.
• **Find financial help >>**

Buy your favorite barn

The ERTL Collectibles American Country Barn Series, sculpted by Lowell Davis, honors the grand Cathedrals of the Prairie in miniature. Models of 17 barns, including this offering, an Ogee arched-roof structure in Glen Arbor, Michigan, are available for puchase, along with BARN AGAIN! T-shirts, videos, posters and publications.

• **Download an order form >>**

Partnerships

BARN AGAIN! works with local, state and national partners involved in historic preservation, farmland conservation and rural development. Joint activities have included barn preservation conference sessions, workshops, television programs , exhibits and public policy initiatives.

Our Mission

BARN AGAIN! is a national program that provides information to help owners of historic barns rehabilitate them and put them back to productive use on farms and ranches. We provide technical assistance through a BARN AGAIN! hotline, publish rehabilitation guides, sponsor workshops, exhibits and other events, and present annual awards for the best examples of historic barns rehabilitated for continued farming use. BARN AGAIN! is sponsored by the National Trust for Historic Preservation and Successful Farming magazine.

ANSWERS TO BARN AGAIN! QUESTIONS

BARN AGAIN! calls and requests:

Question #1: "How do I get some of that barn money?"

Answer:
BARN AGAIN! does not provide grants to private individuals to fix up their barns.

There are select numbers of states that have grant programs for historic preservation. You should check with your state historic preservation office to see if your state offers any grants, or other incentives such as income or property tax incentives. Generally, your building would have to be listed on the National Register of Historic Places (see explanation below) or on a state or local register to be considered for a grant. The grants that are available are listed on the BARN AGAIN! website under "Financial Help". (www.barnagain.org)

(Go to http://www.nationaltrust.org/help/statewide_org.asp for SHPO and Statewide Preservation office contacts and further information about local financial assistance.)

Question # 2: If you don't give away money, what do you do?

Answer:
We provide the information you need to get your project off the ground: examples of how other barns have been adapted for new farming uses, information on the rehabilitation process, technical information on specific questions such as foundation or roof repair, referrals for contractors and others who can help with a project, and personalized advice.

We are a nationwide clearinghouse for information about barns and barn preservation.

We promote the preservation and use of historic barns nationwide, and encourage contractors, extension personnel and others to consider preservation as a practical alternative to new construction.

We put on workshops to train individuals in the barn rehabilitation process.

We give awards for completed barn preservation projects.

We publish and disseminate information: examples of new uses for older barns, general rehab guides and technical information.

We help states and local organizations develop their own barn preservation programs.

We also advocate for federal and state funding programs to assist barn preservation activities.

Question # 3: What is the National Register of Historic Places?

Answer:
The National Register of Historic Places is the official listing of buildings, sites and objects significant in American history and culture.

The National Register is managed in each state by the State Historic Preservation Office (SHPO). (www.ncshpo.org) The National Trust does not manage the National Register!

Generally, to be listed on the Register, a barn would have to be 50 years old and outstanding architecturally, have associations with an important person in history or be part of a farm complex that has several extant historic buildings. Each state handles the Register differently, so I encourage you to check with your state historic preservation office to see if your barn might qualify.

Listing on the Register is an honorary designation which does not carry any restrictions on what you can do with your property (you can even tear it down if you want). However, if you take advantage of any public funds (grants, tax credits, etc), you may have to agree to certain restrictions (these vary from program to program).

Question #4: What are the tax credits for rehabilitation of historic buildings?

Answer:
There are two levels of federal tax credits available for rehabilitation of historic buildings: a 20% tax credit for rehabilitation of buildings eligible for listing on the National Register, and a 10% tax credit for buildings built before 1936 that are not eligible for the Register.

A tax credit is a direct credit on the amount of taxes you owe (as opposed to a tax deduction). The credit is applied against the investment made into your rehabilitation expenses.

To use the tax credit, your rehabilitation project must cost a minimum of $5,000 or the adjusted cost basis of your building (whichever is greater). The barn must also be part of an income producing activity.

To use the 20% tax credit, your building must be certified as historic by your SHPO, and your rehabilitation work must be approved by the SHPO. To use the 10% credit, you request Form 3468 - Investment Credit - from the IRS and follow the instructions included with the form. The form can be found on www.irs.gov under Forms and Publications, #3468.

Several states also have state income tax credits (some which can be used in conjunction with federal income tax credits), or property tax credits or abatements, for rehabilitation of historic buildings. Check with your SHPO to find out what is available in your state. Also, check the "Financial Help" section of the BARN AGAIN! website. (www.barnagain.org)

Question #5: Why Paint it Red?

Answer:
The tradition of painting a barn was not widespread in America until the nineteenth century. The practice of painting barns in the American Colonies started in Virginia, where a combination of lampblack, turpentine and linseed oil made a light gray mixture whose purpose was to act as a preservative for the wood. Occasionally, iron oxide (rust) and clay would be added to the concoction to give the paint a red or orange color. Further north, farmers varied their paint recipe somewhat to get a stronger, more enamel-like mixture that lasted longer than the southern version. The primary ingredients were skim milk and lime with a touch of linseed oil. The iron oxide was used in favor of the lampblack and turpentine and, consequently, the paint for barns in the north became almost exclusively red. Red is still the most popular color for barns, with white a distant second.

Question #6: Is it possible to straighten my barn?

Answer:
Yes. Straightening is a process that may have to be tackled by professionals due to dangers in structural movement, however it has been refined in recent years and many aspects can be done easier and cheaper than in the past.

Cabling of a barn depends on the extent of the lean and the strength and size of the timbers used in the frame. The key is to determine how slow the process needs to occur depending on how much of the frame is connected to static pieces of the structure such as the foundation and roof. The quick movement of the frame may lead to other problems if connected in multiple areas. Embedding anchor bolts that are fitted to turnbuckles which are, subsequently, attached to cables is a standard procedure, but it needs to be situated at a proper angle and anchored to a solid timber or an outside concrete form.

Jacking is another method of straightening, usually in a localized situation or in conjunction with cabling. Jacks must be placed on a stable surface and pressure asserted on a solid structural component of the frame. Jacks may be placed on solid ground or on temporary supports. The speed of jacking must also take into account the strength and flexibility of the structural members being moved. It is best to consult an experienced contractor or structural engineer before beginning a straightening project.

(More information can be found in *Barn Aid #2: New Spaces for Old Places* at the BARN AGAIN! store on www.barnagain.org.)

Question #7: How do I stop water damage to the foundation, siding and sills?

Answer:
Water damage is most often caused by improper drainage away from buildings. Where located next to unavoidable slopes, water must be redirected around a building. This can be done with the help of concrete gutters or with a linear French drain. The proper grade away from any structure is at least 3 – 5%. (Example for a 5% grade is a 6 inch drop in the first 10 feet.)

A problem for barns built on relatively level ground may be the proximity of the ground to the sills and siding. It is recommended that at least 10 inches of foundation be exposed, any less will not allow for an adequate drying area for the sills or siding.

(For more information about moisture abatement, read the National Park Service's Preservation Brief #39 at http://www.cr.nps.gov/hps/tps/briefs/brief39.htm.)

Question #8: How do I repair damaged siding?

Answer:
Repair to damaged or broken siding can be very simple. When localized damage or rot is visible, it is important to make repairs quickly in order to avoid water or exposure damage to floor, beams and sills.

To begin repair on vertical siding, find a point above the damaged section and square across the broken boards. Saw along this line to even up the broken ends. Fasten a metal strip along the ends of the old boards to weatherproof the joint, bending the strip over the ends and fastening again from the inside. Nail a board across the top of the opening from the inside, letting it extend down far enough so that the new siding can be nailed to it. Finish by sawing new siding boards to length and nailing them in place.

In the case of horizontal siding, the broken boards need to be sawn off at their outside edges, boards nailed on each end from the inside (allowing for a place to nail new boards from the outside) and metal flashing inserted in the connection space.

(More information can be found in *Barn Aid #3: Barn Exteriors and Painting* at the BARN AGAIN! store on www.barnagain.org)

Question #9: What type of roof material should I use?

Answer:
Wood shakes or shingles are the most historically accurate roofing material for many barns. However, they can be relatively expensive compared with other choices.

Asphalt shingles are less expensive than wood shingles but may not be as durable or may violate the historical integrity of the barn. Asphalt shingles should be installed on decking or may be installed over one previous layer of shingles if the decking is still intact.

While modern metal roofing is not the most historically accurate material for old barns, it is less expensive than wood shingles and longer lasting than asphalt.

(More information can be found in Barn Aid #4: Barn Roofs at the BARN AGAIN! store on www.barnagain.org and by reading the National Park Service's Preservation Brief #4 at http://www.cr.nps.gov/hps/tps/briefs/brief04.htm.)

Question #10: How do I determine the age of my barn?

Answer:
A good place to start when searching for a barn's history is in the tax records or assessor's office at your local city hall or county courthouse. Property tax assessments are a good way to gauge the addition of a predominant piece of value to a farm, namely the barn. Armed with a general date of construction of the barn, additional information about the original owners, builder and use may be obtained from the local newspaper's archives.

Question #11: What is the view of BARN AGAIN! on moving barns?

Answer:
Moving barns was not an uncommon practice for farmers. There could have been several reasons for a structure move, including threats of flood, threats of attack on the frontier, consolidation of neighboring farms, adaptation to changing farm practices or simply because of personal preference. That being said, the BARN AGAIN! program's first priority is to keep historic barns within their original landscapes. Historic barns in their original historic setting can more easily take advantage of financial incentives and are more apt to be protected in the future. BARN AGAIN! prefers to keep historic barns in place when it is, at all, possible. However, in instances of a barn's imminent demolition or due to evidence of continued neglect, the BARN AGAIN! program is prepared to assist in a barn's move with referral and technical services.

Question #12: Where can I find qualified contractors?

Answer:
The BARN AGAIN! program has compiled a nationwide list of barn contractors specializing in all aspects of barn repair and rehabilitation. This list has been collected on the recommendations made by barn owners we have assisted in the past. We do not endorse or guarantee any work done by the contractors found on our list. It is best to contact at least three contractors about any upcoming work and request contact information and photographs of past projects. More information about hiring a contractor can be found on the cover page of our list. To request a contractor list via fax or mail, call (303) 623-1504. You may also want to try lists found at *The Barn Journal (www.thebarnjounal.org)*, the *Michigan Barn Preservation Network (www.mibarn.net), The New York Barn Coalition (www.barncoalition.org)* and at the *Iowa Barn Foundation (www.iowabarnfoundation.org).*

Question #13: Are there places where I could find salvaged barn materials?

Answer:
BARN AGAIN! does not promote the dismantling of barns for the sale of old growth wood. There are, however, many instances where a historic barn requires repair or replacement parts found only in other barns. It is our experience that your local lumber yard or hardware store is the best resource for actual product or for information about locations where salvaged material might be found. You may also want to try our online forum, Barn Talk, found on our website at to inquire amongst other barn preservation enthusiasts about materials needed.

Question #14: Does BARN AGAIN! assist barns that are no longer in agriculture?

Answer:
BARN AGAIN! believes that the best use of a barn, is as a barn. While demonstrating the abundance of uses a historic barn may have on a modern farm, we have cracked the myth that historic barn's are obsolete and cannot be adapted to modern practices. We also believe that the historic barn's agricultural setting is what sets this structure apart from many others. The productive barn in agriculture is the American symbol of rural beauty. We, as a program, believe the most good is done by keeping the barns which built our rural society in production. We also realize the realities of change and support almost any purpose that preserves the barn as a building. We keep an adaptive use database and can offer examples of successful projects in retail, lodging, non-profit and residential, to name a few. Contact us for referrals and resources to assist in your adaptive use project.

Question #15: Should I cover my barn in metal siding?

Answer:
We strongly recommend against it. Our reasons begin with aesthetics and end with practicality. First, the appearance of metal on a barn removes much of the timeless luster of the building and encases beautiful posts and beams under a flat and thin exterior. It certainly removes the building as a candidate for historic federal tax credits or possible resources on the state level. BARN AGAIN! research has also shown that it can be damaging to the barn, itself. Metal siding will allow water through seams or damaged sections (likely to occur on working barns), however unlike wood, it will not allow the water to escape very easily. This, in conjunction with natural condensation, can cause long term problems with water damage and rot in the remaining wood found in the barn. Metal as siding is an expensive solution with its own set of problems.

Metal roofing is another matter altogether and can be a good alternative for a historic barn. Before applying metal roofing, check with your State Historic Preservation Office (www.ncshpo.org) about qualifications for financial possibilities.

Question #16: How do I start a barn preservation program?

Answer:
Starting a barn preservation program is easy and the best resource is the publication, *Protecting Older and Historic Barns through Barn Preservation Programs,* available through the BARN AGAIN! store on the web at www.barnagain.org. It identifies many of the key components and hurdles involved in beginning your own program. Contact the BARN AGAIN! program to purchase the publication and for advice on initial activities and organizational structure. BARN AGAIN! will be able to get you in touch with the National Barn Alliance, a collaborative group from around the country dedicated to preserving America's historic barns. Also, check out the *Local Preservation Groups* section of the BARN AGAIN! website for contacts and resources of neighboring states who have already embarked on programs to preserve barns. BARN AGAIN! is here to help you fulfill your barn preservation passion!

Financial help for barn preservation projects

The BARN AGAIN! program does not provide grants to private individuals to fix up their barns. It would be impossible for us to give grants for every barn in the country that needs to be rehabilitated! That's why we developed BARN AGAIN! Using an older building is an economical alternative to building new. Our statistics show that on average barn rehabilitation costs one-third as much as constructing a comparable new building.

Some federal, state, and local programs are available, however, to help defray the costs of a barn preservation project. Some states offer property or income tax relief for the rehabilitation of historic buildings, and a few localities have grant or loan programs for preservation.

Federal investment tax credits

A 20% rehabilitation tax credit is available for certified rehabilitation of buildings listed on, or eligible for, the National Register of Historic Places. To qualify, a building must be used for income-producing purposes, and the rehabilitation costs must be greater than $5,000 or the adjusted cost basis for the building. A 10% credit is available for buildings built before 1936 that are not on the National Register. For more information about the 20% (historic) tax credit, contact your *State Historic Preservation Office*. For information about the 10% credit, request Form 3468 Investment Credit from the Internal Revenue Service. More information on how to benefit from tax incentives is available in *A Guide to Tax-Advantaged Rehabilitation*, which can be ordered from BARN AGAIN! for $8.00.

Link to State Historic Preservation Offices at www.ncshpo.org.

State tax incentive

Some states offer property tax relief for the certified rehabilitation of historic buildings. These may consist of freezing property taxes at the pre-rehabilitation level or an exemption for a specific time period. A few states offer state income tax credits as well. Listed below are examples of state tax incentives from a selected number of states. Contact your State Historic Preservation Office to find out if your state has any special tax incentives for historic preservation.

Link to State Historic Preservation Offices at www.ncshpo.org.

For more detailed tax incentive information or if your state is not listed, please click below:

• Tax incentive information from the National Trust for Historic Preservation >>

Income tax credit

Colorado

Residential and commercial structures earn a 20 percent income tax credit for rehabilitation expenses, up to $50,000 per year with a minimum of $5,000 investment. There is no limit to the amount of reduction taken in the first year, and there is a carry-over period of 10 years. A property qualifies if it has been designated as historic at the local, state, or national level. The property owner may take both federal and state tax credits and projects already commenced

before applying may still take credit if the work is approved by the SHPO. Partnerships may divide tax credit resources pursuant to their partnership agreement.
• Colorado History >>

Indiana
With a minimum investment of $5,000 over two years, a property may earn a 20 percent income tax credit of up to $100,000 of the rehabilitation costs with a cap of $20,000 per project. Pre-approval of the project is required by the SHPO.
• Historic Landmarks >>

Iowa
Income Tax Credit - A 25% income tax credit is available for eligible commercial, income producing residential and non-income producing residential properties. The cap is $2.4 million state-wide in any given year. The Secretary of Interior's standards apply.

Kansas
Income Tax Credit - A 25% income tax credit is available for commercial and residential properties. There is no cap limit to the project. It may be carried forward 10 years. There is a $5,000 minimum investment on qualified expenditures.

Michigan
Farmland Preservation Tax Credit - A farmer may place the land under provision of a state contract with the Department of Natural Resources. The farmer may only use the land for agricultural purposes for the duration of the contract. The farmer then earns a state income tax credit for the property taxes paid on the property that exceeded seven percent of the household income.

Barns and other agricultural structures may be eligible for a 25 percent state tax credit on rehabilitation expenses if the following two conditions are met:

- You must be the owner or long-term lessee of a historic property that (depending on your community's size) is included in a locally protected historic district, listed on the State Register, or the National Register.
- The rehabilitation work planned will cost at least 10 percent of the property's State Equalized Value.

Missouri
Missouri offers a 25 percent rehabilitation tax credit for commercial or residential properties listed individually in the National Register of Historic Places. The rehabilitation costs must exceed 50 percent of the property value and must comply with the Secretary of the Interior's Standards for Rehabilitation.

New York
New York offers a 25 percent tax credit for rehabilitation of historic barns that were built before 1936. Building must be depreciable, and expenditures must exceed $5,000 or the adjusted cost basis of the barn. All roof and foundation repairs are qualified expenditures, but adding or enlarging doors or windows are not.

North Carolina
North Carolina offers a 30 percent tax credit for historic homeowners and a 20 percent credit for commercial property owners. Homeowners must spend at least $25,000 on their home's rehabilitation.

Virginia
The Historic Rehabilitation Tax Credit begins at 10 percent of the costs for residential or commercial rehabilitation of certified historic structures when those costs amount to at least 50 percent of the assessed value of the building. The credit will increase by 5 percent a year until it reaches 25 percent for work beginning in the year 2000. The credit is currently at 20 percent.

Wisconsin
A 25 percent income tax credit is available for renovation expenses with a $10,000 minimum investment. There is a $10,000 cap on the credit. The owner

forfeits some of this credit if he/she sells within four years. The project requires pre-approval from the SHPO. The historic properties must first be determined to be eligible for the State Register of Historic Places. There is also a 5 percent add on to the federal tax credit for residential rehabilitation. Unused barns may qualify for this option.

Property tax incentives

Many states have a "local option" for property tax incentives, which means that a local government must approve the use of the incentive within its jurisdiction. Check with your local government and State Historic Preservation Office to find out if you can take advantage of property tax incentives.

California
Local governments have the option of reducing assessment values up to 50 percent. They might require a minimum investment. The owner must then sign a ten-year contract to maintain the structure.

Florida
There is a local option for property tax abatement if the improvements equal 50 percent of the value of the property before rehabilitation. Barns may qualify for a greenbelt classification which offers incentives, however, if the farmer does not use the farm structure, he/she loses this classification.

Georgia
Property value increases from rehabilitation have an eight-year assessment freeze and a two-year phase out. To qualify the property must have a 50 percent value increase for owner occupied residential, a 75 percent value increase for mixed-use property and a 100 percent increase for commercial property. The statutes do not clearly identify which category barns fall into.

Indiana
Indiana has tax abatement legislation, which allows a 5 year abatement for improved properties.

Iowa
Value assessments freeze for increased value from rehabilitation for four years, and then phase out for four years.

Michigan
Matthew Gast Act - Property taxes may not go up as a result of maintenance.

Homestead Property Tax Credit - A household that earns less than $82,650 yearly and spends more than 3.5 percent of its income on property taxes may earn a credit up to $1,200. The credit is determined by the difference between the actual tax paid and the 3.5 percent taxable income. Senior citizens earn 100 percent of the difference. All others earn 50 percent of the difference.

Missouri
All agricultural property gets assessed at 12 percent of its value based on the land's productivity (versus residences, which get assessed at 19 percent of their value).

New Hampshire
A new state law, RSA 79-D, creates a mechanism to encourage the preservation of historic New Hampshire barns and other agricultural buildings by authorizing municipalities to grant property tax relief to barn owners who (a) can demonstrate the public benefit of preserving their barns or other historic farm buildings, and (b) agree to maintain their structures throughout a minimum 10-year preservation easement.

New York
The first year assessment value does not increase on barn restoration projects. It then increases 10 percent per year. Legislation passed in 1997 offers local governments the option to pass local property tax incentives.

North Dakota
Improvements to barns older than twenty-five years receive exemptions from increases in assessment value for three years. There are no property taxes for agricultural buildings where over half of the income derives from the farm and over half the time worked is on the farm.

Oregon
Oregon gives a 15-year freeze of value assessments for residential and commercial properties listed on the National Register for Historic Places.

South Carolina
A nationally or locally designated property may earn a two-year freeze on assessment value. For the following eight years, the owner may pay 40 percent of the taxes of the post-rehabilitation assessment value or the pre-rehabilitation assessment value, whichever is greater. There must be an investment of 50 percent of the property's pre-rehabilitation value.

South Dakota
Properties listed in the National Register can apply for an eight-year assessment moratorium on certified improvements.ÊProperty tax assessments may not be increased due to certified rehabilitation or restoration of the building.

Washington
There is a local option for a special valuation, with a minimum investment of 25 percent of the building's value before the rehabilitation. Nineteen cities and ten counties participate. Properties are taxed according to their current use rather than the "highest and best" use.

Wisconsin
Farm building values are assessed according to their agricultural operation.

Grants and loans for private individuals

Very few grant and loan programs exist for private individuals, but it's worth checking to see if your locality has any help to offer. A few examples are the State Historical Society of Iowa's Historic Site Preservation Grant Program, Iowa Barn Foundation's matching grant program, the Massachusetts Preservation Projects Fund, the Colorado Historical Society's State Historical Fund, and Vermont's barn assessment and barn restoration grants. Contact your local preservation organization, county development office, state historic preservation office, and/or statewide preservation organization for more information.

If you have any additional questions, feel free to contact our office for more information. The BARN AGAIN! hotline is (303) 623-1504. You may E-mail questions to barn_again!!@nthp.org. You can also write to us at:

National Trust for Historic Preservation BARN AGAIN! 535 16th St., Suite 750 Denver, CO 80202

BARN AGAIN! CATALOG

Publications

BARN AGAIN! A Guide to Rehabilitation of Older Farm Buildings. 18 page full-color guide features nine examples of "BARN AGAIN!" barns; barn rehabilitation checklist; roof, foundation and siding repair tips; and information on the National Register and tax credits. *(Cost: $6.00)*

Using Old Farm Buildings. A practical guide to adapting different types of farm structures for a wide range of new agricultural uses: 16 rehabilitation projects illustrated with drawings and photographs. *(Cost: $8.00)*

Protecting Older and Historic Barns through Barn Preservation Programs. 16-page booklet designed to help individuals and state and local preservation organizations get started in developing a barn preservation program. An extensive resource guide is included. *(Cost: $8.00)*

Guide to Tax-Advantaged Rehabilitation. Provides information on the historic rehabilitation tax credits. *(Cost: $8.00)*

Barn Aid #1: Barn Foundations. Analyzes major problems of stone, concrete and concrete block foundations and shows how to remedy them. Includes a checklist for investigating foundation repairs and a guide for estimating costs. *(Cost: $5.00)*

Barn Aid #2: New Spaces for Old Places. Describes how to increase clearspan space inside older barns by replacing posts and beams with trusses. Includes drawings and cost estimates. *(Cost: $5.00)*

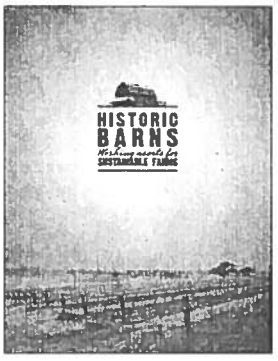
Barn Aid #3: Barn Exteriors and Painting. Information on common siding problems and repair, preparing your barn for painting and getting the best possible paint job. *(Cost: $5.00)*

Barn Aid #4: Barn Roofs. How to repair and replace roofing on historic barns. *(Cost: $5.00)*

Historic Barns: Working Assets for Sustainable Farms. Publication on Sustainable Agriculture and Historic Barns describes how older and historic barns can provide practical benefits to one of the most exciting and fastest growing segments of the rural economy—sustainable agriculture.

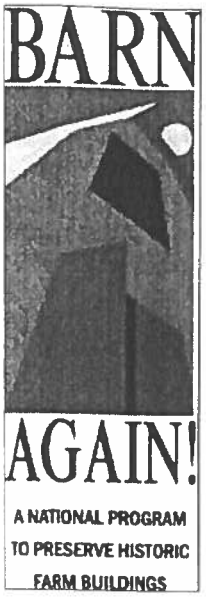
Download a copy ***FREE*** of charge at:

http://www.preservationnation.org/issues/rural-heritage/rural-heritage-publications.html



Merchandise

BARN AGAIN! Posters.
These 13"x34" posters are white with black lettering surrounding the full-color BARN AGAIN! logo. *(Cost: $5.00)*



T-Shirts. These 100% heavy-duty cotton shirts are white with the full-color BARN AGAIN! logo printed large on the front. All proceeds from the sale of these t-shirts go directly back into the program. Available in L, XL and 2XL.

(Cost: L/XL $15.00 and 2XL $16.50)

Toy Farmer
American Country Barn Series
Sculpted by renowned rural-life artist Lowell Davis, these collectible barns honor the grand "Cathedrals of the Prairie" in miniature. Faithfully reproduced from the artist's original, each piece is meticulously crafted, cold cast in porcelain and masterfully hand-painted. All proceeds from the sale of the barns go directly to support the BARN AGAIN! program.
(Cost per barn model: $50 to $75 plus $8.00 S&H per barn)

BARN AGAIN! Video
"The Nebraska Heritage Collection"
"BARN AGAIN!" tells the stories of barns across America, why we feel an affinity toward them, and how many of these structures are being restored and given a new lease on life.

Available from:

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National Trust for Historic Preservation
535 16th Street, Suite 750
Denver, CO 80202
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E barnagain@nthp.org www.barnagain.org

Publications and Merchandise	Quantity	Price
General Program Information Packet		Free (limit 1)
BARN AGAIN! Farm Heritage Award Application		Free (limit 1)
BARN AGAIN! A Guide to Rehabilitation of Older Farm Buildings		$6.00
Using Old Farm Buildings		$8.00
Protecting Older and Historic Barns through Barn Preservation Programs		$8.00
Guide to Tax-Advantaged Rehabilitation		$8.00
Barn Aid #1: Barn Foundations		$5.00
Barn Aid #2: New Spaces for Old Places		$5.00
Barn Aid #3: Barn Exteriors and Painting		$5.00
Barn Aid #4: Barn Roofs		$5.00
Historic Barns: Working Assets for Sustainable Farms *(available only as a PDF download)*		N/C
BARN AGAIN! Posters		$5.00
T-Shirts L*		$15.00
T-Shirts XL*		$15.00
T-Shirts 2XL*		$16.50
American Country Barn* (Please specify individual Barn & its corresponding price from the **Barns, Etc.** flyer plus $8.00 S&H per barn)		$50 - $75

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Barn preservation programs

The National Barn Alliance

The National Barn Alliance (NBA) started as an informal network of Cooperative Extension educators, historic preservationists and concerned citizens interested in barn preservation programming. Initially, the land grant universities of Illinois, Indiana, Michigan, Ohio and Wiscoinsin were involved. The organization has since grown to include other states, State Historic Preservation Offices, statewide barn preservation organizations and national organizations such as the National Trust for Historic Preservation. By sharing information on initiatives and strategies being used throughout the country, the NBA expects to strengthen the efforts of all our rural partners, for more information, go to the NBA website at barnalliance.org or email at barnalliance@gmail.com

State preservation programs

Iowa

The Iowa Barn Foundation was formed in 1997 to preserve historic barns and other agricultural buildings in Iowa. The Foundation provides matching grants for barn repair and rehabilitation and publishes a quarterly newsletter. Contact Sherry Gribble, The Iowa Barn Foundation, 3109 - 155th Street, Fort Atkinson, Iowa, 52114, (866) 575-8483. Roxanne Mehlisch, (641) 487-7690. Jacqueline Schmeal, (505) 988-5917, jschmeal@earthlink.net; www.iowabarnfoundation.org.

The Iowa Historic Preservation Alliance has initiated a barn survey project as a result of the Iowa Proclamation of 2005 as "The Year of The Barn and the Family Farm". This county by county level survey is a simple photographic/reconnaissance effort that local volunteers can complete with local funds. Contact Rod Scott, (641) 648-4570, rodscott@iowaconnect.com; www.iowapreservation.org.

Illinois

The Illinois Barn Alliance was formed to promote and facilitate the identification, protection and preservation of barns and the rural heritage of Illinois. In conjunction with the Illinois Extension Service and the Landmarks Preservation Council of Illinois, the Alliance conducts an annual informational workshop for barn enthusiasts. Contact Jean Follett, (630) 654-9717; jafollett@comcast.net. Wes Winter, (815) 235-4125; wwinter@uiuc.edu.

Indiana

Historic Landmarks Foundation of Indiana in cooperation with Purdue University Cooperative Extension Service sponsors BARN AGAIN! in Indiana, a series of workshops for owners of historic rural buildings. Contact Tommy Kleckner, (812) 232-4534; tkleckner@historiclandmarks.org; www.historiclandmarks.org.

Maine

The Maine Historic Preservation Commission has administered Historic Barn Preservation Grants beginning in 2000 funded through the New Century Community Program, an Initiative of the Maine Cultural Affairs Council, a joint planning body of seven Maine arts and cultural agencies. Requests are being taken for when funding has been allocated for the program. Contact Christy Mitchell, (207) 287-2132; Historic.Preservation@Maine.gov; www.state.me.us/mhpc.

Maine Preservation conducted a barn preservation workshop in the fall of 2002 to bring together a wide variety of interests and answers to help preserve one of the state's most threatened historic resources. Lessons learned from the workshop are posted on their website and resources are compiled and

distributed through their office. (207) 775-3652; maineprs@gwi.net; www.mainepreservation.org/barn1.htm.

Massachusetts
The Preservation MASS Barn Preservation Task Force is a non-profit alliance dedicated to the preservation of Massachusetts' historic barns and outbuildings in their agricultural settings. Working with regional planning agencies and other statewide organizations, the task force identifies funding sources and provides technical assistance to promote cost-effective barn stabilization and rehabilitation. Contact Erin Kelly, Preservation Mass, (617) 723-3383; ekelly@preservationmass.org; www.preservationmass.org/BarnTaskForceWorkshop.shtml.

Michigan
Many Michigan residents have participated in county-wide barn preservation and rural revitalization workshops, cosponsored by Michigan State University, the Michigan Bureau of History, and the Michigan Historic Preservation Network. A non-profit organization, the Michigan Barn Preservation Network was formed to promote barn preservation within the state. Contact Vera Wiltse, Michigan Barn Preservation Network, (989) 772-0911 x302; wiltsev@msu.edu; www.mibarn.net.

Minnesota
Formerly operating as a barn preservation program under the Minnesota Historical Society, the Friends of Minnesota Barns organization was a reaction to the 2003 state budget cuts. Its mission is to educate the public and raise awareness to the importance of historic barns and farmsteads in Minnesota, and to help advocate for barn preservation. They offer educational workshops and assist others in finding resources for preservation and/or restoration of historic barns and farmsteads. Contact John Hagel, (763) 428-2100 or Christina Harrison (612) 870-9775; (612) 338-BARN (2276); FriendsofMinnesotaBarns@yahoo.com; www.friendsofminnesotabarns.org.

New Hampshire
The New Hampshire Preservation Alliance conducts an NH Old House and Barn Exposition each year and operates an assessment grant program. The Historic Barn Assessment Grant Program provides matching funds for an expert in the field of barn restoration to comprehensively assess a barn's needs and issue an in-depth report. Competitive matching grants are available on a rolling basis. Contact Jennifer Goodman, (603) 224-2281; admin@nhpreservation.org; www.nhpreservation.org/html/barns.htm.

The New Hampshire Division of Historical Resources has a matching rehabilitation grant for barns on the National Register when funds are available. Contact (603) 271-3483 or (603) 271-3558; preservation@nhdhr.state.nh.us; www.state.nh.us/nhdhr/barn.html.

New York
The New York State Barn Coalition was formed in 1997 to increase public awareness of historic barns in the state and to promote the appreciation, preservation, rehabilitation and reuse of older and historic barns. The Coalition sponsors meetings and conferences and shares information about barn preservation. Contact (607) 255-7412; info@preservenys.org; www.barncoalition.com.

North Dakota
The North Dakota Historical Society has sponsored a series of barn preservation rehabilitation workshops and has encouraged the state's farmers to apply for national BARN AGAIN! Awards. The society also produced an exhibition on historic barns of North Dakota which has traveled through the state. Contact Historic Preservation Division, (701) 328-2672; histsoc@state.nd.us; www.state.nd.us/hist/ahp.htm.

Ohio
In early 1996, BARN AGAIN! in Ohio was launched by the Ohio State University Extension and the Ohio Historical Society's Preservation Office. The program offers workshops, publications and technical information for barn owners. Contact Dr. Ann Christy, OSU Extension, phone: (614) 292-6131; christy.14@osu.edu; http://fabe.osu.edu/~barn.htm.

A new non-profit organization, Friends of Ohio Barns, has been formed to support and promote through education the awareness and understanding of the significance of Ohio's historic barns within their agricultural and architectural context, as well as their maintenance requirements. Annual Ohio Barn Conferences and a newsletter help keep members and interested individuals informed about better ways to conserve and maintain their barns. Contact Rudy Christian, (330) 624-7282; friendsohiobarns@aol.com; www.ohiobarns.osu.edu.

Vermont
The Preservation Trust of Vermont awards small matching grants to barn owners for barn condition assessments. Contact Paul Bruhn, (802) 658-6647; paul@ptvermont.org; www.ptvermont.org. The Vermont Division of Historic Preservation awards matching grants for barn repair and restoration. Contact Eric Gilbertson, (802) 828-3043; eric.gilbertson@state.vt.us; www.historicvermont.org.

Wisconsin
The Wisconsin Barn Preservation Initiative was formed by the University of Wisconsin-Extension, the State Historical Society of Wisconsin and the Wisconsin Trust for Historic Preservation to help preserve and protect many of Wisconsin's historic agricultural buildings. The program includes workshops and technical information. A statewide barn preservation organization, Barns NOW!, was formed to focus public and political attention on barn preservation in the state. Contact Chuck Law, University of Wisconsin-Extension, (608) 265-2501; chuck.law@uwex.edu; www.uwex.edu/lgc/barns/barns.htm.

County preservation programs

Kane County, Illinois
Kane County's That Darn Barn program is sponsored by the Kane County Development Department and the Kane County Farm Bureau. In addition to publishing a barn restoration guide book and actively promoting barn preservation in Kane County, That Darn Barn offers awards for successful barn rehabilitation projects. Contact Mark VanKerkoff, Kane County Development Department, (630) 232-3480.

McHenry County, Illinois
The McHenry County Historical Barn Preservation Association was formed and incorporated as an Illinois non-profit organization in January of 1999. The association is an agricultural and educational body formed to protect McHenry County's agricultural heritage by promotion and assistance in funding of historic barn preservation and restoration. The association has produced educational programming on barn history and restoration techniques, a video, poster, and a traveling exhibit. Contact Ken Fiske, FAX (815) 338-2773; historicbarns@aol.com, www.mchenrycountybarns.org.

If you have a barn preservation organization you would like us to know about, please e-mail barnagain@nthp.org.

King County, Washington
The picturesque barns in the Snoqualmie Valley are rapidly vanishing. As the dairy industry in the valley has died out, these buildings, a critical component of dairy operations, have become obsolete. Many of those that have not already been lost are in poor condition and are threatened by demolition by neglect. Recognizing the severity of this situation, the King County Landmarks Commission has initiated a campaign to try to save some of these icons of our agricultural history. The Commission will work to develop financial and other incentives to encourage property owners to restore and preserve the barns, and to find adaptive re-uses that will support their on-going preservation. Contact Julie Koler, King County Historic Preservation Officer at 206-296-8689, Julie.koler@metrokc.gov, or visit their website

BARNS BY MAIL: PRE-CUT KIT BARNS BY MAIL-ORDER CATALOG IN THE MIDWEST FROM 1900 TO 1930

By
JOY E. SEARS

(Excerpts Reprinted With Permission From: Thesis Presented to the Interdisciplinary Studies Program: Historic Preservation and the Graduate School of the University of Oregon, March 2001.)

With the events of the last half of the twentieth century, the United States seems bent on leaving a legacy of Walmarts, strip malls and overall sprawl for future generations. We are losing our barns, our "cathedrals of the prairies." We seem intent on destroying our windows to the past, and what images of tradition that are still standing seemed doomed to be relics and romantic ruins for our nostalgia. Our once agrarian society has come full turn to become one of an urban mindset.

The gambrel-roofed barn that I remember from my childhood seems to be destined for neglect and demolition. Our current agricultural environment consists of metal pole "neo-barns," round bales, and agri-business that has engulfed our once- proud farming families and communities. Since the turn of the twentieth century, the rural population has radically decreased as people moved to urban centers. It is common for people not to have stepped foot on a farm and not know a combine from a manure spreader. Are barns and family farms going to become a forgotten aspect of our society?

In my study of rural and barn preservation and my love of book collecting, I happened upon a book during the summer of 1997, entitled *The American Barn* by Randy Leffingwell. In the chapter titled "Barn Renaissance," the author contrasts the highly individual barn designed by world-renowned architect Frank Lloyd Wright for his aunt's Spring Green, Wisconsin farm and the mass-produced mail-order kit barns by Sears, Roebuck and Company. I had read about mail-order kit barns in *Barns of the Midwest* published two years earlier. I was thrilled to see in *The American Barn,* there were pictures, not just advertisements, of the actual Sears mail-order barns and that is what sparked my interest.

I was born and raised in largely agricultural central Minnesota; and, as the daughter of someone whose dream was to be a farmer, this upbringing provided my early preparation for barn research. After moving to Eugene for my graduate study in Historic Preservation, my scholarly research of barns began. Since then, I have written numerous articles and papers on barns and rural preservation, including articles for the Associated Students for Historic Preservation (ASHP) graduate newsletter. I also had the opportunity to visit the Orange, Virginia area in April 1999, to stop at the barns discussed by Randy Leffingwell in *The American Barn* that inspired this thesis.

The midwest section of the United States was open to settlement in varying degrees by the mid 1800s. Some settlers were immigrants just in from the other countries while others were second-generation transplants from the already settled eastern United States. Where possible, early pioneers built small traditional structures from locally available materials. Some immigrants, such as the Czech and German-Russians that settled in areas of southeastern South Dakota, built combination house-barns from chaulkrock and adobe for these unique multi-purpose buildings.

Barns built in the nineteenth century were typically traditional in design and function having few or no windows and doors. The settlers honed their skills of log construction to create timber-bent frames held together with mortise and tendon connections and hand-wrought hardware. The one-story or one-and-one-half-story barns mainly stored crops and a few animals but overall the livestock weathered the elements, as they had in the Europe or the eastern states. On average, however, the climate was much harsher in the Midwest and the self-supporting farmer required many small specialized farm structures to take raise a variety of crops and livestock.

The progression to a cash-crop economy necessitated replacement of their little village of structures. The pioneer structures were too small for large herds of livestock and often were hard to adapt because the barns accommodated livestock and crop storage on the same level. The late nineteenth century and early twentieth century barns are characterized by a gable or later gambrel roof of varying framing techniques, few windows, square wooden cupolas, lightning rods, timber frames or modified built-up frames and doors with commercial hardware. These barns were increasingly not built according to tradition or passed-on inherent wisdom from past generations, were ever-changing as advancements in agricultural practices proliferated through literature and education.

After the first decade of the twentieth century, the commonly painted red "modern" barn was a

large two-story structure with either a gambrel or gothic roof. The ground level of the barn housed animals and large capacity hay storage on the second level. There are a number of factors that contributed to the development of the “big red barn” or the “modern” barn. Dr. Lowell Soike identifies these factors as new framing skills of log construction to create timber-bent frames held together with mortise and tendon connections and hand-wrought hardware. The one-story or one-and-one-half-story barns mainly stored crops and a few animals but overall the livestock weathered the elements, as they had in the Europe or the eastern states. On average, however, the climate was much harsher in the Midwest and the self-supporting farmer required many small specialized farm structures to take raise a variety of crops and livestock.

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Other factors, in no particular order, contributing to making mail-order architecture a twentieth century phenomenon include:

- Standardization of cut-lumber.
- The Rural Free Delivery Act of 1896.
- Expansion of the rail lines.
- Increasing population of the United States.
- Modernization of the agricultural situation.
- Continuing development of prefabrication technology in the U.S.
- Rising costs associated with labor and materials.
- Increasing scarcity of large-dimension lumber.
- Standardization of barn designs.

After the turn of the twentieth century, new legislation increasingly pushed for new or remodeled barns that were well built, properly lit and well ventilated to provide a healthier environment for the farmer and his animals. Because planning a barn or farm building on paper eliminates many of the problems or concerns before construction begins, it became unacceptable to not seek advice on properly building a modern barn that met the newly implemented sanitary standards and laws.

Although house pattern book publishers, such as Palliser, Palliser & Co., prospered in the late nineteenth century, the few barns and farm buildings they offered to customers seem to have minimal impact on the agricultural environment. Other companies also marketed mail-order building plans. Prefabricated and mail-order housing existed in the nineteenth century, but difficulty in shipping prevented them from being widespread until the beginning of the twentieth century when railroads were reaching even isolated areas. Since the building materials arrived via railroad cars, they were available at the station, or a drop-off point, and taken by horse-drawn wagon or later by truck to the actual destination.

The United States population increased from just over sixty-two million people in 1890 to over ninety-one million people in 1910. With a flood of new immigrants and a skyrocketing birthrate, the need for new buildings, such as houses and barns, rose sharply across the country. Because of the

trials of westward expansion, the early settlers would not spare a large amount of time for immediate shelter. People did not have the available cut lumber, other raw materials or tools to build any buildings quickly or inexpensively. The construction of small temporary buildings, such as sod houses or log cabins, established claims on the land. Even before widespread electrification and convenient power tools, hand tools of any kind were a luxury for anyone other then a working carpenter.

Farmers wanted to replace their temporary buildings after a certain period and build modern barns that showed their wealth and dedication to the land. Tradition had been to build post-and-beam barns utilizing large timber bents. This construction was no longer feasible as the locally existing supplies of large-scale timber were decreasing and becoming more expensive across the nation; plans for barns using small-dimension lumber and requiring smaller work forces were ideal and became a growing trend.

Consumers could buy small-dimension lumber from the local lumber mill, or yard, and thus forced to pay the going rate for the grade of lumber the mill had available. The other option was to buy from mail-order catalog companies and receive standard dimensional lumber at a less expensive price, with a money back guarantee. Up to 1909, mail-order general merchandise catalog companies such as Sears, Roebuck and Company already carried a wide variety of building supplies, but they did not carry complete structures. Sears is the most well known of the mail-order houses, but Sears was not the first company to enter the mail-order housing business or the first to offer pre-cut kit houses.

Schweitzer and Davis, in *America's Favorite Homes*, hail the Aladdin Company of Bay City, Michigan as the "pioneer" of the twentieth century pre-cut catalog houses. In 1906-07, they appear to be the first to use the pre-cut idea for buildings. Starting in 1910, the Gordon-Van Tine Company of Davenport, Iowa, claims to be the first to offer a commercial line of mail-order pre-cut, prefabricated houses. Prefabrication was less expensive because it eliminated the additional middleman cost and material waste normally associated with standard building. Hand-built construction allows for up to twenty percent waste of raw materials, and that rate could be higher depending on the competency of the carpenter or builder. With prefabrication, however, the waste was near zero. Sears had already offered building materials and plans but it was not until 1916, according to Schweitzer and Davis, that Sears offered pre-cut lumber.

This thesis will focus on brief histories of several mail-order companies that offered kit barns; the advertising, terms, and specifications of these companies and a comparison of designs offered by the various companies. It will be limited to barns, though these were not the only farm buildings offered by the companies. In addition, there is no discussion of companies that offered farm buildings and barns composed of materials such as cement and various masonry materials.

The discussion of the thesis will focus on the period 1900 to 1930. For the most part, the companies that offered mail-order architecture began after the turn of the twentieth century. The 1910s brought the advancement of mail-order architecture, and for a brief period, World War I slowed this growth. The climax of the mail-order architecture was during the 1920s when buildings were prefabricated and sturdy, but not portable. Once the prefabricated buildings were constructed, they looked very much, if not exactly, like their hand-constructed counterparts. With the start of the Great Depression, the 1930s forced most of the companies to curtail or end production and virtually all the companies had ceased production by or during World War II. Prefabrication earned a bad reputation for inferior quality and construction towards the end of the 1930s and into the 1940s. However, after World War II, the massive housing crunch opened the way for revolutionary prefabrication construction techniques (not discussed), such as manufactured homes.

For the purpose of this thesis, the definition of a mail-order barn is as follows: a pre-cut or sectional kit barn purchased from a manufacturer through a catalog and delivered by railroad, truck, or wagon to its final destination.

Prefabrication refers to those barns constructed of pre-cut lumber or composed of preassembled sections.

The definition of the pre-cut method of building construction is that all measuring and sawing is completed at the factory; the pieces are numbered or marked and bundled accordingly for easy assembly.

The definition of the panel or sectional method of building construction is that the materials are pre-cut then assembled into solid-unit sections that can be set up for easy assembly.

By Midwest, the author means the area encompassing North and South Dakota, Nebraska, Minnesota, Iowa, Wisconsin, Michigan, Illinois and Indiana

Plank-frame (heavy plank) framing of a gambrel-roofed barn refers to a barn where the heavy framework extends from the top of the platform wall construction of the first level.

Braced rafter (light truss) framing has the "framework made from 2-inch lumber, and the studs extend from the sill to the eaves."

This thesis research is a survey of the mail-order barns offered through various commercial farm building sales and plan services of the Midwest in the first two decades of the twentieth century. These barns are assumed located virtually all over the continental United States. Canada could be figured in this equation but this has been dealt with in G. E. Mills's *Buying Wood & Building Farms: Marketing Lumber and Farm Buildings Designs on the Canadian Prairies 1880 to1920* (Ottawa, 1991). From research to date, there has been a great deal written about the mail-order kit homes that were marketed, especially by Sears, but little or nothing about barns or other structures.

Research to this point has indicated that Sears, Roebuck and Company of Chicago; Montgomery Ward & Company of Chicago; Gordon Van-Tine Company of Davenport, Iowa; Chicago House Wrecking Company / Harris Brothers Company of Chicago; and the Aladdin Company of Bay City, Michigan, offered mail-order barns through their house catalogs or in separate farm building catalogs.

Some of their competitors, who offered barn plans and planning services, included the Louden Machinery Company of Fairfield, Iowa; James Manufacturing Company of Fort Atkinson, Wisconsin (which offered the Jamesway line of equipment); and Hunt, Helm, Ferris, and Company of Harvard, Illinois (which offered the "Star Line" of equipment). Even though these companies sold barn plans, their main purpose was to offer up-to-date advice to sell their company's lines of modern farm equipment. Specifications and complete working plans could be obtained for a nominal fee, such as $5.00. The books published by the Louden Company, James Manufacturing and Hunt, Helm, Ferris, and Company illustrated successful farm buildings built by farmers, gave advice on advances made in barn design, and especially showcased their barn equipment. Testimonials, accompanied by farm building photographs, were included from past customers praising the virtues of the designs and equipment. William Radford and his Radford Architectural Company of Chicago published scores of books in the late part of the nineteenth century and the early part of the twentieth century. Books such as *Radford's Practical Barn Plans* were packed with agricultural and farm-building advice. Various chapters in the books are dedicated to different types of farming and livestock raising. In fact, Radford developed a specialized and separate farm-building department in 1909. The "Department of Dairy Barns" a chapter in *Radford's Practical Barn Plans* offered blueprint plans of featured farm buildings for $15.00. All the barns introduced showed elevations, plans, and details along with much discussion of the advantages of that particular design.

In the early part of the twentieth century, both Orange Judd Publishing Company, New York and the Sanders Publishing Company, Chicago / *The Breeder's Gazette*, offered building planning advice and up-to-date information about barns and a range of other farm buildings through their numerous books and periodicals. Over the years, Sanders compiled contributions and published them in *The Breeder's Gazette* describing "actual constructions from practical men." The published barn plans were intended as guides and the compiler stressed that the featured farm buildings might not suit a farmer's individual needs. Orange Judd featured a large number of actual barns and farm buildings and wrote in detail about the buildings and the operations on the farm.

Companies like the Weyerhaeuser Sales Company, in attempting to market their "4-Square" brand of lumber, incorporated barn and farm building plans designed by agricultural colleges into their own massive 11 inch by 17 inch hardcover catalogs that were available for preview at the local lumberyard. Full-size working plans could be ordered from the sales division in St. Paul, Minnesota. Since the material lists were included in the catalogs, farmers could get a reasonably accurate estimate of the cost of new farm buildings from the lumberyard or mill. Once the working plans arrived, the farmer bought his supplies and followed the plans to build his new farm building, safe in the assurance that the design had been tested before being offered for sale.

For the most part, the farm buildings and farming literature of the period provided farmers with adequate information to build barns with their own hands. Published examples of early modern barns and changing agricultural practices that were available in the same time frame as the mail-order kit barns include: Sanders Publishing Company's *Farm Buildings* (1907); Ekblaw's *Farm Structures* (1917); Halstead's *Barn Plans and Outbuildings* (1918); Roberts's *The Farmer: His Own Builder* (1918); Hopkins's *Modern Farm Buildings (*1920); and early editions of Carter and Foster's *Farm Buildings*.

No discussion of mail-order kit barns was mentioned as an option; instead, the literature shows examples of barns and farm buildings already built by farmers. Although companies advertised in popular magazines, it seems unlikely that the information was disseminated adequately; perhaps the companies relied additionally on word of mouth since most catalogs were not sent out unless requested. Farming literature also offered up-to-date information about barns that are similar in nature to the mail-order kit barns. The farmer still had to acquire the lumber and, using the company's information, build it himself.

Another development in barn evolution was the creation of land-grant agricultural colleges, which, in turn, opened experimental research stations. The experiment stations gave detailed thought to the design of new barns, other farm buildings, and farming practices to be used in the twentieth century. Old barns were never dismissed as they could be adapted or re-equipped to become modern, sanitary barns that were healthy for the farmer and his animals. Companies like Louden Machinery Company published examples of barns that had been refitted, or to use Louden's slogan, "To modernize your farm, Loudenize your barn," with their equipment and brought up-to-date for a reasonable price.

Previous studies that the author has researched (other than the actual manufacturers' catalogs) have certain limitations. Little is said about barns in Jandl and Stevenson's *Houses By Mail*, or Hanou's *A Round Indiana* (where Chicago House Wrecking is refereed to as Chicago Wrecking House). There is a chapter about Sears mail-order barns in Randy Leffingwell's *The American Barn*, some coverage in Noble and Wilhelm's *Barns in the Midwest* and Soike's *Without Right Angles: The Round Barns of Iowa*. Schweitzer and Davis's *America's Favorite Homes* deals mainly with the pre-cut and sectional kit home building industry in the Midwest but does mention and illustrate some barns.

With the study of the mail-order kit barns in the Midwest from 1900 to 1930, the author hopes to accomplish several objectives: First, to provide a historical overview of the mail-order companies that provided barn plans and mail-order barns. Second, to document the variety of designs and plans in illustrations, drawings, and text. Third, to document the comparison and contrast of the barn designs and plans offered by the various companies; lastly, to determine the actual extant of the pre-cut barn's regional popularity and determine what factors promoted its selection. This information will be of interest to a broad audience including but not limited to agricultural experts, barn experts, vernacular architectural historians, and mail-order catalog collectors and enthusiasts.

COMPANY HISTORIES

Massive amounts of timber attracted many people to the Midwest around the turn of the twentieth century. Mills and yards sprang up all over the region to take advantage of the vast untouched resources. An abundance of timber meant that people now wanted to discard old building practices. The public looked forward at the beginning of the twentieth century and not backward. One way of looking forward was the application of new building techniques such as balloon framing or light framing to barns and farm buildings to make them more modern and efficient. This was the boom era of the pre-cut and sectional kit-building producers.

The starting point for the author's research was those companies listed by Schweitzer and Davis in *America's Favorite Homes*. The companies that the author examined are: Sears, Roebuck & Company; Montgomery Ward & Company; Aladdin Company; Hodgson Company; Lewis Manufacturing Company; Gordon-Van Tine Company; Sterling; Mershon & Morley; Chicago House Wrecking Company (CHW) / Harris Brothers, and the Ray H. Bennett Lumber Company. Most of the companies were Midwestern with the exceptions of both Hodgson Company from Dover, Massachusetts, and Bennett Lumber Company of Tonawanda, New York. To this point, the author can only say for sure that Sears, Ward, Gordon Van-Tine, Chicago House Wrecking / Harris and Aladdin offered barns either in their house catalogs or in separate farm building catalogs. To come up with a complete list of all the companies that produced pre-cut or sectional buildings would be nearly impossible today.

Hodgson Company

The first company to offer a prefabricated house line and stay in business, according to Schweitzer and Davis, was the Hodgson Company of Dover, Massachusetts. Ernest F. Hodgson of Boston began selling chicken coops made of door-like panels that fastened together. After the turn of

the twentieth century, he expanded to include single car garages which lead to the expansion of panelized vacation homes in 1902. In later years, he would expand his line to include year-round houses. He stayed in business selling by catalog until the 1970s unlike many of his competitors. Failure to locate any catalogs from this company produced little certainty of farm building listings.

Gordon-Van Tine Company

The Midwest was a thickly forested area that boasted a great deal of quality lumber; it was an area ready for the mail-order building businesses to begin business. The Gordon-Van Tine Company of Davenport, Iowa, was no exception, started in 1865 in Wisconsin as the U. (Uriah) N. Roberts Co., a wholesale building materials company. Moving to Davenport a year later, Mr. Roberts opened a small shop selling millwork. The company created Gordon – Van Tine as the selling corporation in 1906-7. Within four to five years, the company had expanded from just supplying millwork to selling prefabricated precut-type homes through their mail-order catalogs. A discrepancy exists here because according to Schweitzer and Davis, "the Roberts Company merged with another firm to form the Gordon – Van Tine Co." In 1908, Gordon – Van Tine opened a branch lumberyard, mill and factory in St. Louis. By 1915, the company had opened a plant in Chehalis, Washington to take advantage of the timber resources there. To compensate for the dwindling lumber resources in the Midwest, the company opened a lumber mill in Hattiesburg, Mississippi, in 1919. The company's glory days were primarily the 1910s and 1920s. After celebrating their 75th anniversary in 1940 and having grown to 350 employees and 5 plants in 4 cities, the company appears to have quietly disappeared during World War II.

According to Ralph Christian and Dr. Lowell Soike of the Iowa Department of Cultural Affairs, Division of the State Historical Society, there appears to be little available information about Gordon – Van Tine. There was an effort several years ago to compile information during a historical and architectural survey of Davenport, Iowa, which turned up surprisingly little data. Dr. Soike and Mr. Christian concluded, "what company records existed apparently were discarded in the 40's, and surviving catalogs issued by the company are relatively few and for a scattering of dates." Most of Gordon – Van Tine catalogs owned by the historical society are photocopies. To date, a complete history of the company does not exist. The company stressed, "We guarantee satisfaction or money back" and "We guarantee to furnish enough of the various kinds of material to build each building according to the picture, the plans shown and the specifications given." On the top of every odd page appeared the phrase "Guaranteed Prices – No Extras." The company proclaimed "Seeing is believing" and they encouraged farmers to come to Davenport and inspect the facility. They were so sure that the potential buyer would be totally satisfied that the company would pay the railroad fare if a buyer felt misled in any way.

The company dedicated an entire page to "Why Gordon – Van Tine Are Best Able to Plan Your Barn." Gordon - Van Tine created a " Farm – Building Department" filled with farm specialists and headed by W. Kirkpatrick "The Barn Man." All the specialists had first hand knowledge of some aspect of building to deal specifically with the farm buildings found in their separate farm catalogs. The company offered barns from about 1915 and continued through the late 1930s.

Barn prices quoted in the catalogs from the 1917, undated (c. 1920s), 1923, and 1928 were strictly for the exteriors of the barns since the interiors would be different due to the varying needs of the individual farmer. The company understood that the needs of the Texas farmer were different from the Wisconsin farmer. Therefore, the floor plans were unique for each order.

Aladdin Company

Another big Midwestern catalog building supplier was the Aladdin Company of Bay City, Michigan, founded in 1906 as the North American Construction Company by two brothers, William and Otto Sovereign. Schweitzer and Davis hail Aladdin as the 'pioneer' of the twentieth-century pre-cut catalog houses because they appear to be the first ones to use the pre-cut idea for buildings. The idea for the pre-cut building stock originated from the pre-cut, mail-order boat kit companies that already existed in Bay City. Aladdin operated many years solely as mail-order taking operation because the company owned no lumber mills or yards outside of its immediate area.

When orders came in, the lumber came from their contract lumber mill, Lewis Manufacturing Company. This continued until 1916 when the Sovereign brothers parted company with Lewis, who started to issue their own line of mail-order catalog buildings two years before; the Sovereigns renamed their company Aladdin. "Under Lewis and on their own, Aladdin homes were produced by contract

lumber mills in Houston, Texas; Portland, Oregon; Wilmington, North Carolina; Hattiesburg, Mississippi; Toronto and Ottawa, Ontario; Vancouver, British Columbia; Missouri, Louisiana, and Florida, as well at the Bay City mills." The Aladdin Company had its heyday in the 1910s and 1920s. The company suffered after the stock market crash of 1929. Unlike many of their contemporaries, the company rallied and remained in business through the Great Depression and through World War II. After the 1950s, Aladdin saw a down swing in its sales and by the 1970s was barely in business. Aladdin managed to stay in the business of mail-order housing until 1982, and disbanded early in 1987. Family members cite "high interest rates and inflation" for smothering the housing market. Though numbers are available for the number of houses sold, there are no available numbers at this time for barns or any other building types. "Aladdin Readi-cut Barns" appeared in a two-page section in the back of the Aladdin house catalogs. The author located Aladdin house catalogs from 1915, 1917, and 1918. Aladdin offered barns primarily from 1910s through mid-1920s.

In addition to Aladdin, there were at least two other lesser-known mail-order building suppliers, Lewis and Sterling, also based in Bay City. Founded in 1896, Lewis Manufacturing Company opened as a planing mill. The company initially started offering pre-cut cottages in 1914, and stayed in business until 1973, when the company closed due to financial difficulties. The author was able to make one inquiry for a 1936 Liberty Homes catalog but no barns were mentioned. The Lewis Manufacturing Company was lesser known then Aladdin. Sterling Homes offered by the International Mill and Timber Company were the least known though they stayed in business from 1915-16 to 1975. It is unclear if the companies ever offered any barns in their catalogs.

Montgomery Ward & Company

Aaron Montgomery Ward attempted to open his own Chicago mail-order business in 1871. He lost all his stock in the Great Chicago fire, but recovered by the next year and published the world's first general mail-order catalog. Ward was the first to introduce the "Satisfaction Guaranteed or Your Money Back" policy in his 1875 catalog. This policy would remain central to Wards philosophy of doing business.

Montgomery Ward & Company entered the mail-order building business about 1910. Schweitzer and Davis claim Montgomery Ward offered barns in their 1912 *Building Plans of Modern Homes* catalog. The company adopted the name Wardway Homes in 1918 and continued this enterprise until 1931. The author contacted the Montgomery Ward archives located in the American Heritage Center at the University of Wyoming, Laramie. Available were examples of barns from the 1916 through 1919 house catalogs. Little information on the Montgomery Ward's barns, other than those shown in the catalogs was available. Ward's barns did not appear to be a popular feature, in contrast to those of Ward's major competitor, Sears. Ward offered barns through their homes catalogs until about 1920 (a 1923 Wardway Homes catalog contained no barns).

Ward owned a mill in an unspecified city in eastern Iowa that supplied the millwork for doors, windows, frames, trim, and wood materials. Hardware, paints, and other smaller retail items came from the Chicago general merchandise warehouse. Ward listed the following branch houses in the 1923 catalog: Chicago; Portland, Oregon; Fort Worth, Texas; Saint Paul, Minnesota; and Kansas City, Missouri. Mills and lumberyards operated out of Portland, Fort Worth, and Kansas City where nearby timber resources were still available. Montgomery Ward had stopped selling pre-built buildings in 1926, according to Hoge, who claimed buyers were having problems making timely payments on their buildings. Ward avoided the big scandal of foreclosure that Sears would experience in a few more years. Schweitzer and Davis contend that Wardway Homes existed until 1931 and a catalog of that year showing houses suggests Hoge was in error.

Chicago House Wrecking Company / Harris Brothers Company

Contrary to their name, Chicago House Wrecking Company may not have wrecked houses. Hanou claims that the company began business after the Chicago Fire of 1871, when there was a need to demolish burned houses. Another account claims four brothers in Chicago named Harris organized the company in 1893 to dismantle the Chicago World's Columbian Exposition. After dismantling the Chicago World's Columbian Exposition, Chicago House Wrecking "purchased and dismantled" Omaha's 1899 Trans-Mississippi Exposition, Buffalo's 1901 Pan-American Exposition, and the St. Louis Louisiana Purchase Exposition of 1904. The company bought the expositions, dismantled them, and sold the salvaged materials. This proved profitable and after 1908, the company expanded to selling

new lumber.

According to a 1910 catalog entitled simply *A Book of Plans*, the company went the next step to offering stock plans and building materials for houses and farm buildings. The company supplied detailed plans, specifications, and bills of materials; and then offered building materials in sufficient quantities to finish the building. However, the buyer still had to cut the lumber to fit. In addition to the *Plan Book of Harris Homes*, the company also had a general merchandise catalog that competed with Ward and Sears. Sometime around 1914, the company apparently shifted to using Harris Brothers Company, and began offering sectional buildings by 1919. They appear to be one of the few companies that offered building plans first and then moved on to kit buildings.

The company's patent-pending system called "Presto-up" and consisted of four by eight foot panels bolted together. These "Wonder Buildings of the Age" shipped directly from their Chicago plant. Other than houses and garages, the company offered "General Purpose Buildings" that could be used for churches, schools, barns, dance halls, and warehouses. According to Schweitzer and Davis, the company went out of business sometime around 1938.

Sears, Roebuck and Company

Richard Warren Sears started his mail-order business in 1886, with a shipment of watches in North Redwood, Minnesota where Sears worked as a Station Agent. Thus the R. W. Sears Watch Company was born. Business was so prosperous that operations moved to Chicago to take advantage of better transportation and a more central location. This is where Alvah Curtis Roebuck, watch repairman, joined the company. Sears sold the profitable company and returned to Minnesota while Roebuck was in Toronto operating a branch of the company. Back in Minnesota, Sears returned to the watch and jewelry business as the Warren Company. Though this venture was profitable in 1891, Sears sold the company to Roebuck who renamed the company A. C. Roebuck Company. Sears soon bought back into the company and in 1893, the mail-order company evolved into the Sears, Roebuck and Company and moved back to Chicago as its main base of operations.

Sears, Roebuck and Company might not have gotten into the mail-order building business if it had it had not been for Frank Kushel. As early as 1895, the company was selling various building materials and supplies; however, according to Stevenson and Jandl, these items were not big sellers. Sears transferred Frank Kushel, his China department manager, to close out the building materials department. Kushel took the initiative to make this department a success, in the spirit of Sears himself. By 1908, the first catalog devoted exclusively to mail-order homes entitled *Book of Modern Homes and Building Plans* premiered.

Sears, like Aladdin, expanded their holdings after the early years and between 1909 and 1912 the company purchased a lumber mill in Mansfield, Louisiana, a lumberyard in Cairo, Illinois, and a millwork plant in Norwood, Ohio. The lumberyard in Cairo was the key, because it was located on a rail line at a rate-breaking point, thus lowering the cost of lumber. Being near enough to the center of the United States, shipping was easy in any direction and the forty-acre yard was more than enough to store the pre-cut lumber before assemblage into kits and sent out on boxcars. Sears offered four barns alongside their houses in their 1910 *Book of Homes*. Quite similar in appearance is *Homes in a Box – Modern Homes from Sears Roebuck*, facsimile reproduction of an early Sears *Modern Homes* catalog published by Schiffer Publishing Ltd. The catalog appears to date from either 1912 or 1913. There are four barn models exactly like the ones in the 1910 catalog with increased prices.

Boris Emmet and John Jeuck, in their comprehensive history of the Sears, Roebuck and Company, entitled *Catalogues and Counters* observed, "the company has never been an innovator in products" and carried those items that the consumer wanted. As Leffingwell remarks, "Sears' success, in short, came from giving its buyers a high-quality version of exactly what they asked for at a price they could afford." Almost from the start, Sears offered financing of new buildings.

The separation of the farm buildings from the houses in 1918, into a separate catalog was a reflection on the popularity of the farm buildings offered. Sears published that year *The Book of Barns--Honor-Bilt-Already Cut* that offered fifty-six pages of barns, hog houses, chicken coops, granaries, and other farm buildings.

Sears kept its architects and lumber millers busy designing and improving their barns. Sears' own architects sometimes designed barns but the company did not establish an official design department until the Architectural Division creation in 1919. Farmers were not limited to the designs in the catalogs but were encouraged to design their own barn. Sears would develop the material

requirements from the design and provide them their pre-cut lumber and materials. Sears aimed to please their customers; buyers were encouraged to give the company feedback about their barn designs.

By 1925, with the success of both "Honor-Bilt" Homes and farm buildings, the company acquired another forty-acre lumber mill and yard in Newark, New Jersey. The kit barns shipped on one or more rail cars from the yard in Cairo, Illinois or Newark, New Jersey to the nearest rail drop point. It was then loaded on a truck or horse-drawn wagon for delivery to the farm.

In 1926, the separate "Farm Building Catalog E504MH" was available on request by mail. There was an ad in the *Sears, Roebuck Catalog of Houses, 1926* featuring the catalog entitled *Modern Farm Buildings: Already Cut and Fitted Barn Equipment*, which boasted savings of '$100 to $500 on your barn' and offered as an example a 28 foot by 34 foot gothic-roofed barn for $695. By late 1929, Sears had extended so much credit for its new buildings that they soon found themselves in the position of foreclosing on many of their customers. The legacy of the Sears mail-order barn business ended in 1934, when the Modern Homes Department disbanded. Reintroduced in 1935, with a separate steel-framing supplier, the company offered no barns. By 1940, Sears was out of the prefabricated mail-order housing business and though the company boasted of selling more than 100,000 houses, no one ever counted the barns.

All the companies were located on major rail lines and had water transportation available. Sears, Ward, and Harris Brothers were all based in Chicago, the big merchandising and shipping center of the Midwest and had access to Lake Michigan. Gordon-Van Tine was located in farming community of Davenport, Iowa, on the Mississippi River. The Aladdin Company was located on the shores of Saginaw Bay in Bay City, Michigan, with access to Lake Huron.

In respect to the mail-order catalog companies, there were countless other small companies not mentioned. These small companies could be located potentially anywhere there was an adequate timber supply and transportation. Many of these companies climaxed before the Great Depression and if records or catalogs have survived, they are in someone's private collection.

PROPOGRANDA, SPECIFICATIONS, AND TERMS

Farmers needed substantial barns and farm buildings to be able to carry out their farming operations. Farm buildings were investments for their futures. A poorly built barn would inhibit their earning potential. The farmer needed a fairly skilled and large crew to build a post and beam barn, as well as access to large-scale timber. The actual building of any farm building consumed a considerable amount of time and money. The farmer had to order the barn plans and lumber from mail-order catalog houses or purchase the lumber locally. In response to this problem, the mail-order catalog companies filled the gap by offering complete modern kit barns. Most of the barns offered required only a few simple tools, usually two or three people, and the ability to follow plans for assembly. Since the kits came with everything (excluding masonry materials), assembly was relatively quick and inexpensive compared to finding skilled barn builders or paying local prices for questionable dimensional lumber.

Montgomery Ward

The prices listed in the catalogs were f. o. b. (free on board) railroad cars at the mills and factories. In addition, all lumber was quoted f. o. b. at the different yards depending on the lumber and location of destination. Each order was filled from the nearest mill to the order's destination to save the customer freight costs. If the consumer wanted the actual delivery prices on all freight, he/she filled out an enclosed "Information Blank." Ward's payment terms varied: cash with order, remittance of one-fourth, or statement of deposit. The cash with order allowed the buyer to take a "two per cent [sic]" discount. While this method might not be advisable today, Wards said that the buyer was "protected absolutely by our binding guarantee of satisfaction." The remittance of one-fourth, with the balance being C. O. D., did not allow for the discount. Once the order was at the station, the buyer had five days to inspect his freight and pay the balance. The third option was statement, which allowed the buyer to send $100.00 with the order and deposit the remainder in the consumer's bank or a building and loan association. The financial institution filled out a supplied statement of deposit form, upon receipt of deposit, which specified that the buyer had five days to inspect the freight and express satisfaction with the order. No discount was available with option number three.

There must have been a great deal of trust in the early part of the twentieth century. Catalog customers sent in orders of varying amounts of cash and total guarantees of satisfaction with their orders. The buyer was at the mercy of the mail-order company, but also the mail-order company had everything to lose if they betrayed the trust of their customers. Wards stressed no extra costs, and if an order was short, or if unsatisfactory materials were furnished, they made good on their binding agreement. The word guarantee appears repeatedly throughout the Ward's catalogs. Ward was a general merchandise company, so it already had a long customer list and a good history with the nation. The 1923 Wardway home catalog reasserted their then fifty-year-old motto of "Satisfaction Guaranteed or Your Money Back."

"Buy for Cash and Save Money!" advertised as a "double savings" as the company and the buyer paid cash for orders. No extension of credit meant the company lost no money through bad accounts. The buyer paid "the actual cost of materials plus the one small profit we ask on each sale." This may explain why the company did not stay in this venture long. Wards dedicated many promotional pages at the front of their 1923 catalog to explaining why and how they could offer such low prices and high quality at the same time. They told the potential consumer the location of their mills and factories. Total specifications for all buildings, what quality, and variety of lumber needed for each section was listed.

Wardway buildings were assembled of "ready-cut" wood construction. Each plan was "perfected" down to the last detail to eliminate waste on the building site. All parts were clearly marked for easy assembly by either carpenters or the buyer himself. It seems that the mail-order building catalogs discounted the carpenter with his hand tools as being wasteful and slow. The buyer had the opportunity, in most cases, of buying the building not "ready-cut," at a higher cost, with all necessary lumber included in standard lengths for regular construction. Each model of barn had a list of general specifications on each page. The prices listed were for the materials that the company furnished. For example, Barn No. 205 pictured in the 1916 *Wardway Homes* catalog, carried the claim: "For $478.00 we will furnish the material for this barn, consisting of lumber, sash, hardware, paint and our Radio slate surfaced roofing which is guaranteed for 15 years."

Each farmer and farm had different requirements so interior features were available for an additional cost. The buyer could include a rough sketch of what he desired, and Wards would create a specific building estimate. Wards did not include cement or any masonry materials with the kits. These materials were expensive to send and more inexpensively obtained closer to the destination. Included on the page was an estimate of the total cost of the barn "allowing a fair estimate for labor and cement."

The general specifications for barn construction included framing type, information about doors, windows and hardware, roofing material and enough for two coats of "our famous Coverall Barn Paint, any color we list." Equipment, such as a hay carrier, was available from the company. No information from the archives was available and all accessible photocopies were black and white. All framing lumber for Barn No. 205 was No. 1 quality yellow pine. Window and door frames came unassembled for construction on-site.

Wards, as all the other companies, had to diversify their holdings. The timber resources of the upper Midwest were vanishing soon after the turn of the twentieth century thus forcing the companies to open or buy new timber operations in the West and South where good timber was still obtainable. The companies had to have operations located where good timber resources were available. Douglas fir and varieties of pine were the most readily available in large quantities.

Gordon-Van Tine

"We Guarantee Satisfaction or Money Back" and "No Extras" also seem to have been the mantras of the Gordon – Van Tine Company. These claims appeared on every other page of their catalog. Later this would change slightly to "Guaranteed Prices-No Extras." In the 1917 Gordon—Van Tine farm buildings catalog, there are seven pages of company information, propaganda, and information about the materials used in the construction of the buildings. Following this, numerous pages filled with barns and other farm buildings. An undated catalog and the 1923 catalog open with a full page that featured three upstanding letters from local Davenport banks. Gordon-Van Tine was striving to answer all their customers' potential questions. The catalog contained a full page dedicated to an index of the types of farm buildings, also a list of questions and the location of answers.

The undated catalog and the 1923 catalog have building price pages, pages of propaganda filled with what the company offered, why and how they could offer the consumer the best price, and the

three types of framing methods offered in the various barns. The 1928 catalog has virtually the same opening pages but cites different banks guaranteeing them; and lists only sample price quotes. The buyer had to fill out an enclosed plan sheet with as much information as possible and mail this in an enclosed envelope to receive a quote for the particular barn shipped to their station by mail.

Payment options listed in the 1917 catalog stated: send the full cash amount less two percent with order, or submit the order blank with the guaranty section filled out by the banker or Building & Loan Association. No discount was available with the second option. If the consumer chose the second option, the consumer inspected the order upon arrival. If the consumer was not satisfied upon inspecting the shipment, the banker would not pay the company. If the consumer was satisfied, the banker would send the money to the company within five days of receipt. The undated catalog offers the same options on page seven. The 1923 catalog offered a third option that allowed the buyer to send one-fifth of the total order and then send the remainder within five days of receipt of the order. The guaranty section or statement of deposit was no longer on the information blank and moved to the bottom of page five. The order blank information was unavailable because it was not included in the copy of the 1923 catalog received from the Davenport Public Library. The catalog stated that if the buyer felt rushed and found it impossible to wait for a price quote, he/she could order straight from the catalog, use any of the three terms for payment, and the order processed immediately. The company issued freight charges and expected payment upon arrival of the order.

On the order blank of the 1917 farm building catalog, the company states for the quoted prices the following is included: “all lumber, finishing lumber, doors, windows, material for door frames, and nails, hardware, flashing tin, complete painting materials and hay carrier outfit where specified.” The specifications were listed generally for every barn model. All barns came with “Extra Clear 5-2 Red Cedar shingles” and instead of “common barn paint”; they shipped “Quality Brand” house paint in a selection of colors. Cypress or “Wood Eternal” seemed to be a popular wood due to its use in virtually every barn. Specifications in the 1920s catalog split into two categories: “Class A” and “Class B.” “Class A” buildings were composed of the finest materials. The catalog states “Class B buildings are the same as Class A in strength, general construction and appearance, but have been reduced in price by a careful selection of materials for siding, roof, sills, etc.”

Specifications are listed either on the page with the barn design or on the facing page, including information about the type of barn and details about the construction. Specifications in the 1923 catalog were as in the undated catalog except “Class A” was renamed “Gold Medal” and “Class B” was renamed “Standard.” There were two different pages of specifications listed in the front of the catalog, one for “Standard,” and one for the higher quality “Gold Medal.” The materials included for each type of barn were listed from quality of lumber to type of hardware. The barns were either “Standard” or “Gold Medal” as stated on the barn model pages. “Standard” barn models came with “strong manufactured doors, window frames, finest barn paint and slate-surfaced, fire-resisting roofing.” All “Gold Medal” barns came with “strong, manufactured doors, window frames, Quality house paint and 5 to 2 cedar shingles.”

The main difference between the two barn types was the kind of lumber furnished, the type of roofing material, and the quality of paint. All lumber, no matter what the variety, was described as being clear. The “Standard” barn models only came with red mineral paint for the body and white for the trim. The “Gold Medal” barns were provided with house paint and the buyer given their choice of colors. The 1928 catalog is no different from the 1923 specifications other than the type of lumber for both the “Standard” and “Gold Medal” and this depended on which mill supplied the lumber.

Roof ventilators and cupolas were available separately because the number and size used on the barn varied. All interior arrangements were drawn up separately by Gordon – Van Tine’s architects, or used the buyer’s rough sketch, to best meet the farmer’s needs. Clarified in the 1928 catalog, the information sheet had graph paper on the backside to allow a better quality sketch for the buyer. This transferred into barn plans sent to the potential buyer with no obligation to buy. Barns sold “Ready-Framed” to save the customer the most money. All orders were sent F.O.B. from whatever mill was the closest to the final destination with lumber being slightly different depending on the region. Douglas fir (Coastal) and select white pine (Western) came from the Washington mill and southern yellow pine came from Mississippi mill.

Sears

“Remember, a guarantee is worth only what is behind it. Sears, Roebuck and Co. stand back of this guarantee.” Sears was always ready to serve their current customers and any potential customers.

Sears was always looking to expand and attract more customers. The company strove to be the best and show up their biggest rival, Montgomery Ward. Wards never really had a chance, however against Sears in the area of pre-cut buildings.

The earliest barns located were three barns shown in the 1910 *Book of Modern Homes* and four barn models in the 1911 catalog. For the least expensive barn, Barn No. 11, the specifications state: "For $365.00 we will furnish all the material to build this Barn, consisting of Lumber, Shingles, Framing Timbers, Plank Flooring, Sash, Hardware and Paint." Sears apparently offered this barn only in one size, 46 feet long by 26 feet wide with the floor plan already laid out. There is no mention of any particular framing method used. The buyer could save $33.00 by choosing "3 ½-Ply Flint Surfaced Asphalt Roofing" or "3 ½-Ply Best-of-all Roofing which will last fully as long as shingles." The buyer could chose the color of the paint. In contrast, Barn No. 14 is the jack-of-all-trades barn at 70 feet by 40 feet and designed to stable sheep, horses, and cattle plus plenty of room for feed, and housing for wagons. This was the most expensive barn at $769 and included hay carrier, track and rope.

An advertisement from about 1910, "Build Your Barn Now on Easy Payments," listed special prices in addition to easy payments. New payment terms allowed the buyer to pay monthly, every three months, or every six months. Sears charged six percent interest. The ad shows a large sun-like symbol with spikes or rays highlighting a barn or farm building with monthly payments. The middle of the sun-like symbol appeared a view of the Chicago plant with a classically dressed woman holding a balanced scale and the words "The Homes of Honor-Bilt Houses Where Six Million People Always Get a Square Deal." This ad encouraged the customer to pick out the building that they wanted, in the size needed, fill out the information blank, and arrange for payments over five years. Sears stressed: "We guarantee complete satisfaction and safe delivery." Orders came with the stated materials numbered to correspond to the detailed plans. The back of the ad shows "Barn Building Made Easy." The advertisement highlights H. A. Robers of Lyons, Wisconsin, erecting his barn, and with information concerning with how long it took to assemble the barn. There was also shown a large gothic barn assembled at Maple Lane Farm in Indiana with a testimonial from George Kircher, manager. The lower half of the ad shows built barns and quotes from satisfied customers.

In the 1918 *Book of Barns* catalog, the general specifications shown on two pages with illustrated cross sections of the braced rafter and trussed roof construction with highlighted details. No specifications were listed for the gothic barn offered. Sears uses the United States Department of Agriculture as an authority for the best materials for barn construction. In bold type were the basic lumber components spelled out: "Barn Frame – Yellow Pine, outside walls – Cypress, "The Wood Eternal" with two grades select and No. 1 common available, mow flooring – tongued and grooved No. 1 Yellow Pine and Fire-Chief Shingle Roll Roofing guaranteed by us for fifteen years for wear and color." For a full description of other items, the buyer was directed to other pages. Optional items such as ventilators, cupolas, and barn equipment all varied due to the individual farming situations so they were not included in the prices.

The 1921 *Book of Barns* catalog, offers "Eight Good Reasons Why You Should Buy Sears, Roebuck and Co.'s 'Already Cut' Modern Farm Buildings":

1. Our farm buildings are constructed scientifically. They combine the good features of the best farm buildings in use now.
2. Our farm buildings are designed according to the latest requirements of sanitation and convenience.
3. For every farm building the framing material is already cut and fitted. This prevents waste of material and reduces the labor about one-half. In addition, all doors are "ready made, ready to hang in lace, making doors superior to those produced by hand carpentry.
4. Any handy man can erect our "already cut" modern farm buildings according to our plans. This saves a considerable amount of expert labor.
5. You have our guarantee that at the prices shown in this catalog we furnish enough material to complete the farm building. You will not be required to buy extra material.
6. We guarantee that material to be equal to or better than the grades specified in our general specifications.
7. When you deal with us you have the assurance that you are not paying for an experiment. We were the first to develop the mail order system to sell complete building materials. We have had many years of experience in this line. Our buildings are not experimental, but, having been built

many times, have proved correct and practical in every detail.

8. You can buy any buildings in this book costing $500.00 or more on easy payments. For particulars see the Order Blank.

The specifications for the barns in the 1921 catalog were identical to the 1918 catalog. The specifications are listed as sidebars to the cross sections illustrating the braced rafter and trussed roof construction. The gothic roof barns are featured in the catalog but no cross section or detailed specifications are available. The Modern "Pioneer" Barn No. 3008 "Already Cut" and Fit is also featured and looks to be a modern timber frame barn but no details are available other than all framing materials are No. 1 yellow pine.

In the 1923 *Modern Farm Buildings* catalog, the general specifications listed across the bottom of all four framed illustrations showing examples of braced rafter, trussed, gothic, and timber frame construction with details highlighted. Bold type for visual scanning complimented all four pages. The basic lumber components are the same as the 1918 catalog with the exception of the roll roofing guaranteed for seventeen years instead of fifteen. The pages are somewhat hard to read due to all the information. The first barn model displayed, supposedly the best seller, is "Our Leader," Modern General Purpose Barn No. 2061. For $655.00, this gothic barn came with "framing lumber, siding, outside finish lumber, mow flooring, roof sheathing, roofing, factory made doors and windows, paint, hardware, nails, bolts and complete working plans." The least expensive siding was "medium" grade yellow pine, and the quote was for the smallest barn offered at 24 feet by 24 feet. "Secero Brand Barn Paint" in Oxide Red was the standard paint unless the customer requested another color. Other available colors were French Gray, Yellow, and Maroon. The "Fire-Chief" roll roofing furnished was a long felt roll covered in crushed slate with black asphalt patterned to mimic individual shingles. A less expensive alternative was the "Oriental Slate Surfaced Roofing" which came in long felt rolls covered in crushed slate and asphalt but with no patterning. Two colors were available for the roll roofing: red and sea green. Galvanized nails were included in the price.

In the 1928 *Modern Farm Buildings* catalog, the general specifications were listed on the pages preceding the three pages of framing methods. The "Honor Bilt" specifications were listed on the sidebar of each of the cross sections illustrating the framing methods used in the construction of the barns. The specifications are in very small type in limited space making it difficult to read. A description about the framing methods and their features acclaimed on the lower half of the page. The next page deals with the "Better Built Doors" and "High Grade Barn Sash and Frames" with illustrations and descriptions of the quality construction. The next page is entitled "ABOUT OUR BARN SIDING." There are two grades of siding offered: medium grade with some knots and best grade that was clear cypress. Both grades are illustrated. Close-ups provided of both types of tongue and groove siding offered: drop siding and double V siding. On the bottom of the page, there is an endnote that states "Barn Boards and Battens furnished, if desired, for all vertical sided buildings."

"Our Leader" Modern Barn No. 2061 leads off the cover of the 1928 catalog like all the other barn catalogs and was the first barn model displayed inside the catalog (Illustration 20). The price listed as $939 for this barn, 30 feet by 32 feet, already cut and fitted and included all the same components offered in the 1923 catalog. "Honor Bilt" specifications were below each barn illustration. Standard house paint, in varying color combinations in a separate paint catalog, was included. Sears had changed their selling strategy to a modern "Build Your Barn Like a Skyscraper" with a comparison of the steel skeleton skyscrapers to the wooden frame skeleton barns.

Chicago House Wrecking Company / Harris Brothers Company

By 1910, Chicago House Wrecking Company began offering building plans in addition to their already successful millwork and lumber business. In their 1910 *Book of Plans*, the buyer could look through the catalog and pick the building that he/she wanted and complete blue print plans; specifications and bill of materials sent for a fee of $2.00. The fee was applied to the bill if the consumer chose that particular design and ordered the materials. "All quotations in this book are made net cash F.O.B. Cars Chicago." Because of prevailing market conditions, the potential buyer had to write the company for a price quote on the exact design delivered to the station or drop off point. The company kept their own experienced architects on staff to draft the plans for the catalog. Because the actual cost was "$25.00 to $100.00 per set," so the $2.00 fee per set was really a selling item to entice the buyer.

The proposed specifications for the barns are located toward the back of the catalog in a

section entitled “Barns.” The only items not furnished was the paint, foundation materials and materials for the arrangement of the interior as this varied widely per farmer and location. Framing and sheathing of 2-inch dimensional Southern Pine was supplied in a sufficient quantity. For barns that employed the joist framing designs, the company supplied No. 1 Arkansas pine 12-inch board with 2 1/2-inch O. G. battens employed as siding. One inch by six-inch Arkansas pine drop or novelty siding covered the barns that employed balloon-type framing method. Quoted prices were based on having “our celebrated 3-ply Rubberized-Galvo roofing.” “Extra Star, A Star or 5 to 2 clear red cedar,” or white cedar shingles were available for an extra cost. If none of these roofing elements was suitable, then galvanized roofing, either flat or corrugated, was available for an additional minimal cost. Sash and window frames were of No. 1 stock and came in “knock-down” form. The materials for the doors were Southern pine and supplied in sufficient quantities to create double-thickness. All hardware and galvanized iron work was supplied for the barn.

The Chicago House Wrecking Company / Harris Brothers Company was the only company found to have dealt with barns in the sectional building trade. The company encouraged total cash remittance with every order to avoid delaying the processing of the order. If paying cash, the buyer would receive a “two per cent [sic]” discount. If the buyer objected to paying the full price in cash, the alternative was to send half of the money with the rest due C.O.D. upon inspection. They also offered export to foreign companies with a twenty percent surcharge. Either payment in full or fifty percent paid with remainder collectable from any designated United States bank was required for foreign orders.

Specifications called for single wall construction composed of three wood components: studding, cross braces and siding. Foundation sills were made of yellow pine. Exterior walls were specified Clear Oregon fir. The barns came painted with one heavy coat of stock paint. No special skills were required for assembly, since the barn came ready to bolt together. Locally available earth, cinders, brick or stone posts / piers or concrete foundation walls were recommended. Flooring was not included in the price but was obtainable for an additional cost. For use as a barn, the building had windows in every panel on one side and every other panel on the opposite side. The buyer could choose the various window arrangements of the front and back elevations. The windows incorporated were the company’s standard garage windows.

The company offered these “General Purpose Buildings” for use as churches, schools, barns, dance halls, and warehouses. The only difference in the design of the general-purpose building when utilized as a barn was the use of five-foot wide wall sections to accommodate stalls. The company offered nine different size single-wall barns ranging from 16 feet 5 inches by 24 feet 5 inches to 24 feet 5 inches by 48 feet 5 inches. Barn prices range from $245 to $784. There was an additional ten percent charge for nine-foot ceilings. If the buyer wanted a different size building or better than single wall construction then he/she had to write to the company for a price quote. Interior arrangements with stalls and partitions were available for additional cost.

Aladdin

The Aladdin Company offered two terms: full cash payment with a five percent discount or twenty-five percent cash with the order; balance C.O.D., due upon inspection. The terms remained constant throughout the catalogs researched.

The specifications for Aladdin Readi-cut barns were simple. All lumber was listed in the sizes supplied for each component. The species of wood was not listed. The buyer could choose prepared roofing or “Extra Star-A-Star” cedar shingles, and the color of paint (enough for two coats). There was also a choice of “perpendicular barn boards or horizontal matched siding.” All windows, doors, and hardware were included. No masonry or foundation materials were supplied, but figures on how much material it should take to complete the job are included in the working plans. Mangers, stalls, and floors were available at an extra cost.

The red cedar siding was covered by the “A-Dollar-A-Knot” guarantee. Siding was guaranteed to be clear and of the highest grade possible. It is not certain if this was the siding for the barns. “The Aladdin Board of Seven” consists of the “Master Designer,” the “Master Builders” and the “Factory Experts.” The board examined each design for flaws and for ways to eliminate waste. Freight costs were low because there was no middleman.

All the companies discussed offered barns of varying sizes and barns for various climates and uses. The author had the opportunity to visit a collection of Sears barns located near Orange, Virginia. On the outside, some changes had been made, such as the metal shingles and silos added. All the

information featured in the catalogs needs critical evaluation because the companies tried to cast themselves in the best light possible. The companies were championing machine-cut lumber as better than hand-cut. Unfortunately, mass production disparages local builders and craftsmen. The author believes that the mail-order companies filled gaps in the barn-building trade in an excellent way with their pre-cut and sectional built kit barns. Exactly how popular were these barns is a question that may never be answered. Mail-order kit barns could be everywhere. However, a better understanding of precisely what these catalog kit-barns were might help them avoid the fate of their hand-constructed counterparts.

COMPARISON OF DESIGNS

Barns do not follow the same high style architectural trends that houses follow. With few exceptions, barns built after 1900 are vernacular in style. Early barns are characterized by their gabled roofs and later by their gambrel roofs. The last great framing method used was the gothic or rainbow roofs. Barns built after World War II increasingly were of the "pole barn" type and are not considered in this research. All the barn designs and options offered by the various companies seem similar to each other because there are a limited number of barn designs using three roof types and on a few suitable wood types.

Montgomery Ward

Montgomery Ward & Co. offered four barn models in the 1916 *Book of Homes*. Three barns had gambrel roofs and the other had a gable roof. All had board and batten siding, four-pane windows, and wooden ventilators. Joist frame construction was the new framing method "rapidly taking the place of the old method of using heavy cross timbers." Besides being more economical and less expansive, it allowed the entire haymow to be unobstructed. The siding on the barns was select 10-inch wide No. 1 cypress boards with joints covered with 2-¼ inch O. G. (sic) battens. All had haymow floors of 6-inch No. 2 yellow pine. All roofs included "Extra Star-A-Star Red Cedars shingles."

The 1917 *Book of Homes* offered only three barn models. Options in 1917 included: two gambrel roofs and one gable roof. The barns did not have numbers or titles but each barn page had a catchy slogan like "Here's A Good Practical Barn" and "Good Cattle Should Have Good Housing." The specifications detailed everything from sills to paint. All lumber was listed per dimensions. Plans were offered in widths of 24, 28, 32, and 36 feet with varying lengths from 24 to 60 feet. All the plans listed with prices for materials both "not-cut" and "frame cut." Any other size barn designed upon request. There were no exposed rafter tails in 1917, and the barns featured metal cupolas or ventilators instead of wooden ventilators.

The 1918 *Book of Homes* offered the exact same three barn models with the same slogans as in the 1917 catalog. All specifications are the same from top to bottom. Stock plans, each with a different number, listed with widths of 24, 28, 32 and 36 feet and lengths available up to 144 feet depending on the barn model. The front of the catalog listed complete prices for frame-cut or not cut. For barns of larger or different sizes, the buyer had to write to the company for a price quote.
The same three barn models with little change appeared again in the 1919 *Book of Homes*. Each barn was available in eight or ten popular sizes. Prices were located on a colored insert in front of page one. This insert was unavailable in the catalog examined. There were still specifications and a description on each page featuring a barn.

Gordon – Van Tine

In the 1917 catalog *Gordon-Van Tine Farm Buildings,* there are nineteen two-story barns offered. The barn designs fall into the following categories: nine gambrels, four gables, one gothic, one combination gambrel barn with gable wings, and two round barns. Each barn design has a number assigned to it. Most of the barns utilize the plank frame trussed framing method that culminates in a gambrel roof shape. The plank frame barn and braced-rafter barn are pictured with specifications on separate pages. The braced-rafter barn looks more like a Shawver-truss according to research done by Soike. Soike explains that the braced-rafter construction was the standard for barns up to thirty-six feet wide. He also suggests that Shawver plank truss was the preferred frame of choice for barns over thirty-six feet wide but under forty-two feet wide. Some of the other barns had a modernized timber frame. The modernized timber frame barn utilized standard lumber bolted together to simulate

dimensional timbers and may have been the framing method of choice for some farmers.

Windows are mainly six-light and nine-light; a few have four-light. All operating windows are equipped with ventilation shields to prevent the wind from blowing directly on the animals. "Gordon Rolling Doors" and "Gordon Dutch Doors" were supplied for all barns. The hay doors were either single drop (the whole door) or double sliding doors.

The undated Gordon-Van Tine catalog features seventeen barns. The categories of barns offered: nine gambrels, four gothics, three gabled, and one round. As in the 1917 catalog, the "Plank Frame Trussed-Roof Style," the "Self-Supporting or Braced Rafter Roof" and the "Gothic Roof Style Construction" are all shown in cross section with details highlighted for both the plank and braced rafter styles. "Gordon-Van Tine Barn No. 434" listed as "An Extra Strong Barn for the Conservative Buyer." It was a gable-roofed barn with a modernized timber frame. This was reflected the fact that the other framing methods were still new, and some farmers wanted use a familiar framing methods that they knew would last. There was a small cross section of the barn illustrated on the page, surrounded with details about the barn. A half-cross-section was included for those barns that do not follow those on the specification pages.

In the 1923 Gordon-Van Tine *Farm Buildings* catalog there are nineteen barns offered. The barn models offered included: eight gambrels, eight gothic, two gabled, and one round. "Plank Frame Trussed-Roof Style," the "Self-Supporting or Braced Rafter Roof" and the "Gothic Roof Style" are all detailed on separate pages with specifications. The Gothic roof exploits "Factory-Built Rainbow Rafters Ready to Raise" that was developed by the company. The gothic roof seems perfected by this time because gothic barns equaled gambrel roof barn numbers. No modernized timber frame barns are available in the 1923 catalog. Self-supporting, balloon frame construction was coming into its fame and now was the sensible method for building a barn.

The "Ready-Made" rolling doors have switched the design of the 1917 doors. The Dutch doors feature an "X" or cross bracing on both top and bottom. A hay door that hinged in the center replaced the single drop hay door . The loft doors are plain.

The 1928 catalog offered eighteen barn models. The breakdown of the designs included: seven gambrel, six gothic, and five gabled barns. The modernized timber frame barn was in demand again because two gabled barns of this framing type were included as in the 1917 catalog. Sample barns were illustrated, one for each framing method, shown in cross-section with details showing sizes of materials used for that particular size barn. Now round barns had fallen out of favor by the late 1920s and were dropped from the catalog.

Because of the nearly identical house models found in both companies' catalogs, Schweitzer and Davis speculate that Montgomery Ward may have used Gordon-Van Tine as a supplier of their barns. It seems more likely that the companies followed the trends of their contemporaries and tastes of the public.

Aladdin

The Aladdin Company was offering barns as early as 1915, but the earliest verified example is in the 1917 catalog. "Aladdin Readi-Cut Barns" featured in a two-page spread, which offered three designs in the 1917 *Aladdin Homes* catalog. The barns featured were straightforward. There was the "Aladdin Special Barn," the gable barn and the gambrel barn. The "Aladdin Special Barn," designed to house three horses and a wagon, was only available in one size, 16 feet by 24 feet for $290, but with the 5% discount, a buyer could obtain this barn for $275.50. The gable and the gambrel barns were available in sizes from 16 feet by 24 feet to 30 feet by 100 feet. Net cash prices list for the gable and gambrel barns together by size, with the first and second floor and stall with the manger being an extra $5.50.

Aladdin "Readi-cut barns" of the same three designs appear in the 1918 *Aladdin Homes* catalog. This "Special Barn" was now available for $375. The prices are listed net cash (no floors), first floor extra, second floor extra, and with stall and manger was available for an extra $7. No information was available on the framing methods used in any of the designs. These barns were strictly for horses or storage only. The windows were very small and were not suitable for a dairy operation. "These barns have given the greatest satisfaction and service on the western plains of Nebraska and Kansas," the catalog states, "where they are subjected to the heaviest strains of wind and storms." Perpendicular barn boards or horizontal matched boards were available as siding choices. The doors featured cross braces as designs or were box framed.

There is again little difference in the company's 1919 catalog. Aladdin offered the same three barns in their two-page layout and no price list shown. The specifications and illustrations of each barn are the same. The front few pages show the terms and prices. Prices jumped considerably following 1918 after the end of World War I. The "Special Barn" costs the buyer $590.90. The 1919 prices list as gross price, net price, extra first floor, and extra second floor. The stall with manger was now an extra $10.97.

Sears

Sears was the most popular of all the companies and was well-known for selling houses. From the start, Sears offered barns alongside their houses. The company followed the trends very carefully for all items they sold. Striving to be the best, Sears was a continually changing company that accommodated the customers' needs and desires. Richard W. Sears died in 1909, before the climax of pre-cut kit buildings era. The merchandising creed of Julius Rosenwald, now managing head of Sears was "sell honest merchandise for less money and more people will buy." In stating this, the company also believed in maintaining the quality of all the merchandise. Sears claimed to be the "World's Largest Store" and until mid-twentieth century was definitely a leader in the retail sales world.

Sears started offering barns in their 1910 *Book of Modern Homes*. The company had three barn models, ranging from an inexpensive 26 feet by 46 feet, English-style gable Barn No. 11, for $365, to the more expensive Barn No. 12 for $522, up to Barn No. 14 for $769. The other two barns had the popular gambrel roof style. Notable is all barn models featured wooden ventilators (metal ventilators would appear in later catalogs). In the 1911 catalog, not much had changed expect there were four barn models that ranged from the Barn No. 11, for $377 to Barn No. 14 which was a 40 feet by 70 feet steep-pitch gable roof barn, with a 14 feet by 40 feet sheep stable for $792. There was no mention of the framing methods used.

The octagonal dairy barn, Barn No. 65, appeared as early as 1914 in the catalog information received from the Sears archives. According to Leffingwell, the 1916 catalog introduced, Barn No. 65 that looked exactly like Barn No. C65 from the 1917 Sears catalog. The ad from the 1917 catalog repeats the 1916 edition with the exception of the price of the silo, which is now $199. Sears catalog writers claimed:

> This is an octagon barn of first class construction and is becoming very popular throughout the country. Our floor plans afford an economical arrangement. There are stalls for twenty-four cows, a box stall, calf pens and room for a silo in the center. We will furnish the material for the silo for $157.00 extra. This silo will be large enough to hold feed for the entire season. The arrangement of the stalls makes it very convenient for feeding and for cleaning.... A glance at the floor plans will show the convenient access to the barn on different sides by means of swinging doors. A large driveway with doors being wide enough to admit a full load of hay permits filling from the inside. There is a large hay loft on the second floor and a grain bin of medium size for feed. Twenty-three windows admit plenty of light.

The 1918 *Book of Barns Honor-Bilt Already Cut* had this opening statement:

> During our study of barn building, we have carefully analyzed the methods of the builders and the requirements of the owners. We learned that three different types of construction are very popular---the Braced Rafter Construction or, as it is sometimes called, the Balloon Construction; the Trussed Roof Construction and the Gothic Roof Construction. The popularity of these types of construction is so great that we did not feel warranted in omitting any of them.

The 1918 *Book of Barns* offered twenty-six barns. The examples showed the broad range that Sears covered that year: thirteen gambrels, three gothic, three gables, three bank barns and three small barns which highlight each framing method offered, one round, and the octagonal dairy barn mentioned above. There was at least one metal ventilator featured on all barns but was not included in the price. Exceptions to this were the round and octagonal barns that had modified wooden ventilators in keeping with the character of the barns. The larger barns featured single nine-light or six-light windows paired on the first floor and both had six light windows in the haymow level. The smaller barns, the round and octagonal barns all featured four-light windows. All first floor doors offered were paired roller type or

Dutch doors. The haymow doors were all cross-braced doors. The doors on the round barn were the standard straight doors offered for the other barns.

The 1921 *The Book of Barns Honor-Bilt-Already Cut* catalog offers twenty-two barns. The breakdown of barn models included: twelve gambrels, two gothics, five gables, the same three small barns as the 1918 catalog, three bank barns offered in three different framing methods and the same round barn featured in the 1918 catalog. The only real change between the catalogs was the prices and the dropping of the octagonal barn. Even though gothic barns and the modernized timber barns are offered, only the braced rafter and trussed roof construction are featured in cross section with details.

The 1923 catalog, *Modern Farm Buildings Already Cut and Fitted Barn Equipment,* offered fourteen barn models and barn equipment in the same catalog. The breakdown of the barn models included: three gothic, seven gambrels, two gables, and two small barns, one with gothic roof and the other with a gabled roof. All four framing methods were represented: braced rafter, trussed, gothic, and timber. The "Honor-Bilt" specifications continue across all four pages, illustrating cross sections of the four framing methods. The 1928 *Modern Farm Buildings* catalog offered a few more examples for a total of seventeen barn models. The breakdown of the barn models that year included: nine gambrels, three gothics, three gables, and small barns. The same framing methods offered as in the 1923 catalog, although only the trussed, braced, and gothic framing methods were illustrated. The only real changes observed were the prices were not listed in the 1929 catalog, customers were required to write to the company to obtain a price quote on a particular barn in a certain size.

Chicago House Wrecking Company / Harris Brothers Company

The Chicago House Wrecking Company offered six large two-story barns and three small gabled barns in their 1910 *Book of Plans*. All barns used the balloon-type framing or "Joist Frame Construction." All the barns were given names such as "Star," "Majestic" and "Premium". Individual numbers designated the specific sizes. The smaller barns intended for city or suburban use where a few horses and accommodations for feed and carriages was necessary. Prices ranged from "Our Universal Barn Design No. 45," 16 feet by 24 feet for $178, to the "Majestic Barn Design," 36 feet by 112 feet for $975. It is the individual farmer's choice to select from all offered floor arrangements. Some of the barns had stable partitions included in the price while others did not. Wooden ventilators were featured on almost all the barns and included in the price (but were not mentioned in the specifications). Flooring is included for all barns. Because everything was included in the price, these nonpre-cut were still classified as kits.

Between 1910 and 1919, the company made a dramatic shift to sectional buildings, using a new name. According to the patent date, Harris Brothers, with a new name and new product line began offering buildings (as early as 1918) called "Presto-Up." "Presto-Up Patented Bolt-Together Houses-Garages-Barns Etc." were based on this new method of construction. The company offered "General Purpose Buildings." Their barns were now portable, unlike any other kits offered. The company offered nine different size single wall constructed barns. All the roofs of the general-purpose buildings are the same shallow gabled configuration in varying widths.

The location of the windows and doors was ultimately up to the farmer. Their standard "garage" windows were "furnished in every section on one side and in practically every other section on the opposite." "Style B" was the only door choice offered. The individual decided the configuration of the front and back elevations. A sample floor plan shown with stalls made it more suitable as a horse barn.

Barns are not one-of-a-kind architect designed products. So that they could be mass-produced, that barn and farm buildings offered by the various mail-order companies were planned down to the last nail. Today, the only places where new hand-made post and beam barns are found are Amish communities. There are a limited number of framing methods, siding, fenestration, doors, roofing material and barn types. The width of the barn was decided by current agricultural practices for the proper configuration. The companies may have wanted to be different but they were limited to these variables. Varieties of wood, colors, and quality of paint differed, but overall the variables compute to the same overall designs.

CONCLUSION

The farms and barns of the twentieth century are a combination of styles and materials that have been adapted over time to meet particular needs; this fusion of elements makes them hard to date.

The framers encountered much the same conditions and had to adapt to evolving technologies and ever-changing times. The wood-frame barns from the early twentieth century seem destined not to exist in the current environment of metal pole barns, large round bales, and large-scale agri-business that has engulfed farming communities. Barns and family farms seem fated to become forgotten aspects of society. Old barns transformed into rustic wood paneling for someone's family room or new homes lose their context and become barn byproducts. The future of wood-frame barns is questionable, but the purpose of this thesis has been to preserve some record of pre-cut mail-order kit barns from the first two decades of the twentieth century.

It is difficult to answer all the questions posed by this research. Many years, even decades, have passed since some of these companies were in business; and hence records have been lost, and details about the mail-order buildings have become unobtainable. The manufacturers' trade catalogs and the periodicals that the manufacturers published were dispensable in years past and thus not saved. However, in the early 1980s when mail-order homes, especially those by Sears, gained attention and press, there was a renewed interest. Now these very catalogs have become valuable and can sell for a minimum of twenty dollars, and often more, depending on their condition.

Perhaps no one will ever know how many barns the companies discussed here produced. The discarded records for Sears, Gordon-Van Tine, and Ward are lost forever; thus no real numbers or location of buildings sold exist. For Aladdin, however, it may be possible to determine barn numbers and find locations because the company closed only about twenty years ago, and the company records are now in the archives of Michigan State University. So far, they have not been processed, but they may be available for review at a future date.

A review of all the catalogs reveals that the barn designs were not especially innovative but became standardized as functional requirements, mass production, and costs dictated. All the barns followed three standard roof types: gable, gambrel, and gothic. Gable roofs were the first type offered, and being the simplest to build, are normally the oldest. Gambrel roofs soon replaced gable roofs in popularity as they increased hay storage capacity. Gothic roofs, once perfected in design and construction, soon caught up in popularity with the gambrel roof barns. Gambrel roofed barns would persevere, however, and were the most common roof type offered. Windows were standardized multi-light and numerous thus allowing the sun, "nature's disinfectant," and air circulation to make barns healthier for the livestock. Doors were all similar in construction with different cross bracing that varied in decoration according to the company. Harris Brothers and their sectional general-purpose barn were built in a drastically different way than the kit barns manufactured by any of the other companies.

The development of the pre-cut barn was dependent or expedited by the adoption of lighter barn-framing techniques. There were no businesses offering pre-cut heavy timber post and beam barns (though there are businesses that sell that type of item now). The quality of wood offered varied but cannot equal the quality or quantity that the mail-order companies used and offered. The lighter-framed barns came into use at the right time. The barn kits saved the farmer money because the lumber was of smaller standard dimension and saved time because he could assemble the barn or farm building with much less help compared to the labor-intensive mortise and tendon building technique.

There do not appear to be any significant trends in designs and materials that are identifiable in pre-cut barns from 1900 to 1930. The exceptions are that early barns offered by the companies featured wooden cupolas and later barns featured metal ventilators and barn door cross bracing or decoration can help identify a mail-order barn. Overall, standardization of barn designs and certain varieties of wood needed for the various components of the barns and farm buildings created a pattern repeated throughout the catalogs. Pre-cut barns do not appear to have any distinguishing physical characteristics that identify being pre-cut. Since pre-cut building designs are not necessarily innovative, they followed the current agricultural trends which makes these designs similar to designs shown in the agricultural press and literature.

To discover if a barn or farm building is possibly a mail-order building involves some investigation of the building (perhaps from a crowbar) and a good deal of research. The property owner or researcher should first take a few representative photographs of the barn. To possibly identify a barn or farm building as a mail-order building:

1.) Check for numbers or letters written or stamped on joists, rafters, or other wood members in the barn.

A.) Two methods of labeling were used.

i.) Aladdin marked their lumber by lengths.

ii.) Other companies, such as Sears, stamped or imprinted a code on the ends of the lumber that corresponded to the working plans.

2.) Check hardware and equipment for markings, but this is not always reliable as many companies also sold hardware and / or equipment separately.

3.) Check for original documentation such as blueprints, working plans, shipping slips, etc. if available from present owners or former owners.

4.) Scan published catalogs to determine if the standing barn or farm building matches or resembles the illustrations present.

The main investigation method that the author utilizes is the comparison of barn photographs to the actual published catalog and the one that is recommended. If original documentation is not available, then investigators may find it difficult to prove that the barn or farm building is a mail-order or catalog building. Companies, such as Sears, did not keep records of people who purchased their buildings, so individual owners will have to inform the researcher which company they think built or sold a particular building. With this study of the mail-order kit barns in the Midwest from 1900 to 1930, several objectives were accomplished. First, a historical overview of the mail-order companies that provided barn plans and mail-order barns was created. Second, the documentation of the variety of designs and plans in illustrations, drawings and text, was compiled. Third, comparing and contrasting the barn designs and plans of the various companies took place. Although the author had hoped to determine the actual extant of the pre-cut barn's popularity, conclusive data on this proved most difficult to locate.

Pre-cut mail-order kit barns dating from the first two decades of the twentieth century illustrate the modernization and standardization of the barn as a functional building. These kit barns are significant in the areas of architecture and agriculture. Barns that reflect agricultural practices during this period may well meet Criterion A of the National Register. Barns that are associated with the lives of people, particularly if the individual's contributions were significant within the context of agriculture, may meet Criterion B of the National Register. Barns that retain enough characteristics to be considered as representative of a property type may meet Criterion C of the National Register. Once a barn is determined eligible for the National Register of Historic Places, the barn may be eligible for tax incentives on the federal, state and, possibly, local level. A twenty percent federal rehabilitation tax credit is available for certified rehabilitation of buildings listed on, or eligible for, the National Register of Historic Places. To qualify, a building must be income-producing, and the rehabilitation costs must be greater than $5,000 or the adjusted cost basis for the building. Several states offer property tax relief for the certified rehabilitation of historic buildings, which may consist of freezing property taxes at the pre-rehabilitation level or an exemption for a specific period. In addition, some states offer state income tax credits for rehabilitation and a few localities have grant or loan programs for preservation. Contact your State Historic Preservation Office (SHPO) for information on these programs and restoration / rehabilitation guidance. Technical advice is also available through the National Trust for Historic Preservation and *Successful Farming* magazine's BARN AGAIN! program. Several states offer their own statewide barn preservation programs, so check with your SHPO for the availability of workshops or other assistance.

For further information on preserving barns, check out *Taking Care of Your Old Barn: Ten Tips for Preserving and Reusing Vermont's Historic Agricultural Buildings*, the National Park Service's, *Preservation Brief 20*, "The Preservation of Historic Barns," and Dexter Johnson's *Using Old Farm Buildings*. The BARN AGAIN! program also publishes the *Barn Aid Series* that offers helpful information on barn preservation from the foundation to the roof. Mary Humstone's *BARN AGAIN!: A Guide to the Rehabilitation of Older Farm Buildings* and *BARN AGAIN! Barn Preservation Information Handbook: A Guide for Individuals and Organizations* are also excellent references.

On the 2,700-acre Montpelier estate in Orange County, Virginia, are four Sears mail-order barns. William duPont and his family purchased Montpelier, President James Madison's home, in 1901, the duPonts made many modifications and improvements to the estate over the years. Mr. and Mrs. William duPont passed away during the late 1920s, thus leaving the estate to their daughter, Marion, who made it her lifelong home. "Marion developed Montpelier as one of the nation's leading horse training centers…" In the creation of this top-notch horse training facility, Marion bought four Sears barns between 1929 and 1931, erecting the barns with her own building crew headed by Mitchell

Jackson. She owned a number of famous Virginia racehorses, including Battleship, who won both the British and American Grand National Steeplechases, and Mongo, who won more than $800,000 in race purses. In the 1920s, she founded the celebrated Montpelier Races, still held each November at Montpelier. The National Trust for Historic Preservation was transferred ownership of the property after Marion's death in 1984. A private foundation, The Montpelier Foundation, took over administration of the estate in October 2000. With the estate open to the public and the Trust's ownership, the barns, used for horse stables and educational purposes, are safe.

The Sears barns on the Montpelier estate are near the Sears mail-order barns also located in Orange County, Virginia, that had appeared in the book entitled *The American Barn*. The visit to these barns was overwhelming. The five Sears, Roebuck and Company barns stood on property previously owned by a Sears heir. The Honorable Helen Marie Taylor, as part of her vast farm in the Shenandoah Valley, has accumulated part of the original 13,500-acre land grant from King George II. She renovated and restored the five mail-order barns on her 11,000 acres of rolling farmland named Meadowfarm. Meadowfarm has been in the family over 270 years. The National Trust recognized Mrs. Taylor and her barns in 1988 for the Trust's and *Successful Farming* magazine's BARN AGAIN! awards project. Pre-cut kit barns still exist today but in a much different context. Today specialized companies and not large mail-order catalog companies sell them. The materials have changed according to the times and technology. For instance, No. 1 grade wood is no longer used; composite wood products such as Oriented Strand Board (OSB) and T-1-11 are provided instead. The pre-cut kit barns of today are usually on a smaller scale, and are mostly multi-purpose backyard barns or shelters for lawnmowers, rakes, and garden hoses.

Despite picturesque barn scenes immortalized on calendars, posters and advertisements on television and in magazines, farms and barns are still rapidly lost to neglect and suburbanization across the nation. "Barns, like our friends, are often taken for granted until they are gone." Not every wood-frame barn can or will be saved by any means, but over the last twenty years barn preservation and rehabilitation has come to the forefront to save quite a few examples of our once agrarian society. The wood-frame barns of the nineteenth and early twentieth centuries were built to last for generations. Unfortunately, the homogenized pole barn structures built since the 1950s, with their framing poles set in the ground and metal sheets attached to this pole frame, have a life expectancy of less than fifty years. It is doubtful that society will immortalize these pole barns in paintings, calendars, and posters; as a nation, we have divorced ourselves from any romantic or nostalgic feelings for these utilitarian structures.

About the author:

Joy Sears – Restoration Specialist, HCP, OPRD

Joy serves as the Restoration Specialist for the State Historic Preservation Office (SHPO) that is under the Heritage Conservation Programs in the Oregon Parks and Recreation Department. Prior to joining the Oregon SHPO, she served as the Restoration Specialist for the South Dakota SHPO for five years dealing with technical advising for historic buildings and tax incentives for historic preservation. She received her masters in Historic Preservation from the University of Oregon in 2001. Before moving to South Dakota, she spent a year-and-a-half doing preservation carpentry on Villard Hall, a National Historic Landmark, on the University of Oregon campus. She received her undergraduate in fine arts with a minor in American Studies with an emphasis in Heritage Preservation in her native Minnesota that directed her to the historic preservation fieldwork.

Tensile Structures

Tensile membrane structures are most often used as roofs as they can economically and attractively span large distances. A tensile structure is a construction of elements carrying only tension and no compression or bending. Most tensile structures are supported by some form of compression or bending elements, such as masts, compression rings or beams.

A tensile fabric structure can significantly reduce the volume of materials required in construction, therefore reducing the carbon footprint of the project. Typically the fabric can be PVC, Silicon Glass, PTFE or ETFE. The future of design and construction demands greater use of renewable materials and reducing carbon emissions.

Another advantage is Fabric can achieve far greater spans than conventional roof materials with minimal supporting structure. Greater translucency and dynamic, organic shapes bring the feeling of outside inside, as well as providing shade and protection from the weather.

The shape and the design are open to the architect or designer. As well, the coverage area is open to the needs and the program of the space. There are several providers and manufacturers for tensile structures in the United States.

The following websites will provide more information about the tensile structure:

http://www.tentnology.com
http://www.eideindustries.com
http://www.meliar.com/
http://www.shadesails.com

Shade Sails LLC
Phone (562) 945-9952
Fax (562) 945-9968
CA Lic# 740569
7028 Greenleaf Ave. Suite K Whittier, CA 90602

Visit www.shadesails.com for an extensive cyber brochure.

Dear Sirs,

Thank you for your inquiry,

We have recently introduced this innovative new product to America that comes from Australia. They are often referred to as Shade Sails and are made of a high-density polyethylene fabric that is specially made for tensioned fabric structures. This fabric resists UV, is very strong, comes in a variety of colors, and is **much less expensive** than PVC fabrics that are commonly used to make architectural membranes. The sails have stainless steel cable in their perimeter, and they are tensioned in place (**Tensile Structure**). When finished, they are very taut and can be engineered to stay up in virtually any wind condition.

We have built large commercial structures as well as award winning residential patio covers. They can be adapted to almost any environment, from a small private space to a large covered parking structure. Their graceful swooping lines bring attention, while providing comfortable shaded space. They can be used as **awnings** over an entryway, as a **patio cover**, or simply as **fabric art**. They can even provide privacy by blocking unwanted views. I'm sure we have not thought of all the uses or looks that can be achieved.

As you can see they are somewhat translucent and block aprox. 80% of the sun but still allows you to see shapes such as clouds or overlapping sails through them. This gives an airy feel that is often not the case with either wood or aluminum structures.

The sails are custom made for each application. They can be overlapped or twisted and can be made in a variety of shapes and sizes. They can be attached to existing structures or can be free standing with their own supports.

We offer complete **Design/Build** services **or** we can create custom made **sails to your specifications.**

I hope the enclosed pictures give you some idea of the interesting look that can be achieved. Please don't hesitate to call with any questions.

Call and let us help you with a design consult or quote.

Kind Regards,
Donald Crenshaw
Shade Sails, LLC
7028 Greenleaf Ave. Suite K
Whittier, CA 90602
Phone (562) 945-9952
Fax (562) 945-9968

Shade Sails LLC
Phone (562) 945-9952
Fax (562) 945-9968
7028 Greenleaf Ave. Whittier, CA 90602

Shade Sails Specifications: (Tensioned Fabric Structures)

Fabricator Qualifications:
Shade Sails has been specializing in the design, engineering and construction of tensioned fabric structures since 1997, and has installed over 300 fabric membranes. Shade Sails is a California Licensed contractor and is fully bonded and insured.

Fixings:
Shade Sails uses all "marine grade" 304 or 316 stainless steel fixing hardware including; shackles, turnbuckles, eyenuts, eyebolts, threaded-rod, nuts, washers, bolts, plates, cables and rings. Fixing hardware is sized appropriately as called out by our licensed structural engineer.

Fabric Membrane:
Shade Sails are constructed with knitted high-density polyethylene shade fabric, which has been treated with Chemisorb 944 to resist UV breakdown. They can be fabricated in a variety of available colors. The fabric is cut using a "Hot Knife" and therefore heat-sealed.

The fabric has been tested for flammability and flame spread per ASTM requirements and has a rating of Class 1(or A).

Other Specification:

Warp:	100Kg
Weft:	210Kg
Fabric Construction	Monofilament with tape filler
Tape filament meas.	42 micron
Monofilament meas.	400 denier
Fabric weight	195g/sqm
Average burst strength	260Kpa
UV stabilization additive	Chemisorb 944
Width	3 meters

Sewing of the membrane is done with UV resistant Dacron thread in a double locked stitch pattern.

Corners are reinforced with multiple layers of additional cloth and strapping.

Shade Sails have 304 stainless steel cable (7X19 flexible) sewn into their perimeter using a double lock stitch. The wire connects to stainless steel corner rings via Nicro Press compression sleeves and is sized according to a licensed structural engineer's recommendations.

Seams, are minimized using 3 meter wide fabric and when required are oriented to cause the least affect on appearance. Seams are double locked stitched and all edges heat-sealed.

Geometry:
Each edge of the sail has a specifically engineered cantinary curve that in conjunction with tension provides for uniform tension through out the membrane panel.

Pre-stressing:
Pre-stress levels are obtained using turnbuckles and are performed to a licensed structural engineer's specifications.

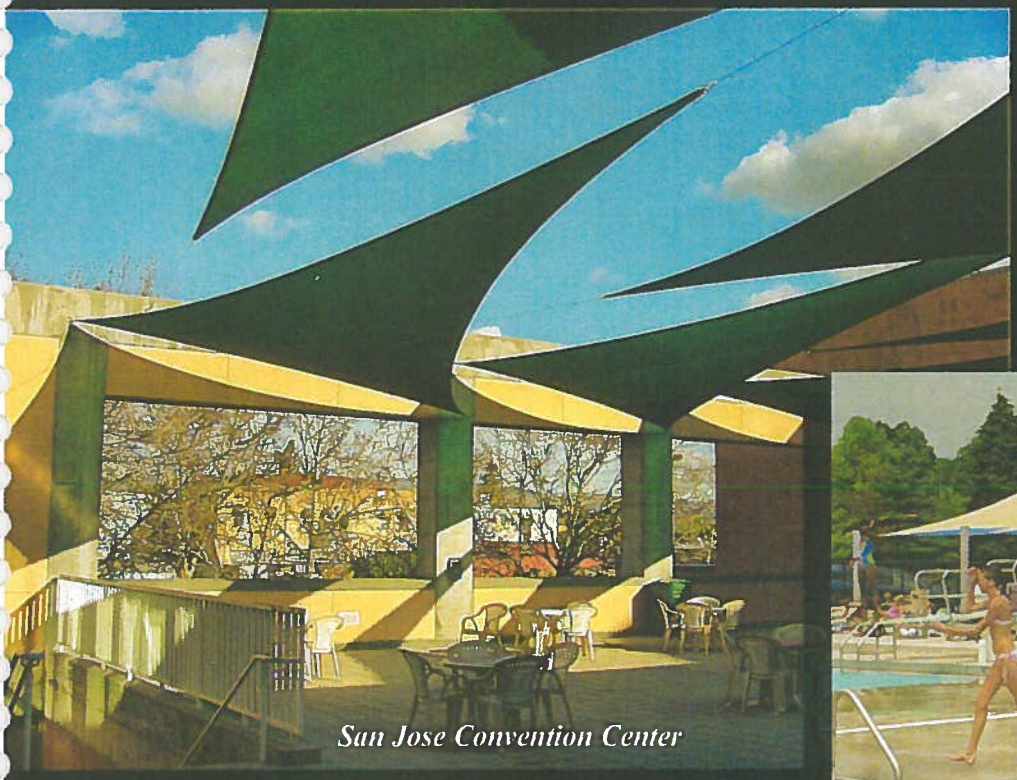
Structural Steel Columns:
Structural steel columns are sized according to our structural engineer's predicted reaction forces and conform to ASTM A53-96 Grade B standards. Finish can be galvanized, galvanized/painted or powder coated.

Footings:
Concrete footings are designed and engineered per the UBC using wind exposure data appropriate for the area. All steel reinforcement of the concrete is designed by a licensed structural engineer and is engineered to resist uplift and lateral bearing loads.

Welded Connections:
Welded structural steel (heavy gauge) components are made in accordance with AWS D1.198 and light gauge metal is welded in accordance with AWS D1.3.89. All welding is done by certified welders in accordance with the UBC.

Shade Sails

Innovative Tensioned Fabric Structures



San Jose Convention Center

Swim Center, Normal, I

Coffee Creek Conservancy Chesterton, IN

Shade Sails

Blazing sun, a balmy breeze, sailboats slipping along sparkling water--you could be in Australia. Or perhaps California, where a new import from Down Under is bringing the sails, but not the blazing sun, into patios, schools and malls.

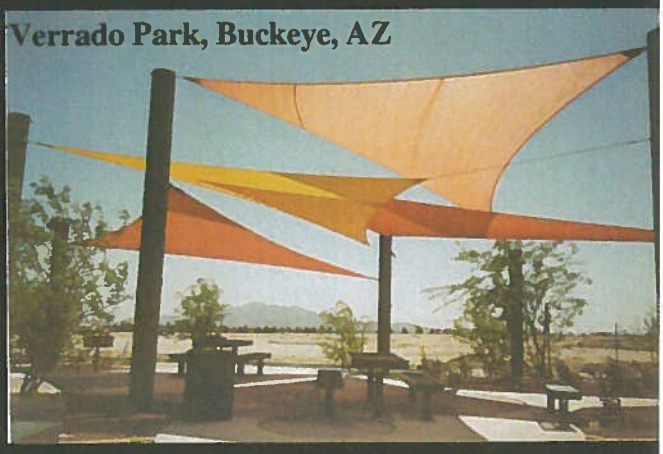
Shade Sails, aptly named for their sail-like shapes and shade-providing function, are actually tensioned fabric that can be twisted, overlapped and angled into a virtually limitless array of soaring forms. One small sail may provide a subtle architectural accent over a household entry or window. A series of large, overlapping sails may expand over an open area in a commercial structure.

Shade Sails are available in a variety of colors and are made of a high-density, UV-resistant polyethylene knit fabric. Tensioning is achieved with stainless-steel cable sewn into the perimeter of each sail and attached to existing structures or free-standing supports. When installed, the sails are taut and can resist virtually any wind condition.

Shade Sails effectively protect an area from the sun without making it feel closed in. Their simple, clean forms are compatible with a variety of architectural approaches. This fresh solution makes a striking attention-grabbing statement wherever it is used.

North Carolina Zoo

Verrado Park, Buckeye, AZ



Orthodyne Electronics Irvine, CA

Biola University

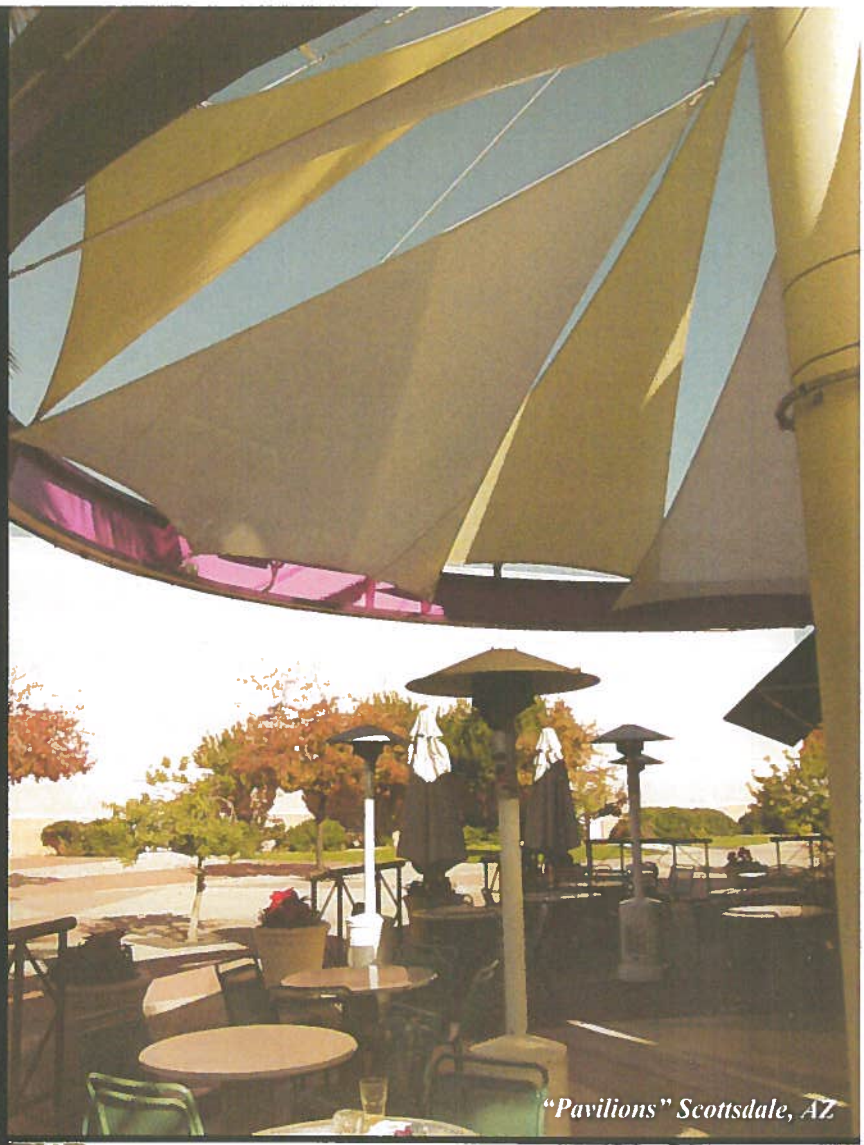
In addition to our primary goal of artistic design, Shade Sails represent over 15 years of tension fabric structure experience. We have developed a variety of proprietary methods that allows us to design and construct unique yet affordable tensile fabric structures.

Top of The World School
Laguna Beach

RESIDENCE --SAN CLEMENTE

"Market Place" Henderson, NV

Trabuco Grove, Irvine, CA



"Pavilions" Scottsdale, AZ

Unlike PVC membranes that have to be microwave welded, Shade Sails can achieve the same graceful effect for a fraction of the cost.
They are somewhat translucent and provide approximately 80% shade while blocking 90% of harmful UV rays.

Add these exciting sculptural forms to your next project.

Renderings courtesy of DesignARC

We can help with conception, structual engineering, or simply provide Shade Sails to your specifications.

We offer complete Design/Build services as well as custom-made and ready-made Shade Sails.

For a Design Consultation please call us at:

(562) 945-9952
www.shadesails.com
7028 Greenleaf Ave. Suite K
Whittier, CA 90602
CA Lic# 740569

19 AVAILABLE COLORS

Shade Sails LLC

vt solar 2005 home

Monday · December 1, 2008

Welcome to the Virginia Tech Solar Decathlon 2005 website.

If you're a first-time visitor, here's what you'll find inside:

What is the Solar Decathlon?
Find out what the Solar Decathlon is; when and where it's being held; and which schools are competing.

Our Design
Take a tour of our innovative entry for 2005; peruse a gallery of design images and learn about the innovations that set our house apart.

Our Progress
View a gallery of images documenting the entire design and construction process: watch the house come together from initial sketches, to drawings and models, to construction photos.

VT SOLAR WINS ARCHITECTURE & DWELLING

Mission

The mission of the Virginia Tech Solar Decathlon Team is to inform and educate the public about issues of energy (particularly solar) while enhancing student education through a design-build process of innovative research and testing through application.

Our multidisciplinary team strives to achieve the following goals:

- To illustrate how solar energy can improve the quality of life. Solar

Follow the event at the

Scores & Standings
See how your favorite team is faring in a particular competition with near real-time standings of all 18 teams.

Daily Photos
Get a sense of what life is like at the competition through photos of what's happening in the solar village.

Daily Journal
Daily updates from the event ranging from the students' strategy, to which solar houses are producing the most energy, to recaps of the onsite special events.

Solar Decathlog
Read comments at the online diary of the 2005 Solar Decathlon.

...And don't forget to vote for Virginia Tech at the *DIY Network* website!

energy is clean; it significantly reduces pollutant emissions; and solar energy is renewable, thereby increasing our nation's energy security.

- To make the public aware of how energy is used in their daily lives, and to illustrate the energy consumption of daily activities.
- To demonstrate that market-ready technologies exist that can meet the energy requirements of our daily activities by tapping into the sun's power.
- To demonstrate that sustainable materials and technologies can comprise a beautiful structure in which to live, work, and play.
- To examine a project in a prototypical manner to develop solutions that can be reproduced and realized through manufacturing techniques with economic benefit
- To challenge conventional practice through interdisciplinary collaboration and corporate partnerships

Values

Through the Solar Decathlon we examine the relation between academia and practice and between research and its corresponding contribution to society. The competition presents opportunities to challenge the ideals of solar housing design, integrate technology and architecture, and ultimately promote solar power. A collaborative of students, faculty, and staff from the departments of architecture, industrial design, interior design, landscape architecture mechanical, structural, and electrical engineering have come together to design, build and operate a unique solar house that demonstrates a comfortable living and working environment, excellence in sustainable construction, and strong architectonic expression.

The 16-month process of design and construction involves individuals with varying degrees of skill, expertise, and background. Teamwork in conjunction with strong student leadership is required. Problem solving, information flow and integration, alternative generation, ideation, innovative troubleshooting and testing are all part of an experience where the consequences of decisions are real and verifiable. This design/build, hands-on learning experience not only requires innovative design strategies; it necessitates a program of funding through corporate and industry contacts. As part of this effort, students in collaboration with architects and engineers, surveyed manufacturers and suppliers to procure materials that were sustainable, energy conscious and a qualitative improvement for the residential environment

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Thursday • November 13, 2008

Welcome to the Virginia Tech Solar Decathlon website.

WIN AN ELECTRIC CAR!

Proceeds fund the 2009
Virginia Tech Solar Decathlon Team

Click here for more details!

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Progress

Spring-07
Research and development starts with core team members and faculty.

Summer-07
Summer Work: Industry and firm visits, research and development of concept.

Fall-07
Internal Idea/Design Competition. Concept is chosen. Continued development of architectural details.

Spring-08
Multi-disciplinary courses to develop mechanical, engineering, landscape architecture, and computer science components.

Summer-08
Construction drawings finalized, multi-disciplinary meetings continued, industry visits, structural schematics completed, frame of house constructed.

Fall-08
Construction of house begins.

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