Field Code		SITS# 32		_
Map Quad	Site Name			
Map Quad	Site Name			_
LTL TN., RW., Sec. LTL TN., RW., Sec. LTL TN., RW., Sec. LTL TN., RW., Sec.	QQQ of the QQ	of the Q of the Q of the Q of the Q	Subsection 1 = N ¹ / ₂ 2 = E ¹ / ₂ 3 = S ¹ / ₂	
NAD UTM NAD UTM UTM FEATURE TYPE Cultural Material Scatter Chimney Depression Dump Earthworks Fortification Foundation Grave Hearth Quarry/Mine Rock Art / Inscription Trail Wreck Other Other	Zone CULTURAL MATERIAL Bone Ceramics Charcoal Cloth Faunal Remains Fire-Cracked Rock Floral Remains Glass Hide, Hair, Fur Human Remains Masonry Metal Plastic Rubber Shell Wood Other		4 = W ¹ / ₂ 5 = NE ¹ / ₄ 6 = SE ¹ / ₄ 7 = SW ¹ / ₄ 8 = NW ¹ / ₄	_Site Type _Context ge of Occupation _Begin _End _Basis for Dating _Site Area (m ²) _Depth Indicator _Cultural Depth
				CM Density
Landform 1	Landform 2			
Slope/Exposure	Ecosystem			
Elevation meters	Drainage Syste	em		
Ownersnip	Fieldwork Date			
Site Condition	Collection			
Probe	Formal Testing	or Excavation		
Additional Information:				
SHSND USE Component Component Component Component	Verified Site	CR Type		
Recorded By:	Date	Recorded:		

Field Code _____

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1. Access:

2. Site Description (include setting and feature descriptions):

3. Cultural Material Description (identify and quantify artifacts):

Total Number of Artifacts = _____ Number of Artifacts Collected = _____

Recorded By: _____ Date Recorded: _____

Field Code _____

SITS# 32 _____

4. Description of Subsurface Testing (include all cores, shovel/auger probes, and test/excavation units):

5.	Field Conditions: Wet Snowy	Dry Overcast	Windy Sunny	Rainy Twilight				
6.	Technique(s) Used Transit GPS	to Estimate Site Area: Tape Measure Other (Explain)	Paced	Visual Estimate) -			
7.	Rationale for Site B Surface Cultural Ma Continuous Stratigr Formal Subsurface	Boundary Determination aterial raphic Exposure Testing	n: Features Systematic Probing Other (Explain)		Topography			
8.	8. Current Use of Site:							
9.	9. Vegetation:							
10. Vegetation Cover (percent of visible ground):								
11. Snow Cover (percent of ground obscured by ice or snow):								
12. Person-Hours Spent at the Site:								
13. Description of Collection(s) Observed and Contact Information:								

14. Project and Principal Investigator:

15. Contracting Firm or Agency Completing the Form:

Recorded By: _____ Date Recorded: _____

Field Code _____

SITS# 32 _____

16. Statement of Integrity:

17. Statement of Significance:

18. References Cited/Comments:

Recorded By: _____ Date Recorded: _____

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Complete Location Information from P. 1

T. 151 N., R. 50 W. Sec. 10, QQQ 6 of the QQ 5 of the Q 5 T. 151 N., R. 50 W. Sec. 10, QQQ 5 of the QQ 6 of the Q 5 T. 151 N., R. 50 W. Sec. 11 QQ 1 of the Q 8 T. 151 N., R. 50 W. Sec. 11 QQ 8 of the Q 5 T. 151 N., R. 50 W. Sec. 11 QQQ 7 of the QQ 5 of the Q 5 T. 151 N., R. 50 W. Sec. 11 QQQ 8 of the QQ 6 of the Q 5 T. 151 N., R. 50 W. Sec. 11 QQQ 7 of the QQ 6 of the Q 5 T. 151 N., R. 50 W. Sec. 11 QQ 2 of the Q 7 T. 151 N., R. 50 W. Sec. 11 QQQ 3 of the QQ 7 of the Q 7 T. 151 N., R. 50 W. Sec. 11 QQ 6 of the Q 7

2. Site Description (include setting and feature descriptions):

(...continued from Page 2)

The destroyed concrete flood wall began 42 m southeast of the intersection with Plum Avenue at around the 830 ft contour (approximately 253 m) above the river bank. The concrete flood wall followed a course to the south-east roughly parallel to Lincoln Drive for 36.5 ft before turning in a more southerly direction for approximately 100 meters and then angling slightly to the east for another 100 m. At this point, approximately 235 meters from its point of origin, the flood wall merged with an earthwork levee. This concrete flood wall does not appear to have been part of the original plan proposed by the Army Corps of Engineers. It was presumably built to avoid the need to remove 6 homes in order to install an earth levee in the narrow space between Lincoln Drive and the river on the west side of the neighborhood.

The levee followed the course of the Red River as it meanders to the south and then turns toward the north and then toward the northwest When the river arcs to the northeast at the northern edge of the Lincoln Drive neighborhood, the flood wall turned more sharply the west where it continued until merged with the higher terrain of the homes on Reeves Drive in the Near South Side neighborhood. The c-shaped flood wall and levee system bounded the area of the Lincoln Drive neighborhood prior to the flood of 1997 and protected approximately 350,000 sq m.

The levee itself consisted of compacted fill excavated from a borrow pit a few miles from the Lincoln Drive site. The levee featured sloping sides at 1:2.5 ratio and a total width of around 36.5 m. The relative height of the levee varied, but the 3 m wide top of the levee was 253 m asl. The walls were built directly upon the surface of the ground and covered with 15 cm of topsoil and seeded with grass.

17. Statement of Significance

(...from Page 4)

The Red River of the North had little inclination to accommodate the growth of Grand Forks and East Grand Forks, Minnesota during the post war decades. Significant floods in 1948 and 1950 saw the river overrun its

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banks with crests of 41.68 ft and 45.61 ft respectively (NB: flood heights are officially recorded in feet and that convention is preserved here). The 1950 flood caused \$33 million worth of damage (which is the equivalent to almost a half a billion dollars in 2023) and put additional pressure on the city's already strained housing stock by causing the destruction of a number of homes in low lying areas. Smaller floods in 1951 (33.52 ft) and 1952 (33.60 ft) inflicted additional damage.

The Army Corps of Engineers proposed a flood mitigation plan for Grand Forks and East Grand Forks, Minnesota in 1953 (Bokay 1953). This plan continued work elsewhere in the region including reservoirs on various tributaries to the Red in North Dakota and Minnesota and levees around other communities. For Grand Forks, flood mitigation focused on the Lincoln Drive neighborhood which was the lowest lying area of the city and included over 350 houses as well as a school. According to the Army Corp plan: "The improvement at Grand Forks consists of a single section of levee 6,555 feet long having a maximum height of 22.5 feet" (Bokay 1953, 7) The levee would be 10 ft wide (3 m wide) and would stand over 52.5 ft (16 m) above gauge level on the Red River in Grand Forks (780 ft). This height would protect the Lincoln Drive neighborhood not only a flood event like that experienced in 1950, but also from the highest previous recorded flood levels, 50.20 ft in 1897. When the wall was completed in 1958, approximately 235 m of the proposed earthen levee was replaced with a concrete flood wall presumably avoid the removal of several homes along the south side of Lincoln Drive. The earth for the earthen levee was quarried from a borrow pit west of Belmont Road in south of the intersection with Terrace Drive. The flood mitigation plan also included a pumping station in Lincoln Drive.

The 1958 flood wall is significant because it was the last major flood mitigation project prior to the devastating 1979 and 1997 floods in Grand Forks. In 1979, the rising waters of the Red River came within 4 feet of the top of the levees which residents reinforced with sand bags (Brokke 2015, 242-244). The aging levees held, but showed signs of strain with residents reporting cracks in their earthen walls. Overland flooding compounded the problem of the cresting river and revealed the increasingly complex relationship between flooding and drainage in the growing city. In 1997, the levees began to fail around the Lincoln Drive neighborhood and the homes were evacuated. In the end, the levees held, but the rising river crested at 54.35 ft and simply overran city streets before topping the levees and inundating much of the city of Grand Forks. In the aftermath of the devastating flood, the Army Corp punched through the earthen levees to allow the water that had pooled behind it to escape. The Lincoln Drive neighborhood and the 1958 flood wall were destroyed as part of the more ambitious post-1997 flood mitigation project.

As significant as the 1958 flood wall was to the local community and residents of the Lincoln Drive neighborhood it also spoke to larger national trends. The growing pressure on affordable housing in the immediate aftermath of World War II undoubtedly influenced the decision to protect Lincoln Drive neighborhood from flooding. The 1958 levee and flood wall also made manifest the long tail of national efforts to tame Western rivers which shaped not only the topography of Grand Forks, but also the Red River and its tributaries.

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18. References Cited/Comments:

- Bokay, Kevin. 1953. Flood Control Definition Project: Red River of the North at Grand Forks, ND-East Grand Forks, Minn. Office of the District Engineer, Corp of Engineers, US Army. St. Paul, Minnesota.
- Brokke, Kathleen Ruth Gilmore. 2015. "Transformation of the Red River Valley of the North: An Environmental History." PhD Dissertation. North Dakota State University. Fargo, ND.
- Caraher, William and Susan Caraher. "Report on the Windshield Survey of Midcentury Grand Forks Housing (1945-1970)". Unpublished manuscript, Grand Forks, ND: Grand Forks Historic Preservation Commission, 2021.
- Harrison, Samuel S. and John P. Bluemle. 1980. *Flooding in the Grand Forks and East Grand Forks Area*. North Dakota Geological Survey, Fargo ND.
- White. R. 1995. The Organic Machine: The Remaking of the Columbia River. Hill and Wang, New York.
- Worster, D. 1985. *Rivers of Empire: Water, Aridity, and the Growth of the American West*. Pantheon Books, New York.

Photo Log (Attachments)

- Map 1: Grand Forks topo map
- Map 2: Detail of Map 1 showing 1958 flood wall in Lincoln Park marked in red.
- Map 3: Photo locations and direction of photos.
- Photo 1: View of north end of Lincoln Park from the top of the current flood wall. Photographer facing east.
- Photo 2: View of north end of Lincoln Park. Photographer facing north-west.
- Photo 3: View of east side of Lincoln Park. Photographer facing south.
- Photo 4: View of east side of Lincoln Park. Photographer facing south-west.
- Photo 5: View of south end of Lincoln Park. Photographer facing east.
- Photo 6: View of south end of Lincoln Park. Photographer facing west.

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Complete one Attachments Section for the entire site/lead/isolated find, including a topographic map, sketch map, photographs, and any other figures.



Map 1: Grand Forks topo map (created by William Caraher)

 Recorded By:
 William Caraher
 Date Recorded:
 9/2/2023

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SITS# 32 _____

Complete one Attachments Section for the entire site/lead/isolated find, including a topographic map, sketch map, photographs, and any other figures.



Map 2: Detail of Map 1 showing 1958 flood wall in Lincoln Park marked in red.

 Recorded By:
 William Caraher
 Date Recorded:
 9/2/2023

Field Code WRC2023

SITS# 32 _____

Complete one Attachments Section for the entire site/lead/isolated find, including a topographic map, sketch map, photographs, and any other figures.



Map 3: Photo locations and direction of photos.

Recorded By: William Caraher Date Recorded: 9/2/2023

Field Code WRC2023

SITS# 32 _____

Complete one Attachments Section for the entire site/lead/isolated find, including a topographic map, sketch map, photographs, and any other figures.



Photo 1: View of north end of Lincoln Park from the top of the current flood wall. Photographer facing east. Photo taken August 31, 2023.

Recorded By: William Caraher Date Recorded: 9/2/2023

Field Code WRC2023

SITS# 32 _____

Complete one Attachments Section for the entire site/lead/isolated find, including a topographic map, sketch map, photographs, and any other figures.



Photo 2: View of north end of Lincoln Park. Photographer facing north-west. Photo taken August 31, 2023.

Recorded By: William Caraher Date Recorded: 9/2/2023

Field Code WRC2023

SITS# 32 _____

Complete one Attachments Section for the entire site/lead/isolated find, including a topographic map, sketch map, photographs, and any other figures.



Photo 3: View of east side of Lincoln Park. Photographer facing south. Photo taken August 31, 2023.

 Recorded By:
 William Caraher
 Date Recorded:
 9/2/2023

Field Code WRC2023

SITS# 32 _____

Complete one Attachments Section for the entire site/lead/isolated find, including a topographic map, sketch map, photographs, and any other figures.



Photo 4: View of east side of Lincoln Park. Photographer facing south-west. Photo taken August 31, 2023.

Recorded By: _____ William Caraher _____ Date Recorded: _____ 9/2/2023

SITS# 32 _____

Field Code WRC2023

Complete one Attachments Section for the entire site/lead/isolated find, including a topographic map, sketch map, photographs, and any other figures.



Photo 5: View of south end of Lincoln Park. Photographer facing east. Photo taken August 31, 2023.

 Recorded By:
 William Caraher
 Date Recorded:
 9/2/2023

Field Code WRC2023

SITS# 32 _____

Complete one Attachments Section for the entire site/lead/isolated find, including a topographic map, sketch map, photographs, and any other figures.



Photo 6: View of south end of Lincoln Park. Photographer facing west. Photo taken August 31, 2023.

 Recorded By:
 William Caraher
 Date Recorded:
 9/2/2023