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MOVING HISTORIC BUILDINGS: A STUDY OF WHAT MAKES GOOD PRESERVATION PRACTICES WHEN DEALING WITH HISTORICALLY SIGNIFICANT BUILDINGS AND STRUCTURES

A Thesis
Presented to
the Graduate Schools of
Clemson University and The College of Charleston

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
Historic Preservation

by
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ABSTRACT

When relocating in order to preserve an historic property, there must be certain protocols in place to ensure that the historic significance is retained. Historic preservationists are not only attempting to successfully relocate a building but also to follow good preservation ethics in order to respect the current and potential site as well as the structure itself. In addition to examining how historic structures have been moved in the past and the guidelines that the National Register has developed regarding the process by which historic structures should be relocated, two case studies will also be examined. The first is Cape Hatteras Lighthouse and its keepers’ dwellings relocated by the National Park Service, and the second is the relocation of four late eighteenth and early nineteenth century houses in Charleston, South Carolina by the Historic Charleston Foundation. Each relocation is unique in character and sometimes in method; however, there are ethical and unethical practices when relocating for the sake of preservation. Based on the two case studies in addition to traditional relocation methods and practices, recommendations are offered for standards of ethical practices for relocating historic buildings for preservation purposes.
DEDICATION

I would like to dedicate this thesis to those who helped, encouraged and reassured me as I pursued this lengthy endeavor.
ACKNOWLEDGMENTS

I would like to acknowledge the hard work and dedication of my thesis advisor, Jennifer McStotts. Throughout the months of preparation, research and the writing of this paper she was a constant source of help and support. Thank you for your time, your respect, and most importantly, your encouragement.

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INTRODUCTION

One of the most complicated aspects of preservation is the incorporation of historic buildings into changing environments. Unfortunately, the surrounding area may not be suited for the historic building. When the original setting for a structure is no longer a viable location, the last resort to preserve a building or structure is to relocate it to a more suitable location. The need for structure relocation can be the result of a variety of pressures, including natural environment or urban development encroaching on our historic buildings and structures. However, relocation is not simply the movement of a building or structure. The physical strain on the building materials and the possible damage the relocation can cause to a historic structure as a whole and with regard to ornamental detailing, are the most significant factors when determining the reason and practicality of relocating a building. Another consideration to take into account when a building is relocated is the character of the new site both in context and proximity. Part of the significance of a historic building is its location. The aesthetic tone must be replicated at the new site, or at least made comparable, to the original historic location, though any value unique to the location itself will be lost.

These dangers of building relocation and the emphasis on context are cause for debate among preservationists in every case when a historic structure may be relocated. The act of relocating a building is so hotly debated that even the subject is objectionable to some preservationists. The possibility of damaging one aspect of the structure’s significance can cause the abandonment of the project and the result could be demolition, demolition by neglect, or natural deterioration. If the structure is of great importance,
and at least one aspect of its significance will be lost if it remains, should it not be saved at the cost of a different aspect of its significance, if the latter is determined to be a lower priority? Would we not today celebrate and study the technological and social feat of a building that was relocated in the eighteenth century as a remarkable accomplishment? By studying examples of relocation, preservationists, as well as the public, can appreciate the practice as a valid act of preservation when it is the last resort. Preservationists should examine the potential of a relocation as the chance to save a building in danger of becoming lost. In the case of an endangered species, it is always advisable to protect the surviving population even if it means moving them to a different but comparable habitat or environment in order for their numbers to grow. Historic buildings cannot be reproduced; therefore, preservationists must exhaust all avenues to save them, even if it means moving endangered buildings to comparable settings within safer environments.

The first section of this thesis will contain a description of methods and processes used to relocate historic houses. In addition, a summary of the National Register’s regulations on moving historic structures that are already on the National Register will be examined. The final component in this section will contain a brief theoretical view of how historic structures are categorized within the preservation field.

In order to understand the positive aspects of historic building relocation, one of the primary case studies will be the Cape Hatteras Lighthouse, located in North Carolina as well as its principal keepers’ quarters. The relocation was necessitated by the landward shift of the coastline due to coastal erosion. It is important to examine and respect the movement of structures and buildings that are in danger of becoming extinct.
as the world changes, but preservationists provide a way to peel back those layers of change. Unfortunately, one of the layers of change is the shift in the Earth itself. If the choice to move or not move a building is the difference between the risks to the building incumbent in relocation or the extinction of the structure, preservationists need to become comfortable with the risk involved. Whenever a building’s survival is at odds with unfavorable shifts in the environment, preservationists should have guidelines that address natural dangers to historic buildings. In some cases, we do not have thirty years to argue and hypothesize about the risks of methods to move a building, which was the situation of the relocation of the Hatteras Lighthouse.

The second major case study will examine the relocation of three houses from the Middlesex neighborhood to the Ansonborough neighborhood in Charleston, South Carolina by Historic Charleston Foundation. Beginning in 1953, Historic Charleston Foundation began a revolving fund program that invested money the neighborhood of Ansonborough in order to save the integrity of its historic architecture. The funds would be used to purchase properties, restore or rehabilitate the structures to a limited degree, and then sell them to families who would continue the work begun by the foundation. The money gained in the sale of the property would then be reinvested into another property for restoration or rehabilitation.

During the mid 1960s, the city of Charleston decided to build a large municipal auditorium in Middlesex, an adjacent neighborhood to Ansonborough. In an effort to save some of the buildings from being torn down for this Urban Renewal project, Historic Charleston Foundation purchased three properties, moved them to the
Ansonborough area, and began to restore them with their revolving fund. Based on the reasons why Historic Charleston Foundation moved the houses, how and with what care, the Ansonborough relocation effort provides a wonderful example of how cities and preservationists must and need to work together in order to achieve the goals desired by both parties in the face of urban growth pressures.

The study of preservation through relocation is a convoluted and dangerous path. Some parties will look for ways to only get what they want – such as land cleared of the burden of an historic structure – with no regard to the overall good of the building. More than likely there are other methods of intervention available to avoid relocating a structure, but when those avenues are exhausted or unavailable, high-quality and beneficial moves are possible. Preservationists need to acknowledge that if the ultimate goal is to save a building, sometimes doing it right in the worst of circumstances means doing what is not desired in the best of circumstances.

The selection of these two case studies is to best study and examine situations in which a historic structure needs to be relocated. The first case study is one in which the structure cannot withstand the natural environment, and the demolition of the structure will be achieved by nature. In contrast, the second case study was inspired by the encroachment of man onto desirable land in downtown Charleston. In both instances, relocation was the best solution for the resource, in part because of modern technology and techniques available and in part because of the short distance required in both relocations. If certain modern technological abilities had not been available when the lighthouse needed to be relocated, such as the advanced hydraulic lifting system used to
lift the lighthouse from its foundation, then it should not have been relocated. Similarly, if the Charleston houses had needed to be relocated off the peninsula, or even further then the few blocks they were moved, the relocation might have been too detrimental to the structures and thus not a reasonable solution for their preservation.

The difference between moving an old house to save it and relocating a historically significant house in order to preserve it, is the application of ethics. Currently, there are no standards of ethics when relocating a historic building. This thesis is to examine situations where there is no other way to preserve the structures but to move them, and what should and should not have happened, on an ethical level, to better the chances of other historic buildings, needing to be relocated, a chance to retain as much historic fabric as possible.
GENERAL RELOCATION METHODS

In order to understand how preservationists move buildings today a short study of the history of relocation needs to be addressed. This case study will also show how buildings were relocated prior to current technological methods. The following section will explain the current methods used today to relocate structures; however, when relocating a historically significant house, there are different methods involved than when one is simply relocating any structure. In the case of relocating a structure already identified as historically significant, there must be a specifically followed protocol in order for the structure to remain identified as such. The methods for relocating a house while trying to retain its historic importance, will be examined. Finally, there are ethical reasons why historically significant buildings are not relocated. There are arguments for and against the relocation of historic buildings however, often they are of a specific variety and few sources are devoted to the general issue. This includes how relocated structures are scrutinized when assessing their historic integrity.

History

Moving a building is not a twentieth-century practice ushered in by the flat bed truck. Throughout history, buildings have been moved for many reasons, including environmental, personal, and financial, to name a few. In the United States, evidence of building relocation dates to the early 1800s. According to Frances Trollope’s Domestic Manners of the Americans, written in 1832, “One of the sights to stare at in America is that of a house being moved from place to place…. The largest house that I saw in motion was one containing two stories of four rooms each; forty oxen were yoked to it.
The first few yards brought down the two stacks of chimneys, but afterwards all went well.”¹ An example worth exploring in greater detail is that of the Brighton Beach Hotel, Coney Island, Brooklyn, New York that was moved due to coastal erosion in 1888. These historic events provide background to the relocation phenomenon. Although the structure was not moved for historic preservation purposes, it was moved to allow for continued use, whether as a traditional type of recycling or a deeper tie to the structure. This idea of keeping what exists, rather than tearing it down, allows us to preserve what has already survived. The following example shows that the relocation of buildings is not always synonymous with preserving some aspect of history.

The relocation of the Brighton Beach Hotel is an interesting event both technologically and socially (See Figure 1). The Brighton Beach Hotel is located on Coney Island, in Brooklyn, New York. Coney Island is considered one of first modern amusement parks. Beginning in 1829 as a beach destination, the area grew into a popular vacation spot with hotels and amusement parks by the 1900s.² The Brighton Beach Hotel was constructed in 1868.³ The hotel is a wooden frame structure, measuring four hundred fifty feet by one hundred fifty feet and is three stories high.⁴ The building also

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⁴ Snow and “Moving the Brighton Beach Hotel” Scientific American LVIII. no. 15 (April 14, 1888): 230. In “Moving the Brighton Beach Hotel” the building is measures four hundred sixty feet long and one hundred fifty feet wide.
contains five towers that “rise from the roof.”  It was larger than the other two surrounding hotels and catered to the middle class.

Due to coastal erosion, the hotel needed to be relocated in the 1880s or it would soon have been under water. It was theorized in 1888 that the construction of “protecting bulkheads on the neighboring property had the effect of creating a scouring action on the part of the waves and currents.” As a result, the water had advanced underneath the hotel, which was supported by pilings.

The Brooklyn and Brighton Beach Rail Road Company owned the hotel. They enlisted the help of the house moving company B.C. Miller & Son, of Brooklyn. The goal of the owners was to move the building intact because if the building were to be moved in pieces, it would cost more. The owners knew this due to their previous experience relocating a smaller dependency building that had been moved in three sections “several times as the waters advanced.” The contract to move the entire hotel was signed on December 5, 1887 and the agreed upon amount for the relocation was twelve thousand dollars. The method of relocation was to rest the “a number of freight cars, resting on parallel tracts and to draw it where wanted by locomotives.”

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5 “Moving the Brighton Beach Hotel.”
6 Snow, 964.
7 “Moving the Brighton Beach Hotel.”
8 Ibid.
10 Ibid.
11 “Moving the Brighton Beach Hotel.”
12 “Successful Moving of the Great Hotel.”
13 “Moving the Brighton Beach Hotel.”
building “rested upon a series of short posts which, in their turn, were supported by piling.”

The first operation was to lay a series of parallel tracks from underneath the building. Longitudinal planks two inches in thickness were placed in the lines where the rails were to run. Upon these the cross ties, or sleepers, were placed, and sand was eventually rammed under the planks and sleepers alike. This gave the sleepers a double support, directly from the earth and also from the stringer planks. The rails were of the ordinary type, weighing fifty-six and sixty pounds to the yard. Twenty-four lines of track were laid, and were carried under the building and out from it about three hundred feet land ward. To lay track for moving the building its own depth, a mile and a half of rails were required. Ten thousand ties were used.

On April 8, 1888 the building was moved from the seashore five hundred ninety-five feet. It is estimated that the weight of the building was about six thousand tons. In order to move the building, one hundred and twelve platform cars were used. In order to get the building onto the platform cars, it was jacked-up using thirteen hydraulic jacks of various weight limits in twenty-foot sections. Once the hotel was lifted, the cars were rolled under the hotel. The cars were connected using twelve by fourteen yellow pine timbers. Six locomotives were used to tow the hotel inland. The locomotives were placed on two tracks and “six ropes leading from the falls were attached to the coupling at the rear of each set of engines.” The building was pulled in three stages,

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14 Ibid.
15 Ibid.
16 “Successful Moving of the Great Hotel” and In “Moving the Brighton Beach Hotel” it is stated that the building moved five hundred ninety-five feet.
17 “Successful Moving of the Great Hotel.”
18 “Moving the Brighton Beach Hotel.”
19 Ibid.
20 Ibid.
21 Ibid.
22 Ibid.
two on the first day and a final pull on April 9, 1888.\textsuperscript{23} The building was only pulled as far as the tracks had been placed because the foundation of the building had not yet been laid. On June 29, 1888 the hotel rested on its new foundations.\textsuperscript{24} Unfortunately, the hotel “is thought to have been demolished in 1924.”\textsuperscript{25}

Although the relocation of the Briton Beach Hotel is not the relocation of a historic building – the hotel was only twenty years old at the time – it is the relocation of a building using technology rather than man- and animal power. It is a testament to how people felt about the reuse of their buildings even with the absent added weight of history. While it is unclear exactly why the owners wanted to move their structure instead of building a new one, it does show how buildings were moved using early technology.

\textbf{Methods}

The decision to relocate a historic building is based on many factors. Whether the reason for relocation is due to a change in the natural environment or in the built environment, there are specific ethical rules to follow when relocating a historically significant house from or to a historic district. The first step in the relocation of any house, but specifically historic houses, is hiring the right structural mover.\textsuperscript{26} It is important when moving a historic house to hire a structural mover that is familiar with

\begin{flushright}
\textsuperscript{23} McGlashan, 11. \\
\textsuperscript{24} Ibid. \\
\textsuperscript{25} Ibid. The hesitant wording of the sentence is probably due to the uncertainty of the author (or his source) about the precise date on which the hotel was actually demolished. However, it is known that the hotel no longer exists. \\
\textsuperscript{26} Peter Paravalos, \textit{Moving a House with Preservation in Mind} (Lanham: AltaMira Press, 2006), 21. According to Paravalos when searching for a reputable structural mover the best place to start is the International Association of Structural Movers website. His book also offers a twelve point check list of attributes or questions to ask of potential structural movers found on pages 22-24. 
\end{flushright}
the relocation of historic buildings of the type involved, especially within the area where
the building will be moved. The National Trust for Historic Preservation encourages
looking for contractors in the International Association of Structural Movers (IASM). IASM’s
website helps individuals locate structural movers by state. This is important
because a local mover will help in knowing the permit requirements, as well as being
familiar with town officials and other local ties in order to facilitate the move. The
National Trust for Historic Preservation states: “since a SHPO should be contacted prior
to moving a site registered on the National Register of Historic Places, they will know
which companies have been used in the past to move historic structures.”

A structural mover familiar with the area will also know what permits need to be
granted in order for the relocation to reach completion. Also, according to Peter
Paravalos, author of Moving a House with Preservation in Mind, the choice of a mover
also depends on the “time line, type of move, and type of house.” Time line means the
period in which the house needs to be moved. The type of move means if the relocation
will be total disassembly, partial disassembly or if the structure will be moved as one
unit. The type of house means the type of construction material of which the structure

27 Ibid., 21.
28 National Trust For Historic Preservation, “Help from the National Trust Resource Center Information
29 Paravalos, 22.
30 National Trust For Historic Preservation, “Help from the National Trust Resource Center Information
Sheet # 6.”
31 Paravalos, 22.
32 Ibid., 22.
33 Ibid.
34 Ibid.
is comprised.\textsuperscript{35} Paravalos also suggests some guidelines for individuals during the contract phase after a structural mover has been chosen. The contract “must outline contractor and owner responsibilities.”\textsuperscript{36} It should also address issues such as “weather delays, damage, and even rental fees.”\textsuperscript{37} These events may occur and there should be a predetermined course of action should these events take place. According to John Obed Curtis, author of \textit{Moving Historic Buildings}, in some instances, two moving firms may need to be contracted “if one does not have sufficient equipment for the job.”\textsuperscript{38}

Adequate insurance coverage is imperative when considering a structural mover. Currently, Paravalos advises that the structural mover should at a minimum “carry worker’s compensation and liability insurance of $2,000,000.”\textsuperscript{39} This along with having good standing, providing reliable references, as well as being knowledgeable and having the right tools for the move are important aspects in selecting a mover. Some structural movers only move structures within the structure’s lot because it does not require the contractor to implement the full extent of the permitting process (and the process ends more quickly, allowing the mover to move more houses in less time).\textsuperscript{40}

The next step in relocating a historic structure is to complete an interior and exterior conditions assessment of the structure.\textsuperscript{41} According to Paravalos, usually the structural mover and possibly the town building inspector will assess if the building is

\begin{flushleft}
\textsuperscript{35} Ibid. Although the term house is used above these methods can be applied to any structure in need of relocation.  \\
\textsuperscript{36} Ibid., 24.  \\
\textsuperscript{37} Ibid.  \\
\textsuperscript{39} Paravalos, 23.  \\
\textsuperscript{40} Ibid.  \\
\textsuperscript{41} Paravalos, 57.
\end{flushleft}
“structurally sound for the relocation process.”\textsuperscript{42} The preservationist is responsible for assessing the structural integrity of the structure as well as “determin[ing] areas that may develop into extensive restoration difficulties.”\textsuperscript{43} The preservationist can also be responsible for conducting the documentation of the property prior to its relocation.

The next step in the relocation process is the permit stage. There are multiple types of permits needed for the relocation of any building. A list of such requirements can be obtained from the “local building department, construction services department, or building inspector.”\textsuperscript{44} In regards to historic buildings, “if the building is in a historic district, being relocated into one, or listed on the National Register, a letter or approval must be obtained from the historic preservation planner.”\textsuperscript{45}

The next stage is route planning. This is highly influenced by the type of relocation. The choice of route, therefore, will also play a role in the necessary permitting allowing for such a move. When moving a historic structure, there are three types of moves: total disassembly, partial disassembly and moving intact. The type of relocation method depends on the distance of the move and the condition of the structure being moved. If the structure is being moved a great distance or if the terrain it would have to cross was poor, total disassembly would likely be the most viable method of relocation. Partial disassembly should also be avoided if possible. If the structure were to be moved over a longer distance, this would be an advantageous method of travel so long as the move did not cross a bridge. For most relocations, the preferred method will

\textsuperscript{42} Ibid., 57.
\textsuperscript{43} Ibid.
\textsuperscript{44} Paravalo. 25. Again, Paravalo provides a list of likely types of permits needed to relocate a structure.
\textsuperscript{45} Ibid.
be to move the structure completely intact. For obvious cost reasons, moving the
structure intact is less expensive than paying for the time and labor of disassembly and
reassembly (regardless of the degree).\footnote{Curtis, 19.} This type of move offers the least amount of
negative impact to the historic fabric inside the structure.\footnote{Paravalos, 62.}

The next step in the relocation of the building is to prepare the building for its
relocation. There are two different aspects to the preparation phase. There is the removal
and repair of certain elements from the site or the structure and then there are
stabilization measures to protect the house during its relocation. Removal and repaired
elements depend on the condition of the house as well as the age. This may include the
replacement of any structural members that are deteriorated.\footnote{Paravalos, 59.} The repairs may be
temporary due to the relocation schedule.\footnote{Ibid.} It also includes the process of removing
elements such as furnace, oil tanks and plantings.\footnote{Ibid., 30.} In some cases, this may also include
the removal of cisterns. Regarding plumbing and the four previously mentioned objects,
they can be replaced at the new site but should also be removed during this stage.\footnote{Ibid. The
final aspect of this stage is that all utilities must be disconnected.\footnote{Ibid.} At this point in the
relocation, there should be no habitation of the structure.

In regards to the stabilization of the structure, these precautions are only utilized
when the structural move is the entire building or sectional. When a structure is being
relocated, “plywood is nailed to the exterior window frames to protect the window galls,
and masonry chimneys are stabilized with bracing elements or removed. If a structure is partially disassembled then nylon tarps and plywood should be used to protect exposed areas.

The next phase of the move is the lifting of the structure from its foundations. Lifting the structure is achieved by a jacking machine lifting. Then the insertion of block timbers called cribbing. The block timbers, usually consisting of very hard woods such as Oak or Hemlock, are stacked in an interlinking network to hold the structure aloft in the air so that it can be placed onto its moving apparatus - usually a large flat bed truck.

Paravalos additionally recommends that Dig Safe System be contacted two months prior to the relocation to the new site. This not-for-profit corporation is a coalition of utility companies that will “survey the work area and identify the location of underground facilities at no expense to the home owner.” If something such as an underground gas tank is found on the site then it can be dealt with (drained and removed) prior to the relocation of the house.) By having Dig Safe investigate the area permits and additional work (such as gas tank removal) can be incorporated into the time line.

The new site must be comparable to the original location. One of the major pitfalls of relocating historic houses is that the building as well as the site influences the historic significance. Once the new site has been chosen a there are a few steps to move the house onto the site. The first is that a building permit must be obtained in order to relocate the house; this is often part of the permit process for the move itself as well.

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53 Paravalos, 59.
54 Ibid.
55 Paravalos, 69-70.
56 Ibid.
57 Paravalos, 30.
the case of historic houses, all “electrical, plumbing and wastewater systems must be brought up to code if… not already …completed.” According to Paravalos, technological advancements in construction should be utilized when building a new foundation for the structure. However, if the original foundation is both in accordance with modern building codes and is a reusable material, then it would be best to utilize such material. If not, the new material can be covered by using historically accurate material (and the documentation of the original site). The methods above are the ideal methods that should be used when relocating a house. However, these are not sanctioned methods by preservation policy makers.

Regulations

In 1966, Congress passed the Historic Preservation Act, which created an advisory to oversee Historic Preservation in the United States. As a result of the Act, the National Register of historic Places was created to protect historically significant sites in the United States. The National Register of Historic Places is the authorized list of properties, sanctioned by the federal government, as historically significant buildings, structures, sites or districts.

According to the Department of the Interior and the National Park Service today, the relocation of historic buildings is not a viable preservation practice for historic

58 Ibid., 34. The details of this requirement may vary from state to state.
59 Ibid., 56.
60 Ibid.
61 Biddle.
properties. Their preferred alternative is to mothball a structure. Mothballing consists of stabilizing the building until funds are available for restoration. According to the National Register, if “structures that have been moved from their original locations” they are not eligible for listing; however, a relocated building or structure “which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event” can be considered.

However, the guidelines fail to inform the reader that if the historic site is already on the National Register of Historic Places, then the structure can be moved and can maintain its status on the National Register such as the case of the Pope Leighey House. One such regulation is for properties already on the National Register of Historic Places. In the National Park Service regulations, Title 36, Sec. 60.14(b)(2) states that if the property is on the National Register and either the State Historic Preservation Office (SHPO), the Federal agency who owns the property, or the individual or local government (in the unusual situation in which there is no SHPO) wants the property to remain on the National Register, then proper documentation must be submitted to the NPS for the property to retain its status. This documentation must be given to the NPS prior to any work on the house in preparation for the move.

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64 Ibid.
66 For further information, consult National Trust For Historic Preservation, “Help from the National Trust Resource Center Information Sheet # 6.”
Steps

In order for the property to remain on the National Register after it has been relocated, a number of steps must be followed. The first step in the documentation process is to state the reason for the building move. The second step is to research and identify what changes to the property would affect its historic integrity. This is one of the major factors in why the National Register does not generally approve structures that have been relocated. By relocating structures their new environment may change the original historic context or setting, which jeopardizes is significance. The relocation could also risk “the historic relationship between buildings and the landscape.” The National Register view is that the building is not significant in and of itself, but in how it relates to its environment. Although change to the building’s environment does not automatically cause a building to be rejected by the National Register, it is a factor during the overall evaluation. The movement of a historic structure, to certain locations, could result in the portrayal of an untrue history. This is also a major element in historic preservation. To alter the historic fabric is to contradict the established reason for historic preservation. Specifically, the National Register does not want buildings to be

67 Ibid.
68 Department of the Interior, National Park Service, National Register of Historic Places, National Register Federal Program Regulations, Title 36 Chapter 1.
70 Ibid.
71 Ibid.
72 Ibid.
relocated to a site surrounding buildings placed at a different grade level.\textsuperscript{75} This alteration would also result in the severe alteration of a structure relationship with its environment.\textsuperscript{76} Due to these reasons, the National Register is cautious of any site relocation.

The third regulation in moving a building on the National Register is that the new site does not risk the possibility of adversely affecting any other sites of historic significance.\textsuperscript{77} Finally, the fourth step is to take updated photographs of the building or structure to be moved, as well as the proposed relocation site. The photos are to assess visually how the structure interacts with its current and proposed locations.

**Theory**

There are many arguments for moving or not moving structures in specific cases, but very little is written about it generally. One of the first theoretical arguments about historic structures is how they are distinguished from objects and presumed to be immovable. It is important to understand this division to understand how houses – which can theoretically be movable property- are not referred to as such. Another challenge of relocating properties as a means of preservation is the lack of ethical standards governing what makes for good relocations. Many of the cases for or against relocating historic properties come down to specific circumstances; however, proper ethical regulations can be established by looking at cases where relocation as a means of preservation has been implemented.

\textsuperscript{75} Ibid.
\textsuperscript{76} Ibid.
\textsuperscript{77} National Register of Historic Place. National Register Federal Program Regulations. Title 36 Chapter
One major issue of such ethical standards is the context which the structure will be in once it is relocated. The National Register lists this as one of the main reasons against the relocation of a building – the impossibility of recreating context. Another aspect of why buildings should not be relocated is the threat to historic fabric both tangible and intangible. The risk of relocating sometimes outweighs the benefits, but there are proper ways to relocate structures. Examples of attempts to relocate structures as a means of preservation are examined to show what is ethical about their relocation and what was unethical.

There are theoretical arguments about the way relocated buildings are viewed as structures or as artifacts. One such argument is that of Frank G. Matero, who states in “The Conservation of Immovable Cultural Property: Ethical and Practical Dilemmas” that as immovable property, buildings are subject to a dilemma not found when dealing with movable property, and that is that they are impacted by their surroundings. He states that each incident of relocation for preservation should be dealt with individually.\(^{78}\) This system of thought is echoed in Nicholas Stanley-Price’s essay “Moveable:Immovable – a Historic Distinction and its Consequences.” This essay argues that standards for movable property such as paintings and furniture could apply to buildings when they need to be removed for the same conservation reasons.\(^{79}\) These sources are not advocates for the relocation of historic structures, but they do offer ways in which one can relocate a historic structure while attempting to retain its historic fabric. What is most important


according to such authors is that the analogous standards be used, primarily to protect the fabric, but that the context of the resource be considered carefully as well.

The following examples describe attempts to relocate structures in order to preserve them and how some of potential movers are performing preservation while others are saving a historic structure without preserving it. According to Kristin Ohlson, author of “Blue Traveler,” an owner deeply attracted to all things Victorian purchased an 1870s house in Ohio, deconstructed it, and wanted to reconstruct it on thirty-five acres of land he had purchased in Sonoma County, California.\textsuperscript{80} According to the article, a similar Victorian house was originally on the property but burned in 1950.\textsuperscript{81} The house was about to be demolished if someone did not purchase the property and move the house. The buyer, Mr. Siegel, was a knowledgeable individual who had previously restored eleven Victorian era houses, one of which is listed on the National Register. However, Siegel wanted to alter the relocated house, including adding a cupola. Eventually Siegel gained all the proper building permits required to reconstruct the house on the new site. Ethically, this is a bad relocation in part because the house was altered after it was relocated and in part because of a change of context. Originally, the house was located among many of its own kind down a prominent downtown street in Medina, Ohio. Currently, the house is part of a thirty-five acre property in California. The house was saved but so far altered from its original setting and original architectural construction that it is no longer the same house. Therefore, the house was not preserved;

\textsuperscript{81} Ibid., 50.
it was altered to fit its location and owner. This is not what relocation by preservation is intended to do.

The second example, from another article, titled “To Preserve a House, A Plan to Move it,” is a family that owns a significant historic house and wants to build a new, larger house on the same property. Preservationists often refer to this situation as a teardown. In order to not demolish the original historic house, they will sell it, and it will be relocated somewhere it can be enjoyed without further threat from dissatisfied owners. Again, such a relocation is unethical from a preservation perspective, because the relocation is not the best method of preservation. Nothing about this scenario indicates that either context or fabric will be preserved. The only possible way the house can retain any of its historic value is if historically sensitive buyers purchase the property, move it responsibly and relocate it to a site comparable to that of its original location. Only regulations and the development of ethical standards offer some hope to preservationists when faced with a building’s relocation as opposed to the wait-and-see approach of other preservation methods.\textsuperscript{82}

Figure 1: “The Brighton Beach Hotel, Brooklyn, N.Y., being moved away from beach front.”
RELOCATION OF CAPE HATTERAS BY
THE NATIONAL PARK SERVICE

Retreating from the ocean is not a sign of weakness, but of reason.” – Cullen
Chambers, ‘restoration expert and site manager at Tybee Island Light Station’,
Georgia

- from Cape Hatteras America’s Lighthouse

by Thomas Yocum, Bruce Roberts,
and Cheryl Shelton-Roberts

Location of Cape Hatteras

The Hatteras Lighthouse is located on a barrier island off the coast of North
Carolina about one hundred seventy miles east of Raleigh, North Carolina. 83

Specifically, it is one of the many barrier islands that form the Outer Banks of North
Carolina. 84 The Outer Banks consist of almost two hundred islands along the southern
border of Virginia to Morehead City (a town about seventy nautical miles south of the
Hatteras Lighthouse). 85 The islands are about thirty miles from the mainland. Hatteras
Island is located in the middle of the North Carolina coast at the easternmost part of its

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83 Pearson Education, Publishing as Infoplease, “Distance Calculator,”
84 A barrier island is an island that extends parallel to the seashore.
85 Dawson Carr, The Cape Hatteras Lighthouse Sentinel of the Shoals (Chapel Hill: The University of
Infoplease, “Distance Calculator.”
coastline (and in fact the United States). It separates the Atlantic Ocean from the Pamlico Sound. The island includes the towns of Hatteras, Frisco, and Buxton. The lighthouse is perched on the “cape of the barrier island.” Cape Hatteras Island was the “first to be designated a national seashore recreational area by the federal government” and is now part of the National Park Service.

**Location Significance: Environmental**

This site is a specifically important location for nautical navigation. For two hundred years, the lighthouses located on Cape Hatteras warned ships of the dangerous Diamond Shoals, the name of an area consisting of constantly shifting underwater sandbars. They extend some ten miles out into the Atlantic Ocean from Cape Hatteras. The lighthouse would warn sailors that they were near a dangerous area and that they could run aground if they encountered one of these sandbars. One historian, David Stick of Kitty Hawk, has documented approximately six hundred ships that have sunk off the Outer Banks since the colonial era. Another reason why the area is difficult to navigate is that Cape Hatteras is where the Labrador Current and the Gulf Stream collide. The Labrador Current is a coldwater current that originates in the Arctic Ocean and travels along the coast of Labrador, around Nova Scotia and south along the Atlantic Coast of the United States. The Gulf Stream is a warm water current that originates in the Gulf of Mexico, travels around the tip of Florida and moves north along the coast of North America as far as Newfoundland before it crosses the Atlantic Ocean and begins to run

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86 A cape is land that protrudes into a body of water.
87 Carr, 14.
88 Angus Philips, “Tall Order,” *National Geographic* 197, no. 5 (May 2000).
south around Europe before terminating off the West African coast. The important nautical location of the lighthouse begins to illuminate its historical significance and why the relocation of the structure generated such a heated debate.

History

Discovery and European Colonization

Hatteras Island’s strategic location (as well as the ocean currents’ ability to guide ships to this location) made this region of the Americas one of the first settlements by Europeans. During his 1523-1524 voyage, Italian navigator Giovanni da Verrazzano explored the Outer Banks of North Carolina on a mission from France to explore the new world, but he did not land due to the dangerous shoals.\(^89\) Sixty years later, in 1584, Sir Walter Raleigh embarked from England to lay claim and establish a colony on his newly awarded land grant. It was during this voyage that Europeans made landfall and founded the first European colony in America.\(^90\) Later, the colonists returned to England due to starvation. In 1586, the unfortunate group historians would later call the Lost Colony again tried to settle in the area. Four years later, when English supply ships returned to the location, all the colonists had vanished.\(^91\) It was another one hundred years after these two ill-fated groups that the first town in North Carolina, Bath, was established, approximately sixty-five nautical miles from Hatteras Island.\(^92\)

\(^89\) Giovanni da Verrazzano was an Italian navigator hired by France to explore the “new world.” and Carr, 20.  
\(^90\) Carr, 20.  
Colonial Era

During the latter part of the seventeenth and the early part of the eighteenth century, pirates frequented the region. Many pirates lived on the islands of the Outer Banks, thus perpetuating the isolation of the islands not only geographically, but also culturally. Part of the folklore of the region during this time is that pirates and other distrustful individuals would cause ships to wreck on the Diamond Shoals in order to obtain their goods and supplies. However, this is unproven. The area is very difficult to navigate, and it would have been extremely easy to wreck even without misguidance. The English implemented no official coastal navigational tools, such as lighthouses, during the colonial era.

The treacherous seas off the coast of North Carolina almost claimed the life of Alexander Hamilton in 1773. Hamilton, on his first ship voyage, was traveling from St. Croix (his birthplace) to Boston when he was seventeen. During the trip, the ship caught fire; coals tossed out of the fire caused the ship’s sails to ignite. This occurred near the Diamond Shoals, and there was fear that the lack of sails would cause the ship to lose control and drift inadvertently into the shoals. The captain managed to keep control of the ship and to make a safe landfall. This incident caused Hamilton to call the area off Hatteras the “The Graveyard of the Atlantic.” This frightening experience prompted Hamilton, years later, to encourage the ninth bill passed by Congress, known simply as

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93 Carr, 21.
94 Ibid., 22.
95 Ibid. 24-25.
the Lighthouse Bill, which implemented the first lighthouse on Cape Hatteras, North Carolina. 97

The First Cape Hatteras Lighthouse

Hamilton assigned Tench Coxe, “the commissioner of revenue responsible for the Treasury Department’s aids to navigation” to investigate and improve nautical navigation along the coast of North Carolina. 98 In 1798, Henry Dearborn was hired to build the first Cape Hatteras Lighthouse. 99 The construction of this Lighthouse was completed in the fall of 1803. 100 From the onset, the lighthouse had many problems, one being inadequate oil vaults to fuel the light. 101 Moreover, the lighthouse’s keepers were engaged in a “nearly constant battle to keep sand around the tower’s foundation,” 102 a problem so serious it required that a new lighthouse be constructed. 103

The Second Cape Hatteras Lighthouse

After multiple repairs to the lighthouse throughout the next fifty years, it became apparent to W. J. Newman (the district engineer hired by the Light-House Board) that it would be more cost effective to build a bigger lighthouse then to try to repair the old one. Congress appropriated 75,000 dollars in March of 1867 to build a new Cape Hatteras Lighthouse. 104 The construction supervisor for the project was Dexter Stetson. 105

97 Carr, 25.
98 Yocum, et. al., 8.
99 Carr, 32.
100 Yocum, et. al., 12.
101 Ibid.,13.
102 Ibid., 33.
103 Ibid. The first Cape Hatteras lighthouse was demolished in 1871 (by dynamite). The sea washed away the remains of the lighthouse in 1980. -Carr, 73.
104 Yocum, et. al., 33.
105 Carr, 53.
Construction

Stetson encountered his first problem with construction while building the foundation for the lighthouse. In an attempt to drive pilings down it became apparent that “he could not force a one-and-one quarter-inch iron rod more than nine feet into the firm sand that began eight feet below the surface.” This caused Stetson to alter his original building plans and construct a grid grillage of yellow pine timbers on the compacted sand for the lighthouses base. First, cofferdam and steam pumps had to be installed in order to keep the construction of the base dry. The foundation of the Lighthouse consisted of a grid made out of “three courses of four-by-six-inch yellow pine placed crosswise on top of one another.” The beams measured twelve inches in length. This system, later termed a “floating foundation,” was a wonderful solution to a difficult problem, because if the granite foundation had been laid directly onto the sand, it would have continued to sink. Once the foundation was complete, the cofferdam was removed, thus “submerging the pine planks, and later [Stetson] back-filled around the foundation walls.”

The next layer of the lighthouse is that of the octagonal base beginning six-feet below the surface and twenty four feet above. This section of the lighthouse is

\[\text{\cite{106} Ibid., 55.}\]
\[\text{\cite{107} Ibid.}\]
\[\text{\cite{108} Yocum, et. al., 37.}\]
\[\text{\cite{109} Ibid.}\]
\[\text{\cite{110} Carr, 55.}\]
\[\text{\cite{111} Elizabeth Powell, “Back from the Brink,” Civil Engineering 69, no. 10 (October 1999).}\]
\[\text{\cite{112} Ibid.}\]
\[\text{\cite{113} Yocum, et. al., 37-38.}\]
\[\text{\cite{114} Yocum, et. al., 38 and Carr, 55.}\]

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“twenty-four feet high and forty-and-one-half feet in diameter.”\textsuperscript{115} The base of the lighthouse was constructed of brick and granite.\textsuperscript{116} Vermont rose granite was used for the encircling steps and as quions, whereas double-walled brick masonry was used as the surface material between the granite coins.\textsuperscript{117} The remainder of the lighthouse’s tower was constructed of brick masonry and stands one hundred ninety-six feet tall.\textsuperscript{118} The superstructure, which houses the light, is iron and is 12 feet tall.\textsuperscript{119} The lighthouse weighs approximately four thousand four hundred tons.\textsuperscript{120} Collectively all the lighthouse’s parts measure two hundred and eight feet tall.\textsuperscript{121} Based on structural engineering knowledge of the time, the lighthouse was constructed to withstand hurricane force winds of 150 miles per hour.\textsuperscript{122} In 1870, the lighthouse was completed, and in June of that year, the Fresnel lens arrived.\textsuperscript{123} The light revolves by a clockwork mechanism consisting of weights that the lighthouse keeper would crank to the top. As they descended the length of the tower, they caused the light to make revolutions.\textsuperscript{124} In the fall of 1870, Stetson asked the Lighthouse Board if the unused materials for the lighthouses construction could be used to build a dwelling for the lighthouse keepers.

\textsuperscript{115} Carr, 55.
\textsuperscript{116} Ibid. “Closer to the surface, plinth courses of cut granite were placed and above them brick panels and cut granite,” formed the base of the Lighthouse. – Yocom, 38.
\textsuperscript{117} “MOVING: Tallest Building Ever Moved,” \textit{ENR: Engineering News-Record}, Construction Facts 253 (October 1999), and Powell.
\textsuperscript{118} Carr, 57.
\textsuperscript{119} Carr, 57.
\textsuperscript{120} “MOVING: Tallest Building Ever Moved.”
\textsuperscript{121} Phillips.
\textsuperscript{122} Carr, 121.
\textsuperscript{123} Carr, 57 and 62. French physicist Augustin-Jean Fresnel developed the Fresnel lens. It consists of a large convex lens designed to have a narrow opening (aperture) and short focal length (meaning that it is an acute powerful light and can therefore be seen from many miles away.) This is due to its design of a convex lens with a relief in a bull’s eye design on the convex side. Each tear of the bull’s eye consists of projecting forty-five degree angle teeth. The center of the bull’s eye lacks such teeth. (Carr, 62)
\textsuperscript{124} Carr, 62.
because the double light-keeper’s quarters were not sufficient for the three families that were living there at the time. This was approved, and the new houses were completed by March of 1871.

**Color and Design of Lighthouse Tower**

One of the most debated aspects of the lighthouse’s construction was the color and design of its tower, extremely important features given that changes to the markings needed to be circulated throughout the community in order for mariners to know which lighthouse they were encountering. (see Figure 2, Figure 3, and Figure 4) The early plans (or suggestions? WC) retained the red and white pattern of the first tower. Since 1854, the top half of the tower had been red and the bottom half white. The base would have remained its natural gray color under this design. However, the Light-House Board decided the tower should be painted dark red (“brick color”). This color scheme lasted only two years before the current pattern of black and white candy striped pattern was implemented.

It is colored and designed this way to differentiate it from other lighthouses along the Outer Banks. The Bodie Lighthouse located about fifty miles north of the Hatteras light house has horizontal stripes; while the Cape Lookout Light eighty miles to the south has a black and white diamond pattern.

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125 Yocum, et. al., 42. The Lighthouse Board was given the authority (by Congress) “to supervise the quality and operation of the entire American lighthouse establishment.” – Carr, 43.
126 Yocum, et. al., 42.
127 Ibid., 41.
128 Ibid.
129 Ibid., 31.
130 Ibid., 41.
**Lighthouse Light**

Due to the evolution of navigation technology, the Coast Guard decided in the 1930s that the Hatteras Lighthouse was obsolete as a nautical navigation device. Therefore, on May 15, 1936, the oil powered Fresnel lens was turned off.\(^{131}\) After the abandonment of the lighthouse, the original lens was damaged due to vandalism.\(^{132}\) In 1946, a ship captain mistakenly thought that the Hatteras Lighthouse he saw during the day was producing a light he saw at night, and as a result, he ran into the Diamond Shoals and his ship sank. The Coast Guard decided a modern light should be installed in the Hatteras lighthouse in order to avoid such miscommunications, and the current light was installed January 15, 1950.\(^{133}\)

**Threats to Lighthouse**

One of the main problems with the current lighthouse has been the same problem plaguing the first: sand erosion. Although the second lighthouse was better engineered than the first, with a stronger foundation, sand was still disappearing from the east side of the barrier island and thus bringing the lighthouse face to face with the encroaching ocean. The threat of coastal erosion is not a recent phenomenon; barrier islands are ever changing in this regard.

**Coastal Erosion**

The barrier island of Hatteras is moving due to sand erosion in a southwest direction.\(^{134}\) Sand is washing way from the north and west of the island and being

\(^{131}\) Carr, 99.
\(^{132}\) Yocum, et. al., 81.
\(^{133}\) Carr, 104-106.
\(^{134}\) Phillips.
redeposited on the southwest side. Each year seventy to ninety percent of the United States’ coastlines are lost to “hurricanes, winter storms, and rising sea levels.” North Carolina in particular loses as much as four feet of beach each year. Barrier islands are even more prone to erosion (or as some coastal geologists refer to the phenomenon, coastal migration); some studies estimate that the Cape Hatteras seashore has eroded an average of ten feet per year, a figure calculated specifically using the lighthouse and the sea as markers. In 1870, when the second lighthouse was built, it was 1,500 feet from the sea, but by the spring of 1998, it was only 120 feet from the sea. In an effort to hold back the sea, the United States government interferes with the natural ebb and flow of coastlines and builds jetties (or sand groins) and sea walls to stop this erosion. Coastal geologists and environmentalists do not usually approve of this policy because it “deprives the downstream side of its usual sand supply and thus, [the beach between the lighthouse and the sea] shrinks it ever more.” In the end, the government implemented this form of protection because it was cheaper to build a bigger beach (and fight nature) then to pay for storm damage regardless of the fact that sand is never permanent solution to the problem. However, since the mid-1980s states such as Maine, Texas, Oregon and the Carolinas have banned the construction of jetties and similar measures due to the

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136 Cannell.
137 Wendy Mitman Clarke, “Moving Cape Hatteras Lighthouse.” *National Parks* 72, no. 5/6 (May/June 1998).
138 Clarke.
139 Cannell. “Jetties (also called groins) trap sand on the up current side, thereby widening the beach.” - Cannell
140 Cannell.
overall damage the system causes.\textsuperscript{141} The harm to other areas includes enhancing the erosion or sediment movement on nearby beaches.\textsuperscript{142} The redeposited sand influences the surrounding area because it alters the natural rhythm of sand redistribution.

\textit{Solutions for Hatteras Island}

To combat erosion by the sea, some believed that building a groin, costing about one tenth of the projected cost of relocation, would save it from being enveloped. Beginning in the 1930s, the United States Government has been “building artificial dunes and steel or concrete groins; replenishing the beach with sand; and planting real and artificial seagrass to hold the sand in place.”\textsuperscript{143} In an effort to save the lighthouse, in 1969, three steel groins were built to stop the erosion.\textsuperscript{144} Two of the groins are located north of the lighthouse and the third is one hundred feet south.\textsuperscript{145}

Another method proposed was to build a concrete sea wall measuring twenty-three feet tall and octagonal in shape.\textsuperscript{146} Of the twenty-three feet, six feet would be above the water line thus making the lighthouse an island unto itself.\textsuperscript{147} Essentially, a large base would be built around the lighthouse; as the ocean continued to come closer to the lighthouse it would eventually become surrounded. As the ocean rises, additional height would need to be added to the sea wall.\textsuperscript{148} The life expectancy of a sea wall is poor due to maintenance demands as well as its tendency to fail during extreme weather conditions

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\textsuperscript{141} Cannell.  \\
\textsuperscript{142} Derek McGlashan, “Managed Relocation: an assessment of its feasibility as a coastal management option,” \textit{The Geographical Journal} 169, no. 1 (March 2003).  \\
\textsuperscript{143} Clarke.  \\
\textsuperscript{144} Ibid.  \\
\textsuperscript{145} Clarke. “The Groins work to build up sand.” - Clarke  \\
\textsuperscript{146} Powell.  \\
\textsuperscript{147} Ibid.  \\
\textsuperscript{148} Powell.
\end{flushright}
such as hurricanes.\textsuperscript{149} This was a fanciful idea at best; for the lighthouse’s bicentennial, visitors would need a submarine to view the lighthouse (if it has survived at all). In the end, the sea wall idea was rejected because it would “obstruct the view of the lower portion of the lighthouse, and thus change the appearance of this historic landmark.”\textsuperscript{150} Another factor in the rejection of the sea wall was that the principal lighthouse keepers’ cottages and the double keepers’ dwelling house would be separated from the structure, diminishing their historic significance and altering the lighthouse itself.\textsuperscript{151} The third and final reason to reject the sea wall proposal related to the floating foundation system; if a sea wall were to be constructed, eventually the freshwater that was preserving the yellow pine timbers of the foundation would become salinated, which would begin the disintegration of the timbers. Because the rejected options to save the lighthouse were groins that cause more damage than good, and the clearly flawed idea of building a sea wall around the lighthouse, the only remaining options were to move the structure or lose it to the sea.

**Hurricanes**

The debate about what should be done about the Cape Hatteras Lighthouse was not taken lightly. The probability of the lighthouse’s destruction increased every year as the barrier island’s shoreline descended upon the lighthouse and the storm surges from hurricanes came closer and closer. Preservationists, local community groups, congressional representatives, and engineers spent over twenty years negotiating the

\textsuperscript{149} McGlashan.
\textsuperscript{150} Powell.
\textsuperscript{151} Ibid.
The lighthouse survived hurricanes Hugo in 1989, Bonnie in 1998, and Dennis in 1999. Hurricane Dennis followed the United States eastern seashore from the Bahamas up through Virginia during the last week of August and the first week in September of 1999. According to the National Weather Service’s Hurricane Center, Dennis was erratic in direction and unusually strong for an Atlantic Hurricane. The peak gusts of wind speeds recorded at Hatteras Village during Dennis reached 85mph. Hurricane Dennis is significant in the history of the relocation of the Cape Hatteras lighthouse in that the relocation was completed just seven weeks before the storm.

However, the strongest and most recent hurricane to come into contact with the Cape Hatteras Lighthouse is that of Hurricane Isabel in 2003, a strong category four hurricane (meaning that it sustained winds between 131 and 155 mph) occasionally reaching category five intensity (winds exceeding 155 mph). According to the Service Assessment of Hurricane Isabel, the storm tide at Cape Hatteras was 7.7 feet high. The only note on the Hatteras location was that the fishing pier, on which the gauge was affixed, was destroyed during the hurricane and therefore there is only a partial record of measurements taken from that location. The storm cut a new channel south of Hatteras.

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152 "Hurricane Bonnie hurled towering waves against the Hatteras shore, and water surrounded the base of the lighthouse." - Carr, 129.
154 Powell.
156 Ibid.
157 Ibid.
The hurricane effectively cut off Hatteras from the rest of the world, wiping out Highway 12 and destroying the ferry crossing. Due to the indications that the storm surges were very high, it is not unlikely that had the Cape Hatteras Lighthouse not been relocated, it would likely have been extremely damaged due to the hurricane, if not destroyed.

**Controversy Surrounding Historic Structure Relocation**

There are many reasons why the relocation of an historic structure is controversial. Sometimes the relocation could be too stressful for the building, much like someone needing a lifesaving operation may already be too old or weak to withstand the procedure. In other cases, some believe that relocation should not be undertaken because it forever changes the structure and because part of its historical significance would be lost. From a preservation standpoint, regardless of the circumstances, the relocation of a structure is a method of last resort. In the case of the Cape Hatteras Lighthouse, all other safeguarding options were investigated.

The preservation of the Hatteras light was a particularly difficult process due to its two types of significance. The lighthouse is significant as both as symbolic beacon, for the state of North Carolina, and maritime history, for the entire United States. Local people felt tied to the structure emotionally, and any alteration of the structure was seen as tantamount to vandalism. However, the sea’s encroaching destruction and the lighthouse’s significant importance ignited fierce debates about what should be done to protect the tower. The ultimate solution to the problem is in fact a temporary one. The

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158 Ibid.
lighthouse was relocated two thousand nine hundred feet inland but kept on the barrier island. It will again face the same threat from coastal erosion and the encroachment of the sea in approximately one hundred years. The local community fought to the end to halt the relocation of the structure. The final say in the matter of the local community fighting the relocation of the lighthouse was the dismissal by a Federal Judge in 1998 in response to the Dare County Board of Commissioner’s “motion for temporary restraining order, preliminary injunction and permanent injunction in Federal Court.”

Preservationists virtually bought the lighthouse two thirds of its life back, as much as a good doctor may be able to do for a terminally ill patient.

Local Community’s Opinions on Lighthouse Preservation

Regardless of the knowledge that the condition the lighthouse was in prior it its relocation made it extremely susceptible to destruction by a hurricane some local people still did not want to relocate it. Although many debated the relocation of the lighthouse, all of those concerned had a reason for their stance on the matter, including local community. Those who work and live on the barrier island wanted the National Park Service to continue its past policy of beating back the encroaching ocean with beach reinforcement by the means of groins, sandbags, and sand replacement. This method would not only save the lighthouse, but also other structures like the Lighthouse View

159 Mike Boother and Lin Ezell, Out of Harm’s Way, Moving America’s Lighthouse, (Maryland: Eastwind Publishing, 2000), 91. This is almost the same distance the lighthouse was from the sea when it was originally constructed. – Carr, 131.
160 Boother, 112.
161 Carr, 129.
162 Phillips.
Motel. Some local community members believed that the all-at-once approach of relocation for the lighthouse was “somewhat far-fetched” for a barrier island that is constantly changing. One of these groups, officially named the Save Cape Hatteras Committee strongly opposed the relocation of the lighthouse.

It is likely that the local community did not want to relocate the lighthouse based on two reasons. The first is the then-current form of protection of the lighthouse. If the government continued to practice beach building to save the lighthouse then their homes and business would also benefit from the extra space between their buildings and the encroaching sea. The second is that the locals might have thought that the far-fetched idea of relocating the lighthouse would in fact lead to its destruction. If the lighthouse was destroyed, then both a deeply rooted component of the local community, as well as a large source of revenue for the area would disappear. Based on these two possible outcomes, it is apparent why the local community would not support the relocation of the lighthouse.

Efforts During the 1970s

The National Park Service began in the 1970s to study ways to manage parks located on barrier islands other than by means of the traditional method of beach building. The first study, conducted in 1974 resulted in five options. The first was that no attempt would be made to alter the natural environment and existing structures would be left to the forces of nature, though roads would be maintained. The second alternative

163 Ibid.
164 Clark.
165 Yocum, et. al., 101.
166 Boother, 29.
was that man would have no impact on the natural environment, but a policy of relocating threatened historic structures would be implemented. However, private property would not be protected in any way and roads would not be expanded, but alternative means of transportation access would be investigated. The third proposal was to maintain the current policy of the time, meaning beaches, jetties, and other manmade precautions would still be used to influence the natural environment. This solution also included the relocation of the Lighthouse. The fourth option required the intervention of the federal government, which would buy all the lands within a threatened area and perform one of the aforementioned means of management. This stopped any infringement on private or commercial lands. The fifth and final suggestion was to continue beach building to protect private property but do nothing in regards to relocating the lighthouse.

In response to these suggested alternatives, Orrin Pilkey, a Duke University geologist, and Robert Dolan, a University of Virginia geologist, commented on the environmental impacts that each of these alternatives would bring about for the future of the barrier island. He found that, with adjustment, the second solution proposed would be best for both the natural and built environment.¹⁶⁷ As a result of this study, the Park Service changed their policy of coastal management in the case of barrier islands.

In a separate process, the National Park Service hired MTMA Design Group, an architectural firm from Raleigh, North Carolina, in cooperation with North Carolina State University’s Department of Marine Science and Engineering, in 1978, to develop a plan

¹⁶⁷ Booher, 29-30.
specifically to devise methods of protection for the Cape Hatteras Lighthouse.\textsuperscript{168} The culmination of the study resulted in six alternatives:

(1) “Take no action,”

(2) “Relocate the lighthouse,”

(3) “Build a revetment,”

(4) “Build a partial revetment, install groins, replenish beach,”

(5) “Install groins and replenish the beach,”

(6) “Continue with beach replenishment.”\textsuperscript{169}

The group strongly suggested that the lighthouse be moved in one section.\textsuperscript{170} At local meetings, this proposed method of whole relocation was confused with the group’s previous suggestion for Cape Lookout lighthouse, which included the sectional dismantling of the lighthouse in order to relocate the structure.\textsuperscript{171} This misconception initially led to the disregarding of relocation as a viable method of preservation by the local community.\textsuperscript{172}

**Efforts During the 1980s**

In response to the options to save the lighthouse from coastal erosion, the Park Service hired the North Carolina firm of Lee Wan & Associates in 1982.\textsuperscript{173} Their proposal included plans for the lighthouse to be divided into seven sections and moved, at

\textsuperscript{168} Carr, 111 and Boother, 31.
\textsuperscript{169} Boother, 31.
\textsuperscript{170} Carr, 115.
\textsuperscript{171} Ibid.
\textsuperscript{172} Carr, 115.
\textsuperscript{173} Boother, 32.
the estimated cost of 5.5 million dollars.\textsuperscript{174} This solution was not widely accepted in the local community, which preferred the existing method of beach sand manipulation, or the proposal to build a sea wall.\textsuperscript{175} Likely, the opinion of the local community greatly influenced the Park Service’s decision on the matter in 1982 when they decided to disregard the opinions of coastal geologists, federal and state coastal policy, and the high price, and chose to build a sea wall at the cost of six million dollars.\textsuperscript{176} In this scenario, the Park Service would build an octagonal sea wall of concrete and steel around the lighthouse’s base.\textsuperscript{177} The wall would be twenty-three feet tall with sixteen feet underground.\textsuperscript{178} The extension of the sea wall to surround the entire base of the lighthouse would increase the cost of the construction to seven or eight million dollars.\textsuperscript{179}

As a result of the Park Service’s decision, scientists and engineers sought the backing of the Save the Lighthouse Committee had been the North Carolina Travel Council to fight such measures.\textsuperscript{180} The Save the Lighthouse Committee was formed in the early 1980s by Hugh Morton (an entrepreneur and developer) as a means to collect funds within North Carolina to pay for the “lengthen[ing] of steel groins” and sandbags.\textsuperscript{181} In addition, by 1982, federal legislation prohibited “the federal government from doing anything to protect structures in national seashore areas

\begin{itemize}
\item \textsuperscript{174} Ibid.
\item \textsuperscript{175} Ibid.
\item \textsuperscript{176} Ibid.
\item \textsuperscript{177} Carr, 115.
\item \textsuperscript{178} Ibid.
\item \textsuperscript{179} Ibid., 116.
\item \textsuperscript{180} Boother, 33-34.
\item \textsuperscript{181} Yocum, et. al., 94.
\end{itemize}
Throughout the mid-1980s, methods of holding back the encroaching ocean included the planting of artificial seaweed by the Save the Lighthouse Committee.\textsuperscript{182} Another group formed during this period was the Move the Lighthouse Committee.\textsuperscript{183} This committee, developed by a structural engineer, a research associate for Duke University, and a member of the American Association of Cost Engineers, gained acceptance and support by “marine geologists, construction engineers and architects.”\textsuperscript{184} In addition, the North Carolina Department of Natural Resources and Community Development established a guiding policy in opposition to the construction of sea walls and revetments.\textsuperscript{185}

Contemporaneously, there was an accident in 1984 in which a “chunk” of the tower fell off the interior. In response, the Park Service hired consultants to assess the stability of the structure. The firms of Hasbrouck Peterson Associates and Wiss, Janney, Elstner Associates determined in 1986 that the masonry was in “excellent condition.”\textsuperscript{186}

The Director of the Southeast Region for the National Park Service, Robert Barker, became confused in this period by the opinions of professionals (typically favoring relocation), by the sentiments of locals (typically fearing the loss of the icon and its lucrative tourism), and by misinformation in the form of a informal two-page letter from a NASA engineer, incorrectly referred to as a NASA study, warning against

\textsuperscript{182} Ibid., 95.  
\textsuperscript{183} Ibid.  
\textsuperscript{184} Ibid., 96.  
\textsuperscript{185} Boother, 34 and 35.  
\textsuperscript{186} Boother, 38. Also called Housbrouck Hunderman Architects and Wiss, Janney, Elstner Associates. -Carr, 121.
relocation. Thus, Barker sought the opinion of the National Academy of Sciences’ National Research Council. He chose this neutral body in the hope that they could develop a plan to accomplish what everyone wanted to do: save the lighthouse. The Council included individuals in the fields of “coastal oceanographic processes, structural engineering, historical architecture, field ecology, environmental policy, and geomorphology of barrier islands.”

The Council’s findings on the matter were published in April of 1988. The final report, “Saving Cape Hatteras Lighthouse from the Sea: Options and Policy Implications,” concluded that the lighthouse should be relocated and no efforts at coastal manipulation should be attempted due to the detrimental effect they would have on the surrounding coastal environment. Their proposed method consisted of a relocation of the structure (intact) between four hundred and six hundred feet to the southwest. At this time, the move was expected to cost 4.6 million dollars, and would take one year and three months to complete (one year to prepare the structure for relocation and three months to accomplish the move.) The council decided that the relocation of the lighthouse would be more cost effective due to the continued maintenance costs of the sea wall as well as the eventual separation of the lighthouse from the principal keeper’s quarters and the double assistants house. The sea wall would also have a profound

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187 Boother, 35-36.
188 Ibid., 37.
189 Carr, 126 and Boother, 37.
190 Boother, 37.
191 Boother, 37.
192 Carr, 126.
effect on the viewshed of the lighthouse and would not be reversible.\textsuperscript{193} Also, construction of the sea wall would not allow for the lighthouse’s relocation.\textsuperscript{194}

The Park Service decided to follow the National Academy of Sciences’ National Research Council’s findings. The Park Service did not commit to the relocation method of preservation until the fall of 1989.\textsuperscript{195} As a means of beach preservation to buy the Park Service time to prepare the building for relocation, “several hundred three-ton sandbags were installed “around the base of the tower” by the Carter Construction Company of Hampstead, North Carolina.”\textsuperscript{196} The Park Service determined that the lighthouse should be preserved prior to the relocation. A preservation plan was part of the 1986 investigation by Hasbrouck Peterson Associates and Wiss, Janney, Elstner Associates, and this was the plan implemented by the Park Service prior to the lighthouses relocation.\textsuperscript{197}

\textbf{Efforts During the 1990s}

The National Park Service hired International Chimney Corporation to perform the preservation plan in 1992.\textsuperscript{198} The cost of the preservation work conducted during this period was 984,000 dollars.\textsuperscript{199} In addition, an environmental assessment and archeological survey of the area was conducted. Both surveys concluded that there would be no impact on the area in the event that the lighthouse, the principal keeper’s

\textsuperscript{193} Ibid.
\textsuperscript{194} Ibid.
\textsuperscript{195} Ibid., 127.
\textsuperscript{196} Carr, 128, and Yocum, 96.
\textsuperscript{197} Boother, 38.
\textsuperscript{198} Ibid., 44.
\textsuperscript{199} Ibid., 39.
cottage and the double assistants house were also relocated.200 Those who wished the lighthouse to remain in place caused funds intended for the relocation effort to be diverted into groin repairs because there were deemed emergency repairs.201 During the 1990s, the National Park Service spent three million dollars in efforts to protect and preserve the lighthouse.202 However, this does not reflect the funds used by the Park Service to facilitate the relocation.

Due to the extreme cost of moving the lighthouse, which had risen to a projected 8.8 million dollars in the early 1990s, and pressure from the local community to not move the structure, the National Park Service attempted to buy additional time and sought approval in 1994 to build a fourth groin south of the existing groins, costing a projected two million dollars.203 In an effort to force the National Park Service to move the lighthouse immediately rather than later, the North Carolina Department of Cultural Resources and the Division of Coastal Management collectively rejected the proposal in 1996.204 This echoed the decision in 1995 by the United States Fish and Wildlife Service.205 Part of this determination to reject the additional groin was because if the groin were installed, it would affect the proposed relocation site.206 Furthermore, the addition of the groin would have been a violation of a North Carolina law concerning

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200 Ibid.
201 Yocum, et. al., 96.
202 Carr, 128.
203 Boother, 40 and Carr, 128.
204 Boother, 41.
205 Ibid., 111.
206 Ibid.
erosion.\textsuperscript{207} State officials originally opposed to the relocation (mostly due to the strong voice of the local community) increasingly withdrew their objections when other groups such as the Outer Banks Lighthouse Society and Cape Hatteras National Seashore “pushed the issue to the forefront.”\textsuperscript{208}

In order to update the by now almost decade-old findings of the National Academy of Sciences’ National Research Council, Marc Basnight, North Carolina Senate President pro tempore, sought the opinions of scientists at North Carolina State University. The panel of engineers and environmental professors verified the findings of the National Academy of Sciences’ National Research Council that the only way to preserve the lighthouse was to move it.\textsuperscript{209}

Congress appropriated two million dollars in 1998 to pay for the planning costs to move the lighthouse.\textsuperscript{210} The following year, President Clinton requested funds from Congress for the rest of the relocation costs.\textsuperscript{211} The Park Service determined that the best way to relocate the structure would be to divide the effort into two different phases. One would be “designing and planning for the move,” and the second would be the “actual relocation.”\textsuperscript{212} As with most engineering endeavors, the division of roles offers more instances of checks for methods and systems. If one firm is doing the designing and another is doing the physical move, the movers have to check all the designs in order to

\textsuperscript{207} Carr, 128. The law was passed because of the coastal evidence that the practice “can benefit one area at the expense of another” by taking sand from one area to widen the beach in another. – Carr, 129.
\textsuperscript{208} Yocum, et. al., 98.
\textsuperscript{209} Ibid.
\textsuperscript{210} Carr, 130.
\textsuperscript{211} Ibid.
\textsuperscript{212} Boothere, 43.
make sure that they are accurate and correct. If everything is done by one firm, things can be over looked or assumed and problems are more likely to arise.

The Park Service again chose International Chimney to move the structure on June 19, 1998.\footnote{Ibid.} International Chimney brought on board Expert House Movers of Maryland.\footnote{Ibid., 44.} These two firms had previously relocated three other lighthouses together successfully.\footnote{Ibid.} The firm of Wiss, Janney, Elstner Associates, and David Fischetti (a structural engineer affiliated with DCFR Engineering of Cary, North Carolina, and one of the founders of the Move the Lighthouse Committee\footnote{Carr, 132.}) were also part of the Hatteras relocation team.\footnote{Boother, 44.} Expert House Movers conducted the actual moving of the lighthouse.\footnote{Carr, 131.}

The Relocation of the Cape Hatteras Lighthouse and Keeper’s Quarters

Lighthouse

Phase 1: Foundation Separation

When efforts to stop the relocation process were exhausted, the money was appropriated, and all the firms for each step of the relocation process selected by the National Park Service, the great feat of moving the Cape Hatteras Lighthouse began. The first step in preparation for the move (after all the preservation steps had been accomplished) was to clear the pathway along which the lighthouse would travel in order

\begin{footnotesize}
\begin{itemize}
\item \footnote{Ibid.}
\item \footnote{Ibid., 44.}
\item \footnote{Ibid.}
\item \footnote{Ibid.}
\item \footnote{Carr, 132.}
\item \footnote{Boother, 44.}
\item \footnote{Carr, 131.}
\end{itemize}
\end{footnotesize}
to reach its new location.\textsuperscript{219} The path was “graded, laid with gravel, compacted and tested.”\textsuperscript{220} Also included in the first stage of moving was “bracing the lighthouse plinths, bracing doorways, and performing other structural reinforcement.”\textsuperscript{221} The next step was to drain the site of water so that the subfoundation of yellow pine logs could be excavated.\textsuperscript{222} Next, the granite foundation needed to be removed for the shoring system, which was the “platform on which the lighthouse would rest for its journey.”\textsuperscript{223} The original granite blocks, two foot sections and weighing about eight hundred pounds apiece, were broken down by and relocated using “wire saws and hydraulic chain saws to cut the granite foundation.”\textsuperscript{224}

Because the yellow pine timbers would float to the top of their fresh water pool (and thus “threaten the stability of the lighthouse… a steel mat was inserted on top of the pine mat to ensure continued stability.”\textsuperscript{225} To apply pressure to the steel mat, the hydraulic lifting system pushed down to lift the lighthouse instead of pushing up against it.\textsuperscript{226} In order to lift the lighthouse from its foundation engineers “used over 130 SPX Power Team hydraulic locking-collar cylinders.”\textsuperscript{227} The jacking system consisted of a nine-ton forged master cylinder and was “the largest hydraulic jacking system ever built

\textsuperscript{219} “MOVING: Tallest Building Ever Moved.” \textit{ENR: Engineering}, News-Record, Construction Facts, 253 (December 2004). This included “bracing the chimneys on the keepers’ structures, bracing the lighthouse plinths. Bracing doorways, and performing other structural reinforcement.” – Powell.

\textsuperscript{220} Powell.

\textsuperscript{221} Ibid.

\textsuperscript{222} Ibid.

\textsuperscript{223} Carr, 132.

\textsuperscript{224} “MOVING: Tallest Building Ever Moved.” and Powell.

\textsuperscript{225} Powell.

\textsuperscript{226} Ibid.

\textsuperscript{227} “Shifting a Beacon,” \textit{Design Engineering} (March 2000).
in the U.S.”

The system was comprised of one hundred jacks, each of which had the ability to lift one hundred tons. Each jack was attached to a central manifold and equipped with its own pressure gauge in order for it to be monitored and adjusted accordingly should any problems arise. The decision of using hydraulics to lift the lighthouse was due to their ability to produce a smooth and slow lifting action.

**Phase 2: Hydraulic Jacking System**

In order for the jacking system to work appropriately, it was necessary to raise each point of “the structure…at exactly the same rate.” Although each jack could be lifting a different amount of weight, “sensors…at [one hundred] different points in the lighthouse’s structure” determined how much each jack should lift in order for the lighthouse to remain level. Once the lighthouse was lifted to the desired six feet, the locking-collars locked the jacks into place. This allowed for the system to “hold the load without maintaining hydraulic pressure.”

Eventually the lighthouse, disconnected from its granite base, rested on one hundred and thirty-five shoring posts. A grid of steel beams measuring sixty-one by seventy-two feet formed the structure on which the lighthouse was lifted.

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229 Powell.
230 Ibid.
231 Lewis.
232 Ibid.
233 Ibid.
234 Ibid.
235 “MOVING: Tallest Building Ever Moved.”
236 Lewis.
237 Ibid.
went between the yellow pine subfoundation and the granite foundation.\textsuperscript{238} The lighthouse was lifted at about ten inches each thrust in order for it to rest on the rolling system.\textsuperscript{239}

Once the lighthouse had been positioned on the oak cribbing [probably a mistake and means the pine cribbing], all of the jacks in one of the main beams were retracted, and a roll (travel) beam, which incorporated Hilman rollers (roller dollies), was installed beneath that main beam. The sequence was repeated until all of the main beams were resting on roll beams. The jacks were then rigged into three zones of common pressure.\textsuperscript{240}

\textit{Phase 3: Transportation of Lighthouse Down Corridor}

Once the lighthouse was ready to roll, on June 17, 1999, it traveled at the speed of about one foot per minute propelled by five push-jacks located between the roll beams.\textsuperscript{241} Interestingly, this was twice the rate originally proposed in the relocation plan.\textsuperscript{242} The lighthouse arrived at its new location on July 9, 1999.\textsuperscript{243} The total distance the lighthouse traveled was 2,900 feet.\textsuperscript{244} (see \textbf{Figure 5})

\textbf{Keepers’ Quarters}

\textit{Physical Description: Double Keepers’ Dwelling}

The principal light keeper’s quarters as well as the assistant keepers’ quarters were also part of the relocation (see \textbf{Figure 6}, \textbf{Figure 7}, \textbf{Figure 8} and \textbf{Figure 9}). Both buildings were wooden frame. The double keepers’ quarters, intended for the assistants

\textsuperscript{238}“Shifting a Beacon.”
\textsuperscript{239}“MOVING: Tallest Building Ever Moved.” and Carr, 133.
\textsuperscript{240}Powell.
\textsuperscript{241}“MOVING: Tallest Building Ever Moved.” and Powell.
\textsuperscript{242}Powell.
\textsuperscript{243}Ibid.
\textsuperscript{244}Boother, 91.
and their families, were first constructed in 1854.\textsuperscript{245} The construction of the dwelling was at the same time as the addition to the first Cape Hatteras Lighthouse tower’s addition.\textsuperscript{246} There were extensive additions and alterations in 1892.\textsuperscript{247} Interestingly, “lighthouse-related structures of this period… [were] standardized,” and these are representative examples.\textsuperscript{248}

The Double Keepers’ Dwelling is supported by masonry piers on grade. The main structure is two stories with an additional one-story wing. The house “is a vernacular, Georgian-influenced dwelling.”\textsuperscript{249} However, this is not obviously apparent in its style or in its symmetry.\textsuperscript{250} The main structure of the house is sixty-six feet by twenty feet, and the addition is twenty-three feet by fourteen feet.\textsuperscript{251} There are eight two-over-two windows across the broad side of the house and two windows along the broad length of the addition. The entrance to the house is on the ground floor also along the broad side of the house. There is also a one story porch on the main structure. The roof is wood shingled and there are two chimneys (both located on the main structure). Prior to the relocation of the structure, the assistant keepers’ quarters were used as “a museum and interpretive center.”\textsuperscript{252}

\textsuperscript{246} Ibid.
\textsuperscript{247} Ibid.
\textsuperscript{248} Ibid.
\textsuperscript{249} U. S. Department of the Interior, National Park Service, Historic American Buildings Survey, “Cape Hatteras Lighthouse, Principal Keeper’s Dwelling,” HABS No. NC357—B.
\textsuperscript{250} Ibid.
\textsuperscript{251} Boother, 77.
\textsuperscript{252} Ibid.
Physical Description: Principal Keeper's Dwelling

The principal keeper’s dwelling is also a wooden frame building (see Figure 10, Figure 11, and Figure 12). The style of the building is a “vernacular, Victorian-era dwelling” according to the Historic Buildings Report. Slight variations, such as a “steep-pitched gable front roof… and decorative brickwork… give it characteristics of the Gothic Revival Cottage.” The house is one and one half stories and rectangular, and was also constructed in the same manner as the double keepers’ cottage. The Lighthouse Board built both structures “under the direction of the district engineer, in this case, the 5th District, headquartered in Baltimore, Maryland.”

Like the assistants’ quarters, the principal quarters is also built on piers of the bricks Stetson requested be used on the keepers quarters when the lighthouse had been completed. This means that the principal keeper’s cottage dates to 1870. The house’s design, according to the original blueprints, consist of “a front gabled main block one room wide and two deep - a living room to the front and a bedroom to the rear, bisected by a stairway - with a kitchen all to the side.” The house, like the assistant keepers’ quarters, had multiple additions as well including: a two-story frame addition to the living room and bedroom above it, a one-story porch, and a small one-story frame extension.

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254 Ibid.
255 Ibid.
256 Ibid.
257 Ibid.
258 Ibid.
259 Ibid.
Relocation of Double Keepers’ and Principal Keeper’s Dwellings

Both dwellings were relocated by Expert House Movers in early 1999. The dwellings were both moved intact, and they were prepared for the move with additional chimney, door, and window supports. They were severed from their foundations and raised up on cribbing in order for hydraulic jacks to lift the building onto a system of steel beams, which supported each building while it was being towed by a tractor. Unfortunately, the settling of the cribbing and jacking system “caus[ed] a minor crack under one of the windows, which ran down to the foundation.” The Lighthouse and dwellings were positioned exactly as they had been prior to the move (see Figure 13 and Figure 14).

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260 Boother, 77.
261 Ibid.
262 Ibid.
263 Ibid., 78.
Figure 2: General view looking southeast showing entry elevation of lighthouse, fencing, oil house to left and path from keeper’s cottage and parking lot. Historic American Buildings Survey Photograph.
Figure 3: View looking up at top portion of the tower, closer range. Historic American Buildings Survey Photograph.
Figure 4: South-Southeast (Front) elevation of entry at base of light tower, with scale, horizontal view. Historic American Buildings Survey Photograph.
Figure 5: Satellite Image provided by Google Earth. This image is not to scale. Drawn by Xana Peltola.
Figure 6: Perspective View of Southeast (Front) and Southwest, with Principal Keepers’
Photograph.
Figure 7: Perspective view of southeast (Front) and southwest, with principal keepers’ dwelling in background HABS NC, 28-BUXT, 1-A-1. Historic American Buildings Survey.
Figure 8: Perspective view of northwest rear and northeast side. [...] HABS NC, 28-BUXT, 1-A-8. Historic American Buildings Survey Photograph.
Figure 9: Southwest side elevation, with scale HABS NC, 28-BUXT, 1-A-7. Historic American Buildings Survey Photograph.
Figure 10: Southeast (front) elev. HABS NC, 28- Buxt, 1-B-1. Historic American Buildings Survey Photograph.
Figure 11: Perspective View of Southeast (front) and Southwest Side HABS NC, 28-BUXT, 1-B-5. Historic American Buildings Survey Photograph.
Figure 12: Northeast elev. HABS NC, 28- BUXT, 1-B-4. Historic American Buildings Survey Photograph.
Figure 13: View of Keeper’s Cottages from Gallery at Top of Tower. Historic American Buildings Survey Photograph.
Figure 14: View Surrounding Area (including proposed new site for lighthouse) Looking Southwest from Gallery at Top of Tower. Historic American Buildings Survey Photograph.
RELOCATION OF MIDDLESEX PROPERTIES BY HISTORIC CHARLESTON FOUNDATION

The entire United States was impacted in one form or another by Urban Renewal. The development of Urban Renewal, according to John Levy was due to, people not wanting to live there so they do not care about the housing or the neighborhood, substandard housing due to poor up keep, and overcrowding, in order to solve these problems the city would invest in building better housing for people. However, it evolved into a devastating and destructive force. Its victims were not just the people relocated out of their homes, but also the built environment which did not meet the government’s standards of living. Instead of reinvesting the money into these areas in order to keep regional architecture and neighborhoods intact, Urban Renewal destroyed vast amounts of properties, some of which had significant historic value. The language of some documents regarding how the Urban Renewal program would support and protect historic structures, districts, and areas, gave a false hope to those in the business of actually fighting for historic structures to remain on their original sites. Such a case can be made for the Urban Renewal efforts in Charleston, South Carolina. The location in Charleston was the area once known as the Middlesex neighborhood, now known as the Gaillard Auditorium Complex. In an effort to save some of the significant houses from total annihilation, the Historic Charleston Foundation went to great lengths both financially and at the risk of destroying the buildings they were trying to save. Urban

Renewal failed on multiple levels, but the program completely disregarded any attempt to retain and protect historic structures, especially in Charleston, South Carolina.

**Location Background of Charleston: Ansonborough**

Ansonborough is one of many historic neighborhoods located on the peninsula of Charleston. George Street, represents the northern boundary of the neighborhood; to the south it is bordered by Hasell Street, to the east by East Bay Street and to the west by Meeting Street. The neighborhood was the city’s first suburb, named for Captain George Anson who would later be appointed to the post of Admiral and earn the title of Baron. Anson, stationed in Charleston during the 1720s as the commander of an “anti-piracy patrol,” won the property in a card game in 1726. The suburb was officially laid out in twenty five lots in 1746. The neighborhood was not only Charleston’s first suburb, but it also contains the “oldest dwelling in the entire city, the 1712 William Rhett House at 54 Hasell Street.” Unfortunately, in 1838 there was a catastrophic fire; therefore, most of the buildings are in architectural styles popular after 1840. In all, the neighborhood contains one-hundred thirty-five houses as well as four churches, all built before the Civil

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265 Historic Charleston Foundation, Historic Charleston Foundation Archives, File Box: A ANSON.GEN.001, Property File.
268 Ibid.
War. As a testament to the longevity of the neighborhood, it also contains Charleston’s “first public city high school.” Unfortunately, after World War II the neighborhood became identified by some as containing many “tenements and slums”. This condition spurred action by architectural preservationists. The Ansonborough neighborhood is a wonderful example of nineteenth-century architecture and some even older surviving examples.

**Attempt to Revitalize Ansonborough: Historic Charleston Foundation**

In 1947, the Historic Charleston Foundation was created to protect Charleston’s historic architecture. It is a nonprofit foundation founded with the effort to blend “neighborhood preservation and planning.” The goal of the foundation is to allow for the hundreds of historic dwellings in Charleston to remain privately owned homes while retaining their historical significance; and, to work with owners to accomplish these goals. Historic Charleston Foundation began its revolving fund program in 1959. The fear of losing architecturally significant aspects to poor maintenance forced Historic Charleston Foundation to take a drastic step (for itself financially and for Charleston

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272 Ibid.
274 Ibid.
because it was the first time such a system had been implemented) in its crusade to preserve historic architecture in the neighborhood of Ansonborough.

In order to rehabilitate neighborhoods, Historic Charleston Foundation required money to purchase and revitalize these historically significant properties. The *Journal of Housing* noted in 1967, that Historic Charleston Foundation was “saving a neighborhood through historic preservation.” Meaning Historic Charleston Foundation was not just fixing up the architecture but also lifting the neighborhood out of its “slum” ranking.\(^{276}\) Historic Charleston Foundation, a nonprofit corporation, began the movement.\(^{277}\) The goal was to turn around entire neighborhoods with limited funds.\(^{278}\) The first neighborhood of which was Ansonborough.\(^{279}\) To continue to revitalize these neighborhoods, the foundation devised a ten-step program to develop a revolving fund so that the money made by selling the properties in the neighborhood would go back into other Ansonborough projects.\(^{280}\)


\(^{277}\) Ibid.

\(^{278}\) Ibid.

\(^{279}\) Ibid.

\(^{280}\) Historic Charleston Foundation, Historic Charleston Foundation Archives, File Box: A ANSON.082.001, Property File, in Miscellaneous Archives, “Saving a neighborhood through historic Preservation – a nonprofit corporation with limited resources is providing impetus for restoring Charleston’s historic Ansonborough,” Reprinted from the *Journal of Housing* 24, no. 3 (April 1967) Publication of the National Association of Housing and Redevelopment Offices. For more information on Historic Charleston Foundation’s methods concerning the revolving fund see “Saving a neighborhood through historic preservation – a nonprofit corporation with limited resources is providing impetus for restoring Charleston’s historic Ansonborough.”
Historic Charleston Foundation’s Revolving Fund

The first neighborhood Historic Charleston Foundation chose to rehabilitate was Ansonborough. When the project began in 1959, the foundation raised 100,000 dollars, through donations, to purchase its first properties in Ansonborough.281 The first aspect in Historic Charleston Foundation’s strategy was to focus on only one area or neighborhood. This was the backbone of the project because it was intended to “enhance[ ] property values” which would “encourage more investment” in the area.282

The second element is that all properties rehabilitated by Historic Charleston Foundation would retain restrictions on what the owners could do to the property. These were usually in the form of easements held by Historic Charleston Foundation on specific properties for specific elements on the property, such as facades or interior elements. The third aspect is that those properties in historic areas, but not of historic significance, would or could be demolished in order to improve properties of historic significance.

The fourth component is that any property “not suitable for single–family residences” home would be rehabilitated into other uses such as stores or apartments.283 The fifth aspect pertains to individuals who donate their properties to Historic Charleston Foundation. In this instance, Historic Charleston Foundation would never require the owner to leave the property; they would retain their right to occupy the structure. The sixth factor is that Historic Charleston Foundation would seek out responsible buyers who would be willing to maintain the historic significance of these properties.
seventh feature is that Historic Charleston Foundation would “make loans secured by mortgages to individuals to buy and restore houses of merit.”284 The eighth aspect is that regardless of Historic Charleston Foundation’s commitment to being a nonprofit organization, it would “follow sound business practices calculated to maintain the capital in the revolving fund.”285 The ninth element is that Historic Charleston Foundation would employ knowledgeable staff and consultants to aid in all operations. The tenth, and final, step is that Historic Charleston Foundation would allow loopholes in their restoration plans to allow for unique situations. Historic Charleston Foundation intended these principles to provide a sound methodology in regards to their revolving restoration fund.

**Reasons for Choosing Ansonborough for the First Revolving Fund Project**

There were several other factors, aside from historic significance, that influenced the foundation in its choice of Ansonborough over a number of other neighborhoods on the Charleston peninsula. One such factor was Ansonborough’s size.286 The goal was to save an area, not to revitalize interspersed structures or a street.287 Historic Charleston Foundation also considered the overall size of the houses. It was determined that the average size of the houses in the Ansonborough neighborhood would “satisfy the housing requirements of today’s family.”288

284 Ibid.
285 Ibid.
286 Historic Charleston Foundation, Historic Charleston Foundation, File Box: A ANSON.082.001, Property File, in Miscellaneous Archives, “Saving a neighborhood through historic preservation – a nonprofit corporation with limited resources is providing impetus for restoring Charleston’s historic Ansonborough.”
287 Ibid.
288 Ibid.
Ansonborough also provided the correct location in which to embark upon this highly expensive and time-consuming project. In fact, the choice of which neighborhood to rehabilitate also depended on whether Historic Charleston Foundation could complete the project in its entirety. After much research, Historic Charleston Foundation felt that other neighborhoods, such as Harleston Village, would be able to improve themselves without outside help.\textsuperscript{289} The choice also depended upon whether the Historic Charleston Foundation’s efforts would improve the City of Charleston as a whole. Many factors lead to the decision to revitalize Ansonborough, but chiefly it was that the neighborhood met the overall scale in which Historic Charleston Foundation was searching.

**Urban Renewal as a Means of Neighborhood Revitalization**

During this period, the late 1950s, the United States government was implementing a program not unlike that of Historic Charleston Foundation’s efforts in Ansonborough. Both programs were different in that their objectives, but alike in that they were trying to take what was currently existing and attempting to revitalize it into something better. Interestingly, these two systems are intertwined in Charleston history. The process and history of Urban Renewal is interesting and is not without controversy. Urban Renewal began in 1949 and officially ended in 1973. However, due to the extensive nature of Urban Renewal projects, some that began in the early 1970s did not end until the mid 1980s.\textsuperscript{290} The goal of Urban Renewal was “to eliminate substandard housing, revitalize city economies, constructing good housing, and reducing de facto...”

\textsuperscript{289} Historic Charleston Foundation, Historic Charleston Foundation Archives, File Box: A ANSON.082.001, Property File, in Miscellaneous Archives, “Ansonborough: an Undeniable Success.” Harleston Village is located on the west side of the Charleston peninsula whereas Ansonborough is located on the east side but they are parallel to each other.

\textsuperscript{290} Levy, 164.
It was the most extensive federal program targeted at urban development in the United States to date.\(^{291}\)

**Urban Renewal Intention**

One aspect of the real-estate market that Urban Renewal was intended to fix was difficulty to buy inner city lots due to their price. In some instances, the building on the lot would be of poor or condemnable condition, but no one could afford the land on which the building sat in order to develop it. Many of these lots contained low-income housing. By implementing Urban Renewal, the Federal government would purchase the lots (with Urban Renewal funds), and provide them to developers who, would demolish the buildings in order to better use the land for economic gain.

**Process: Eminent Domain**

To bypass the takings problem, eminent domain would be implemented as a means for developers to ultimately acquiring land for public use through federal law. The United States federal government granted the Local Public Agencies “the power of eminent domain to acquire sites.”\(^{293}\) The money would come from the federal government and the local municipality, two thirds from the former and one third from the latter.\(^{294}\) However, this money could come from the city in the form of labor instead of cash.\(^{295}\) The second problem this system would solve was that multiple city lots were controlled by multiple owners. Interestingly, preservation efforts could use Urban

\(^{291}\) Ibid.  
\(^{292}\) Ibid.  
\(^{293}\) Ibid., 165.  
\(^{294}\) Ibid.  
\(^{295}\) Ibid.
Renewal funds; however, this is a later development of the system.\textsuperscript{296} The power of eminent domain is substantial. Eminent domain is an inherent sovereign power, limited in the United States by the fifth and fourteenth amendments, as well as state constitutions.\textsuperscript{297} In order for the application of the power of eminent domain – the seizure of a property – to be constitutional, the proposed use must be for the public benefit and the owner must be justly compensated for the seizure.\textsuperscript{298} Public use and just compensation are determined by the federal judicial system.

**The Concept of the Urban Renewal Program**

Guy Greer and Alvin Hansen conceived Urban Renewal in December 1941.\textsuperscript{299} This program would be able to use the federal government, under the proposed name of City Realty Corporation, as a purchaser of inner city property. The government would use eminent domain to collect downtown lots and clear them. When the plan was implemented, in 1949, the City Reality Corporation became the Local Public Agencies.\textsuperscript{300}

**Evolution of Urban Renewal**

Early on, the program was intended to replace old dilapidated dwellings with modern living structures.\textsuperscript{301} However, cities soon wanted other things besides housing, such as municipal amenities or commercial development.\textsuperscript{302} Later it was determined that other public use projects such as parks, museums, auditoriums could be included under

\textsuperscript{297} Levy, 164.
\textsuperscript{298} Ibid., 175.
\textsuperscript{299} Levy, 164.
\textsuperscript{300} Ibid., 165.
\textsuperscript{301} Ibid., 165.
\textsuperscript{302} Ibid., 176.
the same umbrella. The concept of eminent domain is subject to interpretation and thus was a gray area that was taken advantage of and distorted from its original intention of replacing old housing with new.

In response to this method, during the 1960s and 1970s, the public formed multiple historic preservation groups in order to combat the extinction of historic districts by Urban Renewal projects. Although Urban Renewal ended in the early 1970s, its effects were still being felt.

**Problems with Urban Renewal**

The dream of Urban Renewal was “rebuilding inner cities combined [with] the Modern Movement’s idea of separation of uses with the frontier ideology of life on the isolated edge, resulting in superblocks more attuned to the suburbs.” Although the idea of Urban Renewal was devised prior to the suburban boom of post World War II society, it did result in the further expansion of cities. The poor population was forced to move out of the cities or to pay more for housing in order to remain. In an effort to revitalize urban locations and improve the area, Urban Renewal often resulted in the displacement of poor individuals, the loss of land by the owners, and the gain of prime real estate by developers at a significantly reduced rate. Even worse, federal and local funds were used to fund this displacement. As with most big programs involving billions of

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303 Ibid., 175.
304 Datel, 135.
306 Levy, 168.
307 Ibid., 166-168.
308 Ibid., 166.
dollars, the initial intentions were for the betterment of the people of the United States. Unfortunately, the system became distorted by loose interpretation and greed.

One of the side effects of Urban Renewal was the destruction of historic neighborhoods across the country. In some instances, the results could have been different. During 1967, ironically the same year the Gaillard Auditorium was being constructed, the Providence City Plan Commission in cooperation with the Providence Preservation Society and the Department of Housing and Urban Development published a plan in which federal Urban Renewal funds could be used for the development of historic districts.\textsuperscript{309} They stated that plans joining preservation and Urban Renewal had already been developed in Philadelphia for the Historic Society Hill area.\textsuperscript{310} The project’s (and publication’s) purpose was to combine rehabilitation and clearance in an effort to retain the valuable historic and architectural structures.\textsuperscript{311} This document also states that it was approved by the Federal Urban Renewal Administration asserting, “every care will be taken to preserve the distinctive eighteenth century historical amenities of the community which was founded by Moravian colonists in 1741.”\textsuperscript{312} The proposed area in Philadelphia was not intended for a small project. The efforts were to eliminate the “low standard [of] construction” to better preserve the character of the


\textsuperscript{310} Ibid.

\textsuperscript{311} Ibid.

\textsuperscript{312} Ibid.
area. In addition, within the document the Providence council argues that “Urban Renewal is not limited to the clearance of dilapidated structures. Recently [it has] been broadened to include rehabilitation and conservation.” Their final statement on the matter was that historic buildings do not always have to suffer under Urban Renewal, though the ultimate goal is to improve the neighborhood.

Urban Renewal led to many blights on the faces of cities. Charleston has few modern buildings within its historic district. Although they do contribute to the maintenance of a wide diversity of structures in the city, they are so rare that they are cold reminders of what was there before. This, however, is legacy of the Gaillard Auditorium.

**Charleston and Urban Renewal**

The first zoning and planning ordinance, defining the controls for a historic district in the United States, was implemented in 1931 in Charleston. In 1965, the historic district was expanded. The Board of Architectural Review was given authority to protect buildings (with historic significance) from being demolished and also to “initiate action requiring the owner of an historic building to keep up its maintenance.”

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313 Ibid, 7.
314 Ibid., 181.
315 Historic Charleston Foundation, Historic Charleston Foundation Archives, File Box: A ANSON.082.001, Property File, in Miscellaneous Archives, “Saving a neighborhood through historic preservation – a nonprofit corporation with limited resources is providing impetus for restoring Charleston’s historic Ansonborough,” Reprinted from the *Journal of Housing* 24, no. 3 (April 1967). Publication of the National Association of Housing and Redevelopment Offices.
316 Ibid.
317 Ibid.
Although Charleston was the flagship of historic zoning and preservation in the United States, it was not blind to the social and monetary benefits of Urban Renewal.\textsuperscript{318}

*Gaillard Auditorium*

One of the obvious indications of Urban Renewal in downtown Charleston is the Gaillard Municipal Auditorium and convention center, the city’s first Urban Renewal project (see Figure 15)\textsuperscript{319}. The auditorium is located in what used to be the neighborhood of Middlesex. The city of Charleston chose this site not only because they viewed it as a “slum neighborhood,” but also because the adjacent neighborhood of Ansonborough was the subject of a long-term revolving fund project by Historic Charleston Foundation. It was believed by Historic Charleston Foundation, that Ansonborough (pre-revolving fund) and Middlesex were of “the most severely blighted sections of the city.”\textsuperscript{320}

Conspicuously, J. Palmer Gaillard, the Mayor of Charleston during this period, does not give any indication in his memoirs that the area intended for the Auditorium already had structures on it.\textsuperscript{321} He simply states that on May 27, 1964 his Auditorium Committee submitted a report with its recommendation that an auditorium be built at its current location, which consists of about 10 acres of land and fifty-eight parcels (see


\textsuperscript{319} Ibid.

\textsuperscript{320} Ibid.

\textsuperscript{321} Gaillard, 269.
Figure 16 and Figure 17). On May 28, 1964, the board unanimously approved the decision. Gaillard states that two federal grants: one consisting of 700,000 dollars and another of 406,000 dollars were obtained by the city in order to purchase the site and “assist the owners whose land was condemned, to relocate.” This was especially true for businesses affected by the demolition. He did not mention that the auditorium would cost the city of Charleston two million dollars or that it would cost the county 500,000 dollars. The auditorium ground breaking was on August 15, 1966; and, the dedication ceremony was conducted on July 15, 1968.

The more recent surrounding buildings of the Gaillard Auditorium (such as the Charleston County Public Library across the street) are somewhat modern but have a classical flair to them. If there were efforts made to save historic structures in the path of the auditorium by either the City of Charleston or the federal government, they are not readily apparent. The only two efforts that occurred were the sale of buildings on the chopping block that Historic Charleston Foundation purchased for a nominal fee and the single enduring building, which is far from the auditorium and in no way blocks the auditorium from view.

323 Ibid., 270.
324 Ibid.
325 Ibid.
327 Ibid.
City Assessments funded by Urban Renewal

Urban Renewal did not only fund the destruction of areas that had low-income individuals living in them. The money also produced comprehensive studies on specific subjects. One such study was conducted within Charleston County as well as the Hanahan section of Berkeley County.\(^{328}\) These studies included, but were not limited to, population and economic analysis, thoroughfare plans, public improvements, and concept plans for development policies. In the study titled Charleston County, S.C. Planning Report No. 3 Economic Analysis, it was reported that although the median family income in Charleston County was 4,518 dollars in 1959, when the state’s median income was 3,821 dollars, within the city of Charleston the median income was 3,597 dollars.\(^{329}\) Furthermore, there were a large number of families within Charleston County, eighty-one percent, that earned less than 4,000 dollars annually (thirty-five percent earned less than 3,000 dollars).\(^{330}\) The study attributed the large number of families of below average income “primarily to the high proportion of nonwhites in Charleston County.”\(^{331}\)

Although the Charleston County, S.C., Planning Report No. 2 Population Analysis does not indicate the economic standing of individuals living in the newly demolished area of the Auditorium, it does indicate that this section of town (number 27 in the report) lost four hundred and seventy-three residents from 1960 to 1965. This was


\(^{329}\) Ibid., 46.

\(^{330}\) Ibid., 46-47.

\(^{331}\) Ibid., 47.
the forth-highest drop in population within the boundaries of the study.\textsuperscript{332} The overall area of the peninsula city lost three hundred and forty dwellings between 1960 and 1965.\textsuperscript{333} Despite these studies, the study’s final statement on Urban Renewal in the Charleston area was a positive one:

\begin{quote}
It is recommended that the county strongly support additional state legislative action required to enable municipalities in the county to make full utilization of the federal Urban Renewal program. This program is concerned with the entire process of preservation, maintaining, improving, replanning, clearing and redeveloping older existing built-up areas.\textsuperscript{334}
\end{quote}

Ironically, this statement was followed by encouragement of historic preservation.

\textit{The Reasons for Implementing Urban Renewal in Charleston}

The City of Charleston used the condition of the neighborhood as an excuse to utilize this type of governmental involvement. In order to understand why the City of Charleston implemented Urban Renewal in this instance, it is important to understand the conditions of the Middlesex neighborhood during this period (see \textbf{Figure 18}). According to some accounts, the neighborhood was in pitiful condition. It is noted that the area’s “buildings had deteriorated into a dreadful condition.”\textsuperscript{335} Some of the houses in the area had been divided into “miserable dwelling units.”\textsuperscript{336} The director of Historic Charleston Foundation, Mrs. S. Francis Henry Edmunds noticed this concept of overcrowding. In a

\begin{itemize}
\item \textsuperscript{333} Ibid., 19.
\item \textsuperscript{335} Historic Charleston Foundation, Historic Charleston Foundation Archives, File Box: Historic Charleston Foundation Archives Ansonborough, File: Ansonborough – House Histories, “Introduction to Ansonborough Tour.”
\item \textsuperscript{336} Ibid.
\end{itemize}
letter to the contractor who worked on the renovation of all the houses after their relocation, she speaks of a house next to the newly relocated 82 Anson Street stating, “we would alter the front of that house and unchop it into either a single family house or two rental units. It is in four, and is really very slummy (Appendix 1 Photograph).”

Despite the reasoning, whether based on the poor’s living conditions or the desire to relocate the poor off this valuable land (Urban Renew criticism), the area was on the chopping block. Interestingly, not all of the dwellings were beyond saving. In an effort to save historically significant structures slated for demolition, Historic Charleston Foundation moved three houses to the Ansonborough neighborhood.

Relocation as a Means of Preservation

Due to money and space, it is understandable why only a handful of structures were relocated. The cost to relocate the structures was entirely absorbed by Historic Charleston Foundation. Although they purchased each relocated building from the city for a dollar, they still had to pay for its relocation. The revolving fund did not include the expense of relocating a building plus restoration (see Figure 19). The second problem was where to relocate these buildings as well. The structures should remain within their original environment; meaning that they should go into a neighborhood where their architectural style would be a cohesive transition to the surrounding buildings. Thus the result was to relocate the structures into a neighborhood of a comparable historic time period as well as close enough to make the move a fast and cost effective.

Assessment Process of Structures Located in Demolition Zone

The City of Charleston allowed the Historic Charleston Foundation to purchase some of the properties located in the area of demolition for the Gaillard Auditorium. In as early as October 1963, Historic Charleston Foundation was assessing structures within the proposed demolition area. In a letter dated October 27, 1965, S. Henry Edmunds, director of the Foundation at the time, writes that they are releasing houses at 27 Wall Street, and number 41 Alexander form their possible list of relocation candidates. They also state that they are positive that they want 15 Wall Street and 114 Anson Street (now 71 Anson and 61 Laurens). She states in her letter that the structures will be moved by January 1, 1965. At the time of her letter, Historic Charleston Foundation had yet to enter and assess 34 Wall Street or 116 Anson Street. In one article, Edmunds states that the foundation considered all the wooden frame buildings in the demolition area, but found that most were in “deplorable condition, with little or none of the original interior work left.” This is in correlation with a document found in the Historic Charleston Foundation Archives titled “AUDITORIUM AREA Buildings of Some Interest.” This document lists seven frame structures with the sub heading “To

339 Ibid.
340 Ibid.
341 Ibid.
342 Ibid.
Move to New Sites.” The other category is masonry structures with the sub heading “Expendable”; however, in regards to 85 Calhoun Street, there is a note stating that the structure is very valuable and “should be retained.”

In all, there were eighteen structures within the demolition zone Historic Charleston Foundation felt were significant enough to relocate. A fire that destroyed most of the pre-1838 houses in the neighborhood (due to the fact that the fire occurred in 1836). This fire helped Historic Charleston Foundation establish which houses were significant enough to try to save because they are the earliest specimens from the neighborhood. The Foundation also took into account which buildings within the demolition zone were noted in “This is Charleston” as a marker by which to rate the significance of structures. The opinion of masonry buildings being “expendable” was negated when Historic Charleston Foundation chose to relocate 86 Anson Street (now 82 Anson) a three-story masonry building. The masonry buildings were also not considered for relocation because of the high cost Historic Charleston Foundation would endure in trying to relocate them. Ultimately, Historic Charleston Foundation only save four buildings from demolition.

345 Ibid.
346 Ibid. The properties listed on the document are: 86, 96, 98, 114, and 116 Anson Street, 9, 13, 15, 21, 29, 31, and 34 Wall Street, 16, 28, 38, 31, and 41 Alexander Street, and 85 Calhoun Street. There is also indication on the document about which houses were listed in Samuel Gaillard Stoney, This is Charleston, A survey of the Architectural Heritage of a Unique American City. (Charleston: The Carolina Art Association, 1976). This is a book on the architecture within the city of Charleston.
347 Ibid.
349 Roach.
Method of Relocation

Historic Charleston Foundation hired L.A. Chitwood, Jr. as contractor for the relocation of 15 Wall Street and 114 Anson Street. In a letter dated September 28, 1965, L. A. Chitwood, Jr. quoted the cost for the relocation of six buildings for relocation without specifically identifying the address of the buildings. When this contract was signed on December 27, 1965, it was agreed that he would relocate the structures to the southeast corner of Laurens Street and Anson Street. He was also responsible for clearing the corner site, as well as rebuilding the foundations of these buildings. The agreed upon amount in the contract was 6,200 dollars for the relocation of 15 Wall Street (now 72 Anson Street) and 7,800 dollars for the relocation of 114 Anson Street, (now 61 Laurens Street) both frame buildings. In addition, in order to relocate the structures at the request of Historic Charleston Foundation and the City of Charleston, L. A. Chitwood, Jr., obtained a 500,000 dollars insurance contract with Reliable Insurance Company located in Chicago, Illinois in case of personal injury or property damage. The contract was enacted on December 22, 1965 and would expire on October 5, 1966.

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351 Ibid.
352 Ibid.
353 Ibid.
354 Ibid.
355 Ibid.
356 Ibid.
It also stated that L. A. Chitwood, Jr. owned all the equipment used in the relocation of these structures.  

**New Location for the Structures**

In order for Historic Charleston Foundation to relocate the houses to the Ansonborough neighborhood, there needed to be a suitable location for them. In an effort to obtain such a location, Historic Charleston Foundation sought to combine the three lots on the southeast corner of Laurens and Anson Streets in order to make two lots. Historic Charleston Foundation would then use these newly merged lots to relocate 15 Wall Street and 114 Anson Street (now known as the properties of 74 Anson Street and 61 Laurens Street respectively). The three lots individually were not determined to be of the proper size to relocate the houses.

**Charleston Single House Design**

All the houses Historic Charleston Foundation relocated were of the Charleston single house type. It is important to understand this architectural design in order to conceptualize the relocation process. A Charleston single house is a specific form of architecture found on the peninsula of Charleston. They have no basement and the foundation tends to be constructed out of brick piers. Due to the layout of the city, lots in the city of Charleston tend to be narrow along the street side and long in depth. Therefore, houses tended to be built to accommodate this type of land division. This

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357 Ibid.
359 Ibid.
means that houses were built with the entrance on the side of the house as opposed to the street elevation. Later a piazza, or porch of sorts, would be added to houses down one of the longest sides of the building, offering an entrance from the street on to the piazza that would lead to the houses’ entrance.\footnote{In order to combat the heat of Charleston piazzas were built on the east side of houses if the house is positioned facing north or south; where as if the house faces east or west the piazza is on the south side of the house.}

Most Charleston single houses are one room deep. The entrance room of a Charleston single house is always a stair hall. There is one room to the left and to the right of the entrance hall. There have been multiple types of additions to Charleston Single Houses since their conception in the mid-eighteenth century.\footnote{Poston, 37.} Usually more rooms are added to the rear in order to take advantage of the lot or to connect a once detached kitchen to the rest of the house, but these are modern additions and not part of the original structure. However, the basic floor plan of two rooms divided by a stair hall and consisting of two or more stories is what constitutes a Charleston single house.\footnote{Ibid.}

All four houses Historic Charleston Foundation relocated were of this design. Due to its compact nature, the houses were relatively easy to relocate intact which is the method chosen by Chitwood. It is important to understand the design of the Charleston single house in order to comprehend the relocation process. Also the lack of basements and the type of foundation allows for easy access to lift the house in order to relocate it.

\textit{61 Laurens Street}

Sixty-one Laurens Street is now located at the southeast corner of Laurens Street and Anson Street (See Figure 20 and Figure 21). It is a two-story wooden Charleston...
single house with a two-story wooden piazza located on its western side. The house has a simple hipped metal roof with dormers. There are two fire places located on the eastern elevation. The windows are nine-over-nine double hung sashes. The entrance door has a plain lintel surround with a four-panel transom over the door and five panel side lights. There is a one-room, two-story addition to the south (back) elevation of the building that was part of the house prior to its relocation as shown in the documentation photograph taken while the house was up on rollers to be relocated. The property, when sold by Historic Charleston Foundation to Buist L. Hanahan (the first owner of the property after the houses relocation) measured “frontage 84.5 x 57.8 x 78.7 x 57.5.”

Sixty-one Laurens Street’s original address was 114 Anson Street. The original structure of 61 Laurens Street was demolished and the lots reconfigured in order to accommodate the relocation of both 74 Anson Street and 61 Laurens Street. One hundred-fourteen Anson Street was constructed after 1795. It is known that in 1779, James Mackie, a cooper, acquired the lot and shared ownership with Thomas Winstanley and D. Taylor. Mackie willed the property to his son, James Mackie in 1790. The property was then sold to William More for 3,500 dollars on January 20, 1815. More soled the property on September 15 of the same year to Eliza (Neufville) Kohne for three

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366 Ibid. This is based on its inclusion of a Purcell map of Gadsden’s land after the construction of the Winstanley’s house to the north of the property.
367 Ibid.
368 Ibid.
369 Ibid.
hundred dollars less than he had paid to purchase the property.\textsuperscript{370} Eliza’s brother, Isaac Neufville is listed as living on the property in 1816.\textsuperscript{371} Neufville’s widow, Ann Simons, is listed in the Charleston directories as living on the property in 1837.\textsuperscript{372}

Historic Charleston Foundation purchased the property from Atlantic Coast Life Insurance Company on April 2, 1962 for 13,500 dollars.\textsuperscript{373} At this time, the property consisted of the original 76 Anson Street and the double lot on the corner of Laurens and Anson (consisting of 74 and 76 Anson and 61 Laurens). On December 24, 1968, Historic Charleston Foundation sold the newly relocated 61 Laurens Street to Buist L. Hanahan for 16,000 dollars.\textsuperscript{374} The balance of the property’s investment by Historic Charleston Foundation, as of October 31, 1968 was 36,238.44 dollars.\textsuperscript{375} The additions totaled 268.55 dollars. The cost of the property was 36,506.99 dollars.\textsuperscript{376} The sales price for the property was 15,040 dollars, making the net loss on the property 21,466.99 dollars.\textsuperscript{377} The cost to relocate the structure was 7,800 dollars.\textsuperscript{378}

\begin{itemize}
\item \textsuperscript{370} Ibid.
\item \textsuperscript{371} Historic Charleston Foundation, Historic Charleston Foundation Archives. Property File. File Box: 37. Historical/Miscellaneous. File Property Folders. 61 Laurens Street. Document, 61 Laurens Street (House from 114 Anson Street) partial chain of title dating from 1779-1846.
\item \textsuperscript{372} Ibid.
\item \textsuperscript{373} Ibid.
\item \textsuperscript{374} Ibid.
\item \textsuperscript{375} Ibid.
\item \textsuperscript{376} Ibid.
\item \textsuperscript{377} Ibid.
\end{itemize}
74 Anson Street

Seventy-four Anson Street is a two-and-a-half story wooden Charleston single house (See Figure 22). The piazza is one story and is on the north side of the structure. It is located just south of southeast corner of Anson and Laurens Street and faces west. The structure has a simple hipped metal roof with three hipped dormers on the north side of the roof and one on the west facing portion roof. The structure also has two chimneys on the northern elevation. The windows on the house are nine-over-nine double hung sashes. The front door has a simple Greek Revival door entablature with a square fanlight above the door. There appears to be a one–room, two-story addition to the eastern (back) of the house. The size of the lot after the houses relocation measures “frontage 54.2 x 78.7 x 46.8 x 74.7”.

When the house was first constructed, it was located at 15 Wall Street (see 23 and Figure 24). Wall Street was called Minority Street during the latter part of the eighteenth century. Michael Foucout, a carpenter, probably built the house between 1812 and 1815. This assumption is based on research leading to the conclusion that the lot was purchased by Michael Foucout from Robert Howard for 1,000 dollars in 1812. Francis Foucout, the heir (and brother) of Michael Foucout sold the lot to John M. Hopkins for

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379 Ibid.
380 Historic Charleston Foundation, Historic Charleston Archives. Property File. Box 5. Folder 2. History/Miscellaneous Info. ANSON 074.001. Property Files 74 Anson Street, Chain of Title dated from 1795-1836.
382 Historic Charleston Foundation, Historic Charleston Archives. Property File. Box 5. Folder 2. History/Miscellaneous Info. ANSON 074.001. Property Files 74 Anson Street, Chain of Title dated from 1795-1836.
3,700 dollars in 1815. This jump in price suggests that either Michael (prior to his death) or Francis (after the death of his brother) built the house on the lot. The house is significant, not solely because it is an early nineteenth-century house, but also because it survived the fire of Ansonborough in 1838 even though it was a wood frame house (See Figure 25 and Figure 26). John M. Hopkins bequeathed the house in which he resided according to his will to the Ladies Benevolent Society in 1835. The following year the Ladies Benevolent Society sold the house (at that time identified as 15 Wall Street) to John Walker for 3,000 dollars.

The assessment of the structures history is significant in the research of the property because it allowed Historic Charleston Foundation to establish that it was old enough to have survived the fire of 1838. Historic Charleston Foundation purchased the property from John McGregor on March 14, 1962 for 6,500 dollars. According to Historic Charleston Foundation Archives, referring to Historic Charleston Audit books, the property of 74 Anson Street totaled 13,804.20 dollars including purchase price and improvements to the structure after its relocation. The property sold for 17,000 dollars to Rodney W. Williams on August 19, 1969.

383 Ibid.
384 Ibid.
385 Historic Charleston Foundation, Historic Charleston Foundation Archives. Property File. Box 5. Folder 2, History/Miscellaneous Info. ANSON 074.001. Property Files 74 Anson Street, document headed “74 Anson Street built about 1812.”
387 Ibid.
82 Anson Street

Eighty-two Anson Street is located at the northeast corner of Anson Street and Laurens Street. It is a three-story masonry Charleston single house with a raised basement and a two-story piazza located on its southern elevation. The piazza has Doric columns. It also has an attached two-story addition (the ground floor is a one-car garage) located on its eastern elevation. It has a simple hipped metal roof. There are two chimneys on the north elevation of the structure. The windows are nine-over–nine double hung sashes. After the relocation of the structure, the lot measured “frontage 103.6 x 100 x 34.5 x 21.5 x 67 x 77 [as of 1974 resurvey plat R 37.]” 388

Originally, the house at 82 Anson Street was located at 86 Anson Street, and it dates to approximately 1799 (See Figure 27). 389 When the house was constructed, it was perched on the edge of a creek, where Calhoun Street is now located. 390 Josiah Smith originally built the house for his daughter, Mary Smith, who never married. 391 Upon her death in 1832, she left the house to her nephews William Steven Smith and Edward Darrell Smith. The nephews shortly transferred the property to their aunt Ann Smith Tennent (Mary’s sister). 392 According to the Charleston Sinus report of 1861, Ann Tennent lived in the house (then listed as 1 Minority Street) until her death. 393 The house

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390 Leland.
393 Thomas.
was then passed on to her daughter Herriet Tennent.\textsuperscript{394} She sold the property on February 24, 1869 to the John Conroy.\textsuperscript{395} Conroy sold the property in 1881 to his sister Mrs. Mary J. Conner.\textsuperscript{396} On December 15, 1903, J. Margret Morgan purchased the property as part of a settlement of the Conroy family properties for 16,835 dollars.\textsuperscript{397} The house was later sold to Mary Louise Moran who then sold it to Home Owner Loan Corp. on July 10, 1937.\textsuperscript{398} It was sold a year later to Clarence Oakman who presumably died intestate, leaving the property to his wife, Carrie Lee Oakman, who sold the property on May 31, 1966 to the Housing Authority of Charleston for 29,000 dollars as part of the property purchases made to build the Gillard Municipal Auditorium.\textsuperscript{399}

The house was converted into apartments during the second quarter of the twentieth century, possibly during the Oakmans’ ownership period. The eight rooms of the house, as well as the detached kitchen and boarded up piazza were reconfigured into nine apartments.\textsuperscript{400} Historic Charleston Foundation acquired the property in this condition in 1966. Although deeds can only reveal so much about the history of a property, according to Leland, 82 Anson Street (then 86 Anson Street) consisted of: a “residence of the quality, a boarding house, a rooming house, a two-family dwelling and a rabbit warren with nine units and sometimes as many as 41 persons living in it.”\textsuperscript{401}

\textsuperscript{394} Ibid.  
\textsuperscript{395} Ibid.  
\textsuperscript{396} Farrow.  
\textsuperscript{397} Thomas.  
\textsuperscript{398} Ibid.  
\textsuperscript{399} Ibid.  
\textsuperscript{400} Leland.  
\textsuperscript{401} Ibid.  

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The estimated cost to relocate 82 Anson Street totaled 11,000 dollars, plus an additional 5,000 dollars needed for exterior work for the structure (See Figure 28, Figure 29 and Figure 30).\(^{402}\) The breakdown of the work for 82 Anson Street included requests to L. A. Chitwood Jr. to: “dismantle the rear sections of the building and retain the salvage, move the top [three] floors of the main building only sideways to the adjoining lot, … dismantle the side porches or move them with the building, pour the new concrete foundation and build the walls approximately [two] feet high, [and to] set the building on the new foundation.”\(^{403}\)

The piazza columns currently on the house are actually from the Blake House located on East Bay Street.\(^{404}\) Eighty-two Anson Streets’ original columns were lost when the building was converted into apartments and the piazza was enclosed to create additional rooms. The Blake House’s columns were being removed at the same time, eighty-two Anson Street was being rebuilt. Therefore, the Historic Charleston Foundation reused the columns in order to save them.\(^{405}\)

The eastern wall of 82 Anson Street’s structure was not sound enough to relocate.\(^{406}\) In addition to the work performed on the house, Historic Charleston


\(^{404}\) Thomas.

\(^{405}\) Thomas. The Blake House piazza was a later addition and determined an unsuitable when it was being restored.

Foundation decided the original detached kitchen house be left behind for demolition due to the cost and impracticality of the move, as well as the lack of available land on the new lot; and a new kitchen (connected to the house) be constructed on the new site.\textsuperscript{407} H. A. DeCosta, the company contracted to build the addition used Waccamaw River bricks to matched both the original brick of the house, which originated from Cooper or Wando River clay.\textsuperscript{408}

Historic Charleston Foundation relocated the structure 100 feet south from its original location traveling at a speed of two feet per hour.\textsuperscript{409} The house was “hauling on huge logs by block and tackle.”\textsuperscript{410} The lot, on which 82 Anson Street currently stands, was the location of a grocery store. However, this grocery store was demolished in order to relocate the residence (See Figure 18 it is the one story white building on the right side of the photograph.).\textsuperscript{411} As appose to the other two houses relocated by Historic Charleston Foundation from the demolition area of the Gaillard Auditorium, this house was relocated due to its location on Anson Street. The city wanted to extend George Street east to East Bay Street and this house stood in the way of the road expansion.\textsuperscript{412}
The total investment for the property of 82 Anson Street was 136,415 dollars. Most of this cost is due to the structure being masonry and therefore heavier, and more complex to relocate. Also, the new addition to the east side of the structure increased the cost as well. However, Woodward contributed 70,000 dollars reducing the total investment by Historic Charleston Foundation to 64,700.\footnote{Historic Charleston Foundation, Historic Charleston Foundation Archives. Property File. Box: 5. Folder 1. A ANSON.082.001. Property File. Miscellaneous Archives, Property Files. 82 Anson Street. “Recipe” note card (1 of 1) dating roughly from August 1963 to February 9, 1973. There is no indication on this document who Woodward was or why he invested 70,000 dollars into the property.} This total investment by Historic Charleston Foundation also includes the purchase of land costing 40,000 dollars. Among some of the documents about the three houses moved by Historic Charleston Foundation there is some indication that there was a fourth house moved as well, but there is only one article pertaining to a fourth house. The article was written for the Post and Courier on 18 June 1966.\footnote{“Ansonborough Project, House Gets A New ‘Home,’” \textit{Evening Post}, June 18, 1966.} The article states that the house’s original address was 116 Anson Street.\footnote{Ibid.} The photograph accompanying the article is of a two-story frame house. The house was reportedly moved to the north side of Laurens Street between Alexander and East Bay Streets.\footnote{Ibid.} The house was to be the third of those purchased and moved by Historic Charleston Foundation and was enveloped into their Ansonborough revolving fund.\footnote{Ibid.}

The house of 116 Anson Street is believed to have been built in 1788 by Thomas Winstanley.\footnote{“Ansonborough Project, House Gets A New ‘Home’”, \textit{Evening Post}, June 18, 1966.} Thomas Winstanley was part of the Charleston Militia and after
Charleston fell to the British, he accepted a commission to the British military.\footnote{Ibid.} As a result, he lost most of his property when the Revolutionary war ended.\footnote{Ibid.} However, by 1785 he was back in the good graces of the new republic and was a practicing lawyer in Charleston.\footnote{Ibid.} By 1790 he was living at 116 Anson (then called Scarborough Street after one of Lord Anson’s ships).\footnote{Ibid.} In what appears to be the draft of a memo intended to be to “Evans” and from the Preservation Society and the Historic Charleston Foundation, the estimated cost of moving 116 Anson Street was 7,000 dollars.\footnote{Historic Charleston Foundation, Historic Charleston Foundation Archives, Property File. Box: 5. Folder 1. A ANSON.082.001. Property File, Miscellaneous Archives, Property Files. 82 Anson Street. Memo, no date, on Historic Charleston Foundation stationary. Titled “Peter: - Letter to Evans from Preservation Society. Letter to Evans from HCF. This document does not state where these figures came from or any indication that Chitwood had been consulted.} The estimated cost to work on the exterior of 116 Anson Street would be about 2,000 dollars.\footnote{Ibid.}

Evidence as to exactly when and where the house was relocated is somewhat confusing. There is no property file on 116 Anson Street in the Historic Charleston Foundation archives. The only frame house on the block described in the newspaper article is that of 8 Alexander Street. However, the only photograph of the house while it was being moved shows what appear to be two piazzas (one on each side of the house) and an addition to the front of the house.\footnote{“Ansonborough Project, House Gets A New ‘Home,’”\textit{ Evening Post,} June 18, 1966.} The evidence of such an addition to the front of the house is that the windows are offset and the pediment appears to be a different depth than that of the front façade. There is also no evidence that 8 Alexander Street is in fact 116 Anson Street because there is no indication in the property listings of the
Historic Charleston Foundation that 8 Alexander ever belonged to them or that they sold it.

According to one document, three years after the relocation of the three houses (74 Anson, 82 Anson and 61 Laurens Streets) there was yet another house still on rollers with no place to relocate it. This could not be 116 Anson Street because the newspaper states that it was moved to its new lot (a definitive location for the structure). Also in some documents, there is confusion between 114 Anson Street and 116 Anson Street. However, when the newspaper photographs of the structures are compared it is obvious that 114 Anson Street is today 61 Laurens.

There is a letter dated October 19, 1965 in which L.A. Chitwood Jr. states that he is prepared to move 114 Anson, 15 Wall and 34 Wall Street to the corner of Laurens and Anson Streets. Is 34 Wall Street a fifth mystery building that was still up on rollers in 1968? There is no indication in the Historic Charleston Foundation archives as to if this house was relocated or to where it was relocated.

The result of the relocation effort, when it was completed, was that three houses were saved from the Middlesex neighborhood and one was possibly relocated as well.

Over the past fifty years, they have settled into their adopted locations without any

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trouble. They appear as if they were always a part of the Ansonborough neighborhood.

This is mainly due to the fact that there was little difference between Middlesex and Ansonborough.
Figure 15: Modern day photograph of Gaillard Municipal Auditorium. This photograph was taken by Xana Peltola on October 22, 2007.
Figure 16: Aerial photograph (looking north) depicting cleared auditorium area prior to construction. Used with permission of Historic Charleston Foundation. Located at the Historic Charleston Foundation Archives under ANSBaerial0003.
Figure 17: The above map is the 1951 Charleston, South Carolina Sanborn map page 47. The red area indicated is the demolition area. This map was drawn by Xana Peltola. The information obtained on this map is located at the Historic Charleston Foundation on a map located within the Historic Charleston Foundations Archives.
Figure 18: Photograph of 82 Anson Street prior to its relocation. However, this photograph offers a view into the neighborhood of Middlesex before its destruction. This photograph is looking east. The photographer is standing in the middle of George Street. Used with the permission of Historic Charleston Foundation. Located at the Historic Charleston Foundation Archives under ANSON.86.003A.
Figure 19: News and Courier article February 5, 1967, advertising the sale of Historic Charleston Foundation homes in Ansonborough. This clipping features 61 Laurens and 74 Anson Street.
Figure 20: North side of 61 Laurens Street. Photograph taken by Xana Peltola on October 22, 2007.

Figure 21: West side of 61 Laurens Street. Photograph taken by Xana Peltola on October 22, 2007.
Figure 22: Photograph of 61 Laurens taken during relocation. Used with the permission of historic Charleston Foundation. Located at the historic Charleston Foundation Archives under laurens610001.
Figure 23: West side of 74 Anson Street. Photograph taken by Xana Peltola on October 22, 2007.
Figure 24: Photograph of 74 Anson Street taken prior to relocation but during initial relocation phase. Used with the permission of Historic Charleston Foundation. Located at the Historic Charleston Foundation Archives under ANSON 074.003A.

Figure 25: Photograph of 74 Anson Street during relocation. Used with the permission of Historic Charleston Foundation. Located in the Historic Charleston Foundation Archives under ANSON 74.002.
Figure 26: Interior of 74 Anson Street prior to restoration. W. A. Jordan took this photograph. Used with the permission of Historic Charleston Foundation. Located at the Historic Charleston Foundation Archives under ANSON074.004A.
Figure 27: Interior of 74 Anson Street prior to restoration. W. A. Jordan took this photograph. Used with the permission of Historic Charleston Foundation. Located at the Historic Charleston Foundation Archives under ANSON 074.004B.
Figure 28: West side photograph of 82 Anson Street prior to its relocation. Used with the permission of Historic Charleston Foundation. Located in the Historic Charleston Foundation Archives under ANSON 086. 002A.
Figure 29: Photograph of 82 Anson Street prior to its relocation. Used with the permission of Historic Charleston Foundation. Located at the Historic Charleston Foundation Archives under 82AnsonSlidesP10020.

Figure 30: Photograph of 82 Anson Street prior to its relocation. Used with the permission of Historic Charleston Foundation. Located at the Historic Charleston Foundation Archives under 82AnsonSlideP20011.
ANALYSIS AND COMPARISON

The following section is the analysis of the two case studies of the Cape Hatteras Lighthouse and the relocation of Middlesex houses by Historic Charleston Foundation. In order to understand the impact on the historic structures and the methods implemented to preserve the structures by relocation, each case study must be closely scrutinized before they are compared. The relocations can be contrasted in terms of original environment (meaning urban or rural context), consideration and preparation of the new site, technology utilized in relocation, and the duration of the planning process.

Relocation of Hatteras Lighthouse and Keeper’s Dwellings
by the National Park Service

Delay

One of the major flaws in the relocation process at Hatteras was the long delay preceding the relocation. The National Park Service repeatedly attempted to postpone the relocation. The delay is due partially to a slow bureaucratic process as well as the National Park Service seeking to build groins in the early 1990s instead of funneling that money toward relocation efforts. The delay of the relocation of the lighthouse jeopardized its survival, especially after it was determined in the early 1990s that it must be moved. Almost a full decade passed before the lighthouse was relocated, and this was largely the fault of the National Park Service. Other delays centered on public opinion, specifically the initial opposition by the public to relocation of the lighthouse.

The stalling of the relocation endangered the lighthouse more so than experts ever said that the move would. Had technology been the factor, if it was thought that the
relocation could not be accomplished safely, then the lighthouse should not have been moved and other options should have been considered. However, for at least ten years prior to the move, experts in the engineering field advised in favor of the relocation and numerous methods were explored to move the structure intact. These were not pie-in-the-sky dreams of technology that was unavailable; they were innovations and methods that could be proven. The National Park Service should never have been bullied into wasting time and money requesting groins instead of focusing its efforts on moving the lighthouse sooner rather than later.

Part of the Park Service’s delay stemmed from the unpopularity of the relocation with the public. This was mainly due to the highly vocal community surrounding the lighthouse, which had multiple personal and sentimental reasons for opposing the lighthouse move. Therefore, many congressional representatives opposed the relocation to appease their constituents.

One reason for the local opposition was fear for the structure’s integrity during the relocation process. The Park Service’s endeavor of “mov[ing] the nation’s tallest brick lighthouse” was not a small undertaking. Additionally, losing such a structure would affect the area both monetarily and culturally. The tourist attraction of Cape Hatteras Lighthouse “$1.1 billion (undiscounted) in trip expenditures and $639 million in consumer surplus in 2007.” The loss of this attraction would not only significantly

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430 Yocum, 100.
impact the county but also the region. Nonetheless, while the lighthouse is a cultural icon to the local community, it is also a historically significant structure to the remainder of the United States as well.

The local community knew that the addition of groins would benefit not only the lighthouse but also other coastal structures, and because of their reliance on said structures, they favored that treatment over the option that was best for the lighthouse. The local community mainly pushed for the groins in order to protect their own properties at the expense of the federal government. This shows that they had a vested interest in the continuation of groins and not primarily in the preservation of the lighthouse. The National Park Service should have realized this and taken it into consideration when compiling evidence during the debates. The voice of the local community should be heard but should not be weighed with equal consideration as experts when the survival of a nationally significant icon is at stake.

The issue of the relocation the lighthouse had been brought to the attention of two United States Presidents. The first President involved in the issue was former President Ronald Reagan, who in 1991 was made “an honorary ‘Keeper of the Light.’”432 The second President approached about the matter was then-President Bill Clinton.433 The issue developed from gaining the attention of a former president to becoming a monitored situation by the Whitehouse. Clinton was specifically asked to assist in the effort to

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432 Carr, 114.
433 Yocum, 99.
relocate the lighthouse during a trip to North Carolina in 1997.\textsuperscript{434} In response to the request, he appointed his chief of staff to oversee the matter from the White House.\textsuperscript{435}

The involvement of the President in such a matter solidifies the attachment the lighthouse has to the whole of the United States, not just on a state or local level.

The relocation of the Cape Hatteras Lighthouse is an interesting study of opinions and motives. For decades, professionals advocated for the relocation of the lighthouse, however, constituents opposed and thus endangered the survival of the structure.

Congress, and in direct correlation the National Park Service, relied more on public opinion and votes than expert studies.

The case of the relocation of the Hatteras Lighthouse is one of man versus nature as well as man against himself. If the lighthouse were to be preserved without confining it behind sea walls, it had to be relocated. The nature of a barrier island makes it impossible for anything to remain in perpetuity. However, some observers of the Hatteras Lighthouse situation wanted to fight nature and wall it off. Still others fought against each other for personal gain or votes while all the while the lighthouse was caught in the middle, biding its time until it was saved from destruction. In the end, it was decided that the lighthouse would move with nature in order to beat it at its own game of shifting tides.

**Relocation of Three Houses by Historic Charleston Foundation**

There are multiple examples of relocated historic buildings in Charleston for historic preservation. In the past, the College of Charleston has relocated multiple...
buildings around their campus. Most recently, nine houses were moved in order build the new Cooper River Bridge. The choice of studying the relocation of the houses by Historic Charleston Foundation was based on multiple factors. One such factor is that the relocation of structures was administered by a preservation foundation. Also, the administration of an intact relocation was also a deciding factor. In addition, the existence and access to a plethora of primary sources that had yet to be examined or synthesized offered a unique opportunity to conduct original research. Although it is easy to criticize actions with the added benefit of hindsight, the choice of this case study was based on multiple factors and not on the period of time in which it occurred.

It is possible that the choice to build the Gaillard Auditorium at its current location is in direct correlation with the choice of Historic Charleston Foundation to revitalize the neighborhood of Ansonborough. The city of Charleston no doubt knew what the Historic Charleston Foundation was doing for the neighborhood when the site was chosen. By attracting the middle class to downtown, as opposed to watching them move out of the city to nearby suburbs like West Ashley and Mount Pleasant, the tax base downtown increased, increasing the city’s revenue. The addition of an auditorium in close proximity to a newly improved historic neighborhood would draw them in, as would the increased safety of the area.

Socioeconomically, the revolving fund Historic Charleston Foundation utilized in Ansonborough as well as the decision to build the Gaillard Auditorium in Middlesex were not the best methods to restore Ansonborough. The combined forces of the Ansonborough project and the disbursement of the families and individuals living in
Middlesex caused the area to no longer have any possibility of being economically diverse. Then some families and persons of modest means could have remained and maintained the diversity of the neighborhood.

Another change Historic Charleston Foundation could have implemented is to alter their revolving fund method. They could have changed how they distributed the earnings from the resales; instead of concentrating on one neighborhood, Historic Charleston Foundation could have invested in a variety of selected locations, thus planting seeds around the city to enhance the entire area. In the end, the actions of Historic Charleston Foundation affected the surrounding areas of Ansonborough and therefore the future of Middlesex, thus achieving their goal of improving one neighborhood. They changed Ansonborough to such an extent that it unintentionally impacted the future of Middlesex for the worst and not its betterment.

Price for Relocation in an Urban Environment

The effort by Historic Charleston Foundation to save part of Charleston’s history was a great feat. They managed to rescue a sample of the architecture of a neighborhood that no longer exists in any way today. Historic Charleston Foundation invested thousands of dollars into houses just to relocate them. The money for their subsequent rehabilitation projects came from the sale of houses in Ansonborough; however, the relocation itself did not contribute to the price of the home when it reached the market. In addition, they had to make a choice between one historic structure and another when making room for the relocated structures. In an urban environment such as Charleston there is not a lot of room to move houses. Over the centuries, houses have been filling in
gaps between earlier houses. One of the attributes of Charleston’s architecture is that even the infill between older buildings is often historic structures as well.

Unfortunately, one such infill house was demolished to allow for the relocation of the Middlesex houses. Located at what was 76 Anson Street was a two-story frame house constructed in 1871 by Martin Caulfield.\(^{436}\) Prior to its demolition in early December of 1965, it was owned by Historic Charleston Foundation for two years as part of the revolving fund efforts in the Ansonborough neighborhood. Assessing the frame house in 1965, S. Henry Edmunds stated in the Charleston Evening Post that the building “doesn’t seem suitable for restoration.”\(^{437}\) According to some records, Historic Charleston Foundation demolished two houses, the original 76 Anson Street and another house, in order for the current 61 Laurens Street and 72 Anson Street to be relocated to this site.\(^{438}\) In addition, they also demolished a grocery store that was located on the northeast corner of Anson Street and Laurens Street.\(^{439}\) However, the only information on housing demolition by Historic Charleston Foundation is on 76 Anson Street.\(^{440}\) The demolition of the original 76 Anson Street (owned by Historic Charleston Foundation) cost $1,985 dollars.\(^{441}\)
Historic Charleston Foundation invested a great deal of money in their efforts to save these buildings from demolition. The original 76 Anson Street house was part of Historic Charleston Foundations revolving fund; they had attempted to sell the property for two years, but no one had purchased it (See Figure 31). This might have proven to them that the house was a bad investment and that the land would be put to more efficient use if two houses were on the lot as opposed to one. Preservation advocacy and difficult decisions like this almost always come down to significance. During this period (and throughout the 1980s in Charleston), it was common for Victorian era houses to register low on the keep-or-don’t-keep scale. Mostly, this opinion centered on the belief that most Victorian era houses were tacky, and in a city that still had architectural roots dating back to the colonial period, it is not that difficult to understand that Victorian style houses were ranked well below that of Colonial or Greek Revival style. Although it is probable that Historic Charleston Foundation did not respect this view, it is likely that those who were in the market for historic houses did not want one of a later style and would much rather have an older and more traditional in style. No doubt, Historic Charleston Foundation determined that the two houses they were saving would have a larger market of potential owners who wanted an early nineteenth century house as opposed to a late nineteenth century house.

Today, taste in buildings is not measured by personal taste. Historical and architectural significance are the rulers of what is worthy for preservation and what is

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not. When working in a dense urban environment, it is difficult to move structures physically but it is often even harder to find new locations for them. Historic Charleston Foundation felt that the cost of one building was worth the preservation of two others.

It is unfortunate that preservation must be thought of in these terms, but when structures are considered for demolition sometimes the final determination is centered on economic gain. Historic Charleston Foundation had tried one way, failed, and therefore attempted a new tactic. Unfortunately, it resulted in the demolition of a historic house, which is an unfortunate loss. If they were willing to demolish it, they also could have relocated it, or chosen another site for the houses of Middlesex.

The demolition of a historic structure is an abomination in the name of preservation. There is no way to measure one historic building over another. A historic building’s significance is a measure of the building on its own merits, not a comparison between two or more buildings. The demolition of the original 76 Anson Street is why the relocation of the Middlesex buildings is not a good example of relocation for preservation. Historic Charleston Foundation’s had good intentions in saving the other buildings, but it was at the cost of another historic building.

**Comparison of Case Studies**

These two case studies were chosen for their fundamental differences as there similarities. The strongest similarity is that both studies included intact relocations. It is very important to recognize that the best way to preserve a structure is to keep it in one piece. A contrasting aspect between the two case studies is that the Hatteras Lighthouse is in what could be considered a rural setting within a national park, whereas the
relocation by Historic Charleston Foundation was in a midsized urban setting. However, these two case studies have one remarkable similarity – the severity of the need for relocation. In the case of the Hatteras Lighthouse, the natural environment was causing the lighthouse to be slowly destroyed by the natural environment; in the case of the three Middlesex houses, urban renewal – a manmade reason – was the catalyst for the relocation. Although there are many differences between the two relocations, their comparison can reveal broad principles regarding how to move an historic structure ethically.

**Technology**

The lighthouse needed to be moved due to the gravity and immutability of coastal erosion, but the relocation was only reasonable given the availability of technology to do so safely. In all matters of relocation, there is a possibility that the structure could be damaged. Therefore, whenever possible, it is best to move the structure whole in order to reduce the degree of destruction of the structure or to minimize and compromise of its historic significance by damaging it during dismantling. The first proposed method of relocation for the lighthouse was confused with the Cape Lookout lighthouse in which the firm suggested that the lighthouse be relocated in sections. This would not have been a viable option due to the destruction involved in such a process. In the hierarchy of methods to relocate a building, moving intact is the best way. When a building is moved intact, it retains its original construction. When it is fully or partially disassembled, it loses some of its historic fabric because pieces could be lost and new building technology must be put into the building in order for the building to be put back together. The
biggest reason why relocation may not be a good method of preservation is that the relocation of a building can cause damage to architectural elements that are in perfect condition prior to the move. However, because of the technological advancement of the hydraulic jacking system, intact movement of the whole lighthouse became a viable option for its relocation.

In comparison, even though the relocation of the three houses from the Middlesex neighborhood by Historic Charleston Foundation occurred during the late 1960s, technology was already advanced enough that the houses could be moved intact. It is also fortunate that the design of the Charleston single house is compact and in its original form does not have radiating rooms (although some have a telescoping effect when the detached kitchen becomes attached to the main house). When this aspect of the relocation in both situations is considered, it is possible that the act was as safe for the structures as it could be with our technological abilities today. Relocation without dismantling, although difficult due to the size of the structure, is the best way to move the structure without compromising its significance. Keeping the structure intact is the ultimate goal of any preservation effort.

**Length of Relocation Deliberation**

The comparison of the two relocations differs most in the time it took to organize, plan and relocate the structures. The relocation of the lighthouse was a topic discussed and debated for thirty years before the lighthouse was finally moved. This was to the lighthouse’s advantage due to the advancement of technology; however, the time spent debating, especially the time lost in the 1990s by the National Park Service requesting
groins instead of working on relocation, placed the lighthouse in greater danger of destruction.

In contrast to the ample time the Park Service had to prepare for the relocation of the lighthouse, Historic Charleston Foundation only had less than three years to move three houses. An exact time cannot be determined, because it is not likely that Historic Charleston Foundation knew they could obtain the houses within the demolition zone when the Auditorium Committee first passed the resolution to construct the Gaillard Auditorium.\textsuperscript{443} Although the lighthouse relocation required more planning due to the complex system of hydraulics,

One of the other aspects of relocation that must be considered during the planning period is where the structure will be relocated. In the case of the Hatteras Lighthouse, it was possible to relocate the structure only 2900 feet southwest. This is a temporary solution to the problem; the island will continue to shift, and therefore the lighthouse will need to be relocated again. In the preservation field, most methods are temporary or reversible because if the solution is discovered to be detrimental to the building or if a better solution is developed in the future, it can be applied if the previous solution was completely removable. The relocation of the lighthouse on the same barrier island (as opposed to moving it completely off the island) enables the lighthouse to remain in its natural environment.

Unlike the lighthouse’s relocation, the Middlesex houses were moved to a new permanent location. The move of the Middlesex houses to the Ansonborough

\textsuperscript{443} Gaillard, 269.
neighborhood was also a relocation in which the structures could remain in an environment comparable to their original location. The three houses relocated by Historic Charleston Foundation all date to the early part of the nineteenth century; there are also houses in the Ansonborough neighborhood dating to this period. The relocated houses are not a unique architectural style for the Ansonborough neighborhood; therefore, they do not stand out as not belonging there. In addition, the style of the houses (the Charleston single house) is a common style within the neighborhood. The third factor that allows for the neighborhood to envelop the relocated houses well is that they are not a distinctive size. The houses were also moved into another neighborhood setting as appose to being on large tracts of land unsuitable for their urban vernacular design.

Unfortunately, in an urban setting, a location that is right because of similar context is often the wrong location because another building is already there. The practice of destroying a house to save another one is not a common (or advised) method of preservation; it constitutes the only major drawback of Historic Charleston Foundation’s efforts, but it was not a factor during the relocation process of the Hatteras Lighthouse. The lighthouse had room to move, whereas due to the nature of the urban context, there were only so many parcels on which to move the Middlesex houses.
Figure 21: Photograph by Jordan of the original 76 Anson Street prior to its demolition. From "Foundation will Save Two Houses," Charleston Evening Post, Monday, December 6, 1965.
CONCLUSION

The process of relocating a house consists of a system of steps. When all of those steps are completed, then the relocation was a logical and practical success; however, when relocating a house in order to preserve it for future generations, there are ethical steps that should be addressed as well. Some of these ethical steps are part of the general moving process; others are aspects that preservationist and individuals interested in moving structures for preservation must investigate before, during and even after the course of action.

The first ethical issue revolves around choosing a new site. The site should have the same landscape as the original site. In the instance of the Hatteras Lighthouse, the lighthouse remained on the barrier island, therefore it retained its sense of place. It would be unethical to relocate a structure to an area that could not sustain the structure (due to development, poor natural conditions, etc.). This was not the case in the lighthouse relocation. Although the lighthouse will need to be relocated in the future if the barrier island continues to behave as it has for the last century, the relocation was ethical because at this time it was the only option to save it while allowing it to remain in its original environment. Due to the nature of the barrier island, it will continue to change, therefore if the built environment is to be preserved in any way, it will have to change, too. In the case of the lighthouse, that meant its relocation.

Furthermore, the relocated structure should in no way stand out from its new neighbors. Due to the time period and design of the single house as well as the comparable construction times of both the neighborhoods of Ansonborough and
Middlesex, the relocated Charleston houses fit into their new locations. In addition, the structure can be placed in a location that will not jeopardize the structure’s historic integrity as well as not infringe on another historically significant site. This was not the case in Historic Charleston Foundation’s efforts. All historic structures should be respected; this is the only ethical way to relocate houses. If an appropriate site is not available then the house might need to be deconstructed and placed in storage until a time comes when the house can be relocated properly. However, the best option is to relocate the structure to a new site intact to save as much of the historic fabric as possible. In the case of the Hatteras Lighthouse, the relocation is technically temporary due to the evolving nature of a barrier island, but it is the best and natural location of the lighthouse and therefore the best option for its new site.

In order to relocate a historic house ethically, a second ethical concern is that precautions should be taken with regards to the structure itself. First, extensive research and documentation should be performed on the structure. If there is a problem during the move and historic fabric is damaged, proper documentation is crucial to repair the structure and fabric. In order to perform extensive research proper authorities (the State Historic Preservation Office) and educated preservationists should be hired to perform such tasks. In the same phase of hiring a preservation consultant, a structural mover should also be hired. These two individuals should consult with one another on their views and determine the proper course of action. Part of the new history of a house that is relocated is the relocation itself, which should be extensively documented for future posterity. In addition, the relocation should be planned with the utmost care. Schedules,
permits, route and methods should be planned well in advance to insure the safest transportation of the structure. In the case of a structure being fully or partially relocated, the house’s preparation should also be well planned. This is another instance where the preservationist and the structural mover must work together to establish the best way to secure the house for relocation. Also, the relocation should be documented well. One of the most difficult things when researching the relocations by historic Charleston Foundation is that they made little or no distinction between the relocated houses and other houses. The fact that a house has been relocated contributes to the houses history and must be documented extensively.

Finally, there are ethical concerns after the relocation as well. After the house is relocated, it should not be additionally altered as Siegel did with his Victorian house. Unfortunately, some historic fabric will be lost, but elements should not be disregarded unless they jeopardize the structural integrity; as much of the historic fabric should be retained as possible. The safest relocation method that will retain the most historic fabric is the most ethical course of action when relocating a structure. This is not the case in the relocation of 82 Anson Street. The addition of the attached kitchen and garage altered the whole of the building; meaning that it currently has an historically out of place attached garage. However, the brick they used was in kind with the brick of the house. Also, the two other houses that they relocated received no exterior alterations that would alter their historical significance.

The ethics of preservation by relocation are easily applied to each situation. However, some aspects of the ethical debates become more complex and difficult than
others, depending on the case at hand. It is important to remember that the outcome should maintain the integrity of the historic fabric of the structure as well as respect the surrounding environment both on the original site as well as on the proposed site. The proper application of ethics to the decision and process of a relocation is the difference between relocating an old building with good intentions and performing a structural move that constitutes good historic preservation.
APPENDIX

Foreign Relocation Policy

The United States is not the only county that struggles with historically significant structures that have been relocated. The Museum of Australia in Queensland has preformed research on their unusual history in which multiple relocated buildings are used for outdoor museums. Recently, they conducted a study to be presented to their National Trust for consideration for a national policy. Although the Australian National Trust does not advise the relocation of historic buildings, as does the United States, they do manage multiple moved buildings and in this particular area relocation is “a historic Queensland activity and should continue.”

The report attempts to answer whether they are really preserving historic buildings by relocating them or if they are damaging their historic significance. Within the Queensland area, it was traditionally cheaper to relocate a building than to build a new structure. However, there is some historical evidence that public and private houses were moved around the entire continent of Australia. Philip Crowther claims that in 1788 Governor Phillip brought a “prefabricated portable house with a structural frame of timber and a roof and walls of painted cloth.” In Australia, buildings were traditionally relocated rather than built anew because of the high cost of materials due to remoteness of area; however, buildings are now being relocated in the same region in order to save them from demolition or to use them for museums within a replica historic village.

This practice of recreating something of the past with a mishmash of albeit historic buildings without any context or unifying factor has also appeared in the United States with Henry Ford’s Greenfield Village in Dearborn, Michigan. In order to avoid fabricating history and to favor authentic history, the Museum of Australia in Queensland recommended that “qualified historians, archaeologists, curators and other specialists be engaged as advisors.” If the museum is more fiction than fact, they would be forced to advertise that and can only receive funds from their patrons. However, authentic historic sites would qualify for government funds.\textsuperscript{446}

\textsuperscript{446} Museums Australia Queensland, “Moving Buildings.”
VISUAL ARCHIVED DOCUMENTS

Historic American Buildings Survey Photographs for: HABS No. NC- 357—A.

----- HABS No. NC- 357—B.


74 Anson Street/14 Wall Street:
ANSON 074.002 74 Anson Street.
ANSON. 074.003A-B 74 Anson Street.
W.A. Jordan. ANSON 074.004A 74 Anson Street.
W.A. Jordan. ANSON 074.004B 74 Anson Street.

82 Anson Street/86 Anson Street:
ANSON 086.002A-B 82 Anson Street.
ANSON 086.003A-B 82 Anson Street.
ANSON 082.007 A-B-C “Original House 82 Anson Street (destroyed)”

61 Laurens Street/114 Anson Street:
ANSON 114.002 114 Anson Street.
“61 Laurens” - five photographs of structure being moved.

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Cannell, Michael. “Sand Dollars.” Architecture 88, no. 9 (September 1999).


Daerr, Elizabeth G. “Hatteras Light Move Completed.” National Parks 73, no. 9/10 (September/October 1999).


Includes:


-----. “Saving a neighborhood through historic preservation – a nonprofit corporation with limited resources is providing impetus for restoring Charleston’s historic Ansonborough,” Reprinted from the Journal of Housing 24, no. 3 (April 1967). Publication of National Association of Housing and Redevelopment.

-----. Property File. File Box: 37. Historical/Miscellaneous. File Property Folders. 61 Laurens Street.

Includes:

Document. 61 Laurens Street (House from 114 Anson Street) Date and cost of property when HCF purchased it on April 2, 1964.
Document. Date and cost of property when HCF purchased it on April 2, 1964.

-----. Property File. Box 37. Gift Folder. Property Files. 61 Laurens Street.

Includes:

Deed of Conservation Easement (Residential Façade and Interior)

-----. Property File. Box 37. Management File. Property Files. 61 Laurens Street.

Includes:

Document. From First Federal Savings and Loans to Buist L. Hanahan with the purchasing price listed.
Document. Includes photographs and descriptions of 61 Laurens with exterior and interior elevations.


Includes:

Titled: Specifications, Proposal and Contract for Relocation of Buildings
for Historic Charleston Foundation.
Issued at the request of Charleston Historic Foundation and the City of
Charleston.
Jr. Heavy Hauling and Rigging House Moving.
Letter. Dated October 27, 1963. To: Mayor Gaillard From: Director of Historic
Charleston Foundation S. Henry Edmunds.
Chitwood, Jr.
Carolina.
Property Files 74 Anson Street.

Includes:

“74 Anson Street built about 1812.”
Chain of Title. Dated 1795-1836.
Document. Stating that prior to relocation to 74 Anson Street the building was
located at 15 Wall Street.
MEMO TO HISTORIC CHARLESTON FOUNDATION, signed by Samuel
“Michael Foucout’s House, c. 1812, 74 Anson Street Owned by Mr. and Mrs.
Rodney Williams – Just [retored] – For Rent.”
Archives, Property Files. 82 Anson Street.

Includes:

“Ansonborough: an Undeniable Success.” March 19, 1972. Reprinted from the
Journal of Housing 24, no. 3 (April 1967). Publication of National
Association of Housing and Redevelopment.
Document. Proposed costs of relocating and exterior rehabilitation costs.


Memo. No date. on Historic Charleston Foundation stationary. Titled “Peter: - Letter to Evans from Preservation Society, Letter to Evans from HCF.


Includes:

“Charleston, S.C., Single House Moved.”


“House Built For Spinster” see Thomas, W. H. J.


“MISS MARY SMITH’S HOUSE C. 1799 82 ANSON PROPERTY OF HISTORIC CHARLESTON FOUNDATION FORE SALE AS A PRIVATE RESIDENCE.” Signed by Frances R. Edmunds, 22 March 1970.

“‘Traveling’ House Rests On New Site.” see Leland, Jack.


“Moving the Brighton Beach Hotel” *Scientific American*, LVIII, no. 15 (April 14, 1888).


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-----. National Register of Historic Places, National Register Federal Program Regulations. Title 36 Chapter 1.

