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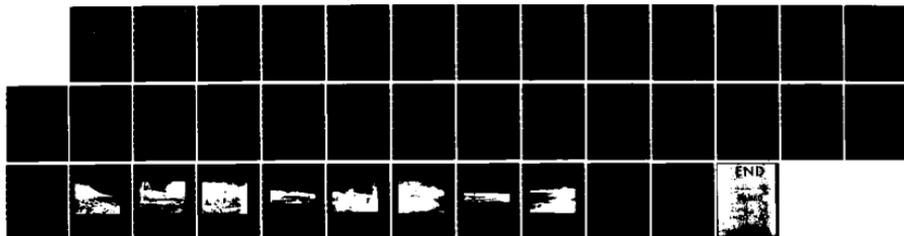
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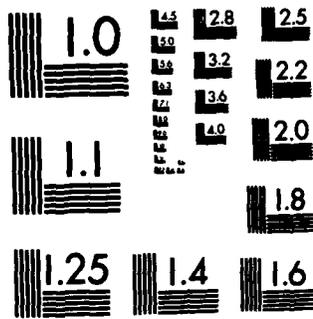
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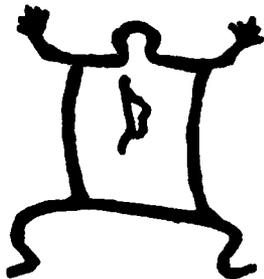
AN INVESTIGATION OF CULTURAL RESOURCE POTENTIALS
IN AREAS OF PROPOSED HARBOR PROJECTS,
EROSION CONTROL PROJECTS, AND CREEK REROUTING
IN ASHLAND, PORT WING, SAXON HARBOR, AND
WASHBURN, WISCONSIN

by : Richard B. Lane, Archaeologist
St. Cloud Museum of Man

for : St. Paul District
Corps of Engineers

contract : DACW37-77-M-1926, 1928, and 1929
Dated 15 November 1977

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This report is descriptive, primarily, of the negative evidence encountered in all of the project areas.

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FINAL REPORT

AN INVESTIGATION OF CULTURAL RESOURCE POTENTIALS IN AREAS OF PROPOSED HARBOR PROJECTS, EROSION CONTROL PROJECTS, AND CREEK RE-ROUTING IN ASHLAND, PORT WING, SAXON HARBOR, AND WASHBURN,

WISCONSIN

AUGUST 1977

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AN INVESTIGATION OF CULTURAL RESOURCE POTENTIALS IN AREAS OF PRO-
POSED HARBOR PROJECTS, EROSION CONTROL PROJECTS, AND CREEK RE-
ROUTING IN ASHLAND, PORT WING, SAXON HARBOR, AND WASHBURN,

WISCONSIN

AUGUST 1977

by: Richard B. Lane, Archaeologist

The St. Cloud Museum of Man
Stewart Hall
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St. Cloud, Minnesota 56301

PREFACE

The following report is concerned with an investigation of the potential cultural resources located in the proposed shoreline erosion project and rerouting of Oronto Creek in the Saxon Harbor area of Iron County, the shoreline erosion project near Port Wing and small boat harbor in Washburn, Bayfield County, as well as the shoreline erosion project and proposed small boat harbor in Ashland, Ashland County. All of these areas are located on the south shore of Lake Superior in extreme northern Wisconsin (see figure #1 for general project locations).

The investigation was funded by the U.S. Army Corps of Engineers through purchase orders (DACW37 77M-1926, DACW37 77M-1928, and DACW37 77M-1929) with my institution, the St. Cloud

Museum of Man. Field work was carried out between the 15th and the 25th of August, 1977, with a total of 160 man-hours spent in field survey and testing operations. Laboratory work, photographic processing, analysis, and the writing of this report was accomplished between the 26th of August and the 30th of September, 1977.

There are a number of people whose help contributed greatly to any merit this report may possess. I must express my thanks to Mr. Dan Bowman, late of the Environmental Resources Branch, U.S. Army Corps of Engineers in St. Paul who initiated these projects with our Museum, and to Ms. Audrey Thomas, Mr. Bowman's successor, who has managed so well to see the projects through to completion. My field assistant, Mr. Kent W. Fuhrman, was a constant help throughout the project, and allowed me to exploit his many talents and abilities to an uncommon degree. Not the least of my thanks must go to the many residents, land owners, and interested people of the Bayfield, Ashland, and Iron county areas who furnished us with a great deal of information regarding their home "country".

Any errors of fact, judgement, or interpretation contained in this report are, however, completely my own responsibility.

INTRODUCTION

The south shore of Lake Superior, at least that portion of it which forms the northern Wisconsin coastline, shows evidence of having been utilized by prehistoric human groups as early as 5000 years ago (e.g., Penman 1977), is relatively well known during

the historic contact period (e.g., Kinnietz 1940), and has a well documented Euroamerican history (e.g., Thompson 1973). Although the area does possess what many consider a rather high potential for both archaeological and historical resources, it is one of the least thoroughly studied areas within the state (e.g., Salzer 1969). This is one of the many reasons why such projects as this present Corps of Engineers sponsored investigation are of such importance.

Investigation Procedures. The initial purpose of any cultural resources investigation is to determine the presence or absence of materials pertaining to past human activity within a given area or areas. The research design and procedures for such investigations are relatively standard; those employed during this investigation are briefly described below.

A literature search was carried out in order to discover if any already documented sites, either excavated or unexcavated, existed within the project areas as defined by the scope of work (these are cited in the "References" section of this report). Similar in some respects to a literature search was an examination of both historic and modern maps, as well as aerial photographs (when available), of the project areas in order to determine the presence of any former structures as well as to delimit the most probable terrain for areas of cultural resources. Local residents were interviewed for data regarding possible site areas as well as for information relating to any collections which might exist

from areas within the bounds of the survey area.

The pattern of field investigation consisted, most basically, of my field assistant (Mr. Fuhrman) and myself first walking the entire project area examining the ground surface for indications and/or evidence of past human activity of any sort. This was followed by subsurface testing, at 15 meter intervals if no surface indications were found, and 5 meter intervals if any surface indications were present.

Testing involved the excavation of 50 centimeter (19.68 inch) square test pits through a depth at which definitely sterile subsoil was encountered. All soil excavated from these pits was screened through 0.64 centimeter (one-quarter inch) wire mesh to insure the recovery of any small items which might otherwise have been missed during the process of excavation. All such test pits were backfilled prior to our departure from the area being tested. Field chemical tests -- phosphate, carbonate, and pH -- were employed on occasions when it was deemed useful.

All recovered materials, along with all the field notes, site survey forms, maps, photographs, and photographic negatives are permanently on file and available for study at the St. Cloud Museum of Man, located in Stewart Hall on the campus of St. Cloud State University in St. Cloud, Minnesota.

Report. This report, at the suggestion of Mr. D. Bowman, incorporates all of the project areas examined by the Museum under the three purchase orders issued by the Corps of Engineers. It

is descriptive, primarily, of the negative evidence encountered in all of the project areas.

SAXON HARBOR [DACW37 77M - 1926]

Information obtained from the Wisconsin State Historic Preservation Officer and from interviews with local residents of the Saxon Harbor area (figure #2) indicated the possibility of both historic and prehistoric sites existing in the general area. The historic period post of Ironton was built in this area in 1856 to serve as a port facility for the burgeoning mining operations in the nearby Gogebic Iron Range. Ironton was, however, abandoned in its infancy shortly after the Panic of 1857. Local residents of the present village of Francis reported hearing stories of the finding of both historic and aboriginal "relics" in the area, although no-one interviewed either had collections or had actually seen the reported materials. The nearest documented site, recorded in the S.H.P.O. files, is an historic Chippewa cemetery located some 4.02 kilometers (2.5 miles) west of the project area near Graveyard Creek.

Due to the possibility of sites in the area, survey and testing procedures were extended somewhat beyond the project area to include possible source areas for fill or disposal areas for construction debris.

AREA OF PROPOSED BLUFF STABILIZATION. This area (Plate I), from the local west pier to approximately 457.2 meters (1500 feet) west,

was investigated from the active slump zone lakeward (north) to the present waterline as well as landwards (south) back an average distance of 20 meters (65.60 feet). In addition to the initial walkover, subsurface testing at 15 meter intervals was carried out on the landward side while a walk, or climb, over was done on the actively slumping zone and on the beach line itself.

The soils on the landward side of the eroding bluffs were generally undisturbed, and were found to be sterile of cultural materials. Physical appearance and chemical testing showed them to be typical of northern forest soils; subsoil was encountered at depths varying from about 8 to 15 centimeters (3 to 6 inches). The active erosional area, tested chemically and visually inspected for any cultural material which might be eroding out, was also found to be barren of cultural material. The entire project area, and the areas immediately adjacent, showed no evidence of prior human occupation.

If sites had existed in the area, they have been destroyed by the "red clay erosion" typical of the south shore areas of Lake Superior. At the present time, there is no indication of any cultural resource existing either in, or near, the area of proposed bluff stabilization.

PROPOSED REROUTING OF ORONTO CREEK. The area of the proposed rerouting of the creek (Plate II) parallels the present Iron County road to the harbor and village of Francis. The project reroute goes through an area that has been significantly modified a number of

times, an area which seems to have been used alternately as a source of fill and as a dump area and has, most recently, been subjected to landscaping operations in association with the present dock/marina facility.

Subsurface testing, at 5 meter intervals, was carried out along the line of the proposed creek reroute. Artificial sodding was encountered along areas nearest the present creek (at the southern end of the proposed reroute) while the upper soil levels along the northern two-thirds of the line consisted primarily of recent construction debris -- most probably relating to the post 1941 marina/dock construction in the area. Recent disturbance was noted along the entire reroute line, at varying depths below the surface, but in every instance undisturbed soil levels occurred only at or below the level of sterile subsoil.

Any sites which may have existed in the area have been destroyed completely through the multiple construction, or modification, activities which have taken place in the relatively recent past. There is absolutely no indication of undisturbed, or even disturbed, historic/prehistoric cultural resources present in the area of the proposed rerouting of Oronto Creek.

SUMMARY. Although the historic site of Ironton is reported to have existed in this general project area, no evidence, structural or otherwise, of the site was discovered. It must be presumed that earlier Oronto Creek modifications, harbor/marina construction, and lakeshore erosion have destroyed the site. No evidence was recovered

in either the project area, or within the adjacent tested areas, indicative of any human historic or prehistoric activity -- most probably for the same reasons. A terrace, above what was probably glacial Oronto Creek/River, and on which both a small county park and the present small resort community of Francis exist, is the most likely remaining spot for either historic or prehistoric evidence of human occupation to be found. This terrace is outside the project areas, well west of the creek rerouting and far to the south of the bluff stabilization.

WASHBURN/PORT WING [DACW37 77M - 1928]

Neither the State Historic Preservation Officer of Wisconsin nor any of the local informants interviewed gave any indication of the possibility of sites present in the Washburn or Port Wing areas. All project areas were tested utilizing the procedures described earlier in this report; as neither borrow nor disposal areas were known at the time of this survey, it was our procedure to test areas adjacent to project areas in order to discover either presence or absence of cultural resources and better be able to make recommendations regarding site selection.

WASHBURN HARBOR - SMALL BOAT HARBOR ALTERNATIVES (figure #3)

Alternative 1 - Adjacent to City Dock. This area has been subjected to multiple periods of construction and surface modification, leaving only exposed sterile subsoil in some areas and mixed construction debris in others. The entire project area is basically

cut down to the level of sterile subsoil; subsurface testing produced no evidence of past human activity other than the mixing of industrial debris from recent periods.

The northwestern shoreline, adjacent to the project area, and the low bluffs to the landward (Plate III) were subjected to testing as they form a logical source area for fill, or for dumping. Portions of the area were found to be disturbed, probably by the city and county road construction at its northwest margin, but enough remained to determine a general soil profile -- sod/humus for 5 to 8 centimeters (2 to 3 inches), a thin, organic stained horizon for some 3 to 5 centimeters (1.5. to 2 inches), and then sterile subsoil (C horizon) encountered at an average depth of 15 centimeters. The only indication found of past human activity was one small waste flake, found in a disturbed area, with no other associations.

If sites were present in either the project or adjacent areas, they have been destroyed through the numerous construction activities which have taken place in and around the city dock zone.

Alternate 2 - Adjacent to C. Reiss Coal Co. (figure #3). The surface alteration of this area due to construction activity is also obvious. A large portion of the area is currently being used as a sand and gravel stockpile while the entire area has been graded to sterile subsoil for ease of access in stockpiling. Recent bulldozing, in and adjacent to the project area, furnishes fill for county roadbuilding operations according to a local informant.

Surface and subsurface testing proved negative, and soil profiles similar to those found in the area of Alternate 1 were recorded in the few undisturbed areas adjacent to this project area.

If sites were present, the cutting and grading operations already noted have removed them entirely. There was no evidence whatsoever discovered for the presence of undisturbed cultural material either within or adjacent to the project area.

Alternate 3 - Adjacent to West End Picnic Area (figure #3).

Initially, this seemed to be the most promising of the three wash-burn areas in terms of its potential for producing evidence of past human occupation. The topography of the area and the presence of what appeared to be undisturbed areas to the north and east of the project area proper caused us to carry out relatively intensive testing.

Subsurface tests showed the area to have been heavily modified. The entire project area has been subjected to a number of landscaping activities (this was subsequently verified by a number of informant, including one who had worked on one of the projects) which, in most cases, involved removing the topsoil to at least the C horizon (Plate IV). This was followed by artificial sodding in some areas and reseeding in others. No evidence, structural or otherwise, of either historic or prehistoric human occupation was recovered from the survey and testing of this project area.

If a site, or sites, were present in the picnic area, the surface and subsurface modifications involved in the landscaping

operations has resulted in their complete destruction. Areas adjacent to the project area were also found to have been disturbed; the only evidence remaining of even the historic sawmill and timbering period are a few small, tree covered "islands" of pilings in the harbor nearby.

PORT WING - PROPOSED SHORELINE EROSION CONTROL DEMONSTRATION PROJECT

The project area is an area of actively eroding bank approximately 305 meters (1000 feet) in length on the south shore of Lake Superior, located north of and adjacent to Highway 13 in Bayfield County some 37 kilometers (23 miles) east of Superior and 9.65 kilometers (6 miles) west of Port Wing, Wisconsin (figure #4). The area has been, and continues to be actively eroding in the manner typical of the local red clay erosion (Plates V and VI) and now is threatening the nearby highway.

The project area was tested, both through subsurface and chemical techniques, but produced no evidence of cultural material. The majority of the area had been disturbed, either by the processes of erosional slumping or else by the highway construction. The eastern end of the area had been further disturbed by the construction of a road-side picnic area (now eroded away) and the asphaltting of a small access road/parking area. The wooded area, south of the highway and beyond the borrow pit was tested and produced what is probably the typical soil profile for the area showing normal soil development to a depth of 8 to 10 centimeters (3 to 4 inches) before sterile subsoil is encountered.

If any cultural resources had been present in the project area, they have since been destroyed by either the natural erosional processes occurring in the area or else by the construction of Highway 13.

Areas more likely to contain evidence of past human activity would probably be located at, or near points where watercourses enter Lake Superior -- such as Reefer Creek to the east and Fish Creek to the west. A number of sites are known from the Bois Brule River are some 7.65 kilometers (4.75 miles) west of the present project area.

SUMMARY. Neither the three alternate project areas in Washburn nor the Port Wing erosion control demonstration area produced any evidence of historic or prehistoric human occupation. What evidence may have existed in these areas has been destroyed through either construction activity in the relatively recent past or else by erosion. The nearest known sites to any of the project areas are at least 7.65 kilometers (4.75 miles) away and should in no way be threatened by the planned Corps construction.

ASHLAND [DACW37 77M - 1929]

The four project areas, discussed below, were examined and tested in accordance with the procedures earlier described. None of the four showed any evidence for the presence of undisturbed cultural resources although, in most instances, the areas would have been almost ideally located for either historic or prehistoric

human occupation. It may well be this locational quality that is responsible for the lack of undisturbed resources, as the entire harbor area has been extensively utilized, re-utilized, and constantly modified since the historic Euroamerican period (e.g., Chapple 1974).

LAKE PARK - BEACH EROSION CONTROL PROJECT (figure #5)

The area investigated included the some 207.25 meters (680 feet) of actively eroding shoreline and concomitant bank slumping at the western end of Ashland's Lake Park. The park area south of the erosional area has been, according to local informants, subjected to landscaping and surface modification in the relatively recent past. Neither surface nor subsurface testing produced any evidence of past human activity.

Although the entire park area was tested, well beyond the limits of the project area itself, no evidence of cultural resources was found. If sites existed, they have been destroyed either by erosion or by the landscaping and developmental activity involved in the park construction.

ASHLAND - SMALL BOAT HARBOR ALTERNATIVES (figure #5)

Area #1 - Old Pulp Hoist Site. This area consists of industrially modified harbor and shoreline. The modifications, mostly undertaken since 1890 (Seaway Engineering 1975:9), have involved the construction of large coal and iron docks in the harbor, as well as railroad and highway construction on the land. Riprapping, dock and railroad construction and repair, and continual use have

resulted in the destruction of any earlier cultural materials which may have been present.

Subsurface testing, in the relatively undisturbed soils near the railroad tracks produced mixtures of industrial debris, coal, crushed rocks, and various types of fill to the depth of sterile subsoil. The earliest identifiable construction debris found in this area post-dates the 1890 period, any historic or prehistoric materials which may have existed in the area at an earlier time period have been destroyed by the multiple construction activities since 1890.

Area #2 - East of Prentice Avenue ... Swimming Beach. Like the other project areas in Ashland, this site area has been both extensively and intensively modified by 20th Century industrial activities. The shoreline and beachfront area (Plate VII) shows evidence of having been recently used as a fill source for, most probably, dock construction and more recently has been used as a dumping area. The higher banks, landward and to the south, have been heavily modified by construction of roads and railroad lines as well as by landscaping.

The exposed soils are, for the most part, cut down to the sterile, C horizon, levels. Subsurface testing in less disturbed areas on the higher banks produced industrial debris, crushed rock, and dump fill overlying sterile subsoils. If any sites containing either historic or prehistoric cultural resources had been present within the project area, they have been destroyed by the extensive

industrial activities of this century.

Area #3 - Old C. Reiss Coal Dock...15th Avenue East. This area, like the other Ashland harbor areas, has been heavily modified by 20th Century industrial utilization. From the beach-line south to the upper banks, the area is covered by fill and dump materials of fairly recent origin (Plate VIII). The shoreline areas are, for the most part, covered with modern construction in the form of cement docks, riprapping, and wooden pilings. The bank/bluff area has been modified by the construction of city streets, a railroad line, currently occupied buildings, and Wisconsin Trunk Highway #2.

Surface and subsurface testing, in areas where such tests could be conducted, showed mixtures of recent fill, crushed rock, and industrial debris to varying depths with only sterile subsoil beneath. Any evidence of historic or prehistoric human occupancy in the area has been removed by the construction of the presently existing facilities during the early to mid 20th Century.

SUMMARY. Although the Ashland area is documented as an important historical area since the earliest days of the fur trade and would have been an almost ideal area for prehistoric human occupation, the recent extensive and intensive industrial activity has resulted in the unintentional destruction of any evidence of prior human occupancy.

CONCLUSIONS/RECOMMENDATIONS

The Chequamegon Peninsula area of northern Wisconsin, and the rest of Wisconsin's south Superior shoreline, are potentially rich in terms of historic/prehistoric cultural resources. Relatively sparsely populated at the present time, the environmental zone is one which would have been ideal for human occupancy since comparatively early post-glacial times, based on what minimal documentation we now possess. The present low population and exploitation levels in the area serve, in a sense, to protect the cultural resources which may still exist in the area. The only real threats to the resource base are shoreline erosion, urbanization or population expansion, and, perhaps, recreational development. Investigations such as this present one will insure the minimization of any adverse impacts to the cultural resource base.

In the case of the areas considered in this report, no evidence for the presence of cultural resources was discovered in any of the proposed project areas. Three of the areas -- Port Wing, the high bluffs west of Oronto Creek, and Ashland's Lake Park -- had been badly eroded, so much so that if any resources were present they had already been lost to the lake. The other seven areas -- Washburn Harbor alternates, Ashland Harbor alternates, and the re-routing of Oronto Creek -- were located in situations where heavy industrial activity, or road and marina construction as in the case of Oronto Creek, had taken place in the recent past and unintentionally resulted in the removal and/or loss of any cultural resource base which might have existed. Because of this, it is

opinion as a professional archaeologist that the Corps of Engineers sponsored projects could be undertaken in any of the proposed areas without the necessity of further mitigation procedures as relate to cultural resources.

FIGURE #1

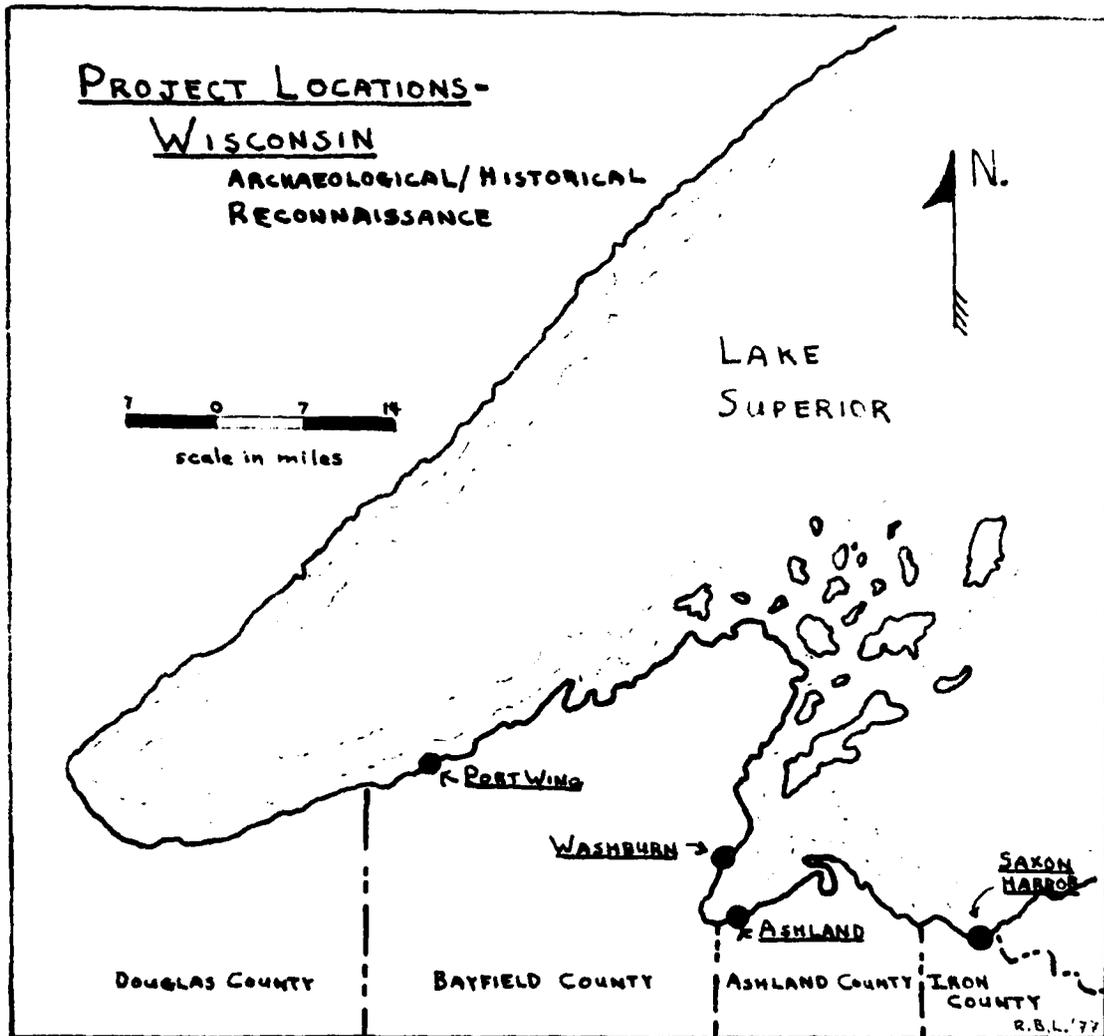


FIGURE #2

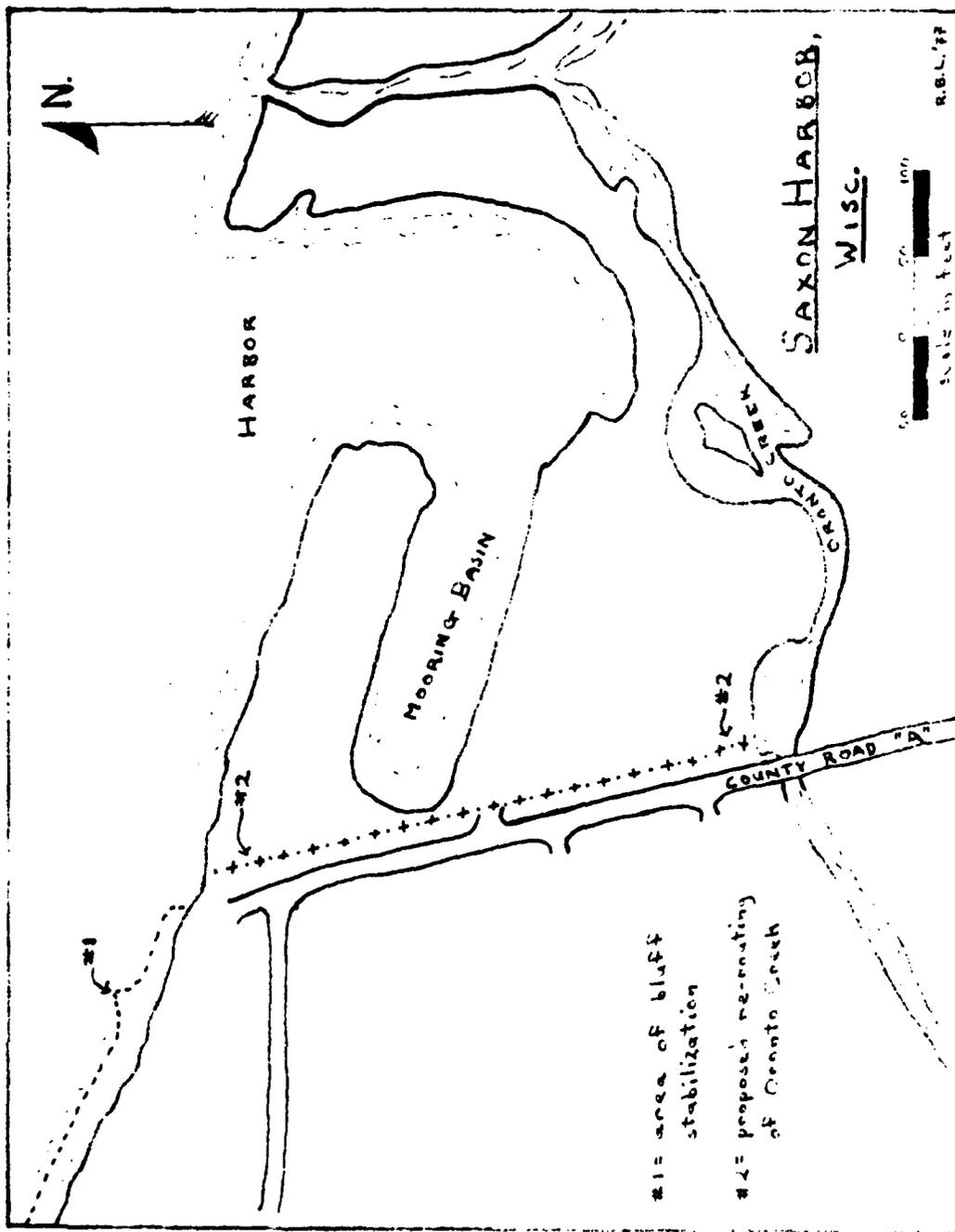


FIGURE #3

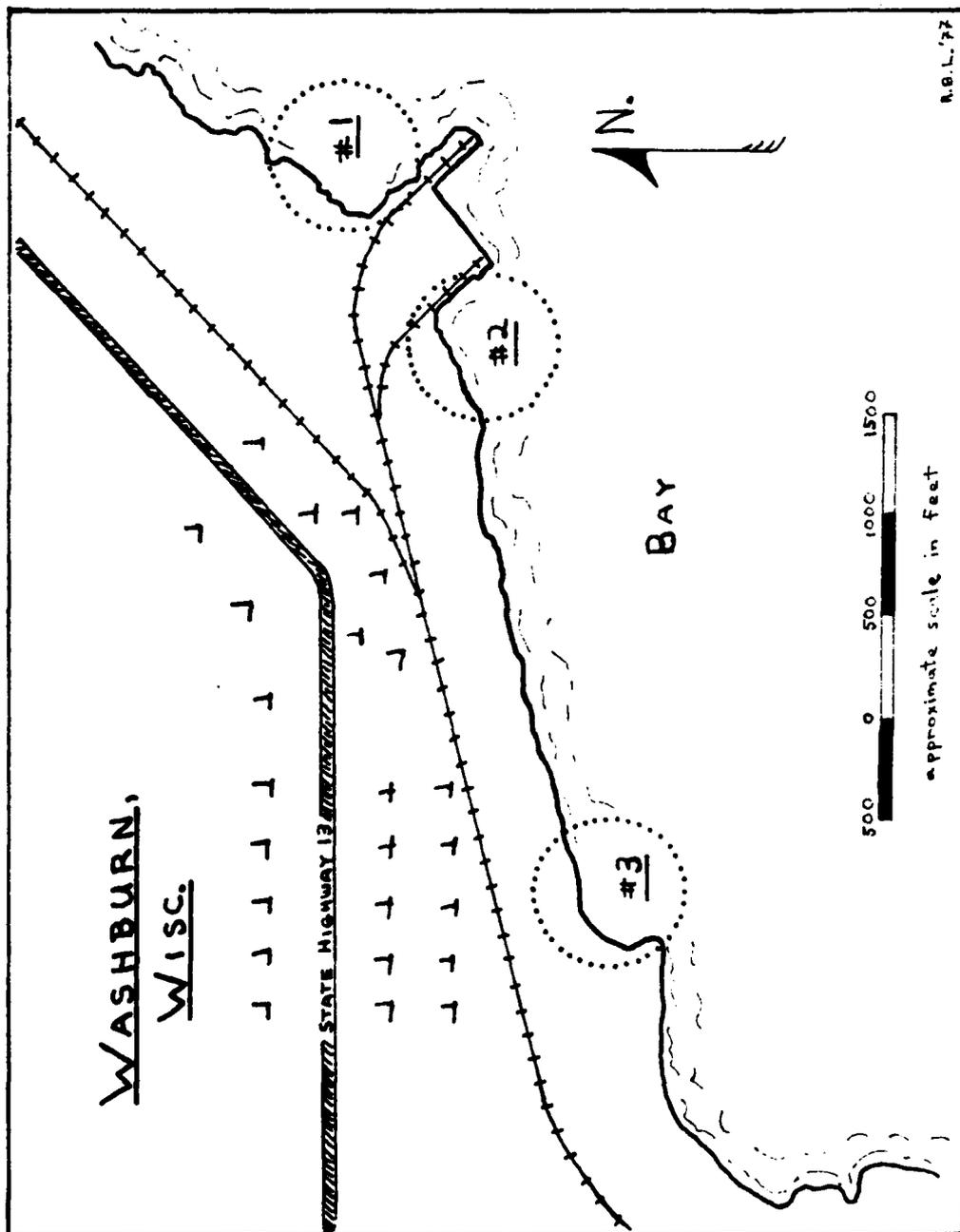


FIGURE #4

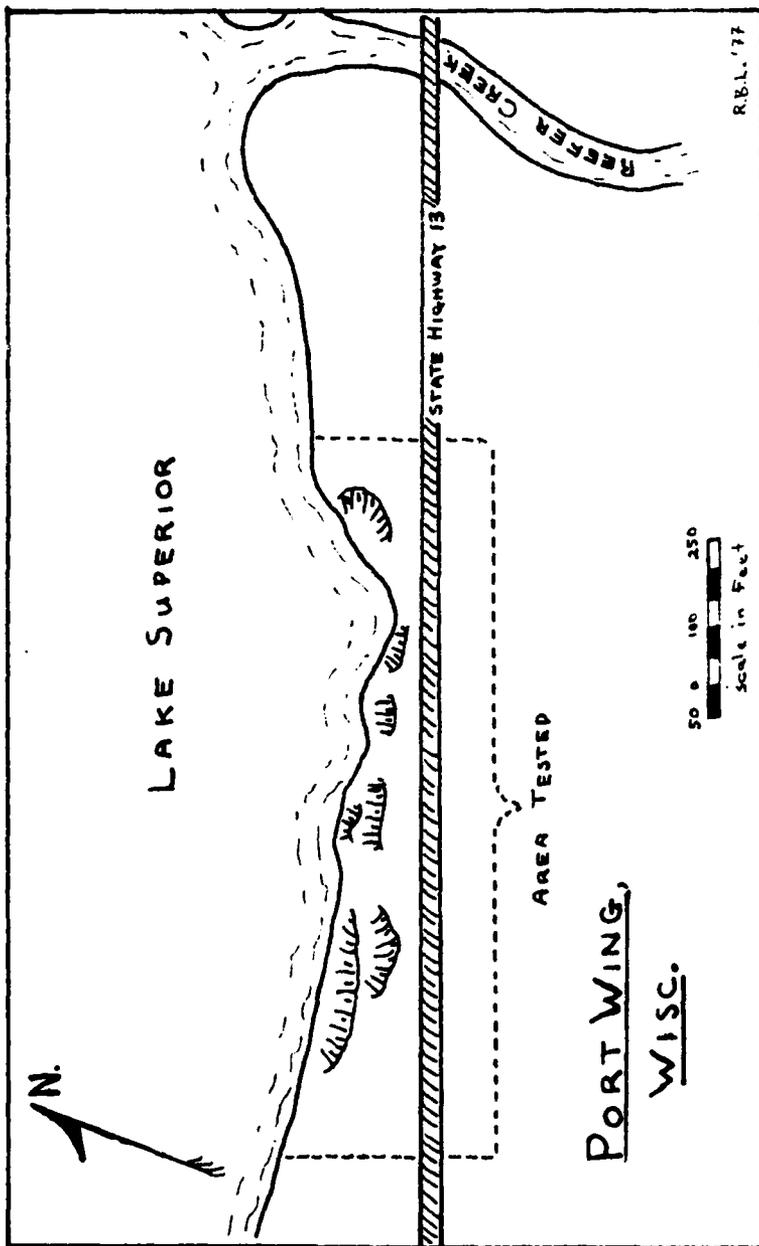


FIGURE #5

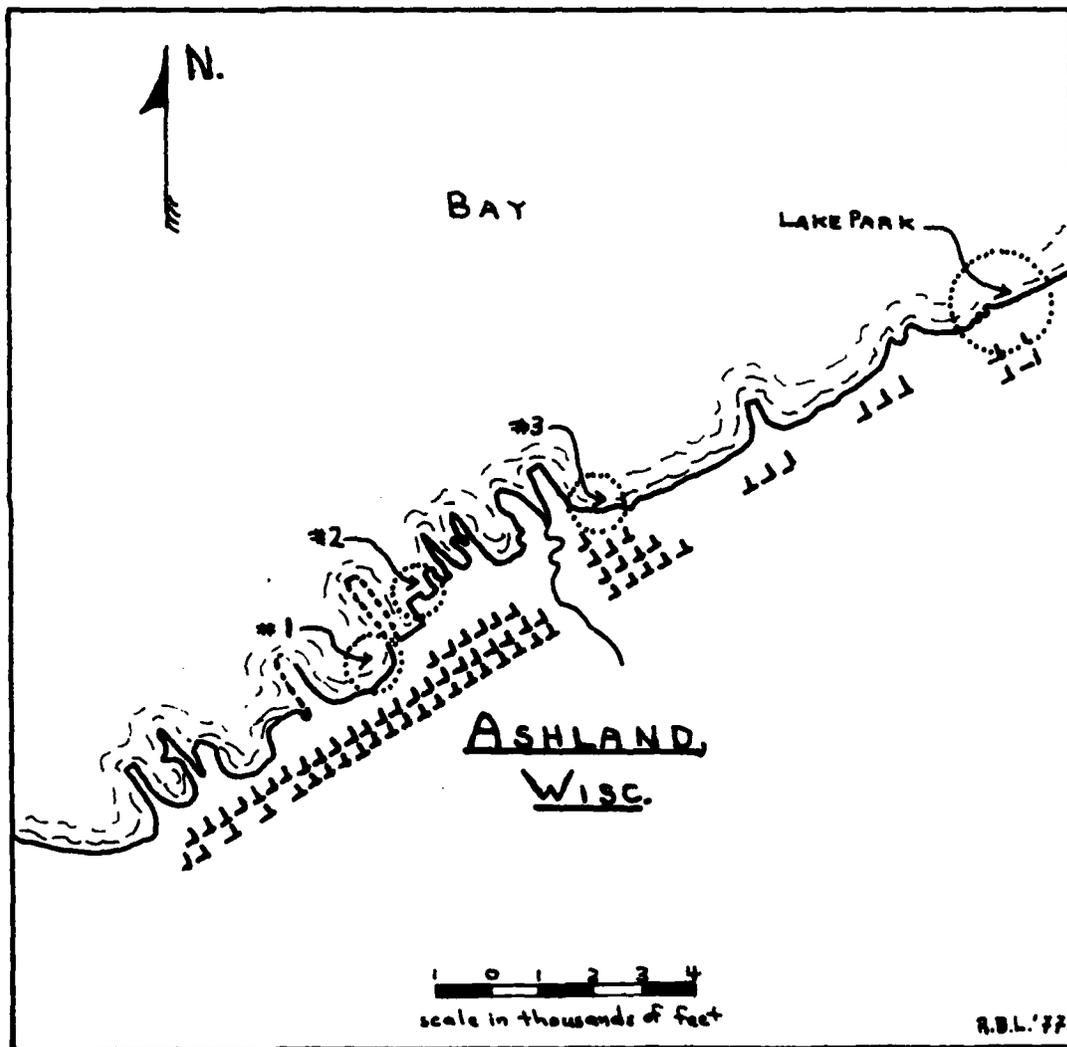




PLATE I

Saxon Harbor Project Area: general view of the area of proposed bluff stabilization from the west pier area, looking toward the west. [negative # B-77-2-5]



PLATE II

Saxon Harbor Project Area: view of the proposed Oronto Creek re-route line, looking south from the beach - note county road to the right and marina to the left, illustrating reasons for prior areal disturbance. [negative # B-77-2-6]



PLATE III

Washburn Harbor, Alternative #1 Area: general view of the shoreline area at the northwestern margin of the project area, from the city dock looking northwest. [negative # B-77-3-8]



PLATE IV

Washburn Harbor, Alternative #3 Area: view of the extreme eastern end of the project area, showing landscaping operations in progress, looking north from small boat dock. [negative # B-77-3-18]



PLATE V

Port Wing Project Area: general view of the project area, showing slumping effect, looking toward the west from the eastern end of the project (soil testing machinery in photograph belongs to the state of Wisconsin). [negative # B-77-3-1]



PLATE VI

Port Wing Project Area: view of active erosional face, red clay slumping and eroding into Lake Superior, in central portion of project area looking west. [negative # B-77-3-4]



PLATE VII

Ashland Small Boat Harbor Alternative #2 Area: general view of the project area, with recently graded areas in the foreground and dump areas to the right, looking northeast. [negative # B-77-2-12]



PLATE VIII

Ashland Small Boat Harbor Alternative #3 Area: general view of the least disturbed part of the project area; vegetation cover is underlain by industrial debris and/or dump material, looking toward the southeast from the old C. Reiss Coal Dock. [negative # B-77-2-9]

APPENDIX : References

Anonymous

1977 - Site Files. Office of the State Archaeologist, State Historical Society of Wisconsin, University of Wisconsin, Madison.

1977 - Site Files. Office of the State Historic Preservation Officer, State Historical Society of Wisconsin, University of Wisconsin, Madison.

Chapple, John C.

1974 - Sketch of Ashland County, Wisconsin. Browzer Books, Ashland, Wisconsin [originally published in 1904]

Kinietz, W. Vernon

1940 - The Indians of the Western Great Lakes 1615 - 1760. The University of Michigan Press, Ann Arbor.

Penman, John T.

1977 - "The Old Copper Culture: An Analysis of Old Copper Artifacts", The Wisconsin Archeologist, Volume 58, Number 1 (New Series), pp. 2 -23.

Salzer, Robert J.

1969 - "An Introduction to the Archeology of Northern Wisconsin", unpublished Ph.D. dissertation, Southern Illinois University, Carbondale.

Seaway Engineering Company

1975 - " A Feasibility Study for a Marina at Ashland, Wisconsin", unpublished report, Duluth, Minnesota.

Thompson, William Fletcher (general editor)

1973 - The History of Wisconsin (6 volumes). State Historical
Society of Wisconsin, Madison.

