

Mary Alice Cook
April 7, 2010

Individual Project #2: Provenance and Conservation of Feathers

Before beginning work on this Stone Fort Museum project, I met with my class colleagues and Carolyn Spear, museum director, for an orientation session. Carolyn explained the system of monitoring building conditions and demonstrated the use of a photographer's light meter, a digital thermometer/humidifier, humidity test strips, and insect sticky traps. During the course of project work, I visited the museum three times to record light levels, temperature and humidity, and insect count.

Carolyn then assigned me to conduct provenance research on several items that the Stone Fort Museum received from Miss Mary Hofmann in 1942, including eleven feather objects and a collection of smoothing and fluting irons¹. The museum's paperwork states that the feathers are "from the 1900s, purported to be from the millinery shop of Mrs. Cooper." From my research at the ETRC and the Sterne-Hoya House library, I learned that Mary Hofmann (born April 13, 1864) and her sister, Katherine Hofmann (born February 24, 1858) were born in Lancaster, Pennsylvania to German immigrant parents. Census records of 1910 indicate that Katherine married Capt. Harry Hunsecker Cooper in 1898, and the couple lived in Nacogdoches. Mary lived with them. 1900 census records state that Katherine was a milliner, while Mary had no occupation. By 1910, however, census records reveal that Katherine was employed at a millinery store and her sister Mary, still unmarried, was a dressmaker. In the 1920 census,

¹ Because I found sources for so many details about Mrs. Cooper and Miss Hoffman, I had only enough time to research the feathered objects in this collection.

Katherine and Mary are listed with no occupation. Katherine Cooper died in 1922.² Mary passed away in 1960, and both women are buried in the Oak Grove cemetery.³

An examination of the digitized Nacogdoches Sanborn Fire Map of 1900 failed to turn up a millinery shop location. However, the February, 1912 map indicates that a millinery shop occupied a space on the south side of E. Main, not far from the New Murphy Hotel. (The millinery shop location is two doors west of the present Greer's store.) On the map of August, 1921, a millinery shop occupies the same space, but the hotel has become the Redland Hotel. The April, 1922 map again locates a millinery shop in the same place, but by publication of the next map in 1929, the millinery shop does not appear in that space.⁴ A reasonable conclusion is that the mapped millinery shop was indeed owned and operated by Mrs. Katherine Cooper.

In the early 1900s, milliners used feathers – and sometimes the whole bird – to decorate their creations. Fashionable ladies competed with each other to buy hats that featured ever more exotic feathers in increasingly elaborate styles.⁵ Feather fans enjoyed popularity from the 1870s to 1920s. Fan designers used a variety of feathers dyed in a myriad of colors; they even used taxidermied birds' heads as fan handles.⁶ Photographs and descriptions of the feathers donated by Miss Hofmann suggest that Mrs. Cooper used them for embellishing hats, although one feathered object is a lady's fan with a bird's "beak" for a handle. Mrs. Cooper purchased at least some of the objects from Hoehn and Dieth, a wholesale millinery company in New Orleans that, according to the New York

² *Nacogdoches Daily Sentinel*. 1922. Obituary of Katherine Cooper. July 27.

³ *Nacogdoches Daily Sentinel*. 1960. Obituary of Mary Hofmann. February 27.

⁴ East Texas Research Center. Digital Sanborn Maps: 1867-1970. <http://steenproxy.sfasu.edu:2955/> (accessed April 2, 2010). Copies of referenced maps are attached to this report.

⁵ Feather Adornment: The Feather Trade and the American Conservation Movement. Smithsonian Institution, 1999. <http://americanhistory.si.edu/feather/ftfaex.htm> (accessed April 2, 2010).

⁶ Feather Fans. MM's Fan Pages. <http://www.ubique.org/Webfans/federn/efed2.htm> (accessed April 2, 2010)

Times, burned in 1908.⁷ She also purchased feathers from the Levis-Zukoski Mercantile Company in St. Louis, Missouri, a leading manufacturer of ladies' furnishing goods.⁸ A Stone Fort Museum staff person evaluated the feather objects in 1983 and indicated that all were in "good" condition, with the exception of the feather fan that "needs treating."

The structure and composition of feathers is related to the environmental factors that harm them. Feathers are composed of about 91% keratin (a protein that gives the feather its strength), 8% water, and 1% lipids. A bird's uropygial glands secrete oils which, through an activity called *preening*, the bird transfers to its wings and body feathers to repel water and prevent drying. Keratin contains sulfur, an attractive food to some insects, including clothing moths and dermestid beetles. The oil on the feather's surface traps and holds dust; if not removed, the abrasive dust particles can tear or damage the feather. Also, dust attracts and retains moisture, which in turn accelerates deterioration of the feather and results in a loss of the feather's natural sheen. A lack of humidity, however, can cause feathers to quickly dry out, and high temperatures will cause chemical reactions in the feathers that will speed their break down. As with all textile artifacts, prolonged exposure to light causes fading, yellowing, and embrittlement.⁹

One of the best ways to preserve feather objects is by frequent monitoring of their condition, although handling of the feathers should be avoided. Feathers should be checked for signs of insects, dust, and light exposure. The presence of bits of feather and

⁷ "New Orleans Has Big Fire." *New York Times*, August 31, 1908.
<http://query.nytimes.com/gst/abstract.html?res=9B04E3DC133EE233A25752C3A96E9C946997D6CF> (accessed April 2, 2010).

⁸ "Nina Mayfield Judah, 1904." unCommon Threads. Stories of Missouri Brides.
http://www.mohistory.org/cakePHP/unCommonThreadsSite/dresses_1900_1950 (accessed April 2, 2010).

⁹ "The Care of Feathers." Bishop Museum Art Conservation Handout.
<http://www.bishopmuseum.org/research/pdf/cnsv-feathers.pdf> (accessed April 2, 2001).

a fine dust indicates that insects have eaten the feathers; immediate action should be taken to control the infestation. The acceptable temperature range for storage of feathers is between 60 degrees F to 75 degrees F, and humidity should be maintained at 45% to 55%. The recommended light level is 50 lux or less. When not on display, feathers should be stored in covered, acid free boxes; the use of silica gel is helpful.¹⁰

Textile conservators usually recommend against the cleaning of feathers. If feathers accumulate visible amounts of dust, they may be cleaned by gentle brushing with a soft, natural bristle brush. Neither soap and water nor dry cleaning is recommended for feathers.¹¹ In the event of soiling that makes cleaning of feathers necessary, good results have been obtained with the use of “poultice treatment,” a process that involves the application of a substance called Laponite RD, a solvent in the form of a fine white powder that becomes a clear gel when immersed in water. Experimental uses of this method on feathers produced good results, but if undertaken the cited article should be referred to.¹² A professional conservator may be consulted before any cleaning method is tried.

I thoroughly enjoyed this research project, particularly my visit with Mr. Cole Sessom, the present owner of the Cooper house, who was kind enough to show me the house and tell me what he knew about the Cooper family. The Queen Anne-style house on Irion Hill off of West Main Street was designed by the renowned Diedrich Rulfs.¹³ I was also excited to find a photograph of Katherine Hofmann Cooper in the collection of

¹⁰ “The Care of Feathers.” Bishop Museum Art Conservation Handout. (accessed April 2, 2010).

¹¹ *Ibid.*

¹² Luciana da Silveira. “A Note on the Poultice Cleaning of Feathers Using Laponite RD Gel.” *Studies in Conservation*, Vol. 42, 1 (1997), 11-14.

¹³ Diedrich Rulfs: Master Architect of Nacogdoches.

<http://exquisitelyboredinnacogdoches.blogspot.com/2009/06/diedrich-rulfs-master-architect-of.html> (accessed April 2, 2010).

the City of Nacogdoches Historic Sites Department, a copy of which is attached to this report. Finally, in a fascinating footnote to Mary Hofmann's story, I learned that she served as a volunteer observer for the United States Weather Bureau. Every day, for 32 years, Miss Hofmann recorded local weather conditions and telegraphed them to the regional weather office in Houston. Contained in archive files at the ETRC are several letters from directors of the U.S. Weather Bureau, praising Miss Hofmann's dedication to her task. I am happy that her quiet, useful life will be remembered.

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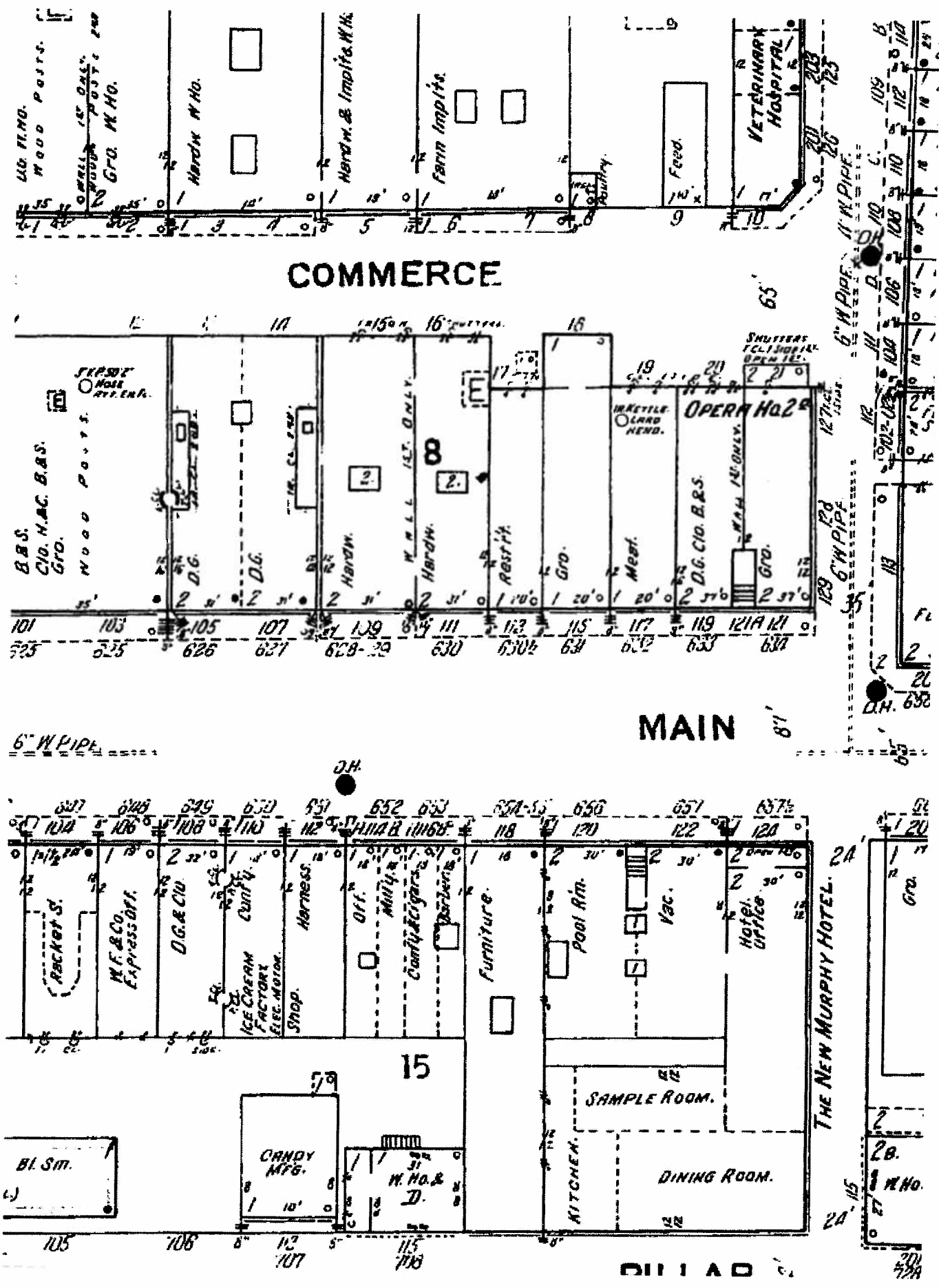
http://www.mohistory.org/cakePHP/unCommonThreadsSite/dresses_1900_1950 (accessed April 2, 2010).

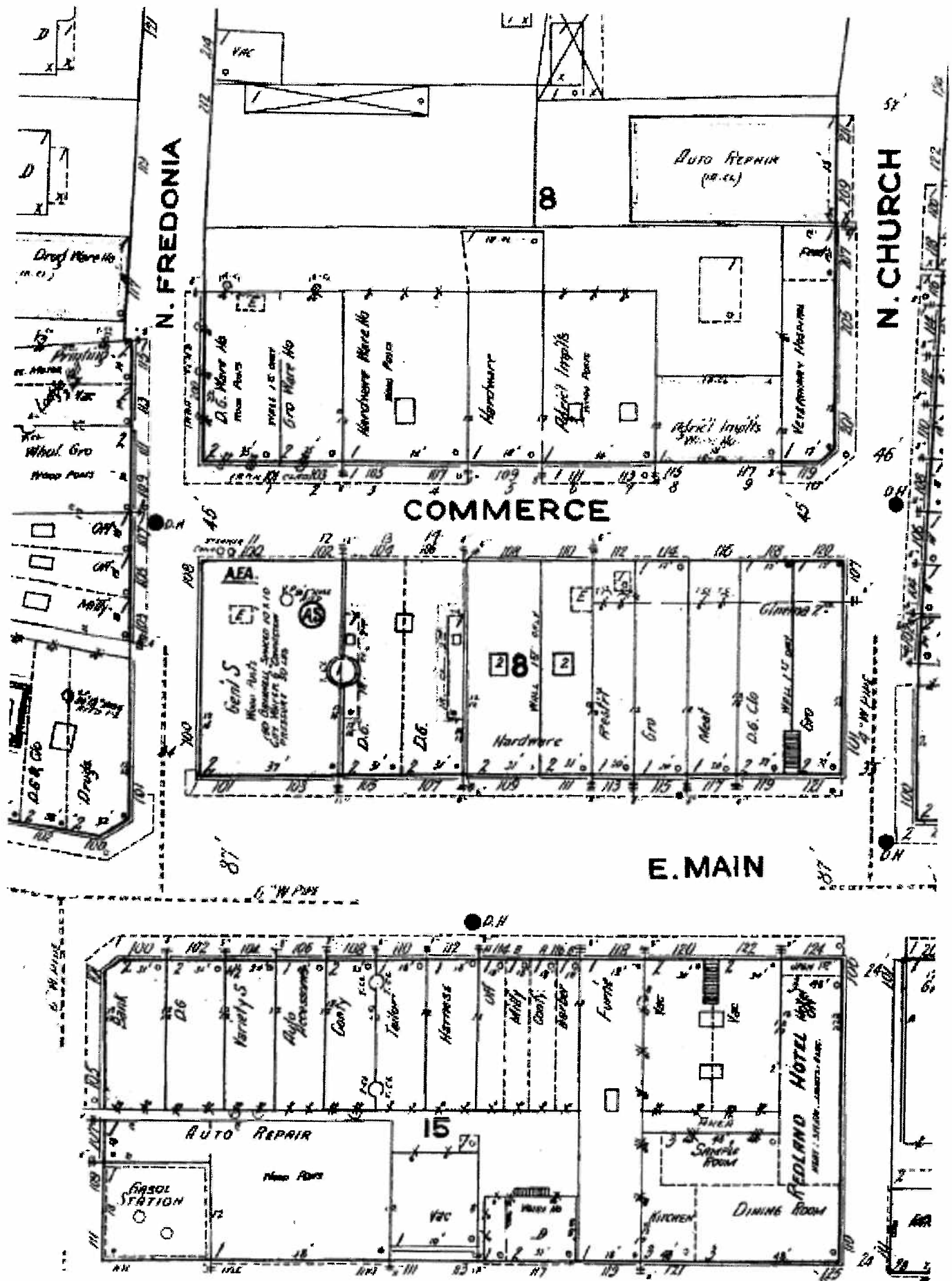
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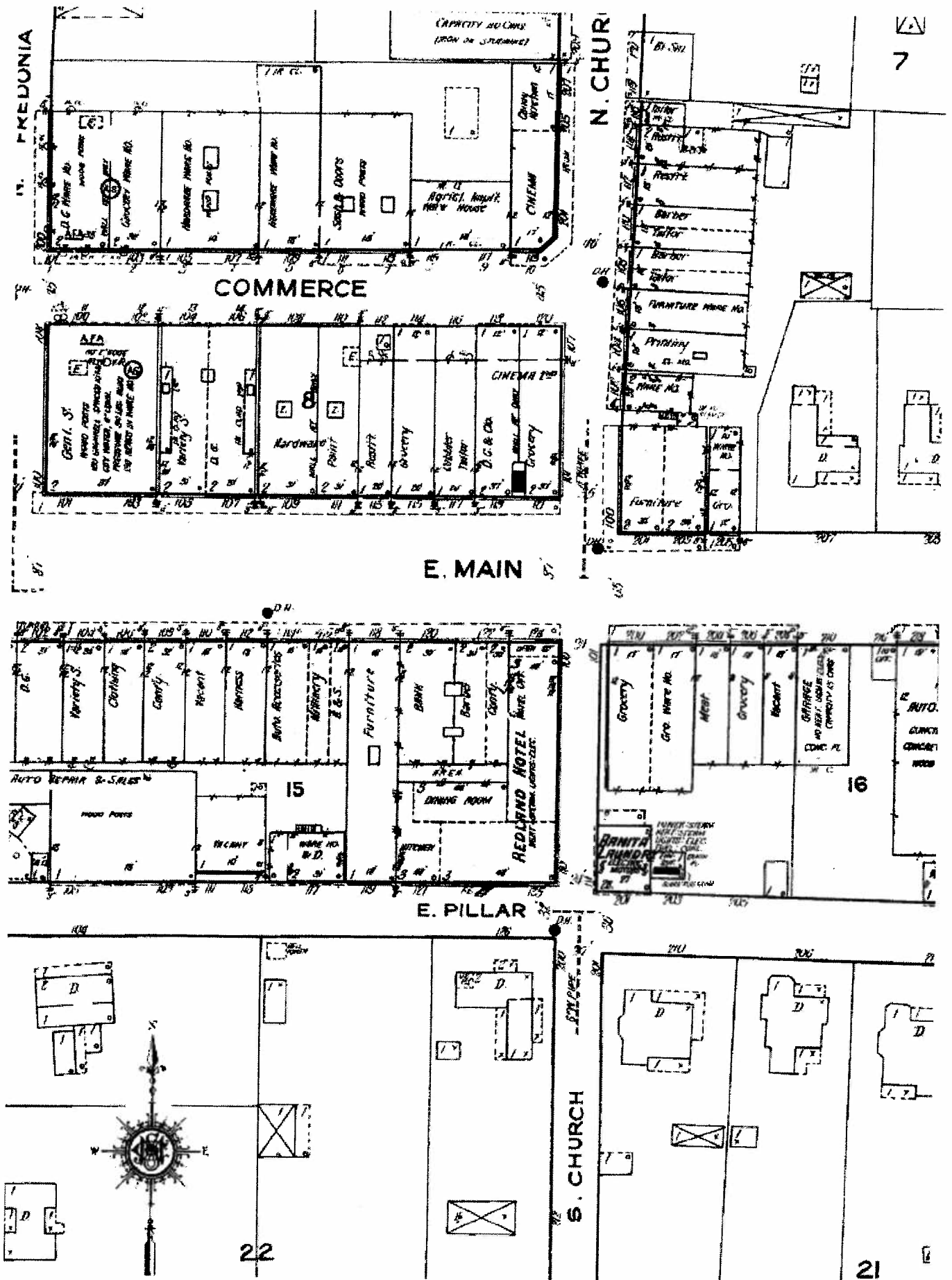
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Katherine Hoffman Cooper







**STONE FORT MUSEUM
ENVIRONMENTAL MONITORING CHART**

DATE: 4-7

RECORDED BY: Mary A Cook

Location	Foot Candles (FC)	Temp (F)	Data Source	RH (%)	Data Source	insect Traps	
						Type	Number
GALLERIES Rm 101-Educ	28	73.4	dig hum J therm	30 37	hum strip dig hum	stick trap stick	1
Rm 102 lg Cab p press p cab sm cab sm cab model	10 30 18 23 18 15 10	73.4	dig hum J therm	38 30	dig hum hum strip	ants	2
Rm 103-Store		73.8 39 77	dig therm dig therm	30 39	hum strip dig hum		0
Rm 201 dresses cabs	22 15	75.8 44.2	dig therm	30	hum strip		0
Rm 202 photos Crosket tools Bone	18 15 5 15	77 46.3	dig therm	50 40	dig hum dig strip		0
Rm 203 Furn Cab Saddle	10 25 10	77.5	dig therm	46	dig hum		0
OFFICES Rm 105 Rm 106 Rm 107 Rm 108							
STORAGE Rm 204							

**STONE FORT MUSEUM
ENVIRONMENTAL MONITORING CHART**

DATE: 3-11-10

RECORDED BY: Mary Alice Cook

Location	Foot Candles (FC)	Temp (F)	Data Source	RH (%)	Data Source	insect Traps	
						Type	Number
GALLERIES Rm 101-Educ	10	73.9 74.1	Dig Therm	39%	Dig Humidity	Roaches	2
Rm 102	Between 15-25	74.2	Dig Therm	40%	Dig Humidity	Spider	1
Rm 103-Store		75.7	Dig Therm	40%	Dig Humidity	Roach	1
Rm 201	15	75.9	Dig Therm	38%	Dig Humidity	-	-
Rm 202	Between 5-20	76.6	Dig Therm	38%	Dig Humidity	-	-
Rm 203	Between 8-15	77.1	Dig Therm	37%	Dig Humidity	-	-
OFFICES Rm 105 Rm 106 Rm 107 Rm 108							
STORAGE Rm 204							

STONE FORT MUSEUM

ENVIRONMENTAL MONITORING CHART

DATE: *3/25/10*

RECORDED BY: *Mary Alice Cook*

Location	Foot Candles (FC)	Temp (F)	Data Source	RH (%)	Data Source	insect Traps	
						Type	Number
GALLERIES Rm 101-Educ	10	71.5	Digi Therm	37 39	Humid Strip	Sticky	0
Rm 102	15 15 25 15 8 20 18	71.5	"	40 35	Hum Strip Digi Hum	Sticky	0 1 roach
Rm 103-Store		72.3	Digi Therm	30 35	Hum Strip Digi Hum	Sticky "	0 0
Rm 201	15 20 15 40 15	72.0	Digi Therm	30 35	Hum Strip Digi Hum	Sticky "	0 0
Rm 202	20 8 20 5 5 40 12 40 10 40 15	72.5	Digi Therm	30 35	Digi Strip Digi Hum	Sticky "	0 0
Rm 203	8 12 30 40 12 15	73.2	Digi Therm	30 36	Hum Strip Digi Hum	Sticky "	0 0
OFFICES Rm 105 Rm 106 Rm 107 Rm 108							
STORAGE Rm 204							