Moving Houses to Save History
Multiple Methods Used to Propel a Structure on Dollies

1) 4 Square-style MacDonald House pulled across Carolina Avenue Bridge with a truck
2) Crew pulls cable from truck to winch Tudor-style Patton House across the Carolina Avenue Bridge
3) Limestone Brose House crosses bridge by remote controlled power dollies
4) Patton and Brose Houses move south on Georgia Avenue toward their final destination on East State Street
5) House and garage sections of Egloff House wait on 4th Street NE for overhead power lines to be rerouted

Cover photo courtesy of FEMA External Affairs
Moving Houses to Save History

by

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City of Mason City, Iowa

with special thanks to:

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This report was produced under the terms of a Memorandum of Agreement, pursuant to Section 106 of the National Historic Preservation Act, among the Federal Emergency Management Agency, the State Historical Society of Iowa, Iowa Homeland Security & Emergency Management Department, and the City of Mason City, Iowa, regarding the demolition of historic properties in Mason City, Cerro Gordo County, Iowa.
Historic
HMGP-Funded
Acquisitions

* House moved

* William & Margaret Egloff House
  655 7th Street NE

Edwin & Martha Crofoot House
  671 7th Street NE

Joseph & Margaret Patton House
  678 7th Street NE

Lloyd & Leah Waddingham House
  616 8th Street NE

Maxwell & Margaret Riley House
  733 N Carolina Avenue

T. Kittleson House
  721 N Carolina Place

William & Ruth Shanor House
  726 N Carolina Place

Arthur & Evelyn Feeney House
  615 N Hampshire Avenue

Robert & Madalene Finlayson
  705 N Hampshire Avenue

Randall-Tapscott House
  722 N Hampshire Avenue

Safford & Lena Lock House
  726 N Hampshire Avenue
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Historic CDBG-Funded Acquisitions

* Warren & Evelyn Ruby House
  639 7th Street NE

* Burt & Alice MacDonald House
  645 7th Street NE

Jay & Mary Thraves House
  654 7th Street NE

Leslie Anderson House
  666 7th Street NE

* Sherman & Ruth Brose House
  672 7th Street NE

Ralph & Eloise Martinsen House
  632 8th Street NE

Nellie Belseth House
  713 N Carolina Avenue

Alex & Anna Finlayson House
  713 N Carolina Place

Harold & Helen Snyder House
  714 N Carolina Place

* Roger & Helen Patton House
  729 N Carolina Place

Roger & Donna Stoltenberg House
  718 N Hampshire Avenue

* House moved
Introduction

A Memorandum of Agreement (MOA) among the Federal Emergency Management Agency (FEMA), the State Historical Society of Iowa, Iowa Homeland Security & Emergency Management Department (Homeland Security), and the City of Mason City, Iowa (the City), was approved in July 2010. The MOA stipulated required measures the City must implement in order to mitigate the adverse effect of acquiring and demolishing structures eligible for listing in the National Register of Historic Places (NRHP) as required by Section 106 of the National Historic Preservation Act of 1966. These structures were acquired as part of the City’s voluntary buyout of properties in the floodplain following a record flood in June 2008. The primary mitigation measure stipulated in the MOA was a relocation and salvage plan of NRHP-eligible buildings that would otherwise be demolished with FEMA funding. Of particular interest for relocation was the Egloff House, a rare Iowa example of international architecture built in the late 1930s. The MOA also required the creation of this report summarizing the City’s experience in implementing the relocation and salvage plan.

Project Concept

In response to historic levels of flooding in 2008, the City undertook an extensive hazard mitigation project. The City’s intention to acquire houses located in the floodplain and clear the lots would create an adverse effect on the City’s historic fabric. An architectural survey completed by Homeland Security in 20091, in anticipation of the City’s FEMA-funded acquisition project, identified 45 properties potentially individually eligible for NRHP listing that could be impacted by the proposed project. Ten of these 45 properties were scattered throughout the city while 35 were located in the East Park Place neighborhood; one of the four potential historic districts identified in the survey.

East Park Place
Total: 31
CDBG * 5 11 16
(4 moved)

North Crescent Drive
Total: 3
CDBG 0 1 1

Oakland Place
Total: 9
CDBG 0 0 0

7th Street Place SW
Total: 2
CDBG 2 0 2

No Defined District
Grand Total: 47
CDBG 0 0 0

* Community Development Block Grant administered by Iowa Economic Development Authority

Mason City has a long tradition of moving houses. Terry Harrison, Archivist at the Lee P. Loomis Archives at the Mason City Public Library, confirms that people “have been moving houses for well over 100 years in town.” A prominent example is the Frank Lloyd Wright designed Stockman House in Mason City. Built in 1908, it was moved to its current location in 1989 where it was restored and opened to the public in 1992. Two properties participating in the buyout were not original to their site but had been moved from other locations in Mason City. As Mercy Hospital has grown, it often opted to make houses available for relocation as an alternative to demolition. In April 2010, 14 houses were removed for additional parking. Mercy sold 11 of these houses for $1 each. They were successfully relocated and rehabilitated; one of them by Habitat for Humanity – North Iowa (Habitat). Citywide, an average of one house and six garages per year were moved in the 10 years prior to the 2008 flood. Given the history of house moving in the community, the City developed a plan after the 2008 flood to relocate as many of the historic houses purchased in the buyout as possible. Relocating the houses would also contribute to a “green” project by diverting waste from the landfill.

Through whole house salvage, the plan included the following main components:

- Photo-documentation of the houses by the City
- Testing and removal of any identified asbestos-containing material prior to relocation
- Mothballing the structures according to the Secretary of the Interior’s Standards
- Granting first right of refusal for relocating houses to Habitat
- Marketing those houses not relocated by Habitat to individuals interested in purchasing the house for $1 and relocating them to locations in Mason City and outside the flood plain
- Working with Habitat to salvage elements from those houses not purchased for relocation
- Working with an architectural salvage company to remove any remaining salvageable elements in the house
- Demolishing the houses, if not relocated, and clearing the lot in conformance to the Hazard Mitigation Grant Program (HMGP) or Community Development Block Grant (CDBG) grant agreement that funded the acquisition
This report details the implementation of this plan and presents lessons learned to assist other communities undertaking similar projects.

Background

With the Winnebago River and five creeks (Willow, Cheslea, Ideal, Mason and Calmus) flowing throughout its boundaries, Mason City, Iowa, takes pride in calling itself “River City.” In May and June 2008, several events combined to bring the dangers of living near that much water into sharp focus. A cold, snowy winter and cool, wet spring resulted in saturated soils. In the week prior to June 8, more than 14 inches of rain fell in the 688 square miles of the Winnebago watershed that flows through Mason City. Most of the rain fell the evening of June 7 causing flash flooding the next day when all 31 miles of mapped streams in Mason City reached or exceeded the 100-year flood level. The previous record for high water on the Winnebago River was set in 1933 at 15.70 feet. On June 9, shortly after midnight, the river reached a new record level of 18.74 feet – 8.74 feet above flood stage. The flow of water was so great it breached a levee protecting a quarry on the north side of town. The river flowed into this quarry until it filled and then resumed its flow downstream flooding over 1,200 structures in Mason City. Among the eight neighborhoods sustaining damage, the potential historic districts of East Park Place and Oakland Place were especially hard hit by the quick rising floodwaters on the morning of June 8, 2008.

These two neighborhoods in particular have a long history of flooding due to their proximity to the Winnebago River. A life-long resident of the Oakland Place neighborhood told the story to City staff of often leaving his house for school in the spring wearing waders which he would leave at his uncle’s house a few doors up the block and on higher ground. He would retrieve them to get home again in the afternoon. To help protect the neighborhoods along its banks, the City constructed a small earthen dike along the Winnebago following a flood in 1933. The last addition to this dike was done in the spring of 1961 by volunteers. This dike provided protection from the 25-year flood level. The flood of 2008 topped this dike at levels never before seen by the residents along its banks. To help reduce future losses in these and other flood-prone neighborhoods, the City decided to pursue HMGP funds to use in a voluntary acquisition program so that people could move into new housing outside of the floodplain and land could be restored to its natural function as a floodplain. In total, the City purchased 167 improved properties and two vacant lots funded by four HMGP grants, one CDBG grant and one state Community Disaster grant. The HMGP and CDBG grants required that the acquired property be cleared of all structures and deed restricted to perpetual green space. Demolition of the acquired structures was funded with a mix of FEMA HMGP, FEMA Public Assistance and CDBG funds.
The 2009 historical and architectural survey conducted after the flood by Iowa Homeland Security staff, in preparation for requesting federal funding, identified four potential historic districts that included flood-affected properties: North Crescent Drive, Oakland Place, East Park Place and 7th Street Place SW. Of the 167 structures purchased by the City, a total of 22 structures were identified by the survey as being individually historic or architecturally significant under the National Register of Historic Places (NRHP) and another 26 were determined to be contributing to their NRHP-eligible historic districts. This survey confirmed that Mason City was the second most impacted community in terms of historic structures affected by the June 2008 flooding. Waverly, Iowa, was the only community with more historic properties affected.

The 2009 Homeland Security survey identified one property of national significance in the East Park Place neighborhood. The Egloff House was designed by Earle Richard Cone of St. Paul, Minnesota and built in 1938-39 for William and Margaret Egloff by Carl “Arne” Holvik, a notable Mason City contractor. Cone’s design incorporated attributes of three contemporary styles from the period – Moderne, Art Deco, and International. The Egloff House was also identified in a 1977 survey of architecture in Mason City as one of two International Style residences in the city and praised as an “outstanding example of International Style architecture – a rarity in Iowa.”

Another notable house in the East Park Place neighborhood was the Safford and Lena Lock House. Built in 1935, the Lock House was a well-preserved example of an early one-story Minimal Traditional style. Safford Lock worked as a professional studio photographer and as a contract photographer with his most important client being the Mason City Globe-Gazette. The Loomis Archive at the Mason City Public Library contains a substantial collection of his photographs. The East Park Place neighborhood itself is significant for its well-preserved collection of both vernacular and high style residential architecture.

Once funds were secured for acquisition/demolition and interested property owners identified for buyouts, it became apparent the resulting loss of historic fabric due to demolition would be substantial. The City’s secondary goal became an effort to preserve its flood-impacted historic resources and minimize the waste stream by relocating as many historic structures as possible rather than clearing all the lots by demolition. The houses in the floodplain of the Oakland Place neighborhood had sustained substantial water damage well into the first floors and many had collapsed foundations. The modest values of the houses in this neighborhood didn’t support the resources required for their move and rehabilitation. By comparison, the houses in the East Park Place neighborhood either had water only in the basement or at levels of about two feet on the main floor. In addition, nearly all of the East Park Place homes had been cleaned, repaired and reoccupied after the flood. This made them prime candidates for relocation.

Relocation vs Demolition Funding

There is an HMGP funding option for relocation that the City considered when applying for buyout project funding. This option would, in general, provide funds for acquiring the land, relocating the structure, preparing the new site with foundation, water, sewer and utility hookups and returning the original site to green space. The property owner would be responsible for purchasing the new lot to which the house would be moved. The structure would need to retain its existing ownership and could not be sold to another party to relocate.

There are three primary challenges with the relocation option. First, the structure must still be sound enough to move. This can be especially challenging with properties that have sustained substantial flooding.

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2 Mason City, Iowa: An Architectural Heritage, Mason City Department of Community Development, Schmitt, Syliva Linde, Editor, 1977
Second, the property owner must be willing to incur the cost of acquiring a new lot for the house. If there is an existing mortgage on the property, this may create a financial hurdle too high to overcome. Third, the relocation project must be cost effective. Unless the project involves moving a small wood frame house a short distance in a rural setting, the full expense of moving a structure is almost always more than demolishing it.

The other element in determining which funding source to request was that the acquisitions had to be voluntary. Every buyout participant had until the day of closing to decide not to sell their property. So while the City was aware that there were several historic houses likely affected by the buyout project, there was no way to know for sure how many there would ultimately be until the sale for each had closed. These factors, plus the fact that initially only one potential buyout participant preferred relocation over acquisition and demolition rather than relocation. It was only after funding was secured and the acquisition well underway that the level of loss to historic properties became clear and efforts began to determine how to relocate as many of the historic houses as possible through whole house salvage.

**Acquisition**

Most development projects that impact historic properties are planned in advance allowing ample time to examine all mitigation options. By contrast, Mason City’s acquisition of these historic houses was part of a disaster recovery effort. Several of the flood-impacted houses were damaged so severely that residents were never able to move back into them; many others had a few feet of water on the main floor and many more had basements full of water. The urgency of the situation created additional challenges for the City as acquisition could not begin for several months until federal disaster funding was secured.

Citizens interested in having their property acquired had difficulty understanding why it was taking so long to begin the process. The elements in play were staffing and cash flow. In Mason City, floodplain management is overseen by the City planner so managing the buyout of flood-impacted properties naturally fell to the same department – Growth Development and Planning (now known as Development Services). At the time of the flood, this department consisted of the City planner, who was designated project manager for the buyout, the department director and an administrative assistant. It was clear that additional personnel would be needed to manage a buyout project of over 160 properties. The original budget submitted with the grant applications included funding for five staff members to assist with the buyout project. With a national and local economic recession building, City Council members were not interested in creating new staff positions. After much debate, in August 2009 more than a year after the flood, the Council approved hiring one full-time, but temporary, buyout administrator. With this person on staff and funding secured, acquisition activities began in September 2009.

All acquisition funding awarded to the City permitted advance payments to cover acquisition expenses. However, the necessary documentation and therefore staff time required to request advance funds was nearly equal to that required for

**Lessons Learned**

Buyout participants wanted frequent communication from the City regarding their particular status in the buyout process. Given the limited staff available, this was not always provided at the desired level. Setting up a process early on to efficiently communicate general progress with grant funding approval, steps of acquisition, etc., to buyout participants would have gone a long way to calm those who were especially stressed by their situation and reduce the number of phone calls asking for update information. Social networking could be a valuable tool to use in future projects of this type.

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**October 2009**
City acquires first buyout property

**November 2009**
CDBG grant approved

**February 2010**
City begins search for historic house destination sites
reimbursement. In addition, any advance funds were required to be expended within 10 days of receiving them. To expedite the acquisition process and minimize the number of staff hours devoted to providing documentation for funding, City staff decided to only request reimbursement payments. While this created a more streamlined process for receiving funding, it also created a limit on the amount of funds that could be expended in any given week so that the City could cash flow the project. At the beginning of the disaster recovery, it often took four to six weeks for the City to receive reimbursement payments from Iowa Homeland Security/FEMA. Initially properties were prioritized for acquisition based on the level of damage and urgency of the residents’ situation. Once these urgent cases were taken care of, acquisitions were driven by the individual participants as they found new places to live.

The final property was purchased through the project in November 2012. The final historic property purchased was the Egloff House in December 2010. The acquisition process proved more complex than anyone had expected 18 months earlier.

**Move Feasibility Study**

The primary challenges of moving a wood frame structure on a basement foundation are usually not in lifting and moving the structure, but with the obstacles along the route it must travel to its final destination. As mentioned previously, the Egloff House was identified early in the buyout project as a significant historic resource worthy of extra effort to prevent its demolition. There were two unique obstacles initially identified for moving this structure: its size and the clay tile flooring system of the main floor. The width of the structure in either direction was wider than most city streets and it was unknown whether the clay tile foundation would hold together once separated from the basement walls. To answer these questions, FEMA agreed to fund a Move Feasibility Study for the Egloff House. This study was completed in two phases by a multi-disciplinary team consisting of Mike Kinter (Kinter Construction Consulting), Edward Matt, AIA (GENESIS Architectural Design), William Page (public historian), Erik Horlyk, PE (Advanced Engineering), Ron Holland (Ron Holland Housemovers), Lang Stubbs (Stubbs Building Movers), and Dodie Wilkins (commercial Realtor).

Phase I of the study began in May 2011 and was completed in July 2011. It consisted of a structural analysis to determine if the house could be moved. The consultants determined that the house was structurally sound and exterior finish materials were of a nature that could be easily repaired following the move. The team concluded the house would likely need to be moved in at least two pieces. They also noted that care would need to be taken during the move not to place direct stress on the clay foundation tiles and recommended a portion of the foundation walls be left in place to support the tiles during the move. One of the consultants raised the concern of obtaining City Engineer approval to move the structure over the historic 100-year old North Carolina Bridge. This bridge was listed on the NRHP in June 1998 as the Stewart Avenue (Lime Creek) Bridge.

Once it was determined that moving the structure was possible, the team of consultants started Phase II of the feasibility study. As stated in the final feasibility report submitted to the City in February 2012, this portion of the study focused on the following tasks and included a public presentation about the house to solicit community input on potential uses and relocation sites:

- Identification and documentation by an architectural historian of the significant architectural building elements and exterior building features that would need to be replicated to retain the building’s NRHP eligibility.

**Timeline**

- **July 2010**
  - MOA executed
- **July 2011**
  - Feasibility Study Phase I complete; confirms house can be moved if cut into two sections
- **November 2010**
  - Brose House acquired
• Identification of potential relocation sites, acquisition costs and availability by a real estate evaluator.
• Identification of provisions necessary for a successful move including route considerations, time of year, soil conditions, etc.
• Cost estimates for various moving options to alternative sites identified.
• Development of reuse options for the building and related cost estimates for post-move rehabilitations including new foundation, basement, building repairs, mechanical systems, etc.
• Identification of potential time periods necessary to implement the move, rehab and adaptive reuse options.

The results of the Phase II study were presented in a public meeting on September 12, 2012 (attended by approximately 25 people) with the intent of generating interest in moving the house. The only definite conclusion reached at this meeting was that the City was unable to commit any financial resources to the project. The team of consultants concluded that the “primary challenge in getting the house moved will not be the physical move; it will be finding a buyer that is willing to take on the challenge.” This proved to be an extremely accurate assessment.

Structure Photo Documentation

As the historic houses were acquired, City staff began photo documenting the interiors and exteriors of the properties. In addition, as a result of historic houses purchased through the Iowa Economic Development Authority (IEDA) using CDBG funding, a separate Letter of Agreement (LOA) was executed to provide mitigation for the loss of those structures. The mitigation measure agreed upon provided for the creation of an oral history of the East Park Place neighborhood and an architectural survey of the properties located there. Between the mitigation measures for both the HMGP and CDBG acquisitions, the neighborhood has been preserved in both a DVD capturing the stories of the people who lived there and in the Iowa Site Inventory Forms (ISIFs) prepared. Homeland Security staff had previously documented six individually eligible properties during their 2009 survey of the neighborhood. The LOA survey resulted in an additional 36 ISIFs for the district-contributing properties plus supplemental ISIFs that expanded upon the those produced by Svendsen in 2009.

Asbestos Testing and Removal

The National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations under the federal Clean Air Act specify work practices relating to asbestos containing material (ACM) that must be followed during demolitions and renovations of all structures. These regulations are enforced in Iowa by the Department of Natural Resources (IDNR). Normally, residential buildings containing less than four dwelling units are exempt from this regulation. However, when the demolition or renovation of a single-family structure is part of a larger project, this exemption does not apply.
As a result, IDNR required abatement of all ACM in the houses acquired under the HMGP and CDBG acquisition programs. Asbestos is most often found in adhesives, caulks and insulating wrap and usually requires destructive methods to remove. City staff was concerned that complying with the requirement to remove all ACM would leave the historic houses in a serious state of disrepair and thus increase the rehab costs involved for whoever moved them. After extensive debate between City staff and IDNR staff, the IDNR staff member responsible for asbestos abatement and demolition project compliance agreed to allow abatement of only the ACM that would be disturbed in the process of moving the house. For CDBG-funded acquisitions, HUD rules trumped the IDNR and all ACM had to be removed from these structures prior to moving. Abatement contracts were written stipulating removal methods be used as if the house were and would continue to be occupied.

Removing ACM from a structure is a three-step process and must be conducted by a business or individual holding a certified asbestos contractor permit with the Iowa Division of Labor Services. Two different certified companies (or individuals) are required. The first company conducts asbestos surveying and testing to identify all ACM within the structure following NESHAP guidelines. The second company removes and disposes of the identified ACM also according to NESHAP regulations. To complete the process, the first company conducts a follow-up inspection to verify that all identified ACM was removed. Depending on the amount of ACM found and its location, this process can take several weeks and leave the house vulnerable to vandalism. For example, asbestos was often found in window glazing and for houses that were not being moved, abatement involved removing the window not just the glazing. This created some issues for Habitat salvage efforts and is discussed in the Partnering to Salvage Architectural Elements section of this report.

Mothballing of Structures

All parties to the MOA recognized the need to secure the historic houses against vandalism while marketing them for relocation. Upon execution of the MOA, funds were available to mothball the 11 individually NRHP-eligible properties acquired with HMGP funds according to the Secretary of the Interior’s Standards. Under the LOA, another 16 CDBG-funded historic acquisition were boarded but not to the same level as the HMGP acquisitions. In addition to documenting and stabilizing the structure, the mothballing standards include:

- Securing the building to reduce vandalism or break-ins.
  This was accomplished by boarding lower level windows and all but one entry door in each house.

- Providing adequate ventilation to the interior.
  Vents were installed in the plywood covering at least one lower level window. The window was left partially open to allow passive ventilation into the house. All interior passage, closet and cabinet doors were left open to prevent moisture build-up. In addition, attic access was opened to allow air movement throughout the house.

- Secure or modify utilities and mechanical systems.
  With the exception of the Egloff House, all utilities were disconnected shortly after the City acquired each property. Because of its significance, electrical service was maintained at the Egloff House to power a security system. Water lines were drained at each house and RV antifreeze placed in all the sink and toilet traps.

- Developing and implementing a maintenance and monitoring plan for protection.

City staff conducted exterior inspections on a monthly basis for each of the mothballed houses. On a quarterly basis, interior inspections were conducted to ensure the interior of the house was not becoming moldy or
deteriorating. To make these periodic inspections more efficient, all the mothballed houses were rekeyed so that a single key provided access to them all.

A dehumidifier was installed in the Egloff House to prevent mold growth. The sump pump no longer functioned so even though electricity was available, the sump pump could not be used and water accumulated in the basement during the spring.

On April 15, 2012, strong winds split the large two-trunk burr oak in front of the Egloff House and half of it fell on the house. FEMA staff agreed that the intent of the MOA was to ensure that the mothballed properties were kept safe and secure, and approved the costs associated with tree removal and electrical repairs as eligible costs under the terms of the MOA. Since the trunk was rotten and therefore unsafe to leave standing, the entire tree was removed. There was remarkably little damage done to the house. The mothballing contractor repaired three small holes in the roof but there was no evidence of water damage inside the house. A crack in the interior wall just below where the branch hit the house appeared to be the only damage inside the house. The exterior had a few cracks in the stucco where the tree landed and the copper flashing was a bit wrinkled. An online comment in the local paper stated that God must want the house gone, but City staff thought that clearly Mother Nature was protecting the house by dropping a large tree so gently on the building.

Searching for Relocation Partners

The City’s relocation plan included a strong partnership with Habitat for Humanity – North Iowa (Habitat). Habitat had already moved one of the houses relocated due to Mercy Hospital’s expansion and was excited about obtaining additional housing for Habitat families by moving some of the flood-impacted houses that only had water in the basements. Based on external inspections only, Habitat initially identified four historic houses for potential relocation, one of which was the Safford Lock house in the East Park Place neighborhood. As the houses were acquired, Habitat staff conducted inspections of the interiors to determine suitability for Habitat families. The City agreed to hold all other historic houses while Habitat attempted to locate lots on which to place them and funding to help offset the cost of moving them. This proved to be a greater challenge than expected. Habitat moved the Mercy house using a $50,000 bequest earmarked for providing a house for a family. All of the new grant funding was only available to build new houses not rehab old ones. Habitat’s goal of providing energy efficient housing also created additional expense when contemplating an older house rehab. Finding lots was complicated by the fact that previous Mercy house relocations had claimed many of the infill lots in town. In the end, the cost of moving and rehabbing the houses was beyond the financial means of Habitat and in October 2011 they released their first right of refusal, deciding to focus their efforts on salvage instead of relocation.

Expansion of Partnership to Local Developers

While the discussions with Habitat were in progress, City staff began looking for available land where houses could be relocated and financial incentives to assist developers interested in moving them. The goal was to create a new mixed-use development that would include relocated historic

Lessons Learned

Gutters and downspouts were removed to reduce the amount of maintenance required at each property. While this did eliminate the need to periodically clean the gutters and downspouts, it also allowed more water to seep into the basements causing an ongoing battle with mold.

Wiping a surface where mold has begun to grow with white vinegar will remove the mold and prevent its spread. This technique was used with great success, especially in the Egloff House.
homes, Habitat homes and compatible new construction. It was hoped that some characteristics of the buyout neighborhoods such as vegetation level, lot density and placement, as well as housing variety, could be replicated in a new development; perhaps even retaining eligibility for the individually significant houses to be nominated to the National Register of Historic Places.

The perceived advantages to a single new development included the possibility of a “group move” of houses through a common neighborhood departure point to the new location. This would allow for a single interruption in utility services along the move route rather than the several interruptions that would be necessary if houses were moved individually. Having utility crews disconnect and reconnect lines once would also be a cost saving measure over multiple disconnections.

Identification of Potential Lots
The first hurdle to overcome was that of finding suitable land. The most obvious solution of utilizing City-owned property was almost immediately eliminated. Over the years, the City had been actively selling off infill lots it owned in an effort to return property to the tax rolls. Several of the houses moved in conjunction with previous Mercy Hospital expansions had also been moved onto these lots. The initial search focused on subdivision development ready for construction with the infrastructure already in place. It was 2009 and all speculative building had stopped in reaction to the collapsing housing market. It was hoped local developers would welcome a new way to finish their subdivision projects. However, available lots in the new subdivisions were too expensive when compared to the generally modest values of the historic houses. In addition, the new developments prohibited anything but stick-built houses, thereby eliminating the possibility of relocating houses into them. There was a surprising amount of resistance to accommodating relocated houses into these new developments. In three separate locations the developers would have required prior approval of the specific structure being relocated and in two of them asked that significant landscaped barriers be planted between the relocated houses and the other houses in the development.

Exploration of Funding Sources
The second hurdle was financial. City staff recognized early in the process that incentives and/or subsidies would be needed to overcome the economic challenge a private party faced in acquiring ownership of a property that came with the expense of moving it plus rehabilitation costs. With the recession just beginning and having no idea how long it might last, City officials were not interested in spending tax dollars to save houses. Staff proposed creating a housing tax increment financing (TIF) program but the Council did not support it. Their reasoning was that it didn’t make sense to use tax abatement in conjunction with TIF as tax dollars were needed to repay TIF incentives. The City would have needed to buy down the cost of lot acquisition and infrastructure improvements in the new subdivisions to keep the costs in line with the resulting value of the relocated houses. City staff began by looking for assistance with infrastructure costs to create “build-ready” lots for relocated houses. Although the State had several rounds of CDBG grants available to assist with housing after the flood, the funds were earmarked for buyer incentives and could not be used for upfront infrastructure costs. These programs are set up on a reimbursement basis and the State was not willing to incur the risks associated with funding up-front expenses. In addition, these programs were only available to assist low-to-moderate income (LMI) buyers and many of the historic houses the City hoped to move would not be suitable or affordable for LMI buyers once they were relocated.

Lessons Learned
Developers are less interested in saving history than in making sound business decisions. It would be a rare developer willing to take on a project that expects to break even at best. There must be a return on investment for developers. Saving historic houses is insufficient motivation for putting large amounts of capital at risk.

June 2012
First MOA Amendment

August 2012
Kral House acquired

September 2012
Egloff House relocation information meeting held at City Hall
The focus then shifted to developers who might be willing to float the upfront costs of creating lots so that available buyer incentives could still be used. One local developer was extremely interested in moving flood-impacted houses. He owned a large parcel of land that he planned to subdivide into approximately 20 lots. His plan was to create a mixed-income development that would include new construction, relocated historic houses and new Habitat houses that could take advantage of the available Iowa Economic Development Authority (IEDA) incentives plus the Habitat for Humanity program and a housing TIF to absorb some of his development risk. As an undeveloped parcel, none of the infrastructure was in place. He estimated his upfront costs for roads, water, sewer, foundations, house moving and utility connections to be $1.1 million. Neither the developer nor City staff was able to secure any incentives nor assistance in offsetting these anticipated infrastructure expenses. This created total expenses for each individual house that were more likely to be above the eventual market value of the property than below it. The developer determined that the upfront expense was too large an investment for a project that might at best break even and decided to abandon the project.

Results
The City had been working to develop a tax abatement program to encourage people to rehab their homes. Unable to assist with infrastructure costs to encourage moving the historic houses, City staff specifically wrote this program to classify the mothballed historic homes as blight despite their age. The program allows 100% abatement of property taxes on the value of improvements for a five-year period. Under this program, when a mothballed historic house is relocated to a new lot, the full assessed value of the house is considered the increase in value and is used to calculate the tax abatement.

Finding Buyers
After months of trying to retrofit available housing funding programs to cover house moving expenses or assist with infrastructure costs for developers, City staff admitted defeat on that front and redirected their attention to attracting individuals interested in moving historic houses. The new goal became how to determine if the person was indeed interested in relocating and rehabilitating the house so that it retained its NRHP eligibility.

Qualifying Proposers and Meeting HMGP Procurement Requirements
The City’s initial intent was to offer the HMGP-acquired historic houses for sale for $1 and then require a proposal outlining the purchaser’s intended use of the house. This would allow staff the ability to evaluate submitted proposals for plans to retain the historic quality of the structures. City staff worked with the Mason City Historic Preservation Commission (HPC) to develop criteria by which submitted proposals could be evaluated.

During development of the evaluation criteria, Homeland Security staff noted that while this approach would allow the City to select one proposal over the other by determining whether or not the proposer planned to maintain the structure’s NRHP eligibility, by offering to sell the properties for $1, it did not meet the procurement requirements of 44 CFR 13.36(d)(3), which require competitive proposals. This federal regulation requires that requests for proposals identify all evaluation factors and their relative importance and that awards be made to the entity whose proposal is most advantageous to the program, with price and other factors considered.

To meet these requirements, staff worked to develop a weighted evaluation matrix to assess which submitted proposal was most desirable from an historic preservation viewpoint. The purchase price was the most problematic element of weighting the evaluation criteria. Staff was concerned that insisting on a “substantial” purchase price would eliminate
many, if not all, serious proposers. It was hard to imagine any entity or individual willing to spend a substantial amount for the privilege of spending an even greater amount to finish the relocation and rehabilitation of the structure. The ensuing discussion on how to structure the evaluation matrix included staff from FEMA Environmental and Historic Preservation (EHP), FEMA Region VII, Iowa Homeland Security Public Assistance and HMGP. Eventually a scoring matrix was developed by staff and approved by the HPC that ranked NRHP eligibility elements highest, followed by intended use elements and lowest ranked were elements of purchase price and easements for facades and interiors.

**Spreading the Word**

With evaluation criteria developed, the next step was to distribute the Request for Proposals to as large an audience as possible. City staff used a variety of methods to publicize the availability of the historic houses available for relocation. Efforts included:

- Creating an Egloff House Facebook page that was used to document the progress of moving this structure.
- Creating a dedicated page on the City’s website that included a photo, quick facts about the house, a link to its Iowa Site Inventory Form plus links to available potential federal and state tax incentives for the Egloff House as well as the other 10 FEMA-funded historic houses the City hoped would be moved.
- Creating a slide show for relocating the Egloff House that ran on the local television station’s community channel.
- Creating “for sale” entries on the National Trust for Historic Preservation (http://historicrealestate.preservationnation.org) and oldhouses.com websites for each of the historic houses.
- Pursuing This Old House magazine to feature the Egloff House. There was initial interest from magazine staff, but after sending photos and making several follow-up calls, City staff was unable to obtain a commitment and no coverage was ever received.
- Local media coverage. Both local Mason City media outlets, the Globe Gazette newspaper and KIMT television station, ran several stories about the availability of the historic houses for relocation. Coverage was often in response to press releases about a particular activity; for example, the informational meetings held at City Hall and walking tours of the houses. They also ran articles about the progress of the flood recovery and a five-year anniversary follow-up story that helped to keep the issue of the historic house relocation effort top of mind for their audiences.
- A TV Station in Des Moines, Iowa (WHO13) also picked up the story in advance of the June 28, 2013 deadline for RFP submittals. This coverage featured video clips from Will Page, the historian involved in the Egloff House Move Feasibility Study, and Tricia Sandahl, the City’s project manager for flood recovery efforts.
- In November 2011 City staff nominated the Egloff House for inclusion on Preservation Iowa’s list of Most Endangered Properties. Preservation Iowa included the Egloff House on their list of state’s most endangered properties in 2012 and this announcement prompted additional media coverage.
- Tapping the broad network of historic preservation professionals in the country by asking Iowa historic preservation staff working with the City to do email blasts to everyone they knew with information about the houses and the proposal process. This made its way around the Internet and two days later a local architect confirmed the press release had already hit the American Institute of Architect’s Top 10 of the week email. Staff estimates this effort likely reached 5,000 people.
- Iowa Public Radio sent a reporter to the last open house/walking tour and broadcast a substantial story that included an interview with a previous owner of one of the houses who was participating in the walking tour.
- Staff also put considerable effort into expanding the media coverage beyond the local market. Press releases were sent and phone calls made to the Minneapolis, Des Moines, Chicago, Omaha and Kansas City daily newspapers with no results until the Des Moines Register ran a story on June 15, 2013 (nearly a year after staff’s first contact) about unspent funds.
2008 flood recovery funds. They mentioned efforts to find a buyer to relocate the Egloff House at the end of a sidebar to the main story and featured a photo of the house with the main article.

Open houses / Walking tours
In addition to the online and media marketing efforts, there were also several in-person opportunities for potential buyers to learn more about all the HMGP-funded historic houses. The first open house was conducted in December 2010, the day after the City acquired the property. Realtors and others interested in promoting the relocation of the house were invited. It was hoped that the Realtors would become excited about finding someone to relocate the house. Since there was no purchase price envisioned at this point, there was also no commission envisioned so there was minimal interest from local Realtors.

A second open house was held at the Egloff House in late April 2013 after the relocation RFP was released. A final Egloff open house and walking tour of the other 10 HMGP houses was held in mid-June 2013, two weeks in advance of the relocation proposal submission deadline.

To supplement the open houses and walking tours, two informational meetings were scheduled at City Hall after the RFP was released to answer questions and assist interested parties in preparing their proposals. The May 2, 2013 proposal assistance session at City Hall was thwarted by the arrival of 10 inches of snow. The June 6, 2013 session was attended by a handful of people. It was at this meeting that a person interested in relocating the Safford Lock house came forward.

Each marketing or media opportunity brought with it the need to balance the information being broadcast that was deemed appropriate and necessary for potential “buyers” with the need to avoid attracting vandals or thieves. There are many other online resources where the houses could have been listed but most of them required some sort of fee. FEMA agreed to reimburse the City for the ads placed on the National Trust and oldhouse.com websites and

Lessons Learned
The City’s website is organized by department which put the historic houses on a page not easily found by casual visitors. Tiny URLs (tinyurl.com) are a simple way to create website addresses that are easier for people to type into their browsers. This online service creates a short text URL to replace an unwieldy one. For example, the web page containing the Egloff House information on the City’s website was: http://www.masoncity.net/pView.aspx?id=18197&catid=481 and the tiny URL created was: http://tinyurl.com/MC-HistoricHouses. As City staff was reminded several times over the course of this project, communication with all parties, no matter how peripheral, is key. After this tiny URL was distributed nationwide on the flyers for the historic houses, the City’s web host moved the page to a new server thus creating a broken link for the tiny URL. Although a new tiny URL could have been created for the new website page address, once created, the original web address information for the tiny URL cannot be changed. The result was that efforts to make it easier to find this information turned out to make it harder and the trouble could have been avoided if the two departments at City Hall had been aware of what the other was planning.

Local Realtors were included in open house invitations with the hope some of them would step forward and agree to help market the houses or identify individuals interested in offering a proposal. However, since the houses were expected to sell for small amounts, there were no funds from which to pay commissions. The challenge for other communities in a similar situation is to find a way to incent Realtors beyond paying a commission from the sale proceeds.

It’s unknown why the City only received one move proposal. In addition to the informational sessions offered on how to submit a proposal, perhaps a fill-in-the-blank proposal template would have made it easier for interested parties to prepare a submission.
The establishment of the Community Benefit-Mason City Fund (Community Benefit) was a required element of the complex financing package for the Historic Park Inn renovation that included grants from Vision Iowa, Iowa Great Places and the National Trust for Historic Preservation’s Save America’s Treasures program plus equity from the sale of state and federal historic tax credits. Even with all this funding in place, the Park Inn project was $2 million short and in danger of losing the Vision Iowa grant. The New Markets Tax Credits (NMTC) filled this gap.

New Markets Tax Credits are awarded by the U.S. Treasury through its Community Development Financial Institutions (CDFI) Fund. NMTCs permit individuals and corporate investors to receive a credit against their federal income tax liability in exchange for making equity investments in specialized financial institutions called Community Development Entities (CDE). The NMTCs are allocated to the CDE which then reviews submitted proposals to determine recipients.

Iowa Community Development (ICD) is one of these Community Development Entities. Its executive director was aware of the Park Inn project’s funding difficulties and ICD had a NMTC allocation available. NMTCs are usually awarded to projects that fall within distressed census tracts, which the Park Inn project did not. However, the hotel’s census tract did qualify under the CDFI Fund’s less-used High Migration Rural Communities criteria. ICD provided $10 million of NMTC allocation authority, which resulted in a $2.7 million NMTC equity investment from U.S. Bancorp Community Development Corporation, thus closing the Park Inn project’s funding gap.

The Park Inn project got underway in 2008 and the Great Recession had an unexpected benefit as contractor’s bids were significantly lower than the ones submitted two years earlier during the project planning process. The $2 million gap that had been filled by the NMTC equity was now only $500,000. Rather than remove this extra equity from the project, ICD created the Community Benefit-Mason City Fund to finance other economic development projects in the city’s downtown core. It is this fund that financed the move of the Egloff House and three other CDBG-funded historic houses the group acquired at the City’s auction. While this fund has substantial resources, they are not unlimited.

Community Benefit’s role is to disburse the existing funds. The group cannot use the existing funds as collateral to borrow additional money, nor can they raise additional money for the fund.

Results
Each marketing effort generated interested parties. Local people stopped into City Hall to talk with staff about moving houses. The National Trust online ads generated calls from as far away as Delaware and Washington. Staff directed every inquiry to the City’s website page containing information about the houses and the Egloff House Move Feasibility Study. Staff wanted to ensure that everyone clearly understood the scope of the project. It would be to no one’s benefit to have someone begin the project and either run out of money or energy. By the time the proposal deadline neared, staff was fairly confident that a number of proposals would be received. However, on the day proposals were due, the City received one proposal for the Safford Lock House and no proposals for the Egloff House or any of the other mothballed houses.

The City did receive a letter from a local planner and landscape architect who was involved with the Stockman House. He asked the City to work with him and several other volunteers to move the house next to the Stockman House and the Architectural Interpretive Center. Their goal was to have the Egloff House serve as a central point of contact where the five local architectural firms could show examples of their work and potential clients could be guided to the various firm’s offices. They believed the house would help bring a concentration of architecturally interesting structures to the area that would drive both tourism and education. However, the group did not control the

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### Community Benefit - Mason City Funding

- **Fall 2013**
  - City disconnects underground utilities for mothballed houses; driveways & flatwork removed for houses to be relocated
- **October 2013**
  - Community Benefit and City execute relocation agreement for Egloff House
- **November 2013**
  - Community Benefit acquires second State Street lot creating destination site for Egloff House
proposed destination site, none of the three parcels involved were for sale and they had no funds to carry out the project. City staff also had doubts about whether the Egloff House would maintain its NRHP eligibility in this location.

Nonprofit Group Steps Forward to Move Egloff House

With the opening of the newly renovated and restored Frank Lloyd Wright-designed Historic Park Inn drawing new tourists to town, members of the Mason City Chamber of Commerce began exploring ways to improve the blocks between the Park Inn and the already established Wright-designed Stockman House to enhance visitors’ experience of these attractions. The 300 block of East State Street was of particular interest because of the number of foreclosed properties on the block that could potentially be acquired at below market rates. The discussion focused on moving some of the historic flood buyout houses onto these lots to replace the existing blighted houses. This plan relied on the lots being acquired at reasonable prices. The Chamber Board of Directors agreed the area needed attention, but decided it was more appropriately a City issue and not a Chamber project. However, the spark had been ignited.

The chief executive officer of the Chamber was also a member of the Community Benefit-Mason City Fund (Community Benefit) which was looking for projects that would support the viability and sustainability of the Park Inn. Community Benefit had contributed funds to a number of projects to enhance the downtown area around the hotel. Community Benefit had contributed funds to a number of projects to enhance the downtown area around the hotel. When Community Benefit learned that no proposals had been submitted to relocate the Egloff House, the group recognized an opportunity to improve this troubled block along the route between the Park Inn and the Stockman House. It would also add another structure of architectural significance to Mason City’s existing architectural walking tour. It was the perfect win-win situation: using funds obtained for historic preservation efforts to promote additional historic preservation efforts while removing blight in a high profile corridor.

On July 19, 2013, two weeks after the deadline for historic house relocation proposals had passed, Community Benefit submitted a proposal for relocating the Egloff House. City staff was cautiously optimistic as the group indicated their intent to retain the house’s NRHP eligibility to take advantage of historic tax credits and had the funds available to complete the relocation project as identified in the feasibility study. The relocation agreement was executed between the City and Community Benefit on October 1, 2013. Even though the City had conducted the move feasibility study for the Egloff House in order to address all foreseeable issues, there were still plenty of surprises as the move process progressed. These details are included in the Moving the Egloff House section of this report.

Addition of Historic CDBG Houses

In addition to HMGP-funded acquisitions of historic houses, Mason City also acquired historic houses funded by a Community Development Block Grant (CDBG). Staff encountered an entirely different set of challenges while developing a process to allow these houses to be moved. HMGP funds come from the federal government through FEMA and are designed for hazard mitigation projects. CDBG funds are also federal funds but come from Housing and Urban Development (HUD) and are designed for projects that improve housing – especially housing for low to moderate income families. Since housing was lost in the 2008 flood, CDBG funds were allocated to assist people in recovering from the disaster.

As was the case with HMGP-funded houses, CDBG-funded houses could not be sold for $1. The primary reason is that once CDGB funds are used to acquire a property, that property acquires a CDBG “identity.” As long as that identity is in place, HUD regulations control what happens to the property. For example, whole house salvage (i.e., moving) would require full environmental clearance of the destination lot and excavating undisturbed ground could also require an archaeological survey. To allow an individual to relocate these CDBG-funded historic houses with no strings attached, that identity had to be severed. The simplest way to achieve that was to meet HUD’s requirement that the houses be sold at market value. The most efficient way to accomplish that was to sell the houses at a public
**Lessons Learned**

**Project management.** Perhaps the greatest challenge faced by Community Benefit as they began working through the house moving process was the fact that they are a volunteer organization. One member of the group stated that the process would have been much easier with “paid staff having the required expertise and dedicated time” to devote to the project. She also cautioned others considering similar projects to “think with your head and not with your heart” to avoid getting involved in a project before fully understanding all its potential complications. In April 2015 Community Benefit did hire a full-time project manager to oversee the project’s completion as well as to coordinate rehabilitation and sale of the CDBG houses on their new lots.

**Ownership transfer difficulties.** The City retained “ownership of structure” until the Egloff House passed into the public right-of-way. This allowed the City to demolish the structures in a timely manner should the relocation not happen. However, this affected Community Benefit’s ability to apply for some grant funds as they did not own the house until it moved off the lot.

**Historic tax credits and moving expenses.** The Federal and State historic tax credit programs can provide credit for a portion of a project’s qualified rehabilitation expenses. The Federal program can provide up to 20% and the State program can provide up to 25%. There are four parts to the historic tax credit application process. Part I is a preliminary determination of whether the structure could be eligible for NRHP nomination. Part II is a detailed outline of the rehabilitation work planned and how it will meet Secretary of Interior Standards for historic rehabilitation. Part III documents that the work outlined in Part II was completed as approved by the State Historic Preservation Office (SHPO). Part IV is the submittal for NRHP nomination. Each part of the application process is extremely technical and will generally require the assistance of an architect, a tax accountant and a historian. The cost of these consulting services are considered qualified expenses for both the Federal and State historic tax credit programs. The process is also lengthy as the SHPO has 90 days to review each part of the application.

Ordinarily, Part I and Part II are completed before any rehabilitation work begins. In the case of the Egloff House, the application process could not begin until ownership transferred to Community Benefit. One of the consultants on the Egloff House Move Feasibility Study team had determined that moving expenses would be a qualified expense when applying for historic tax credits. After Community Benefit acquired ownership of the structure, their tax accountant determined that the IRS did not consider relocation expenses to be qualified rehabilitation expenses for the Federal historic tax credit program. However, relocation costs are considered qualified rehabilitation expenses under the State historic tax credit program. As a result, Community Benefit submitted their Part I application to the State in April 2015. They received preliminary Part I approval just before the house moved in August 2015. Once the two sections of the House are reunited and placed on the new foundation, the SHPO will make a final determination about the structure’s NRHP-eligibility and the Part I application will be resubmitted for final approval. The Part II application will be submitted before any further rehabilitation work begins.

**February 2014**
Community Benefit executes contract with Atlas Enterprises to move Egloff House

**April 2014**
Interior work completed to facilitate Egloff House split

**May 2014**
City requests extension from FEMA for new open-space compliant deadline of Sept 30, 2014 for original Egloff House site
auction. This would allow market forces to determine the value of a flood-impacted structure that had to be relocated outside the floodplain.

The challenges posed by the need to conduct a public auction in order to move these historic houses included:

- CDBG funds could not be used to reimburse any expenses (for example, advertising or auctioneer fees) incurred as part of the auctioning process.
- Since the houses had to be moved, selling prices were expected to be low. This created very little potential commission for a professional auctioneer.
- The house that all interested parties most wanted to move was not historic. It was, however, ideally suited for moving as the single-story house had been built by Habitat in the floodplain and therefore had a raised crawlspace foundation. It was also super-insulated for energy efficiency.

All CDBG historic houses and the Habitat-built Kral House were auctioned at City Hall by the City’s Director of Development Services. At the close of the auction, Community Benefit had purchased three historic houses from the East Park Place neighborhood for $1 each, one individual purchased the Kral House for $9,500 and another private party purchased the Tibeau House from the East Park Place neighborhood for $1. There were two historic mid-century modern homes that staff had expected would also sell at the auction, however, auction attendees offered no bids for any of the other CDBG-funded historic houses.

It was Iowa Community Development’s executive director who suggested acquisition of CDBG houses at auction to round out rehabilitation of the State Street block. After acquiring the auctioned historic houses, Community Benefit purchased an additional three lots on the State Street block as their relocation sites. Each of these additional houses presented its own set of move challenges due to weight or structure height. It was planned that the three houses would move together with the Egloff House in a single mobilization. Due to the weights of all but one of the houses, they were eventually moved in three separate efforts.

The MacDonald House was the only structure that was able to move across the Carolina Bridge without any reinforcement. It moved on December 18, 2014. The Patton House and Brose House were both heavy enough that they were initially planned to move with the Egloff House over the reinforced Carolina Bridge. Atlas determined that using power dollies controlled by remote-control would allow the Brose House to cross the Bridge without the weight of the truck. Truck weight was removed from the Patton house by winching it across the Bridge once the truck had crossed. The three CDBG houses will be rehabbed and sold to owner occupants with the goal of sustaining the neighborhood improvements made by relocating them to the same block as the Egloff House. Not all house moves are as complicated as Community Benefit’s experience. By comparison, the Tibeau House moved three blocks without any complications in a matter of hours. The Kral House started from an advantageous location and was also moved to its new location without complication in a single day even during a downpour.

Partnering to Salvage Architectural Elements

In addition to relocating historic houses, the MOA also included a stipulation for salvaging architectural elements from those houses that could not be moved. The City’s Historic Preservation Commission approached Habitat for Humanity – North Iowa (Habitat) to ask if they were interested in salvaging historic items for the ReStore. In existence since 2004,
Habitat’s efforts focused on organizing volunteers and securing funds to build affordable housing for qualified families. Full-time staff consisted of an executive director hired in October 2007, eight months before the June 2008 flood. The ReStore was being run out of donated warehouse space and hours were dependent on availability of volunteers. ReStore staff was supervised by an AmeriCorps person limited to 20 hours per week. Office support was provided by an AmeriCorps VISTA (Volunteers in Service to America) person also limited to 20 hours per week. Taking on a salvage project of this size, while daunting at the time, proved to be a catalyst for Habitat growth and ReStore expansion.

The Salvaging Process

Once the MOA was executed, salvage could begin in earnest and Habitat became the central point for all this activity. Salvage was an intermediate step between the City’s acquisition of the property and the execution of the demolition contract. Once the demolition contract was executed, everything remaining on the site became the property of the demolition contractor. The IDNR also required that all asbestos containing material be removed from the structures before salvage efforts began.

The salvage process included the following steps:

- The City acquired the property and notified Habitat of the address.
- Habitat volunteers walked through the property to develop a list of desired salvage items including garages and sheds for relocation.
- A notice was sent to City departments that had expressed interest in accessory structures. Information on any structures not re-purposed by City departments was forwarded to Habitat for marketing to the general public.
- The City hired a contractor to perform asbestos testing, abatement and verification. The abatement process often destroyed elements that Habitat would have liked to salvage; for example, kitchen cabinets that had to be removed to access wallboard mud containing asbestos.
- Habitat recruited volunteers to salvage items from the house.
- Prior to salvage, Habitat volunteers signed liability waivers which were kept on file at City Hall.
- Habitat volunteers conducted salvage of the house.
- Once salvage was complete, the demolition contractor cleared the lot.

Working out the communication channels, liability waivers and general workflow between City and Habitat staff proved to be a challenge for everyone. Systems had to be developed to track what the City was donating to Habitat, who had keys for what properties, which properties had been acquired, which properties had already been salvaged, clearance of final destination sites for garages and sheds and obtaining signed liability waivers for volunteers working on City property. Microsoft Excel became everyone’s best new friend as spreadsheets were developed for all the various tracking and reporting needs. As with all new processes, they became more refined and efficient as time went by. Eventually a fairly smooth system was developed that allowed Habitat staff to assess the properties as they were acquired by the City and develop a checklist of items to be salvaged from each property. This helped to coordinate volunteers with the skills needed for salvaging each property. The checklist was also used to document what was actually removed. Everything identified as potential salvage was not always removed as time was often short between getting clearance to enter a house and the demolition contractor’s start date.

Lessons Learned

In a couple of instances, City staff realized that the seller had kept a key and gone back to the property to remove architectural items like door knockers and crystal door knobs. Without a witness to the theft, there was no recourse and no way to recover the items. Better communications with neighbors adjacent to buyout properties may have provided some additional “eyes and ears” that could have deterred some of the vandalism that occurred.

June 2014

- First support beam pocket holes cut into Egloff House foundation
- Second amendment to MOA; new deadline is Dec 31, 2014
- 26,000 RAGBRAI participants overnight in Mason City
In addition to salvaging items for the ReStore, one group of Habitat volunteers focused on scrapping the metals from the houses. The greatest challenge this group faced was retrieving the material before vandals did. With properties scattered all over town, it was impossible to provide enough security to deter all vandalism. More than once, Habitat volunteers arrived at a property expecting to recover an A/C unit or furnace only to find that it had been stolen. Several properties had copper pipes and wiring removed before Habitat could reclaim them. Even with these setbacks, Habitat was able to scrap enough metal to generate almost $10,000 to further their mission of providing affordable housing.

**Challenges**

Timing was an issue throughout the salvaging process. HMGP program rules required that a property be cleared and green-space compliant within 90 days of acquisition. Properties were acquired as occupants found replacement housing, with no regard to where the property was located. This resulted in properties being acquired from neighborhoods scattered across town. To create a more efficient demolition process, the City had requested and been granted extensions to this 90-day requirement so that properties within neighborhoods could be cleared at the same time as much as possible. Even with extensions in place, by the time asbestos abatement was bid, contracted and conducted, the City was always up against green-space compliant deadlines which resulted in a short timeframe for Habitat to conduct salvage efforts. To further complicate the salvage effort, demolition often took place during the winter when it was easiest to clear the houses without disturbing the surrounding soil. Contractors’ bids were often lower during the winter when work was less abundant. However, this meant Habitat volunteers were working to salvage houses that were without heat or electricity during a time when having both would have made the job both more pleasant and less time consuming.

**Local Media Support**

Attracting volunteers was aided by the strong support of local media. The local TV station broadcast several stories of volunteers working to salvage the houses. The local radio station could be counted on to broadcast the need for volunteers. Habitat’s executive director talked to local service groups like the Kiwanis, Lions and employer-based groups to recruit volunteers and donations. The coverage provided by the various media channels created a high level of public interest and support for Habitat’s salvage efforts. MELISSA: Any idea of the total number of volunteers involved in salvage?

**ReStore, Garages and Sheds**

As the City acquired structures, notice was sent to various department directors that had indicated an interest in repurposing some of the detached garages and sheds from these properties. Three garages were moved to supplement the City’s parks. One became a warming house for the ice rink. Another moved across the street and out of the floodplain to serve as a storage building for the youth softball complex. A third became storage at one of the smaller city parks. Two sheds were also moved to provide storage for the new Blue Zones community gardens initiative and the Community Kitchen garden.

Through the ReStore, Habitat became the clearinghouse of items salvaged from the houses plus the marketer of the undamaged detached garages and sheds that were not repurposed by the City. Staff created a “picture book” of the available structures that could be purchased through Habitat for relocation outside the floodplain. This was kept at the ReStore checkout counter, so anyone visiting the store could easily view it. In all, Habitat sold 20 garages and 11 sheds that were relocated rather than demolished.

**Habitat Search for Resources**

Once Habitat agreed to accept the salvage challenge, they quickly realized they would need additional resources starting with the necessary tools for deconstruction work and ending with storage space for the items salvaged.
Financial resources came from:

- A SWAP Grant for tools and a panel truck. The Iowa Department of Natural Resource’s Solid Waste Alternatives Program (SWAP) is a financial assistance program designed to assist in reducing the amount of solid waste sent to the landfills. Habitat’s plan to divert items from the landfill to the ReStore by salvaging from the acquired houses fit perfectly with their goal. Habitat applied and received a grant under the $20,000 threshold that would have required repayment as a forgivable loan. The timing of the application also had to be aligned with when the work would begin as the grant required reporting on the salvage tonnage diverted from the landfill as a result of the funds received.

- A Venture Grant from United Way.

- A few local community grants.

- The ReStore’s original warehouse space was gifted to the organization by one of their volunteers. It was already full and efforts began to locate additional space to store all the materials expected from the house salvage project. While this search was taking place, Habitat’s executive director learned of a large warehouse building that would likely soon be available. The building did become available and based on the increased ReStore sales due to the salvaged items, Habitat was able to acquire the building and relocate into a new space with much greater storage capacity.

**Results**

The buyout salvage work created a new deconstruction program that continues to create additional revenue to support Habitat’s goal of helping families acquire affordable housing. The deconstruction program also attracted an entirely new group of volunteers who are more comfortable with salvage work than with construction work. Habitat staff now receives regular requests from throughout the community for their deconstruction or salvage services. The increased ReStore income helped Habitat purchase their existing building and staff it with full-time paid personnel.

**Structural Move Overview**

Moving a house is a complex, potentially expensive process that may involve many different entities. Mason City developed a Structure Moving Guide as part of the MOA to provide assistance in coordinating the tremendous amount of preplanning necessary for a successful house move. City staff recommends planning on a minimum of 90 days advance work before the actual move takes place.

This timeframe could expand to 120 or 160 days depending on the size of the structure moved and the route that must be traveled. Almost always, a significant part of the house moving expense results from the many permits and accommodations that must be made as the house travels to its new destination. The best time to move a structure is often on a weekend or early in the morning to minimize traffic implications. However, these times also result in additional costs due to the overtime wages that must then be paid to utility workers and other personnel involved in the move. It’s important to include in any expense calculations the cost of preparing the new site, from foundation prep to utility connections. In Mason City, any new utilities on the site must meet current code requirements. Original utility lines (for example, plumbing and electrical) within the house can remain and do not need to be updated, unless the property owner prefers to do so. Here’s a brief overview of the moving process as developed in Mason City.

**Prior to Move Checklist**

Identify the destination site. Plans cannot be developed for moving a structure until its destination is known.

- Moved structures must be relocated outside the floodplain.

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<tr>
<th>October 2014</th>
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<th>December 2014</th>
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<tr>
<td>Egloff House prepared for separation; garage doors removed and openings boarded, front and back sections sealed along cut line</td>
<td>Egloff House garage section lifted and moved onto 7th Street NE</td>
<td>Egloff House house section moves onto 7th Street NE; ownership transfers to Community Benefit</td>
</tr>
</tbody>
</table>
• The site must be able to meet zoning requirements for setbacks, etc. when the house is placed on the new lot.

• If planning to apply for Historic Tax Credits for NRHP-eligible structures, plan to provide FEMA and the State Historic Preservation Officer 30 days to comment on the potential eligibility of the structure at the new location.

• Contact a licensed house mover.

It is critical to all phases of the move planning and for the moving permit to know the width, height (when loaded for move), length and weight (including moving rig) of the structure to be moved. A licensed house moving contractor can assist in determining these figures. The moving contractor will also want to know the available work space around the house and the type of foundation under the house.

Evaluate Move Route Feasibility

Even a one-story house may require lifting or disconnecting overhead utilities. Intersections may have traffic signals that need to be moved. Crossing railroad tracks may mean navigating through crossing signals. Power poles may be too close to the street corner. It’s important to understand that the most economical and feasible route is not necessarily the most direct route.

The only way to accurately judge a potential route is to actually drive it, noting any of the following obstacles:

• Overhead power and cable lines

In Mason City, Alliant Energy contracts with the property owner for any work related to house moves and its cost.

• Street lights and traffic control signals.

If the loaded moving rig can’t fit under or between fixtures, the property owner will need to hire a crane operator to move them – adding expense.

• Trees at the street edge and overhanging the street; especially trees on private property.

To ensure trees are trimmed appropriately, it’s important that they be trimmed IN ADVANCE of the scheduled house move date.

Cities general have authority to trim trees in the public right-of-way up to 16 feet clearance over the road and 8 feet clearance over the sidewalk. If trees are not in public right-of-way, the property owner will need to negotiate with private owners to trim trees beyond these limits and hire a licensed tree trimmer to do the work.

• Railroad crossings and signals

Move Route Comparison for Kral House

<table>
<thead>
<tr>
<th>Original Site</th>
<th>Destination Site</th>
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</thead>
<tbody>
<tr>
<td>US Hwy 65</td>
<td>IA 122</td>
</tr>
<tr>
<td>IA 122</td>
<td>US Hwy 18</td>
</tr>
</tbody>
</table>

October 2014
Egloff House original site is cleared & graded; erosion control to be applied in the spring

December 2014
Community Benefit moves MacDonald House which doesn’t require Bridge reinforcement; others to go with Egloff House

June 2015
Brose House and Patton House move using power dollies and by winching rather than reinforcing Bridge
• Bridges and overpasses

If crossing a bridge, expect one to two weeks for bridge load study results, if needed. A State licensed structural engineer will need to conduct the study. This is a property owner expense. The Engineering Department of the municipality can provide a list of qualified engineering consulting firms. If needed, this study work can be done in advance of issuing the permit once the final route is approved.

• Narrow street width

The best route will be the one with the least number of obstructions. Each encounter with any obstacle will add complexity and expense to the move. The involved entities will be able to provide cost estimates for their portion of the move, once a final route is approved.

It’s also important to realize that most lenders will not loan money for the physical move of a house. Once the house is set on the foundation, it may be possible to finance the rehabilitation work. An early discussion with your lender is critical for financing success and eliminating any potential financial surprises.

Mason City has created a Development Review Committee (DRC) to review all new development within the community. The DRC consists of representatives from zoning, building, engineering, operations and maintenance, police, fire, and the local utility companies. This group meets weekly to review development plans and also reviews initial and final house moving plans. The meeting provides a time-efficient way to inform all involved parties about a particular project, allowing them to identify potential problems and develop solutions. Mason City requires a Moving Permit and many of the required signatures can be obtained during DRC review of the final house moving plan.

Preparing for the Move

The first step in preparing a house for moving is to disconnect the utilities so the house can be separated from its foundation. Mason City requires that a city-licensed excavation contractor disconnect underground utilities before the structure is moved from the existing site. Depending on the municipality, permits are likely also required for sewer and water line disconnects. Remember to include filling and grading the original lot after the house is moved in the contract with the excavation contractor.

Similar preparations are required at the destination site. A building contractor will need to prepare a foundation for the structure on the new site. Again, depending on the municipality, this will likely require a Building Permit, zoning clearance and the possible assignment of a new address. It will also be necessary to work with the respective companies to provide utilities at the new site.

Moving a house causes major traffic disruptions making it important to notify the community so residents can plan accordingly. A press release informing the public of potential street closings or restrictions in conjunction with the house move should be sent to the local newspaper the week before the scheduled moving date. It may also be necessary to coordinate with local mass transit providers if the move route impacts a public transit route.

Tree trimming can be done prior to the move day to help clear the path to be traveled. Any tree trimming on private property requires the permission of the property owner. A city-licensed tree trimmer must perform any work on trees in the public right-of-way. Street closure

<table>
<thead>
<tr>
<th>June 2015</th>
<th>August 2015</th>
<th>August 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabrication of bridge reinforcement assembly begins in Forest City</td>
<td>N. Carolina Ave Bridge is closed for assembly installation; reopens one week after Egloff House moves</td>
<td>Egloff House move delayed by rain for three days; two sections arrive at destination site on Aug 24, 2015</td>
</tr>
</tbody>
</table>
signs are also placed in advance of the move day. Obtaining the necessary permissions and signs could involve several entities. For example, in Mason City,

- The Engineering Department grants permission to displace street parking or close city streets.
- The Operations & Maintenance Department supplies “No Parking” signs for street side placement (not the personnel to place or remove them). These signs must be placed 24 hours in advance and require a deposit when “checked out.”
- Barricade-style “Street Closed” signs can be obtained from a sign contractor or the excavation contractor, if needed.

Remember to include a backup plan for weather delays that includes a method of notifying all involved parties.

**Day of Move**

Confirm the move schedule and route with the Police and Fire Departments so dispatchers are aware of any street closures or restrictions. During the move, personnel from the local utility company and any other company with affected overhead lines will accompany the moving rig along its route to move or disconnect lines as specified in the service contract.

**After the Move**

Property owners will need to work with their excavation contractor to make sure steps are taken to clean up the original site according to local community regulations. This could include:

- Safety fencing placed around the exposed foundation until it can be backfilled.
- Community requirements for foundation wall removal. It may be possible to remove the upper part of the foundation wall and punch holes in the foundation floor to allow proper draining.

Contact the appropriate community department to inspect the remaining foundation before backfilling the foundation hole with clean fill. It will likely also be necessary to remove all concrete flatwork, like sidewalks and patios, from the property.

Expect to apply a finishing layer of black dirt and grass seed to the disturbed area to prevent erosion.

With an overview of the moving process defined, this report concludes with an examination of how the process was implemented in the relocation of two HMGP-acquired historic properties.

**Moving the Lock House**

The Lock House was one of 11 historic houses included in a Relocation Request for Proposals issued by the City of Mason City on April 14, 2013. It was the only house to receive a relocation proposal when the RFP deadline of June 28, 2013 was reached. The individual submitting the proposal wanted to downsize from the acreage on which she currently lived, adored the Lock House, intended to maintain its NRHP eligibility and had the financial resources to relocate it. The destination site was a just over three blocks from the original site.

The City executed a relocation agreement on October 1, 2013 that conveyed ownership of the house for $1 once it crossed into the public right-of-way and required it be removed from the original lot within 120 days. The relocation agreement permitted moving the house to an interim
location while the destination lot was prepared as long as the house was placed on the new lot by July 1, 2014.

In preparation for the move, the City contracted the removal of concrete from around the foundation and City workers removed a large dying tree obstructing the move path. The project was delayed by weather and by the Iowa IDNR’s reluctance to approve an alternate asbestos abatement plan based on relocation rather than demolition. In addition, the buyer had encountered an unexpected complication in moving the house. The house mover had determined that the garage would need to be removed from the house in order to travel to the destination site. With the garage attached, it would be too wide to clear obstructions on the final corner to the destination site. Removing the garage also meant removing the buyer’s favorite room on the upper level. Not removing the garage increased the move expenses considerably to accommodate the extra work required to excavate under the garage foundation and potentially made the house unmovable due to its width.

By the end of May 2013 City staff was concerned about the lack of progress being made on the work necessary to move the house, that the buyer had not yet requested a moving permit (which typically take 90 days to approve) and the buyer’s lack of response to emails and phone calls asking for a project update. It was becoming apparent that the house would not be relocated by July 1, 2014 which meant the site would not be open-space compliant by the FEMA-imposed deadline of July 19, 2014. After several emails with Iowa Homeland Security staff, it also became apparent that extending this deadline was not an option. FEMA had become extremely reluctant to issue these extensions and would only consider doing so in extraordinary circumstances. The State recommended that the City terminate the relocation agreement based on lack of progress and proceed with demolition so the lot would be open-space compliant by the July 19 deadline.

On May 28, 2014, the City mailed a certified letter to the buyer terminating the relocation agreement. In anticipation of the move, underground utilities had been disconnected and asbestos abatement bid the previous fall with alternate bids for relocation and demolition level abatement. With the termination of the relocation agreement, City staff contacted the abatement contractor who was able to abate the house quickly enough to allow sufficient time to demolish the house by the July 19 deadline. Prior to demolition, City staff recovered several historic elements from the house including a corrugated glass shower enclosure and two light fixtures from the living room. It’s expected these light fixtures will find a new home in the Egloff House. On July 14, 2014, the lot that once housed the Safford Lock House was cleared and Mason City sadly lost a locally-significant historic house.

Moving the Egloff House

Project Deadlines
Timing was the initial challenge as Community Benefit and the City began negotiating the Egloff House relocation agreement in mid July 2013. The MOA had already been extended 12 months and the existing deadline for clearing the lot was July 2014.
Conversations by Community Benefit with the house mover revealed the mover’s schedule would not permit work to start on the Egloff House until November 2013 with the move anticipated in March 2014. Several MOA mitigation measures plus lot clearing work would remain to be completed once the house was removed from the lot. City staff was concerned that the anticipated schedule did not provide adequate time to complete the remaining work by the July 2014 deadline. Community Benefit was reluctant to sign a relocation agreement with the City until the December 31, 2013 deadline set in the relocation RFP was extended and FEMA staff felt it was premature to ask for an extension so far in advance of the deadline. In August 2013 the City sent a letter to Community Benefit outlining the rationale and repercussions of not meeting the existing deadlines in an effort to spur the movers to act more quickly. The relocation agreement between the City and Community Benefit was eventually executed on October 1, 2013 with the December 2013 deadline still in place and the option of one 30-day extension. The agreement conveyed ownership of the building to Community Benefit when it crossed into the public right-of-way. While it remained on the lot, the City granted consent for Community Benefit, the house mover and subcontractors to access the property to evaluate the structures for relocation and to prepare them for the move. This allowed the City to retain ownership in the event the house was not moved and demolition became necessary. The house mover expected to begin work on November 11, 2013 although Community Benefit had not yet signed a contract with them. This contract would not be executed until February 2014 due to issues arising over crossing the historic Carolina Avenue Bridge.

Destination Site and Route Planning
The original Egloff House site consisted of six lots – three wide and two deep – with the house itself occupying two lots. Community Benefit planned to relocate the house onto two adjacent lots in the 300 block of East State Street. Community Benefit had purchased one of the lots in May 2013 at Sheriff’s sale and demolished the existing house to begin efforts at revitalizing the blighted block. In early November 2013 they concluded negotiations with the owner of the adjacent lot who delivered the land cleared of the existing structures and the destination site for the Egloff House was established. The preferred route for reaching the new site involved crossing the historic Carolina Avenue Bridge which became an issue in November 2013.

The *Egloff House Move Feasibility Study* did not address the issue of crossing the 100-year old Carolina Avenue Bridge that carries major water and sewer lines within its structure. The consultants considered several potential destination sites and most of them did not involve crossing this bridge. However, with the destination site determined, crossing the bridge was the first issue the movers needed to address. The initial loading information provided to the City Engineer was forwarded to the engineering firm that conducts the City’s bridge inspections. Their conclusion was that “based
on the truck information (loads, axle spacing, etc) … our immediate recommendation is that the N. Carolina Bridge is too old to withstand it. A different route is preferred.” Community Benefit had considered several options before choosing the route crossing the bridge. The other most likely route involved avoiding railroad underpasses, moving the house sections through residential areas with heavy tree canopies and tight corners. It was estimated any alternate route to bypass the Carolina Bridge would increase the move costs up to 40% which was beyond Community Benefit’s budget for the project. After determining there was no viable alternate route, the City contracted with the same engineering firm to do a detailed analysis of the bridge. City staff felt this firm was in the best position to perform this analysis as they were the City’s bridge consultant and had conducted all recent inspections of the bridge. In addition, they provided design work when the bridge was rehabilitated in 2001.

The City’s engineering consultant concluded that the larger house section and its moving rig would exceed the load capacity of the bridge. Based on this, the City Engineer requested the mover prepare a revised loading plan to redistribute the load of the house on longer beams. The movers were able to accomplish this by using 92 foot beams. However, the bridge terminates at the south with a sharp incline. The long beams necessary to distribute the weight sufficiently to cross the bridge would not allow the load to clear the incline. Undeterred, the mover’s engineer developed a plan to utilize a temporary reinforcing assembly on top of the Carolina Bridge that would transfer some of the load to the underlying bedrock and ease the incline. In mid-January 2014 the City Engineer approved, with some conditions, the bridge-over-the-bridge plan. With this issue resolved, Community Benefit was satisfied the house could actually be moved. In February 2014 they executed a contract to move the Egloff House with Atlas Enterprises of Forest City, Iowa.

In May 2014, with the December 2013 deadline passed and the July 2014 deadline looming, the City again approached FEMA for an extension to both the MOA and open-space compliant deadlines which were still set for July 2014. Based on the progress that had been made and the delays encountered due to the bridge issues, FEMA agreed to extend the MOA to December 31, 2014. The open-space compliant deadline was still set for July. City staff had been told by Iowa Homeland Security staff that FEMA would most likely wait until the lot was cleared and then extend the open-space compliant deadline retroactively to that date.

To add another wrinkle to the project, Mason City was preparing to host over 20,000 bike riders and support personnel on July 23, 2014 as an overnight stop for the annual Register’s Annual Great Bike Ride Across Iowa (RAGBRAI) event. Since there would be people camping across the river in East Park and across the street on cleared buyout land, Community Benefit and City staff agreed that the house should remain on its foundation until after RAGBRAI riders left town. The house would then be lifted and moved into the street. Once the house was in the street, the City’s demolition contractor could complete the final work necessary to make the lot open-space compliant. RAGBRAI came and went without incident to the house, but it did not move off the lot until October.

Destination Site Preparation

Expecting that the issue of the bridge reinforcement assembly would be resolved, Community Benefit had moved forward by working with an architect to design the foundation of the house, considered plans to repair the seam where the house would be split, the interior layout of the new basement level plus preparation work at the new site. In May 2014 foundation excavation began at the destination site and almost immediately ran into trouble when the contractor encountered shallow limestone. Instead of digging a hole in the dirt, he now had to chisel through three feet of rock. The contractors installing the new utility lines ran into the same issue. The project had hit another snag that caused a three week delay in excavating the foundations.
Preparing the House to Move

While the destination site was being prepared, months of coordinated work among several entities preceded the Egloff House move. Community Benefit, using mostly volunteers, completed the following preparation steps:

- Removing HVAC equipment and other obstructions from the basement as well as rerouting roof drains to facilitate severing the House from its foundation.
- Removing interior finishes to expose the cut location inside the House.
- Cataloging the interior trim removed after the flood by the previous owners and completing a plan of reinstallation.
- The asbestos abatement contractor was responsible for capping the vertical ducting in the House to prevent release of asbestos from the severed duct wrap during the move. These duct lines would also need to be uncapped once the House was moved so they could be reconnected.

The moving company and its subcontractors completed the following steps to sever the house from its foundation and then cut it into two sections:

- Excavating around the foundation to allow holes to be cut in it for the placement of moving support beams.
- Severing the House from its foundation and the front garage section from the back main section of the House. The masonry saws used to cut through the foundation wall and house required water. This resulted in a muddy moat around the front section of the House that required workers to wear waders in order to finish cutting the House from its foundation.

Once severed from its foundation, frequent rains resulted in delays as the moving crew waited for the ground to firm up enough to install the cribbing required to lift the front garage section of the House.

- Rolling the garage section forward to provide the space needed to finish severing the house section from the interior walls of the foundation.
- Reinforcing the openings and sealing the two halves of the House from weather while waiting for the move to the destination site.

Moving Day Dress Rehearsals

Not many, if any, house moves have the benefit of a dress rehearsal. As it turned out, the Egloff House move had two. As mentioned earlier, Community Benefit had purchased three CDBG historic houses, planning to move them at the same time as the Egloff House sections to rehabilitate most of the destination site block. During the first meeting with the DRC in June 2014, the utility company representative had serious concerns about power outages along the move route. The route went past a high-rise senior housing building and an assisted care facility. The residents in both of these buildings could not go long without power. Disrupting power to 27 Representatives from utility companies, Community Benefit, and Holland Companies consider challenges of crossing historic North Carolina Bridge
1) Marking foundation cut line  
2) Cutting pockets in foundation for support beams  
3) Cutting south wall using installed guide rail  
4) Making room for support beams  
5) Vertical cut to separate garage and house sections  
6, 7, 8) Raising garage section to allow placement of beams to roll section forward  
9) Garage section pulled away from house section  
10) Many weeks later, jacks in place ready to lift house section  
11) House section in front of foundation and basement  
12) House and garage sections on 7th Street NE; foundation removed and lot cleared
the buildings for the time required for one house to move past them was potentially tolerable, but the time necessary to move five trucks pulling three houses and the two Egloff House sections past them would create too lengthy of a service disruption. There were also the issues of high voltage lines, width between the poles on the bridge and fiber optic lines carried on the poles.

To determine resolution for these issues, the movers met with representatives from the local utility and cable companies on the bridge at the end of June 2014. This group walked the entire route noting which lines could likely be lifted, which would need to be taken down, various alternatives for dealing with the high voltage lines and options for maintaining service to the senior and assisted care buildings. These options included placing a generator to provide backup power while the lines were disconnected or possibly adding another service line to reroute power to the buildings that would remain in place as future backup capacity. To minimize the downtime for these critical buildings and other residents along the route, the original plan was to move all the houses across the Carolina Bridge and then stage them overnight on 4th Street NE ready to pass these service-critical buildings as a compact group the next day.

Due to the delay in designing a solution to cross the Carolina Avenue Bridge, the houses were eventually moved at three separate times, resulting in two rehearsals for the Egloff House move. The MacDonald House moved first in December 2014 as it was not heavy enough to require reinforcement of the bridge. Several trees in the right-of-way along the move route had to be trimmed back to allow passage of the two-story structure but the power lines serving the senior high-rise building were able to be lifted rather than disconnected. The MacDonald House moved from its staging location on 7th Street NE to its new site in a single day stopping for additional tree trimming along the way. The plan then became to move the Patton House and Brose House with the Egloff House in the spring.

Further delays in finalizing the design of the bridge support assembly and refinements in the rigging to move the houses resulted in Community Benefit deciding to move the Patton and Brose Houses together in May 2015. To accommodate the house weights without reinforcing the bridge, the Brose House was moved using remote controlled dollies, thus eliminating the weight of the truck pulling it across the bridge. The same accommodation was achieved for the Patton House by driving the truck across the bridge and then winching the house across.

While the powered dollies eliminated the need for a truck to pull the moving rig, they did not provide the same level of maneuverability as pulling the rig with a truck. The Patton House made it around the corner onto 4th Street NE without any trouble, but the Brose House went wide around the corner and settled into the gutter. The moving crew determined the only way to get the house around the corner was to remove the front set of dollies and reconnect the truck to pull it. This took several hours to accomplish. Since the power lines had been disconnected along 4th Street when the Patton House moved through, residents on the block were without power for most of the day instead of the anticipated two to three hours.

The Patton and Brose Houses were staged on 4th Street NE overnight and finished the move to their destination sites on East State

1) Oulman with power dolly remote control 2) Power dollies in rear alone not enough for Brose House to make corner from N Carolina to 4th St NE 3) Power dollies assist with positioning Brose House next to its new foundation
Street the next day. The height of the Patton House required power to be disconnected to the senior high rise building. This resulted in the houses sitting at the next corner until Alliant Energy crews reconnected the power to the building. Once that was done, the crews could continue to drop lines in advance of the houses moving along the remaining route. The houses arrived at their destination sites at mid-day on the second day of the move. They were staged on the lots and off the street until they could be placed on their waiting foundations. This left the house and garage sections of the Egloff House as the only remaining structures that required reinforcement of the bridge before they could be moved.

**Crossing a 100-year old Bridge**

Although the initial plan to divert the weight of the houses off the bridge by installing a temporary reinforcement assembly was conditionally approved in January 2014, the final bridge assembly design was not approved by the City engineer until August 14, 2015. The City’s bridge consultant had proposed an assembly structure design that could not be fabricated within the project deadlines or within the project budget. The mover’s engineer modified their proposed design to reduce the cost and the amount of time needed to construct the assembly while maintaining the integrity of the design. Holland Companies began fabrication of the reinforcing assembly on June 15, 2015 and it was completed on July 31, 2015. The assembly was constructed in four sections and trucked to the Carolina Bridge for final installation. On August 5, the Carolina Bridge was closed as installation of the assembly began. By August 14, the assembly was installed and the Bridge was ready for the Egloff House move. The assembly diverted its weight and any weight on it to the supporting piers of the bridge by spanning the bridge with steel sections supported by bolsters placed directly over the support piers of the bridge. This removed all possibility of compaction of the bridge’s internal systems by eliminating nearly all stress from the bridge surface. Sections of the assembly were lowered into place onto the support bolsters using a custom-designed hydraulic jack. Wooden decking on the surface of the assembly and wooden transition mats from the street to the raised surface of the assembly completed the installation.

Bridge Assembly Fabrication Crew

left to right: Josh Bruns, Ted Pappas, Adam Bartelson, Randy Solaa, Chris Holland, Elton Sheets, Tracy Hoeft, Paul Oulman, and Mitch Tuttle on the last bridge assembly section ready for transfer to Mason City.
1) Engineer Sheets with longitudinal beam stock  
2) Prepping for lateral beam plate installation  
3) Assembly lateral beams  
4) Supports in place; filings from hole drilling  
5) First two sections complete in Holland yard  
6) Placing center support bolster on bridge  
7) Custom designed/fabricated hydraulic jack for aligning assembly sections onto center support bolster  
8) Ball on assembly center must fit into socket on bolster  
9) Second assembly section arrives  
10) Assembly end before transitions  
11) Four sections in place  
12) Transition on north side of assembly
Early Morning Sun Shines on House Moving Crew
left to right: Ricky Folkerts, Art Schulz, Adam Bartelson, Ted Pappas, Chris Holland, Mike Werner, Paul Oulman, Matt Price, Mitch Tuttle, Elton Sheets, Josh Bruns, Tracy Hoft (not pictured, Randy Solsaa)

1) Ready to depart 7th St NE  
2) Unable to take corner tight enough, end up on soft, wet ground  
3) Crew jacks up house to turn dolly wheels aligned on assembly mats  
4) Truck pulls house back onto Carolina Ave wheels aligned on assembly mats  
5) Crossing center bolster  
6) Inching across the Carolina Bridge  
7) Off assembly on south end of bridge transition mats  
8) Garage section makes it onto bridge  
9) House and garage section ready to finish move on following Monday
Moving Day

Even though the utility crews and moving crew were now familiar with the move route, moving the Egloff House sections still had its challenges. The move was originally scheduled for August 17, 2015. Heavy rain the night before created slippery surfaces on all the wood components of the bridge assembly and delayed the move for three days until the rain stopped and the surfaces were dry enough to be safe for use. The Egloff House finally began to move on Thursday, August 20. At the end of Day 1, the house section had left its staging site on 7th Street NE and crossed the Carolina Bridge using power dollies. The garage section followed, but was still on the north side of the Bridge at the end of the day. On Day 2, the movers staged the garage section on the center of the Carolina Bridge so it would be ready to roll off the bridge and up the hill right behind the house section on Monday morning.

Moving resumed the following Monday morning with the larger and wider house section requiring all the extra effort. Trees along the route had already been trimmed when the other three houses were moved, however, the width of the house section required additional trimming of a few more. Since the house section was nearly as wide as the city streets, this made getting around corners especially challenging. Power poles were removed on two corners to allow the house section to travel over the curb as it came around the corners. Height was also an issue. Power to the senior high-rise building had to be diverted to a temporary generator so the line running across the street could be dropped to allow the house to pass. Having been through this process with the Pattton House, Alliant crews were much more efficient at disconnecting and restoring the power so the Egloff House sections could continue on their way. The garage section of the House was small enough that it crossed the Carolina Bridge and traveled the streets with no trouble. At the end of Day 3 the house section was in the right-of-way at the destination site. The garage section was staged on East State Street for almost two weeks as the moving crew worked to position the house section over the foundation footings. On September 3, the house section was rolled halfway over the foundation hole and on September 10 it was pulled the remaining distance to its final placement over its yet to
Structure Stats

MacDonald House: 30 feet high, 56 tons
Patton House: 36 feet high, 95 tons
Brose House: 30 feet high, 122 tons
Egloff House Section: 32 feet high, 280 tons
Egloff Garage Section: 26 feet high, 140 tons
Bridge Assembly: 130 feet long, 30 feet wide, 115 tons

(house weights include dollies and steel support beams; assembly weight does not include wood transition ramps)

1) Egloff house section turns onto 4th St NE
2) Threading through the trees
3) Egloff garage section finishes crossing Carolina Bridge
4) Once across bridge, dollies removed
8) Two sections come together on 4th St NE
9) “Scooter Brigade” followed all moves
10, 11) Power pole removed so house section can make corner
12) Final stretch down Georgia Ave
14) House section off the street and next to foundation hole
be constructed foundation. The following day, the garage section moved off E State Street where it had been staged to allow room to install the beams necessary to roll the house and onto the right-of-way where the house section had been sitting. This reopened the 300 block of E State Street to traffic and removed the last obstruction caused by the move. It took several more weeks to position the garage section over the foundation hole. Atlas crews had used their entire available inventory of cribbing to place the house section. They had to go set a couple of other houses onto their foundations so they could reclaim the cribbing they were sitting on to finish the Egloff House project.

Holland crews began dismantling the bridge assembly the day after the house sections moved across it. The final sections were removed during a day of steady rain and the Carolina Bridge reopened on Friday, August 28 – just over three weeks after it had been closed to install the assembly.

Communications Plan
To help inform residents along the move route, City staff and Community Benefit developed a communications plan. This plan included a general informational letter distributed in October 2014 outlining expected property access limitations. This was followed by a letter one week prior to each of the three moves alerting impacted residents to the actual days of the move, the closing of the Carolina Bridge and expected power outages. This information was also posted on the City’s website and shared with the City Transit Department so alternate routes could be planned and riders notified. Community Benefit issued press releases to alert the general

Lessons Learned
Community Benefit had expected to move four houses for nearly the cost of moving one. As it turned out, they tripled their expected expenses instead. All the houses were moved and a blighted block will hopefully be improved with the addition of the owner-occupied housing but it’s likely funds will need to be raised to rehabilitate the reunited Egloff House.
1) Egloff house section awaits installation of cribbing   3,4) Lots of cribbing   5) Beams upon which house will roll are installed   6) House section winched into place   7) Garage section comes off street   8) Foundation installation begins   9) Garage section ready   10) Hydraulic jack pushes garage section into place 2 feet at a time   11) Jack must be repositioned on beam after each push   12) Coming together   13) Keeping rollers straight on the beam   14) Almost there
public about possible traffic disruptions and these were picked up by the Globe Gazette and local TV station. In addition, Community Benefit negotiated discounts with several local businesses for residents affected by the move. These discount offers were included in the notification letters mailed to all residents along the move route. Those residents impacted by staging the houses in front of their driveways overnight received additional discount coupons at the time of the Egloff House move.

**What’s Next**

Community Benefit plans to sell the three historic CDBG houses on the open market to owner occupants. With funds exhausted due to the unanticipated moving costs, Community Benefit is hoping to sell the houses “as is” rather than rehabilitating them as originally planned.

Current plans call for the Egloff House to be converted into an extended stay facility for visiting architectural students, medical personnel or other professionals. A caretaker apartment is planned in the new basement level of the relocated structure.

Although the final chapter is not entirely written, it’s certain that moving these structures has secured their place as part of the architectural heritage of Mason City.
Rehabilitated 300 block of East State Street

Egloff House
312 E State Street

Patton House
324 E State Street

Brose House
330 E State Street

MacDonald House
16 N Connecticut Ave