United States Department of the Interior National Park Service

National Register of Historic Places Registration Form

MAT. REGISTER OF HISTORIC PLACES

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This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, How to Complete the National Register of Historic Places Registration Form. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name Kester Planing Mill

Other names/site number Neligh Planing Mill, AP04-170

Name of related multiple property listing N/A

(Enter "N/A" if property is not part of a multiple property listing)

2. Location					
Street & Number	212 Chestnut Street				
City or town	Neligh	State	Nebraska	County	Antelope

Not for publication [] Vicinity []

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this **[x]** nomination **[]** request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property **[X]** meets **[]** does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance: **[]** national **[X]** statewide **[]** local

SHPO/Director

Applicable National Register Criteria: [X] A [] B [X] C [] D

Signature of certifying official/Title:

Nebraska State Historical Society

State or Federal agency/bureau or Tribal Government

In my opinion, the property [] meets [] does not meet the National Register criteria.

Signature of Commenting Official

Date

Title

State of Federal agency/bureau or Tribal Government

4. National Park Service Certification

I, hereby, certify that this property is:

- entered in the National Register.
- [] determined eligible for the National Register.
- [] determined not eligible for the National Register.
- [] removed from the National Register.
- [] other, (explain):

Signature of Keeper

7.28.2014 Date of Action

06-09-2014

NPS Form 1	0-900				OMB NO. 1024-001
ester Pla	ning Mill		Antelo	pe Co., Nebraska	
Name of Property			County	and State	
5. Class	ification				
Owne	ership of Property (Check as many boxes as apply)	Categ	ory of Property (Check	only one box)
[x]	Private		[x]	Building(s)	
[]	Public-local		[]	District	
[]	Public-state		[]	Site	
[]	Public-federal		[]	Structure	
			[]	Object	
Number	of Resources withi	n Property (Do not include previou	usly listed resource	es in the count.)	
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		1		_ Buildings	
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OMB No. 1024-0018

Kester Planing Mill

Name of Property

Antelope Co., Nebraska County and State

DESCRIPTION

Summary

The Kester Planing Mill, constructed in 1911-1912, is a fully equipped early 20th century millwork shop. It retains exceptional integrity, complete with its original power-drive line-shaft system and period equipment. The wood-frame vernacular building is one-story with an attic, which sits on a full raised basement. It is clad in asbestos siding, which was applied over the original wood siding circa 1950. Ample windows on all sides of the building allow for ventilation and light. The basement houses a ceiling-mounted electric motor and the first line of shafts and pulleys, which powered equipment on the main floor by way of belts. The open-plan main floor is the heart of the mill, supporting the line-shaft system mounted to the ceiling. Equipment dating to the 1890s is still found connected to the line-shaft. The attic is also an open plan, accessed by an enclosed staircase and a floor hatch from the main floor. The building retains exceptional integrity of location, setting, design, materials, feeling, workmanship and association.

Narrative Description

Neligh, Nebraska is located in the northeastern region of the state. The county is agricultural in nature, located in the Elkhorn River drainage. Neligh, with a population 1,600, is the county seat and the county's major city. It was founded on the north bank of the Elkhorn River and platted in a street grid, which was surveyed in 1873. When the Fremont, Elkhorn & Missouri Valley Railroad (FE&MVRR) was built through the southern part of the city in 1880 from southeast to northwest, part of the earlier plat was adjusted to accommodate the railroad's diagonal rail right-of-way. The Chicago & North Western Railroad absorbed the FE&MV line in 1903, and abandoned service through Antelope County in 1978. The old railroad right-of-way is still evident, now converted to a recreational trail.

The Kester Planing Mill was one of several operations in this area of the city whose adjoining streets follow the diagonal of the former railroad right-of-way. It occupies Lot 1 of Block 42 at the corner of Chestnut and 4th Streets. The building sits on a small triangular lot at the head of Depot Street, about a block from the site of the town's railway station (not extant), and about two blocks from the central business district. With the coming of the railroad, the area became a location for elevators, grain dealerships, livestock shipment, and lumber and coal yards. That character is still evident. To the shop's east is the current Carhart Lumber Company complex; to the south are an active grain mill and silos along the old railroad right of way. About 2.5 blocks to the southeast is the Nebraska State Historical Society's Neligh Mill State Historic Site, a former water-powered flour mill.

Howard Kester and his crew constructed a building for their specific needs. The wood-frame building is constructed of 2x4 studs (roughly planed to $1\frac{5}{8} \times 3\frac{1}{4}$ xinch) and 2x12 joists (planed to $1\frac{5}{8} \times 11\frac{1}{4}$ inch)

Antelope Co., Nebraska County and State

joists, all on 16-inch centers, with three 6x6 (planed to $5\frac{1}{4}x5\frac{1}{4}$ -inch) posts in a central line on each of the lower floors. The building consists of three levels: a full raised basement of brick, a main floor, and a full attic. The building plan's overall dimensions are about 30x50 feet, with an 8x10-foot one-story shed attached on the west side. Large open spaces were used for workplaces and storage. Natural light and ventilation are provided through multiple windows on each level.

The single entry door is on the east elevation at the ground level facing the lumberyard across the street. Signs on this elevation advertise the shop's offerings: "CABINETS...GLASS[:] WINDOW, PLATE, AUTO." Another single elevated door on the east main floor accommodated shipments of lumber and deliveries of completed projects to and from the main level, as do double doors into the main floor on the west elevation. A one-story 8x10-feet attached gable-end shed extends from the west side of the basement; its double exterior doors accommodate lumber entry and storage in the basement. A single exterior door into the attic is located on the west gable.

Basement windows are 3-over-3 wood sash. The windows on the main floor and dormer are double hung 1-over-1 wood sash. The gable-end attic windows are single 1-over-1 double hung wood sashes. Sided originally with lap siding or shiplap, the exterior is now finished with asbestos-shingle siding in grain-textured and wave-edged, 11x27-inch tabs. The asbestos siding is more than 50 years old and has gained a historical association within the building's period of significance, 1911–1964. The roof's original wood shingles are covered with aging composition shingles on the north half, and corrugated metal sheets on the south half and on the north dormer's roof. After partial collapse of the north brick foundation wall about 2012 present custodian Mike Kester rebuilt it with cast-in-place reinforced concrete.

The raised basement is an open plan supporting the ceiling-mounted line shaft powered by an electric motor that ran by belts to the main floor. The original electric motor is still connected to the system. The main floor is an open plan, except for the staircase in the southeast corner and the 11x13-feet partitioned office in the northeast corner. This floor was the main manufacturing area. The machines were power driven by leather belts from the basement, connected through the floor and driven by belts from the second series of line-shafts on the main floor's ceiling. Many of the machines, dating as early as the 1890s, are still in place and connected to the main line-shaft (see inventory below). The open attic is accessed by continuation of the staircase and broken in plan only by the two large north-facing dormers.

Most of the shop's interior walls and ceilings are unfinished, except the office with c. 1970 plywood paneling and acoustic ceiling tiles. A large historic "Warm Morning" iron stove sits outside the office on the main floor, piped into the brick flue that runs vertically from basement floor through the roof.

The building remains almost completely intact with equipment and accessories as when the firm was in full operation. Individual machines associated with a former planing mill were acquired by Howard

Kester Planing Mill

Name of Property

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Kester from Fred Thornton in 1901. The original bill of sale (Antelope County Clerk/Register of Deeds) included:

- Upright [Steam] Engine and Boiler with All Connections
- Rabs [?] Power Planer and All Attachments
- Whittlesly [Whittelsey] Power Turner and All Attachments*
- [C.B.] Rogers Power Mortiser and All Attachments**
- [J.A.] Fay Power Joiner and All Attachments***
- Eagan [sic, Egan] Power Wood Lathe and All Attachments***
- [J.M. or I.G.] Marston Power Band Saw and All Attachments****
- Power Boring Machine and All Attachments
- [W.F. & John] Barnes Power Circular Saw and All Attachments*****
- Power Grind Stone and All Attachments
- [W.F. & John] Barnes Power Former and All Attachments****
- "Together with all Wrenches Bits Knives heads Screws Belts line Shafts and Pulley and Hangers belonging to above Mentioned Machinery All Work Benches Vices Tressles [sic] Ladders Clamps and Stove Now used in the Property...."

*C.C. Whittelsey of Malone NY was a foundry and machine shop advertising as early as 1862.

C.B. Rogers & Co. had operations in Norwich, CT, Worchester, MA, and Keene, NH. It joined with ten other manufacturers in 1897 to form the American Wood Working Machine Co. This assists the dating of this piece to perhaps 1897 or earlier. *J.A Fay & Company and the Egan Company were two rival firms located in Cincinnati, Ohio. They merged in 1893 as the J.A. Fay & Egan Company and specialized in power woodworking machinery. This assists in dating these pieces of equipment to perhaps 1893 or earlier.

**** J.M. Marston began operation in 1872. By 1895, J.M. Marston & Co. of Boston Mass. advertised "Patent Hand and Foot and Steam Power machinery." I.G. Marston, the son, set up his own business in the 1880s.

*****The W.F. & John Barnes Company was founded in 1869 and incorporated in 1884. It was located in Rockford, IL. By 1881 they were manufacturing power woodworking equipment. Note: a "former" is sometimes referred to as a "shaper." All above references from <u>www.vintagemachinery.org</u>. Accessed May 1, 2014.

In 2014, five surviving belt-driven machines in the Kester Shop still in situ include:

- Lathe (the Egan power wood lathe)
- Dovetail cutter (probably the Rogers power mortiser)
- Planer (probably the Rabs [?] power planer)
- Another planer (the J.A. Fay power joiner)
- Table saw (probably the Barnes power circular saw)

A sixth machine, an operator-seated miter table is detached and stored in the attic. Also surviving are independently-powered machines of later vintage. It appears that the system of line-shafts and equipment is still operational but it has not been used for a number of years.

The interior still holds a large quantity of shop drawings, hand tools, and hardware sitting on workbenches and otherwise stored in cabinets, shelves, and boxes on all three levels. Early records, catalogues, and business papers are housed in the office. All give the appearance of the business still in

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Kester Planing Mill Name of Property

Antelope Co., Nebraska County and State

active operation. The Kester family carpentry business is no longer housed in the building, but it is still owned and maintained by the family in an exceptionally well-preserved condition. In 2013-2014, the building was documented to Historic American Buildings Survey (HABS) modified-Level III standards (digital photography and CAD measured drawings), now housed in the State Historic Preservation Office of the Nebraska State Historical Society.

United States Department of the Interior

National Park Service / National Register of Historic Places Registration Form NPS Form 10-900

Kester Planing Mill

Name of Property

8. Statement of Significance

Applicable National Register Criteria

(Mark "X" in one or more boxes for the criteria qualifying the property for National Register listing.)

- x A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- **B** Property is associated with the lives of persons significant in our past.
- x C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
 - **D** Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations

(Mark "X" in all the boxes that apply.)

Property is:

- A Owned by a religious institution or used for religious purposes.
- **B** Removed from its original location.
- **C** A birthplace or a grave.
- _____ **D** A cemetery. A reconstructed building, object, or
 - E structure.
 - **F** A commemorative property.
- **G** Less than 50 years of age or achieved significance within the past 50 years.

Antelope Co., Nebraska County and State

Areas of Significance

(Enter categories from instructions.)

Engineering

Industry

Period of Significance

1911–1964

Significant Dates

1911–12

Significant Person

(Complete if Criterion B is marked above.) N/A

Cultural Affiliation

N/A

Architect/Builder

Howard Kester, Master Carpenter

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Kester Planing Mill

Name of Property

Antelope Co., Nebraska County and State

STATEMENT OF SIGNIFICANCE

Summary

The Kester Planing Mill, also commonly called the Neligh Planing Mill, is a fully equipped millwork shop dating to 1911-1912 complete with period equipment and power system. Four generations of the Kester family, beginning with master carpenter Howard Kester, operated the planing mill until 2002. The Kester Planing Mill warrants significance for listing under Criterion A in the area of industry. It is the finest known example of the types of planing mills that once operated in Nebraska. These operations served in the development of communities through supplying local and regional carpenters and contractors. The Kester shop also characterizes the evolution, adaptation, and development of motive power used in small, light manufacturing operations between the late 19th and early 20th century in Nebraska and nationally. It is therefore an important example of the technological advances in motive power adapted to these smaller operations during this period across the state, following national trends in these industries, again warranting statewide significance under Criterion A. It is also has a rare surviving example of a power-drive line-shaft system with its array of line shafts, pulleys, and belts still connected to a number of pieces of its original woodworking machinery. Kester's use of this system represents the technology of line-shafts in industry, again a trend nationally and within the state. The shop therefore warrants statewide significance under Criterion C in the area of engineering. Its period of significance begins in 1911, its construction start, to 1964, the traditional 50-year cutoff (in 2014) for the National Register of Historic Places. It is being nominated at the statewide level of significance for these factors.

Narrative Statement of Significance

COMMUNITY CONTEXT:

Neligh, Nebraska

After the establishment of Antelope County in 1871 and selection of Oakdale as county seat, developer John D. Neligh purchased land on the Elkhorn River closer to the county's center in 1872 and platted a new town named "Neligh City" the following year. Noting the opportunities afforded by water power from the river and the agricultural prospects of the area he began construction of a flour mill the following year. In 1880, the Fremont, Elkhorn & Missouri Valley Railroad pushed north-westward along the Elkhorn River through Oakdale and Neligh, providing the water-powered mill with an essential link to a larger trade area for farmers and consumers. A number of large operations such as John N. Mills' lumberyard, coal, and grain elevators and J.J. Melick's lumberyard, carpentry shop, and grain elevators developed near the tracks to take advantage of the proximity to the railroad.

During the "boom" years of the decade of the 1880s and into the early 1890s the Neligh community rapidly grew from a population of 326 in 1880 to 1,135 in 1900. Important milestones in this period of Neligh's history include the establishment of a U.S. Land Office, the selection of Neligh for the Gates

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College (or Academy) by the Congregational Church, the removal of the county seat from Oakdale to Neligh in 1883, a water system in 1886, and the organization of a volunteer fire department in 1887. The steady growth continued until 1894, when a national depression and a severe drought caused setbacks. Regardless, in 1894 voters finally passed a county tax levy to build a new brick courthouse in Neligh (listed, National Register of Historic Places 1980).

HISTORICAL OVERVIEW:

The Kester Family

Jason Kester of Ohio (1839-1919) served as a "mechanic" during his service in the Civil War. He moved with his wife Sarah and four children to a farm north of Lincoln, Nebraska in 1877. The Kesters then relocated to a farm near Orchard in Antelope County in 1881.

Jason passed the craft of carpentry to what would follow as four generations of sons to enter the carpentry and millwork business. In 1892, his second-oldest son, Howard Jonathan Kester (1867-1943) found work in the nearby town of Neligh with contractors and builders Silas W. Lytle and Fred Thornton.

When plans for the new Antelope County Courthouse (1894, NRHP) were drawn by Nebraska architect George E. McDonald they were found to be incomplete and additional drawings and specifications were prepared by Fred Thornton, owner of the Neligh Planing Mill. The county hired John N. Mills as general contractor. Mills received instructions "to hire county labor for the work" and "to give preference to home work and materials whenever possible," a nod to helping the local economy, which was suffering from the depression (Buecker 1980a:8/1). Thornton's business was one that benefitted from the "home work" provisions of Mills' contract. Jason Kester joined Howard to do much of the fine finishing and woodwork in the courthouse. (Susan Risinger, "Since 1881 Kester Family Has Helped Build Neligh," *Neligh News and Leader*: October 31, 1984. Pages 1–2)

Fred Thornton's planing mill was located near the railroad depot on Chestnut and Coe (now West 3rd) Streets on an irregular lot truncated when the railroad arrived. It was in operation by 1894. The planing mill was powered by a 6-horsepower steam engine fueled by "shavings and coal" (Sanborn Map Company, Neligh, Nebraska, 1899).

Howard Kester was now well-versed in the business and purchased the fully-equipped shop in 1901 for \$650. The acquisition included "all interest in lease" of the fraction of Lot 2 Block 42 occupied by Thornton's building. In 1902, Kester bought the adjacent Lot 1, Block 42 at the corner of Chestnut and Putney (now West 4th) Streets from Judson B. Lytle (younger brother of Silas, also a carpenter and builder) for \$200 (Antelope County Clerk/Register of Deeds). After 10 years as owner he chose this location for his new planing mill. According to available sources, Howard Kester and his crew began construction of the building in 1911 and completed it in 1912.

Kester Planing Mill Name of Property Antelope Co., Nebraska County and State

Kester and his operation profited from Neligh's early 20th century economic growth. In 1910, the population had risen to 1,566. From 1905 until 1918 Howard employed a crew of 12 to 20 men during the summer building season and from six to eight men in the winter, probably in the planing mill. They produced milled lumber, window sashes, doors, and cabinetry for numerous buildings, and contracted for remodeling houses in Neligh and throughout Antelope County. Howard Kester built several Neligh business buildings and Neligh's West Ward School. He contracted for more than 100 new homes in Neligh and a similar number in the Neligh vicinity, as well as numerous barns and remodeling jobs (Antelope County Historical Society, The History of Antelope County Nebraska 1868-1985. Dallas: Curtis Media Corporation, 1986, page 527, entry contributed by Marie Kester Krohn). In addition to the scores of Kester-built buildings throughout the area, much custom-built cabinetry and interior woodwork survives in the area as well, according to family and others. Perhaps most recognized is a stairway in the former Matt Hoffman home, later the Hoepfinger-Beyer Funeral Home in Neligh. Howard Kester was a master with wood in any form and made at least two violins. Howard passed the craft to his sons. He was joined in the business by sons Harold and Homer as Kester & Sons Construction Company. He died in 1943. Harold purchased his brother's share of the business in 1957. Among his noted cabinetry work, Harold built the altar in the local Masonic Lodge and another altar for the Antelope Memorial Hospital Sisters' Chapel. Harold was quoted as saying, "a rarity in the construction business (is) a combination of quality work and reasonable rates" (Risinger).

Harold died in 1986 and passed the business to his son Kenneth, who worked actively in the building through 2002 (Risinger). Today the undivided estate of the millwork shop is shared by Kenneth and wife Henrietta's children Patrick, Michael, Daniel, Pamela, and Elizabeth. Michael Kester, a building contractor, is the fourth generation of the Kester family in the business. He is most involved with maintaining the shop building at present (2014), but has moved his contracting business to a shop at his home outside Neligh.

SIGNIFICANCE: CRITERION A HISTORIC CONTEXT: Industry Planing Mills in Nebraska

A planing mill takes rough-cut seasoned boards, or other lumber stock, obtained from sawmills or lumber distributors and produces finished wood products, including cabinets, woodwork, doors, window sashes, blinds, and other specialty woodworking that fit the needs of carpenters and builders. Planing mills utilize a variety of machines, including planers, molding machines, lathes, jointers, and saws that produce dimensional lumber and custom wood products. In some cases, planing mills operated as a sideline to lumberyards.

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The U.S. Bureau of the Census defined "planing mills" in its 1905 <u>Census of Manufactures</u>: In the planing mill industry rough lumber forms the principal material, with hardware, glass, glue, etc., as other materials; while chief among its products are finished lumber, such as ceiling, flooring, etc., and sash, doors, blinds, and interior finishes...The statistics shown...are for both planing mills operated in connection with sawmills and independent planing mills. The location of the former generally is, like that of sawmills, remote from populous centers, and their product consists chiefly of finished lumber; while the latter is essentially an urban industry, and the character of its product is more varied (Census of Manufactures, U.S. Department of Commerce: Bureau of the Census, 1905, pages 613-614).

Planing mills provided the finished lumber and specialty products necessary for construction of the many buildings needed in the burgeoning Nebraska communities. With the increased demand brought about by settlement and growth of the state, wood-related manufacturing found a ready market. They supplied the needs of homeowners, businesses, and builders of the growing communities.

A planing mill should not be confused with a sawmill. Sawmills produced rough-cut lumber where local sources of timber were available. They served to supply the building needs of the newly founded towns beginning in the earliest period of settlement in Nebraska and were often one of the first operations to be established. Frequently a sawmill operated in conjunction with early water-powered flour mills, where they took advantage of the infrastructure of dams and the existing power source. This became less common when supplies of lumber were shipped by railroad. One directory indicated that in 1883 there were 27 sawmills operating in Nebraska. It was also reported in the same source that none of the mills produced finished, dimensional lumber, only rough-cut lumber. (William F. Rapp and Susan K. Beranek, <u>The Industrial Archaeology of Nebraska</u>. Crete, Nebraska: J-B Publishing Company, 1984, pages 118-121). Those investing in a steam engine to operate a sawmill would have moved from one location to another to tap the limited local sources of timber. The 1883 directory indicates that 23 operations used steam power and four used water power.

Sawmill operations depleted the already scarce amount of timber in the state. However, with the arrival of railroads vast quantities of lumber was shipped to Nebraska markets, supplying the large amounts of building material needed for the ever-growing demand. This was distributed to lumberyards, which ranged from the small, locally owned and operated lumberyards to large operations that had branches across the state. Among the largest was the Chicago Lumber Company, which operated in Nebraska, Missouri, Kansas and Iowa. The Nebraska-based Nye, Schneider, Fowler Co. of Fremont had 60 branches that sold lumber, grain, livestock, and coal.

Data is available for operations including producers of lumber products and planing mills. The following data has been compiled for the periods covered by the subject of this document. This includes the period of transition from water, steam, internal combustion engines, and electric motors.

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Name	of Property

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The data reported by the U.S. Bureau of the Census in its various volumes of <u>Census of Manufactures</u> is probably more accurate than listings in other directories or reports.

Year	Number of Planing Mills Enumerated
1899	35
1904	27
1905	23
1909	48
1914	51
1919	42
Source: U.S. B	ureau of the Census, <u>Census of</u>
Manufactures	

The <u>Nebraska State Gazetteer and Business Directory</u> lists the names and locations operating under the general category of lumber products (not lumberyards, which are listed separately) and planing mills. The locations show widespread distribution across the state. The year 1911 was the last year of the directory's publication.

Year	Number of Planing Mills Listed
1890-1891	27
1894-1895	29
1895	24
1902-1903	25
1907	29
1909	39
1911	35
Source: Nebrask	a State Gazetteer and Business Directory

Entries also appear in a general category that includes planing mills in the <u>Biennial Report of the Bureau</u> of Labor and Industrial Statistics for the State of Nebraska. Unfortunately, the number of businesses reporting to the Bureau of Labor may have been as low as 50%. The Bureau often lamented that small manufacturers did not report and their data was difficult to obtain. Those reporting again show widespread distribution across the state. Beginning with the report for 1919-1920 manufacturers were no longer enumerated. From the reports beginning in 1901-1902 are the following numbers of establishments:

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Kester	Planing	Mill

Name of Property

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Year	Number of Planing Mills Reporting
1901-1902	14
1903-1904	23
1905-1906	31
1907-1908	Not listed by category
1909-1910	19
1911-1912	11
1913-1914	25
1915-1916	18
1917-1918	4
Source: Biennia	l Report of the Bureau of LaborNebraska

The report for 1915-1916 lists a total of 92 percent of their sales were in the state and 93 percent in the 1917-1918 report, the only years these statistics were given. This gives indication that most production was for local, regional, or state markets.

The Nebraska Historic Resources Survey and Inventory (NeHRSI), maintained by the Nebraska State Historical Society's State Historic Preservation Office, is the state's comprehensive and authoritative record of historic places. Began comprehensively in 1974, NeHRSI now includes some 79,000 properties and represents reconnaissance surveys in all of Nebraska's 93 counties. Although not definitive, only ten planing mills have been identified in NeHRSI. Five are known to no longer be extant. Another building dates to the 1950s, which is not comparable to the late 19th-century and early 20th-century operations covered by this report. With the exception of the Kester Planing Mill in Neligh, none are known to survive with their full contingent of early power systems and equipment. The compiled list is as follows:

- Geer & Harrison Planing Mill, Grand Island (no longer extant)
- Fairbury Planing Mill, Fairbury (no longer extant)
- Standard Planing Mill, Lincoln (no longer extant)
- Norfolk Planing Mill, Norfolk (no longer extant)
- H.F. Krueger Planing Mill, Norfolk
- Millard Lumber Company, Omaha (c.1950s)
- Chicago Lumber Company, Omaha
- Chicago Lumber Company, Chapman (no longer extant)
- Columbus Planing Mill, Columbus
- Kester Planing Mill, Neligh

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Another, although not historic, is the Merrick Planing Mill on the grounds of the Stuhr Museum's "Railroad Town" in Grand Island. It is a 1989 building which was built to reproduce an early planing mill. It does, however, interpret the working operations of a planing mill for a public audience.

Given the wide geographical distribution of small planing mills across the state, it is apparent that these operations did not compete with each other. Small operations, however, competed with firms that supplied an extensive inventory of mass produced architectural millwork, such as window sashes, doors, columns, cabinetry, architectural details, and other general finishes. These were offered as standard products and not custom produced, such as those products that a planing mill could provide. Several large scale millwork firms were operated in Nebraska and out-of-state. Their operations included manufacturing, wholesale jobbing, and distribution of their products to lumberyards or other retailers. They advertised through trade journals and extensive product catalogues. Several large scale operations once operated in Nebraska. They include the Adams & Kelly Company of Omaha (1202-1224 Nicholas Street), the Curtis, Towle, and Paine Company in Lincoln, and the M.A. Disbrow & Company, also of Omaha (1201-1221 Nicholas Street). The Adams and Kelly Millwork Company was established in Omaha in 1892. The company was in business until 1961. M.A Disbrow & Company began its Nebraska operations in 1886 and ceased operations in 1982. The Curtis, Towle, and Paine Company (formerly the Curtis and VanDenberg Co.) established a Lincoln branch of the Curtis companies in 1893. It closed in 1965. All three buildings or complex of buildings associated with these companies are extant; the two Omaha buildings are found in the Nicholas Street Historic District, which was listed in the National Register of Historic Places in 2009. The Curtis, Towle, and Paine Company building has been remodeled for office use. Since these three companies mass-produced architectural millwork products or distributed from out-of-state factories in vast quantities rather than serving custom needs, they represent their own historical context and do not offer a good comparison to the small scale operations found across the state.

Despite this competition, local planing mills certainly filled a niche for construction. But economies of scale resulted in the closure of the small operations over the last number of decades, in part, due to their inability to compete in the mass market. Today, both the small, local lumberyards and planing mills have been supplanted by the retail big-box building supply firms. Custom work has been replaced by premade, stock items, which are seen as cheaper and more attractive to contractors and homeowners both for remodeling and new construction. Planing mill operations have all but ceased.

SIGNIFICANCE: The Kester Planing Mill

The Kester Planing Mill has important associations with planing mills, a type of a small, light manufacturing industry once found across the state. The determination of statewide significance for the Kester shop is based on the knowledge, extent, character, and conditions of related historic properties that are known to be extant in the state. This evaluation also based on evidence, such as that found to be available on the known planing mills that once operated in the state. Information from the Kester shop

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leads to a fuller understanding of these operations from a statewide perspective. It represents the types of operations that helped to build the state through their association with the building trade. Therefore, significance can be applied to the Kester Planing Mill for important progression of events in the founding, evolution, and development of this and other small-scale industries in Nebraska.

SIGNIFICANCE: CRITERION A HISTORIC CONTEXT: Industry Motive Power of Light Industry

Mechanical energy supplying power for early industry includes water, steam, internal combustion, and electricity. These systems receive and modify energy, transforming it into mechanical power, sometimes called "prime movers." They were used to impart motion to machinery, generally referred to as "motive power."

During the "first industrial revolution," power systems came of age in the burgeoning mills, factories, and various other manufacturing operations, such textile factories, sawmills, machine works, and flour mills. It became an age of mass-production. Power machinery came into use for planing mills, credited to early furniture manufacturers that introducing power woodworking machinery in the 1830s and 1840s.

At the beginning of the industrial revolution in England, water was the main source of power. Basically, a waterpower system taps the energy stored in water and turns it into kinetic energy by controlling its natural fall. For example, water can tapped by a waterwheel or can be channeled from a millpond through a millrace and brought to a point where it is permitted to fall to a lower level. Falling water also powered the more efficient turbine, driving it by pressure as well as weight. In both examples the power was transferred by gears to the mill's main power shaft or drive pulley. Until the second half of the 19th-century, waterpower was the major mechanical power source in the United States. Innovations in the mid- to late-19th century brought new and significant advances in motive power. Water gave way to steam.

Although the transition of water power to steam power occurred in many of the larger mills and factories, it was still used in Nebraska during the late 19th and early 20th centuries for many smaller operations, such as flour mills, planing mills, and machine works.

Mechanical systems used to generate motive power also included steam power and internal combustion engines. Steam was the predominant system at the turn of the 20th century, with steam engines providing about 80 percent of motive power capacity. The internal combustion engine, fueled by gasoline, kerosene, or diesel fuel produced electricity by being connected to a dynamo, which generated electricity.

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Changes in technology and sources of motive power marked transitions in manufacturing. Each had disadvantages and manufacturers adapted to new advancements. Water power was subject to power disruption due to stream flow and floods. Steam engines were large and cumbersome, dangerous, and unreliable. Internal combustion engines required fuel and maintenance. Both had to be located in or very near the building to achieve maximum transfer of power. Electricity, however, eventually became the power of choice.

The shift to electricity became the most favored means of motive power both for conversion of older mills and those newly placed online. The use of electricity reduced the energy required to drive machinery. Power could be obtained from a remote source and did not require engines and generators on the premises. But many manufacturers were reluctant to convert to electric-driven machines in the early 1900s. And one industrial historian provided an observation.

Large amounts of capital were sunk in power equipment, including steam boiler plants, mechanical shafts, belts and pulleys, and factory design specifications to support this cumbersome transmission system. [The electric companies'] sales pitch fell on deaf ears because it asked factory managers to junk their investment in steam power equipment, install a costly set of new wires and motors, and begin paying a monthly power bill" (Weber, Austin, "Line Shafts and Belts." Electronic document: <u>http://www.assemblymag.com/articles/82814-line-shafts-and-belts</u>. Accessed May 5, 2014, Quoting Harold Platt, professor of history at Loyola University).

In early factory electrification only large motors were available and new factories installed these to drive the machinery, retaining or installing their line-shaft drive system that ran multiple machines. After 1900 smaller industrial motors became available and most new installations used individual electric powerdrives for machinery.

Other factors came into play. Variable speeds were an advantage of electric motors. The alternatingcurrent (AC) electric motor, with no sliding parts other than the bearings, came on the market in 1919. By the 1910s and 1920s electricity had become the power of choice. Many municipalities had invested in power transmission and, in Nebraska, electricity become available in all towns except the most rural.

By 1920, electricity prevailed as the main source of motive power. In 1929 electric motors represented about 78 percent of motive systems. (Devine, Warren D. Jr., "From Shafts to Wires: Historical Perspective on Electrification," *The Journal of Economic History*. Volume XLIII, Issue 2, June 1983).

Perhaps the best documented examples of motive power used for small, light manufacturing in Nebraska are nineteenth-century water-powered flour mills. At a peak, 260 mills were in business in 1900. But by 1900, steam power surpassed water as the chief motive power for flour mills (Thomas R. Buecker, "Nebraska Flour Mills, Structure and Style, 1854-1936." *Nebraska History*, Volume 66, No. 2, Summer

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1985, pages 146, 155). These small mills disappeared, in part, due to the costs of updating equipment, including the more modern power generation systems. Perhaps as few as 20 mills remain extant in Nebraska, including several huge manufacturing facilities in Crete, Fremont, Lincoln, and Omaha that are not comparable to the once-common flour mills that served local and regional markets (Thomas R. Buecker to Bob Puschendorf, May 20, 2014, and NeHRSI database).

Today four small-scale flour mills have been documented complete with evidence of their motive systems. They represent the evolution of motive power from water, steam, internal combustion engine, and/or electricity. Champion Mill in Chase County was Nebraska's last operational water-powered flour mill (NRHP). It is now maintained as a historic site. None of its original milling equipment remains in the building, however. The DeWitt Flour Mills (not extant, pending removal NRHP) first used water as motive power and converted to electricity in 1919. It supplied power to the town of DeWitt through the 1950s. None of the original equipment remained at the time it was listed in the National Register of Historic Places in 1978. The Neligh Mill (NRHP), just a few blocks southeast of the Kester shop, is the only nineteenth-century water-power flour mill in the state with all of its original equipment. It later supplemented its water power with diesel engines. Although it had electric generation capabilities ran by diesel engines, it converted entirely from water power to electricity in 1920 when its mill dam was destroyed by flooding. Although no longer operational, it now serves as a historic site operated by the Nebraska State Historical Society. Another recorded example is the Wauneta Roller Mills (NRHP), which was still operational in 2007. Given its rather late construction date (1925), it first ran on a diesel engine, which generated electrical power. In the 1930s it was operated fully by electricity without the diesel engine and generator. Given the technological advances in small electric motors, the mill's large generator had given way to small, individual electric motors, which ran the individual machines. The existing equipment derives its power from 68 individual electric motors.

Probably the state's finest example of an intact light manufacturing operation is the Kregel Wind Mill Company's factory building in Nebraska City (NRHP), built about 1905. The Kregel company operated as a metal-working and machine shop. The Kregels built windmills, did general repairs, and furnished its products to a small regional market. It was converted from steam to electric power. It has been preserved as a museum with all of its line-shaft system and working equipment.

SIGNIFICANCE: The Motive Power of the Kester Planing Mill

It is clear why Kester selected electric power for his new shop. Electricity had become the power of choice. And a reliable source of electricity had already come to Neligh. In 1900, the Neligh Mill installed an electric light generator, supplementing power from its mill dam and water turbine. The mill's excess electricity was sold to the city, supplying electric light to households, but only in the evening hours when the mill was not in operation. In 1905, the mill installed a 100 horsepower Fairbanks-Morse diesel engine with two 50-horsepower cylinders. The engine was connected to an electric dynamo, which then generated auxiliary power for the mill as well as electricity for the

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city. This was followed in 1915 when a 225 horsepower Busch-Sulzer Brothers diesel engine connected to an electric dynamo, again to supplement its water power. In 1920, the Neligh Mill converted entirely to electricity. It later sold its electrical generating operation for municipal power.

There were several benefits for Kester to construct a new planing mill. The new building and its lineshaft system could be tailored in design and construction without having to adapt the steam system used in the old building. The motor did not require refueling with coal and offered a safer and more reliable power source. Kester's 7.5-horsepower electric motor surpassed the 6-horsepower of the former steam engine in size, operation, output, and maintenance. But although Kester's first shop is no longer standing, the evolution of the operation from steam to electricity is part of the historical narrative of motive power represented by the Kester Planing Mill.

Kester's decision to operate under electric power represents an important step in the evolution of motive power systems, not only for Kester, but other small operations in Nebraska. They took their cues from industry trends and technological advancements nationally and statewide.

The Kester Planing Mill has been evaluated with other properties associated with the evolution, distribution, character, and condition demonstrating the evolution of motive power in the state. Once common in Nebraska, few examples of small, light manufacturing operations have been recorded in NeHRSI, complete with physical evidence of their motive power. Only five examples of power generation have been documented. All have been listed in the National Register of Historic Places (NRHP). One, however, is no longer extant. These survivors document the evolution of motive power used for small, light manufacturing operations, giving importance to the Kester shop as compared to properties of the same qualities in the state.

The Kester shop thus has great value in documenting motive power used in small, light manufacturing operations in Nebraska. The use of an electric power-drive system still evident in the building warrants significance under Criterion A of the National Register of Historic Places at the statewide level for its ample ability to represent this evolution.

SIGNIFICANCE: CRITERION C CONTEXT: Engineering The Line-Shaft Power Drive System

The power-drive system used in industry is sometimes generically called "millwork" by industrial historians. A "line-shaft" is a power-driven rotating shaft for power transmission hung overhead and horizontally from the rafters by way of pulleys and belts. Line-shafting was used to deliver power from a central power source to multiple pieces of machinery.

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Early British and American textile mills ran a vertical shaft off the main power source and transferred the power by gears to overhead horizontal line-shafts on each floor. Because it was difficult to get precisely machined gears, American mills were rough and noisy and had to be run at slow speeds. The gear system also wasted horsepower through friction and torsional losses.

Widespread uses of line-shafts were adopted in textile manufacturing. In the early 19th-century, versions of line-shafts began to be widely used in small manufacturing operations including woodworking and machine shops, saw mills, and grist mills. British factory origins of line-shaft systems were followed by U.S. factory improvements. The line-shaft system was connected to quiet belts instead of noisy gears (Hunter, Louis C. <u>History of Industrial Power in the United States, 1780–1930, Volume One,</u> Charlottesville: University Press of Virginia, 1979, pages 462–480). A few small mills used belting, but it wasn't until Paul Moody used this innovative millwork system in the Appleton Mills (Lowell, Massachusetts) in 1828 that it was seriously considered as an alternative to vertical shafting. Belts allowed faster speeds and were quieter and less jarring than gears. Less horsepower was also lost in the transmission from the power source. By the mid-19th century, belting had become a distinguishing characteristic of American mills ("Lowell [Massachusetts] National Historical Park Handbook," page 140).

A main shaft was suspended from the ceiling of one level, connected to the power source. A fixed pulley on the shaft was driven at a constant speed from the power source. A vertical main shaft extended through each floor of the factory. On every floor, one or more line-shafts were connected to the main shaft. Each line shaft turned as the main shaft turned. A series of belts, gears, and pulleys attached to each line shaft powered the machines.

Pulleys of wood, steel, or both, were connected to the line-shafts. Power was distributed to several horizontal line-shafts on floors above or below through slots in the floor. Belts extended downward from the line-shaft to the machinery below. Belts were made of leather or of a strong cotton duck impregnated with a rubber substance. The line-shaft itself was made of rigid steel suspended by using sturdy hangers.

Where multiple machines had different requirements for revolutions per minute (rpm) and orientations on the work floor, line-shafts could have different shafting directions and pulley sizes. Such was the case of machine and wood shops. Different sized pulleys, side-by-side, provided for variable speeds by changing the speed of the rotation depending on which pair of pulleys and machines was connected. Hand operated "belt shifters" facilitated moving the belt between pulleys. By twisting the belt 180 degrees, power could be reversed to rotate in an opposite direction. When a machine was not in use, the belt was moved to a neutral pulley - called an "idler" - that stopped the individual machine while still allowing the line-shaft to revolve.

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A national shift in the 1890s at large American factories typically included one central steam plant and a series of small steam engines, each driving small arrays of millwork dubbed "sub-divided power" (Louis C. Hunter and Lynwood Bryant, <u>History of Industrial Power in the United States, 1780–1930,</u> <u>Volume Three: The Transmission of Power</u>, 1991, MIT Press: 115, 120, 136). This system required less maintenance than large, central machines, allowed a certain machine or groups of machines to operate independently and also allowed repairs without shutting down the entire system. An early English publication espoused the benefits of sub-divided power in the woodworking industry:

If power has to be transmitted a considerable distance by means of shafting, a large amount of force is lost through friction necessarily engendered; and it has become more or less fashionable to substitute several smaller engines in lieu of one large one. This plan has the additional advantage that, should an accident occur, the whole establishment is not necessarily laid idle. (Bale, Manfred Powis, <u>Woodworking Machinery</u>, It's Rise, Progress and Construction..., London: Crosby, Lockwood and Co., 1880, pages 257-258)

With the technology of electrification in the early 1900s, many line-shafts began to be powered by large electric generators to drive line-shafts or a dedicated line-shaft connected to an individual machine or small group of machines. Soon to come was experimentation using small electric motors. In a 1904 article one industry observer wrote of the use of small electric motors to operate individual machines. "The shop manager who does not see clearly the inability of a belted tool to attain maximum output, and the reasons, cannot hope to gain appreciably by purchasing a motor." The article went on to give multiple reasons why.

Does it pay? Better placement of tools, especially the largest ones. The operation of powerful portable apparatus for use in the very largest work...Less dirt. Less danger to employees. Lighter overhead construction necessary in new factories due to non-existence of countershaft, etc." ("Discussion on the Individual Operation of Machine Tools by Electric Motors," *Journal of the Franklin Institute of the State of Pennsylvania* for *the Promotion of the Mechanic Arts*, CLVIII, No. 5, November 1904, pages 321-352).

He also stated the benefits of the variable speeds that could be attained with an electric motor.

With power from small electric motors now dedicated to individual machines, line-shafts were phased from service. Most line-shaft systems were replaced by electrical power driving each piece of equipment (Nye, David E. <u>Electrifying America: Social Meanings of a New Technology</u>, Cambridge, Massachusetts and London: MIT Press, 1990:14, 15). Probably by 1920 there was almost a complete transition to electric motors on individual machines. (Devine, Warren D. Jr., "From Shafts to Wires: Historical Perspective on Electrification," *The Journal of Economic History*. Volume XLIII, Issue 2, June 1983).

An evaluation can be made of the extent, character, and condition of other line-shaft drive systems remaining in the state. Three remaining examples of line-shaft millwork systems are known to survive

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in Nebraska: the Neligh Mill, the Champion Mill, and the Kregel Wind Mill Company's factory building in Nebraska City (see previous section). The Neligh Mill retains its power-drive line-shaft system, still connecting the basement to three floors of original equipment. These floors are connected by belts, which in turn were connected to line-shafts on each floor. Although the line-shafts are present in the Champion Mill, its original equipment was removed. The Kregel factory is complete with its line-shaft system and machinery.

Relatively few line-shaft millwork systems remain, even nationally; even fewer in their original location and configuration (Hunter, Louis C. and Lynwood Bryant). Today, working examples of overhead line-shafts and belts can be viewed in a handful of American museums.

SIGNIFICANCE: The Line-Shaft System of the Kester Shop

When Kester purchased the Thornton's Neligh Planing Mill in 1902 an inventory included "...line Shafts and Pulley and Hangers now used in the Property...." (Antelope County Clerk/Register of Deeds). He chose to remain with a line-shaft system for his new building. The new Kester shop was designed to accommodate a line-shaft power drive system. Unlike the old shop, Kester could install a line-shaft to a single electrical power source. And he already had a full contingent of equipment that could be connected to the line-shaft. This machinery could be effectively laid out in relation to the new line-shaft. The Kester building was also designed to provide a sound structural frame – but not excessive - for a power-drive system and the machinery. The frame building easily carried the weight and vibration of its electric motor, line-shaft system, and machinery. Two floors better accommodated a line-shaft system, as with the Kester shop

While it can be speculated that Kester reinstalled all or part of the existing line-shaft system from his former shop, the system may have been difficult to reuse. It would probably have required a different configuration than its installation in the old shop. Also, its drive belt would have needed to be modified to convert from steam to electricity. As such, the installation may have been done by a millwright who was well-versed in the somewhat complicated system of belts and pulleys and the use of electric power.

The 1902 inventory also included Thornton's old equipment. All probably date to the 1890s (see Description section). He chose to remain with most if not all of the old equipment for either economy or functionality. Nevertheless, his equipment and power system were dated as compared to the movements in the industry, such as the use of power sources (sub-divided power) devoted to one machine. Six of these machines are in the building today (2014), five are *in situ* to the line-shaft system. Another is located in the attic.

- Rabs [sp?] Power Planer and All Attachments
- [C.B.] Rogers Power Mortiser and All Attachments
- [J.A.] Fay Power Jointer and All Attachments
- Eagan [sic, Egan & Co.] Power Wood Lathe and All Attachments

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- [W.F. & John] Barnes Power Circular Saw and All Attachments
- [W.F. & John] Barnes Power Former and All Attachments

Despite technological advances and probably due to the small scale of their operation, the Kesters still relied upon their line-shaft system for many years to power their full array of machinery, leaving an important example of this engineering system. Evidencing the Kester's late transition to independently powered machinery are examples of machines dating from the 1950s still remaining in the building.

Kester's line-shaft system represents the engineering that went into the millwork system to operate the machinery. The building is an exceptionally rare example in Nebraska of a complete power-drive line-shaft system with its early equipment still in place. This assemblage of early equipment, still connected by belts to a horizontal line-shaft makes this building important in the interpretation of period millwork systems. The Kester Planing Mill, therefore, warrants statewide significance under Criterion C of the National Register of Historic Places for engineering.

CONCLUSION:

The operations of planing mills, the evolution of motive power, and the engineered line-shaft power drive system represented by the Kester shop did not occur in a vacuum but represent the larger trends or patterns occurring in the state and even the nation. The Kester Planing Mill, therefore, warrants statewide significance under Criterion C of the National Register of Historic Places for engineering, namely design qualities integral to this and similar trends adopted in small, light manufacturing operations statewide and nationally.

The Kester Planing Mill represents a rare survivor with important interpretive qualities under both criterions A and C of the National Register of Historic Places. The shop represents the technological evolution of similar types of small, light manufacturing facilities in the state. The Kester shop has also been compared statewide to the few known properties that are the best known examples within the historical contexts detailed within this nomination. This allows the evaluation of the property from a statewide perspective. This evaluation is based on like properties of the period and comparative associations with others.

Today the Kester shop is a rare surviving example of the type of the small, light manufacturing that built Nebraska and the nation, represented within a building used by the same skilled woodworkers who operated the machines for four generations.

Kester Planing Mill

Name of Property

Antelope Co., Nebraska County and State

9. Major Bibliographic References

Bibliography

Author not cited

1904 Journal of the Franklin Institute of the State of Pennsylvania for the Promotion of the Mechanic Arts, CLVIII, No. 5, November 1904.

Antelope County Assessor

2013 "Parcel Information...LOT 1 EXC RR BLK 42 NELIGH CITY." Electronic document: http://www.antelope.assessor.gisworkshop.com/#. Accessed October 21, 2013.

Antelope County Clerk/Register of Deeds

Bill of Sale. Sale of Neligh Planing Mill and contents by Fred Thornton to Jason Kester.
Sale on March 2, 1901. Filed January 27, 1902.
Deed Record. Sale of Lot 1, Block 42, by J.B. and Caroline Lytle to Jason Kester. Sale on July 21, 1902. Filed July 25, 1902.

Antelope County Historical Society

1986 <u>The History of Antelope County Nebraska, 1868–1985</u>. Dallas: Curtis Media Corporation.

Bale, Manfred Powis

1880 <u>Woodworking Machinery, It's Rise, Progress and Construction...</u>, London: Crosby, Lockwood and Co., 1880.

Biennial Report of the Bureau of Labor and Industrial Statistics for the State of Nebraska.

Buecker, Thomas R.

- 1980a "Antelope County Courthouse (AP04-1)." National Register of Historic Places, Inventory— Nomination Form. Available at:
 - http://www.nebraskahistory.org/histpres/nebraska/antelope/AP04-
 - 001_Antelope_CntyCthse.pdf. Accessed January 31, 2014.

Buecker, Thomas R.

1980b "Gates College Gymnasium – Antelope County Jail (AP04-2)." National Register of Historic Places, Inventory—Nomination Form. Available at: http://www.nebraskahistory.org/histpres/nebraska/antelope/AP04-002_Antelope_CntyJail.pdf. Accessed January 31, 2014.

Buecker, Thomas R.

1985c "Nebraska Flour Mills, Structure and Style, 1854-1936." *Nebraska History*, Volume 66, No. 2, Summer 1985.

United States Department of the Interior

National Park Service / National Register of Historic Places Registration Form NPS Form 10-900

OMB No. 1024-0018

Kester Planing Mill

Name of Property

Antelope Co., Nebraska County and State

Census of Manufactures, U.S. Department of Commerce: Bureau of the Census. Various reports. Devine, Warren D., Jr.

1983 "From Shafts to Wires: Historical Perspective on Electrification." In *The Journal of Economic History*. Volume XLIII, Issue 2 (June 1983). http://www.j-bradford-delong.net/teaching_folder/Econ_210c_spring_2002/Readings/Devine.pdf. Accessed May 5, 2014.

Hunter, Louis C.

1979 <u>A History of Industrial Power in the United States, 1780–1930.</u> Volume One. Charlottesville: University Press of Virginia.

Hunter, Louis C. and Lynwood Bryant

1991 <u>A History of Industrial Power in the United States, 1730-1930, Vol. 3: The Transmission of Power</u>. Cambridge, Massachusetts, London: MIT Press.

Kester, Michael

2013 Personal communications with Jim Steely, SWCA Environmental Consultants.

Leach, A.J.

1909 <u>A History of Antelope County Nebraska, 1868–1883</u>. Chicago: Lakeside Press, R.R. Donnelley & Sons Company.

Lowell [Massachusetts] National Historical Park

"Handbook." Electronic document: <u>http://www.nps.gov/lowe/historyculture/park-handbook.htm</u>. Accessed May 5, 2014

Mansfield, Judson

"Woodworking Industries in the Factory System," address before the American Society of Mechanical Engineers, 1952.

Miller, Greg, David Murphy and Joni Gilkerson

1992 "Kregel Wind Mill Company." National Register of Historic Places Registration Form. Nebraska State Historical Society. Available at: http://www.nebraskahistory.org /histpres/nebraska/otoe/OT06_A016_Kregel_WindmillCo.pdf. Accessed February 18, 2014.

Nebraska State Gazetteer and Business Directory

Nebraska Bureau of Labor and Industrial Statistics 1913-14 <u>Biennial Report of the Bureau of Labor and Industrial Statistics for the State of Nebraska</u>

Nye, David E. <u>Electrifying America: Social Meanings of a New Technology</u>.

1990 Cambridge, Massachusetts and London, England: MIT Press.

United States Department of the Interior

National Park Service / National Register of Historic Places Registration Form NPS Form 10-900

OMB No. 1024-0018

Kester Planing Mill

Name of Property

Antelope Co., Nebraska County and State

Rapp, William F. and Susan K. Beranek.

1984 <u>The Industrial Archaeology of Nebraska</u>. Crete, Nebraska: J-B Publishing Company, 1984.

Risinger, Susan

1984 "Since 1881 Kester Family Has Helped Build Neligh." *Neligh News and Leader*. October 31, 1984.

Sanborn Map Company

Various, "Neligh, Antelope Co., Nebraska." Map sets from 1893, 1899, 1904, 1920, and 1934.

Weber, Austin

2003 "Line Shafts and Belts." From *Assembly* online magazine. Electronic document: <u>http://www.assemblymag.com/articles/82814-line-shafts-and-belts</u>. Accessed May 5, 2014.

Wood, Betty Sutton

2013 Personal communications—eMail, mail, and telephone—between Wood, greatgranddaughter of Jason Kester, and Jim Steely, SWCA Environmental Consultants. Wood is responsible for the exhibit of Jason Kester's carpentry tools at the National Frontier Trails Museum in Independence, Missouri, detailed at http://www.kesterhistory.com/kestertools.html.

Previous documentation on file (NPS):

Primary location of additional data:

preliminary determination of individual listing (36 CFR 67 has been requested) previously listed in the National Register	x State Historic Preservation Office Other State agency
previously determined eligible by the National Register	Federal agency
designated a National Historic Landmark	x Local government
recorded by Historic American Buildings Survey #	University
recorded by Historic American Engineering Record #	x Other (Name of repository)
recorded by Historic American Landscape Survey #	Betty Sutton Wood, Family descendant see Section 9)
Historic Resources Survey Number (if assigned): AP04-170	

10. Geographical Data

0				
Acreage of property	Less than 1 acre		USGS Quadrangle	Neligh
UTM References				
Datum (indic	cated on USGS map):			
-	NAD 1927 or	x NAD 1983		
1. Zone <u>14</u>	Easting	579942.4	Northing 4	664491.3

OMB No. 1024-0018

Kester Planing Mill

Name of Property

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Verbal Boundary Description

The Kester Planing Mill occupies Lot 1 of Block 42 at the corner of Chestnut and 4th Streets in the City of Neligh, Antelope County, Nebraska.

Boundary Justification

The Kester Planing Mill is the only building on this city lot and block, its location since 1911.

11. Form Prepared By					
	James W. Steely, Senior Historian-Archite	ctural Historian			
name/title	L. Robert Puschendorf, Deputy State Historic Preservation Officer				
	SWCA Environmental Consultants		March	24, 2014	
organization	Nebraska State Historical Society	date	May 16	6, 2014	
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city or town	Lincoln	state	NE	zip code	68501
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email	bob.puschendorf@nebraska.gov				

Additional Documentation

Submit the following items with the completed form:

- Maps: A USGS map or equivalent (7.5 or 15 minute series) indicating the property's location.
- Sketch map for historic districts and properties having large acreage or numerous resources. Key all photographs to map.
- Additional items: (Check with the SHPO for any additional items.)

OMB No. 1024-0018

Kester Planing Mill

Name of Property

Antelope Co., Nebraska County and State





The Sanborn fire insurance company map set of 1920 (Sanborn 1920:4), first Sanborn update for Neligh since 1909, shows Block **42** (center) truncated in 1880 by re-platting for the diagonal railroad. The 1911–1912 Kester Planing Mill (arrow) occupies the north-most Lot 1, and the former 1890s Neligh Planing Mill building occupies the triangular south-most Lot 2.

Kester Planing Mill Name of Property Antelope Co., Nebraska County and State

Reflected Ceiling Plans, Basement (top) and Main Floor (bottom):









OMB No. 1024-0018

Kester Planing Mill Name of Property

Antelope Co., Nebraska County and State

Photographs

Photo Log

Name of Property	Kester Planing Mill				
City or Vicinity	Neligh	County	Antelope	State	Nebraska
Photographer	James W. Steely		Date Photographed		24–25 October 2013

Description of Photograph(s) and number, include description of view indicating direction of camera.

- 1. Kester Planing Mill: South and West elevations, facing northeast.
- 2. Kester Planing Mill: North and East elevations, facing southwest.
- 3. Kester Planing Mill: Contextual view at intersections of 4th, P, and 3rd Streets, facing southeast.
- 4. Kester Planing Mill: Basement with overhead motor and millwork, facing northeast.
- 5. Kester Planing Mill: Basement with brick flue base, facing southwest.
- 6. Kester Planing Mill: Basement detail, electric motor at right, first line shaft at left, reflected on ceiling.
- 7. Kester Planing Mill: Main Floor, workbench on right, planer at extreme left, facing southwest.
- 8. Kester Planing Mill: Main Floor, "Warm Morning" stove, storage, facing southeast.
- 9. Kester Planing Mill: Main Floor office, facing southeast.
- 10. Kester Planing Mill: Main Floor, Rabs (sp?) Power Planer, facing northwest.
- 11. Kester Planing Mill: Main Floor ceiling detail, line shaft and hangers, pulleys, and belts, reflected on ceiling.
- 12. Kester Planing Mill: Attic, facing east.

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.). Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

























UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY Kester Planing Mill NAME:

MULTTPLE NAME :

STATE & COUNTY: NEBRASKA, Antelope

DATE RECEIVED:6/20/14DATE OF PENDING LIST:7/11/14DATE OF 16TH DAY:7/28/14DATE OF 45TH DAY:8/06/14 DATE OF WEEKLY LIST:

REFERENCE NUMBER: 14000463

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: N REQUEST: Y SAMPLE: N SLR DRAFT: N NATIONAL: N

COMMENT WAIVER: N

____REJECT 7.28.2014 DATE ✓ ACCEPT

ABSTRACT/SUMMARY COMMENTS:

what Planing will, one of The few Remaining, with the added bonus of original Equipment AND the Drive belt/shaft pulkey system.

RECOM./CRITERIA Accept Adc	_
REVIEWER _ Galom -	DISCIPLINE
TELEPHONE	DATE

DOCUMENTATION see attached comments Y/W see attached SLR Y/N-)

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.





June 16, 2014

Alexis Abernathy NPS-National Register of Historic Places 1201 I St. NW, 8th FL Washington, DC 20005

Re: Kester Planing Mill

Dear Ms. Abernathy,

Enclosed is the complete nomination packet for the Kester Planing Mill in Antelope County, Nebraska. The enclosed contents are as follows:

- The signed first page of the Kester Planing Mill nomination.
- One archival disk with the true and correct copy of the nomination for the Kester Planing Mill to the National Register of Historic Places in PDF format.
- Two discs with the photographs for the Kester Planing Mill nomination.

If you have any questions regarding the submitted materials, feel free to contact me at the phone number or email address below.

Sincerely,

lub A. Deosta

Ruben A. Acosta National Register and CLG Coordinator Nebraska Stat Historic Preservation Office

Phone: 402-471-4775 Fax: 402-471-3100 ruben.acosta@nebraska.gov

Enclosures (3): 1 disc with Kester Planing Mill nomination PDF 2 discs with Kester Planing Mill nomination photos

> 1500 R Street PO Box 82554 Lincoln, NE 68501-2554 p: (800) 833-6747 (402) 471-3270 f: (402) 471-3100 www.nebraskahistory.org