

Appendix D-10

Class III Cultural Resources Survey

North Branch Park River Cart Creek Site 1

Park River Joint Water Resource District

T160N, R56W, Sec. 13 & 24

T160N, R55W, Sec 19

Pembina County, North Dakota

Christopher A. Plount
State Cultural Resources Specialist-East Zone
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US Department of Agriculture
Natural Resources Conservation Service
North Dakota State Office

Abstract:

The North Branch Park River Cart Creek Site 1, as proposed, has benefited from a Class I literature review and Class III survey encompassing the entirety of the Cart Creek site APE. North Dakota State Historic Preservation Office and Natural Resources Conservation Service Archive searches were coupled with interviews with the landowner Rick Hannesson, USDA Soil data, and other State and Federal information sources. These efforts have resulted in the discovery of no culturally sensitive material nor properties eligible for the National Register of Historic Places within the area of potential effect (APE) or one mile surrounding. The nature of the undertaking, rehabilitation of extant water control features and excavation/levee construction in previously disturbed areas, makes the inadvertent discovery of cultural resources unlikely. Therefore, the USDA-NRCS North Dakota Cultural Resources Specialist-East Zone recommends a finding of “**no effect**” to historic properties.

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Project Title: North Branch Park River Cart Creek Site 1

Legal Location: T160N; R56W; West ½ Sec. 13 and the entirety of Section 24
T160N, R55W, S ½ Section 19

County: Thingvalla Township, Pembina County

USGS 7.5' Quadrangle: Mountain, North Dakota 2017

Personnel: Christopher A. Plount (Principal Investigator-NRCS State Office) Zach Herman (Lead Engineer-Houston Engineering) and Rita Harmsen Sveen (District Conservationist-NRCS Cavalier Field Office).

Proposed Total Acres Surveyed: Approx. 125 acres

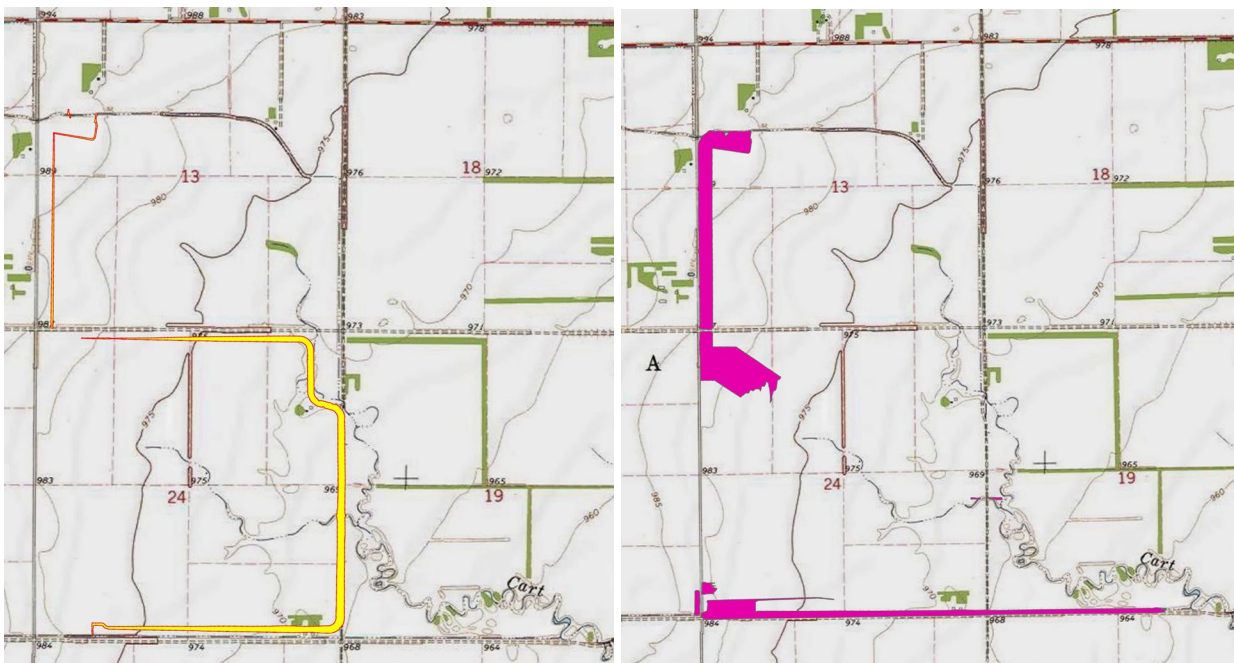


Figure 1: Embankments (left) and Excavation (right) areas.

Image Source: ESRI ArcMap, 2020.

1.0 Introduction:

The North Dakota Natural Resources Conservation Service (NRCS) proposes to construct an embankment and channel system to control seasonal flooding. Part of the larger North Branch Park River Watershed Plan, the Cart Creek Site 1 will implement NRCS Practice 587 (Water Control), 356 (Dike), and 362 (Diversion) is intended. A detailed description of the practices is listed in Appendix B.

The undertaking will repurpose and improve extant water control ditching and culverting in T160N, R56W, Sections 13 and 24. Construction of a levee system, inclusive of a primary and auxiliary spillway, will follow the northern, eastern and southern exterior boundaries of Section 24. A new water control diversion is planned through the center of Section 24. The undertaking is designed to use a significant portion of Section 24 as an inundation zone for major flooding events (Figure 2). A retrenching of an extant water control ditch and culvert replacement will occur on the southern boundary of T160N, R55W, S ½ Section 19.

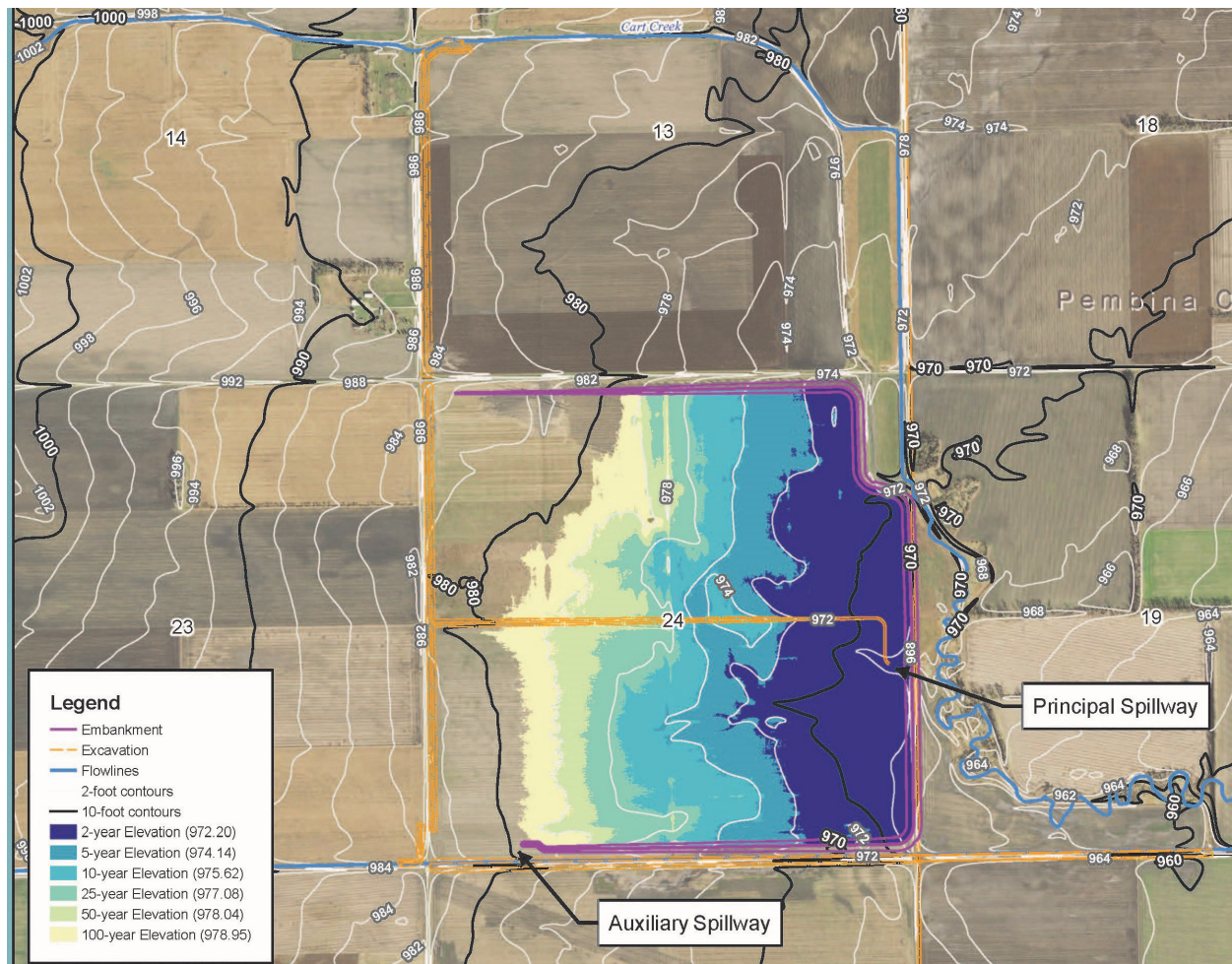


Figure 2: Section 24 Inundation zone.
Source: Houston Engineering.

1.1 Research Goals and Methods:

Historic maps, topographic maps, literature review, and in person interviews were combined with LiDAR, satellite imagery and engineering plans to pinpoint areas of interest. On April 23, 2020 the State Cultural Resources Specialist-East Zone completed Class III Survey of the area of potential effect (APE). Representatives of the NRCS Cavalier Field Office and Houston Engineering were present. Field reconnaissance was designed to achieve four goals:

- Positive location and identification of known cultural resources within the APE.
- Discovery and recordation of unknown cultural resources within the APE.
- Field assessment of NRHP eligibility of any cultural resources.
- Determine effects of the undertaking on any NRHP eligible properties.

2.0 Environment:

The project is in western Pembina County, North Dakota. No traditional medicine or culturally significant plants needing protection are known to be in the area (NRCS-Plants 2020). Silty loam and silty clay soils dominate the area (USDA-Soil Survey 2020). The elevation of the project area is roughly 1000 feet to 925 feet above sea level. T160N, R55W, S ½ Section 19 is not included as it involves no new ground disturbance and is a reconditioning of an extant drainage canal (Figure 3). The proposed APE encompasses part of the Cart Creek channel which has been heavily modified by both natural and anthropogenic forces since the original 1881 mapping (Figure 4).

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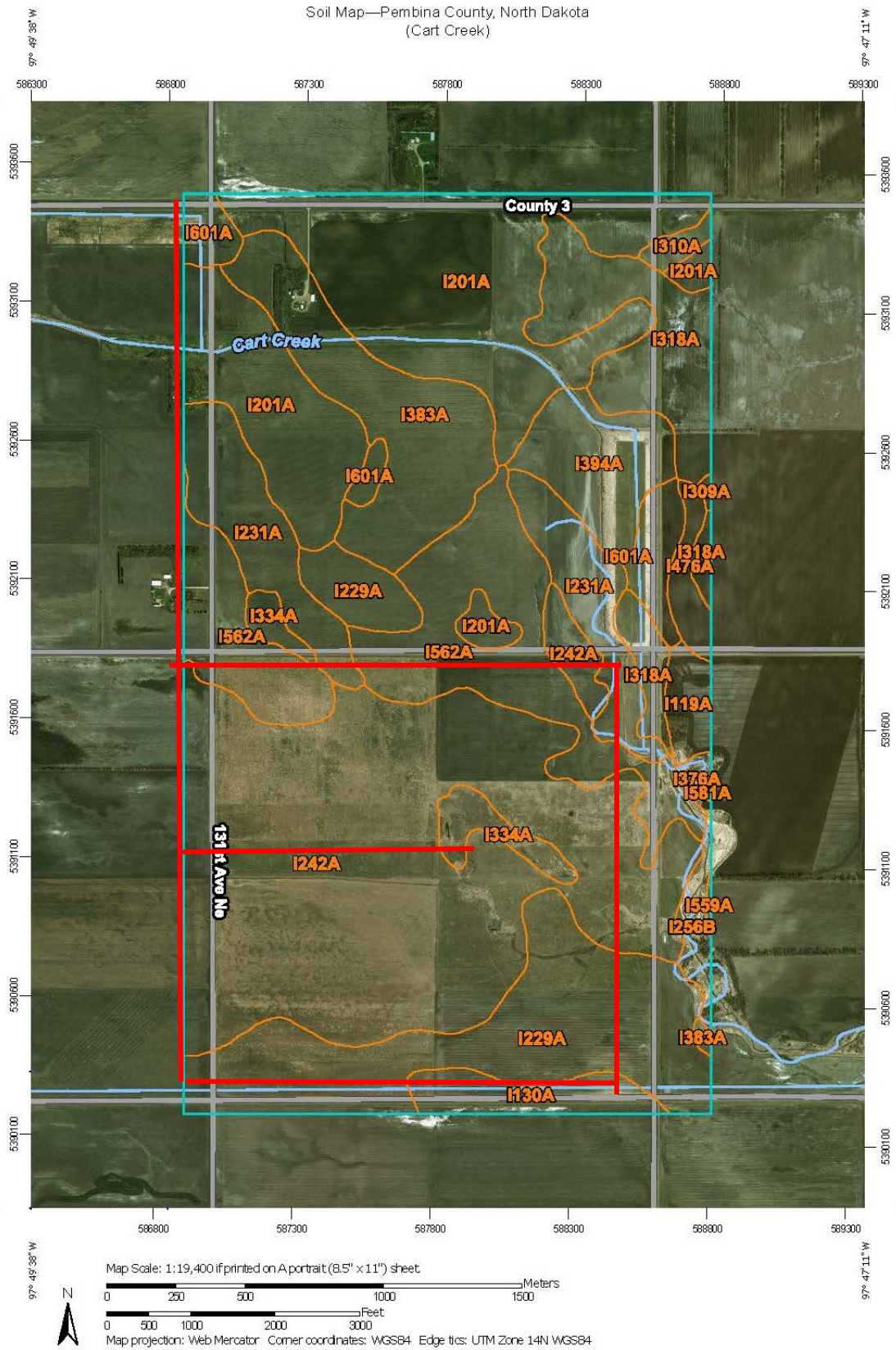


Figure 3: Soil Map with APE highlighted. Not to scale. Reference only.
Image Source: <https://websoilsurvey.sc.egov.usda.gov>

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
I119A	Bearden silty clay loam, 0 to 2 percent slopes	14.8	0.9%
I130A	Hegne-Fargo silty clays, 0 to 1 percent slopes	29.4	1.9%
I201A	Glyndon silt loam, 0 to 2 percent slopes	281.0	18.0%
I229A	Fargo silty clay, 0 to 1 percent slopes	185.6	11.9%
I231A	Dovray silty clay, 0 to 1 percent slopes	100.0	6.4%
I242A	Ryan-Fargo silty clays, 0 to 1 percent slopes	440.7	28.2%
I256B	La Prairie-Fluvaquents, channeled complex, 0 to 6 percent slopes, frequently flooded	12.5	0.8%
I309A	Arveson loam, 0 to 1 percent slopes	0.9	0.1%
I310A	Arveson fine sandy loam, 0 to 1 percent slopes	6.3	0.4%
I318A	Borup silt loam, 0 to 1 percent slopes	93.5	6.0%
I334A	Hegne silty clay, moderately saline, 0 to 1 percent slopes	24.1	1.5%
I376A	Colvin silty clay loam, 0 to 1 percent slopes	4.2	0.3%
I383A	Overly silty clay loam, 0 to 2 percent slopes	106.7	6.8%
I394A	Lamoure silt loam, 0 to 1 percent slopes, occasionally flooded	52.0	3.3%
I476A	Glyndon silt loam, moderately saline, 0 to 2 percent slopes	14.0	0.9%
I559A	La Prairie silty clay loam, 0 to 2 percent slopes, occasionally flooded	0.8	0.1%
I562A	Neché silty clay, 0 to 1 percent slopes, occasionally flooded	163.1	10.4%
I581A	Gardena very fine sandy loam, 0 to 2 percent slopes	0.4	0.0%
I601A	Bearden silty clay loam, moderately saline, 0 to 2 percent slopes	34.8	2.2%
Totals for Area of Interest		1,564.8	100.0%

Table 1: Soil types within the APE.
Data Source: <https://websoilsurvey.sc.egov.usda.gov>

3.0 Literature Review:

Historic maps, both topographic and General Land Office survey, were combined with LiDAR imagery and engineering plans to pinpoint areas of interest. North Dakota State Historic Preservation Office (SHPO) records were researched for sites and reports. NRCS archives were accessed for information about agricultural practices that involved ground disturbance and prior CRM reports.

McFarlane Consulting conducted a Class I literature review (Appendix B) of the proposed APE in September 2018. Two years had passed between the Class I and Class III, therefore, McFarlane's results were reverified in April 2020. A discrepancy was noted concerning the characterization of sites 32PBX201 and 32PBX202. Both sites were listed by McFarlane as "RR tracks, spur & siding" (McFarlane, section 5.3).

Coded sometime near 1986, 32PBX202 is described with "Site Type 48: Railroad Grade and Tracks" and "Context 29: Roads, Trails and Hwy". 32PBX201 lists only "Site Type 48: Railroad Grade and Tracks" and no context code. Closer inspection of the site forms reveals that 32PBX202 is the location and description of a portion of the Ridge Trail whereas 32PBX201 describes the intersection of the Tongue River Trail and Ridge Trail. Both are marked on the GLO 1881 map (Figure 4).

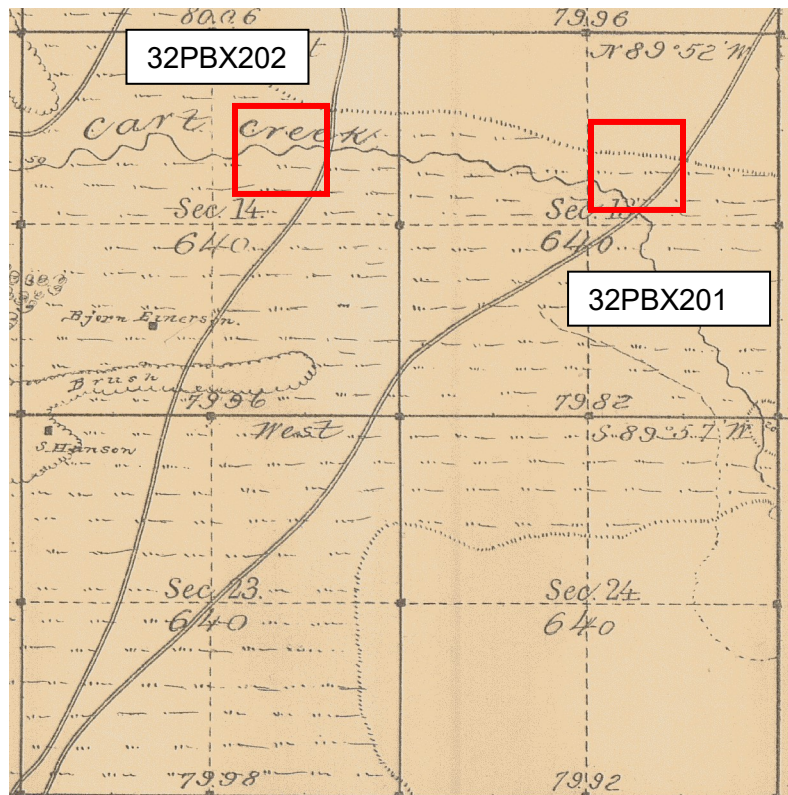


Figure 4: 1881 GLO map with 32PBX201/32PBX202 highlighted.
Data Source: North Dakota State Historical Society Archives

LiDAR imagery and historic topographic maps revealed two areas in need of special scrutiny within the planned inundation zone.

- Unknown rectangular structure near the center of Section 24 (Figure 5).
- Unknown structure in the NE ¼ of Section 24 (Figure 6).

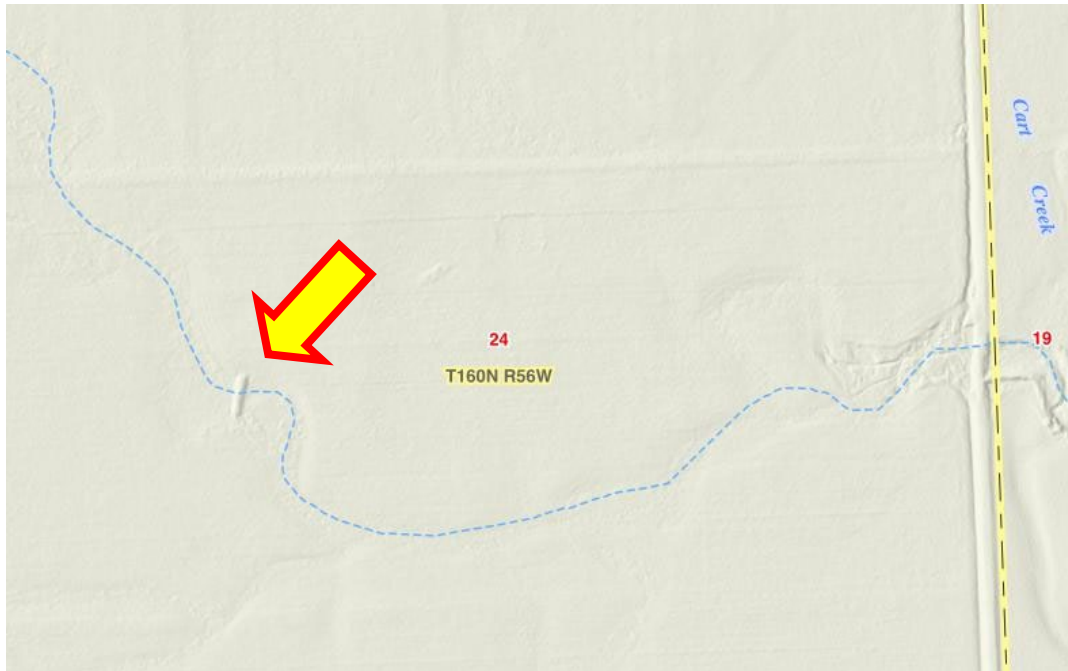


Figure 5: LiDAR indicated structure.
Source: North Dakota State Water Commission.

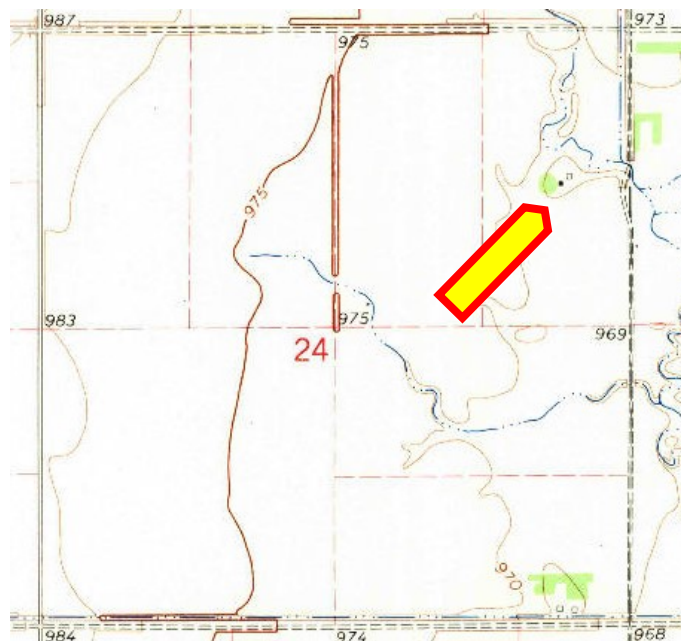


Figure 6: Unknown structure. Mountain 7.5 minute topographic (1964).
Source: <https://ngmdb.usgs.gov/topoview>.

Engineering plans show three areas of focus due to the degree of ground disturbance (Figure 7):

- North Inlet Channel/Overflow Spillway
- Principal Spillway Structure
- Auxiliary Spillway Structure

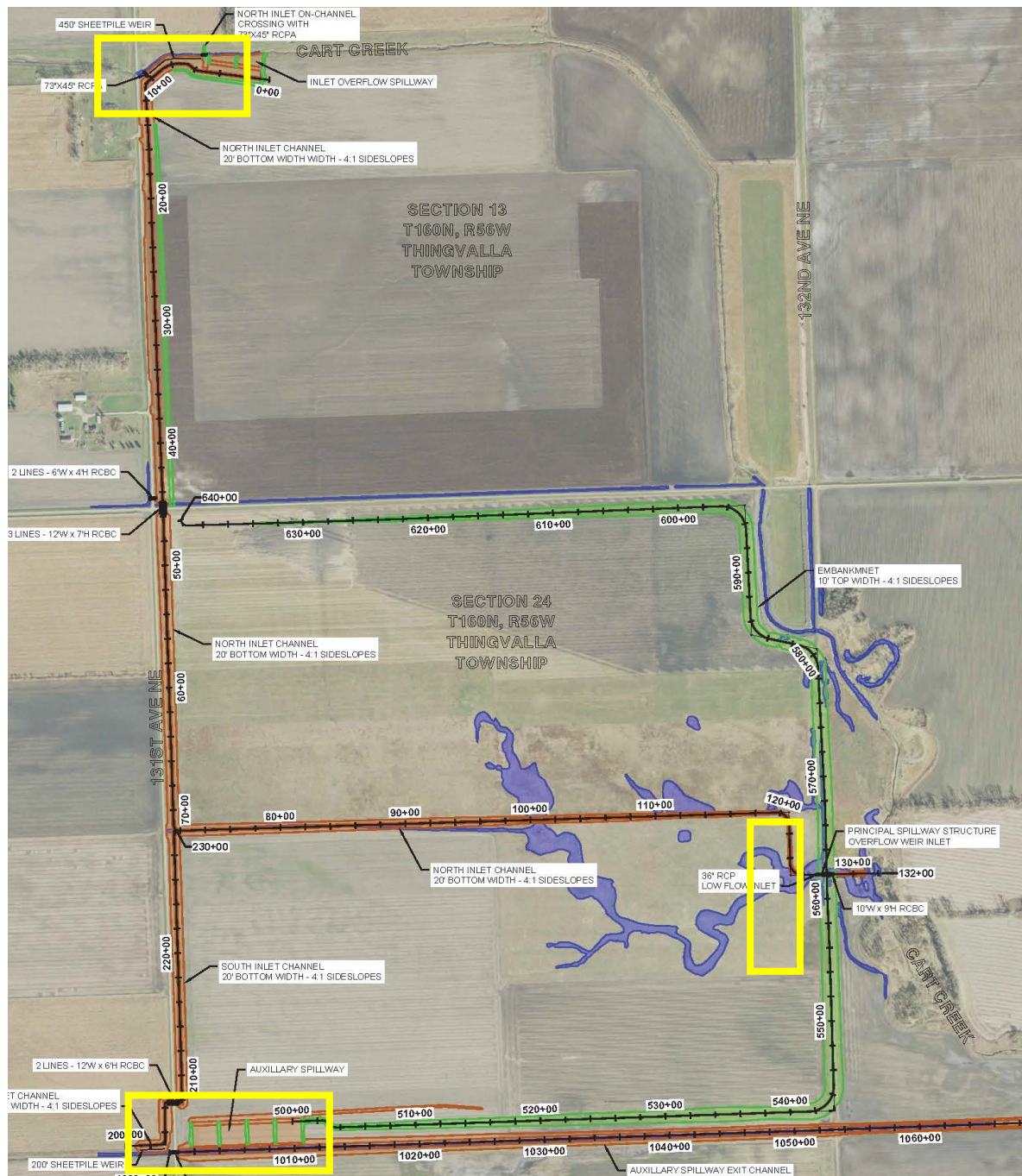


Figure 7: Design Plans showing areas of focused investigation.

Source: Houston Engineering.

4.0 Results of Field Reconnaissance:

On April 23, 2020 the State Cultural Resources Specialist-East Zone completed a Class III survey of the entire APE. Representatives of the NRCS Cavalier Field Office and Houston Engineering were present. The team was escorted by Mr. Rick Hannesson, landowner, who provided historic information of the APE.

4.1 Historic Trail:

The 1881 GLO map shows that the Ridge Trail crosses the APE at the boundary of SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 13 and the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 14 (Figure 4). No evidence of the trail was observed. The construction of 131st Avenue NE and decades of agricultural use (Figure 8) have obliterated any remnant of the trail.



Figure 8: Possible path of Ridge Trail
Image Source: Google Earth 2020

4.2 Rectangular Structure:

The rectangular structure visible on LiDAR (Figure 5) was explored. Interview with the landowner (Hannesson) and on-site inspection revealed the rectangular structure shown on LiDAR (Figure X) is a

seasonal dam used to control intermittent flooding. The landowner informed the field team that a skid steer or similar equipment is occasionally used to construct an earthen diversion dam during periods of high rainfall. The structure is frequently rebuilt using the surrounding soil as borrow (Figure 9). Records discovered after the field work supported Mr. Hanneson's claim (Figure 10).

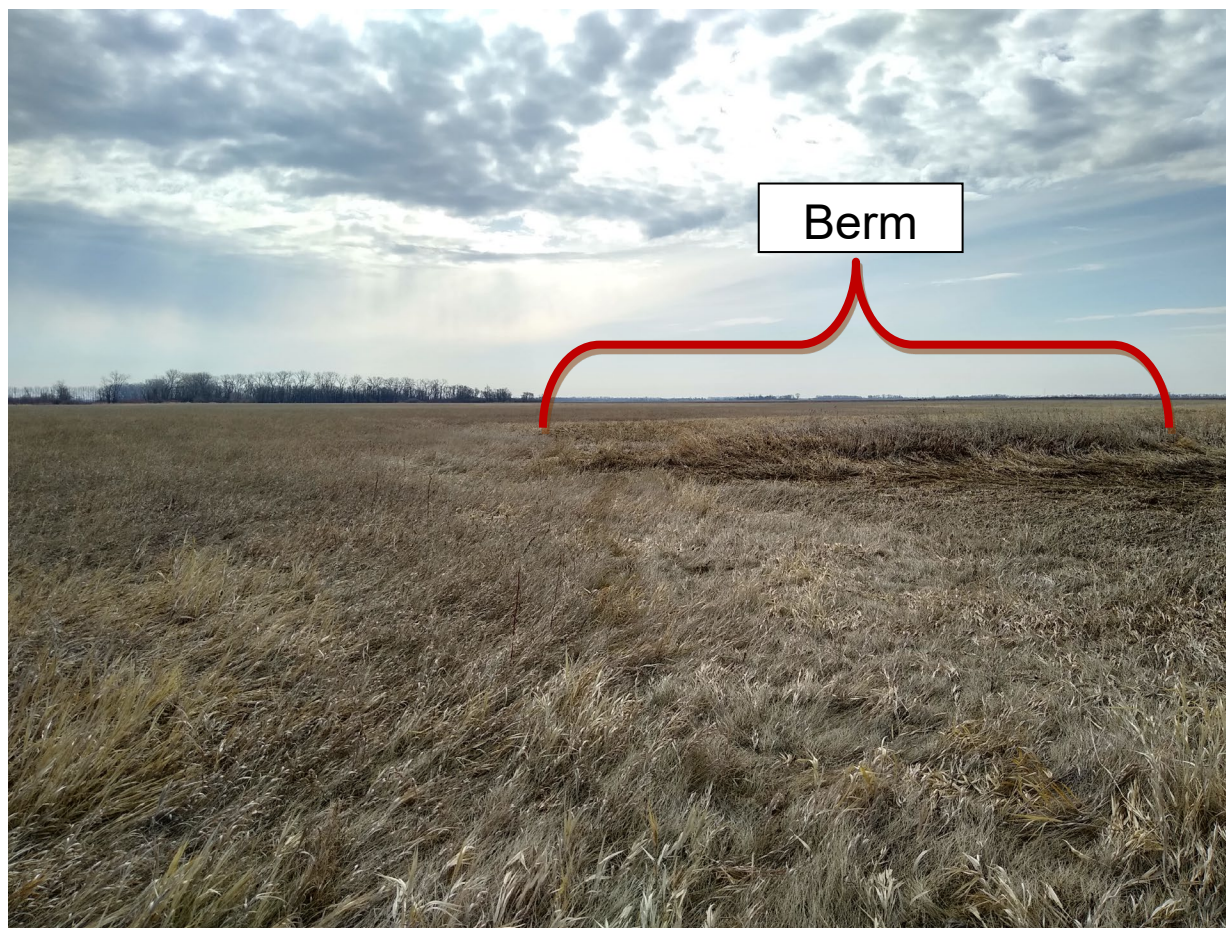


Figure 9: Berm structure; flattened and in need of seasonal repair.

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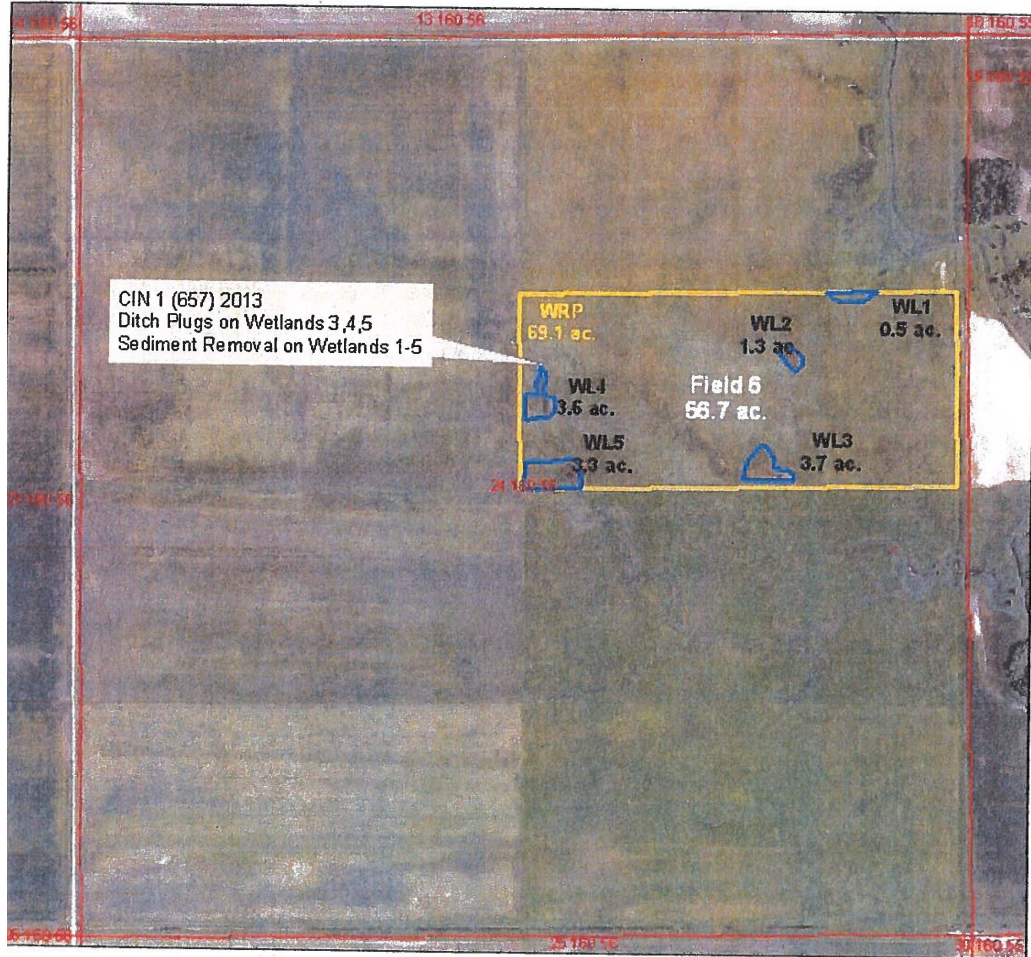
WRP Plan Map
Total Acres: 69.1

Date: 10/25/2012

Customer(s): RUSSELL V. HANNESSON
SHERRY L. HANNESSON

Field Office: CAVALIER SERVICE CENTER
Agency: USDA NRCS
Assisted By: BRENNYN HARDY
State and County: ND, PEMBINA

Legal Description: S1/2 NE 1/4 24-160-56



Legend

- Wetlands
- Hannesson_R_11014D0
- plss_a_nd067



Figure 10: Area of berm structure (WL5) showing areas of sediment removal.
Image Source: NRCS Archives.

4.3 Unknown Structure:

The unknown structure shown on the Mountain 7.5 minute (1964) topographic map (Figure 6) was determined to be the remains of a farmhouse. A number of artifacts were scattered across a wide area. Red and cream bricks (Figure 11), a cartwheel hub (Figure 12), pieces of laminate floor tile, and metal fragments were strewn about the surface. Various shards of thick brown bottles and glass containers, none with markings, were readily evident. Mr. Hanneson proffered that the farmhouse had been razed and the remains burned in the 1980's.

According to the landowner, the privy and cellar were filled in, then plowed under, in order to maximize the crop acreage. Additionally, Mr. Hanneson installed a subsurface drain system known as "Tiling", far below the plow zone, that controls drainage/standing water further disturbed the potential site.

The potential site has endured heavy ground disturbance. The heaviest concentration of surface artifacts was plotted (Figure 13) but are unlikely to provide meaningful context to the former farmhouse. In addition to a subsurface drain system and 40 years of agricultural production, figure 10 shows that sediment removal intersects the southernmost artifact area further disturbing the potential site. Temporal/stratigraphic integrity is unlikely due to heavy ground disturbance and the former home site is unlikely to provide "...demonstrable intact, subsurface cultural deposit(s)" (NDCRS Archaeological Site Form Manual pg. 10).



Figure 11: Red and cream brick at razed farm site.



Figure 12: Wheel hub at razed farm site.



Figure 13: 1964 topo overlaid with 2018 satellite imagery. Artifact scatter shown in red.

4.4 Engineering Plan Field Investigation:

Examination of the engineering plans produced three areas for special scrutiny. The North Inlet, Primary and Auxiliary Spillways. All three areas are heavily disturbed with extant water control structures and adjacent to *in use* cropland. All showed evidence of semi-regular high-water events. No shovel testing was performed. Ground visibility varied between 50-90 percent.

The North Inlet Channel will replace extant culverting (Figure 14) and will follow the previously excavated area south of Cart Creek, into the agricultural field. Pedestrian survey revealed no cultural material but evidence of heavy erosion due to flood events was apparent. The creek ditching and field are separated by a three-wire barbed wire fence with portions in disrepair. Areas described are readily visible on satellite imagery



Figure 14: Extant structure at proposed North Inlet Channel.
Image: Google Earth 2019

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The principal spillway will rehabilitate the visible culvert system (Figure 15) and clear and expand the extend the flood zone/drainage infrastructure. Pedestrian survey was hindered due to the knee high, brown grass and “gumbo” like sediment build up on the culverts west side. Prior flood events were apparent due to the quantity of modern detritus (beer cans, Styrofoam, plastic bags) in the area. Ground visibility was less than ideal but the conditions of the area make inadvertent discovery of cultural resources unlikely.



Figure 15: Extant structure and flood zone at proposed Principal Spillway.
Image: Google Earth 2019

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The Auxiliary Spillway will rehabilitate the visible culvert system (Figure 16) and deepen the existing flood zone/drainage infrastructure with a berm on the north side. The extant structure is 8 feet (2.43 m) deep and 35 feet (10.72 m) wide. At the undertaking will not exceed the current footprint, visual examination from the top of the structure was deemed sufficient. Due to the volume of water that transits the canal, inadvertent discovery of cultural resources is unlikely.

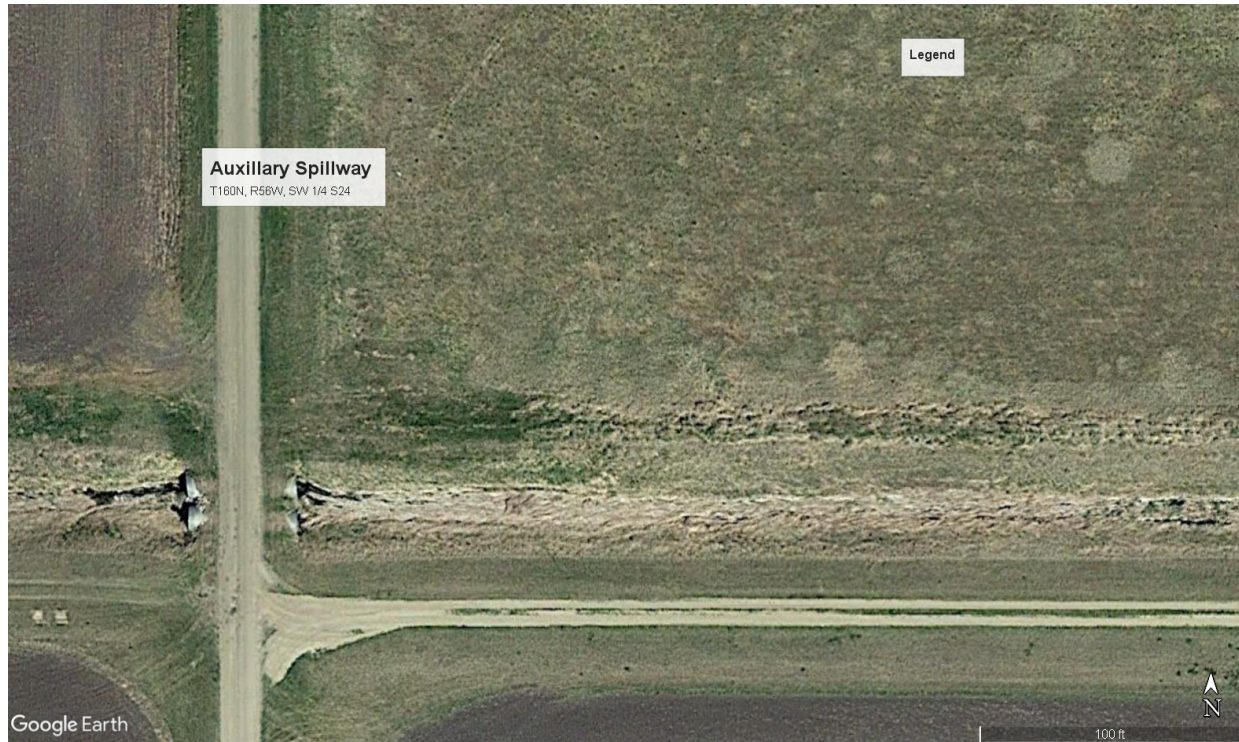


Figure 16: Extant ditching at proposed Auxiliary Spillway.
Image Source: Google Earth 2019

The proposed undertaking in T160N, R55W, S $\frac{1}{2}$ Section 19 consists of deepening the extant drainage canal (Figure 17) between 132ND Avenue and 86th Street NE. The APE will act as improved drainage for flood events into Cart Creek. Overgrown shrub, rubbish removal and culvert replacement will occur within the existing footprint. The structure is a continuation of the drainage canal previously described and shown in figure 16. It is 8 feet (2.43 m) deep and 35 feet (10.72 m) wide. No ground disturbance is anticipated beyond the outlined APE (Figure 18).



Figure 17: 2019 Satellite view of Section 19 existing drainage improvement.
Image Source: Google Earth.



Figure 18: Section 19 existing drainage improvement highlighted in yellow.
Image Source: Google Earth.

5.0 Conclusions:

A Class I literature review by McFarlane Consulting (Appendix A) and reconfirmed by NRCS discovered no NRHP eligible properties within one mile of the APE. The minor difference in descriptions for 32PBX201 and 32PBX202 are germane for analysis of this report but regarding the APE, irrelevant. The undertaking will have no effect on the sites.

The Class III survey conducted by NRCS resulted in no discovery of cultural resources or properties eligible for the National Register of Historic Places within the APE. The structure visible on LiDAR was resolved to be a manmade water control berm that is regularly reinforced with surrounding topsoil and plant material. It has no historic value.

The destruction of the farmhouse site in Section 24 is unfortunate. The lack of site integrity due to profound ground disturbance precludes any meaningful interpretation of the site or artifacts. Further investigation would be non-productive.

The three areas of interest shown on the engineering plans are positioned within the boundaries of extant water control structures. The areas are visibly affected by high water events and erosion.

6.0 Recommendations:

North Branch Park River Cart Creek Site 1 has no cultural resource concerns that may delay action on the undertaking. Farmhouse artifact scatter should be left in situ and no collection of artifacts or additional investigation is recommended. The undertaking, as designed, should proceed and a determination of “*no effect*” to historic properties is recommended.

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