SOUTH WATERLOO BUSINESS PARK SITE CERTIFICATION: PHASE I ARCHAEOLOGICAL INVESTIGATION

City of Waterloo, Black Hawk County, Iowa

Iowa Economic Development Authority Site Certification Program

Tallgrass Historians Report No. TH15-633--2

submitted to

City of Waterloo
715 Mulberry Street
Waterloo, IA 50703

submitted by

Tallgrass Historians L.C.
Leah D. Rogers, Principal Investigator and
Cindy L. Nagel, Research Associate
Tallgrass Historians L.C.
2460 South Riverside Dr.
Iowa City, IA 52246

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ABSTRACT

The Phase I archaeological investigation of the proposed South Waterloo Business Park Site Certification in the City of Waterloo, Black Hawk County, Iowa, examined a project area totaling 185 ac (75 ha), with three soil cores extracted. The field investigation found no archaeological sites and no further archaeological investigation appears warranted for the proposed project.

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INTRODUCTION

The following is a Phase I archaeological investigation for the proposed South Waterloo Business Park Site Certification in the City of Waterloo, Black Hawk County, Iowa (Figures 1-2). The proposed project will involve development of what is currently agricultural land at the southeast corner of the intersection of Ansborough Avenue and U.S. Highway 20. The project is being developed under the auspices of the Iowa Economic Development Authority's (IDEA) Site Certification Program. The Phase I archaeological investigation study is being undertaken under the guidelines outlined in the the Memorandum of Understanding (MOU) between the IEDA and the Iowa State Historic Preservation Office (SHPO) dated February 18, 2014. The Phase I investigation was recommended for a portion of the project area based on the previous Phase IA Archaeological Assessment (Rogers 2015). The Phase I investigation was conducted by Tallgrass Historians L.C. of Iowa City, Iowa, for the City of Waterloo, Iowa. There are no standing buildings or structures within the project area.

The purpose of this Phase I Archaeological Investigation is to identify and delineate archaeological resources within the study area in order to complete the assessment as to whether any archaeological site eligible for inclusion in the National Register of Historic Places (NRHP) may be present in the project area.

The area examined to the Phase I level of investigation is specifically located in part of the SW1/4, NE1/4, the SE1/4, NW1/4, part of the SW1/4, NW1/4, and the north 3/4 of the SW1/4 of Section 9, T88N-R13W, Orange Township, Black Hawk County, Iowa (see Figure 1). **The Phase I Archaeological Investigation totaled an area of 185 ac (75 ha) in size** (see Figure 2).

ENVIRONMENTAL CONTEXT

The project area is located within the general landform region known as the Iowan Surface (Prior 1991) (Figure 3). This region is characterized by slightly inclined to gently rolling hills with long slopes, low relief, and open views to the horizon. The slopes of the Iowan Surface are described as having multi-leveled or stepped surfaces. This region was last glaciated in Pre-Illinoian times and has since been exposed to various episodes of weathering, soil development, erosion, and loess deposition. Another typical feature of the Iowan Surface is the presence of glacial erratics composed of igneous and metamorphic rock from Canada, Minnesota, and Wisconsin left behind from the Pre-Illinoian glaciers. Glacial erratics are commonly found along shallow valleys and are larger in size than the glacial erratics found on the Des Moines Lobe. Elongated ridges and isolated oblong hills known as pahas are also characteristic of the Iowan Surface (Prior 1991:68-73).

The landforms within the study area consist of a broad, nearly level upland divide summit, shoulder and side slopes with the upper reaches of an intermittent drainage in the southeast quadrant of the project area. The soils mapped within the study area are all upland soil types that developed in silty or loamy sediments and the underlying till on dissected glacial till plains on the Iowan Surface (Soil Survey Staff 2015) (Figure 4). All of the mapped soil types are shallow to glacial till and would have a low potential for deeply buried archaeological sites, particularly in locations where intensive cultivation has resulted in soil depletion and erosion (Artz 2005). It would be expected that if any archaeological sites are present, they would be in a surface to near-surface context within this project area.

There are 10 soil types mapped within the project boundary (Figure 4) (Web Soils Survey 2015). These include: Kenyon loams, 2 to 5 percent slopes (keyed as 83B on Figure 4) and 5 to 9 percent slopes (83C2), shallow to glacial till; Klinger silty clay loam, 1 to 3 percent slopes, shallow to till (184); Dinsdale silty clay loams, 2 to 5 percent slopes (377B), 5 to 9 percent slopes (377C), and 5 to 9 percent slopes, moderately eroded (377C2) with all being shallow to glacial till; Maxfield silty clay loam, 0 to 2

percent slopes, shallow to glacial till (382); Clyde-Floyd Complex, 1 to 4 percent slopes, shallow to glacial till (391B); Aredale loam, 5 to 9 percent slopes (426C) and 5 to 9 percent slopes, moderately eroded (426C2), with both shallow to glacial till (Soil Survey Staff 2015). Specifically, Artz (2005) provides the following defining characteristics for these sediment types:

Shallow to pre-Wisconsinan Till
- pre-Illinoian till occurs within 150 cm of the surface under a surface mantle of hillslope or erosion surface sediments
- soils of these series form in pre-Wisconsinan hillslope and alluvial sediments on uplands.
- NRCS Map Units for these series are on uplands and upland drainageways

Aredale series consists of very deep, well drained soils on uplands. These soils formed in loamy surficial sediments and the underlying loamy glacial till. The native vegetation consisted of tall grass prairie. A typical profile for Aredale soil is: Ap-A1-A2-Bw1-Bw2-2Bw3-3BC (Soil Survey Staff 2015).

The Clyde series consists of very deep, poorly and very poorly drained soils that formed in 75 to 150 centimeters of loamy glacial outwash or erosional sediments and the underlying loamy till. Native vegetation was species of tall grass prairie tolerant of excessive wetness. A typical profile for Aredale soil is: A-AB-Bg1-Bg2-Bg3-2BCg-2BC (Soil Survey Staff 2015).

The Floyd series consists of very deep, somewhat poorly drained soils that formed in 75 to 150 centimeters of loamy sediments and in the underlying till. Native vegetation was tall grass prairie. A typical profile for Floyd series is: A1-A2-Bw1-Bw2-2Bw3-2BC 3BC (Soil Survey Staff 2015).

The Kenyon series consists of very deep, moderately well drained soils that formed in 30 to 75 centimeters of silty or loamy sediments and the underlying till. The native vegetation was tall grass prairie. A typical profile for Kenyon series is: Ap-AB-2Bw1-2Bw2-2BC1-2BC2 (Soil Survey Staff 2015).

The Klinger series consists of very deep, somewhat poorly drained soils that formed in 50 to 102 centimeters of loess and the underlying glacial till. The native vegetation was tall grass prairie. A typical profile for Klinger series is: Ap-A-AB-Bg1-2Bg2-2Bg3-2BC1-2BC2 (Soil Survey Staff 2015).

HISTORIC CONTEXTS

Prehistoric Period

In general, one could encounter prehistoric sites in the Black Hawk County area dating from the full range of known prehistory in Iowa from Paleoindian (beginning around 11,000-11,500 years ago) through the early Historic periods. Site types that could be expected in the project area could include resource procurement and processing sites.

The project area is located some distance from major creeks and rivers suggesting a location that would not have been likely used for long-term camp sites during the prehistoric period. However, it could have been a location crossed during hunting and gathering trips and travels between the rivers and creek resulting in some sparse prehistoric archaeological sites. Such sites would likely have been impacted by intensive cultivation and erosion and may not possess sufficient integrity to be considered eligible for the NRHP.

No prehistoric sites were previously recorded within two miles of the current project area. The nearest (within three miles) previously recorded site is 13BH115, which is a historic dump site. That site was recommended for no further archaeological investigation and was recommended as ineligible for the National Register of Historic Places (I-Sites Pro 2015).

Historic Period

At the time of the original land surveys by the General Land Office in 1846, the project area was in open prairie grasses, with no indication of settlement at that time (Figure 5). The initial historic period settlements would have avoided open stretches of prairie such as this location because of the initial difficulty of breaking the thick prairie sod. With the mass production of John Deere's steel scouring plow in the 1860s, the open prairie lands were then quickly settled and developed as rich farm ground.

By1869, the project area had been fully entered by settlers with farmsteads established north and southwest of the study area (see Figure 5). However, the 1869 map did not depict any houses within the boundaries of the current project area (see Figure 5).

The 1875 map depicted two school houses (No. 3 and No. 13) in the northeast and southwest corners of Section 9 (Figure 6). However, both locations are outside of the current project area.

The 1887, 1896, and 1910 plat maps continued to show the project area devoid of houses, with the farmsteads located north, east, west and south of the project boundary (see Figures 6 and 7). The 1910 plat map shows that the area's farms included both livestock and dairy farms. One of the schoolhouses (School No. 2) was still present in the northeast corner of Section 9 through at least 1910 (see Figure 7).

Figures 8-12 are aerial photographs of the project area. These images show that the project area consisted of agricultural fields throughout the 20th and early 21st centuries. The only major changes in the project area vicinity have been the construction of U.S. Highway 20 by 1994 and the construction of the current Ansborough Avenue interchange with U.S. Highway 20 in 2006 (see Figures 10-11).

RESEARCH DESIGN AND METHODOLOGY

The primary objective of the Phase I investigation was to locate and evaluate archaeological resources within the study area of the proposed project corridor. Any site encountered was evaluated as to potential NRHP eligibility. The purpose of this Phase I investigation was to provide the reviewing agencies with documentation of the project's potential impact on historic properties. An additional objective was to add to the body of knowledge concerning the prehistoric and historic resources of the Waterloo vicinity.

The Phase I investigation was divided into three stages: preliminary documentary research, field survey, and analysis/evaluation. The preliminary research consisted of an examination of all available professional reports and literature applicable to the project area; a search of previously recorded archaeological sites and survey areas accessed online at I-Sites Pro: an Online GIS and Database for Iowa Archaeology maintained by the Office of the State Archaeologist and accessed through the Iowa Department of Transportation portal; the National Archaeological Data Base (NADB) files also accessed through I-Sites Pro; other online databases including the Iowa Geographic Map Server (aerial photographs, 1800s vegetation maps) maintained by Iowa State University and the Web Soil Survey (soil survey maps); and the historic maps and atlases available for the study area on file at the State Historical Society of Iowa library in Iowa City; and previous cultural resource studies in the project area vicinity.

The field survey was conducted on November 4, 2015. Leah Rogers of Tallgrass Historians L.C. served as Principal Investigator whereas Research Associates, Dan McCullough and Lisa Goffstein conducted the fieldwork.

The investigation included an intensive pedestrian surface survey of those areas within the study are recommended for Phase I investigation by the Phase IA assessment study (Rogers 2015). Eliminated areas included that portion of the northwest corner of the study area that had been previously surveyed to the Phase I level in 2003 (Figure 13) and areas within the drainageways that have been altered by agricultural activities in the modern era (see Figures 10-12). The entire project area was located in an agricultural field of harvested soybeans affording a surface visibility of 75% or better (Plates 1-8). As a result, intensive subsurface testing was not warranted. However, three (3) soil core samples were

extracted to evaluate the soil profiles. Soil profiles were described by the Research Associates using standard Munsell soil color and textural descriptions.

The analysis/evaluation stage of the project involved processing the field data with consideration of the documentary research. The project report was co-authored by Research Associate Cindy L. Nagel and the Principal Investigator, Leah D. Rogers, who is solely responsible for the content and accuracy of this report with respect to site location, description, and evaluation. A National Archaeological Data Base (NADB) form was completed for this report and is included in the Appendix.

RESULTS OF THE INVESTIGATION

Previous Investigations

The current project area was partially surveyed by a previous Phase I investigation that included the northwest corner of the project area (Figure 13). Another previous survey included the far western edge of the project area along Ansborough Avenue south of U.S. Highway 20 (see Figure 13). The results of these two previous surveys were reported in the following (R&C numbers keyed to Figure 13):

R&C Number: 030807089
STEPHENSON, DAVID J.
2003 PHASE 1 INTENSIVE SURVEY OF THE PROPOSED ANSBOROUGH AVENUE/U.S. HIGHWAY 20 INTERCHANGE, SECTIONS 8 AND 9, BLACK HAWK COUNTY, IOWA. CCR 1100. OFFICE OF THE STATE ARCHAEOLOGIST, UNIVERSITY OF IOWA, IOWA CITY, IA.

Area Surveyed: 66.8 ACRES
Quadrangle(s): HUDSON, IOWA, WATERLOO S, IOWA
Township(s): T0880N R0130W
Site(s): no sites found

R&C Number: 090707076
NAGEL, CINDY L. AND LEAH D. ROGERS
2009 WEST SHAULIS ROAD EXTENSION OF THE ANSBOROUGH AVENUE SECTION: PHASE I ARCHAEOLOGICAL INVESTIGATION, CITY OF WATERLOO, BLACK HAWK COUNTY, IOWA. TALLGRASS HISTORIANS L.C., IOWA CITY, IA. SUBMITTED TO KIRKHAM MICHAEL, DES MOINES, IOWA.

Area Surveyed: 7.5 ACRES
Quadrangle(s): HUDSON, IOWA, WATERLOO S, IOWA
Township(s): T0880N R0130W
Site(s): no sites found

There have been no previously recorded archaeological sites in the current study area or its immediate vicinity (see Figure 13). However, there have been 11 architectural properties that were recorded for the U.S. Highway 20 and Ansborough Avenue projects, with the locations of those properties shown on Figure 14. All of these architectural properties were recommended as ineligible for the National Register of Historic Places (NRHP) and warrant no further investigation (I-Sites Pro 2015; Nash 2003).

Current Investigation

The field investigation for the current project was conducted on November 4, 2015, by Research Associates, Dan McCullough and Lisa Goffstein, under the overall direction of the Principal Investigator.

The location had been previously assessed to have some archaeological potential and was recommended for Phase I investigation of those areas within the study area that had not been previously surveyed (Rogers 2015; see also Figure 13).

The project area had been harvested of soybeans by the time of the field investigation, with surface visibility found to be 75% or better (see Plates 1-8; Figures 15-16). Therefore, the field investigation consisted of an intensive pedestrian surface survey conducted in parallel transects no greater than 15 m apart. To supplement the surface survey, three soil cores were extracted using an Oakfield soil probe, with the profiles described (see Figures 15-16). These profiles are presented below and generally show a surface eroded into the subsoil, with the erosion also seen in a shallow gully in the northeastern part of the field (see also Plates 7 and 8).

SC1
0-40 plow zone; very dark grayish brown (10YR 3/2) silty clay loam
40-65 brown (10YR 4/3) silty clay loam with dark yellowish brown (10YR 3/4) mottling
65-70 yellowish brown (10YR 5/6) silty clay loam

SC2
0-30 plow zone; very dark grayish brown (10YR 3/2) silt loam
30-50 dark grayish brown (10YR 4/2) silty clay loam
50-80 brown (10YR 5/3) silty clay loam

SC3
0-35 plow zone; very dark gray (10YR 3/1) silt loam
35-57 dark grayish brown (10YR 4/2) silty clay loam
57-80 brown (10YR 5/3) silty clay loam

No cultural material was observed, with the only rocks observed being naturally-occurring glacial till cobbles and rocks (see Plate 8). As a result, no archaeological sites were recorded during the current survey.

MANAGEMENT RECOMMENDATIONS

The Phase I archaeological investigation of the proposed South Waterloo Business Park Site Certification in the City of Waterloo, Black Hawk County, Iowa, examined a project area totaling 185 ac (75 ha), with three soil cores extracted. The field investigation found no archaeological sites and no further archaeological investigation appears warranted for the proposed project.

As always, it should be noted that no field technique is completely adequate to define all potential cultural resources within a given area. Therefore, should any additional cultural resources (including human remains) be detected during construction, the State Historic Preservation Office in Des Moines should be notified immediately. It is the responsibility of the contractor to protect cultural resources from disturbance until a professional examination can be made or until clearance to proceed is authorized by the SHPO or a designated representative.

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2005 Ackmore to Zwingle: Soil Series of Iowa. Accessed at http://www.iowaisites.com, November 2015.

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1887 *Map of Black Hawk County, Iowa.* Sedgwick Brothers and Stilson, Waterloo.

Soil Survey Staff
2015 Official Soil Series Descriptions. Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Accessed at http://soils.usda.gov/technical/classification/osd/index.html, October 2015.

Stephenson, David J.
2003 *Phase I Intensive Survey of the Proposed Ansborough Avenue/U.S. Highway 20 Interchange, Sections 8 and 9, Black Hawk County, Iowa.* Contract Completion Report 1100. Office of the State Archaeologist, University of Iowa, Iowa City, Iowa.

Thompson and Everts
1869 *Map of Black Hawk County, Iowa.* Thompson and Everts, Geneva, Illinois.

United States
1846 General Land Office original survey plat of T88N-R13W. Digitized version of original plats accessed at the Iowa Geographic Map Server 2015.

Web Soil Survey
2015 *Soil Survey of Black Hawk County, Iowa*. National Resources Conservation Service. United States Department of Agriculture. Accessed at www.websoilsurvey. nrcs.usda.gov.app. WebSoilSurvey.aspx, October 2015.

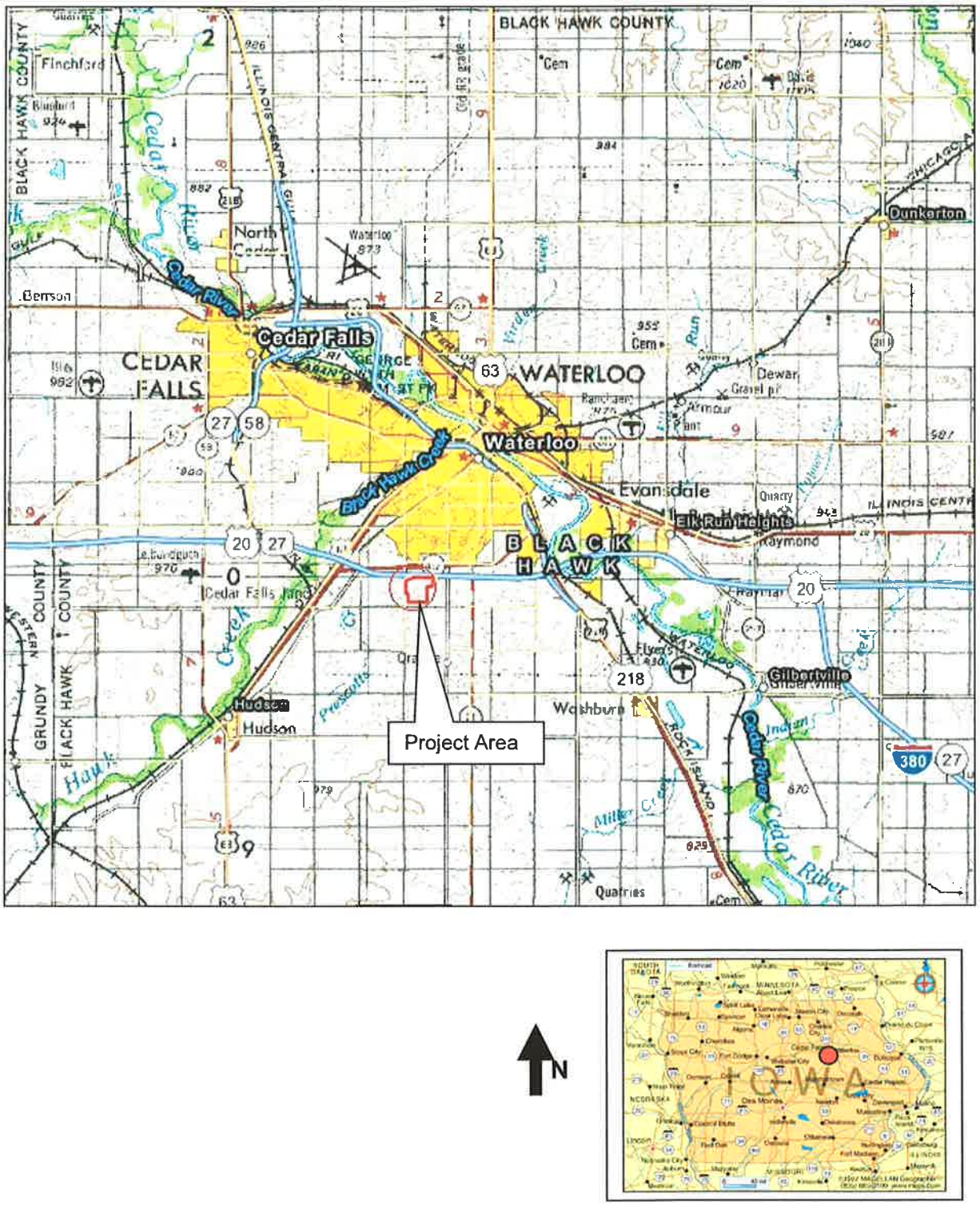


Figure 1. General location of project survey area (red outline) in the Waterloo vicinity. Source: USGS Black Hawk County topographic map obtained from ExpertGPS mapping software, 2015.

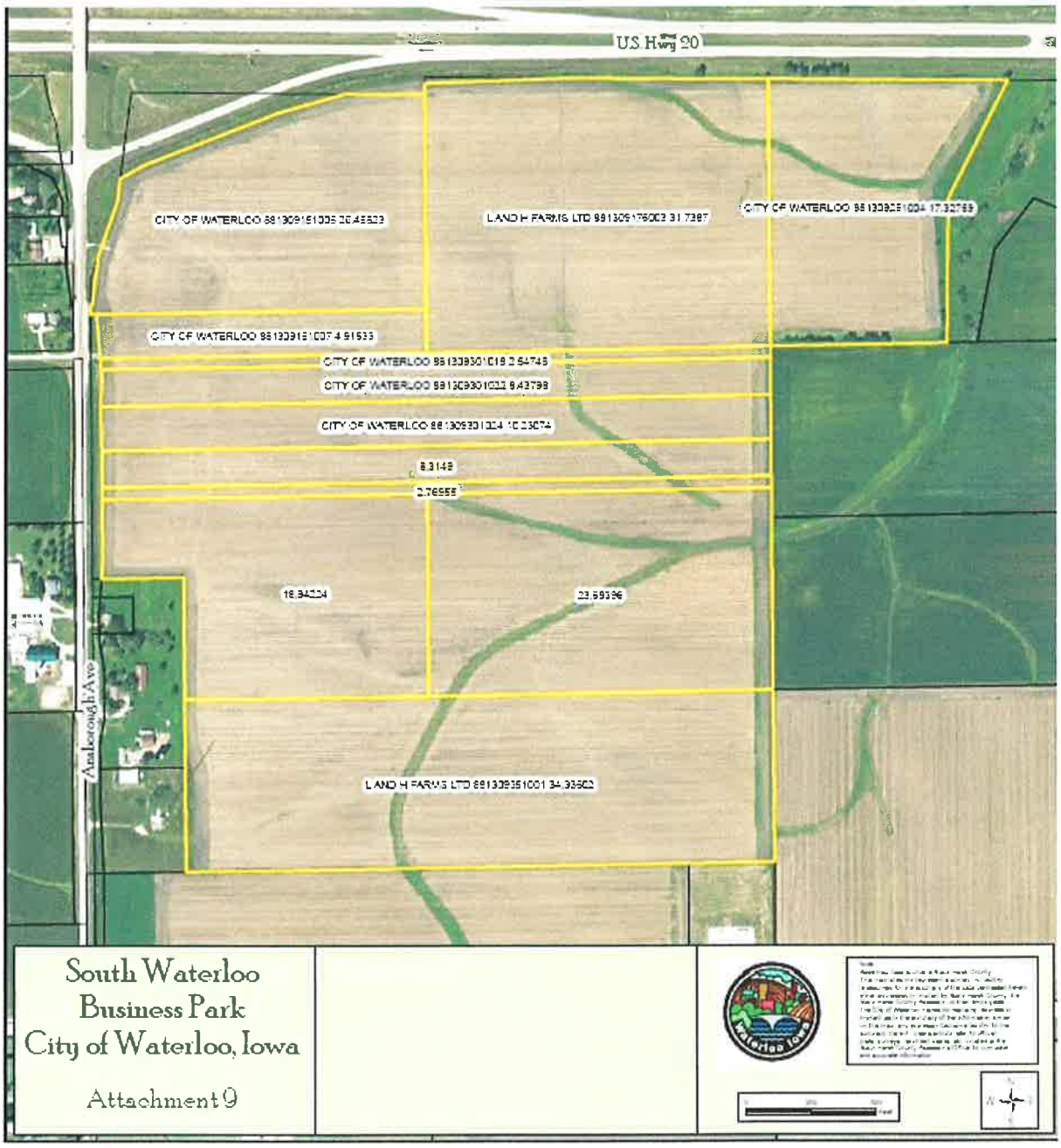


Figure 2. Aerial map of project survey area (yellow outline).
Map provided by the City of Waterloo, Engineering Department, 2015

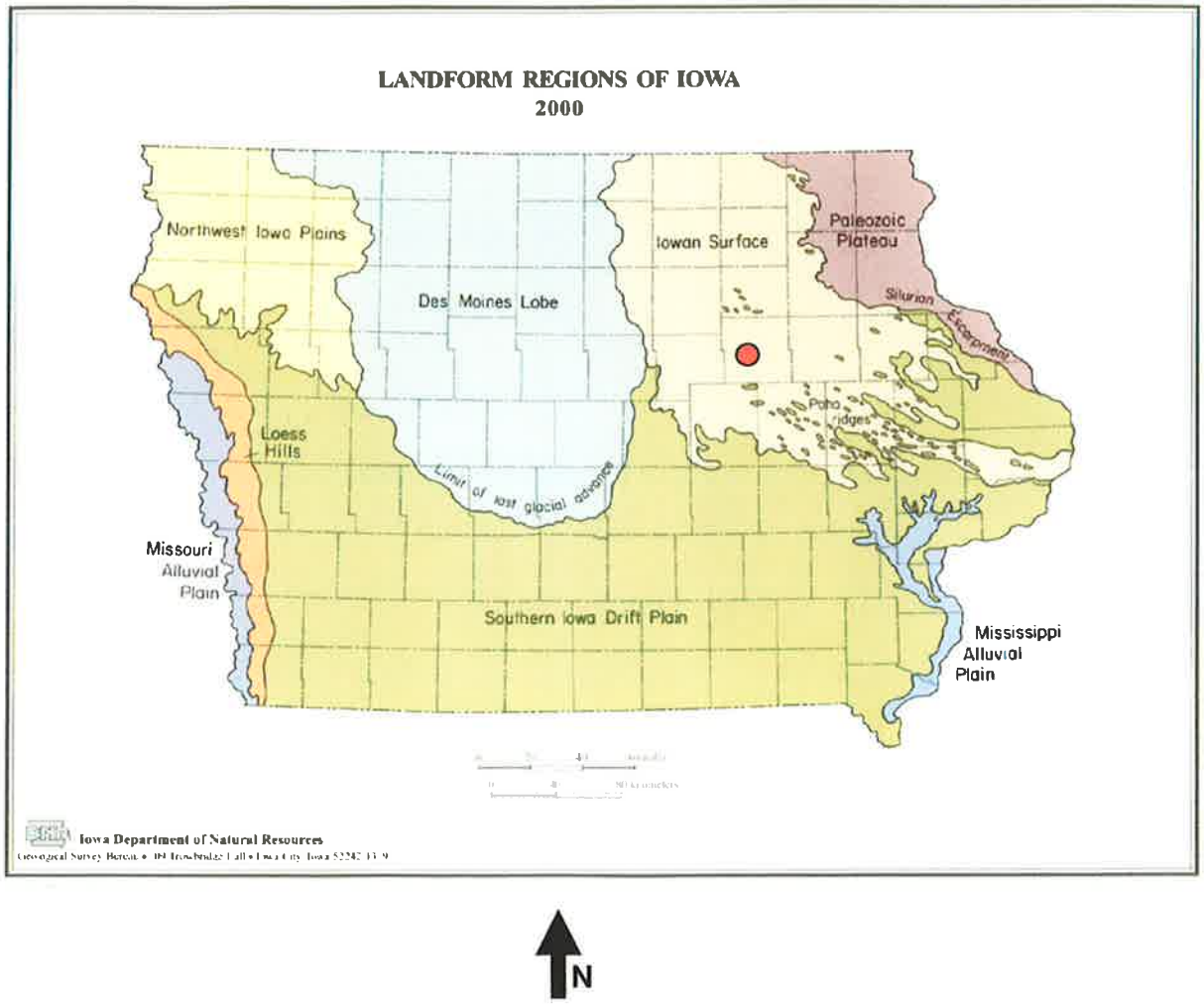
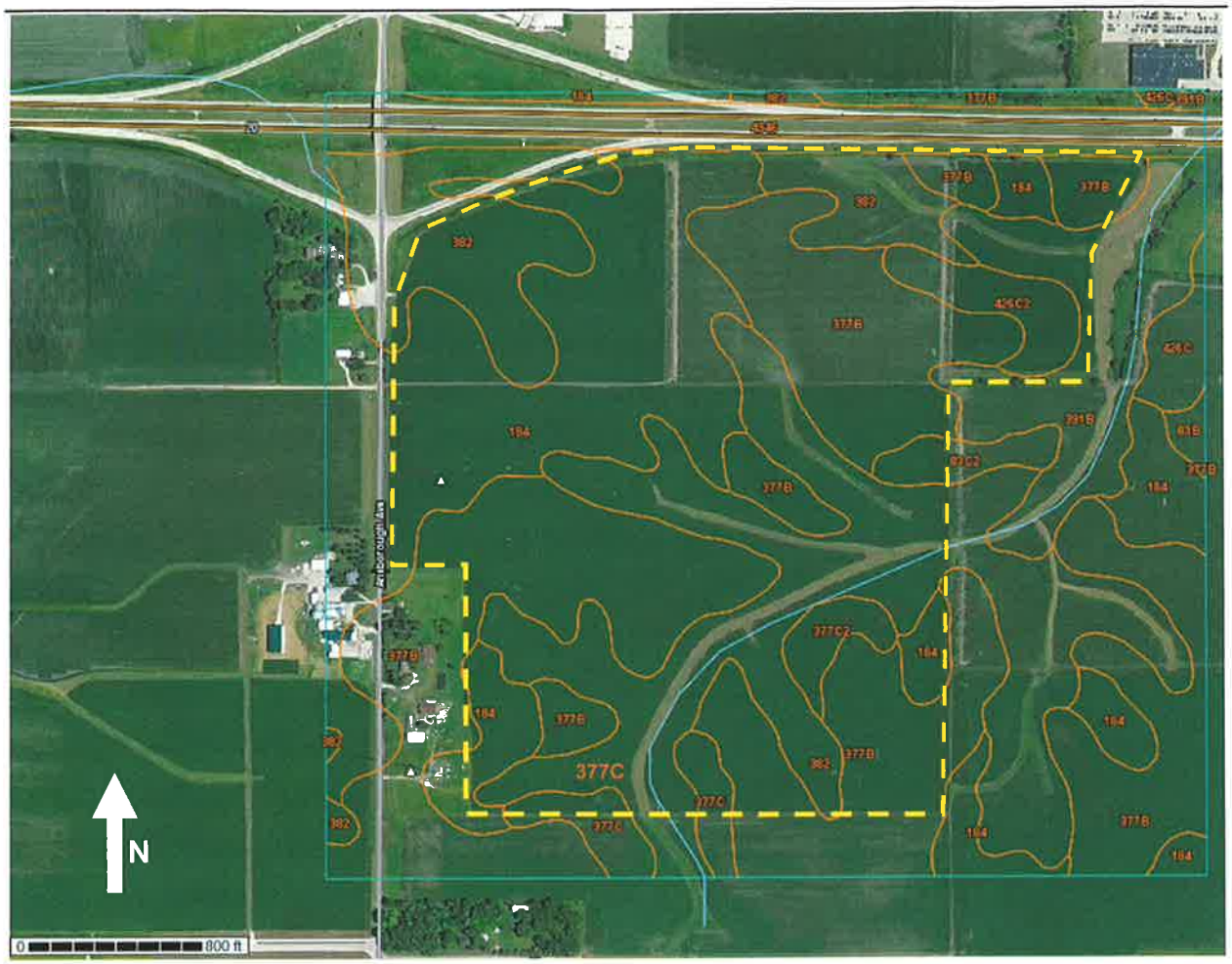
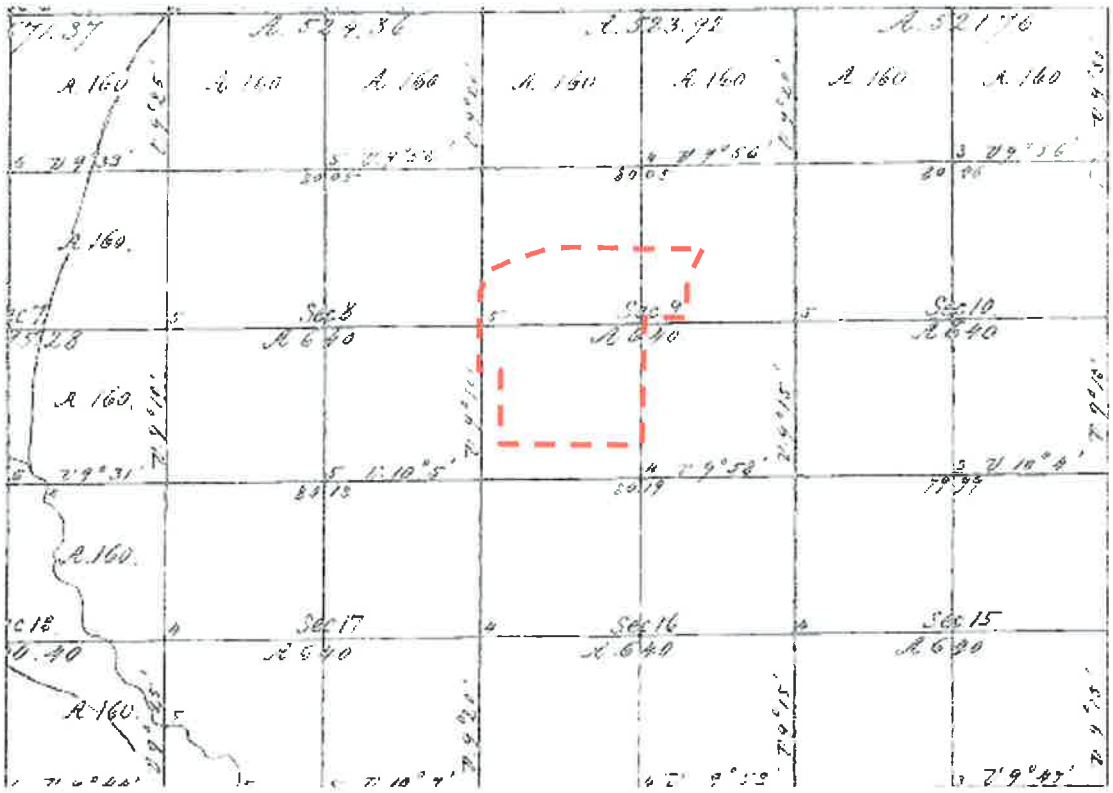


Figure 3. Landform regions of Iowa showing general project location (red dot)
Source: Iowa Department of Natural Resources, 2000



Map Unit Symbol	Map Unit Name
83B	Kenyon loam, 2 to 5 percent slopes, shallow to glacial till
83C2	Kenyon loam, 5 to 9 percent slopes, eroded, shallow to glacial till
184	Klinger silty clay loam, 1 to 3 percent slopes, shallow to glacial till
377B	Dinsdale silty clay loam, 2 to 5 percent slopes, shallow to glacial till
377C	Dinsdale silty clay loam, 5 to 9 percent slopes, shallow to glacial till
377C2	Dinsdale silty clay loam, 5 to 9 percent slopes, moderately eroded, shallow to glacial till
382	Maxfield silty clay loam, 0 to 2 percent slopes, shallow to glacial till
391B	Clyde-Floyd complex, 1 to 4 percent slopes, shallow to glacial till
426C	Aredale loam, 5 to 9 percent slopes, shallow to glacial till
426C2	Aredale loam, 5 to 9 percent slopes, moderately eroded, shallow to glacial till
4946	Orthents-urban land complex, modified land/altered or removed soils

Figure 4. Soil survey map showing mapped soil types within project survey area (dashed yellow outline). Sources: Artz 2005; Soil Survey Staff 2015; Web Soil Survey 2015



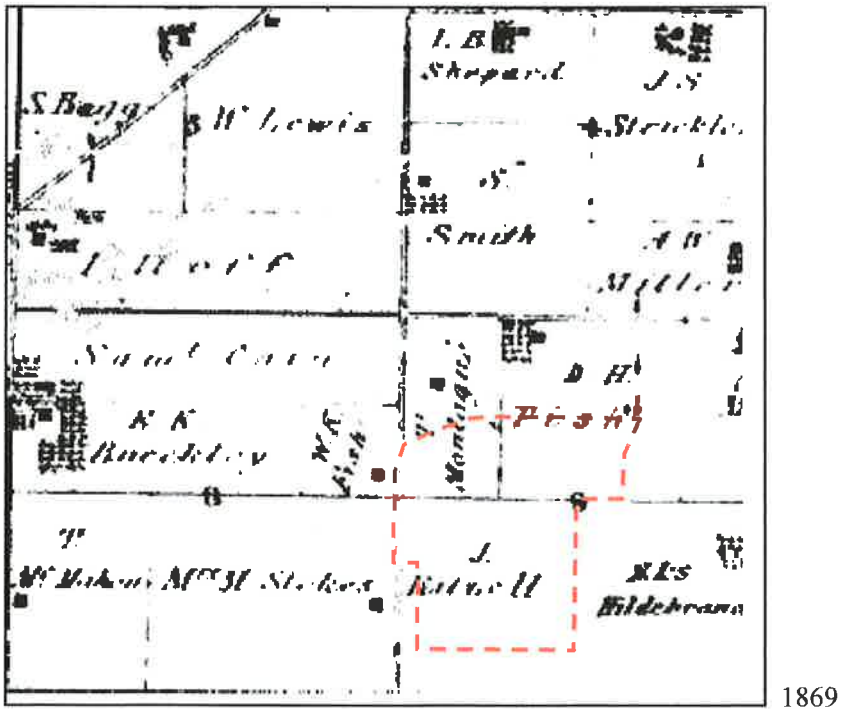
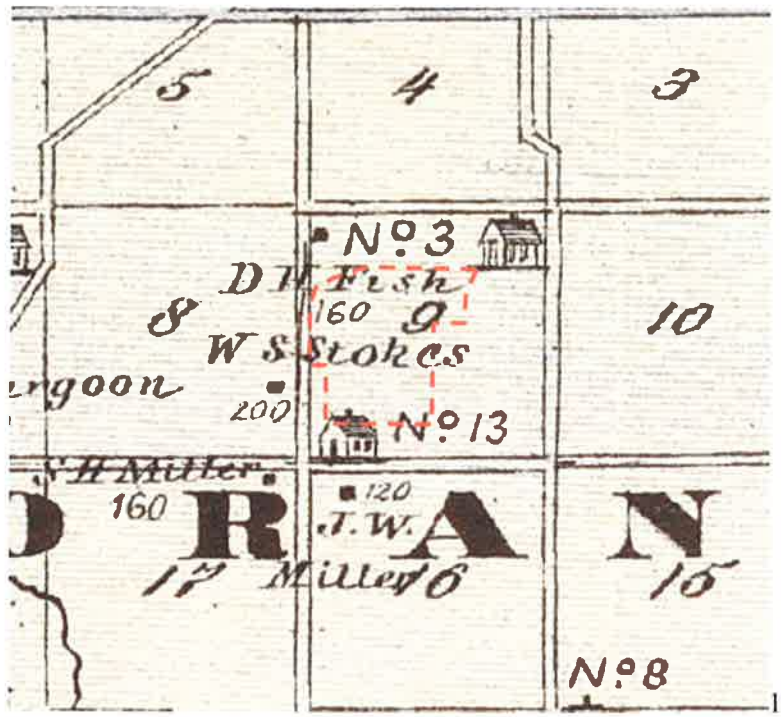
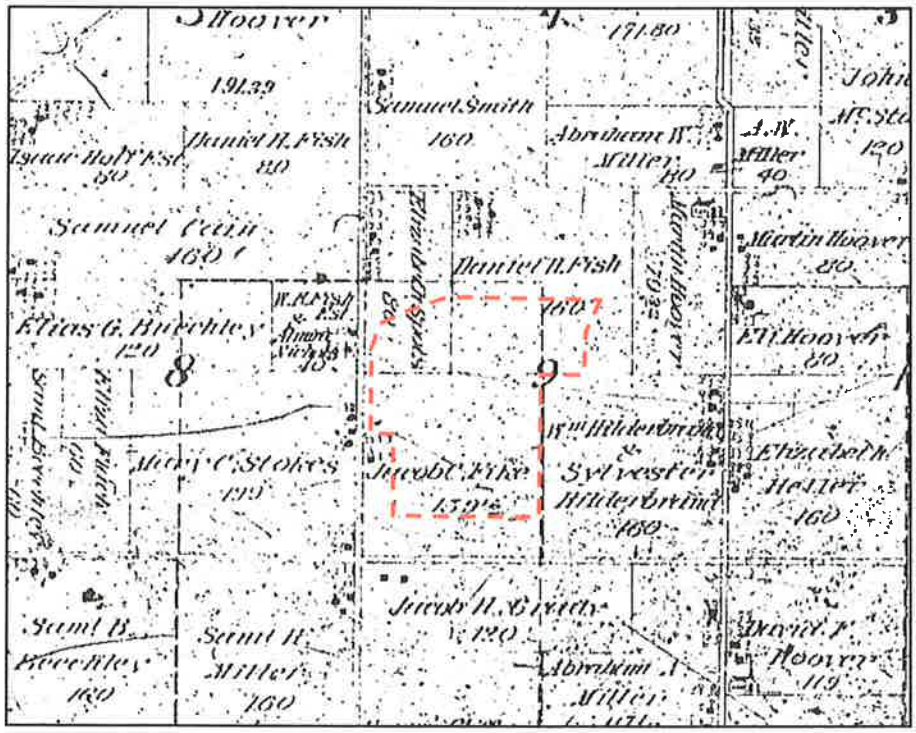


Figure 5. Historic plat maps showing approximate survey area (red dashed outlines). Sources: Thompson and Everts 1869; United States 1846 obtained from Iowa Geographic Map Server 2015



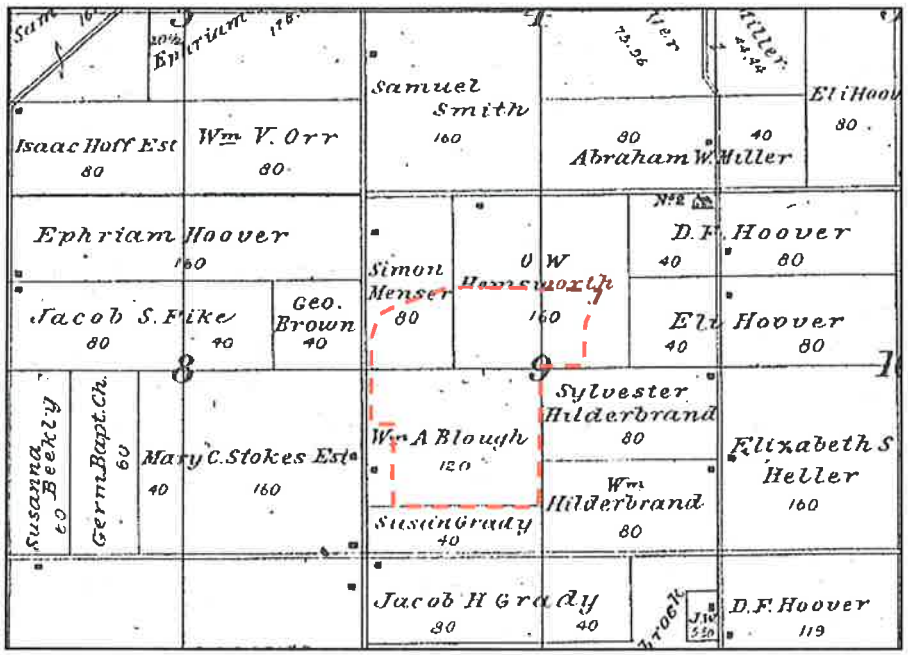
1875

N



1887

Figure 6. Historic plat maps showing approximate survey area (red dashed outline). Sources: Andreas 1875 obtained from Iowa Geographic Map Server 2015; Sedgwick Brothers and Stilson 1887



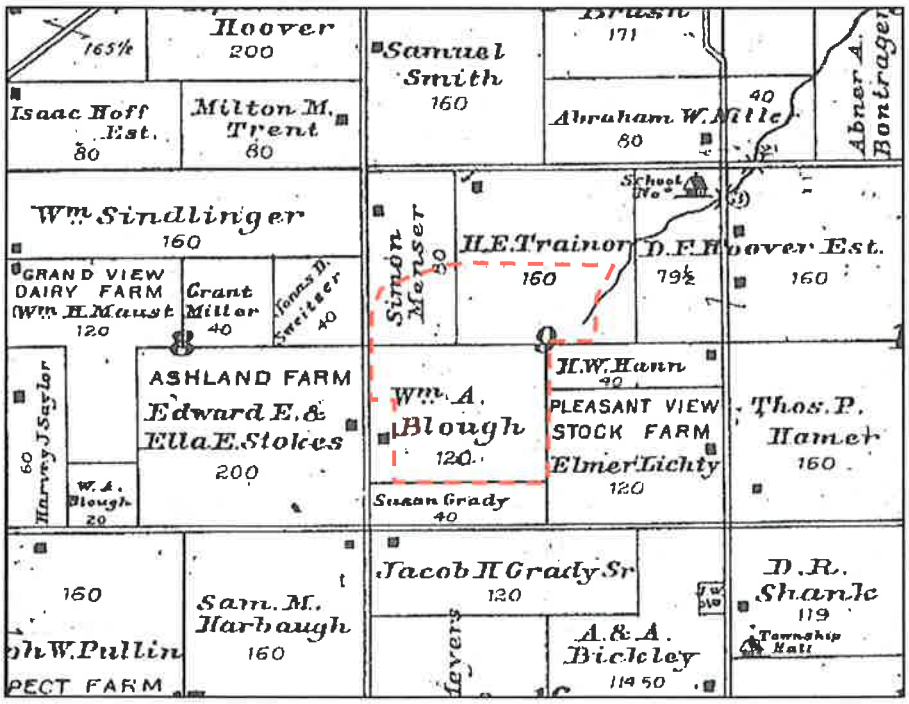
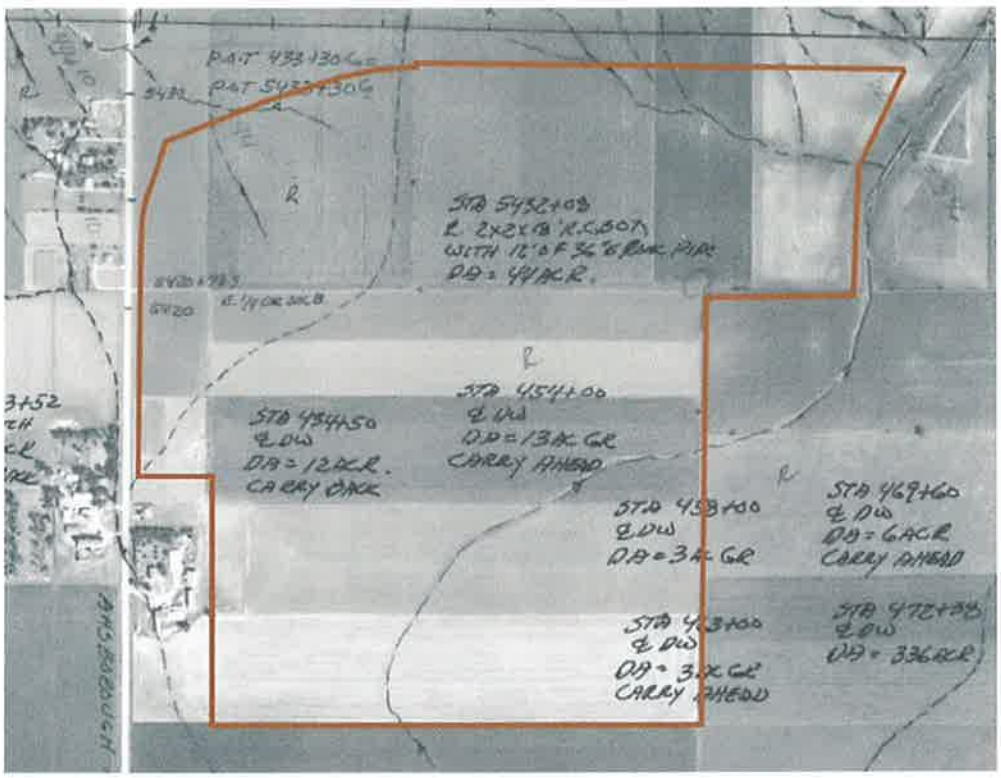


Figure 7. Historic plat maps showing approximate survey area (red dashed outline). Sources: Iowa Publishing 1910; Kace 1896

late 1930s b/w

early 1950s b/w

Figure 8. 1930s-50s Aerial photographs showing survey area (brown outline).
Sources: Iowa Geographic Map Server 2015



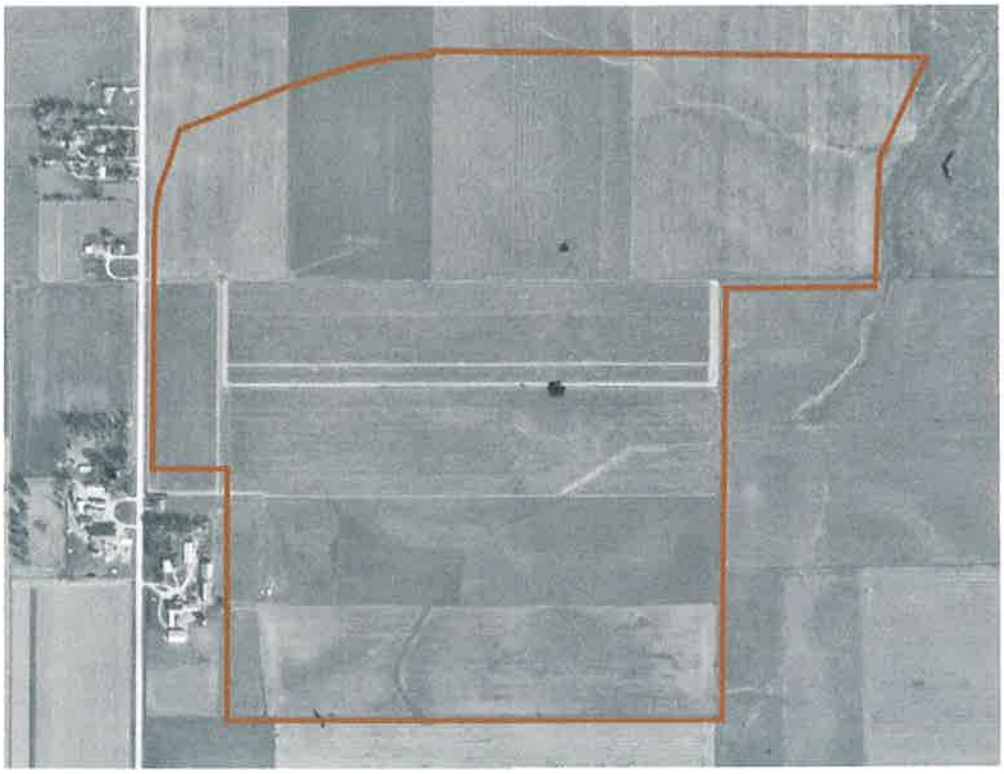
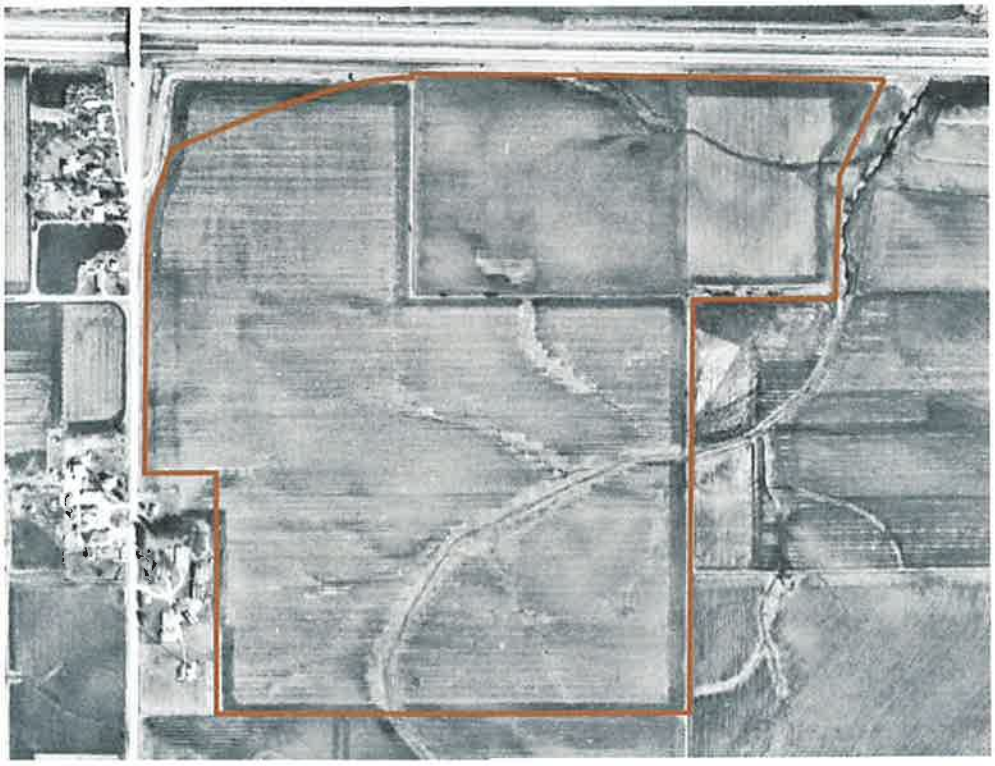


Figure 9. 1960s-70s Aerial photographs showing survey area (brown outline).
Sources: Iowa Geographic Map Server 2015

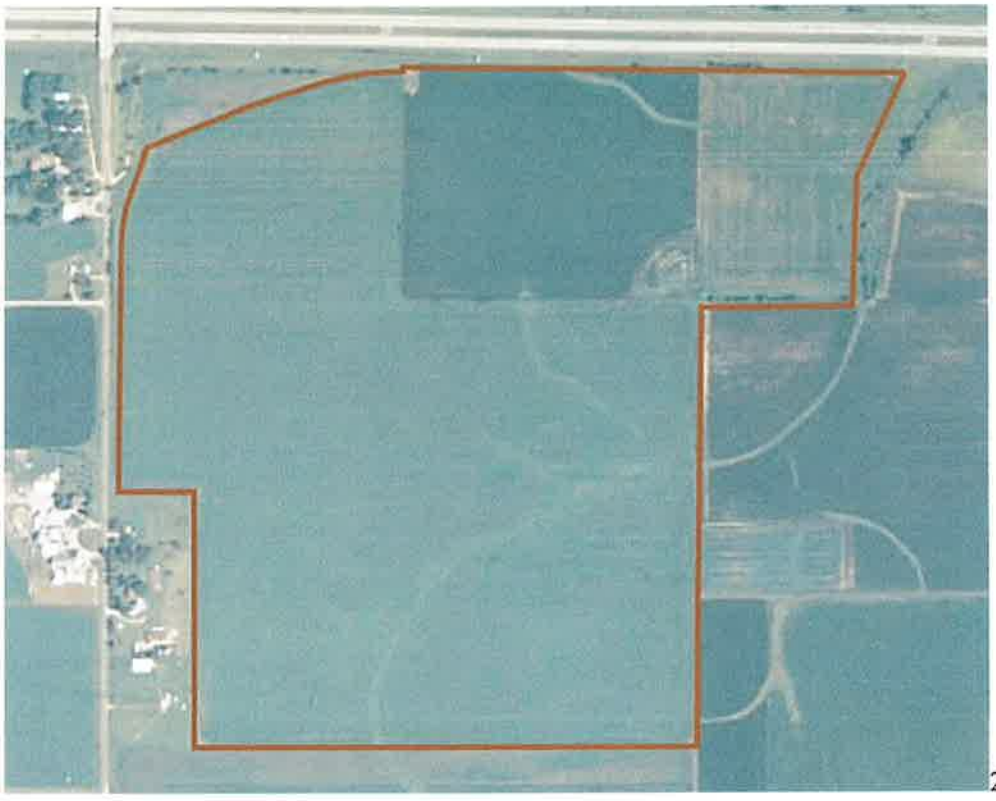
1983 infrared



1994 b/w

N

Figure 10. 1980s-90s Aerial photographs showing survey area (brown outline).
Sources: Iowa Geographic Map Server 2015

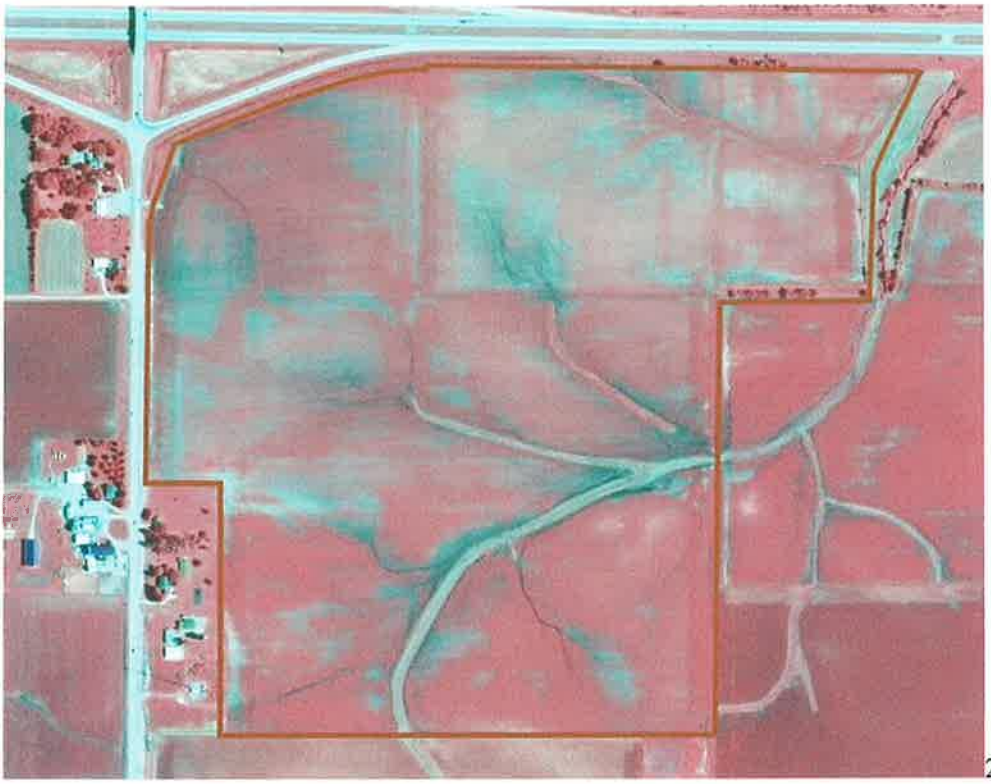


2005 natural color

2006 natural color

N

Figure 11. 2005-06 Aerial photographs showing survey area (brown outline).
Sources: Iowa Geographic Map Server 2015

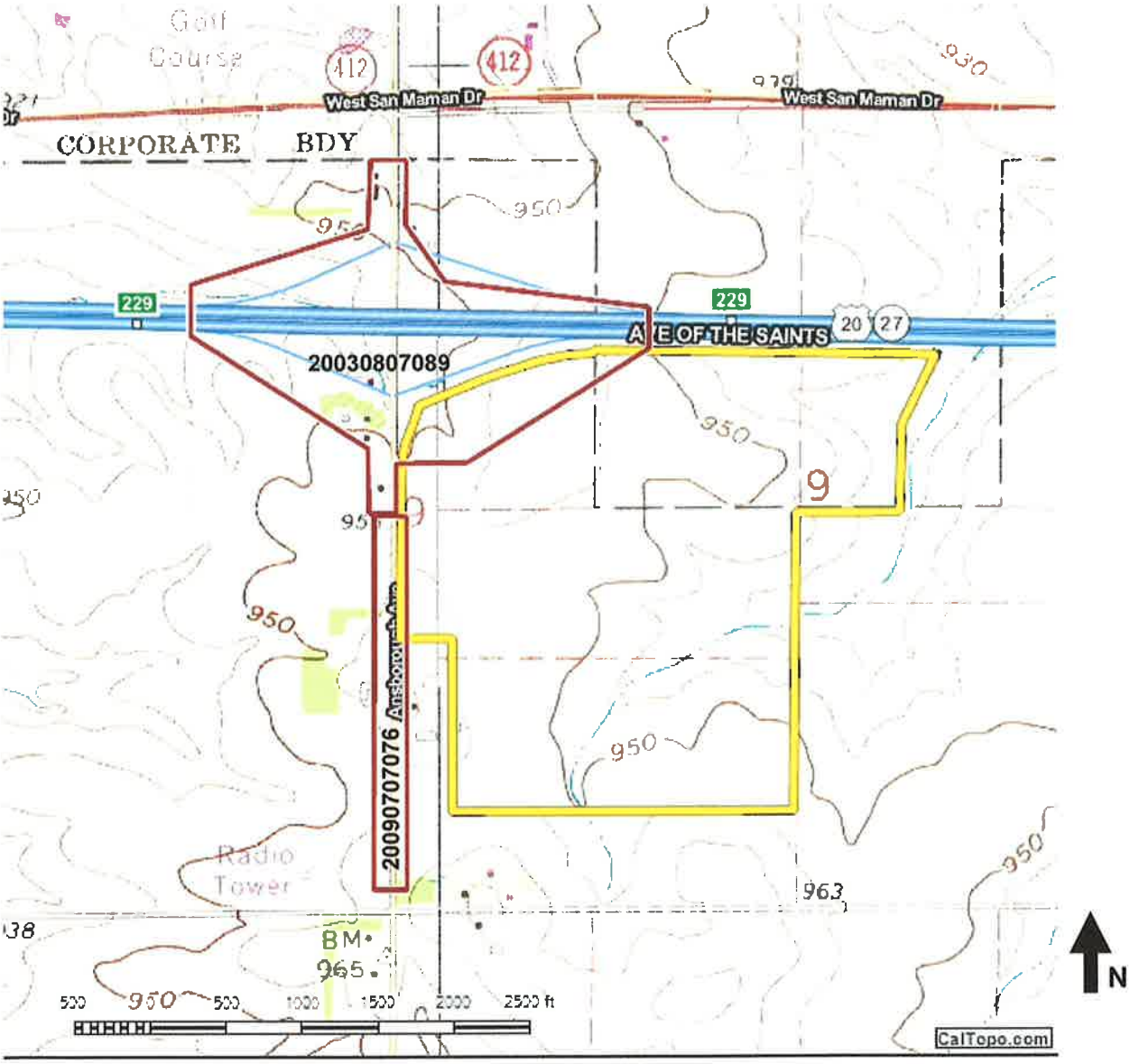


2013 color infrared

2015 natural color

N

Figure 12. 2015 Aerial photographs showing survey area (brown outline).
Sources: Iowa Geographic Map Server 2015

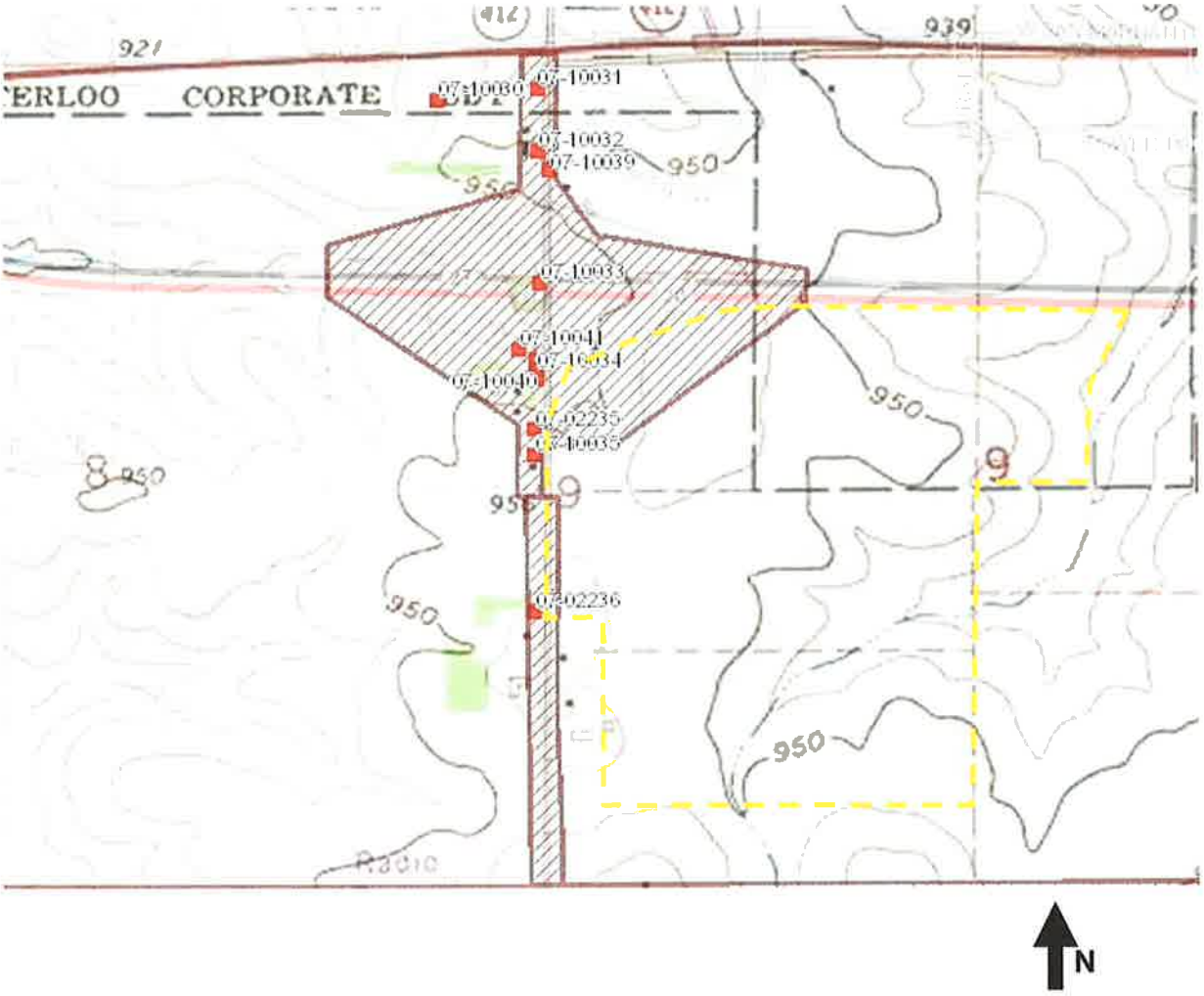


= previous survey areas

= current study area

previously recorded archaeological sites (none in the project area vicinity)

Figure 13. Topographic map showing previous archaeological survey areas and previously recorded archaeological sites in relation to current survey area. Source for information: I-Sites Pro 2015; USGS Waterloo South topographic map obtained from ExpertGPS mapping software, 2015.

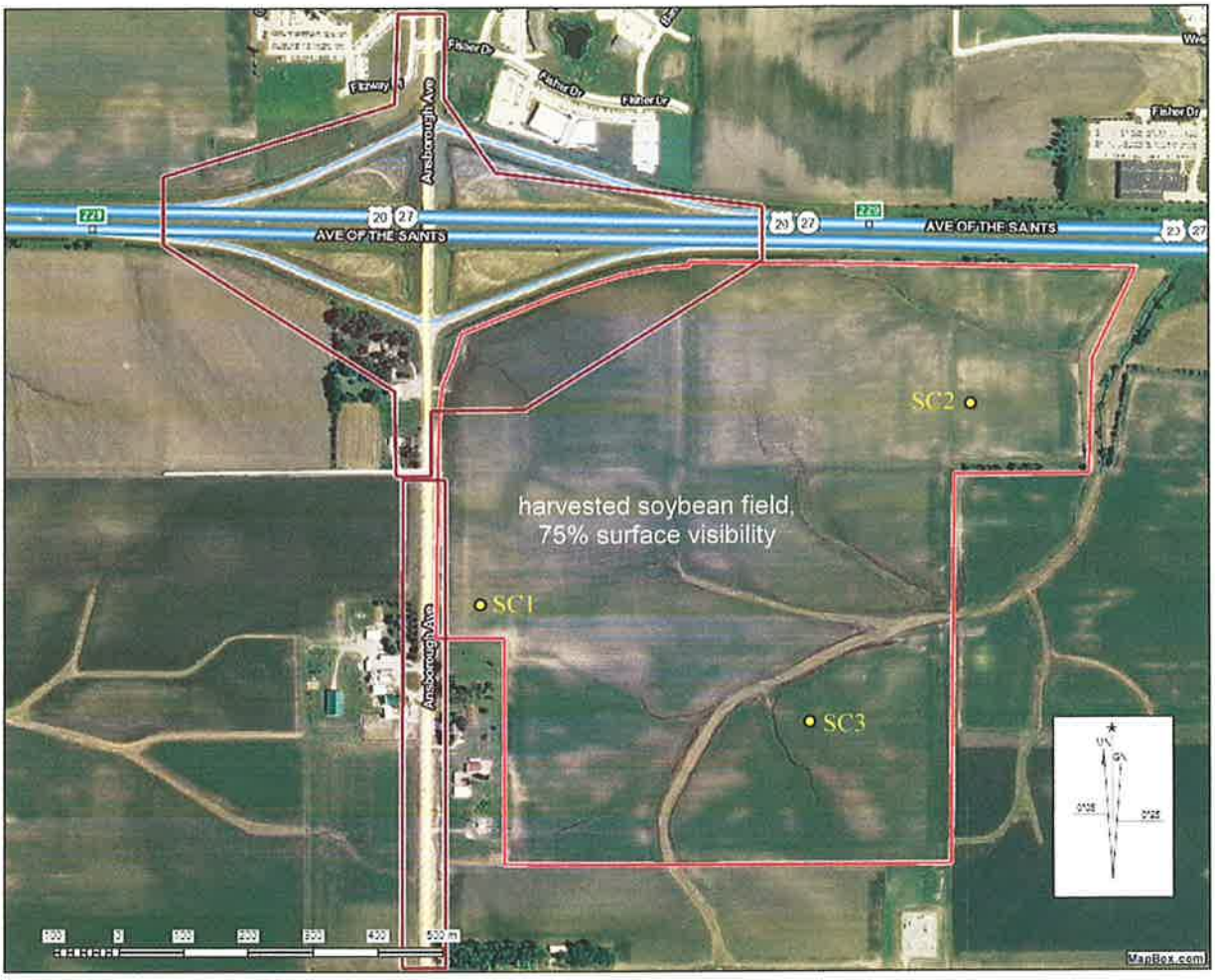


= previous survey areas

= current study area

= previously recorded architectural property identified by Iowa Site Inventory numbers

Figure 14. Topographic map showing previously recorded architectural properties in relation to current survey area. Source: I-Sites Pro 2015

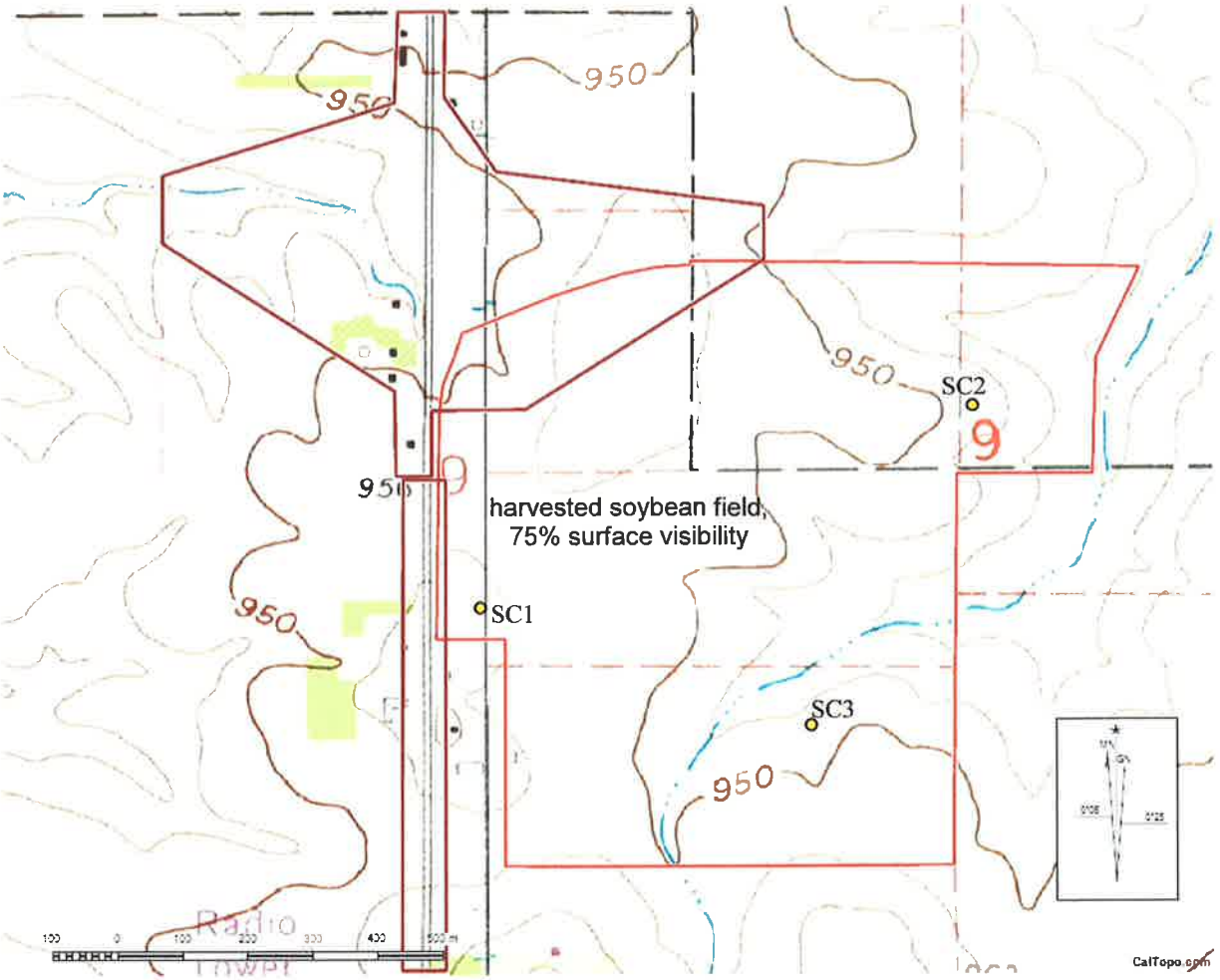


= previous survey areas eliminated from further Phase I investigation

= current project survey area boundary

= soil core

Figure 15. Aerial map showing the Phase I survey field conditions and locations of soil cores. Source: 2014 aerial photograph obtained from ExpertGPS mapping software, 2015.



= previous survey areas eliminated from further Phase I investigation

= current project survey area boundary

= soil core

Figure 16. Topographic map showing the Phase I survey field conditions and locations of soil cores. Source: USGS Waterloo South quadrangle map obtained from ExpertGPS mapping software, 2015.

Plate 1. Photograph of project area taken from field entrance along east side of Ansborough Avenue looking east. All photographs taken November 4, 2015.

Plate 2. Photograph of project area taken from SE corner of project area looking NW.

Plate 3. Photograph of project area taken from SW corner of project area looking NE.

Plate 4. Photograph of project area from the SE corner of project area looking North.

Plate 5. Photograph of project area looking NE from drainageway in eastern portion of project area.

Plate 6. Photograph of project area taken from field entrance along east side of Ansborough Avenue looking NE.

Plate 7. Photograph of soil core in progress.

Plate 8. Photograph of eroded gulley showing exposed glacial till cobbles and rocks. This gully is located in the NE portion of the project area.

Appendix: National Archaeological Data Base (NADB) Form

Database Doc Number:_____

National Archeological Data Base – Reports: Data Entry Form

R and C #:_____

Authors: Rogers, Leah D. and Cindy L. Nagel

_____

Publication Date: 2015

Title: South Waterloo Business Park Site Certification: Phase I Archaeological Investigation, City of Waterloo, Black Hawk County, Iowa

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4. Report Title:_____
Volume #:_____ Report #:_____ NTIS: _____
Publisher:_____
Place: _____

======

7. Unpublished Sent from: Tallgrass Historians L.C., Iowa City, IA
Sent to: City of Waterloo, IA
Contract #:_____

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Federal Agency:_____

======

State: Iowa
County: Black Hawk County
Town: Waterloo

======

Worktype: 31 (Phase 1)

======

Keyword: 0-Types of Resources/Features 1-Generic Terms/Research Questions 2-Taxonmic Names 3-Artifact Types/Material Classes 4-Geographic Names/Locations 5-Time Periods 6- Project Name/Study Unit 7-Other Keywords

185 acres	[7]	U.S. Highway 20	[4]
Iowan Surface	[4]	_____	[]
Cedar River Basin	[4]	_____	[ ]
No resources	[1]	_____	[ ]
Orange Township	[4]	_____	[ ]
Ansborough Avenue	[4]	_____	[ ]

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UTM Zone: 15 Easting:_____ Northing:_____
15 Easting:_____ Northing:_____
15 Easting:_____ Northing:_____
15 Easting:_____ Northing:_____

=======

Township: 88N
Range: 13W

Other Publication Types

1. **Monograph**
   Name:_____
   Place:_____

2. **Chapter**
   In:_____ First:_____ Last:_____

3. **Journal**
   Volume:_____ Issue #:_____ First:_____ Last:_____ ISSN: _____

5. **Dissertation**
   Degree: Ph.D. LL.D. M.A. B.A. B.S. Institute:_____

6. **Paper**
   Meeting:_____
   Place:_____

8. **Other**
   Reference Line:_____

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Site #: _____

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Quad Map: Waterloo South (1972)

SOUTH WATERLOO BUSINESS PARK SITE CERTIFICATION: PHASE IA ARCHAEOLOGICAL ASSESSMENT

City of Waterloo, Black Hawk County, Iowa

Iowa Economic Development Authority Site Certification Program

Tallgrass Historians Report No. TH15-633

submitted to

City of Waterloo
715 Mulberry Street
Waterloo, IA 50703

submitted by

Tallgrass Historians L.C.
Leah D. Rogers, Principal Investigator
Tallgrass Historians L.C.
2460 South Riverside Dr.
Iowa City, IA 52246

October 2015

ABSTRACT

The Phase IA archaeological assessment of the proposed South Waterloo Business Park Site Certification in the City of Waterloo, Black Hawk County, Iowa, examined a project area totaling 185 ac (75 ha) and located at the southeast corner of the U.S. Highway 20 and Ansborough Avenue interchange. The project area has been agricultural land from the late 19th century into the present day. Prior to the 1860s, this area was open prairie and was likely not settled the 1860s. The available historic plat maps and aerial photographs indicate that the farm houses were located outside of the project area boundary. Therefore, there is a very low potential for historic period sites to be found within the project area.

The topography and landform development of the project area and its location two to three miles from the main creeks and rivers further suggests a low to moderate potential for evidence of prehistoric Native American occupation. However, it is possible that evidence of hunting and gathering forays and travels across this location during the post-glacial prehistoric period could be found but that such evidence would likely be sparse and impacted by intensive cultivation in the historic and modern eras.

As a result, there is considered to be only a low to moderate potential within the project area to find prehistoric sites of significance and even less potential for finding historic sites in this area. However, because the majority of the project area has not been previously surveyed, it is recommended that a Phase I investigation be conducted of the unsurveyed areas to be certain that the proposed project will not have the potential to impact archaeological sites of significance dating from the prehistoric period. This survey can likely be accomplished by systematic pedestrian surface survey if surface visibility is adequate (i.e., 25% or greater) at the time of investigation and supplemented with judgmentally-placed soil cores and/or shovel tests to further examine soil development and to be certain that there is no potential for sites in a shallowly buried context. If such potential is found to be present, then some systematic subsurface testing may be warranted in those locations.

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South Waterloo Business Park Site Certification: Phase IA Archaeological Assessment, City of Waterloo, Black Hawk County, Iowa

Introduction

The following is a Phase IA archaeological assessment of the proposed South Waterloo Business Park Site Certification in the City of Waterloo, Black Hawk County, Iowa (Figures 1-2). The proposed project will involve development of what is currently agricultural land at the southeast corner of the intersection of Ansborough Avenue and U.S. Highway 20. The project is being developed under the auspices of the Iowa Economic Development Authority's (IDEA) Site Certification Program. The Phase IA archaeological assessment study is being undertaken under the guidelines outlined in the the Memorandum of Understanding (MOU) between the IEDA and the Iowa State Historic Preservation Office (SHPO) dated February 18, 2014. The Phase IA assessment was conducted by Tallgrass Historians L.C. of Iowa City, Iowa, for the City of Waterloo, Iowa. There are no standing buildings or structures within the project area; therefore, the focus of this assessment is on the archaeological potential of the project area.

The purpose of the Phase IA was to evaluate and assess the archaeological potential for the proposed road improvement project area and its vicinity, with the specific objective of identifying any known National Register-eligible archaeological properties within the project study area and assessing the potential of the project area for archaeological sites yet to be identified.

The study area is specifically located in part of the SW1/4, NE1/4, the SE1/4, NW1/4, part of the SW1/4, NW1/4, and the north 3/4 of the SW1/4 of Section 9, T88N-R13W, Orange Township, Black Hawk County, Iowa (see Figure 1). **The Phase IA Assessment study area was considered to encompass an area of 185 ac (75 ha) in size** (see Figure 2).

The project area is located within the general landform region known as the Iowan Surface (Prior 1991) (Figure 3). This region is characterized by slightly inclined to gently rolling hills with long slopes, low relief, and open views to the horizon. The slopes of the Iowan Surface are described as having multi-leveled or stepped surfaces. This region was last glaciated in Pre-Illinoian times and has since been exposed to various episodes of weathering, soil development, erosion, and loess deposition. Another typical feature of the Iowan Surface is the presence of glacial erratics composed of igneous and metamorphic rock from Canada, Minnesota, and Wisconsin left behind from the Pre-Illinoian glaciers. Glacial erratics are commonly found along shallow valleys and are larger in size than the glacial erratics found on the Des Moines Lobe. Elongated ridges and isolated oblong hills known as pahas are also characteristic of the Iowan Surface (Prior 1991:68-73).

The landforms within the study area consist of a broad, nearly level upland divide summit, shoulder and side slopes with the upper reaches of an intermittent drainage in the southeast quadrant of the project area. The soils mapped within the study area are all upland soil types that developed in silty or loamy sediments and the underlying till on dissected glacial till plains on the Iowan Surface (Soil Survey Staff 2015) (Figure 4). All of the mapped soil types are shallow to glacial till and would have a low potential for deeply buried archaeological sites, particularly in locations where intensive cultivation would have resulted in soil depletion and erosion (Artz 2005). It is expected in the project area that any archaeological sites will be found in a surface to near-surface context.

Methods

In order to complete the archaeological assessment, the following sources were examined: the archaeological site records and previous survey areas contained in the I-Sites Pro: an Online GIS and Database for Iowa Archaeology maintained by the Office of the State Archaeologist in Iowa City and

accessed through the Iowa Department of Transportation portal; the National Archaeological Data Base (NADB) files also accessed through the I-Sites Pro database; other online databases including the Iowa Geographic Map Server (aerial photographs) and the Web Soil Survey (soil survey maps); and the historic maps available for the study area on file at the State Historical Society of Iowa library in Iowa City; and previous cultural resource studies in the project area vicinity.

Leah D. Rogers of Tallgrass Historians L.C. served at the Principal Investigator and completed the overall assessment and summary report.

Previous Investigations

The current project area was partially surveyed by a previous cultural resource investigation that included the northwest corner of the current study area (Figure 5). Another previous survey included the far western edge of the study area along Ansborough Avenue south of U.S. Highway 20 (see Figure 5). The results of these two previous surveys were reported in the following (R & C numbers keyed to Figure 5):

R&C Number: 030807089
STEPHENSON, DAVID J.
2003 PHASE 1 INTENSIVE SURVEY OF THE PROPOSED ANSBOROUGH AVENUE/U.S. HIGHWAY 20 INTERCHANGE, SECTIONS 8 AND 9, BLACK HAWK COUNTY, IOWA. CCR 1100. OFFICE OF THE STATE ARCHAEOLOGIST, UNIVERSITY OF IOWA, IOWA CITY, IA.

Area Surveyed: 66.8 ACRES
Quadrangle(s): HUDSON, IOWA, WATERLOO S, IOWA
Township(s): T0880N R0130W
Site(s): no sites found

R&C Number: 090707076
NAGEL, CINDY L. AND LEAH D. ROGERS
2009 WEST SHAULIS ROAD EXTENSION OF THE ANSBOROUGH AVENUE SECTION: PHASE I ARCHAEOLOGICAL INVESTIGATION, CITY OF WATERLOO, BLACK HAWK COUNTY, IOWA. TALLGRASS HISTORIANS L.C., IOWA CITY, IA. SUBMITTED TO KIRKHAM MICHAEL, DES MOINES, IOWA.

Area Surveyed: 7.5 ACRES
Quadrangle(s): HUDSON, IOWA, WATERLOO S, IOWA
Township(s): T0880N R0130W
Site(s): no sites found

There have been no previously recorded archaeological sites in the current study area or its immediate vicinity (see Figure 5). However, there have been 11 architectural properties that were recorded for the U.S. Highway 20 and Ansborough Avenue projects, with the locations of those properties shown on Figure 6. All of these architectural properties were recommended as ineligible for the National Register of Historic Places (NRHP) and warrant no further investigation (I-Sites Pro 2015; Nash 2003).

Assessment Results

The landform development (Iowan Surface), land use (intensive cultivation), and the mapped soils (shallow to glacial till) all indicate a location where any archaeological sites (prehistoric and historic) will be found in a surface to near surface context. The landscape is nearly level to gently sloping uplands

with the upper reaches of an unnamed intermittent drainage extending through the southeast quadrant of the study area (see Figures 1-5).

At the time of the original land surveys by the General Land Office in 1846, the study area was in open prairie grasses, with no indication of settlement at that time (Figure 7). The initial historic period settlements would have avoided open stretches of prairie such as this location because of the initial difficulty of breaking the thick prairie sod. With the mass production of John Deere's steel scouring plow in the 1860s, the open prairie lands were then quickly settled and developed as rich farm ground. The study area is also some distance from the area's creeks and rivers suggesting a location that would not have been likely camp sites during the prehistoric period. However, it could have been a location crossed during hunting and gathering trips and travels between the rivers and creek resulting in some sparse prehistoric archaeological sites. Such sites would likely have been impacted by intensive cultivation and erosion and may not possess sufficient integrity to be considered eligible for the NRHP.

By 1869, the study area had been fully entered by settlers with farmsteads established north and southwest of the study area (see Figure 7). However, the 1869 map did not depict any houses within the boundaries of the current project area (see Figure 7). The 1875 map also depicted two school houses (No. 3 and No. 13) in the northeast and southwest corners of Section 9, but both locations are outside of the current project area (Figure 8).

The 1887, 1896, and 1910 plat maps continued to show the project area devoid of houses, with the farmsteads located north, east, west and south of the project boundary (see Figures 8 and 9). The 1910 plat map shows that the area's farms included both livestock and dairy farms. One of the schoolhouses was still present in the northeast corner of Section 9 through at least 1910 (see Figure 9).

Figures 10-14 are aerial photographs of the study area that show it as agricultural fields throughout the 20th and early 21st centuries. The only major changes in the project area vicinity have been the construction of U.S. Highway 20 by 1994 and the construction of the current Ansborough Avenue interchange with U.S. Highway 20 in 2006 (see Figures 12-13).

Conclusions

The Phase IA archaeological assessment of the proposed South Waterloo Business Park Site Certification in the City of Waterloo, Black Hawk County, Iowa, examined a project area totaling 185 ac (75 ha) and located at the southeast corner of the U.S. Highway 20 and Ansborough Avenue interchange. The project area has been agricultural land from the late 19th century into the present day. Prior to the 1860s, this area was open prairie and was likely not settled the 1860s. The available historic plat maps and aerial photographs indicate that the farm houses were located outside of the project area boundary. Therefore, there is a very low potential for historic period sites to be found within the project area.

The topography and landform development of the project area and its location two to three miles from the main creeks and rivers further suggests a low to moderate potential for evidence of prehistoric Native American occupation. However, it is possible that evidence of hunting and gathering forays and travels across this location during the post-glacial prehistoric period could be found but that such evidence would likely be sparse and impacted by intensive cultivation in the historic and modern eras.

As a result, there is considered to be only a low to moderate potential within the project area to find prehistoric sites of significance and even less potential for finding historic sites in this area. However, because the majority of the project area has not been previously surveyed, it is recommended that a Phase I investigation be conducted of the unsurveyed areas to be certain that the proposed project will not have the potential to impact archaeological sites of significance dating from the prehistoric period. This survey can likely be accomplished by systematic pedestrian surface survey if surface visibility is adequate (i.e., 25% or greater) at the time of investigation and supplemented with judgmentally-placed soil cores and/or shovel tests to further examine soil development and to be certain that there is no potential for sites in a

shallowly buried context. If such potential is found to be present, then some systematic subsurface testing may be warranted in those locations.

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Nagel, Cindy L. and Leah D. Rogers
2009 *West Shaulis Road Extension of the Ansborough Avenue Section: Phase I Archaeological Investigation, City of Waterloo, Black Hawk County, Iowa.* Tallgrass Historians L.C., Iowa City, Iowa.

Nash, Jan Olive
2003 *Ansborough Avenue Interchange with U.S. 20: Intensive Level Historical and Architectural Survey, City of Waterloo, Black Hawk County, Iowa.* Tallgrass Historians L.C., Iowa City, Iowa.

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1887 *Map of Black Hawk County, Iowa.* Sedgwick Brothers and Stilson, Waterloo.

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2015 Official Soil Series Descriptions. Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions. Accessed at http:// soils.usda.gov/technical/classification/osd/index.html, October 2015.

Stephenson, David J.
2003 *Phase I Intensive Survey of the Proposed Ansborough Avenue/U.S. Highway 20 Interchange, Sections 8 and 9, Black Hawk County, Iowa.* Contract Completion Report 1100. Office of the State Archaeologist, University of Iowa, Iowa City, Iowa.

Thompson and Everts
1869 *Map of Black Hawk County, Iowa.* Thompson and Everts, Geneva, Illinois.

United States
1846 General Land Office original survey plat of T88N-R13W. Digitized version of original plats accessed at the Iowa Geographic Map Server 2015.

Web Soil Survey
2015 *Soil Survey of Black Hawk County, Iowa.* National Resources Conservation Service. United States Department of Agriculture. Accessed at www.websoilsurvey. nrcs.usda.gov.app. WebSoilSurvey.aspx, October 2015.

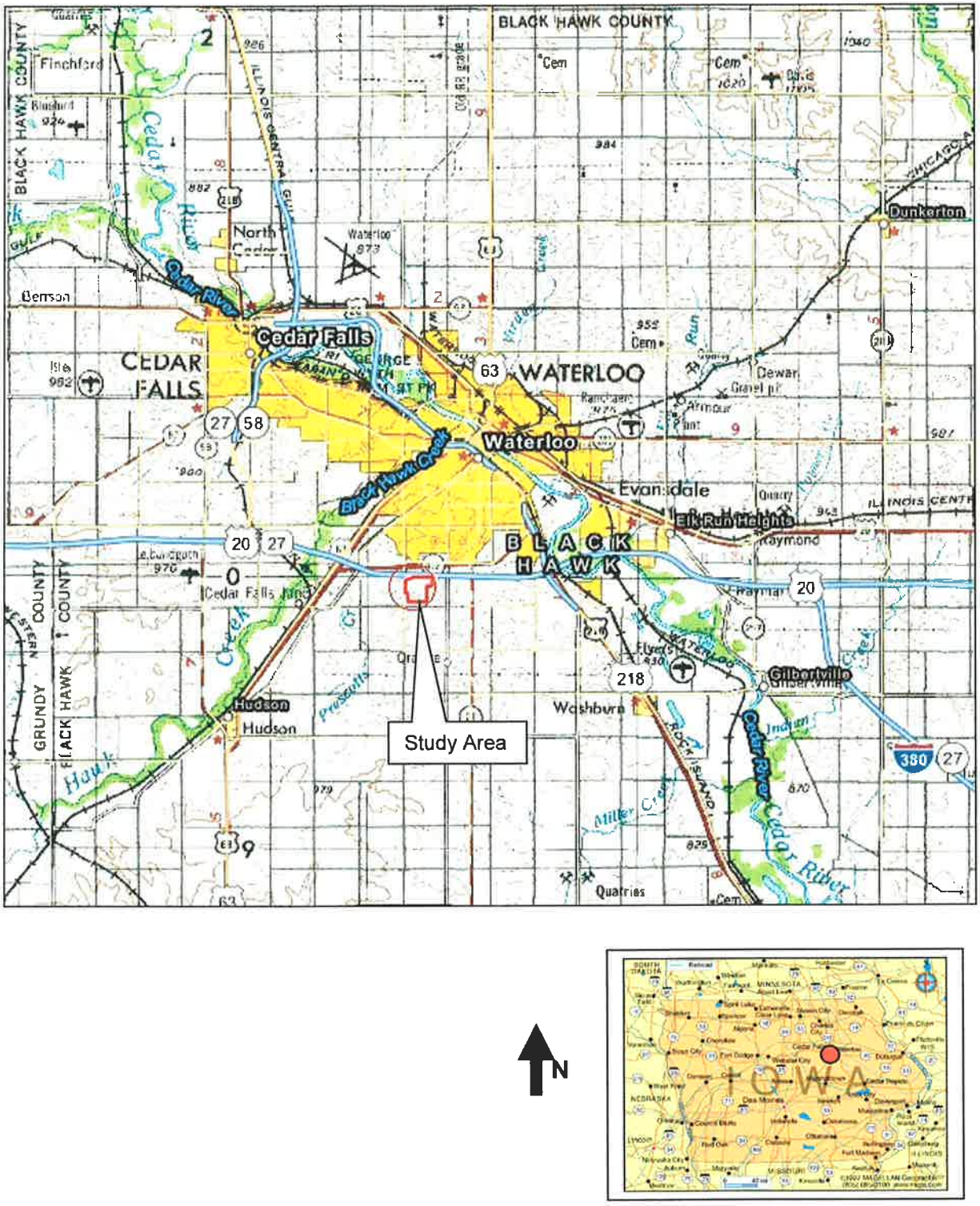


Figure 1. General location of project study area (red outline) in the Waterloo vicinity. Source: USGS Black Hawk County topographic map obtained from ExpertGPS mapping software, 2015.

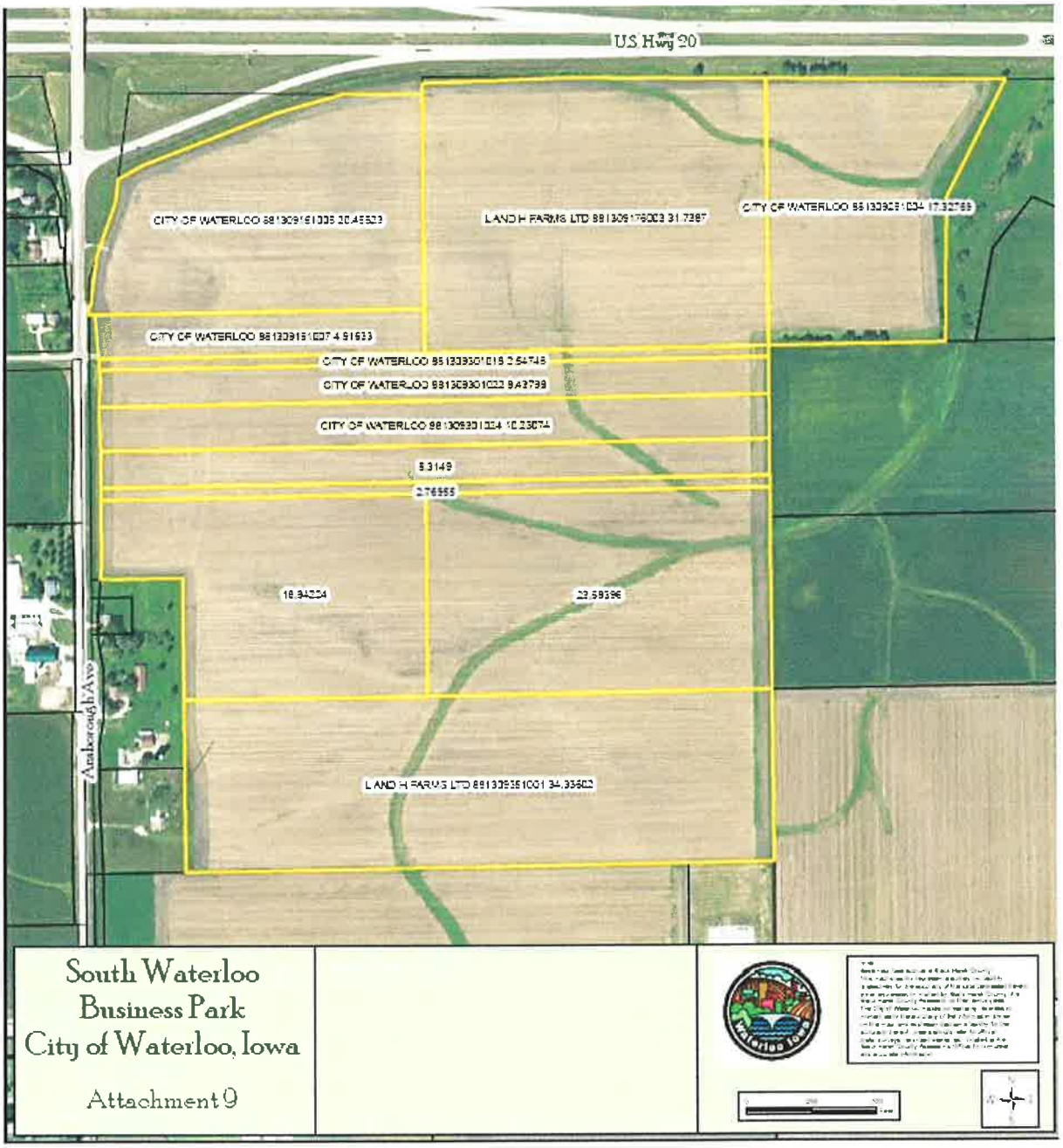


Figure 2. Aerial map of project study area (yellow outlines).
Map provided by the City of Waterloo, Engineering Department, 2015

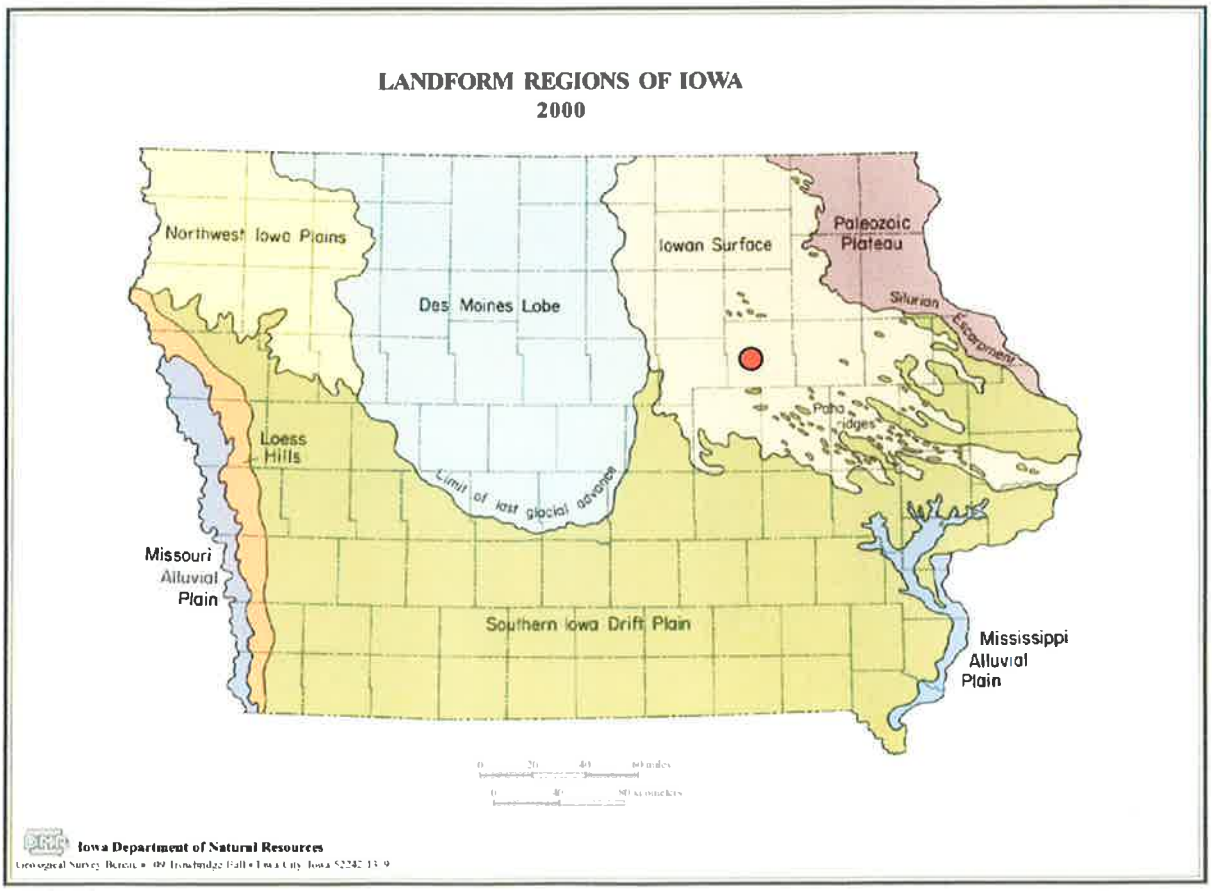
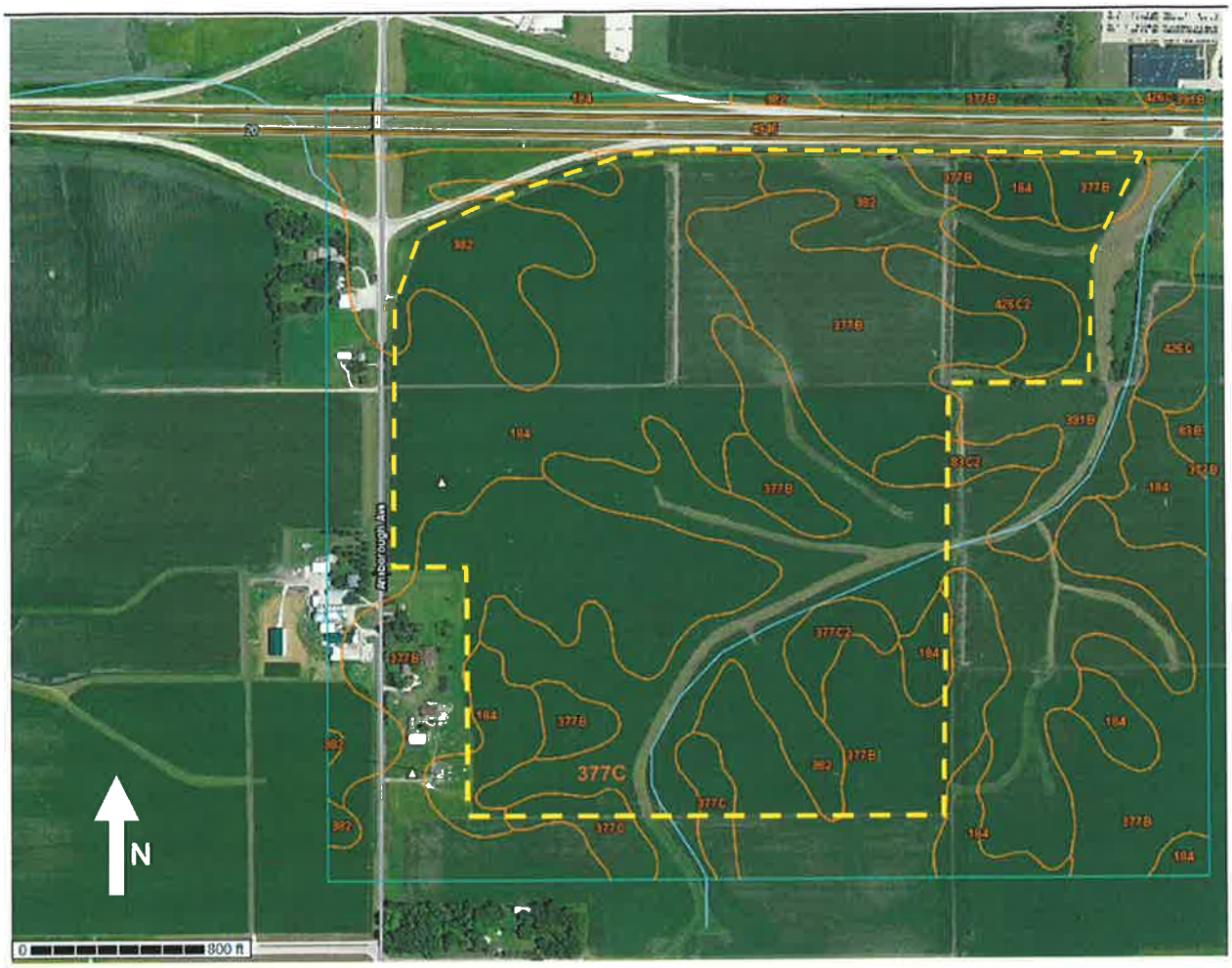
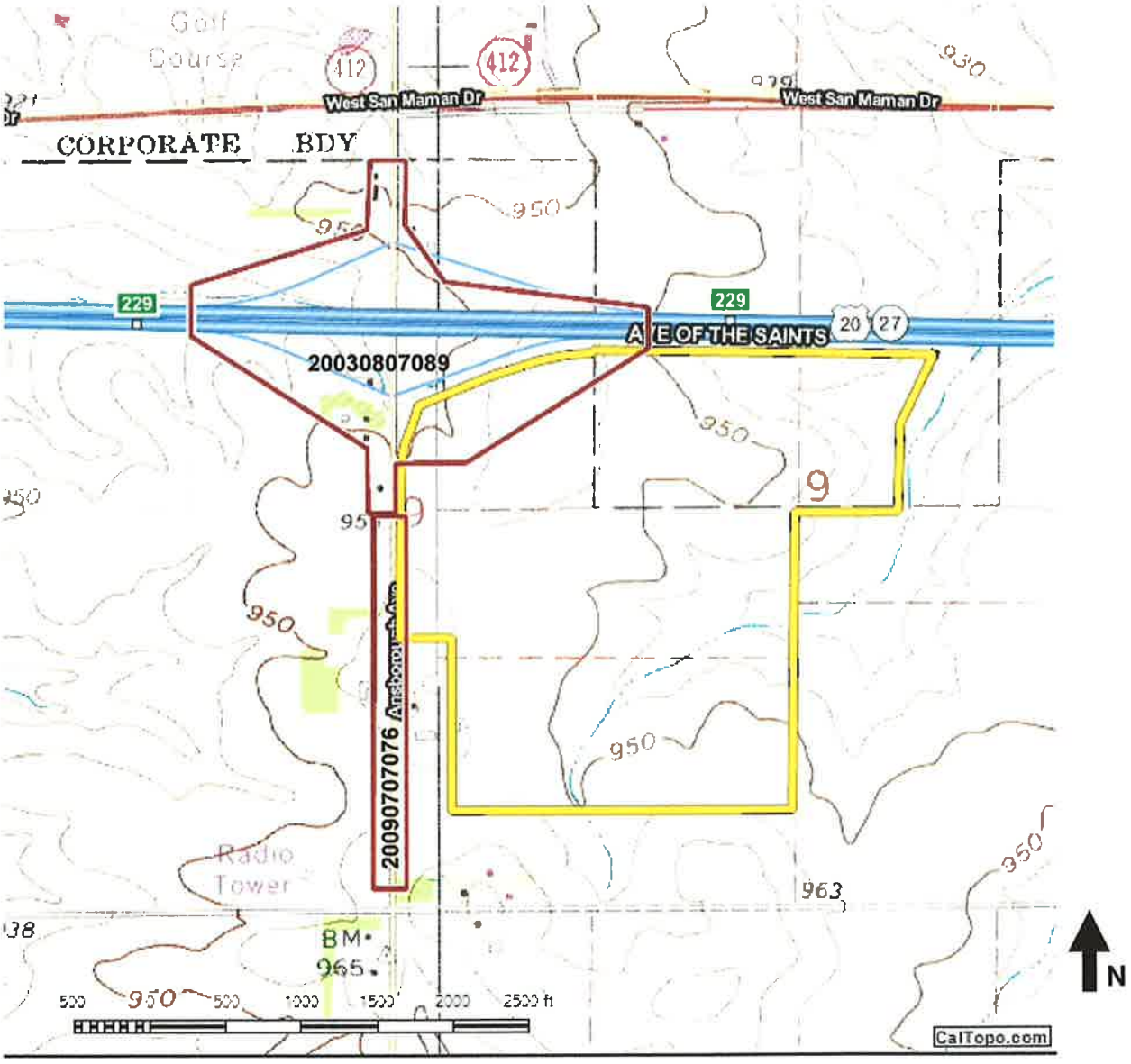


Figure 3. Landform regions of Iowa showing general project location (red dot)
Source: Iowa Department of Natural Resources, 2000



Map Unit Symbol	Map Unit Name
83B	Kenyon loam, 2 to 5 percent slopes, shallow to glacial till
83C2	Kenyon loam, 5 to 9 percent slopes, eroded, shallow to glacial till
184	Klinger silty clay loam, 1 to 3 percent slopes, shallow to glacial till
377B	Dinsdale silty clay loam, 2 to 5 percent slopes, shallow to glacial till
377C	Dinsdale silty clay loam, 5 to 9 percent slopes, shallow to glacial till
377C2	Dinsdale silty clay loam, 5 to 9 percent slopes, moderately eroded, shallow to glacial till
382	Maxfield silty clay loam, 0 to 2 percent slopes, shallow to glacial till
391B	Clyde-Floyd complex, 1 to 4 percent slopes, shallow to glacial till
426C	Aredale loam, 5 to 9 percent slopes, shallow to glacial till
426C2	Aredale loam, 5 to 9 percent slopes, moderately eroded, shallow to glacial till
4946	Orthents-urban land complex, modified land/altered or removed soils

Figure 4. Soil survey map showing mapped soil types within project study area (dashed yellow outline). Sources: Artz 2005; Soil Survey Staff 2015; Web Soil Survey 2015



= previous survey areas

= current study area

previously recorded archaeological sites (none in study area vicinity)

Figure 5. Topographic map showing previous archaeological survey areas and previously recorded archaeological sites in relation to current study area. Source for information: I-Sites Pro 2015; USGS Waterloo South topographic map obtained from ExpertGPS mapping software, 2015.

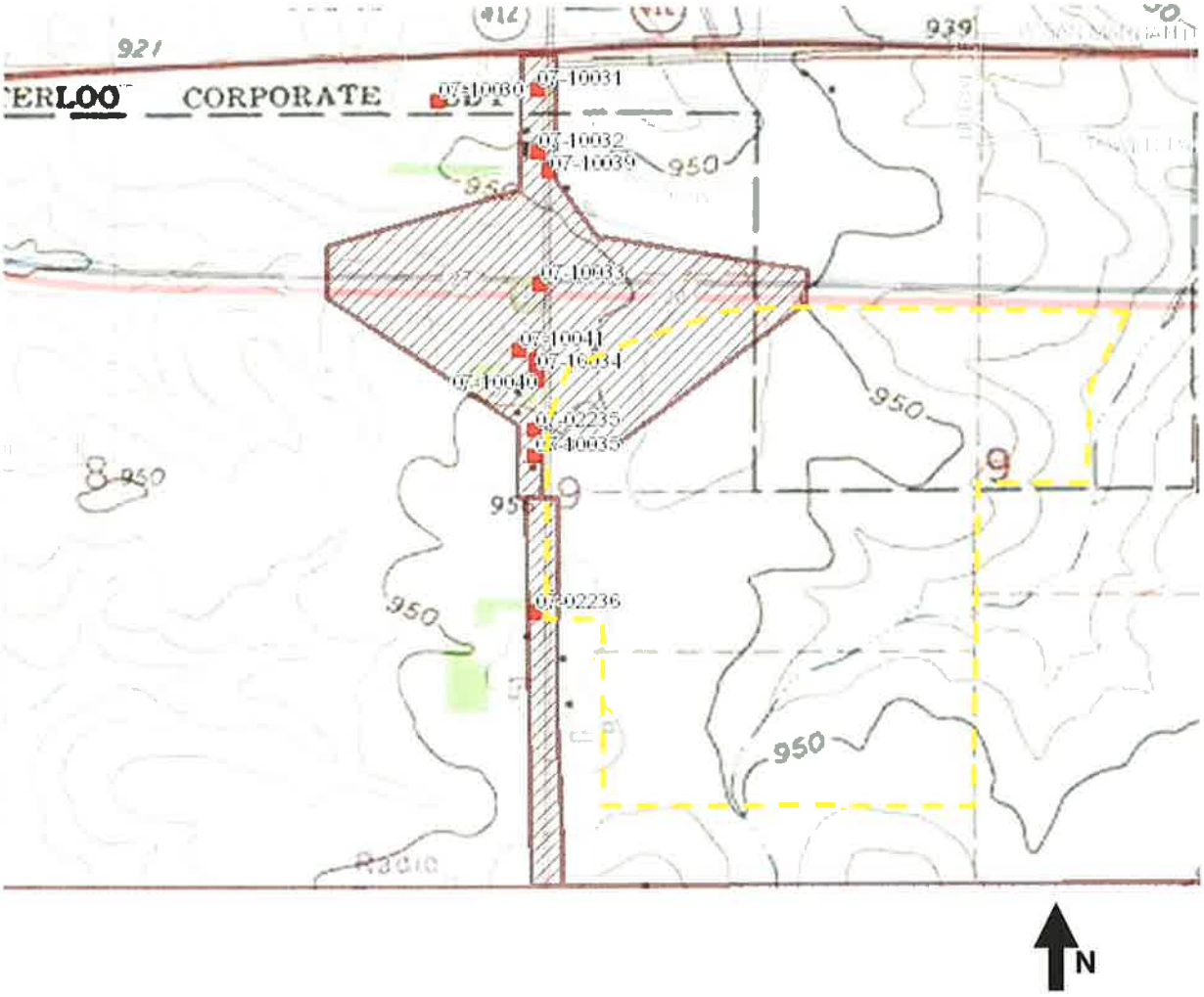
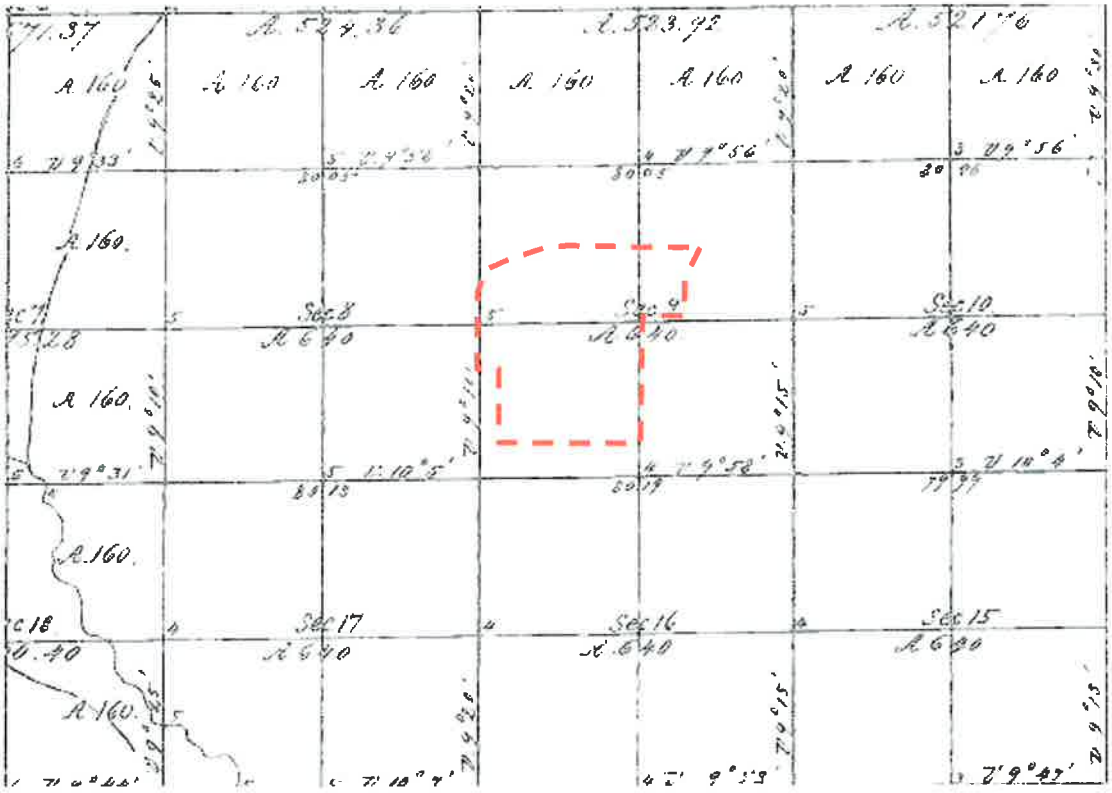


Figure 6. Topographic map showing previously recorded architectural properties in relation to current study area. Source: I-Sites Pro 2015



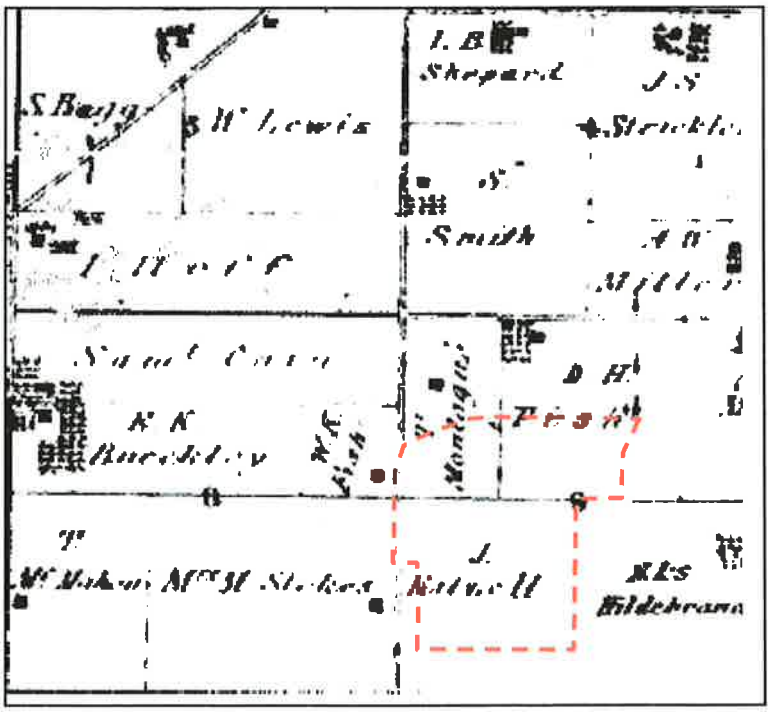
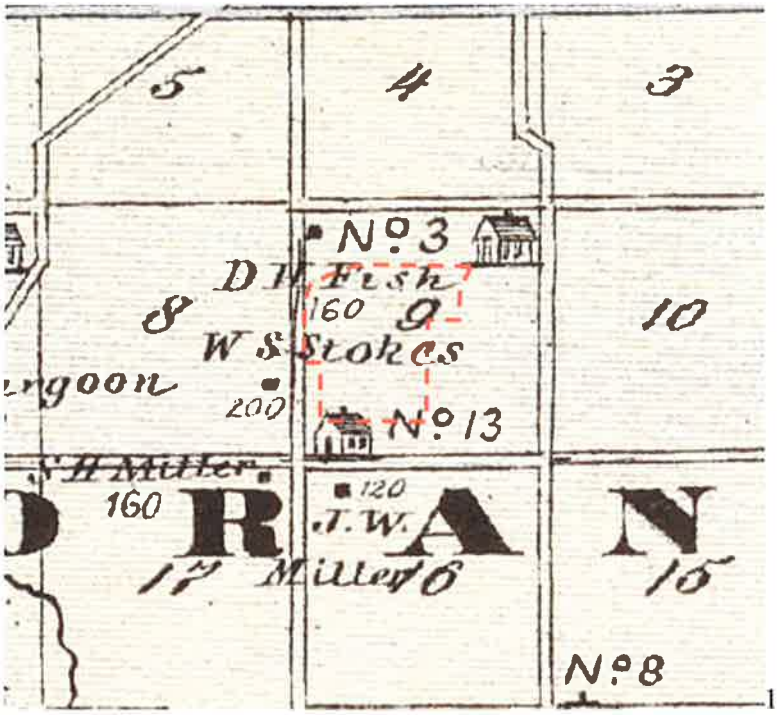
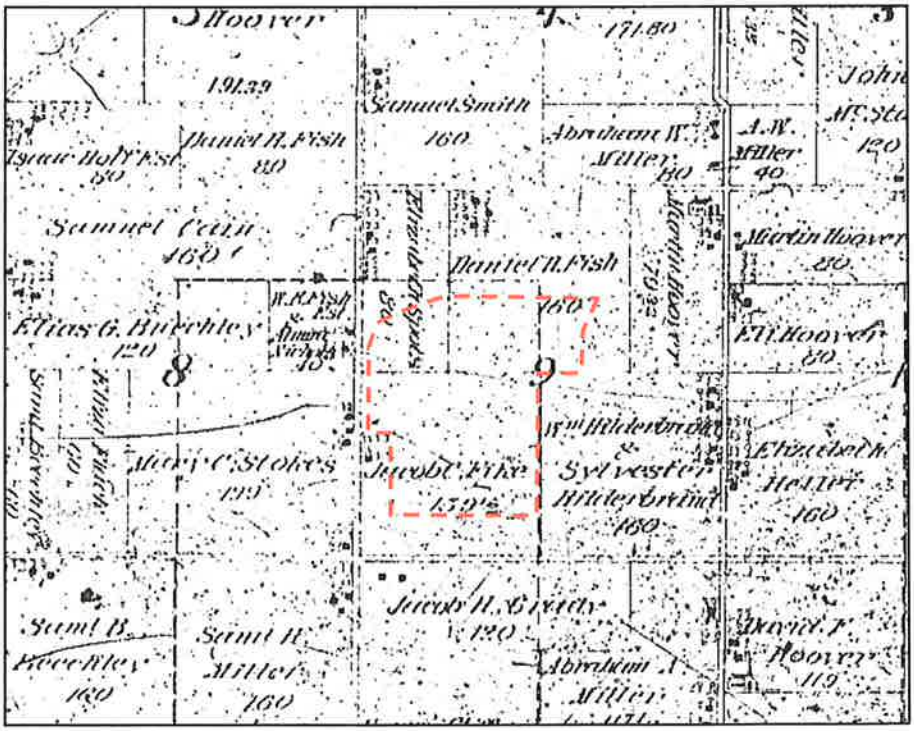


Figure 7. Historic plat maps showing approximate study area (red dashed outlines). Sources: Thompson and Everts 1869; United States 1846 obtained from Iowa Geographic Map Server 2015



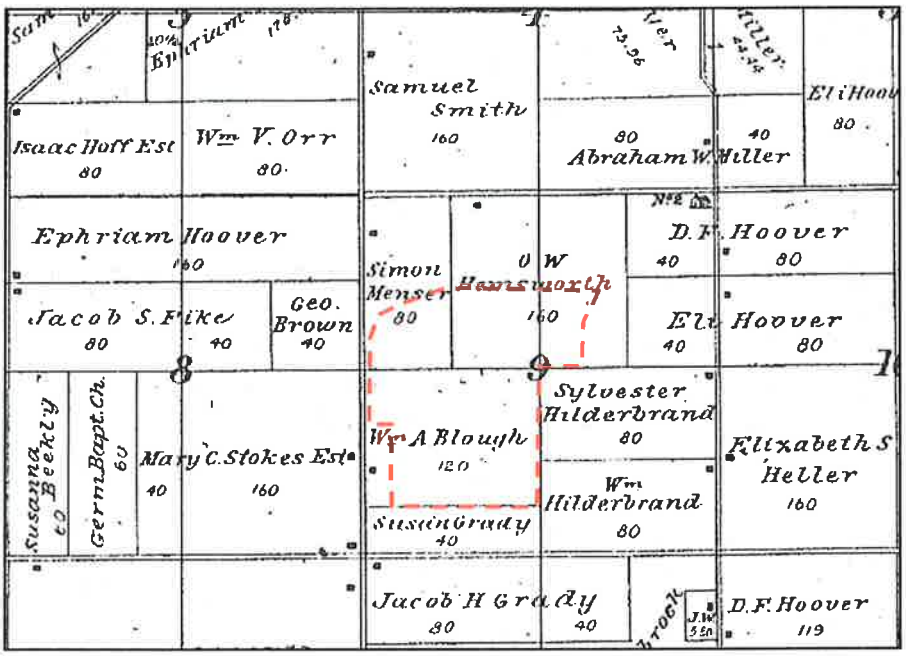
1875

N

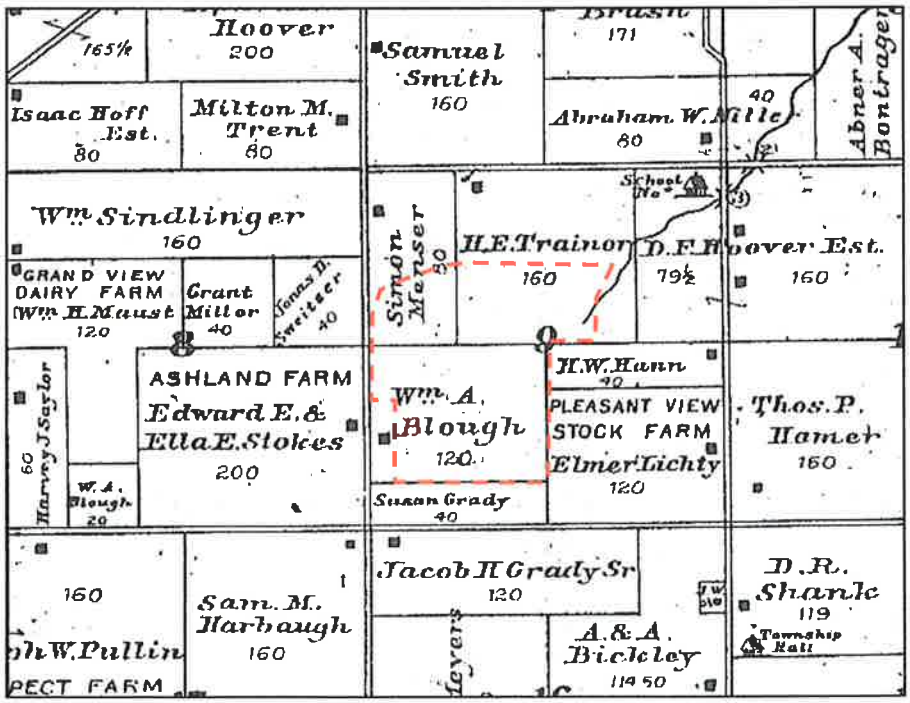


1887

Figure 8. Historic plat maps showing approximate study area (red dashed outline). Sources: Andreas 1875 obtained from Iowa Geographic Map Server 2015; Sedgwick Brothers and Stilson 1887



1896



1910

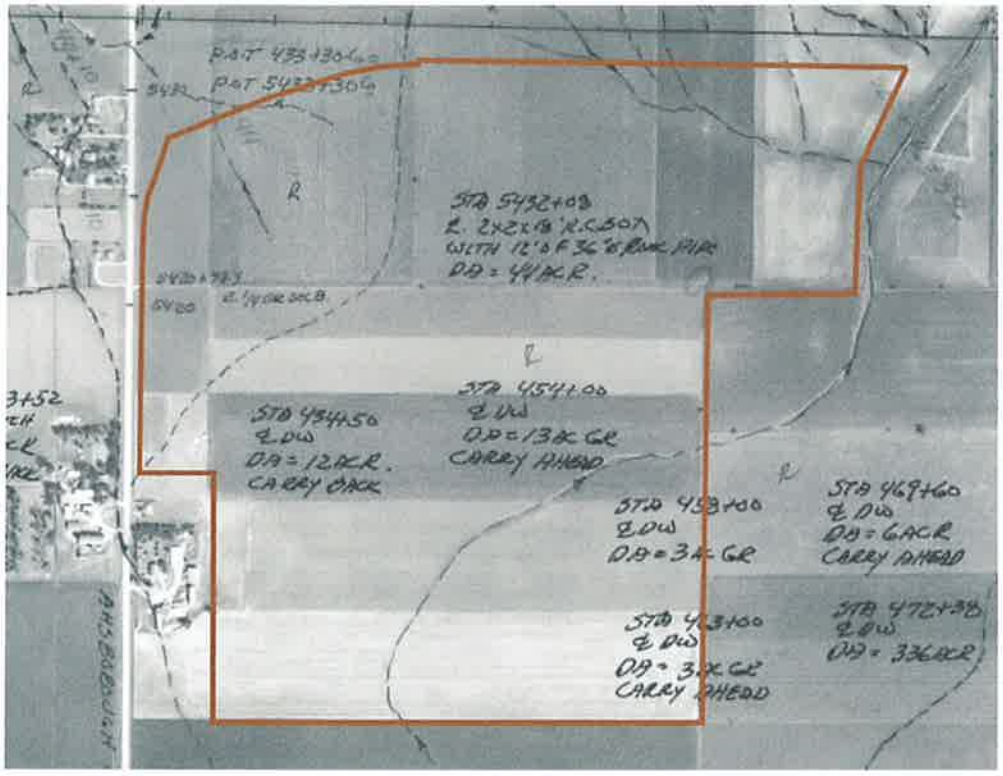
N

Figure 9. Historic plat maps showing approximate study area (red dashed outline). Sources: Iowa Publishing 1910; Kace 1896

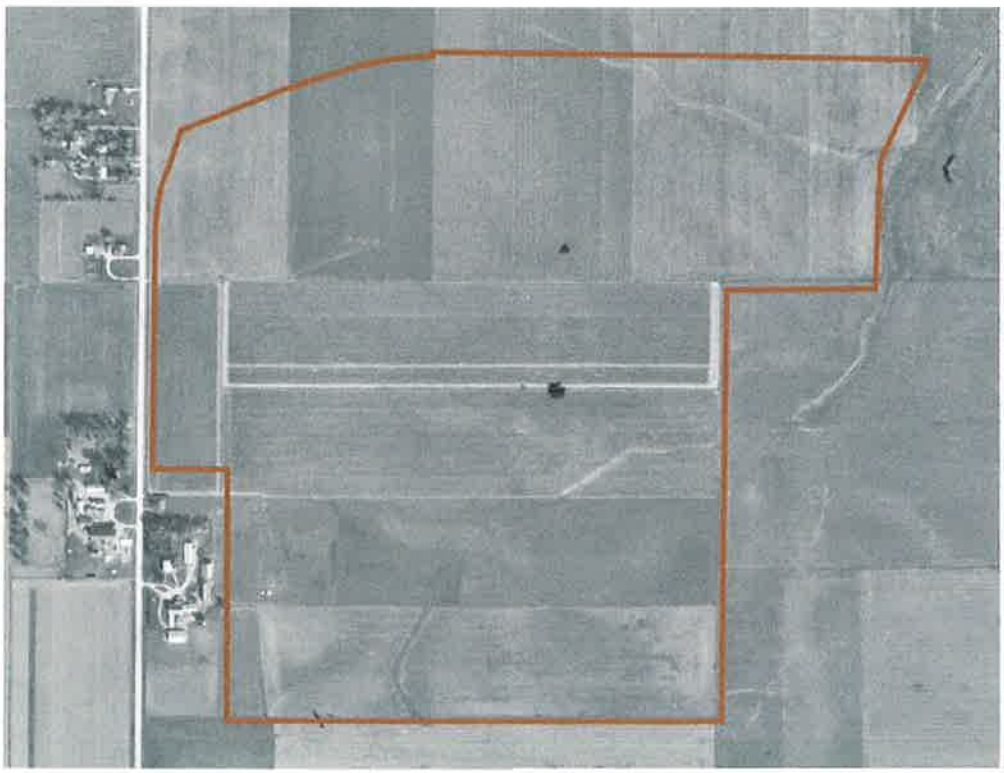
late 1930s b/w

early 1950s b/w

Figure 10. 1930s-50s Aerial photographs showing study area (brown outline).
Sources: Iowa Geographic Map Server 2015



1960s b/w



1970 b/w

N

Figure 11. 1960s-70s Aerial photographs showing study area (brown outline).
Sources: Iowa Geographic Map Server 2015

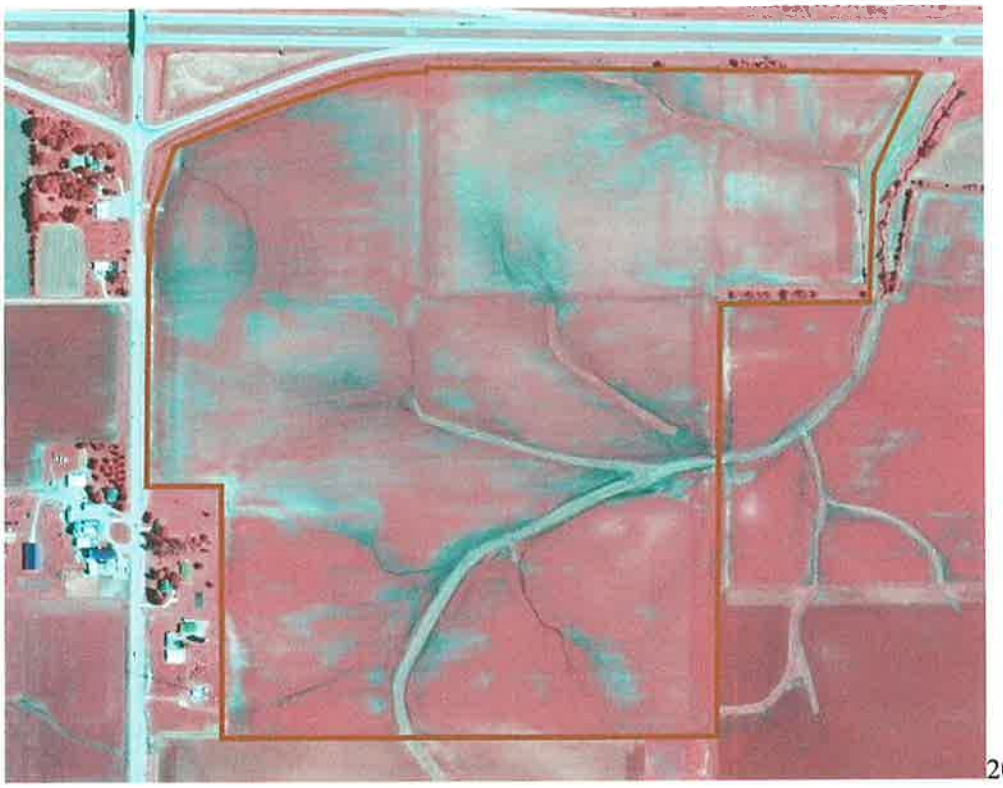
1983 infrared

1994 b/w

N

Figure 12. 1980s-90s Aerial photographs showing study area (brown outline).
Sources: Iowa Geographic Map Server 2015

Figure 13. 2005-06 Aerial photographs showing study area (brown outline).
Sources: Iowa Geographic Map Server 2015



2013 color infrared

2015 natural color

N

Figure 14. 2013-15 Aerial photographs showing study area (brown outline).
Sources: Iowa Geographic Map Server 2015

Appendix: National Archaeological Data Base (NADB) Form

Database Doc Number:_____

National Archeological Data Base – Reports: Data Entry Form

R and C #:_____

Authors: Rogers, Leah D.

_____

Publication Date: 2015

Title: South Waterloo Business Park Site Certification: Phase IA Archaeological Assessment, City of Waterloo, Black Hawk County, Iowa

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4. Report Title:_____
Volume #:_____ Report #:_____ NTIS: _____
Publisher:_____
Place: _____

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7. Unpublished Sent from: Tallgrass Historians L.C., Iowa City, IA
Sent to: City of Waterloo, IA
Contract #:_____

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Federal Agency:_____

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State: Iowa
County: Black Hawk County
Town: Waterloo

======

Worktype: 86 (Phase IA)

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Keyword: 0-Types of Resources/Features 1-Generic Terms/Research Questions 2-Taxonmic Names 3-Artifact Types/Material Classes 4-Geographic Names/Locations 5-Time Periods 6- Project Name/Study Unit 7-Other Keywords

185 acres	[7]	Ansborough Avenue	[4]
Iowan Surface	[4]	U.S. Highway 20	[4]
Cedar River Basin	[4]	_____	[ ]
Prehistoric site potential	[1]	_____	[ ]
Historic site potential	[1]	_____	[ ]
Orange Township	[4]	_____	[ ]

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UTM Zone: 15 Easting:_____ Northing:_____
15 Easting:_____ Northing:_____
15 Easting:_____ Northing:_____
15 Easting:_____ Northing:_____

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Township: 88N
Range: 13W

Other Publication Types

1. **Monograph**
   Name:_____
   Place:_____

2. **Chapter**
   In:_____ First:_____ Last:_____

3. **Journal**
   Volume:_____ Issue #:_____ First:_____ Last:_____ ISSN: _____

5. **Dissertation**
   Degree: Ph.D. LL.D. M.A. B.A. B.S. Institute:_____

6. **Paper**
   Meeting:_____
   Place:_____

8. **Other**
   Reference Line:_____

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Site #: _____

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Quad Map: Waterloo South (1972)