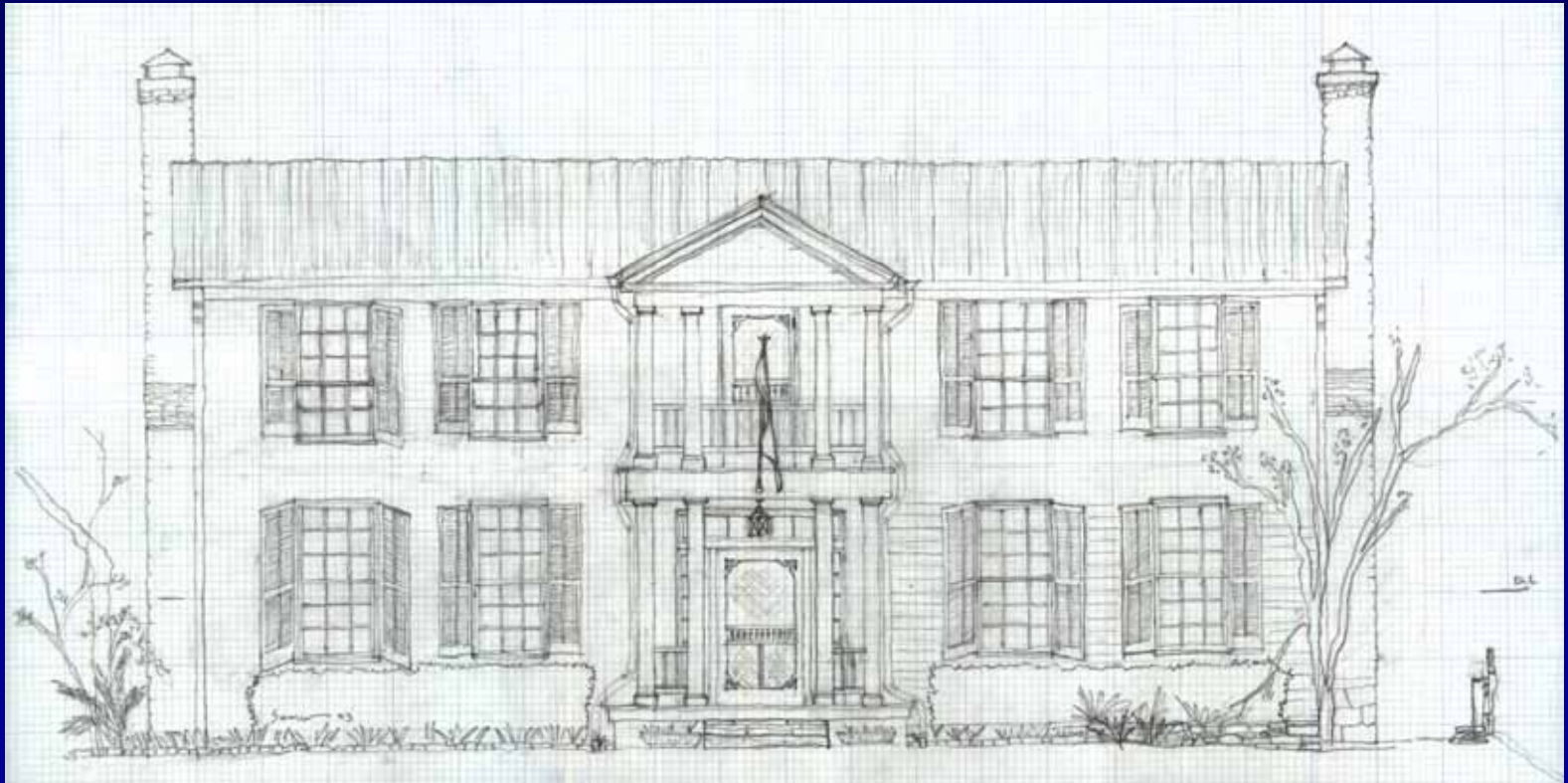


Mrs. Sam Houston House Independence, TX



Mrs. Sam Houston House, Independence, TX

Project Overview



Picture of some members of the Houston family,

- Background: House belonging to Sam Houston's widow until her death in 1867. The house was built in Independence, TX around 1855. House currently owned by Pat and Sherry Elliot.
- Project Team Members: Professor David Woodcock, Dr. Richard Burt, Dr. Ulker Oren, Samer Ratrout, Katie Blanchard, Laura Brown.
- Acknowledgments: Ellen Beasley, Professor Thomas Woodfin.
- Project Objective: To document the current state of the Mrs. Sam Houston House to HABS Standards.

Mrs. Sam Houston House, Independence, TX

HABS Guidelines

As outlined by the Historic American Building Survey (HABS), the process of documenting a building can be outlined as follows:

- Planning the project
 - Setting objectives and determining how the goals are to be met.
 - Determining the work schedule.
 - Taking steps to ensure project safety.
 - Obtaining the necessary equipment for documenting the site.
- Recording Site Information
 - Sketches and field notes
 - Other methods – Researching site history, photography, and photogrammetry
- Measurements and Sketches
 - The measurements and sketches should provide information on the plan, elevation, section, detail and roof views of the site.

HABS Guidelines (Cont.)

- Creating Final Drawings - Traditional vs. CAD approach
 - Traditional approach
 - Preliminary Drawing Process
 - Determining sheet layout and drawing scale.
 - Creating pencil drawings of the plans, elevations, sections, and details.
 - Final Drawing Process
 - Determining the final sheet layout, inking techniques, and lineweights.
 - Creating final ink drawing set.
 - CAD approach
 - Choosing drawing scale, and determining drawing layouts.
 - Selecting line weights for the drawings. (Different layers represent the different line weights in the CAD program.)
 - Creating plan, elevation, section and detail drawings using a CAD program.
 - Printing final drawings on mylar.

Planning the Project



Samer, Laura, and Katie meet to assess the progress on the final drawings and discuss the objectives for the next site visit.

Setting Objectives and Determining the Work Schedule

Before beginning the work at the site, the project team met to discuss the scope of the work, the schedule, and the expected finished product. The project team visited the site to get a feel for the amount of work that would have to be done to properly document the site. The finished product for the project, i.e. drawings and photographs were to meet the requirements outlined in the HABS Guidelines.

After the work began, the team met from time to time to assess progress and ensure that adequate information had been obtained for each of the required drawings.

Planning the Project (Cont.)



Laura Brown climbs the ladder to get additional measurements of the eaves, while Larry Reiter braces the ladder.

Ensuring Project Safety

Prior to visiting the site, the team discussed project safety. This included determining the potential hazards and taking the necessary precautions. These precautions included wearing the appropriate clothes and shoes, and using ladders to measure elements out of reach from the ground.

Mrs. Sam Houston House, Independence, TX

Planning the Project (Cont.)



Obtaining a profile of the molding on the front door of the Mrs. Sam Houston House.

Necessary Equipment for the Project

Listed below are some of the items used to document the Mrs. Sam Houston House:

- transit
- paper targets - used to mark datum points on structures and objects
- string
- profile comb – used to obtain full-sized profile of moldings, etc.
- steel tape measures (of varying lengths)
- wall calipers – used to measure wall thickness
- flashlight
- stakes, nails, hammer
- drawing supplies – including graph paper, pencils, scales, etc.

Recording Site Information



Katie Blanchard and Ulker Oren measure and sketch the star-shaped flower bed on the East side of the house.

Field Notes

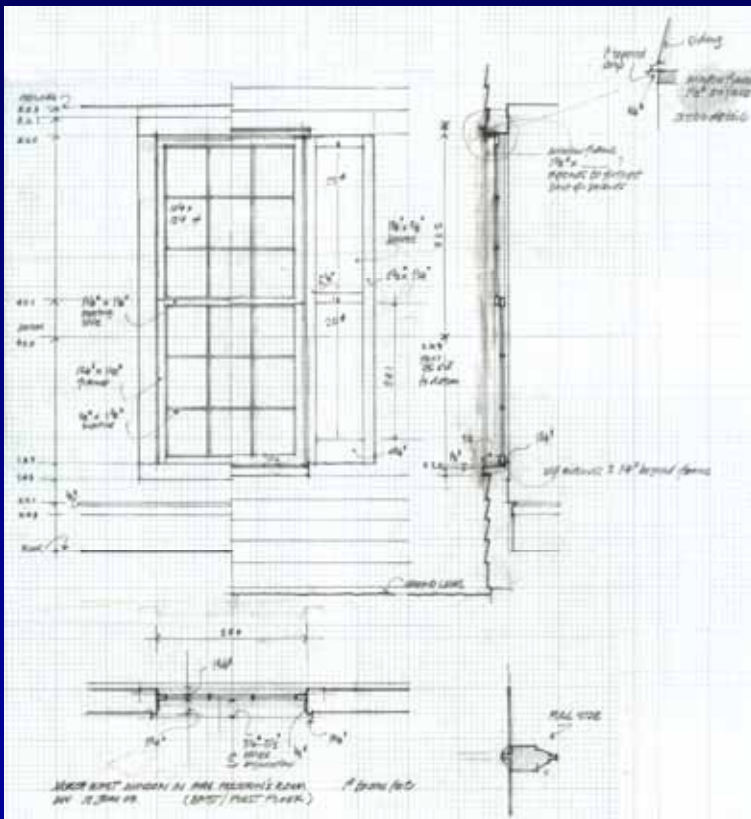
Site information at the site was recorded primarily through sketches and field notes. The sketches were drawn on graph paper with 8 divisions per inch. Colored pencils and pens were used for drawing notes and dimensions.

Examples of the sketches and field notes taken for this project are shown in the following slides.

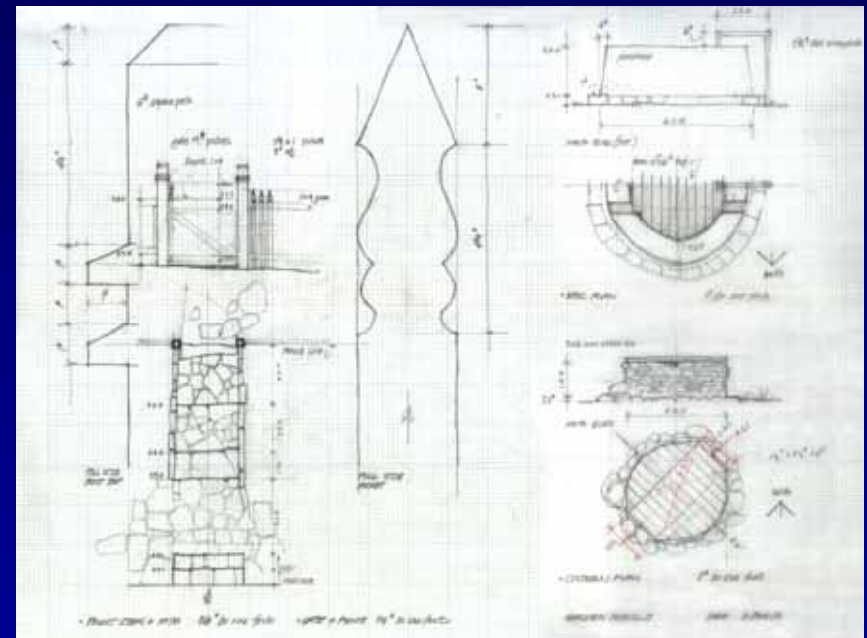
Recording Site Information

Field Note Examples

Shown below are examples of field notes made during the survey of the Mrs. Sam Houston House.



Field note sketch of one of the windows in the original portion of the house.



Field note sketches of the front gate, front walkway, fence picket, well, and cistern.

Mrs. Sam Houston House, Independence, TX

Recording Site Information



Other Sources

Other methods of recording and obtaining information include historical research, field photography, and photogrammetry.

Historical research includes searching through tax documents, property deeds, and related historical accounts of the people and area. For example, old photos of the Mrs. Sam Houston House (shown on the left) provide information about the appearance of the site and home at certain points in time.

Recording Site Information



Photograph of one of the signatures inscribed in the front entry sidelights.

Other Sources (Cont.)

The numerous photographs taken of the site and structure were used to verify information in the sketches and notes after the team left the site. Photography was also used in cases where field notes and measurements could not accurately record information. In some cases, the measuring rod (with 12" intervals) was placed next to objects being photographed in order to provide a sense of scale. Typically these objects were difficult to measure because of accessibility or the shape and configuration of the object.

Measuring Structures



Professor Woodfin and Katie Blanchard identify trees and plants located on the site.

Site Plan

The site survey included locating the property lines, buildings, landmarks, such as street corners, important features on the site such as the trees, cistern and well. Since the site was not very large and relatively flat, the survey was conducted using hand measurements, triangulation, and a transit.

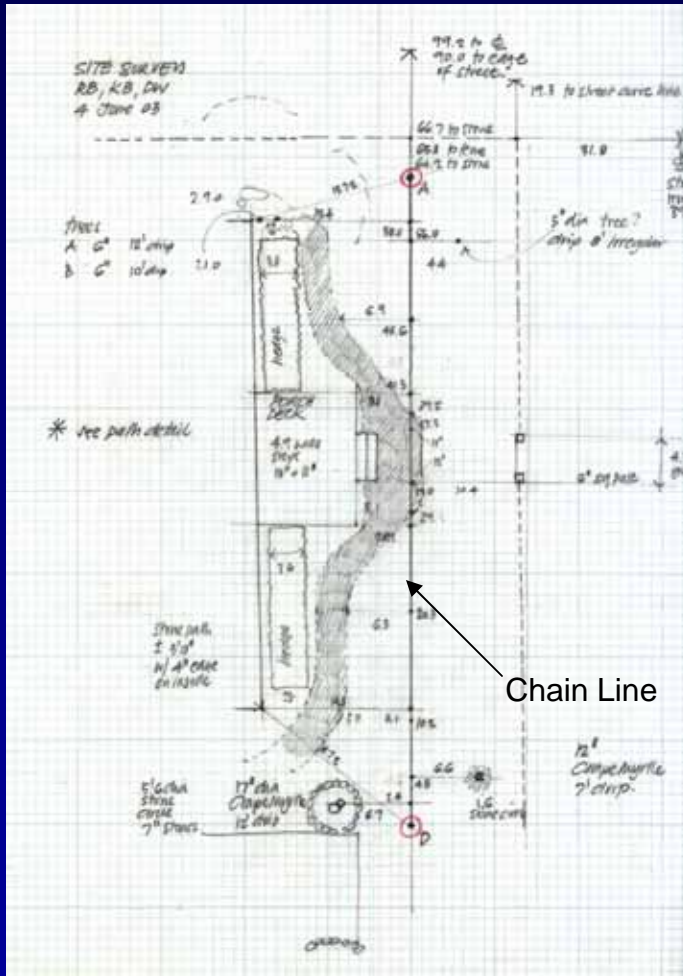
Mrs. Sam Houston House, Independence, TX

Measuring Structures

Site Plan Example

The figure shown to the left is an example of the site plan field notes made for the measurement of the Mrs. Sam Houston House.

The vertical line marked AD on the notes is the *chain line*. The *chain line* is a straight line between two known points on the site. This line is used to help establish the location of other points on the site. For example, to establish the location of the eastern corner of the porch on this sketch, the perpendicular distance between the corner and the chain line is measured, and the distance between this point on the chain line and point D are measured.



Field notes of the front walkway and edge of front porch for the Mrs. Sam Houston House.

Mrs. Sam Houston House, Independence, TX

Measuring Structures



Ulker Oren measures the width of the stair tread.

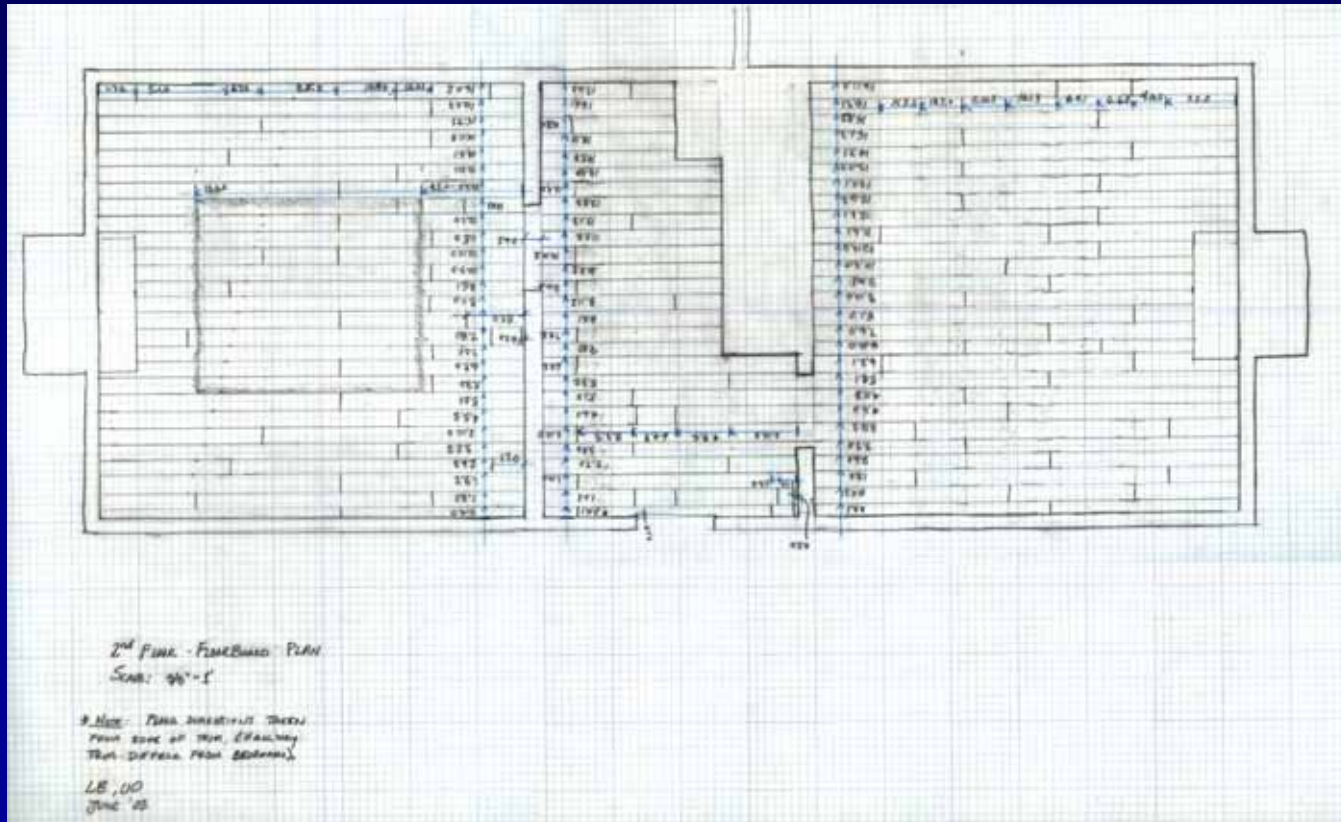
Plan View

Measurements were made of the interior and exterior of the house for the first and second floor plans. The plan views included everything within a certain level below waist height. Flooring layouts, moldings, fireplaces, door and window frames are included in these drawings. Dashed lines were used to show the location of elements above the waistline, such as the roofline. The exterior and interior of the building were measured using running dimensions. Since the house was not perfectly square, the diagonal dimensions between the corners of each room were obtained as well, to ensure that the final plan drawings were accurate.

Measuring Structures

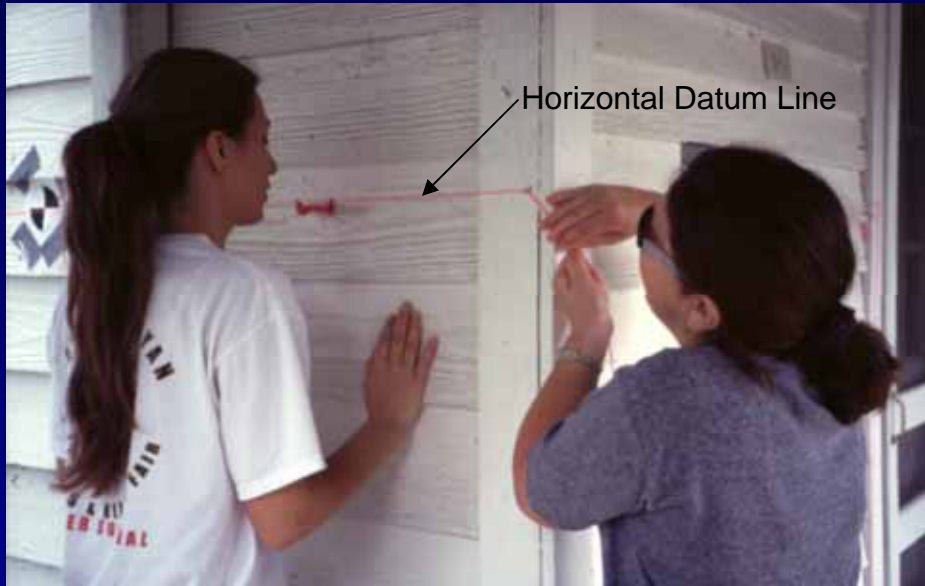
Plan View Example

Shown below is an example of the plan view field notes made of the Mrs. Sam Houston House.



View of the 2nd Floor Floorboard Layout in the Mrs. Sam Houston House.

Measuring Structures



Ulker Oren pulls twine tight, while Kate Blanchard examines the attached level to ensure that the twine is horizontal. Typical paper target appears to Katie's left.

Section and Elevation

At the same time, some of the team members worked on making field notes and taking measurements for the sections and elevations of the house.

For the elevation field notes, paper targets were attached to the exterior of the house and bright pink twine was run horizontally between these targets to mark the vertical reference point, or *horizontal datum line*. The vertical dimensions of various elements, such as doors and steps, on the exterior were measured with respect to this line.

Measuring Structures

Section and Elevation (Cont.)

For this project, two section drawings were made of the house. The first section cut along the north-south axis of the house, including the hallways and addition. The second section cut along the east-west axis through the bedrooms, hallways and parlor.

Sections are selected to provide maximum information about the building while ensuring that the information is clear.

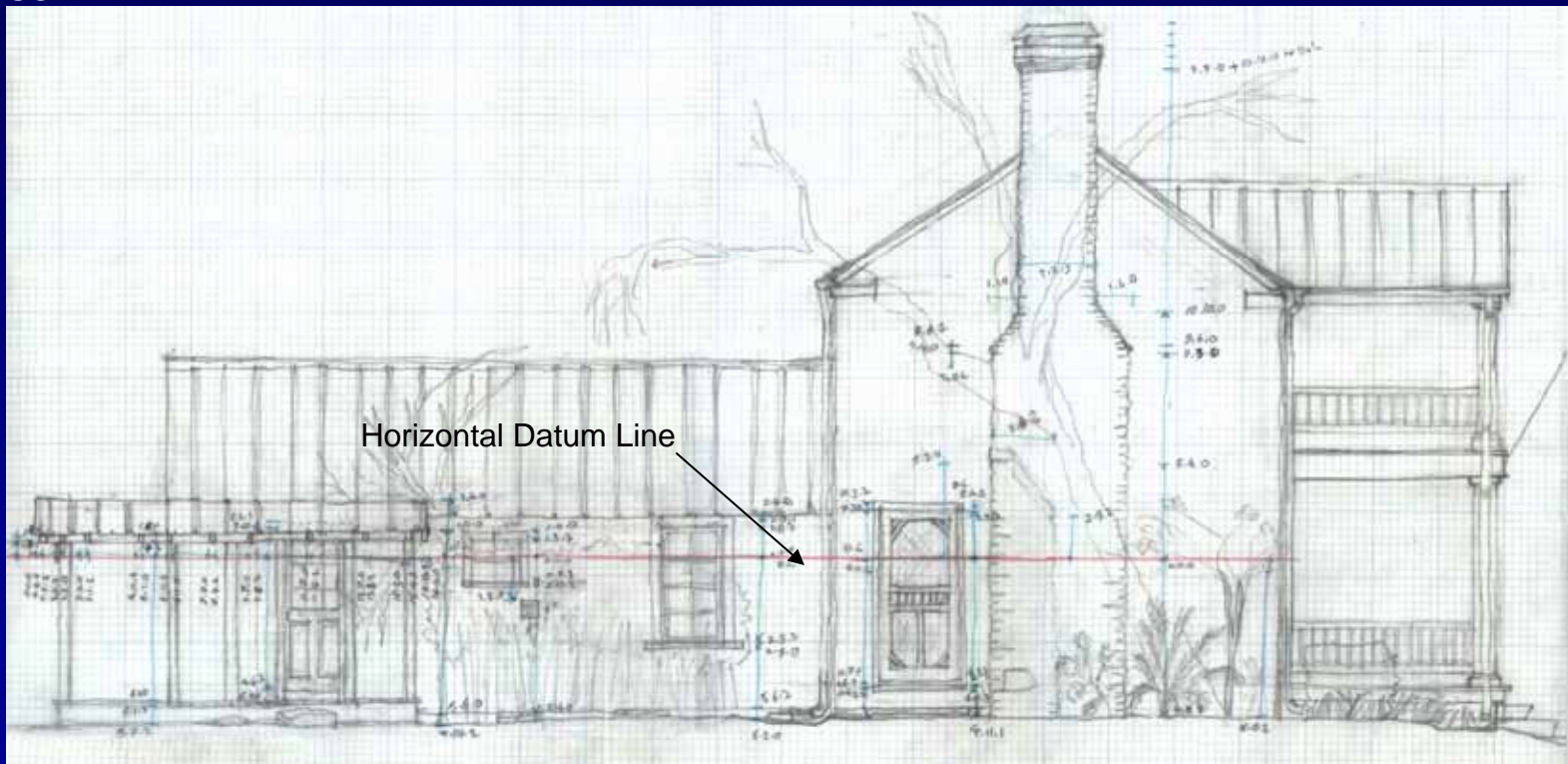


Samer Ratrou measures and sketches the interior for the section cutting along the north-south axis of the house.

Measuring Structures

Elevation Example

Shown below is an example of the elevation field notes made of the Mrs. Sam Houston House.



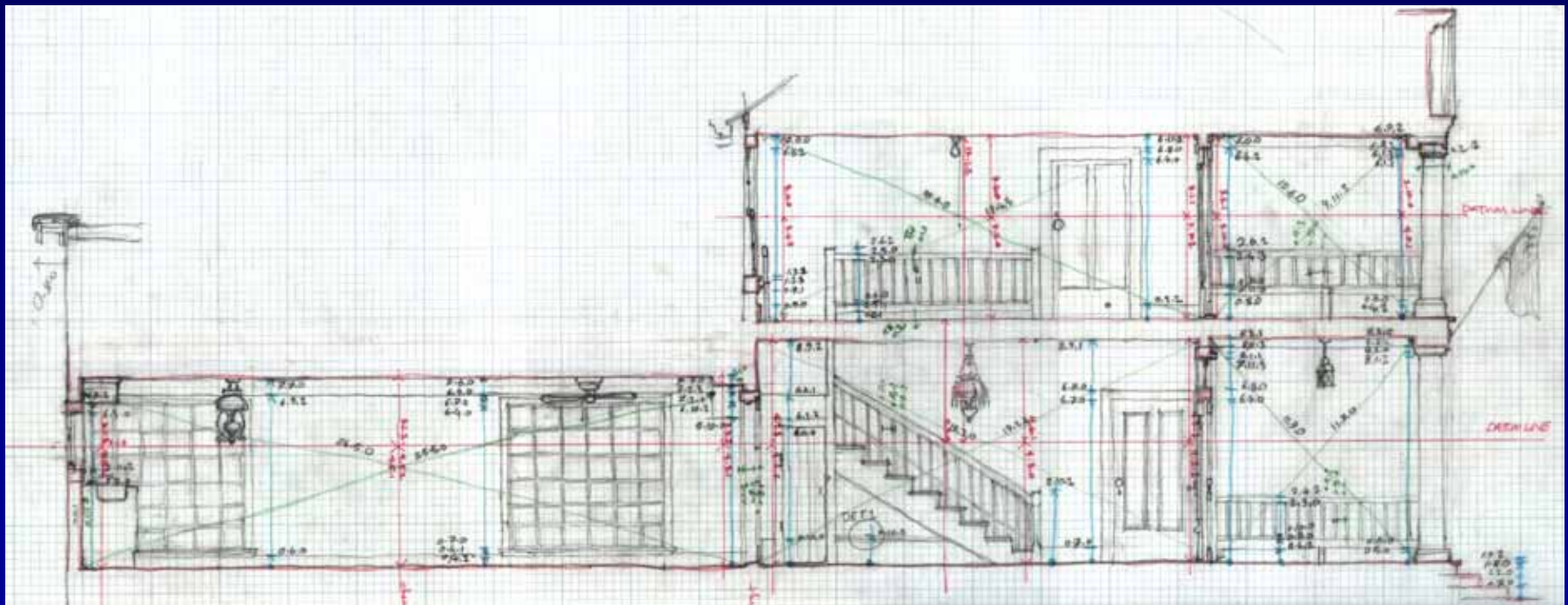
View of the East Elevation of the Mrs. Sam Houston House.

Mrs. Sam Houston House, Independence, TX

Measuring Structures

Section Example

Shown below is an example of the section view field notes made for the Mrs. Sam Houston House.



Section View along the North-South axis of the Mrs. Sam Houston House.

Measuring Structures



Professor Woodcock investigates the foundation under the western portion of the original structure.

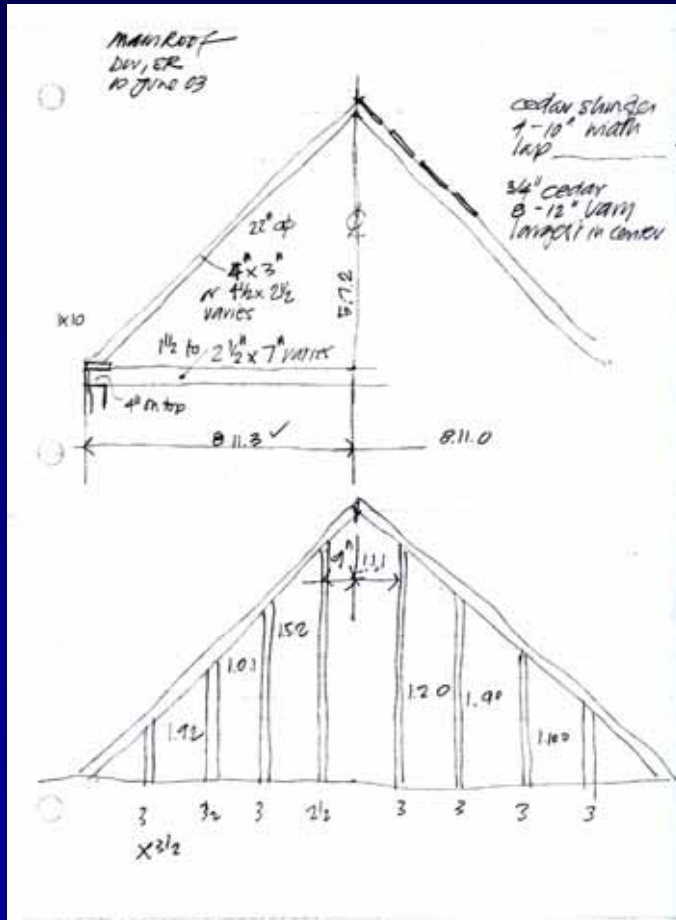
Structural Layout

To learn more about the structure of the house, it was necessary to climb into the attic and crawl under the house. The pictures, field notes and measurements from these excursions provided information about the roof structure, the foundation supports, and the framing between the older structure and the addition.

Measuring Structures

Structural Layout Example

Shown at left is an example of the notes made for roof structure and foundation systems of the house.



Notes for the roof structure of the original portion of the Mrs. Sam Houston House.

Mrs. Sam Houston House, Independence, TX

Measuring Structures



Samer Ratrouf sketches the west elevation of the house.

Details

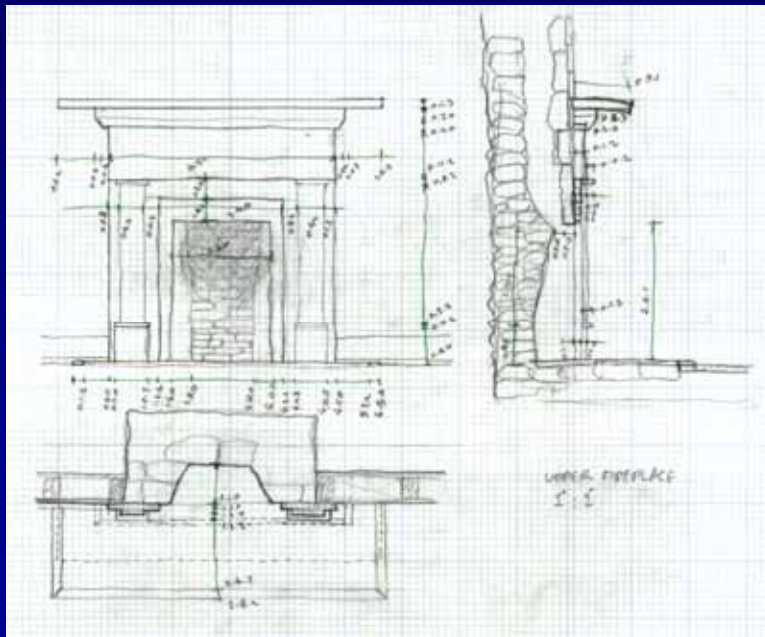
After the basic measurements for the plan drawings were obtained, more information was needed to construct drawings for details such as the stairs, doors, and windows. As part of these field notes, profiles were taken of the moldings attached to the various elements. These field notes were drawn at a larger scale than the plans, elevations sections, in order to include more detail.

Detail drawings were made of the front entryway, a window, two doors on the first floor, and one door on the second floor. The remaining doors and fireplaces were not included because of redundancy. Detail field notes were not made of the doors and windows in the building addition.

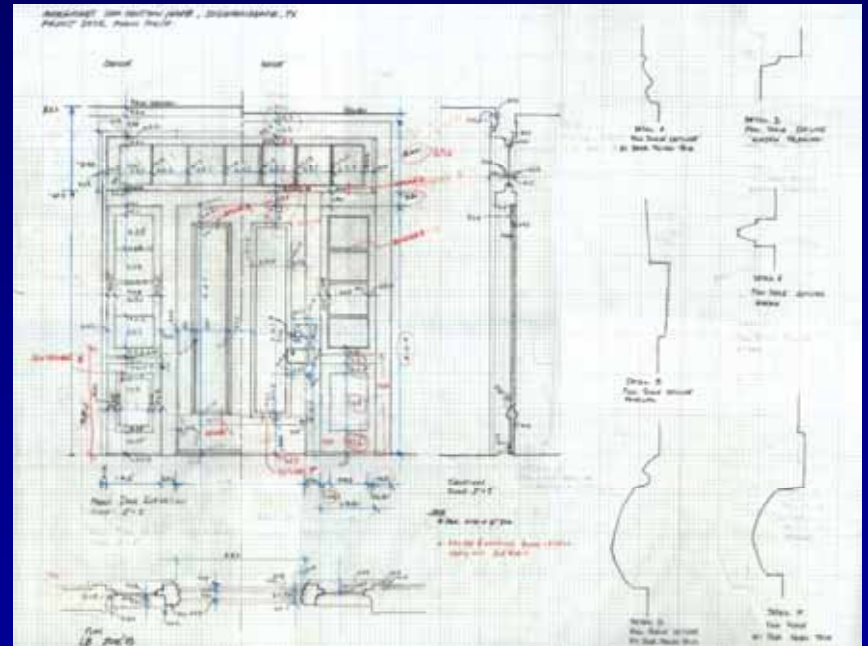
Measuring Structures

Details Example

The figures shown below are examples of detail field notes made of various features at the Mrs. Sam Houston House.



Detail sketch of one of the 2nd Floor fireplaces.



Detail sketch of the front entry.

Creating the Final Drawings



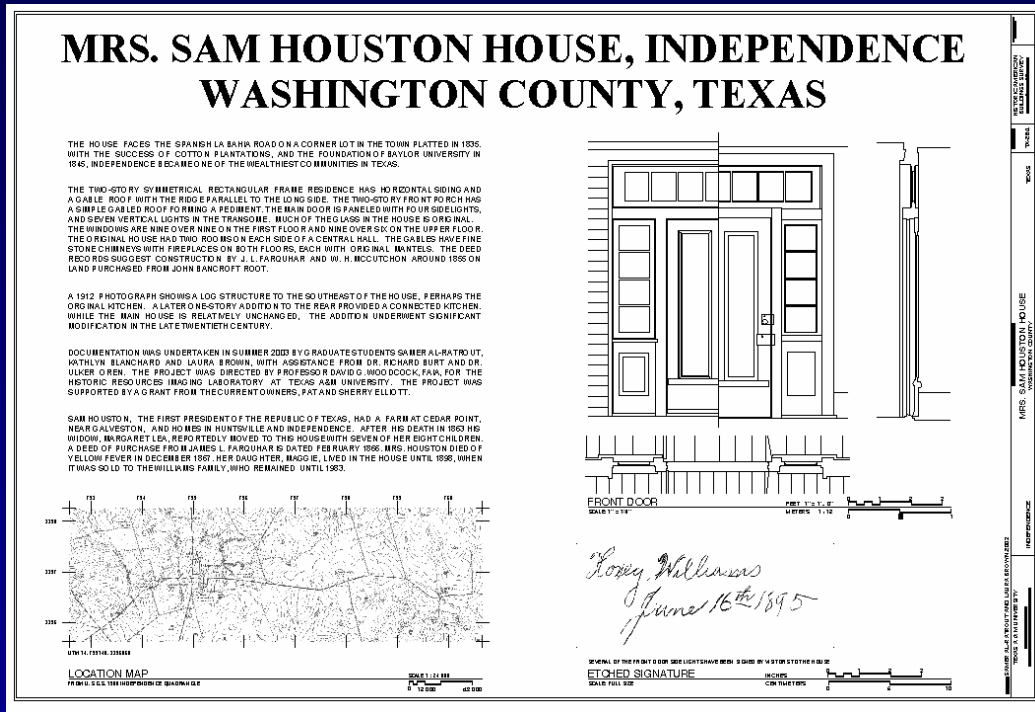
Samer Ratrout constructs drawings in AutoCAD.

After obtaining the necessary measurements, field notes and photos, the team returned to the HRIL to begin constructing the AutoCAD drawings. At this time, the team made decisions concerning line weights, scale, number, and the layout of the final drawings. In addition, each drawing page was set up with a title block constructed according to HABS guidelines.

The completed drawings were plotted on high quality paper. Stippling and other special details were added to the drawings by hand. These drawings were then scanned using a high resolution scanner and printed on mylar.

Mrs. Sam Houston House, Independence, TX

Final Drawings

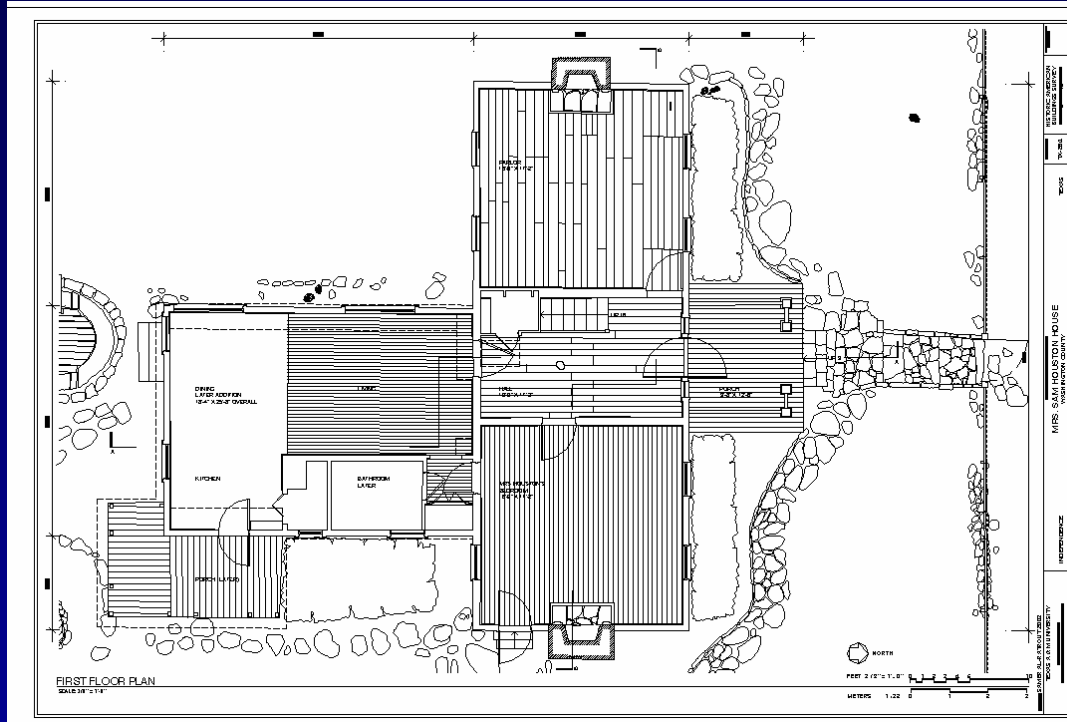


Title page for the Mrs. Sam Houston House drawings.

Title Page

The title page of the drawings included the title, a brief summary of the history of the site, a map, the front door detail, and a copy of two of the signatures inscribed on the sidelights of the front door. The map was taken from a USGS 1/2" quadrangle map and included the town of Independence, TX. The signatures and front door detail were included in the title page because they were some of the unique features encountered at the site.

Final Drawings



First floor plan view of the Mrs. Sam Houston House.

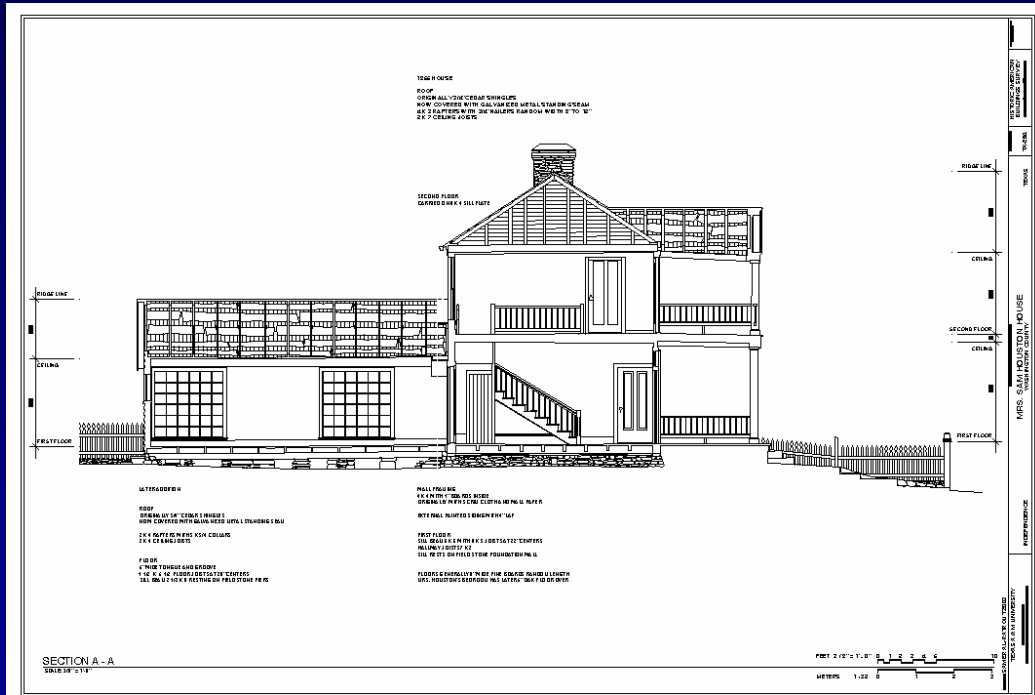
Plan

Plan drawings included the site plan, and first and second floor plan views of the house. Note that the roof plan of the building was included in the site plan drawings. These drawings showed the interior and exterior dimensions of the building, and location of doors, windows, fireplaces and stairs. In addition, the ground level plan view included landscape elements such as the fence, shrubbery, and walkways. The scale for these drawings was 3/8 in. equals 1 ft.

Final Drawings

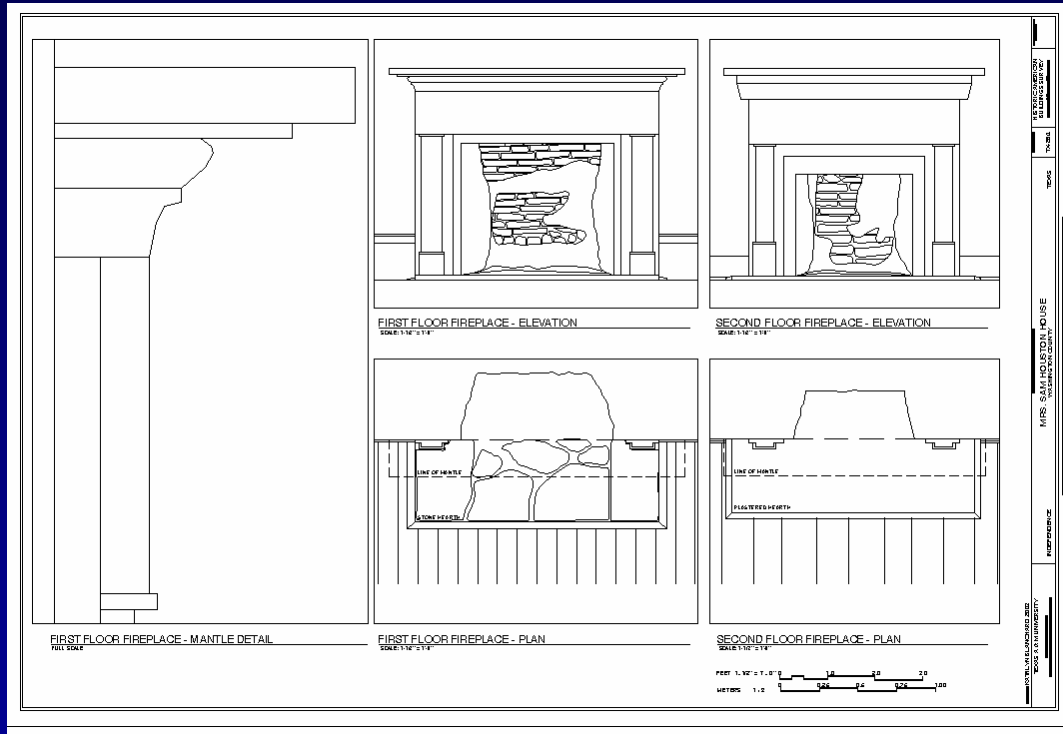
Sections

As mentioned previously, two section drawings were constructed for this project. Information obtained from the structural layout sketches and notes were included in these drawings where appropriate. The scale of these drawings is $3/8$ in. equals to 1 ft.



Section along the north-south axis of the Mrs. Sam Houston House.

Final Drawings



Fireplace details from the Mrs. Sam Houston House.

Details

Detail drawings of the fireplaces, windows, and doors were created for this project. For the fireplaces, the detail drawings depicted the plan, and front and side elevation views. For the window and door details, the interior and exterior elevation views, as well as section views were shown.

Revisiting the Site



After the initial site visits, the team returned to the house as needed to clarify measurements or obtain missing information.

Laura Brown measures framing details near the eave.

Mrs. Sam Houston House, Independence, TX

Conclusions – Lessons Learned



Pictured above are (from left to right): Professor Woodcock, Sherri Elliot, Kate Blanchard, Laura Brown, Stephanie Reiter, and Larry Reiter. (Larry and Stephanie Reiter visited the site to learn more about the process of field recording.)

The following is a list of some of the lessons learned from this project:

- Students gained experience in field recording of historic structures, conducted as outlined by the HABS guidelines. This included learning about field survey procedures, field note preparation, organization of field notes, and the use of photography to support field notes.
- Students learned about the process of developing final drawings to HABS standards, to be submitted to the Library of Congress.

Conclusion – Lessons Learned

In addition, the students also observed the following:

- The smallest details can reveal a great deal about the history of the site, including construction methods, available materials, and changes in appearance and structure.
- Students were given a chance, not only to learn, but also to educate others about the process of historical documentation.
- This experience provided a connection between the team and the people who built and lived in the Mrs. Sam Houston House.



Professor Woodcock and the team pose on the porch with some of the Houston family members.

References

Historic American Buildings Survey (HABS) (2004). "HABS/HAER Guidelines: Recording Historic Structures and Sites with HABS Measured Drawings."
<<http://www.cr.nps.gov/habshaer/habs/guidelines/arch-index.htm>> . (June 22, 2004).