

**DEERE & COMPANY WESTFIELD PLANT:
HISTORICAL/ARCHITECTURAL INTENSIVE LEVEL STUDY OF
SELECTED BUILDINGS**

**400 WESTFIELD AVENUE
CITY OF WATERLOO, BLACK HAWK COUNTY, IOWA**

HADB# 07-081

submitted to the

**City of Waterloo
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October 2006

ABSTRACT

This report presents the findings of an intensive level historical and architectural survey of a selected group of industrial buildings located on the Westfield Avenue, Waterloo, Iowa, manufacturing site of the John Deere Tractor Company, known over the years by various names but owned by Deere & Company, of Moline, Illinois, since 1918. Thirty-six of the oldest buildings within the historic core of the plant site have been or will be transferred to new owners in the near future and will be either demolished or remodeled. Thirty four of these buildings have no potential eligibility for the National Register of Historic Places for at least one of three reasons: they have poor integrity, they lack significance, or they have been previously evaluated as not eligible for the Register. The overall plant itself has been previously determined to lack sufficient integrity to qualify as a historic district despite the enormous local, state, and, perhaps even national, significance of the site. The John Deere tractor set the standard for tractors over the years, in their development, design, and production, and the Deere Tractor Works has always been located in Waterloo. Until the 1970s, virtually all Deere tractors were fabricated and assembled at this Westfield plant. Two of the buildings, however, maintain sufficient integrity and display the historical significance necessary to be eligible for the National Register of Historic Places.

R-1 Building (1938): This building represents perhaps the last intact factory building from this site capable of reflecting the historic, early twentieth-century manufacture of tractors in downtown Waterloo. Building R-1, one of the biggest buildings in the factory when its construction was finished, played an important role in the flow of the manufacturing process through the site, providing space for small parts manufacturing. In 1954, the extant 6-story E building was constructed on R-1's west side, putting R-1 at the start of the final assembly process. R-1's architectural styling, plainly utilitarian in nature, suggests an industrial application owing much to the International style, where ribbon and corner windows are hallmarks, and an emphasis on the horizontal line is important, even in high-rises. With R-1's construction, Deere factory engineers finally and firmly abandoned the traditional, 1-story solid brick, truss roof, model for its factory buildings. *R-1 has significance under Criterion A and some potential under C and is eligible for the National Register of Historic Places.*

E Building (1954): The 1954 E building is the last John Deere assembly building in downtown Waterloo, home of the Waterloo Boy tractor and production point of every John Deere tractor built until the 1970s. The tractor is the product most identified with John Deere Company and the assembly process is the most publicly identifiable part of the process of manufacturing tractors. The assembly line is where the abstract parts that have been cast, milled, machined, heat treated, and painted in the hallmark green and yellow scheme elsewhere in the facility, come together to form the identifiable piece of equipment, the John Deere tractor. The E building, then, represents the part of the process of building a tractor that in the public's mind stands for and equates to the hugely important company that is Deere & Company. With its construction at the middle of the twentieth century, E building also represents the peak of factory construction on the Westfield Avenue site. Nearly all parts and components used to construct a Deere tractor were fabricated on-site from the melting of cores and casting of rough parts, to the milling and machining of these parts to fit together, to the assembly of the tractors in E, and to their storage and shipment out to dealers all over the country. E's architectural styling, like R-1's nearby, is plainly utilitarian in nature and continues to be mildly influenced by the waning International style, where cubic forms, ribbon windows, and an emphasis on the horizontal line are hallmarks, even in high-rises. *E building has significance under Criterion A and some potential under C and is eligible for the National Register of Historic Places.*

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DEERE & COMPANY WESTFIELD PLANT: ARCHITECTURAL/HISTORICAL INTENSIVE LEVEL STUDY OF SELECTED BUILDINGS City of Waterloo, Black Hawk County, Iowa

1. Introduction and Project Area

This report discusses the findings of an intensive level¹ historical and architectural study of 36 specific buildings scheduled for remodeling or demolition in the near future.² These buildings are within the oldest section of the urban manufacturing facility historically known as the John Deere Tractor Co. and/or the John Deere Waterloo Tractor Works.³ The facility has been located on the west side of the Cedar River, in central Waterloo, since its inception early in the twentieth-century (Fig.1). The Cedar River is now lined with river walls and earthen levees to control the river as it passes through the heart of the town, but the Deere plant sits along the low land at the mouth of Black Hawk Creek and parts of the site have required a great deal of fill over the years to accommodate plant expansions.

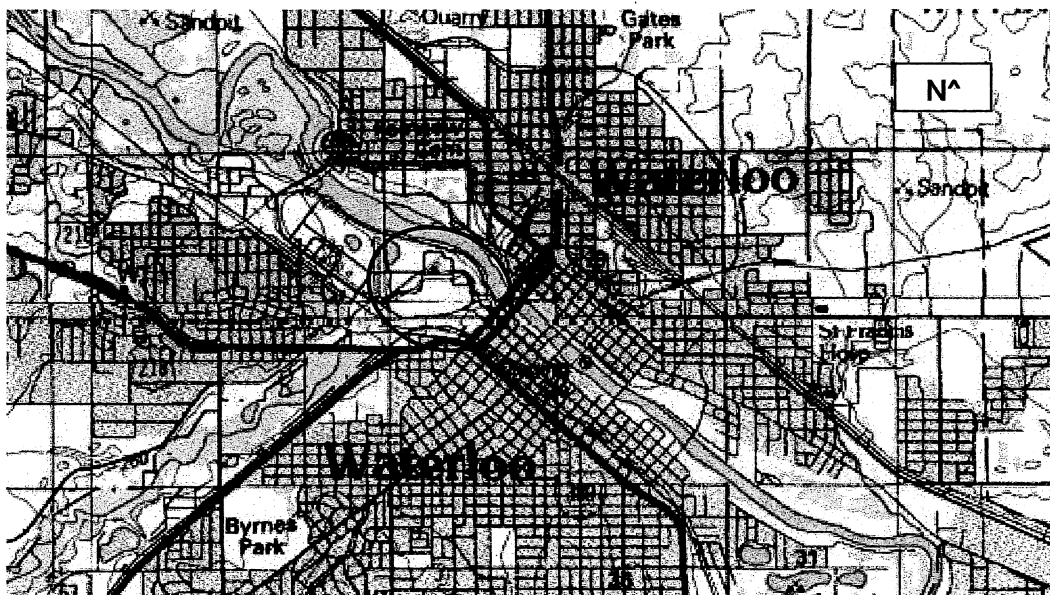


Figure 1 GENERAL PROJECT AREA in central Waterloo, Iowa.
Obtained at <http://ortho.gis.iastate.edu> on 3 June 2002

¹ An intensive level study involves archival research and field survey techniques that are detailed enough to permit an evaluation of the significance of individual resources and a determination of the eligibility or ineligibility of each such resource for the National Register of Historic Places. See the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, especially the Guideline for Performing Identification.

² A companion "Phase I Archaeological Investigation" is underway by Leah D. Rogers, Tallgrass Historians L.C.

³ Currently, the downtown site is informally known as the downtown or Westfield Ave. plant in order to distinguish it from the several other Deere manufacturing facilities located around the outskirts of the city. The corporate headquarters of Deere & Company are located in Moline, Illinois.

The creek is now straightened, and the wetland and backwater sloughs along the north side of the plant have been replaced by parking lots and River Road (Fig. 2). Refer to the Appendix for a site plan showing the planned disposition of each building.

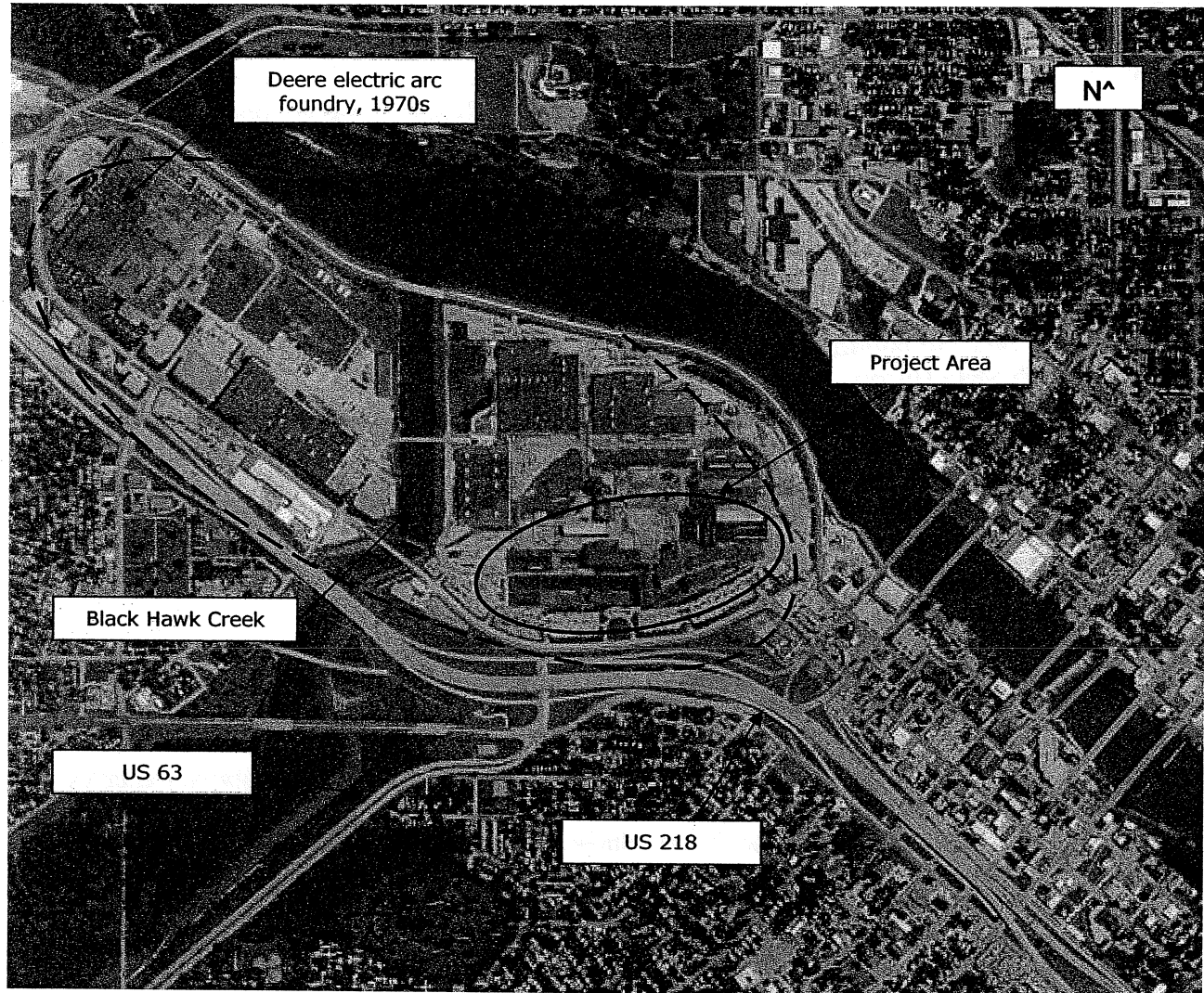


Figure 2 WESTFIELD PLANT as it looked in 2005. The project area is marked with a smaller circle. Most of the buildings within that smaller circle have been evaluated for the present study. The area north of the project area is generally land reclaimed from the Cedar River and contains modern buildings. *Photograph accessed at <http://cairo.gis.iastate.edu/> on 17 October 2006*

2. Methodology

Tallgrass principal, Jan Olive Nash, conducted the field work for this survey on 25 September 2006, accompanied by Jeffrey R. Kutz, Deere Waterloo Works Senior Engineer, and Mike Schrage, Construction Manager for Lockard Construction. Thirty-six plant buildings were inspected inside and out, and representative photographs were taken. Building materials and functions were noted, as were general integrity problems. Because of time constraints, not every interior floor of the larger buildings was physically examined, especially where upper floors were said to be of identical construction as the lower floors. Research was conducted by Tallgrass research assistants Eric Lana and Hesper Meidlinger, at the Waterloo Public Library and the Grout Museum of History and Science, respectively. Additional research was conducted at the State Historical Society of Iowa-Iowa City where the photo collections and the bound copies of the *Waterloo Courier* were especially helpful. Berry Bennett of the Des Moines office of the State Historical Society of Iowa provided information from the state's database about past Waterloo architectural surveys. The plant was documented with a supplemental Iowa Site Inventory form and two buildings were assigned new individual site inventory numbers in accordance with State Historical Society of Iowa procedures. All properties were evaluated for significance under the guidelines articulated in National Register bulletins. In addition to performing the fieldwork, Jan Olive Nash supervised the research, evaluated the resource, and authored this report.

3. Description of the John Deere Tractor Co. and its History

Westfield Ave. Plant Site

In order to describe the present condition of the plant, one has to first define which plant is being described. Over the past 30 years, Deere has purchased large tracts of land at several outlying sites, constructed modern facilities on these new sites, and then moved onto them a number of operations that historically had been performed at the downtown plant. Engine fabrication takes place at one such outlying site, for example. Final assembly of the famous green tractors now takes place in another outlying site (the Donald Street facility). Nearby, but not on the historic downtown plant site, is the large and modern electric arc foundry and related buildings (refer back to Fig. 2). The foundry is located west of Black Hawk Creek, in the northwest corner of the downtown complex. The plant buildings that remain east of Black Hawk Creek are a mix of the historic core buildings close to Westfield Ave. (formerly known as Miles St.) and more modern ones that have been constructed on "made" land closer to the Cedar River. Refer to Figure 3 for a site plan of these buildings.

Thirty-six of the buildings in the historic core of the downtown facility, close to Westfield Ave., have been studied for this report. Though they constitute what is left of the historic John Deere Tractor Works, successor to the Waterloo Gasoline Engine Co., only the drive train assembly for

tractors is produced on the historic site now.⁴ As this report is being written, even this process is being moved out of the historic buildings and into the modern ones to the north and northwest.

The historic factory area sits on flat terrain and is somewhat lower than nearby US highway 218 to the south, which travels on an elevated grade constructed for the highway in the 1990s (Fig.4). US 218's route generally follows that an earlier railroad past the plant. Buildings toward the

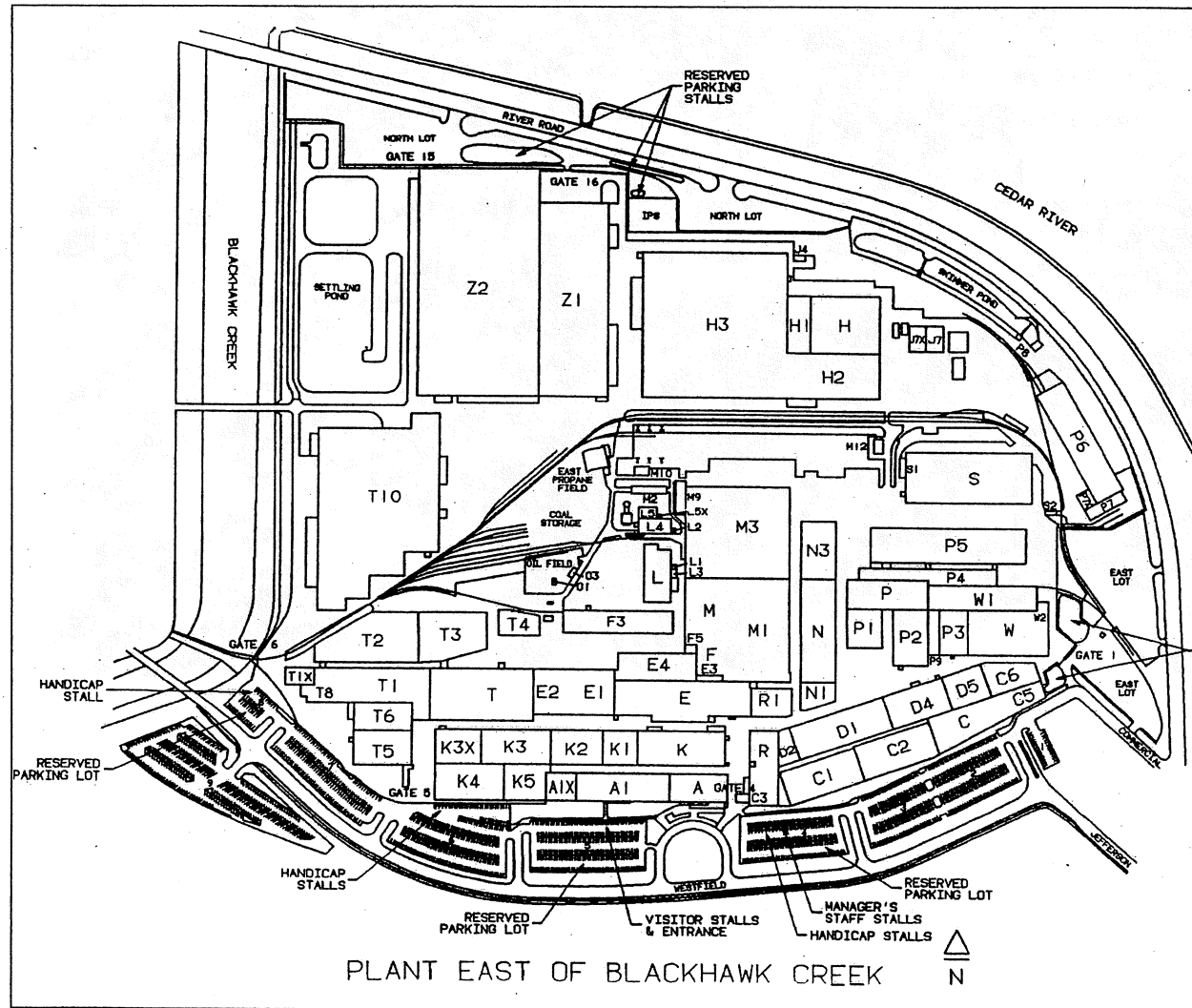


Figure 3 Westfield Ave. John Deere site plan, about 1990. Since this plan was drawn, a number of buildings south of the railroad tracks have been removed, including the M foundry buildings in the center and most of the T storage and shipping buildings on the west end. *Courtesy Deere & Co., 1993*

⁴ Jeffrey R. Kutz, Senior Engineer, Architectural Properties, John Deere Waterloo Works, to Jan Olive Nash, telephone interview, 16 October 2006. Generally, the drive train assembly consists of the transmission, axel, and differential.

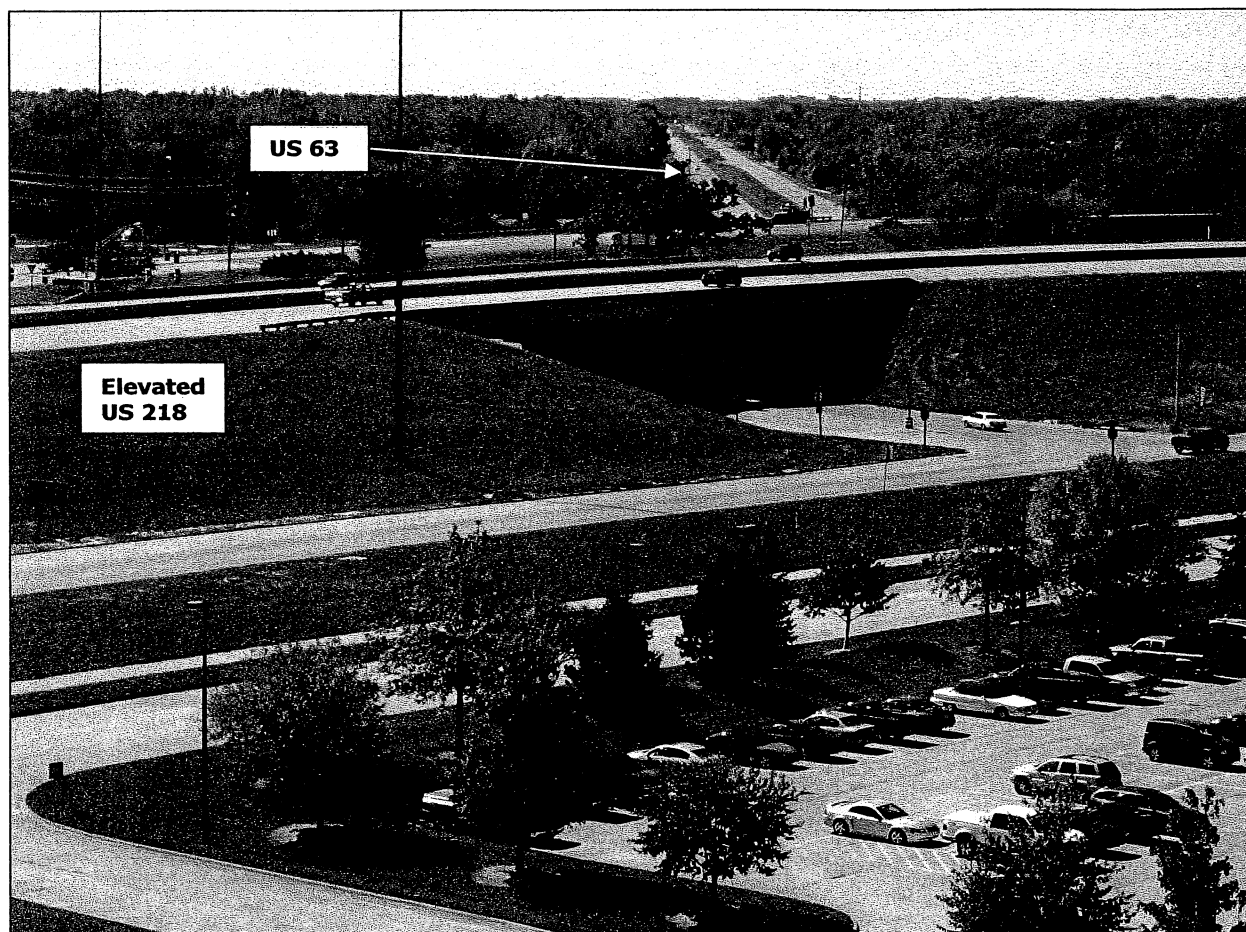


Figure 4 This view is looking southwest from the roof of the R building. The corner of a Deere parking lot is seen in the lower right corner. Westfield Ave. is the street closest to the parking lot. *Tallgrass Historians L.C., September 2006*

front (south) of the plant and the taller, interior buildings are quite visible to the passing public as a result of this grade change.⁵

The historic Westfield plant contains a mix of buildings with widely varying construction dates, footprint shapes and sizes, and building heights. Construction dates for the 36 buildings studied range from 1920 to 1971. Table 1 below and Figure 5 indicate that the greatest percentage of buildings dates to the 1920s, when Deere undertook a major capital investment in the plant, modernizing buildings, and rearranging the work flow of the site. The table also suggests that the

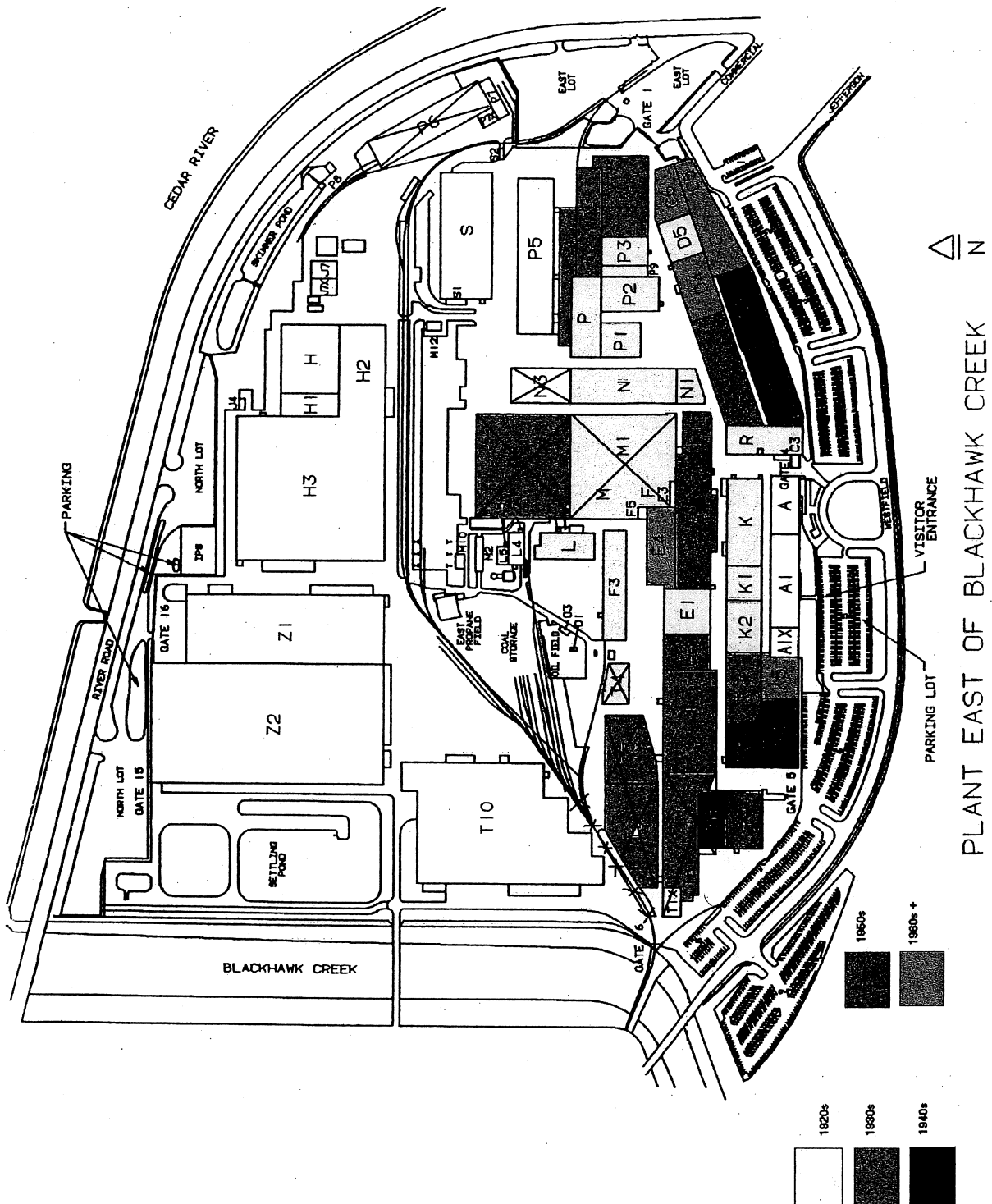
⁵ The positioning of the new highway route past Deere's front door and concerns about the plant's appearance, in addition to the age and condition of the buildings, were given as reasons behind a 1990 plan said to be one of the "biggest changes in the ... Westfield Site since its beginning." The plan included "demolition of dozens of buildings at Deere's original factory complex." *Waterloo Courier*, 27 May 1990.

current plan to demolish most of these buildings will mark the passing of the oldest remaining generation of Deere buildings left on the site, truly the end of an era in Waterloo history.

Table 1 Distribution of Buildings by Age		
Decade of Construction	No. of Bldgs.	% of Total
1920-1929	15	42%
1930-1939	6	17%
1940-1949	4	11%
1950-1959	4	11%
1960-1969	6	17%
post 1970	1	2%
Totals	36	100%

Of the 36 studied buildings, 27 (75%) are a single story tall, 3 (8%) are two stories tall, and 6 (17%) have six floors. By far, most of the 1920s buildings are a single story (13 of 15 buildings, or 87%), reflecting a horizontal work flow in the production process. Overall, brick cladding is the primary visible surface material, though poured reinforced concrete is the principal structural material underneath the brick and internally. Several buildings are clad with metal sheet siding, some of which appears to be original (see, for example, F-3, a sand shed). Other brick buildings are now covered with a newer metal siding. Rooftops on the tall buildings appear flat, but a number of the long, low buildings sport tilted monitor windows housed in a framework that projects upward from the roof. These monitors are now covered with a black rubberized material. On the ground, concrete surrounds all buildings and most of the landscape in between, but for a very few small patches of grass. This surface concrete is composed of poured roadways, parking lots, and the remnant floors of non-extant buildings. Table 2 lists the details of the individual buildings that were studied, including their evaluation results.

Figure 5 Site Plan Marked by Decades of Construction⁶



⁶ Red X's indicate nonexistant buildings.

TABLE 2 Buildings Evaluated for National Register of Historic Places Status

BLDG.	AGE	NO. FLRS	TOTAL AREA (Sq Ft)	TYPE OF CONST.	HISTORIC USE/S	CURRENT USE (April 2006)	EVALUATION ** NE=Not Eligible
C	1961	1	29,187	Brk./Steel	Heat treat	Manufact.	NE (modern)
C-1	1946	1	32,143	Masonry	Heat treat	Heat treat	NE (poor integrity)
C-2	1947	6	199,875	Masonry	Machining	Manufact.	NE (poor integrity)
C-5	1965	1	9,366	Brk./Steel	Machining (?)	Heat treat	NE (modern)
C-6	1967	1	19,125	Brk./Steel	Machining (?)	Heat treat	NE (modern)
D-1	1957	6	242,304	Tilt-Up	Machining	Manufact.	NE (modern)
D-2	1957	1	4,102	Tilt-Up	Machining	Manufact.	NE (modern)
D-4	1961	6	155,712	Tilt-Up	Machining	Manufact.	NE (modern)
D-5	1928	1	20,160	Brk./Concrete	Tractor assembly	Manufact.	NE (poor integrity)
<i>E</i>	<i>1954</i>	<i>6</i>	<i>381,233</i>	<i>Masonry</i>	<i>Tractor assembly</i>	<i>Manufact.</i>	<i>Eligible (A)</i>
E-1	1920	1	32,479	Brick	Molding/Tractor testing	Welding	NE (poor integrity)
E-2	1951	1	15,767	Brick	Tractor testing	Welding	NE (poor integrity)
E-3	1964	1	1,961	Brick	Welding (?)	Welding	NE (modern)
E-4	1971	2	38,145	Brick	Storage (?)	Storage	NE (modern)
F-3	1928	1	31,160	Brick	Sand storage	Storage	NE (poor integrity)
K	1927	1	36,386	Brick	Misc. machining	Machining	NE (poor integrity)
K-1	1928	1	14,400	Brick	Misc. machining	Storage	NE (poor integrity)
K-2	1928	1	23,054	Brick	Misc. machining	Truck shop	NE (poor integrity)
K-3	1935	1	28,800	Brk./Steel	Tractor testing	Tool/Maint.	NE (poor integrity)
K-3X	1941	1	19,200	Brick	Machining	Maint.	NE (poor integrity)
K-4	1942	1	30,409	Brk./Steel	Machining	Maint.	NE (poor integrity)
K-5	1964	1	18,683	Masonry	Machining	Maint.	NE (modern)
N	1928	1	15,528	Masonry	Casting milling/Core making	Mill	NE (poor integrity)
N-1	1929	2	15,288	Brick	Casting, cleaning, grinding	Storage	NE (insufficient significance)
P	1928	1	28,520	Brick	Steel storage	Maint.	NE (poor integrity)
P-1	1928	1	17,131	Brick	Misc. parts storage	Maint.	NE (poor integrity)
P-2	1928	1	24,725	Brick	Forge shop	Forge	NE (prior evaluation)
P-3	1928	1	15,780	Brick	Sheet metal	Forge	NE (poor integrity)
P-4	1927	1	24,035	Brick	Unknown	Heat treat	NE (insufficient significance)
P-9	1927	1	6,287	Brick	Forging	Storage	NE (poor integrity)
R	1928	6	162,317	Brick	Office/machine maint./gear mfg.	Off./Mfg.	NE (poor integrity)
<i>R-1</i>	<i>1938</i>	<i>6</i>	<i>84,060</i>	<i>Brick</i>	<i>Small parts mfg.</i>	<i>Manufact.</i>	<i>Eligible (A)</i>
T	1934	1	66,261	Brick	Washing	Storage	NE (poor integrity)
W	1930	1	45,684	Brk./Steel	Wheel mfg.	Sheet metal forming	NE (poor integrity)
W-1	1930	1	30,694	Tilt-Up	Steel storage	Steel stor.	NE (poor integrity)
W-2	1930	2	2,275	Brick	Sheet metal forming	Storage (?)	NE (insufficient significance)

SOURCES: "SQUARE FT. ANALYSIS, 04/19/06," Deere & Co.; field inspection on 9/25/06; Waterloo Courier, multiple years.

The overall flow of the manufacturing process appears to have been *generally* from east to west through the site.⁷ Raw-material storage, the casting of large parts, and forging of small parts and small-scale production, took place in the north-central (nonextant M buildings) and far east (P buildings) areas. Milling, machining, and heat treating the parts to strengthen the metal—all processes that generally further prepared the parts for the assembly line—took place in the N (milling) C, D, and K buildings, as well as portions of the R buildings. As the parts came together, they were shifted to the very large E building after 1954 for assembly into recognizable tractors. These finished tractors were then tested, stored, and shipped out of the T buildings.

Most of these 36 buildings are not stand-alone buildings, but are attached end-to-end or otherwise share party walls. Historically, the company has treated them as an inventory of separate buildings and they have been evaluated herein as such as well. The P complex, for example, is a more or less rectangular or squarish cluster of eight buildings. These eight buildings rely on each other for up to three sidewalls each. Presumably, they support each other like a group of pencils bound by a rubber band, each one relatively weak on its own, but achieving strength as a group. The K complex is an example of a linear cluster, where end walls are attached, but side walls are exposed to the elements. The dates of construction for the different clusters suggest they formed by both accretion and by planning.

As in most commercial and industrial operations, change has been a constant factor for Deere tractor manufacturing, as products evolved, designs and technologies improved, and markets changed. The oldest extant building (E1) dates to 1920, however little of it may remain extant and certainly very little of it is visible to the passerby. It is covered on the south side by new metal siding and on the north side by a brick addition; inside there is little discernable difference to mark E1 from E2, its 1951 neighbor. One of the most remarkable changes noted throughout the Westfield plant site is the change to windows, an alteration that signals the shift of work environments from sun-lit and window-ventilated workfloors to modern HAV systems. Windows that once contained large amounts of clear glass and opened to permit cross ventilation have been replaced by modern darkened glass and new window frames in some buildings. Others, generally the single-story brick buildings from the 1920s (K, P complexes), have had their glazing replaced by an opaque synthetic material. This opaque material also replaced some of the upper lights in the bigger buildings, but it is most intrusive when viewed at eye level on the long awning windows of the low, 1920s buildings.

Waterloo Gasoline Engine Co.: Roots of John Deere in Waterloo

The early Cedar River, along which the town of Waterloo grew, was uncontained by river walls and flowed in a more natural and unpredictable manner throughout much of the town's early history. Swampy in places and subject to frequent floods, the river inflicted shifting and meandering shorelines on the town's residents and developers. Sand islands in place before a flood might be washed away and new sloughs could be created with each spring's freshet. By the 1880s, industrial developers had built mills, elevators, and a barb-wire manufactory on either

⁷ Because functions were shifted around the site as new buildings and building additions were constructed, and as processes and designs for the tractors changed, only a general flow of the manufacturing process, as reflected in extant and recently demolished buildings, is described here.

side of the river along 4th Street, the town's main commercial district (Fig. 6), and protected them from the river by building limestone floodwalls. But the erratic nature of the river's flow and the marshy character of the landscape upriver from the 4th St. dam hindered further development until early in the twentieth century.⁸

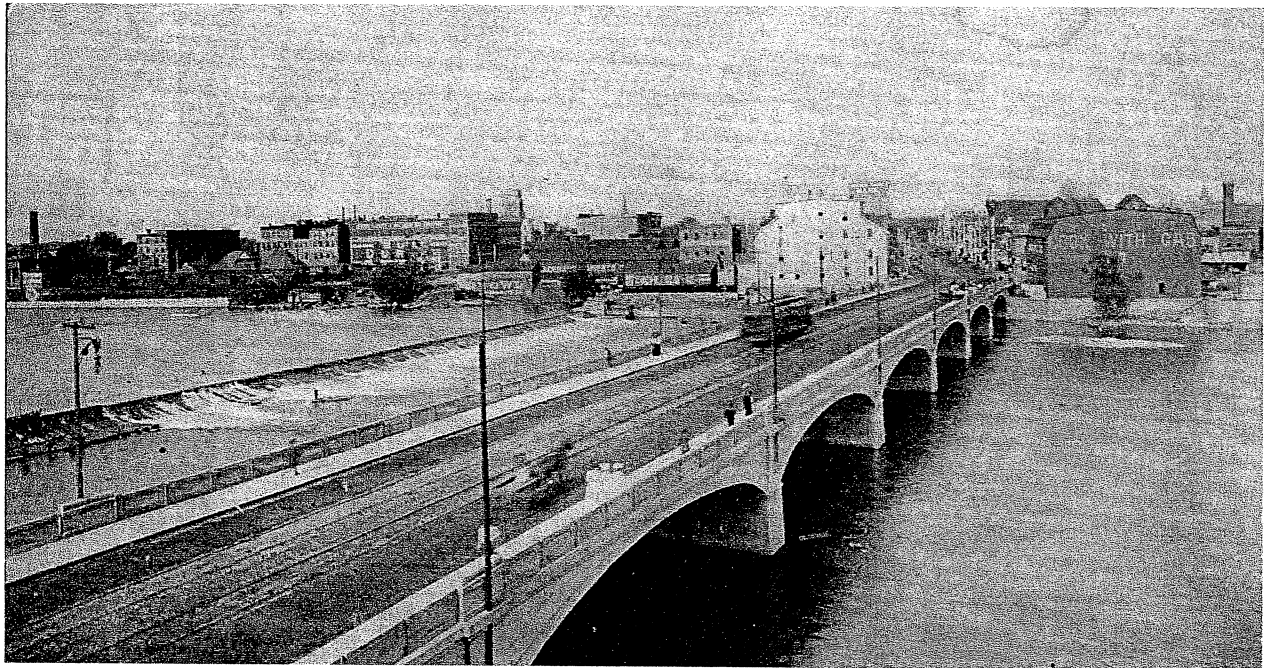


Figure 6 Fourth St. riverbank industries, seen here along the east bank of the Cedar River in 1907, consisted primarily of mills built during the 19th century. *Author's collection.*

Historic maps reflect that one important expansion of early-twentieth-century industrial development occurred in the Red Cedar Addition to the original town of Waterloo. The Red Cedar Addition was filed sometime between 1900 and 1906, according to fire insurance maps. This new plat was located along the west bank of the Cedar River as an extension of the northwest end of Commercial Street, where the Waterloo Gasoline Engine Company had located in 1893. A CRI&P (Rock Island) railroad spur had also been built past the edge of the new Red Cedar Addition during this time. This line serviced the new industries along Commercial and Jefferson streets, such as the Iowa Dairy Separator Co., and linked the newly platted streets (Miles, Schey, Maynor, and McKinley) with the main lines.

⁸ When riverbank development did move up and down the river away from the downtown commercial district, it was often facilitated by civic boosters, such as the Waterloo Commercial Club & Board of Trade, who owned undeveloped riverbank land and actively worked to bring new industry to Waterloo. The arrival of Rath Packing Co. is one example of these boosters' success. For a discussion of the various river walls and riverbank features in the downtown area, see Jan Olive Nash, "Cedar Valley Riverfront Renaissance: Historic/Architectural Intensive Level Study of the River Walls (prepared for the City of Waterloo and Earth Tech by Tallgrass Historians L.C., 2006). For a figure showing the direction of Waterloo platting development by decades, see Barbara Beving Long, "Waterloo, Factory City of Iowa" (prepared by Midwest Research, 1986), after 74.

Both the Iowa Dairy Separator Co. and the Waterloo Gasoline Engine Co. produced gasoline engines—new technology at the turn-of-the-century, and a power source that would eventually replace both horse and steam power. The story of Waterloo Gasoline Engine Co. (WGEC) is well known and oft told. According to historian Barbara Beving Long, writing in 1986:

The Waterloo Gasoline and Traction Engine Company was founded in 1893 to capitalize on the inventive genius of John Froelich. Having run a contract threshing crew that operated a straw-burning steam tractor in Iowa and South Dakota from 1888 to 1890, Froelich turned his mechanical expertise to further experiments with tractor design. In 1890 he turned to gasoline-powered engines and in 1892 took an experimental model on a successful fifty-two day threshing circuit to South Dakota...

The success northeast Iowa native Froelich achieved on his South Dakota sojourn came to the attention of Waterloo businessmen. They brought him to Waterloo and established the Waterloo Gasoline and Traction Engine Company on January 10, 1893. Four experimental tractors were built and two sold that year. But they were a disappointment to the adventurous buyers, who soon returned them. A practical tractor proved elusive.

The company owners decided to concentrate on manufacturing stationary gasoline engines, and Froelich disassociated himself with the company. In 1895 banker John H. Leavitt, businessmen George B. Miller, and others formed the Waterloo Gasoline Engine Company out of the earlier business. Miller and Louis Witry were the guiding lights of its development...It was [Witry] who perfected the "Waterloo Boy" gasoline engine that powered the company's initial success beginning in 1905. By 1910 they averaged forty-six orders a day—and were 1,247 engines behind in production. In 1915 average employment reached 700 workers; Waterloo Gasoline Engine supplanted another farm-related concern, Iowa Dairy Separator, as the city's leading employer.⁹

The WGEC's original plant, along Cedar Street (the street paralleling the west bank of the Cedar River) filled the block between 2nd and 3rd Streets, but was not big enough to meet production demand. By 1909, the company had constructed a new foundry and an assortment of smaller, function-specific, buildings nearby along Miles Street in the newly platted Red Cedar Addition (Fig.7). Labeled the B building, the new foundry lay between two railroad lines, the Rock Island's spur line on B building's long south side and the Waterloo Cedar Falls & Northern (WCF&N) on its north side. Because the WCF&N significantly curved to the southeast here, the east end of the foundry was rounded to match the track curve.¹⁰

Despite the success of the gasoline engine business, Witry "continued to tinker with gasoline-powered tractor designs [and] finally perfected a workable tractor."¹¹ In 1913, the company again began to manufacture tractors, producing 20 of them that year. In 1914 the celebrated

⁹ Barbara Beving Long, *Waterloo: Factory City of Iowa* (prepared for the City of Waterloo, 1986), 106-107.

¹⁰ "1919 Plat of Waterloo Gasoline Engine Co." Located at the Grout Museum, Waterloo, Iowa.

¹¹ Long, 107.

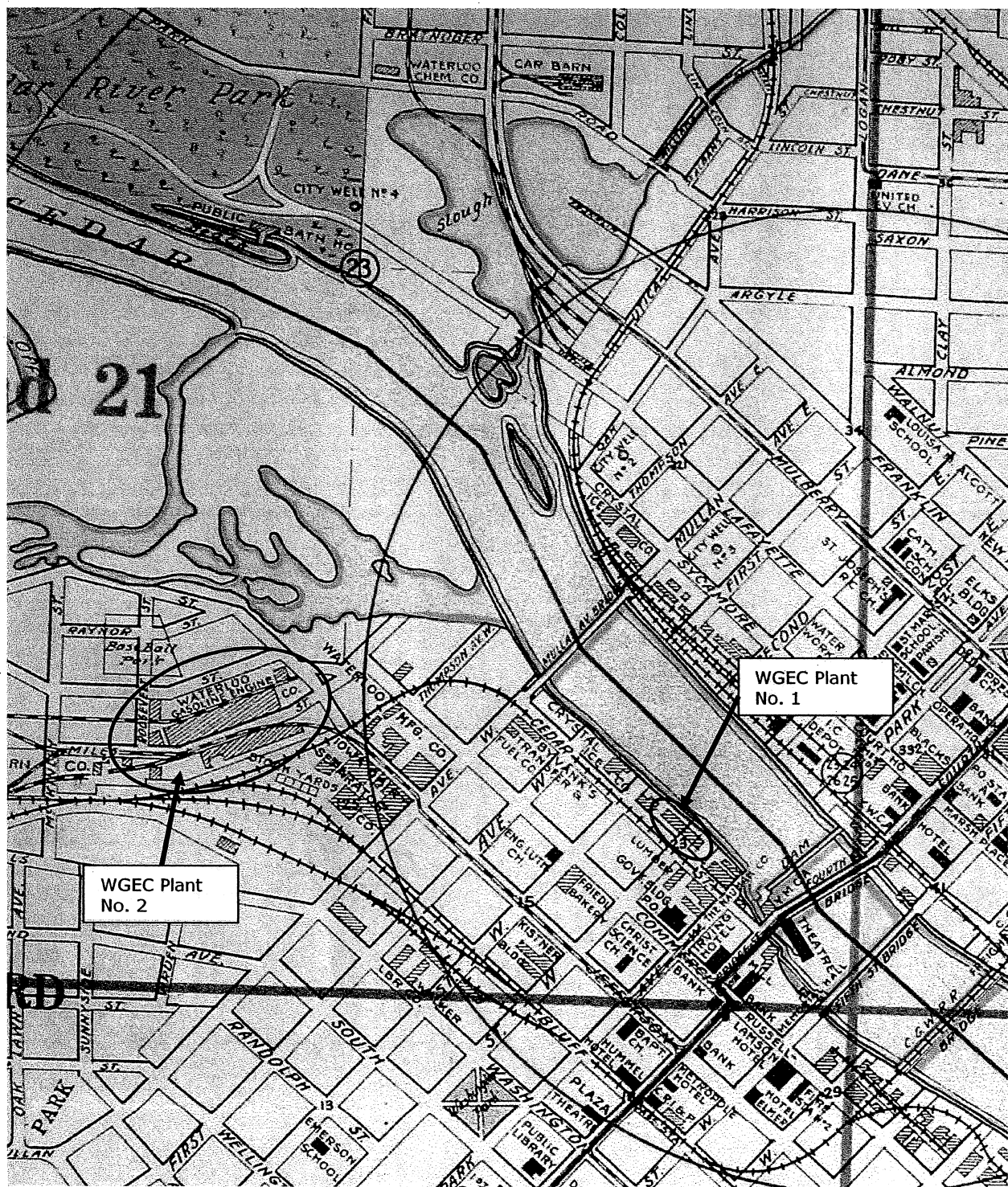


Figure 7 Detail of Huebinger's *Atlas of Waterloo, Iowa*, 1916. Collection of the Waterloo City Engineer.

Waterloo Boy line was created. Improvements to the Waterloo Boy tractor introduced in 1916 resulted in a strong and rising demand for the new model, a public reception that also caught the eye of Moline, Illinois, implement manufacturer John Deere Company. Deere purchased the WGEC early in 1918 and by the end of the year, the company had sold a “phenomenal 10,000” tractors.¹²

Still operating, at least briefly, under the name of Waterloo Gasoline Engine Co. following its purchase by Deere, the tractor manufacturer expanded the Miles Street foundry plant to meet the growing demand for Waterloo Boy tractors. A plat plan for the Waterloo Gasoline Engine Co. from 1919 indicates both manufacturing facilities were being used at that time. The Cedar Street site was called “Plant Number One” and consisted of a large building (A-1) with a corner third of it designated as a “stock room” named building A.¹³ The A building fronts Third St. and is the apparent original plant for WGEC. At the opposite end, attached to the Second St. end of A-1, the plat shows a narrow “lumber shed” designated A-2. An alley ran behind Plant Number One, but the multiple sidetracks of the Rock Island freight house ran directly past its front door on Cedar Street. The following images show the WGEC as it was in 1898, and two artistic renditions from 1899-1900. Based on the 1919 plat on file at the local Waterloo museum, neither of the two artist’s drawings appears to reflect the Waterloo Gasoline Engine Co. as it actually existed in 1918, when Deere acquired the company.

“Plant No. 2” on the 1919 Waterloo Gasoline Engine Co. plat plan takes up most of the space on this large, blueprint size, sheet, and clearly is a much larger and more complicated manufacturing facility than Plant No. 1 on Cedar Street. Plant No. 2’s B building date of construction is barely legible but looks like 1909. Even on this newer, expanded plant site, B is marked “old foundry” because a new foundry was built in 1918 to the northwest. In other words, the foundry WGEC built in 1909 to produce growing orders for gasoline engines was not adequate for the production of the “phenomenal 10,000” tractors sold during the first year of Deere’s ownership. The new foundry, designated E, was a “story concrete and brick building.” Attached to it is E-6, also built in 1918, for “casting storage.” In 1938 when the R-1 building was constructed on this site, the E-6 building was removed or already gone. In 1954, the E foundry building that had been used to produce the original Waterloo Boys under Deere’s supervision was replaced by the extant 6-story assembly building.

Additional significant buildings shown on the 1919 plat plan (and their designated functions) consisted of: C (general manufacturing [assembly?]), D (machine shop), D-4 (power plant), G (forge and heat treating shop), and H (steel storage). For some reason, there is no F building noted in 1919. Assembly of parts into finished tractors must have taken place in the C buildings,

¹² Ibid., 107.

¹³ Deere’s numbering system for its buildings was set early and is still in use today. It is a logical alpha listing that coincides with the sequence of construction on a particular site. The earliest buildings are the A buildings, with numeric subsets for additions to the original A building. A-1, then is an addition to the A building; A-2 is a later addition to the A building, etc. The listing runs with the site rather than the buildings, so when one building is torn down, the new one rebuilt on the same site retains the former building’s designation. While not a perfectly consistent sequence of construction, the system can suggest eras of construction, evolution of buildings clusters, and functional relationships between buildings.

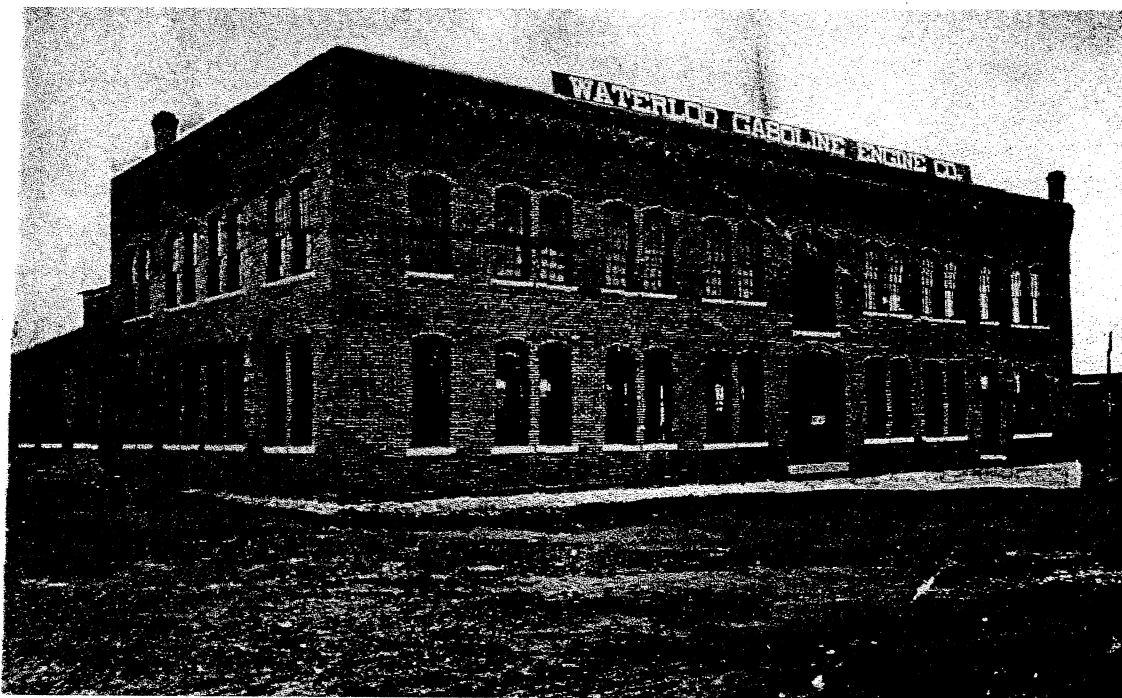


Figure 8 This photograph of the Waterloo Gasoline Engine Company from 1898 or 1899 shows its Third Street façade under the roof top sign and the long alley side on the left. This building is noted as A on the 1919 site plan for Plant No. One, suggesting it is the original factory building. *Grout Museum Collection.*

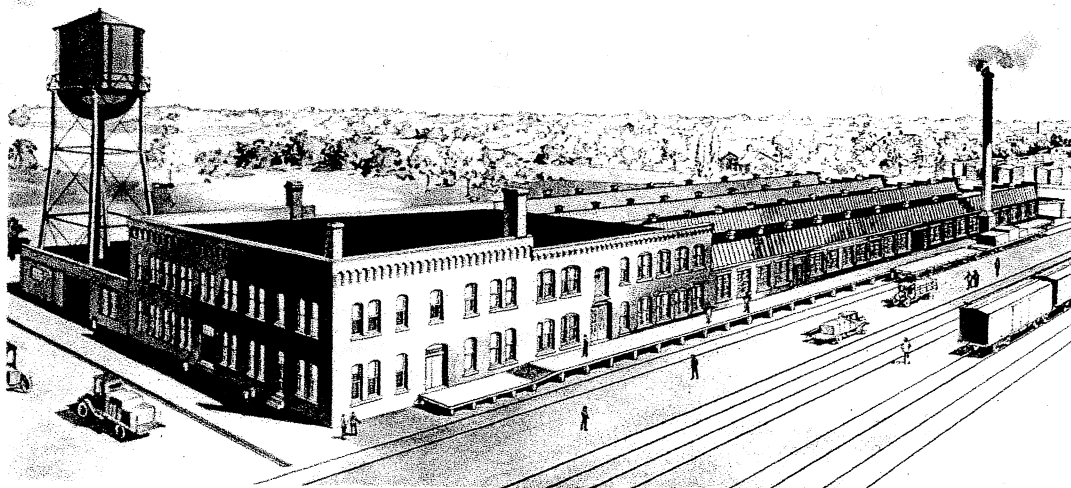


Figure 9 This view of the Waterloo Gasoline Engine Co. appears to show the Third St. (or east) end of the building (tallest portion with three chimney stacks), which would have been building A on the 1919 plat plan. To the right of building A and wrapped around to its other side is the building labeled A-1 on the plat plan (no function listed). Building A-2, a lumber shed, appears on the plat plan as a very narrow unit off the right side of A-1 in the image above. The large monitor roofed appendage terminating near the tall smokestack apparently was never built. It is not shown on the 1919 plat plan and construction would have required Second St. to be vacated. The multiple tracks of the Rock Island line travel along Cedar St. *Corwin and Hoy, 106.*

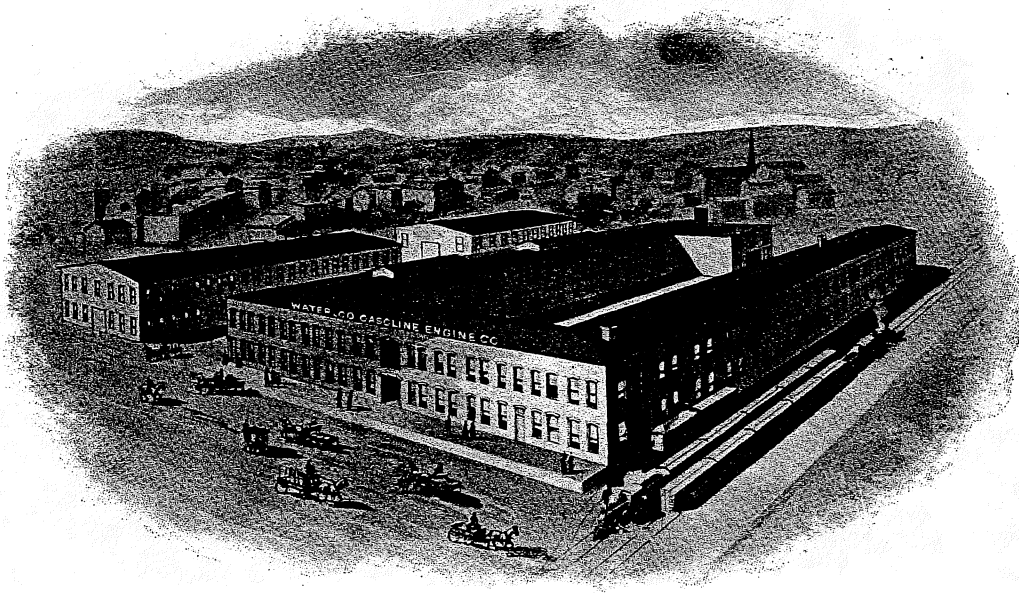


Figure 10 This artist's rendition of the Waterloo Gasoline Engine Co. at the turn of the twentieth-century is pure fiction, but suggests the optimistic attitude of its owners for the future of gasoline engines. *Grout Museum Collection.*

for lack of another suitably marked building. Tractor testing and probably storage of finished tractors took place in an open area to the west of the long D and C buildings. Most of the buildings drawn on the 1919 plan were constructed during the 1910s, many in 1917 and 1918. Sanborn fire insurance maps from 1918 confirm that several additional buildings also were “proposed” at that time (likely as of 1917, considering the lag time between field inspections and the production of finished insurance maps), but only the new forge shop (G) was executed by 1919. These proposed building in the vicinity of the G forge building required both Raynor St. to be vacated and a wet slough to be filled. An early 1920s aerial view of the plant is found below in Figure 12. This postcard view illustrates how the expanding plant was wedged between a large rail yard to its south (left) and Black Hawk Creek and the Cedar River’s backwaters on the north.

John Deere Tractor Works

While the Waterloo Gasoline Engine Co. may have been a local success story when it was purchased in 1918 by the Deere & Company, of Moline, Illinois, it joined a large consolidated business that had already assumed the form of a modern, twentieth-century corporation. Deere & Co. took on this form between 1910 and 1912, when its directors oversaw a “major reorganization” to unify factories and branches, anticipate acquisitions, and centralize accounting and financial planning. The new consolidated company included 11 manufacturing entities in the United States and one in Canada, 25 sales organizations and a sawmill. It also owned nearly 42,

000 acres of southern yellow pine timberland in Arkansas and Louisiana.¹⁴ With its purchase by Deere, the Waterloo tractor company became but one of several divisions of this large and growing corporation. Soon after, however, the “tractor [became Deere’s] basic product.”¹⁵ Thus, from nineteenth-century prairie plow to twentieth-century tractor, Deere & Company has led the way in two of the most important technological achievements in the history of modern agriculture.

Pushed by high prices and a world wide demand for agricultural products brought on by World War I and, especially, the inability of European countries to feed themselves immediately following the war, Waterloo Deere engineers continue to refine the tractor design. In 1924, the

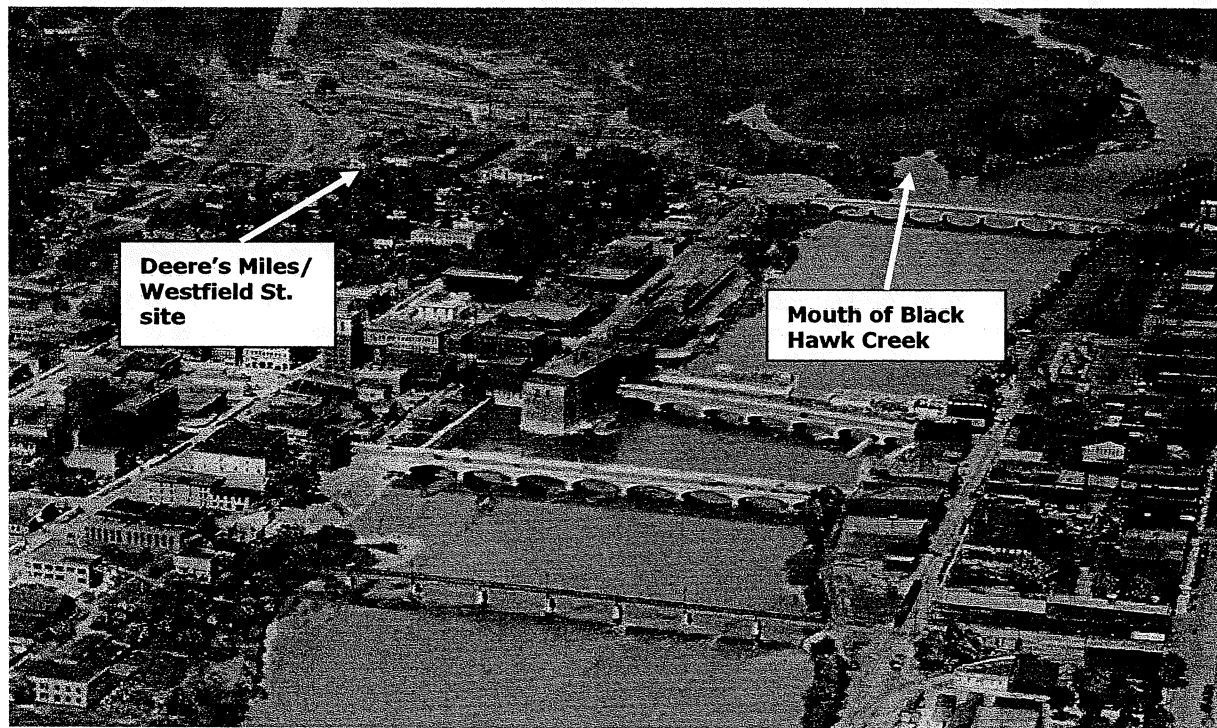


Figure 11 The Waterloo Gasoline Engine Co. / John Deere Tractor Co. site lies in the upper left corner of this aerial view, taken sometime after the Mullen Ave. bridge was constructed in the 1910s. The plant at this time is limited to the dry land along Miles St. east of the meandering Black Hawk Creek. *Author’s collection.*

Waterloo plant produced its first tractor under the Deere name, the “Model D” (Figs. 12 & 13). According to Deere’s published corporate history, the Model D “completely replace[d] horses for the western wheat farmer. It ha[d] the weight and power need[ed] to plow, drill, mow, and thresh. This quality design will continue for 30 years with a peak of 23,806 built in 1929.”¹⁶

¹⁴ *Genuine Value: The John Deere Journey* (Moline: Deere & Company, 2000), 214.

¹⁵ *Ibid.*, 215.

¹⁶ *Ibid.*, 216.

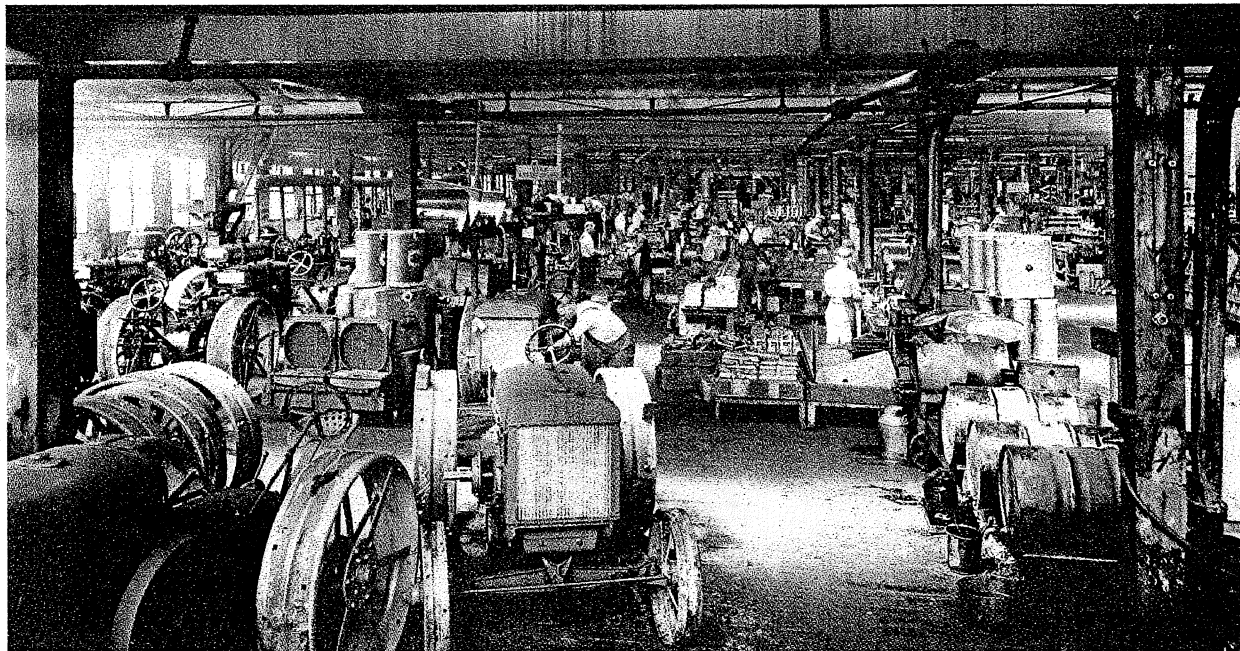


Figure 12 The assembly of the Model D tractor, shown in this 1920s photo, took place in the D and D-5 buildings on the east side of the plant. Painting, testing, storage, and shipping, however, took place on the west side of the plant in the T buildings. This may explain why the 1954 assembly building was located where it was, at the “head” of a linear assemblage of buildings that terminated with the T buildings. *Margaret Corwin and Helen Hoy, Waterloo: A Pictorial History (Rock Island: Quest Publishing, 1983), n.p.*

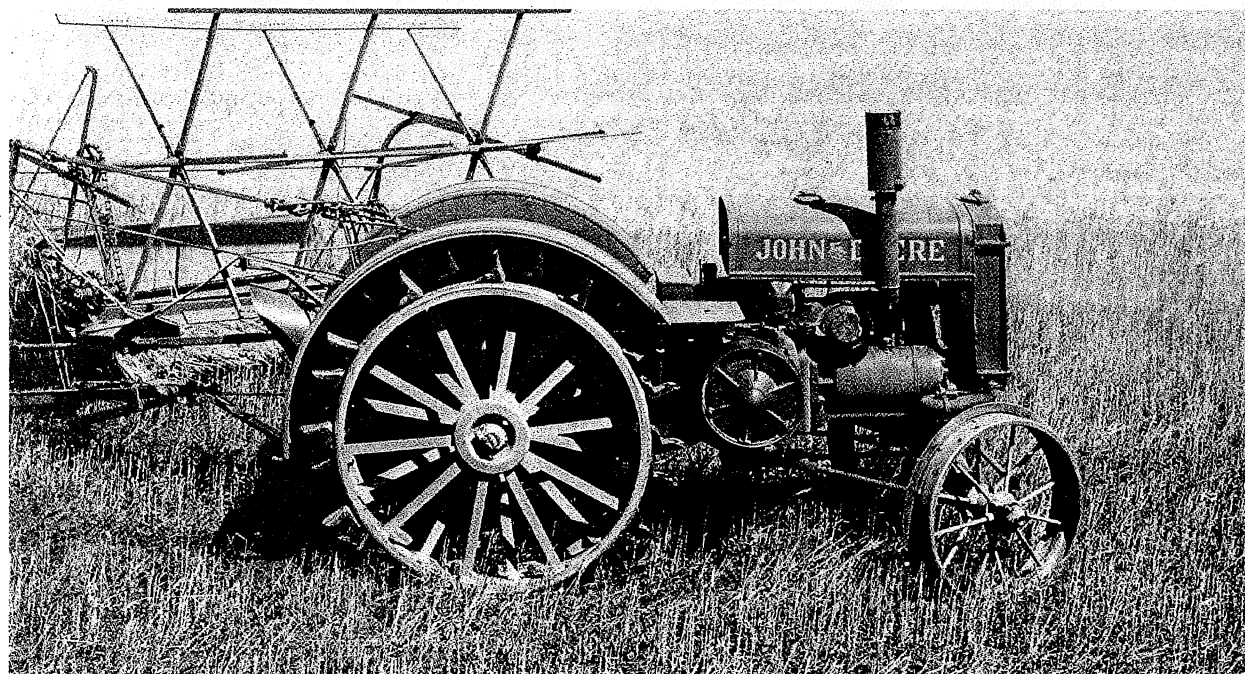


Figure 13 The Model D, first tractor issued under the John Deere name, had a two-cylinder engine. *Corwin and Hoy. 105.*

The prosperity and high economic hopes of the 1920s resulted in a major expansion and realignment of the Waterloo Miles St. plant (the original plant on Cedar St. had been sold by this time). Many of the extant buildings on the plant site today date to this expansion, including most of the single-story K and P buildings, and the large R office/manufacturing building. The R building marked the first step into a multi-story manufacturing program that eventually saw numerous 6-story buildings constructed on the tractor plant grounds. By year's end in 1928, the *Waterloo Courier* waxed confidently about the great expansion and effort it required:

The John Deere Tractor company this year doubled its plant and doubled its working force. During 1928, sales to farmers of the tractor company's products were approximately \$25,000,000, a figure which is certain to be greatly increased in the coming year as the new part of the plant swings into full production....The problem that confronted the John Deere Tractor company in the spring of 1928, when it found that producers fully realized that tractors are indispensable to profitable farming, and that the introduction of its new general purpose type tractor [brought to market in 1929] meant a still more rapid increase of the demand which had been growing during the last several years, was about this—the plant must be so increased in capacity [so that the demand could be met] without decreasing its present output...

To build this new plan, elaborate plans must be prepared...A tremendous amount of dirt must be moved, railroad facilities must be available and, without interrupting railroad services, new lines must be laid...A great water and sewer system must be established, fire protections must be complete... To put it into figures, approximately eight thousand carloads of dirt were moved [to fill the backwaters and create more land] and 2,500 carloads [were brought in] of steel, cement, gravel, stone, brick, sand, glass, and all the various things that go into the making of the modern factory building...

And yet in the period of less than six months, wholly under the direction and supervision of the engineers, the architects and the various technical departments of the John Deere organization...the job has been practically completed.¹⁷

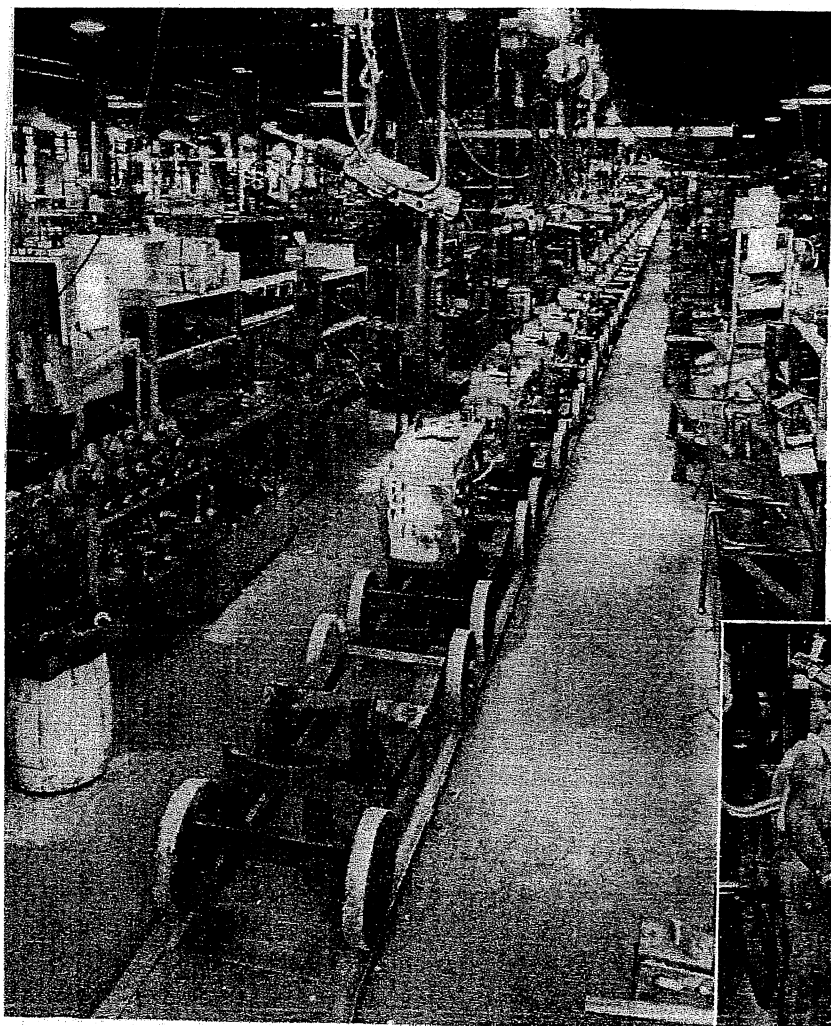
Refer to Table 2 for a listing of buildings from this 1928 project that survive today. Though they are extant, they have been altered significantly, and most are now scheduled for demolition.

The 1930s saw more expansion of the site. Following the multi-story design of the 1928 R building, the first three stories of R-1 were constructed in 1938, followed by an addition of three more stories just a year later. R was serving as the factory office at the time, with machine maintenance and gear manufacturing taking place within also. Though R-1 was not physically attached to R, their shared alpha designation suggests they were functionally related. The six-story metal clad "bridge" structure that was built to connect the two confirms the close association. At the time these R buildings were constructed, tractor assembly took place in one of the older D buildings constructed in 1918. R-1 had been constructed off the east end of the E foundry built in 1918. Following World War II, during which the plant made tank transmissions and other war-related materials, and when, for the first time women were employed on the factory floor, Deere once again realigned the plant in a major way. The country was headed into

¹⁷ *Waterloo Courier*, 1928. Grout Museum Collection.

a golden economic period and consumption was rising of all sorts of products. Innovation and production needed to keep up, if not expand, to take advantage of these good market conditions.

Post-war prosperity did indeed mean new product lines for the Deere plant in Waterloo. In 1952, the Model 50 and Model 60 were announced (Fig. 14). These larger, more powerful tractors took



Looking down the Model "60" assembly line at the John Deere Waterloo Tractor Works. To the major lines, from numerous sub-assembly lines, comes a smooth flow of precisely-fitted parts that are expertly assembled into John Deere Tractors.

BELOW—Starting a Model "60" Tractor at the end of the assembly line. If the tractor passes the 600 inspections still on its schedule, it will be painted, fitted with regular wheels and rubber tires, and shipped.

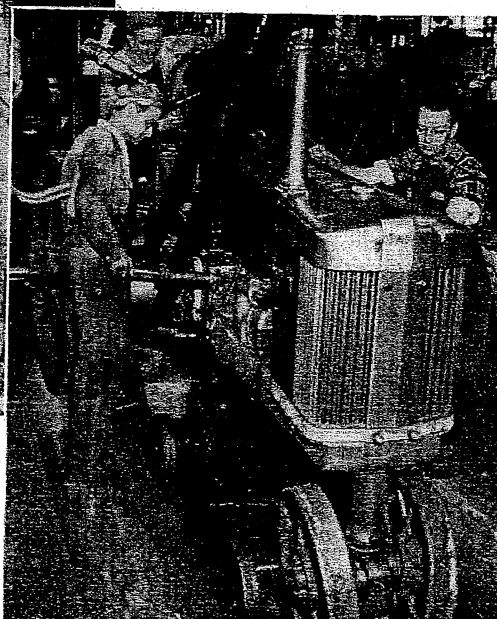


Figure 14 This page from a Deere booklet may show the interior of the new 1954 assembly building (E). It does show the assembly of the new Model 60 tractor, a line introduced in 1952 and improved in 1954. The booklet, clearly intended for visitors to the plant, suggests the importance of the assembly line to the public's perception of how a tractor was made: "To many, the high point of their tour is the assembly line. Starting at the head of the line with a main case, skilled workmen assemble precise-fitting, highly-finished parts into a vibrant, high-quality tractor that is driven away from the end of the line under its own power." *Deere & Company, A Souvenir of Your Visit to Our Factory (John Deere Waterloo Tractor Works, c. 1955); 26.*

the place of tried and tested earlier designs. Another new model was introduced in 1954, Model 70, which had power steering. Model 70 suggests the improvements that were being made with the operator in mind and why Deere tractors were so popular.¹⁸ Increasing size and complexity of these designs also created the need for a larger, more modern assembly building. A new foundry had already been constructed north of the older buildings (by 1946), on land made during the 1928 and later expansions. The 1918 E foundry was, therefore, obsolete and could be taken down. In its place, in 1954, the very large six-story E building was constructed as the plant's new assembly building. Attached at its east end to the earlier R-1 building, this new brick assembly building would put together the famous green and yellow Deere tractors for the next twenty years. Eventually, in the mid-1970s, however, this vertical-process building was abandoned in favor of even larger, more complex facilities on Donald St. in the northeastern edge of town. The removal of the tractor works and assembly process from the site firmly broke the historical association of tractor-making with central Waterloo, after more than 80 years and hundreds of thousands of tractors produced. The removal of the 1954 E building will erase the last physical vestige of this process.



Figure 15 A "Model 70 Standard" manufactured in 1955.
Accessed at <http://www.tractorhouse.com> on 24 October 2006.

¹⁸ *A Souvenir of Your Visit to Our Factory*, 9.

4. Findings

All but two of the 36 buildings evaluated in this study are ineligible for the National Register of Historic Places, either because they are modern, have been extensively altered, or lack sufficient significance. Because of these ineligible buildings, and the removal of a number of other buildings over the last decade, the overall plant site lacks the integrity necessary to be considered a historic district, despite the clear historic significance of the John Deere Tractor Works to Waterloo history and the history of agriculture.

Two of the buildings, described below, however, maintain sufficient integrity and display the historical significance necessary to be eligible for the National Register of Historic Places. Additional information about all buildings is available in Table 2 and in the Appendix.

- **R-1 Building (1938)**: This building represents perhaps the last intact factory building from this site capable of reflecting the historic, early twentieth-century manufacture of tractors in downtown Waterloo, Iowa. When constructed, it physically joined the old 1918 foundry (nonextant, E site) to the 1928 R building (extant, altered), which had served as the factory office, as well as containing maintenance space and a gear manufacturing process. Building R-1, one of the biggest buildings in the factory when its construction was finished, played an important role in the flow of the manufacturing process through the site, providing space for small parts manufacturing. After 1954, when the extant 6-floor E building replaced the foundry on R-1's west side, R-1 was located at the start of the final assembly process. R-1's architectural styling, plainly utilitarian in nature, suggests an industrial application owing much to the International style, where ribbon and corner windows are hallmarks, and an emphasis on the horizontal line is important, even in high-rises. With R-1's construction, Deere factory engineers (presumably from the Deere headquarters in Moline, Illinois) finally and firmly abandoned the traditional, 1-story solid brick, truss roof, model for its factory buildings. R-1 has significance under Criterion A and some potential under C, and is eligible for the National Register of Historic Places.
- **E Building (1954)**: The 1954 E building is the last John Deere assembly building in downtown Waterloo, home of the Waterloo Boy tractor and production point of virtually every John Deere tractor built until the 1970s. The tractor is the product most identified with John Deere Company and the assembly process is the most publicly identifiable part of the process of manufacturing tractors. The assembly line is where the abstract parts that have been cast, milled, machined, heat treated, and painted in the hallmark green and yellow scheme elsewhere in the facility, come together to form the identifiable piece of equipment, the John Deere tractor. The E building, then, represents the part of the process of building a tractor that in the public's mind stands for and equates to the hugely important company that is Deere & Company. With its construction at the middle of the twentieth century, E building also represents the peak of factory construction on the Westfield Avenue site. Nearly all parts and components used to construct a Deere tractor were fabricated on-site from the melting of cores and casting of rough parts, to the milling and machining of these parts to fit together, to the assembly of the tractors in E, and to their storage and shipment out to dealers all over the country. E's architectural

styling, like R-1's nearby, is plainly utilitarian in nature and continues to be mildly influenced by the waning International style, where cubic forms, ribbon windows, and an emphasis on the horizontal line are hallmarks, even in high-rises. E building has significance under Criterion A and some potential under C, and is eligible for the National Register of Historic Places.

5. Selected Sources

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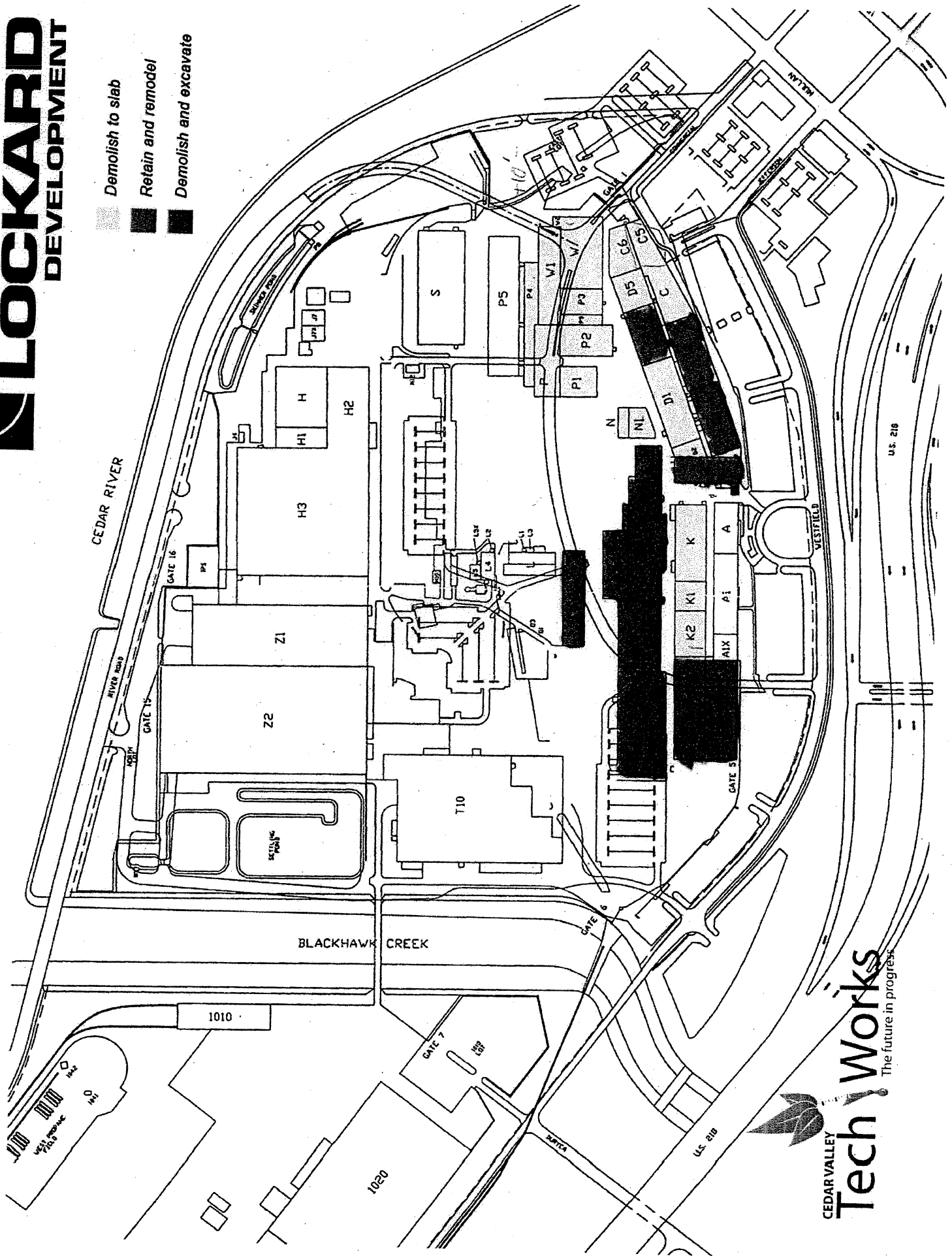
Waterloo Courier, multiple issues, 1918-1991.

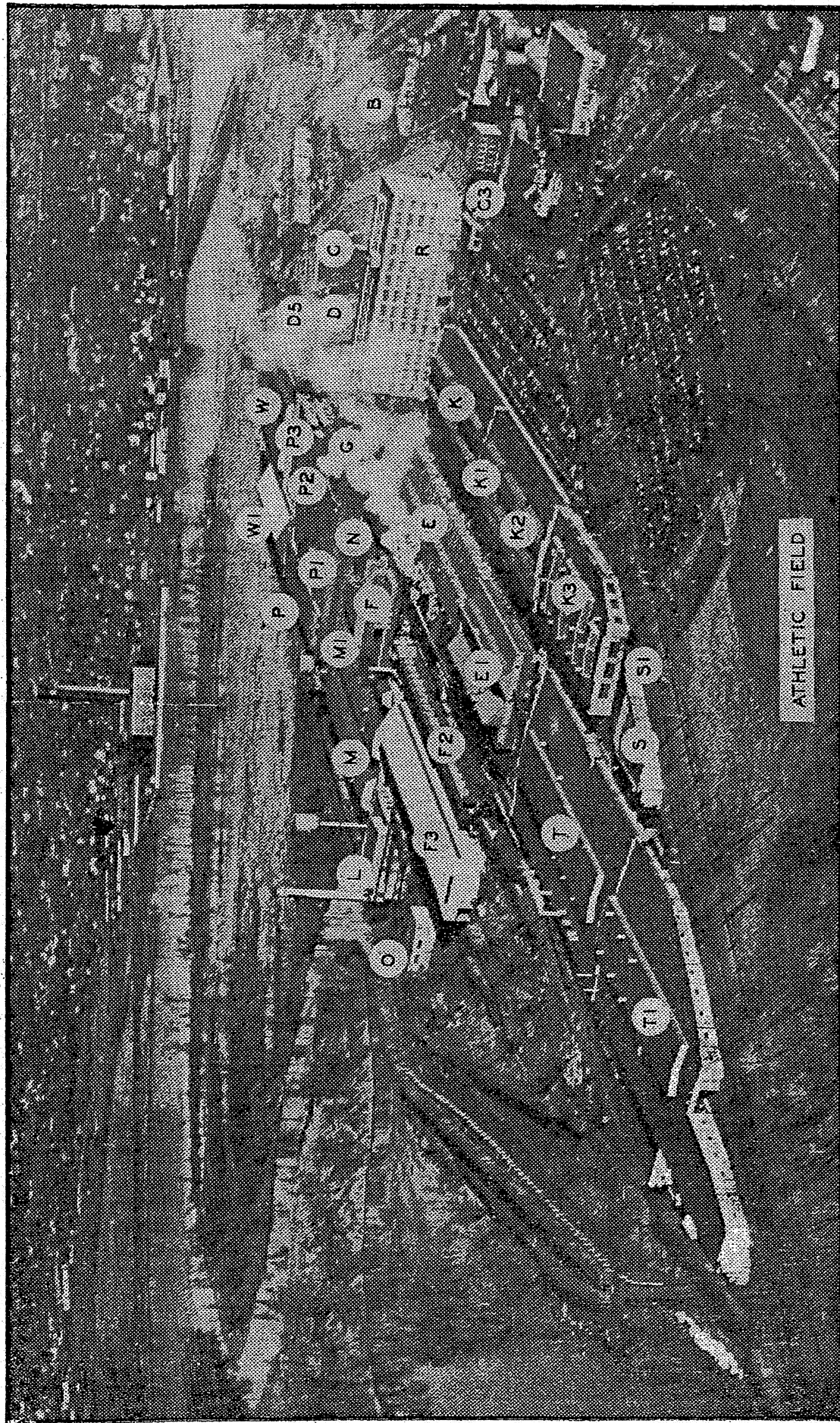
Appendix Material

- City Map showing General Project Location
 - Redevelopment Site Plan
 - Historic photographs
- Iowa Site Inventory Forms for Resources
 - #07-09376 John Deere Tractor Co.
 - #07-11221 Building R-1
 - #07-11222 Building E
- HADB Data Form #07-081
- Current Photographs of the Plant and its Buildings
(Tallgrass Historians L.C., September 2006)

LOCKARD DEVELOPMENT

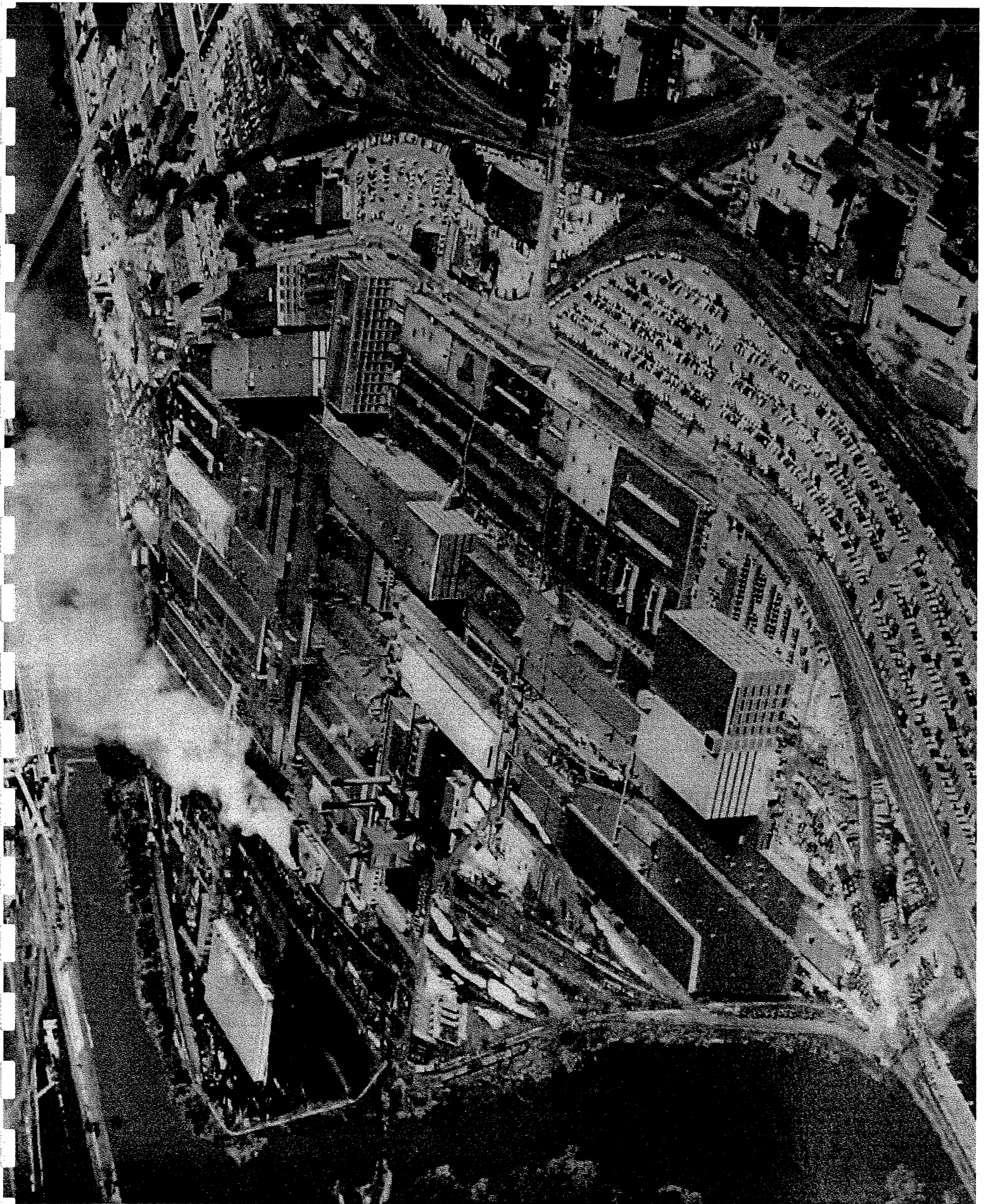
-  Demolish to slab
-  Retain and remodel
-  Demolish and excavate

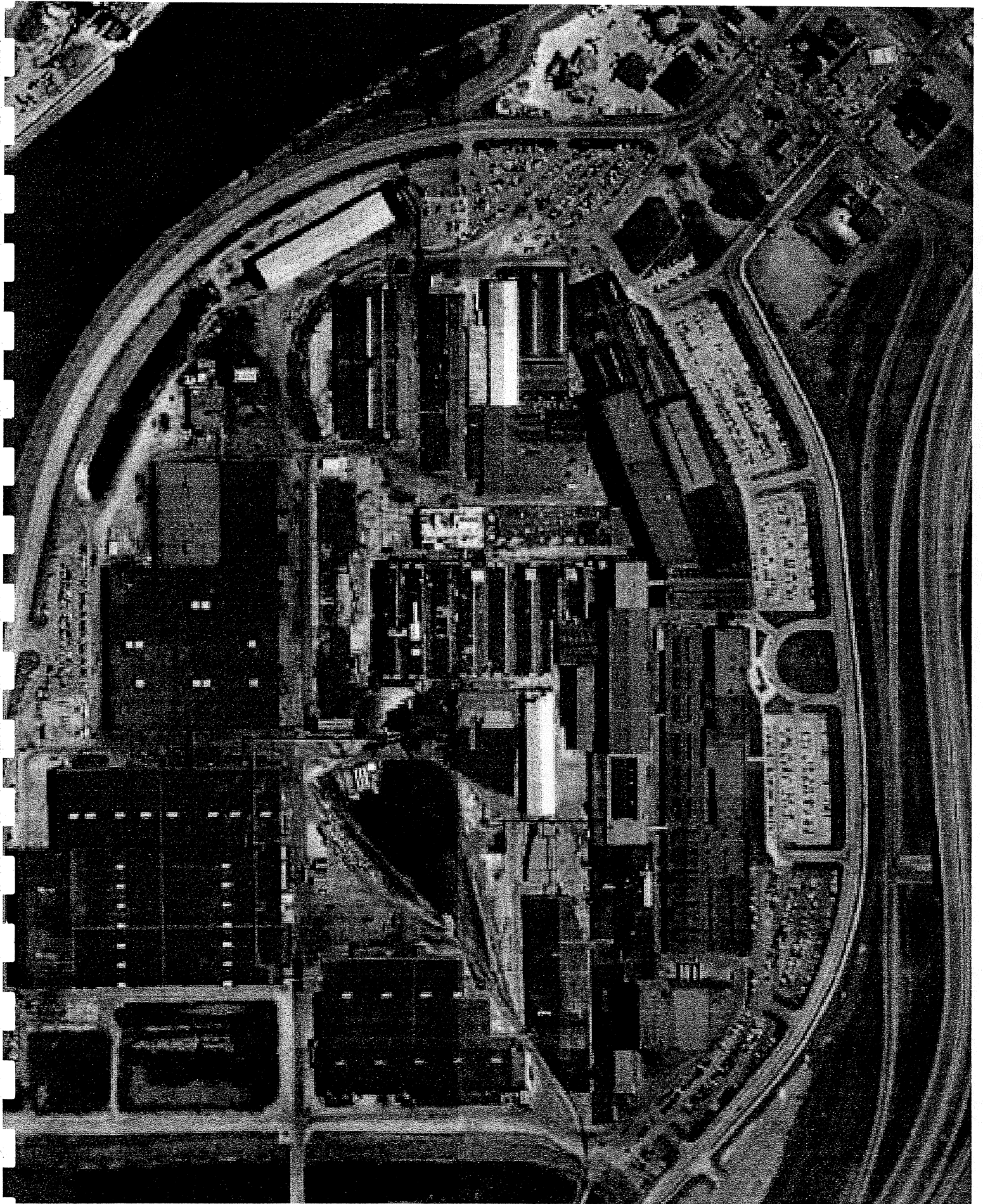


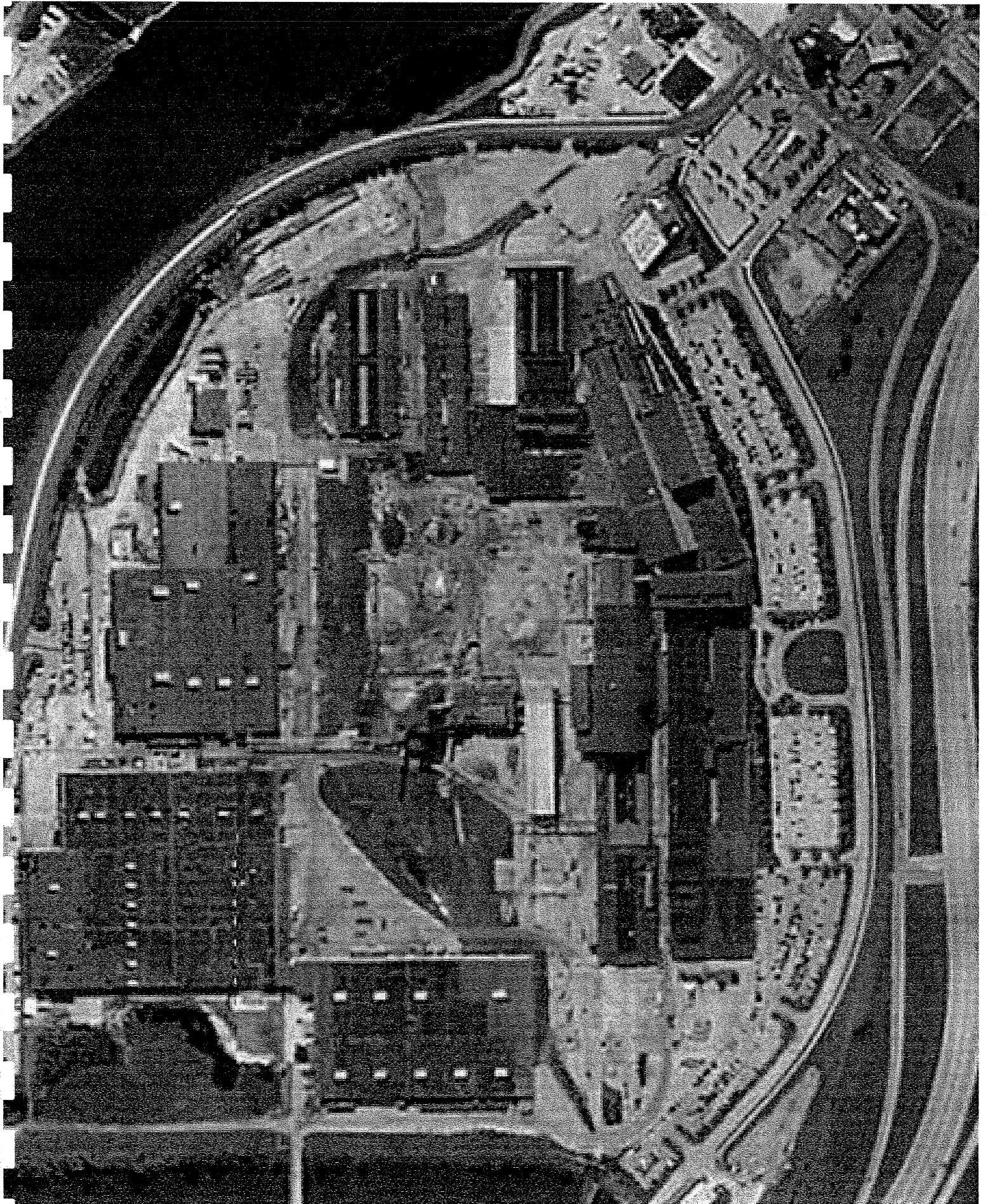


ATHLETIC FIELD

<p>The extensive works of the John Deere Tractor company in Waterloo, a new airplane picture of which is shown above, were improved during 1935 by the addition of buildings costing \$100,000.</p> <p>At the west end of the plant are shown three of the new plant additions: building T-1, tractor storage and shipping, \$48,000; K-3, tractor testing, \$40,000, and S-1, machine storage, \$1,000. A sand preparation building costing \$1,000 also was erected.</p> <p>At the east end of building D-5,</p>	<p>the tractor assembly building, a 60 by 100 foot addition has been started, at a cost, including excavation, of \$10,000. This building will be used for tractor wheel storage.</p> <p>Black Hawk Creek at left, left of the picture, making a horse-shoe curve just before it empties into the Cedar river.</p> <p>The building near the top center of the photograph is the electric generating station of the Iowa Public Service company, near the east end of Mullan avenue bridge, shown at the extreme right top. Beyond</p>	<p>stretches the east residential section of Waterloo.</p> <p>The John Deere athletic field is shown at the bottom.</p> <p>The picture was made from a plane furnished to the Courier thru courtesy of the Livingston Airways corporation, and piloted by Aden B. Livingston, manager of Chapman field.</p> <p>Key to Buildings in Picture.</p> <p>A key to buildings shown in the picture follows:</p> <p>B—Experimental engineering and stationary engine manufacturing.</p> <p>C—General and executive offices,</p>	<p>machining and heat treating.</p> <p>D—Heavy machining and tractor assembly.</p> <p>D-5—Tractor assembly.</p> <p>E—Molding.</p> <p>E-1—Molding.</p> <p>F—Pattern making and storage.</p> <p>F-2—Sand storage.</p> <p>F-3—Sand storage.</p> <p>G—Receiving and productive stores.</p> <p>K—Miscellaneous machining.</p> <p>K-1—Miscellaneous machining.</p> <p>K-2—Miscellaneous machining.</p> <p>K-3—Tractor testing.</p> <p>L—Power and light plant.</p> <p>M—Core making.</p>	<p>M-1—Molding.</p> <p>N—Casting milling.</p> <p>O—Oil storage.</p> <p>P—Steel storage.</p> <p>P-1—Miscellaneous parts storage.</p> <p>P-2—Forge shop.</p> <p>P-3—Sheet metal.</p> <p>R—Factory office, machine main tenance and gear manufacturing.</p> <p>S—Paint storage.</p> <p>S-1—Machine storage.</p> <p>T—Tractor painting and repair stores.</p> <p>T-1—Tractor storage and shipping.</p> <p>W—Wheel manufacturing.</p> <p>W-1—Steel storage.</p>
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Site Inventory Form

State Historical Society of Iowa

(December 1, 1999)

State Inventory No. 07-09376

☐ New ☒ Supplemental

☐ Part of a district with known boundaries (enter inventory no.) _____

Relationship: ☐ Contributing ☐ Noncontributing

☐ Contributes to a potential district with yet unknown boundaries

National Register Status: (any that apply) ☐ Listed ☐ De-listed ☐ NHL ☐ DOE

9-Digit SHPO Review & Compliance Number _____

☐ Non-Extant (enter year) _____

1. Name of Property

historic name John Deere Tractor Co.

other names/site number John Deere Waterloo Tractor Works, Deere & Co. Component Works

2. Location

street & number 400 Westfield Ave.

city or town Waterloo

Legal Description: (If Rural) Township Name

☐ vicinity, county Black Hawk

Township No. _____ Range No. _____ Section _____ Quarter of Quarter

(If Urban) Subdivision Red Cedar Addn.

Block(s) 6

Lot(s) _____

3. State/Federal Agency Certification [Skip this Section]

4. National Park Service Certification [Skip this Section]

5. Classification

Category of Property (Check only one box)

☐ building(s)

☒ district

☐ site

☐ structure

☐ object

Number of Resources within Property

If Non-Eligible Property

Enter number of:

34+ buildings

_____ sites

_____ structures

_____ objects

34+ Total

If Eligible Property, enter number of:

Contributing

Noncontributing

2

2

_____ buildings

_____ sites

_____ structures

_____ objects

_____ Total

Name of related project report or multiple property study (Enter "N/A" if the property is not part of a multiple property examination).

Title

Deere & Company Westfield Plant:

Historical Architectural Data Base Number

Historical/Architectural Intensive Study of Selected Bldgs.

07-081

6. Function or Use

Historic Functions (Enter categories from instructions)

10A02 factory

Current Functions (Enter categories from instructions)

10A manufacturing facility

7. Description

Architectural Classification (Enter categories from instructions)

01 NO STYLE

Materials (Enter categories from instructions)

foundation 10 CONCRETE

walls 03 BRICK

roof 15 SYNTHETICS/17 OTHER

other _____

Narrative Description (☒ SEE CONTINUATION SHEETS, WHICH MUST BE COMPLETED)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" representing your opinion of eligibility after applying relevant National Register criteria)

☐ Yes ☒ No ☐ More Research Recommended

☐ Yes ☐ No ☐ More Research Recommended

☐ Yes ☒ No ☐ More Research Recommended

☐ Yes ☐ No ☐ More Research Recommended

A Property is associated with significant events.

B Property is associated with the lives of significant persons.

C Property has distinctive architectural characteristics.

D Property yields significant information in archaeology or history.

County Black Hawk
City Waterloo

Address 400 Westfield Ave.

Site Number 07-09376
District Number

Criteria Considerations

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

Areas of Significance (Enter categories from instructions)

Significant Dates

Construction date

1920

☐ check if circa or estimated date

Other dates

see table

Significant Person

(Complete if National Register Criterion B is marked above)

Architect/Builder

Architect

multiple

Builder

multiple

Narrative Statement of Significance (☒ SEE CONTINUATION SHEETS, WHICH MUST BE COMPLETED)

9. Major Bibliographical References

Bibliography ☒ See continuation sheet for citations of the books, articles, and other sources used in preparing this form

10. Geographic Data

UTM References (OPTIONAL)

Zone	Easting	Northing	Zone	Easting	Northing
1	_____	_____	2	_____	_____
3	_____	_____	4	_____	_____

☐ See continuation sheet for additional UTM references or comments

11. Form Prepared By

name/title Jan Olive Nash

organization Tallgrass Historians L.C.

date October 2006

street & number 2460 S. Riverside Drive

telephone 319.354.6722

city or town Iowa City

state IA

zip code 52246

ADDITIONAL DOCUMENTATION (Submit the following items with the completed form)

FOR ALL PROPERTIES

- Map:** showing the property's location in a town/city or township.
- Site plan:** showing position of buildings and structures on the site in relation to public road(s).
- Photographs:** representative black and white photos. If the photos are taken as part of a survey for which the Society is to be curator of the negatives or color slides, a photo/catalog sheet needs to be included with the negatives/slides and the following needs to be provided below on this particular inventory site:

Roll/slide sheet #	_____	Frame/slot #	_____	Date Taken	_____
Roll/slide sheet #	_____	Frame/slot #	_____	Date Taken	_____
Roll/slide sheet #	_____	Frame/slot #	_____	Date Taken	_____

☐ See continuation sheet or attached *photo & slide catalog sheet* for list of photo roll or slide entries.

☒ Photos/illustrations without negatives are also in this site inventory file.

FOR CERTAIN KINDS OF PROPERTIES, INCLUDE THE FOLLOWING AS WELL

- Farmstead & District:** (List of structures and buildings, known or estimated year built, and contributing or non-contributing status)
- Barn:**
 - A sketch of the frame/truss configuration in the form of drawing a typical middle bent of the barn.
 - A photograph of the loft showing the frame configuration along one side.
 - A sketch floor plan of the interior space arrangements along with the barn's exterior dimensions in feet.

State Historic Preservation Office (SHPO) Use Only Below This Line

Concur with above survey opinion on National Register eligibility: ☐ Yes ☐ No ☐ More Research Recommended

☐ This is a locally designated property or part of a locally designated district.

Comments: _____

Evaluated by (name/title): _____ Date: _____

Iowa Site Inventory Form Continuation Sheet

Related District Number

Page 1

John Deere Tractor Co.

Black Hawk

Name of Property

County

400 Westfield Ave.

Waterloo

Address

City

7. Description

This plant site is located along the west bank of the Cedar River in central Waterloo, between Westfield Ave. (formerly Miles St.) on the south, Black Hawk Creek on the west, and Commercial St. and River Road to the east and north, respectively. The buildings being evaluated presently are within the southeast core of older buildings on this site, and are generally visible from the parking lots that ring the Westfield Ave. plant entrance and the passing traffic on elevated US 218. The highway here travels past the factory, roughly following the alignment of an earlier railroad route. Thirty-six buildings have been inspected for this study. Thirty-four of these are not eligible for the National Register of Historic Places (NRHP) because of poor integrity, insufficient significance, or because they are less than 50 years old. A prior study (Barbara Beving Long, 1986) also determined that one of these buildings presently being studied—the 1928 forge building known as P-2, [07-09390])—was ineligible. Refer to the table included on a later continuation sheet for details on all 34 ineligible buildings.

The buildings presently under study are only a portion of this Westfield Avenue facility, though they constitute the historic area of the original John Deere plant in Waterloo. The related precursor company, Waterloo Gasoline Engine Company (WGEC), was initially located nearby on Cedar St., between 2nd and 3rd, before it expanded to the Miles St. location and created a second plant facility. John Deere Co. did utilize both WGEC plant facilities at the same time for a while early in the twentieth century. Most of the extant plant buildings, other than the 36 being studied, are modern and located to the north (closer to the river) of the study buildings or west, across the straightened Black Hawk Creek.

The following summary discussion is limited to the two studied buildings that maintain their integrity and exhibit potential historic and/or architectural significance. Refer to their individual site forms for more information.

"R-1" Small parts manufacturing building [07-11221] – constructed in 1938, three floors added in 1939 (latter built by Jens Olesen & Sons Construction Co.)

The first three floors of this red-brick-faced building were constructed in 1938 with a vertical addition already in mind. The next 3 stories were constructed the very next year, in 1939. The six floors of the final building present the unified appearance of a building constructed at one time. Windows figure prominently in this building. The top floor is "practically all glass" as described at the time of its construction by the local newspaper. Below this top floor, light-colored masonry running sills and headers separate the red-brick interstitial surfaces from the large window voids. Windows at the building's corners are joined without apparent vertical support. The presence of so many windows, even divided as they are into multiple lights by muntins, give the building a light and airy appearance, and suggest the possibility of a welcome working interior environment. The interior structural system is a form of mushroom-capped concrete posts supporting concrete floors.

"E" Assembly building [07-11222] – plans drawn in 1953 by Deere & Company engineers, Moline, Ill.; constructed in 1954.

This very large, six story brick and concrete building was constructed on the former site of the Waterloo Gasoline Engine Co.'s third foundry, built in 1918 (this was at least the 3rd foundry used by WGE and its 2nd on this Westfield plant site. The old foundry, also designated as E, was a one-story concrete and brick building). New E building, with a footprint of about 150- by 450-feet, has an interior structure of mushroom-capped concrete pillars set in a grid pattern with a wider span than R-1's. The pillars support concrete floors. Windows are multiple-light, metal sash banded ribbons of glazing, except on the central part where they are separated by several courses of brick. Upper interior floors are similar in construction to the ground level interior, which was visually inspected (Mike Schrage, Lockard Construction, to Jan Olive Nash, 25 September 2006).

8. Statement of Significance

As historian Barbara Long discovered in 1986, despite John Deere's "rank[ing] at the summit of Iowa industry," its "success virtually ensured substantial alterations to the buildings that compromise the ability of the site to illustrate historic themes" (Iowa Site Inventory form, 2). Indeed, few extant buildings have escaped significant modification as functions and technology changed over the years. Windows especially, both in the side walls and on the rooftop monitors, have been changed. When these buildings were constructed, the need was great for natural daylight and ventilation. Over time, improved electrical lighting and modern HAV systems have been developed, making the historic fenestration obsolete and energy inefficient. The

Iowa Site Inventory Form Continuation Sheet

Related District Number

Page 2

John Deere Tractor Co.

Black Hawk

Name of Property

County

400 Westfield Ave.

Waterloo

Address

City

most common change has been the substitution of a rigid, opaque synthetic material for the original wire-mesh safety-glass panes in the industrial metal-sash windows of most buildings. This is most visually disturbing on the one-story buildings which have long ribbons of awning windows at eye-level. Pass doors and overhead loading doors have also been replaced and moved, some window areas have been bricked in, and older brick walls have been clad with metal siding. Since most of the subject buildings are scheduled for demolition, interior components and equipment have been moved out and many buildings are simply vacant spaces today.

Adding to the loss of site integrity is the recent demolition of the large, historic 3rd foundry complex on this site (buildings M, M1, M3, constructed between 1928 and 1946 on reclaimed boggy wetland) and the demolition of the T buildings, end-of-the-assembly-line buildings where finished tractors were stored and shipped. These demolitions suggest the process of "deconstruction" going on at the Westfield Ave. main plant site, both physically and functionally, since at least the mid-1970s when land at Waterloo's outskirts was purchased for a new engine works (1975). Other key processing functions have been moved from the main plant to new outlying plant sites as well, including the important tractor assembly process in 1977. Alterations to the historic buildings, the presence of modern buildings, and the aggressive demolition program followed by Deere & Co. on this site since the early 1990s have left this Waterloo manufacturing facility with very poor integrity and little sense of historic time and place. There is no historic district potential for the Westfield Ave. plant site.

Buildings E and R-1, however, have good integrity and represent significant parts of the story of the John Deere Tractor Works. These buildings are individually eligible for the National Register of Historic Places. Refer to separate site forms for 07-11222 and 07-11221, respectively.

9. Major Bibliographic Sources

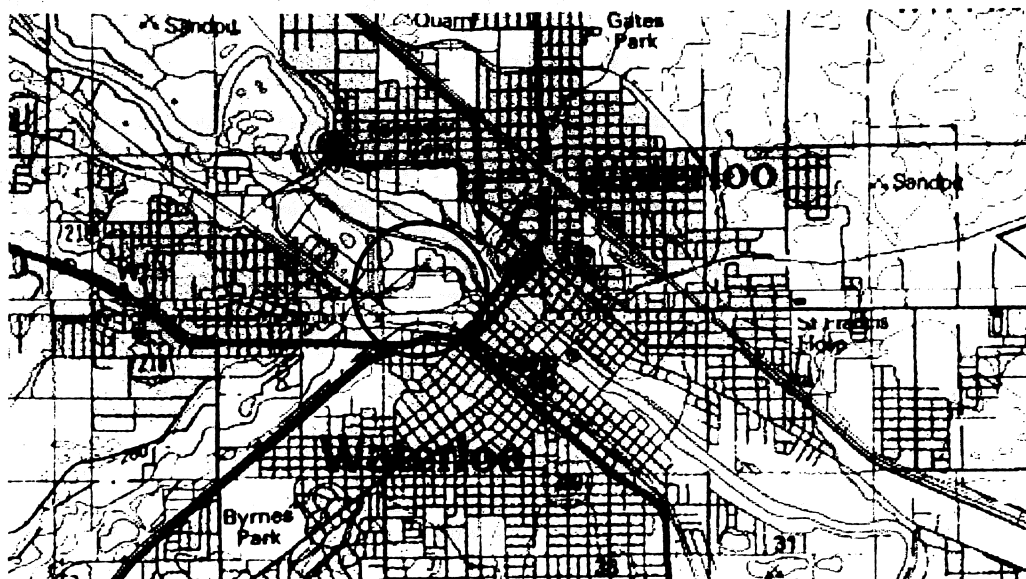
Field inspection, 25 September 2006

Long, Barbara Beving. "Deere & Company" site form filed in 1986 with a finding of ineligibility.

Also see the accompanying report HADB 07-081

Additional Documentation

▲ North



John Deere Tractor Co.

Name of Property

400 Westfield Ave.

Address

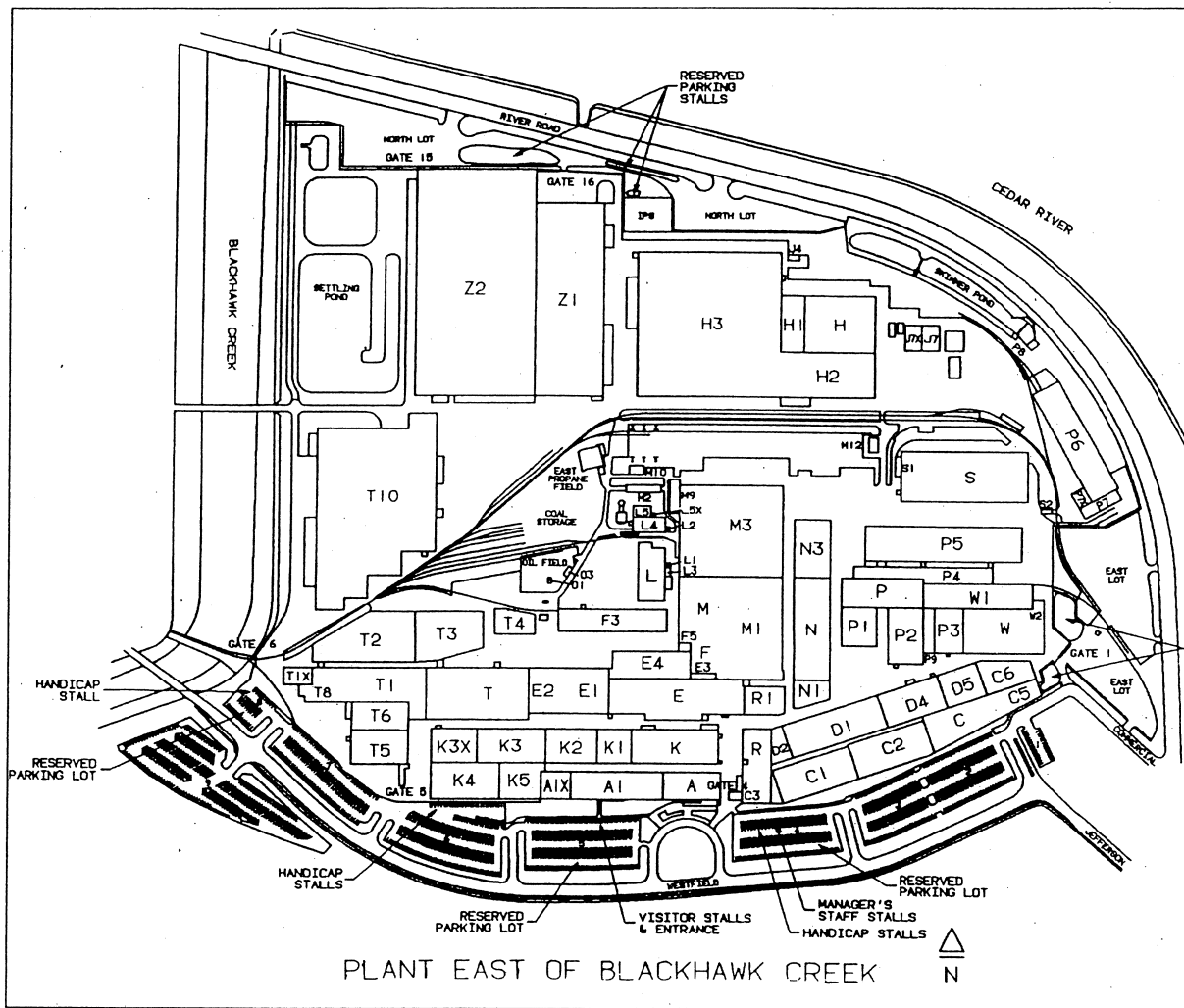
Black Hawk

County

Waterloo

City

 North



Plan courtesy John Deere Waterloo, c. 1993.

Iowa Site Inventory Form Continuation Sheet

Related District Number

Page 4

John Deere Tractor Co.

Black Hawk

Name of Property

County

400 Westfield Ave.

Waterloo

Address

City

TABLE 2 Buildings Evaluated for National Register of Historic Places Status

BLDG.	AGE	NO. FLRS	TOTAL AREA (Sq Ft)	TYPE OF CONST.	HISTORIC USE/S	CURRENT USE (April 2006)	EVALUATION ** NE=Not Eligible
C	1961	1	29,187	Brk./Steel	Heat treat	Manufact.	NE (modern)
C-1	1946	1	32,143	Masonry	Heat treat	Heat treat	NE (poor integrity)
C-2	1947	6	199,875	Masonry	Machining	Manufact.	NE (poor integrity)
C-5	1965	1	9,366	Brk./Steel	Machining (?)	Heat treat	NE (modern)
C-6	1967	1	19,125	Brk./Steel	Machining (?)	Heat treat	NE (modern)
D-1	1957	6	242,304	Tilt-Up	Machining	Manufact.	NE (modern)
D-2	1957	1	4,102	Tilt-Up	Machining	Manufact.	NE (modern)
D-4	1961	6	155,712	Tilt-Up	Machining	Manufact.	NE (modern)
D-5	1928	1	20,160	Brk./Concrete	Tractor assembly	Manufact.	NE (poor integrity)
E	1954	6	381,233	Masonry	Tractor assembly	Manufact.	Eligible (A)
E-1	1920	1	32,479	Brick	Molding/Tractor testing	Welding	NE (poor integrity)
E-2	1951	1	15,767	Brick	Tractor testing	Welding	NE (poor integrity)
E-3	1964	1	1,961	Brick	Welding (?)	Welding	NE (modern)
E-4	1971	2	38,145	Brick	Storage (?)	Storage	NE (modern)
F-3	1928	1	31,160	Brick	Sand storage	Storage	NE (poor integrity)
K	1927	1	36,386	Brick	Misc. machining	Machining	NE (poor integrity)
K-1	1928	1	14,400	Brick	Misc. machining	Storage	NE (poor integrity)
K-2	1928	1	23,054	Brick	Misc. machining	Truck shop	NE (poor integrity)
K-3	1935	1	28,800	Brk./Steel	Tractor testing	Tool/Maint.	NE (poor integrity)
K-3X	1941	1	19,200	Brick	Machining	Maint.	NE (poor integrity)
K-4	1942	1	30,409	Brk./Steel	Machining	Maint.	NE (poor integrity)
K-5	1964	1	18,683	Masonry	Machining	Maint.	NE (modern)
N	1928	1	15,528	Masonry	Casting milling/Core making	Mill	NE (poor integrity)
N-1	1929	2	15,288	Brick	Casting, cleaning, grinding	Storage	NE (insufficient significance)
P	1928	1	28,520	Brick	Steel storage	Maint.	NE (poor integrity)
P-1	1928	1	17,131	Brick	Misc. parts storage	Maint.	NE (poor integrity)
P-2	1928	1	24,725	Brick	Forge shop	Forge	NE (prior evaluation)
P-3	1928	1	15,780	Brick	Sheet metal	Forge	NE (poor integrity)
P-4	1927	1	24,035	Brick	Unknown	Heat treat	NE (insufficient significance)
P-9	1927	1	6,287	Brick	Forging	Storage	NE (poor integrity)
R	1928	6	162,317	Brick	Office/machine maint./gear mfg.	Off./Mfg.	NE (poor integrity)
R-1	1938	6	84,060	Brick	Small parts mfg.	Manufact.	Eligible (A)
T	1934	1	66,261	Brick	Washing	Storage	NE (poor integrity)
W	1930	1	45,684	Brk./Steel	Wheel mfg.	Sheet metal forming	NE (poor integrity)
W-1	1930	1	30,694	Tilt-Up	Steel storage	Steel stor.	NE (poor integrity)
W-2	1930	2	2,275	Brick	Sheet metal forming	Storage (?)	NE (insufficient significance)

"SQUARE FT. ANALYSIS, 04/19/06," Deere & Co.; field inspection on 9/25/06; Waterloo Courier, multiple years.

Site Inventory Form
State Historical Society of Iowa
(December 1, 1999)

State Inventory No. **07-11221**

☒ New ☐ Supplemental

☐ Part of a district with known boundaries (enter inventory no.) _____

Relationship: ☐ Contributing ☐ Noncontributing

☐ Contributes to a potential district with yet unknown boundaries

National Register Status: (any that apply) ☐ Listed ☐ De-listed ☐ NHL ☐ DOE

9-Digit SHPO Review & Compliance Number _____

☐ Non-Extant (enter year) _____

1. Name of Property

historic name Building R-1 -- John Deere Tractor Co.

other names/site number Building R-1 -- John Deere Waterloo Tractor Works, Deere & Co. Component Works

2. Location

street & number 400 Westfield Ave.

city or town Waterloo

Legal Description: (If Rural) Township Name _____

☐ vicinity, county Black Hawk

Township No. _____ Range No. _____ Section _____ Quarter _____ of Quarter _____

(If Urban) Subdivision Red Cedar Addn.

Block(s) 6

Lot(s) _____

3. State/Federal Agency Certification [Skip this Section]

4. National Park Service Certification [Skip this Section]

5. Classification

Category of Property (Check only one box)

- ☒ building(s)
☐ district
☐ site
☐ structure
☐ object

Number of Resources within Property

If Non-Eligible Property

Enter number of:

_____ buildings
_____ sites
_____ structures
_____ objects
_____ Total

If Eligible Property, enter number of:

Contributing

Noncontributing

_____ buildings
_____ sites
_____ structures
_____ objects
_____ Total

Name of related project report or multiple property study (Enter "N/A" if the property is not part of a multiple property examination).

Title

Deere & Company Westfield Plant:

Historical Architectural Data Base Number

Historical/Architectural Intensive Study of Selected Bldgs.

07-081

6. Function or Use

Historic Functions (Enter categories from instructions)

10A manufacturing facility

Current Functions (Enter categories from instructions)

10A manufacturing facility

7. Description

Architectural Classification (Enter categories from instructions)

01 NO STYLE

08B International Style

Materials (Enter categories from instructions)

foundation 10 CONCRETE

walls 03 BRICK/ 10 CONCRETE

roof unknown

other _____

Narrative Description (☒ SEE CONTINUATION SHEETS, WHICH MUST BE COMPLETED)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" representing your opinion of eligibility after applying relevant National Register criteria)

- ☒ Yes ☐ No ☐ More Research Recommended
☐ Yes ☐ No ☐ More Research Recommended
☐ Yes ☐ No ☒ More Research Recommended
☐ Yes ☐ No ☐ More Research Recommended

- A Property is associated with significant events.
B Property is associated with the lives of significant persons.
C Property has distinctive architectural characteristics.
D Property yields significant information in archaeology or history.

County Black Hawk
City Waterloo

Address 400 Westfield Ave.

Site Number 07-11221
District Number

Criteria Considerations

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

Areas of Significance (Enter categories from instructions)

01, 17

Significant Dates

Construction date

1938

☐ check if circa or estimated date

Other dates

1939

Significant Person

(Complete if National Register Criterion B is marked above)

Architect/Builder

Architect

Builder

Jens Olesen & Sons Constr. Co.

Narrative Statement of Significance (☒ SEE CONTINUATION SHEETS, WHICH MUST BE COMPLETED)

9. Major Bibliographical References

Bibliography ☒ See continuation sheet for citations of the books, articles, and other sources used in preparing this form

10. Geographic Data

UTM References (OPTIONAL)

Zone	Easting	Northing	Zone	Easting	Northing
1	_____	_____	2	_____	_____
3	_____	_____	4	_____	_____

☐ See continuation sheet for additional UTM references or comments

11. Form Prepared By

name/title Jan Olive Nash

organization Tallgrass Historians L.C.

date October 2006

street & number 2460 S. Riverside Drive

telephone 319.354.6722

city or town Iowa City

state IA

zip code 52246

ADDITIONAL DOCUMENTATION (Submit the following items with the completed form)

FOR ALL PROPERTIES

- Map:** showing the property's location in a town/city or township.
- Site plan:** showing position of buildings and structures on the site in relation to public road(s).
- Photographs:** representative black and white photos. If the photos are taken as part of a survey for which the Society is to be curator of the negatives or color slides, a photo/catalog sheet needs to be included with the negatives/slides and the following needs to be provided below on this particular inventory site:

Roll/slide sheet #	_____	Frame/slot #	_____	Date Taken	_____
Roll/slide sheet #	_____	Frame/slot #	_____	Date Taken	_____
Roll/slide sheet #	_____	Frame/slot #	_____	Date Taken	_____

☐ See continuation sheet or attached *photo & slide catalog sheet* for list of photo roll or slide entries.

☒ Photos/illustrations without negatives are also in this site inventory file.

FOR CERTAIN KINDS OF PROPERTIES, INCLUDE THE FOLLOWING AS WELL

- Farmstead & District:** (List of structures and buildings, known or estimated year built, and contributing or non-contributing status)
- Barn:**
 - A sketch of the frame/truss configuration in the form of drawing a typical middle bent of the barn.
 - A photograph of the loft showing the frame configuration along one side.
 - A sketch floor plan of the interior space arrangements along with the barn's exterior dimensions in feet.

State Historic Preservation Office (SHPO) Use Only Below This Line

Concur with above survey opinion on National Register eligibility: ☐ Yes ☐ No ☐ More Research Recommended

☐ This is a locally designated property or part of a locally designated district.

Comments: _____

Evaluated by (name/title): _____

Date: _____

Iowa Site Inventory Form Continuation Sheet

Site Number **07-11221**

Related District Number

Page 1

Building R-1 -- John Deere Tractor Co.

Black Hawk

Name of Property

County

400 Westfield Ave.

Waterloo

Address

City

7. Description

This building is located roughly in the center of the historic core of the John Deere Tractor Co. plant site, located along Westfield Ave. (formerly Miles St.). Its 6 stories are attached on the west to the 6 stories of the east end of the 1954 E building. When it was constructed, however, it was joined by a vestibule to the 1-story foundry that previously occupied the E building site. All floors above the ground level are joined by a multi-story pedestrian bridge to R building, built a decade earlier and similar in appearance. R-1 is also joined by a 2nd-story pedestrian bridge to the N-1 building on its east side. Building R-1 occupies a roughly 100' by 140' footprint. (R-1's apparent architectural inspiration, the 1928 R building, has been modernized with dark-sash new windows.)

The first three floors of this building were constructed in 1938 with a vertical addition already in mind. The next 3 stories were constructed the next year, in 1939. The six floors of the final building present the unified appearance of a building constructed at one time. Though clad in red brick on the exterior, the interior structural system is a form of mushroom-capped concrete posts supporting concrete floors. Windows figure prominently in this building. The top floor is "practically all glass" as described at the time of its construction by the local newspaper (Grout Museum clippings file, 1939 *Courier* [?]) article). Below this top floor, light-colored masonry running headers separate the brick interstitial surfaces from the large window voids. Windows at the building's southeast corner are joined without apparent vertical support. The presence of so many windows, even divided as they are into multiple lights by muntins, give the building a light and airy appearance, and suggest the possibility of a pleasant interior working environment. Their ability to open out, awning style, assured cross ventilation.

According to a 1938 newspaper clipping in the Grout Museum collection, when the first three floors were built, they were used as follows: "On the first floor are maintenance and supply departments, and a garage for the storage of the 39 gasoline lift trucks which circulate about the plant carrying parts. On the second floor small parts are manufactured, while rebuilding and electric work occupy departments of the third floor." A year later, the addition of three more floors added or expanded the "manufacture of tractor parts," according to another newspaper clipping (6/24/1939). Its latest function has been as part of the "subassembly" process where units are machined and put together for final assembly into the tractor, which final process takes part in another building (historically E, but now at a newer facility on Donald Street in Waterloo).

Integrity of R-1 is not pristine, as some of the window lights have been replaced, and on the north side facing the inner core of the plant there are about three window openings that have been completely bricked in. However, the overall historic character of this large building is intact.

8. Statement of Significance

This building represents perhaps the last intact factory building from this site capable of reflecting the historic, early twentieth-century manufacture of tractors in downtown Waterloo, Iowa. When constructed, it physically joined the old 1918 foundry (nonextant, E site) to the 1928 R building (extant, altered), which had served as the factory office, as well as containing maintenance space and a gear manufacturing process (1935 newspaper clipping). Building R-1, one of the biggest buildings in the factory when its construction was finished, played an important role in the flow of the manufacturing process through the site, providing space for small parts manufacturing. After 1954, when the extant 6-floor E building replaced the foundry on R-1's west side, R-1 was located at the start of the final assembly process. R-1's architectural styling, plainly utilitarian in nature, suggests an industrial application owing much to the International style, where ribbon and corner windows are hallmarks, and an emphasis on the horizontal line is important, even in high-rises (Poppeliers, et al., 92). With R-1's construction, Deere factory engineers (presumably from the Deere headquarters in Moline, Illinois) finally and firmly abandoned the traditional, 1-story solid brick, truss roof, model for its factory buildings. R-1 has significance under Criterion A and some potential under C and is eligible for the National Register of Historic Places.

Iowa Site Inventory Form Continuation Sheet

Related District Number

Page 2

Building R-1 — John Deere Tractor Co.

Black Hawk

Name of Property

County

400 Westfield Ave.

Waterloo

Address

City

9. Major Bibliographic Sources

Field inspection, 25 September 2006

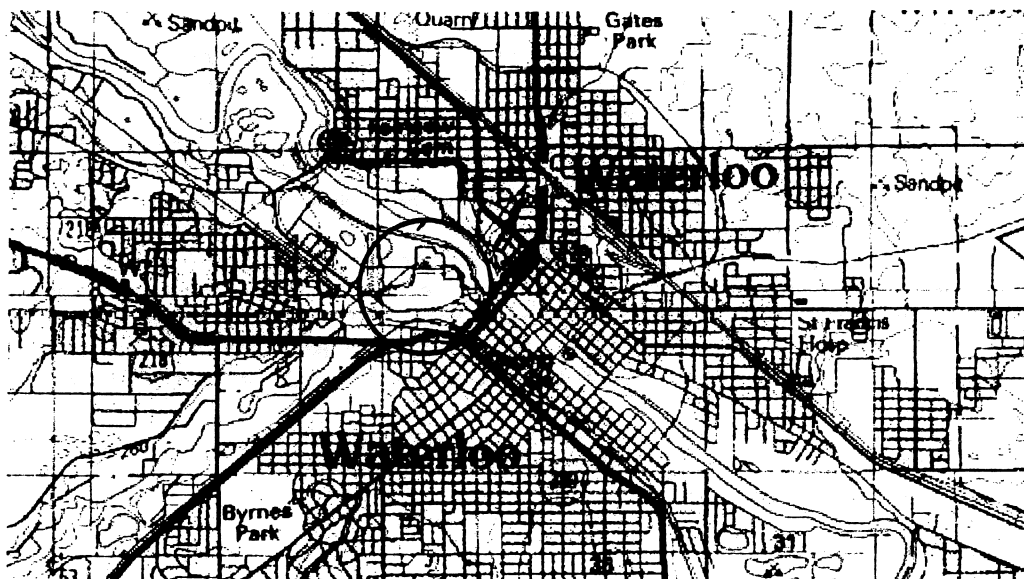
Jeffrey R. Kutz, Senior Engineer, John Deere Waterloo Works, to Jan Olive Nash, telephone interview, 16 October 2006.
Grout Museum, Waterloo, Iowa, clipping files.

Poppeliers, John C., S. Allen Chambers, Jr., and Nancy B. Schwartz. *What Style is it?* Preservation Press, 1983.

Also see the accompanying report HADB 07-081

Additional Documentation

▲ North



Iowa Site Inventory Form
Continuation Sheet

Site Number **07-11221**

Related District Number

Page 3

Building R-1 -- John Deere Tractor Co.

Name of Property

400 Westfield Ave.

Address

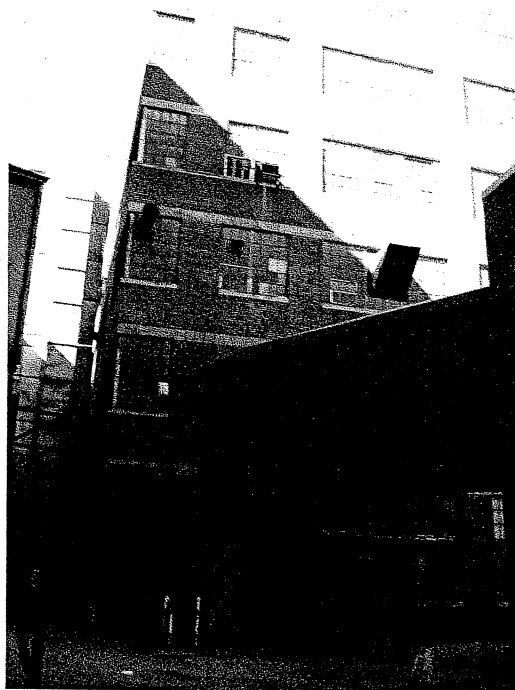
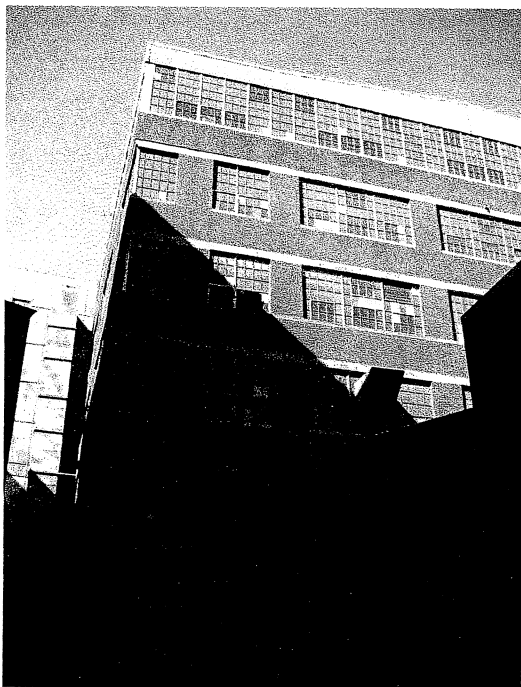
Black Hawk

County

Waterloo

City

Building R-1 (1938-1939), facing west (Sept. 2006).



This detailed site map illustrates the layout of Plant East of Blackhawk Creek. The facility is bordered by Blackhawk Creek to the west and Cedar River to the east. Key features include:

- Buildings:** Numerous industrial buildings are labeled with alphanumeric codes, including Z1, Z2, H1, H2, H3, T1 through T10, M1 through M3, N1 through N3, P1 through P6, S, W1 through W3, C1 through C6, D1 through D5, E1 through E5, F1 through F3, L, M, R, A1 through A5, K1 through K5, and K3X through K5X.
- Parking and Access:** The map shows several parking areas, including a large 'RESERVED PARKING LOT' at the bottom, 'HANDICAP STALLS', and 'VISITOR STALLS & ENTRANCE'. Access points are marked as GATE 1, GATE 5, GATE 6, GATE 16, and GATE 18.
- Infrastructure:** Features include a 'SETTLING POND', 'EAST PROPAANE FIELD', 'COAL STORAGE', 'OIL FIELD', 'RESERVED PARKING STALLS', and 'MANAGER'S STAFF STALLS'.
- Orientation:** A north arrow is located at the bottom right, pointing towards the top of the page.

Site Inventory Form

State Historical Society of Iowa

(December 1, 1999)

State Inventory No. 07-11222

☒ New ☐ Supplemental

☐ Part of a district with known boundaries (enter inventory no.) _____

Relationship: ☐ Contributing ☐ Noncontributing

☐ Contributes to a potential district with yet unknown boundaries

National Register Status:(any that apply) ☐ Listed ☐ De-listed ☐ NHL ☐ DOE

9-Digit SHPO Review & Compliance Number _____

☐ Non-Extant (enter year) _____

1. Name of Property

historic name Building E -- John Deere Tractor Co.

other names/site number Building E -- John Deere Waterloo Tractor Works, Deere & Co. Component Works

2. Location

street & number 400 Westfield Ave.

city or town Waterloo

Legal Description: (If Rural) Township Name

☐ vicinity, county Black Hawk

Township No. Range No. Section Quarter of Quarter

(If Urban) Subdivision Red Cedar Addn.

Block(s) 6

Lot(s) _____

3. State/Federal Agency Certification [Skip this Section]

4. National Park Service Certification [Skip this Section]

5. Classification

Category of Property (Check only one box)

- ☒ building(s)
☐ district
☐ site
☐ structure
☐ object

Number of Resources within Property

If Non-Eligible Property

Enter number of:

_____ buildings
_____ sites
_____ structures
_____ objects
_____ Total

If Eligible Property, enter number of:

Contributing Noncontributing

_____ buildings
_____ sites
_____ structures
_____ objects
_____ Total

Name of related project report or multiple property study (Enter "N/A" if the property is not part of a multiple property examination).

Title

Deere & Company Westfield Plant:

Historical Architectural Data Base Number

Historical/Architectural Intensive Study of Selected Bldgs.

07-081

6. Function or Use

Historic Functions (Enter categories from instructions)

10A02 factory

Current Functions (Enter categories from instructions)

10A manufacturing facility

7. Description

Architectural Classification (Enter categories from instructions)

01 NO STYLE

08B International Style

Materials (Enter categories from instructions)

foundation 10 CONCRETE

walls 03 BRICK

roof unknown

other

Narrative Description (☒ SEE CONTINUATION SHEETS, WHICH MUST BE COMPLETED)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" representing your opinion of eligibility after applying relevant National Register criteria)

- ☒ Yes ☐ No ☐ More Research Recommended
☐ Yes ☐ No ☐ More Research Recommended
☐ Yes ☐ No ☒ More Research Recommended
☐ Yes ☐ No ☐ More Research Recommended

- A Property is associated with significant events.
B Property is associated with the lives of significant persons.
C Property has distinctive architectural characteristics.
D Property yields significant information in archaeology or history.

County Black Hawk
City Waterloo

Address 400 Westfield Ave.

Site Number 07-11222
District Number

Criteria Considerations

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

Areas of Significance (Enter categories from instructions)

01, 02, 17

Significant Dates

Construction date

1954 ☐ check if circa or estimated date

Other dates

Significant Person

(Complete if National Register Criterion B is marked above)

Architect/Builder

Architect

F. Searle Radcliffe

Builder

Narrative Statement of Significance (☒ SEE CONTINUATION SHEETS, WHICH MUST BE COMPLETED)

9. Major Bibliographical References

Bibliography ☒ See continuation sheet for citations of the books, articles, and other sources used in preparing this form

10. Geographic Data

UTM References (OPTIONAL)

Zone	Easting	Northing	Zone	Easting	Northing
1	_____	_____	2	_____	_____
3	_____	_____	4	_____	_____

☐ See continuation sheet for additional UTM references or comments

11. Form Prepared By

name/title Jan Olive Nash

organization Tallgrass Historians L.C.

date October 2006

street & number 2460 S. Riverside Drive

telephone 319.354.6722

city or town Iowa City

state IA

zip code 52246

ADDITIONAL DOCUMENTATION (Submit the following items with the completed form)

FOR ALL PROPERTIES

- Map:** showing the property's location in a town/city or township.
- Site plan:** showing position of buildings and structures on the site in relation to public road(s).
- Photographs:** representative black and white photos. If the photos are taken as part of a survey for which the Society is to be curator of the negatives or color slides, a photo/catalog sheet needs to be included with the negatives/slides and the following needs to be provided below on this particular inventory site:

Roll/slide sheet #	_____	Frame/slot #	_____	Date Taken	_____
Roll/slide sheet #	_____	Frame/slot #	_____	Date Taken	_____
Roll/slide sheet #	_____	Frame/slot #	_____	Date Taken	_____

☐ See continuation sheet or attached *photo & slide catalog sheet* for list of photo roll or slide entries.

☒ Photos/illustrations without negatives are also in this site inventory file.

FOR CERTAIN KINDS OF PROPERTIES, INCLUDE THE FOLLOWING AS WELL

- Farmstead & District:** (List of structures and buildings, known or estimated year built, and contributing or non-contributing status)
- Barn:**
 - A sketch of the frame/truss configuration in the form of drawing a typical middle bent of the barn.
 - A photograph of the loft showing the frame configuration along one side.
 - A sketch floor plan of the interior space arrangements along with the barn's exterior dimensions in feet.

State Historic Preservation Office (SHPO) Use Only Below This Line

Concur with above survey opinion on National Register eligibility: ☐ Yes ☐ No ☐ More Research Recommended

☐ This is a locally designated property or part of a locally designated district.

Comments: _____

Evaluated by (name/title): _____

Date: _____

Iowa Site Inventory Form Continuation Sheet

Related District Number

Page 1

Building E — John Deere Tractor Co.

Black Hawk

Name of Property

County

400 Westfield Ave.

Waterloo

Address

City

7. Description

This building is located roughly in the center of the historic core of the John Deere Tractor Co. plant site, along Westfield Ave. (formerly Miles St.). It appears to be a massive building, and is certainly one of the most visually prominent buildings on the site, despite its lower floors being obscured by smaller buildings. Building E's 6 stories are attached on the east to the 6 stories of the 1938-1939 R-1 building. It is attached to smaller, single-story buildings on the west end.

Plans for E building were drawn in 1953 by Deere & Company engineers in Moline, Illinois and it was constructed in 1954. The brick and concrete building was constructed on the former site of the Waterloo Gasoline Engine Co.'s third foundry, built in 1918. The old foundry, also designated as E, was a one-story concrete and brick building. New E building, with a footprint of about 150 by 450-feet, has an interior structure of mushroom-capped concrete pillars, set in a grid pattern with a span wider than R-1s. The pillars support concrete floors. Windows are multiple-light, metal sash, banded ribbons of glazing, except on a central section where they are separated by several courses of brick. Running bands of concrete sills unite the windows and emphasize the horizontal line. The central section of the building's south façade is both taller and bumped out from the plane of the rest of the wall surface. Upper interior floors are similar in construction to the ground level interior, which was visually inspected (Mike Schrage, Lockard Construction, to Jan Olive Nash, 25 September 2006).

Windows figure prominently in E building, as they do in attached R-1, but with a significant difference. E building's windows are narrow ribbons set high in the wall in relation to the interior floor where they are located, while R-1 windows are larger vertically and would more or less dominate the wall when viewed inside from the work floor. From the outside, E's ribbon windows are dwarfed in comparison to the massive scale of the building's red brick walls. The reduced window-to-wall proportions of E building suggests the arrival of more modern heating, air conditioning, and ventilation systems that do not rely on natural conditions or access to the outdoors. Released from this requirement for natural light and air, E building's appearance has been reduced to the most severely undecorated form possible.

Integrity is very good. Slight variations in brick color toward the west end suggest there might have been an early addition to the building.

8. Statement of Significance

The 1954 E building is the last John Deere assembly building in downtown Waterloo, home of the Waterloo Boy tractor and production point of every John Deere tractor built until the 1970s. The tractor is the product most identified with John Deere Company and the assembly process is the most publicly identifiable part of the process of manufacturing tractors. The assembly line is where the abstract parts that have been cast, milled, machined, heat treated, and painted in the hallmark green and yellow scheme elsewhere in the facility, come together to form the identifiable piece of equipment, the John Deere tractor. The E building, then, represents the part of the process of building a tractor that in the public's mind stands for and equates to the hugely important company that is John Deere.

With its construction at the middle of the twentieth century, E building also represents the peak of factory construction on the Westfield Avenue site. Nearly all parts and components used to construct a Deere tractor were fabricated on-site from the melting of cores and casting of rough parts, to the milling and machining of these parts to fit together, to the assembly of the tractors in E, and to their storage and shipment out to dealers all over the country.

E's architectural styling, like R-1's nearby, is plainly utilitarian in nature and continues to be mildly influenced by the waning International style, where cubic forms, ribbon windows, and an emphasis on the horizontal line are hallmarks, even in high-rises (Poppeliers, et al., 92). E building has significance under Criteria A and some potential under C and is eligible for the National Register of Historic Places.

**Iowa Site Inventory Form
Continuation Sheet**

Site Number **07-11222**

Related District Number

Page 3

Building E -- John Deere Tractor Co.

Name of Property

400 Westfield Ave.

Address

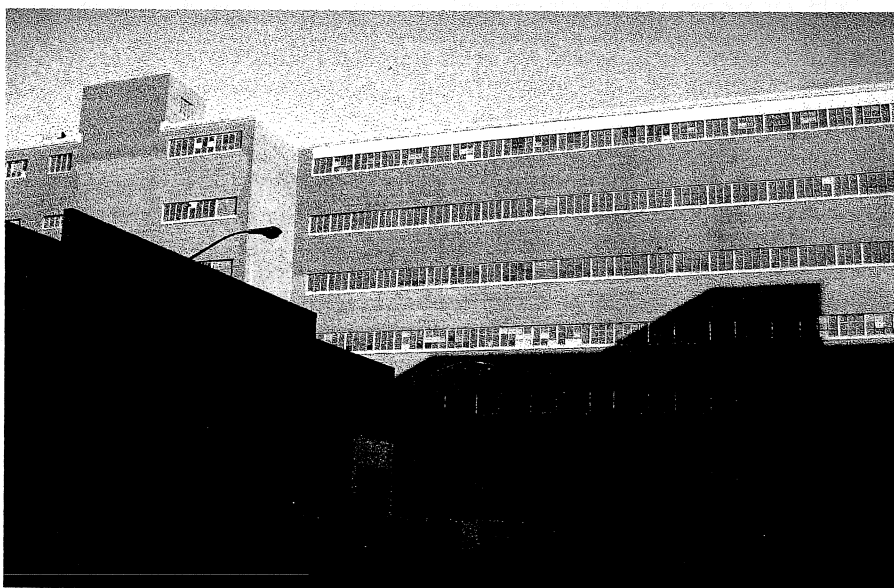
Black Hawk

County

Waterloo

City

Building E (1954), facing northwest (below) and facing north (bottom). The monitored roof and step-gable of the 1927 K building is seen across the bottom of both photographs. Tallgrass Historians L.C., Sept. 2006.



Iowa Site Inventory Form
Continuation Sheet

Site Number **07-11222**

Related District Number

Page 4

Building E -- John Deere Tractor Co.

Black Hawk

Name of Property

County

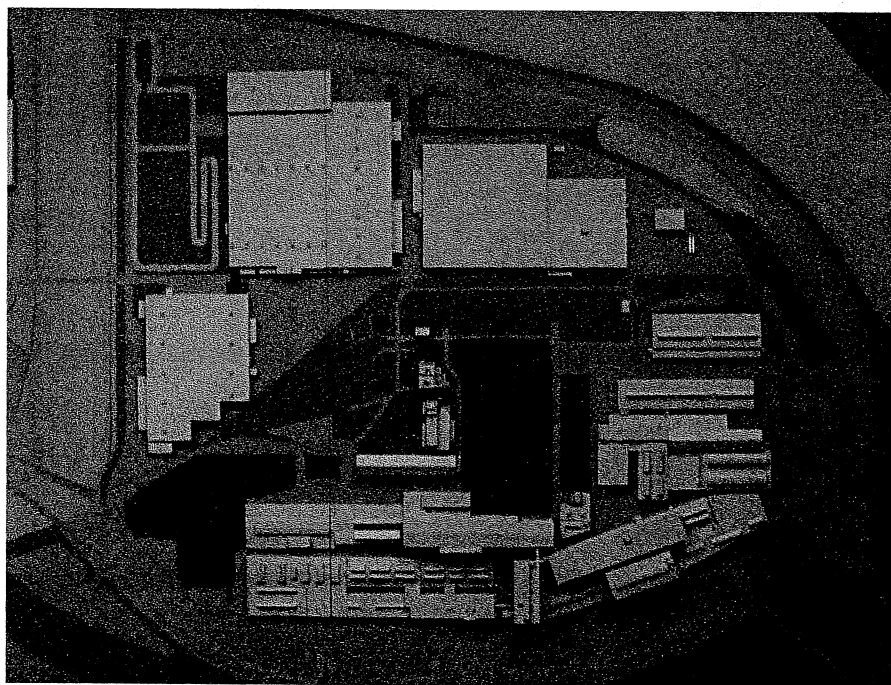
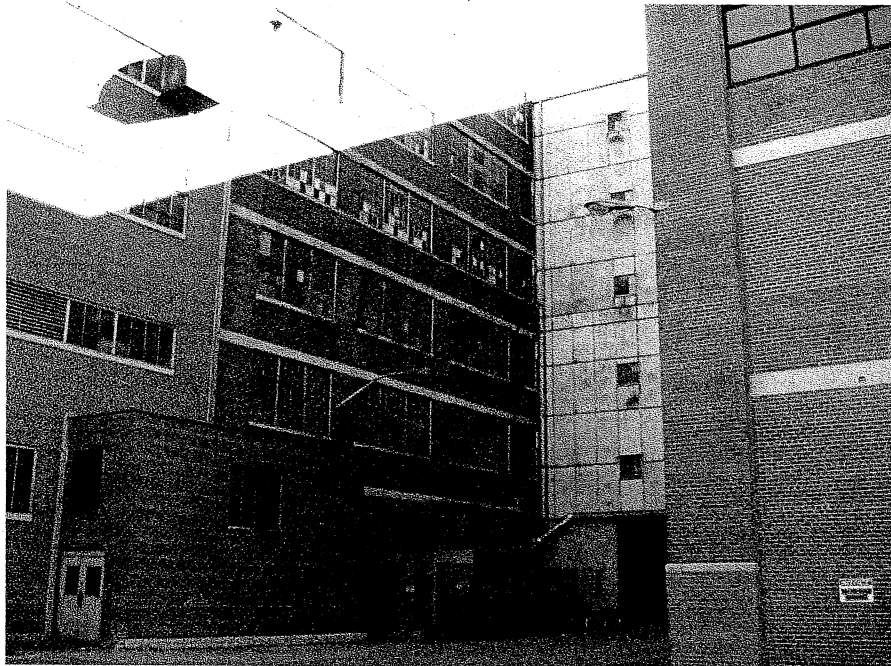
400 Westfield Ave.

Waterloo

Address

City

From left to right below, partially visible are: E, R-1, bridge structure, and R. Note the difference in window styles and conditions. R's windows are modern replacements. The bottom photo is a three-dimensional model of the Westfield Ave. plant located on the wall of a meeting room of one of the buildings.



Iowa Site Inventory Form Continuation Sheet

Site Number 07-11222

Related District Number

Page 5

Building E -- John Deere Tractor Co.

Name of Property

400 Westfield Ave.

Address

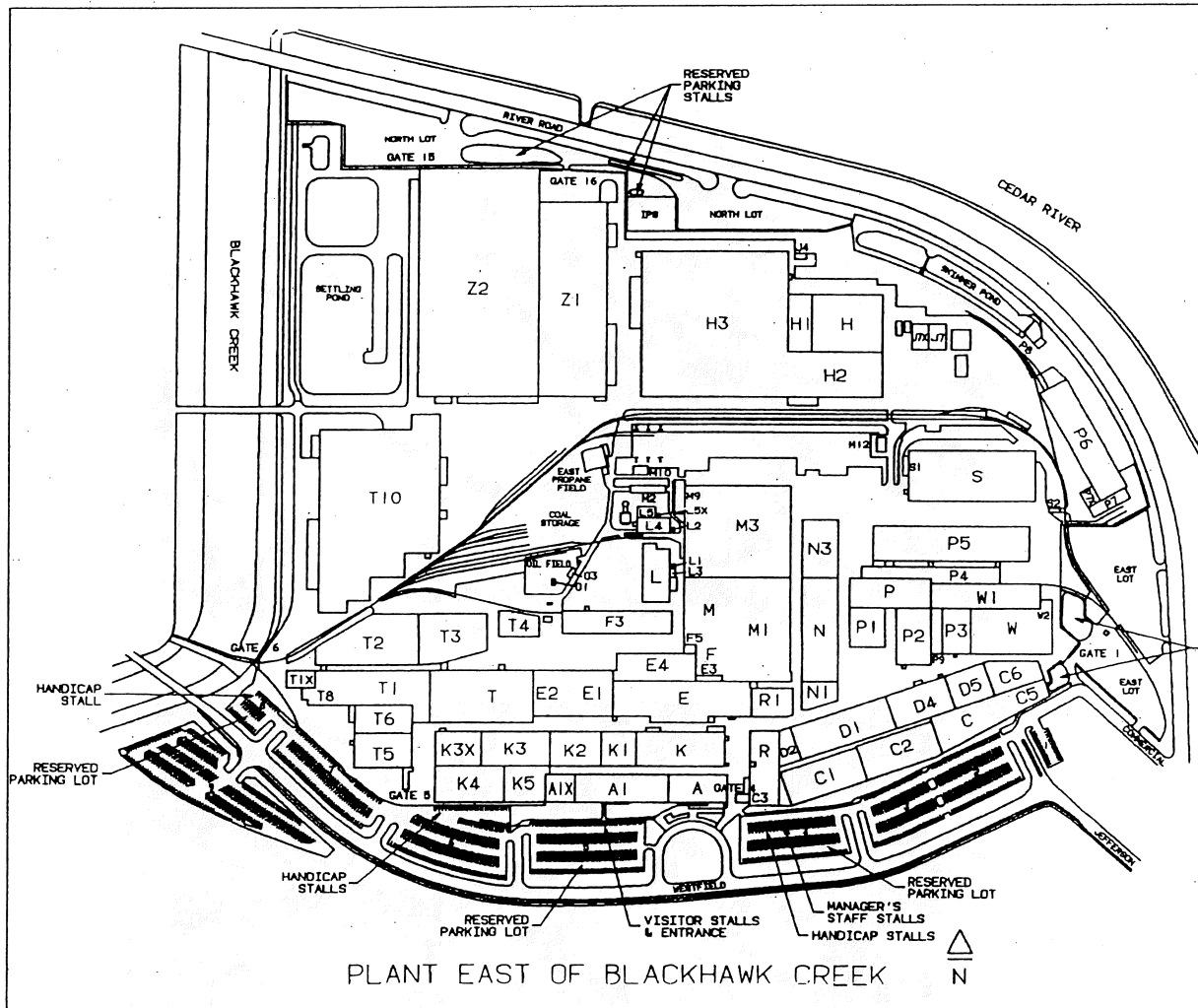
Black Hawk

County

Waterloo

City

Site plan showing location of Building E (plan courtesy of Deere & Co., 1993)



Historical Architectural Data Base

Data Entry Form for Studies and Reports

Doc. No.: 07-081

Source of Study: ☐ Certified Local Government Project ☒ Section 106 Review & Compliance Project
☐ Historical Resource Development Program Project ☐ Other

Project Reference #: _____

Authors/Editor/Compiler/Originator:

Jan Olive Nash, Tallgrass Historians L.C.

Author Role: ☒ Consultant ☐ Private Researcher/Writer ☐ Teacher ☐ Student
☐ Project employee/volunteer ☐ Site Administrator ☒ Other: Historian

Title of Work:

Deere & Company Westfield Plant: Historical/Architectural Intensive Study of Selected

Buildings

Waterloo, Black Hawk County, Iowa

Year Issued: 2006

Type of Work Performed:

(check one only)

Survey:

- ☐ Windshield survey minimum level documentation
- ☐ Reconnaissance survey to make recommendations for intensive survey(s).
- ☒ Intensive survey
- ☐ Mixed intensive and reconnaissance survey

Plan:

- ☐ Planning for Preservation/Survey
- ☐ Community Preservation Plan

Property Study:

- | | |
|--|---|
| <input type="checkbox"/> Iowa Historic Property Documentation Study | <input type="checkbox"/> Historic Structure Report |
| <input type="checkbox"/> Historic American Building Survey (HABS) | <input type="checkbox"/> Feasibility/Re-use Study |
| <input type="checkbox"/> Historic American Engineering Record (HAER) | <input type="checkbox"/> Architectural/Engineering Plans and Specs. |
| <input type="checkbox"/> Management or Master Plan | |

National Register:

- ☐ Multiple Property Documentation Form

Other (e.g., private research, school project, video): _____

Deere & Company Westfield Plant: Historical/Architectural Intensive Study of Selected

Buildings

Waterloo, Black Hawk County, Iowa

07-081

Kind of Work Produced:

(fill in one section only: Report or Monograph or Chapter, etc.)

Report: Published/produced by: Tallgrass Historians L.C.

Place issued: 2460 S. Riverside Drive, Iowa City, IA 52246

Client: City of Waterloo, c/o Donald J. Temeyer, Community Planning Director

If applicable, include:

Series Title: _____

Volume #: _____ Report #: _____

Monograph: Publisher Name: _____

Place: _____

Chapter: In: _____ First pg. #: _____ Last pg. #: _____

Journal: Name: _____ Vol. _____ No. _____ Pages: _____ to _____

Thesis: Degree (check one): ☐ Ph.D. ☐ LL.D. ☐ M.A. ☐ M.S. ☐ B.A. ☐ B.S.

Name of College/University: _____

Paper: Meeting: _____

Place: _____

Other: _____

Geographic Scope of Study:

☒ City/town ☐ Township(s) ☐ County ☐ Region of Iowa ☐ Statewide ☐ Other: _____

State: IA

County: Black Hawk

Town: Waterloo

Township: _____

Range: _____

Time Focus: (check any decades that receive particular attention)

☐ before 1830 ☐ 1830s ☐ 1840s ☐ 1850s ☐ 1860s ☐ 1870s ☐ 1880s ☐ 1890s

☐ 1900s ☐ 1910s ☒ 1920s ☒ 1930s ☒ 1940s ☒ 1950s ☐ 1960s ☐ 1970s ☐ 1980/later

Keyword: (Index of any subjects, topics, or people given prominent attention in the report)

John Froelich

Waterloo Boy

Louis Witry

Waterloo Gasoline Enginue Co.

John Deere

Deere & Company

tractor

John Deere Tractor Co.

