

Figure 33. Diver with clipboard and tape measure (LCMM Collection).

EVALUATION OF NATIONAL REGISTER ELIGIBILITY

A key component of this archaeological study is the evaluation of each archaeological site's significance in relation to its eligibility for the National Register of Historic Places. The NRHP is the official list of the Nation's historic places worthy of preservation. The National Park Service provides guidelines for assessing a historic property's NRHP eligibility. A site is recommended as NRHP eligible if it is more than 50 years old, possesses integrity and meets one or more of the criteria considerations.

Integrity is the ability of a property to convey its significance. An evaluation of a property's integrity is assessed based on an analysis of the seven aspects or qualities that define integrity. These concepts are:

- *Location* is the place where the historic property was constructed or the place where the historic event occurred.
- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property.
- *Setting* is the physical environment of a historic property.
- *Material* are the physical elements that were combined or deposited during a particular periods of time and in a particular pattern or configuration to form a historic property.
- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period of time.
- *Association* is the direct link between an important historic event or person and a historic property.¹¹⁶

In addition to having integrity, a property must also meet at least one of the NRHP's criteria considerations. The criteria include:

- A. Sites that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. that have yielded, or may be likely to yield, information important in prehistory or history.¹¹⁷

The National Park Service has produced numerous bulletins designed to provide technical information on the survey, evaluation, registration and preservation of cultural properties as it pertains to the NRHP. The bulletins used in the evaluation of Onondaga Lake's submerged cultural properties include: *How to Apply the National Register Criteria for Evaluation*,¹¹⁸ *Guidelines for Evaluation and Registering Archeological Properties*,¹¹⁹ *Guidelines for Evaluating and Documenting Historic Aids to Navigation*,¹²⁰ *Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places*,¹²¹ and *Guidelines for Evaluating and Registering Historical Archaeological Sites and Districts*.¹²²

In the *Archaeological Results* chapter, each anomaly identified as being cultural in nature and meeting the minimum 50 year threshold for potential NRHP eligibility is evaluated using the above referenced attributes of integrity and the criteria considerations. The following table is presented for each property to clearly illustrate the evaluation process.

National Register Evaluation		
Integrity of:	Location	
	Design	
	Setting	
	Materials	
	Workmanship	
	Feeling	
	Association	
Criterion:	A: Event	
	B: Person	
	C: Design/Construction	
	D: Information Potential	

ARCHAEOLOGICAL RESULTS

UNDERWATER WORKPLAN

The Phase 1B archaeological survey was based upon the *Underwater Archaeological Resources Phase 1B Work Plan for the Onondaga Lake Bottom, Subsite of the Onondaga Lake Superfund Site, Onondaga County, New York*, which specifically outlined the potential archaeological sites to be investigated and the methodological approach to the fieldwork.¹²³ The *Underwater Work Plan* noted areas within Onondaga Lake that could potentially represent historic archaeological properties (Figure 34 and Figure 35).

The Phase 1B survey examined 60 anomalies of which 20 are recommended as eligible for the NRHP, while 18 were culturally derived features which are recommended as ineligible for the NRHP. Three of the anomalies were non-cultural, 15 remain unidentified, and four are identified but their NRHP status remains unevaluated.

The goals of the Phase 1B archaeological fieldwork were as follows: 1) determine presence/absence of archaeological sites at the anomalies selected for investigation; 2) collect detailed geophysical, videographic, direct measurement, and/or observational data on the anomalies which are determined to be archaeological sites; 3) to the extent possible, assess the NRHP eligibility of each archaeological site; and 4) make recommendations.

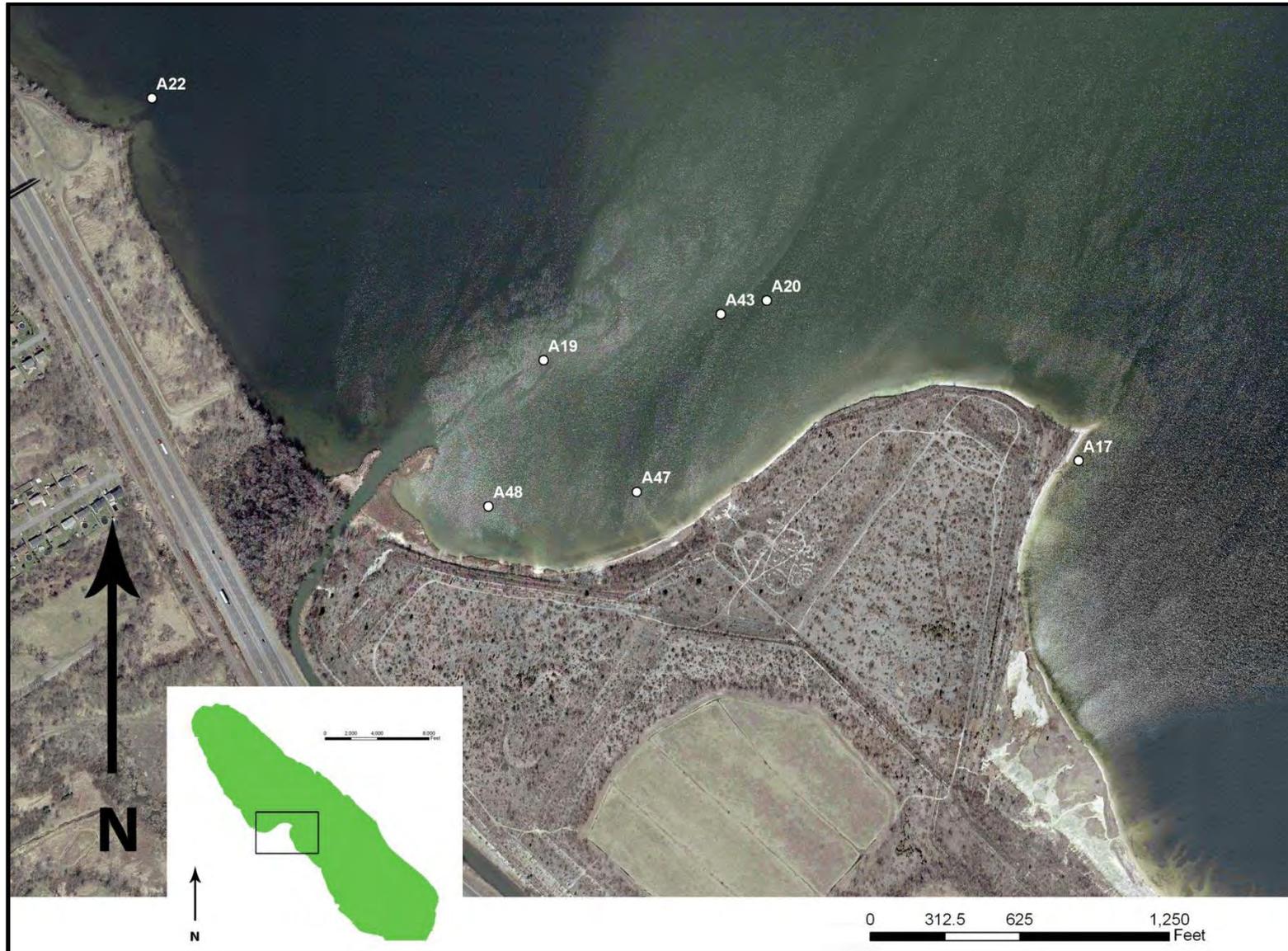


Figure 34. Map of Onondaga Lake in the vicinity of Lake View Point showing the anomalies which were investigated during the Phase IB fieldwork.



Figure 35. Map of the southeastern corner of Onondaga Lake showing the anomalies which were investigated during the Phase IB fieldwork.

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Phase IB Underwater Archaeological Resources Report for Onondaga Lake Superfund Site

Table 2. Table of anomalies in Onondaga Lake investigated during the Phase 1B fieldwork.

Anomaly No.	Sonar Contacts	Magnetometer	Identification
1/2	0345, 0346, 348	1013, 0332, 0535, 0162	Salina Pier
3	343	260	Wooden Barge
4-1	308	743, 777	Dump Scow
4-2	308	743, 777	Dump Scow
5	2-6, 9-16	625, 248, 678, 275	Isolated Debris
6	30	475, 1256	Solvay Waste Shelf
7	130, 169, 150, 191, 202	819, 795, 220, 809, 794, 731	Piling Clumps
8	140	No	Aquatic Vegetation
9	200	No	Tree Branch
10	235	No	Aquatic Vegetation
11	254	776, 786	Pipes
12	255	684, 629, 253, 618, 646, 671, 659, 265	Derrick Lighter Spud Barge
13	264, 269, 267	202, 471, 472, 1232, 76, 477	Canal Boat
17-1	No	No	Spud Barge
17-2	No	No	Spud Barge
19	484	182, 187, 1073, 1078	Unidentified
20	501	170, 178, 1066, 1065	Wooden Rock Scow
22	No	314	Pleasant Beach Resort Pier
33	321, 326	947, 59, 949, 951, 953, 60, 955, 959,	Buried Wooden Canal Boat
34	No	672	Rock Mound
35	No	604, 632, 617, 256, 645, 660	Watercraft of Unknown Type
36	No	552, 73, 1007, 1009	Wire Rope
37	No	499, 500, 276, 502, 503	Unidentified
38	No	781, 747, 780, 779, 745, 778, 761	Iron Pier Marine Infrastructure
43	No	177, 1069	Pipe
45	No	705, 796, 810, 817, 732, 773, 766, 712, 797, 811	Concrete Breakwater
47	No	899, 896, 873, 871, 405, 404, 401, 402	Pipeline
48	No	898, 897, 872, 406, 403	Pipeline
51	278, 275, 280	479, 486, 480, 484, 1233, 200, 483, 201, 468. 459, 101, 99, 407, 412, 413, 419, 420, 465, 463, 433, 432, 428, 203, 434, 449, 204, 205, 450, 844, 843, 842, 841, 837, 836, 834, 835, 838, 839, 840	Solvay Intake
52	333	1139, 285	Syracuse Yacht Club
53	No	No	Canal Boat

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54	No	No	Wooden Bulkhead
55	No	781, 747, 780, 779, 745, 778, 761	Canal Scow
56	No	538	Unidentified
57	No	546	Wooden Barrel
58	No	539	55-Gallon Drum
59	No	603	Wire Rope
60	No	251, 628	Unidentified
61	No	270, 683	Unidentified
62	No	683	Unidentified
63	No	619	Unidentified
64	No	584	Unidentified
65	No	713	Unidentified
66	No	254, 630	Unidentified
67	No	575, 1142	Unidentified
69	No	800	Iron Debris – Ladder, Sheet Iron, Slag
70	No	789, 790, 802, 803, 804, 805, 821	Unidentified
72	No	No	Wood Pilings
73	No	No	Bulkhead
74	No	No	Isolated Piling
75	No	No	Rock Pile
76	No	No	Rock Pile
77	No	258	Unidentified
78	No	267	Iron Wire
79	No	634	Unidentified
80	No	984, 992, 1249	Unidentified
81	No	995	Motorcycle
82	No	1012	55-Gallon Drum
83	No	No	Wood and Metal Debris
84	No	239	Paint Cans and Bottles

RECOMMEND REDUCE ADVERSE EFFECTS AND DATA RECOVERY

Syracuse Maritime Historic District

The Syracuse Maritime Historic District is a proposed National Register district comprised of the remains of seven wooden watercraft, six areas of marine infrastructure, and three rock mounds. The 16 contributing properties are listed in the table below.

Table 3. Contributing Properties to the Syracuse Maritime Historic District

Wooden Watercraft	Marine Infrastructure	Rock Mounds
A3 (Barge)	A1/A2 (Salina Pier)	A34 (Rock Mound)
A4-1 (Dump Scow)	A7 (Piling Clumps)	A75 (Rock Pile)
A4-2 (Dump Scow)	A38 (Iron Pier Marine Infrastructure)	A76 (Rock Pile)
A12 (Derrick Lighter Spud Barge)	A45 (Concrete Breakwater)	
A35 (Unknown Boat Type)	A72 (Pilings)	
A53 (Canal Boat)	A73 (Bulkhead)	
A55 (Canal Scow)		

The District is contained in 58 acres (23.9 hectares) of Onondaga Lake bottom lands. The boundaries are delineated by the lake shoreline to the east and Salina Pier remnants to the north. The southern and western boundaries are lines drawn to encompass the extent of the contributing properties (Figure 36).

The 2010 remote sensing and dive verification efforts in the Syracuse Maritime Historic District located eleven archaeological sites. Upon completion of the 2010 field campaign there was concern that given the density of sites, there was the possibility that additional undiscovered sites could still remain within the District. Therefore, a methodological approach designed specifically for the District, comprising a re-examination and dive verification of magnetic anomalies, and systematic diver survey in waters within 200ft (61m) of the shoreline, was executed in 2011. Twenty two additional magnetic targets were identified from the extant geophysical data. None of these targets was identified as an archaeological site, 13 remain unidentified and nine were determined to be modern debris. The systematic shallow water survey located four previously unknown archaeological sites.

The Syracuse Maritime Historic District’s development can be tracked on mid-twentieth century navigational charts. Charts from the U.S. Lake Survey Office from 1915, 1926, 1932 and 1937 show no wrecks or derelict vessels in this area.¹²⁴ However, the 1942 edition shows derelict vessels in the approximate locations of A3, A12, A4-1 and A4-2 (Figure 37).¹²⁵

The formation of the Syracuse Maritime Historic District is linked to the development of the Syracuse Inner Harbor and the New York State Barge Canal system. Prior to the establishment of the Barge Canal, the Oswego Canal paralleled the northeastern lakeshore with access to Onondaga Lake provided from the canal’s “Mud Lock” on the Seneca River. From the river, the Onondaga Lake Outlet provided access to the lake. The 1915 barge canal expansion abandoned the canal adjacent to the lake in favor of a navigable channel through Oneida Lake and the Seneca River. With the re-routing, access to Syracuse was provided through the Seneca River into Onondaga Lake. A new inner harbor into Syracuse was constructed with an outlet into the southeastern corner of Onondaga Lake. With increased navigation on Onondaga Lake it became a convenient location to dispose of unwanted vessels. The State’s Canal Laws had specific provisions designed to prevent obstructions to navigation in the canal. A person who obstructed canal navigation through any number of actions including “sinking a vessel” was fined a sum

of \$25 per obstruction, and the boat was subject to seizure and sale by the canal system.¹²⁶ However, the disposal of a boat in the open waters of Onondaga Lake yielded no such punitive actions.

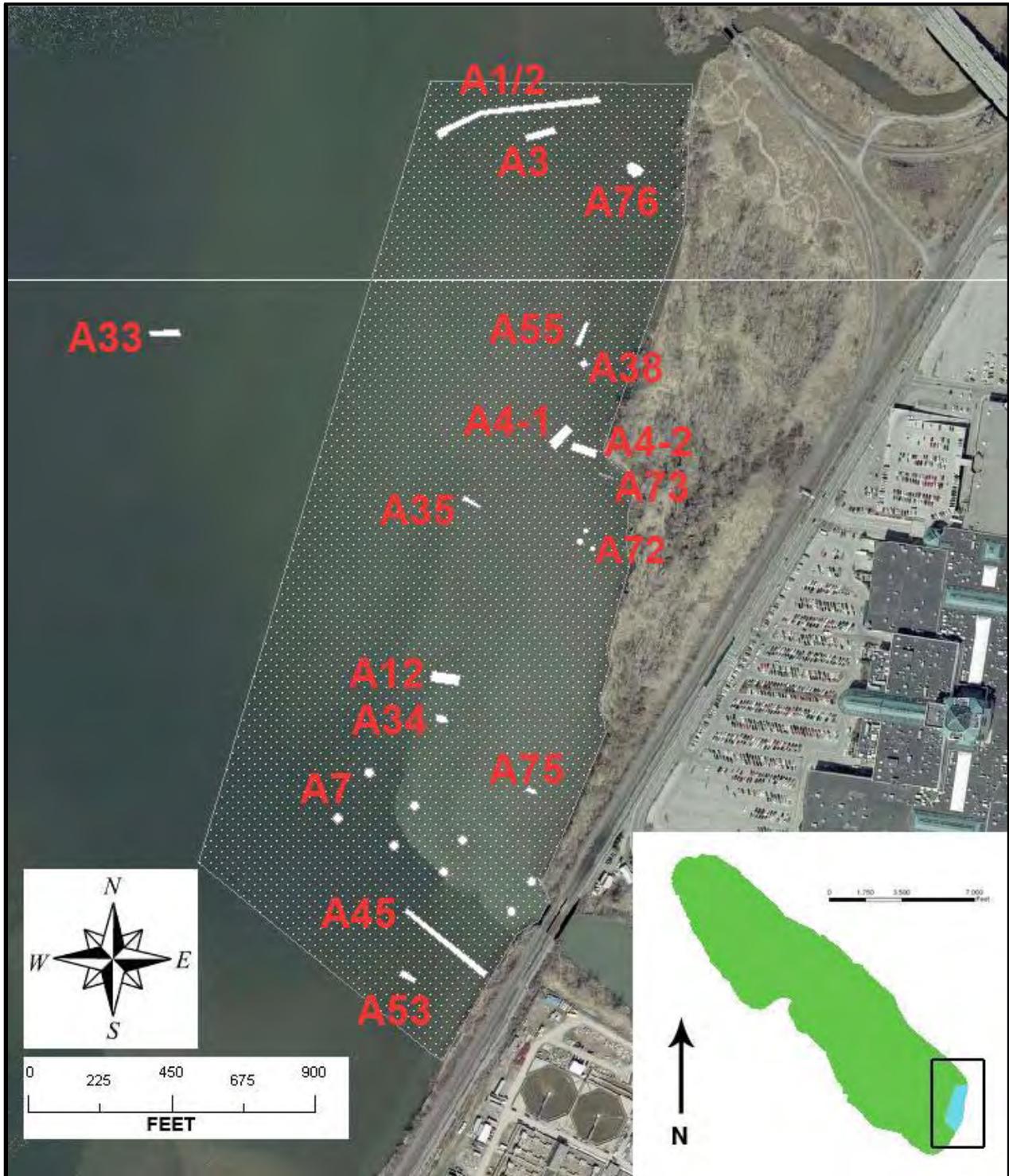


Figure 36. Map of the southeastern portion of Onondaga Lake showing the Syracuse Maritime Historic District.

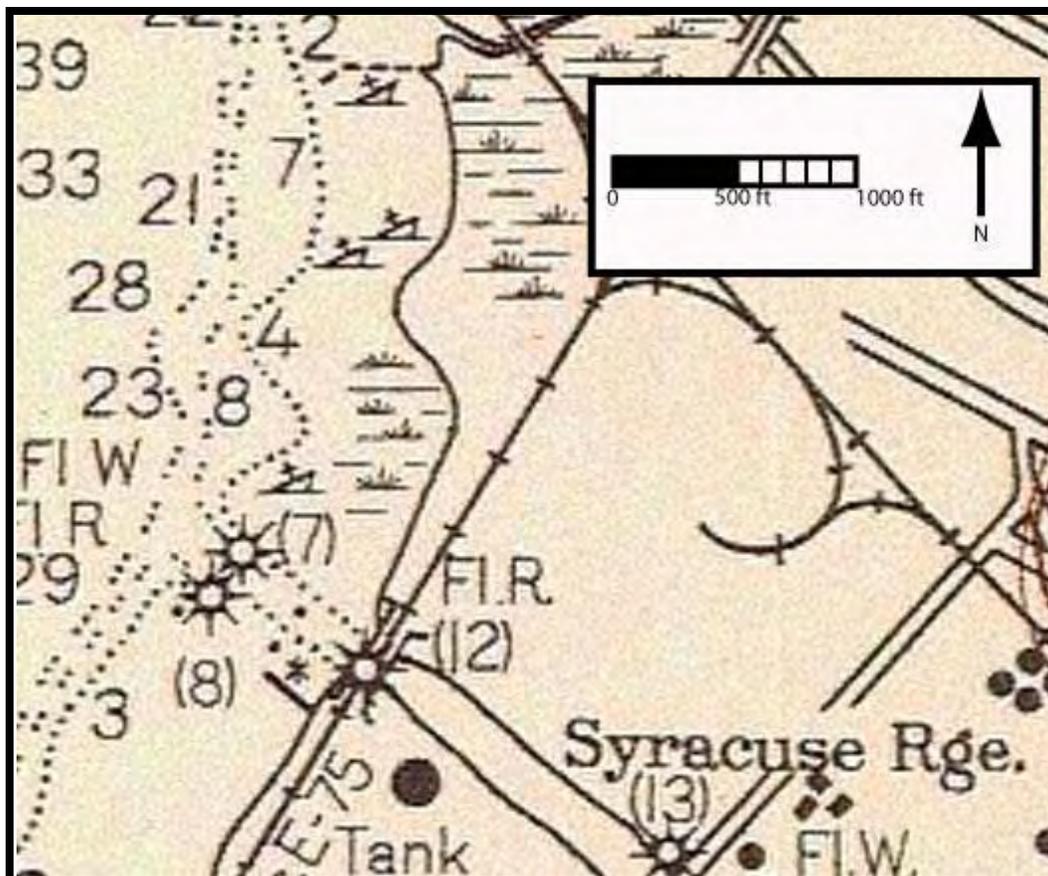


Figure 37. 1942 navigational chart showing derelict vessels at the approximate locations of A3, A4-1, A4-2 and A12, and the abandoned concrete breakwater (A45) and Salina Pier (A1 and A2) (U.S. Lake Survey Office, *New York State Canals, Chart No. 185, 1942*).

The rerouting of the canal and canal laws provided an important foundation for the District's origin, but other economic and cultural factors were also at work. From an economic point of view, the Syracuse Maritime Historic District's formation during and just after the Great Depression is not a coincidence. The 1930s were an era of declining commerce on New York State Barge Canal System. As demand declined, many wooden vessels were abandoned rather than being kept in service. Secondly, the establishment of the Barge Canal and its vastly increased lock size signaled the end of wooden canal boats. With the replacement of wooden boats with steel-hulled vessels, the unwanted watercraft were disposed of in backwater areas all along the canal route.

The final causal factor in the establishment of the Syracuse Maritime Historic District was the decline of Salina Pier and Iron Pier Resorts. Although the active use of the resorts predates the District (Salina Pier, 1870s to 1910s and Iron Pier, 1890 to 1906), their decline and abandonment were an important prerequisite for the disposal of boats in this part of the lake. The disappearance of these resorts created an area of existing neglected marine infrastructure in a shallow water area abutting vacant lands. The disposal of watercraft in this ignored, swampy area was unlikely to warrant any demands for their removal.

The following description of the Syracuse Maritime Historic District contains descriptions of each of the contributing properties, followed by an assessment of the historic significance of the district.

Anomaly 1/2: Salina Pier

Anomaly 1/2 Summary Table	
Anomaly Identification	Salina Pier; NY Site Number 06740.012292
Remedial Impact	Dredge and Cap
NRHP Eligibility Recommendation	Eligible as a Contributing Property to the Syracuse Maritime Historic District
Anomaly Dataset	
Side Scan (2005)	0345, 0346
Magnetometer (2005)	1013
Side Scan (2010)	6/3/10
Sector Scan (2010)	6/4/10
ROV Video Footage (2010)	6/9/10
Diver Observations	No
Diver Videography	No
Maps/Charts	Yes
Aerial Imagery	Yes
Historic Accounts	Yes

Salina Pier Historic Context¹²⁷

The Salina Pier was initially constructed in the 1870s or 1880 at the mouth of Bear Trap Creek (now known as Ley Creek).¹²⁸ In 1881, the Central City Street Railroad Company built a hotel and car depot on the banks of the lake on the Salina side. The structures were constructed approximately 100 feet (30m) west of the present railroad terminus. The hotel was two stories high.¹²⁹ These structures may not be present on any of the historic maps, as it is noted that in the beginning of 1890, a windstorm destroyed Salina Pier and a saloon house at the end of it.¹³⁰ The pier is identified on the 1889 Sweet map. It was noted in the summer of 1890 that the water table was still high and that none of the pier was visible, suggesting that the pier was not being used for a lengthy portion of that year. In an attempt to compete with the Iron Pier resort, the Salina Pier company constructed a two-story pavilion, which also contained a concert hall and dining room, in 1890 south of the existing pier and north of the Iron Pier resort. By the late 1890s, the Salina Pier resort had closed, probably due to the greater number of attractions at the Iron Pier. In 1899, the Iron Pier resort purchased the land of the Salina Pier pavilion and had Solvay soda ash refuse placed up to 4 feet (1.22m) in depth to build up the land in front of the Iron Pier.¹³¹ The pier remained intact through 1898 and served boats that ran regularly to all lakeside resorts.¹³² Because of the construction of a trolley line on the west side of the lake in 1899, and the earlier construction of railroads on the east and west sides of the lake, Salina Pier may have fallen out of use by the early twentieth century. By 1908, the Salina Pier was replaced by "Breakwater," which may have been some sort of barrier created for the Iron Pier or for navigation purposes on the lake.¹³³ By 1924, the Breakwater was abandoned and flooded over by the raising of the lake for the Barge Canal.

Research Results

Anomalies A1 and A2 are parts of the remnants of the Salina Pier. The pier lies immediately north of A3, a barge wreck. The pier's location was known from historic accounts and charts, aerial images, and was located during CRE's 2005 remote sensing survey (Figure 38, Figure 39, and Figure 40). In the *Underwater Work Plan* two separate anomalies were identified for the pier location, but the fieldwork showed that they were separate parts of the larger pier structure. Salina Pier was a difficult site for recording good acoustic or visual imagery. The site is covered in a dense growth of aquatic vegetation, especially Eurasian milfoil, which obscured much of the structure.

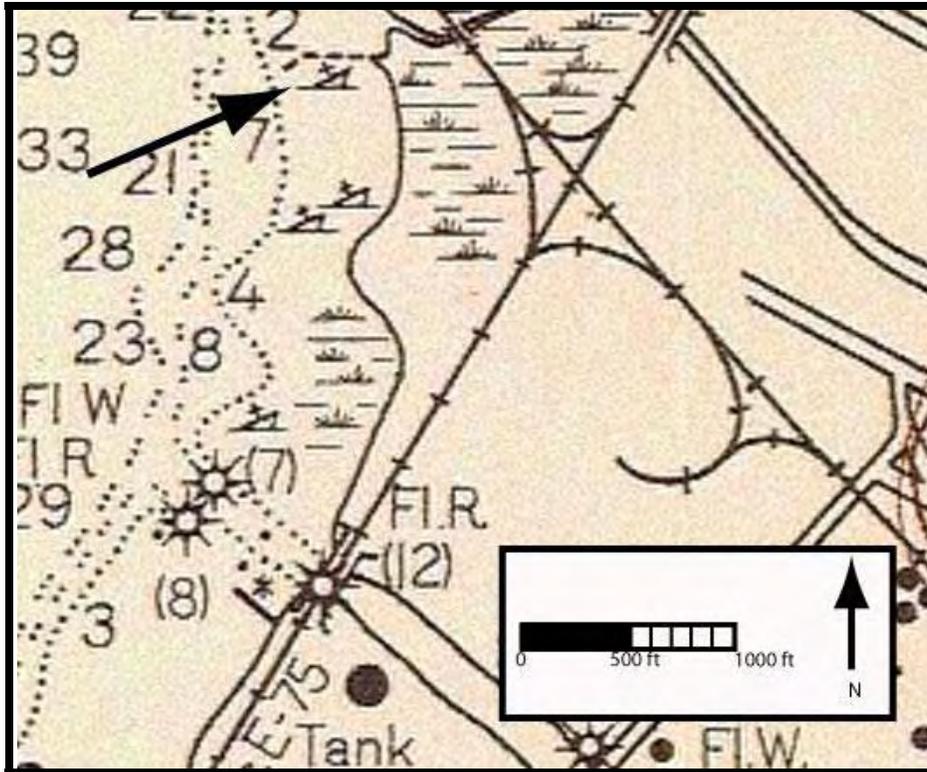


Figure 38. 1942 navigational chart showing the remnants of Salina Pier (U.S. Lake Survey Office, New York State Canals, Chart No. 185, 1942).



Figure 39. Underwater structure faintly visible at the location of Anomalies 1 and 2 with Anomaly 3 in the foreground (courtesy Microsoft® Virtual Earth).

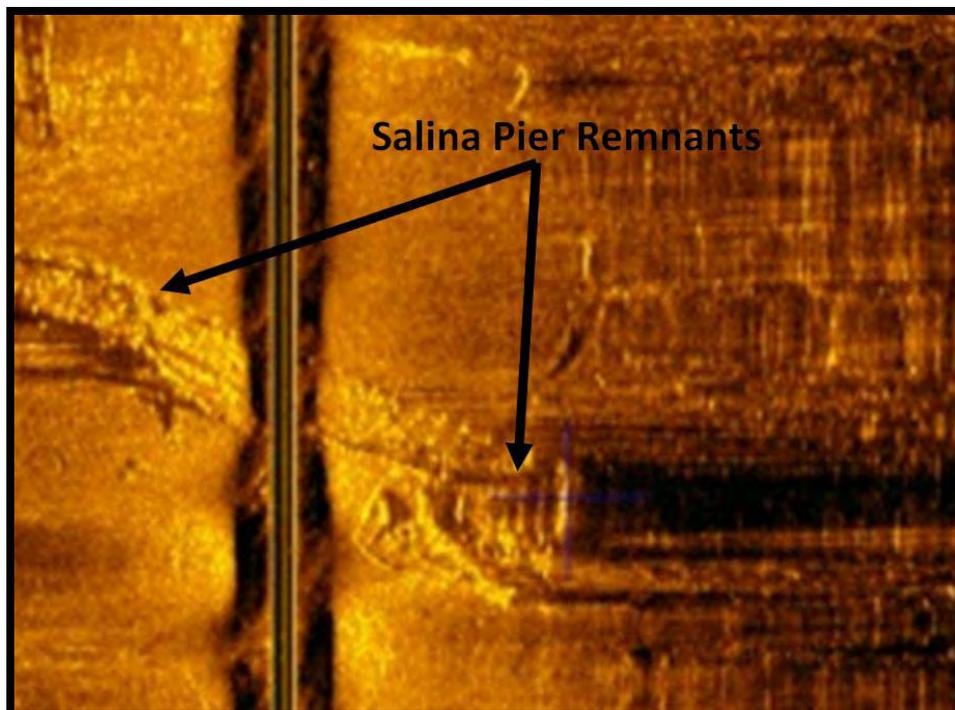


Figure 40. 2005 Sonar image of A1 and A2 (courtesy CRE).

At the shore side (eastern) end to the pier, the pier remnants were clearly visible in shallow water. The site consisted of two parallel vertical planking walls approximately 30 feet (9.14m) apart. The area between the walls was filled with stone. The area inspected was approximately 200 feet (61m) from shore, with 1 to 2 feet (.30m to .61m) of water on top of the pier and 5 to 6 feet (1.52m to 1.83m) of water next to the pier. The northwestern end of the pier was constructed out of stone blocks with some wooden structure of undetermined nature. In one location at least four vertical posts were viewed in a row.

Due to the difficulties encountered in the effort to collect acoustic and video imagery from Salina Pier, these targets were included in the scope of work for dive verification portion of the fieldwork. However, sediment discharge from adjacent Ley Creek during the diving operation created a zero visibility environment around the entire pier structure; therefore, the site was not documented by archaeological divers.

Salina Pier forms the northern boundary of the Syracuse Maritime Historic District and is considered a contributing property because of its causal relationship with the District. The abandonment of Salina Pier is important in the foundation of the District because that action (or lack thereof) created an environment without active human stewardship. Had Salina Pier (or Iron Pier) still been in active use, it is highly unlikely that watercraft would have been abandoned in this area of the lake.

Anomaly A3: Wooden Barge

Anomaly 3 Summary Table	
Anomaly Identification	Wooden Scow Barge; NY Site Number 06740.012293
Remedial Impact	Outside of remedial area, no adverse impact.
NRHP Eligibility Recommendation	Eligible as Contributing Property to Syracuse Maritime Historic District
Anomaly Dataset	
Side Scan (2005)	0343
Magnetometer (2005)	260
Side Scan (2010)	6/3/10
Sector Scan (2010)	6/4/10
ROV Video Footage (2010)	6/8/10
Diver Observations	No
Diver Videography	No
Maps/Charts	Yes
Aerial Imagery	Yes
Historic Accounts	No

Research Results

A3 is an edge-fastened, scow-ended wooden barge which is preserved up to deck level, although the deck is no longer present. The vessel is 94 feet (28.65m) long by 22 feet (6.71m) wide. A3 first appears on the 1942 navigational chart, and Phase 1B data suggests the barge’s build date is in the early twentieth century. The vessel rests in shallow water immediately south of Salina Pier. The uppermost portions of the wreck are just above the water’s surface (see Figure 39). The barge is heavily built with its construction pattern suggesting a scow barge designed to carry heavy bulk cargoes on deck.

During the Phase 1B fieldwork, excellent surface visibility conditions allowed for a detailed visual inspection of the barge’s interior structure. The barge’s principal extant members are its vertical, edge-fastened sides, scow ends, longitudinal solid-wall bulkheads, stringers and transverse beams. The interior is divided by two longitudinal bulkheads which run the length of the barge, compartmentalizing the hull into three long sections (see Figure 41 and Figure 42). The hull’s interior is further reinforced by two longitudinal stringers in each hull-compartment, which are in turn overlaid by transverse beams spanning the breadth of the hull. The internal structures are so robust as to suggest that the interior of the hull had no use other than supporting the heavily loaded deck. The internal partitions would have precluded any type of cargo being loaded below deck.

A3’s construction technique suggests a use such as carrying bulk heavy deck cargoes which would necessitate such a heavily-built structure. The vessel’s bulkhead arrangement is similar to that of dump scows A4-1 and A4-2, however, no evidence of a dump door was seen inside the hull.

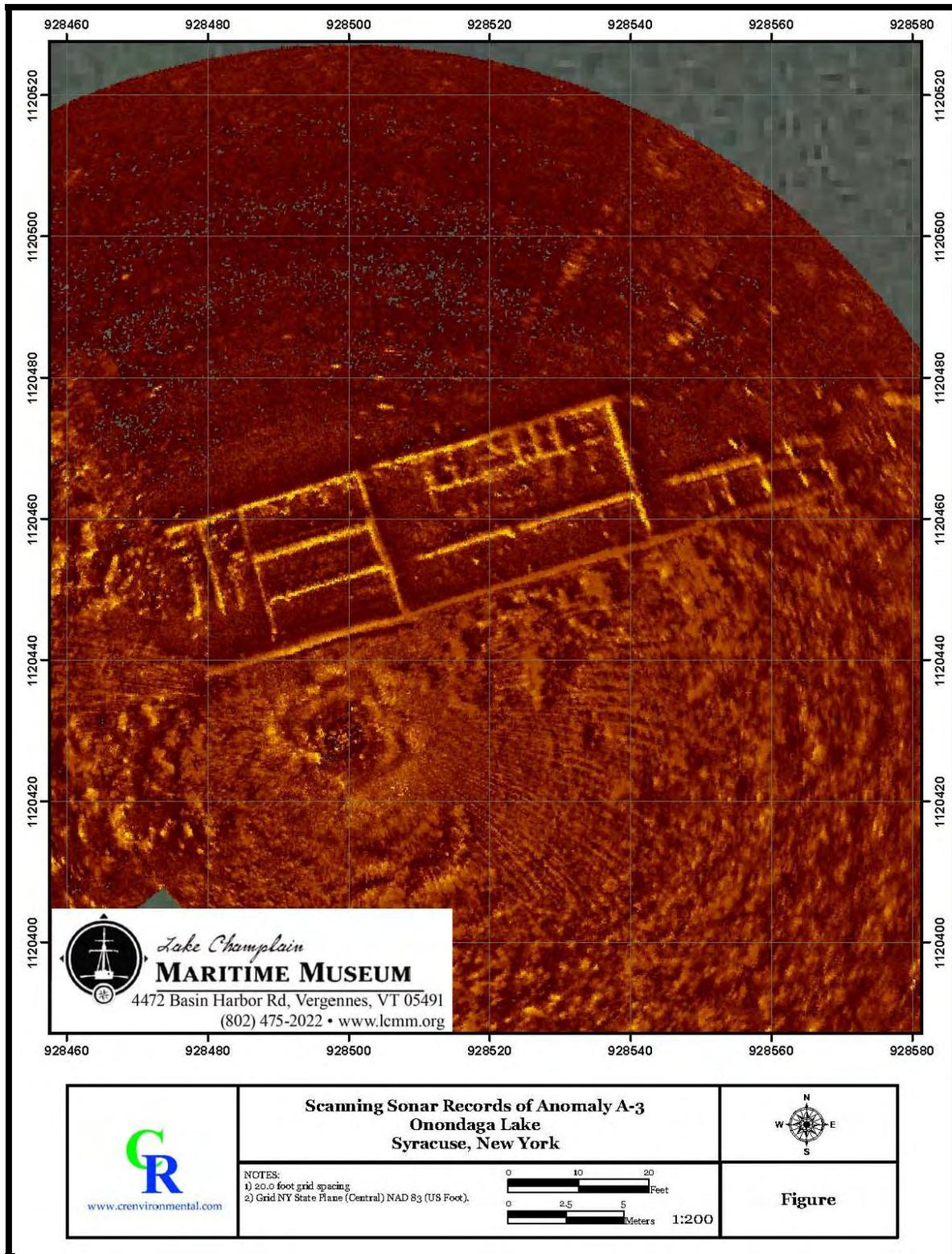


Figure 41. Scanning sonar image of A3.

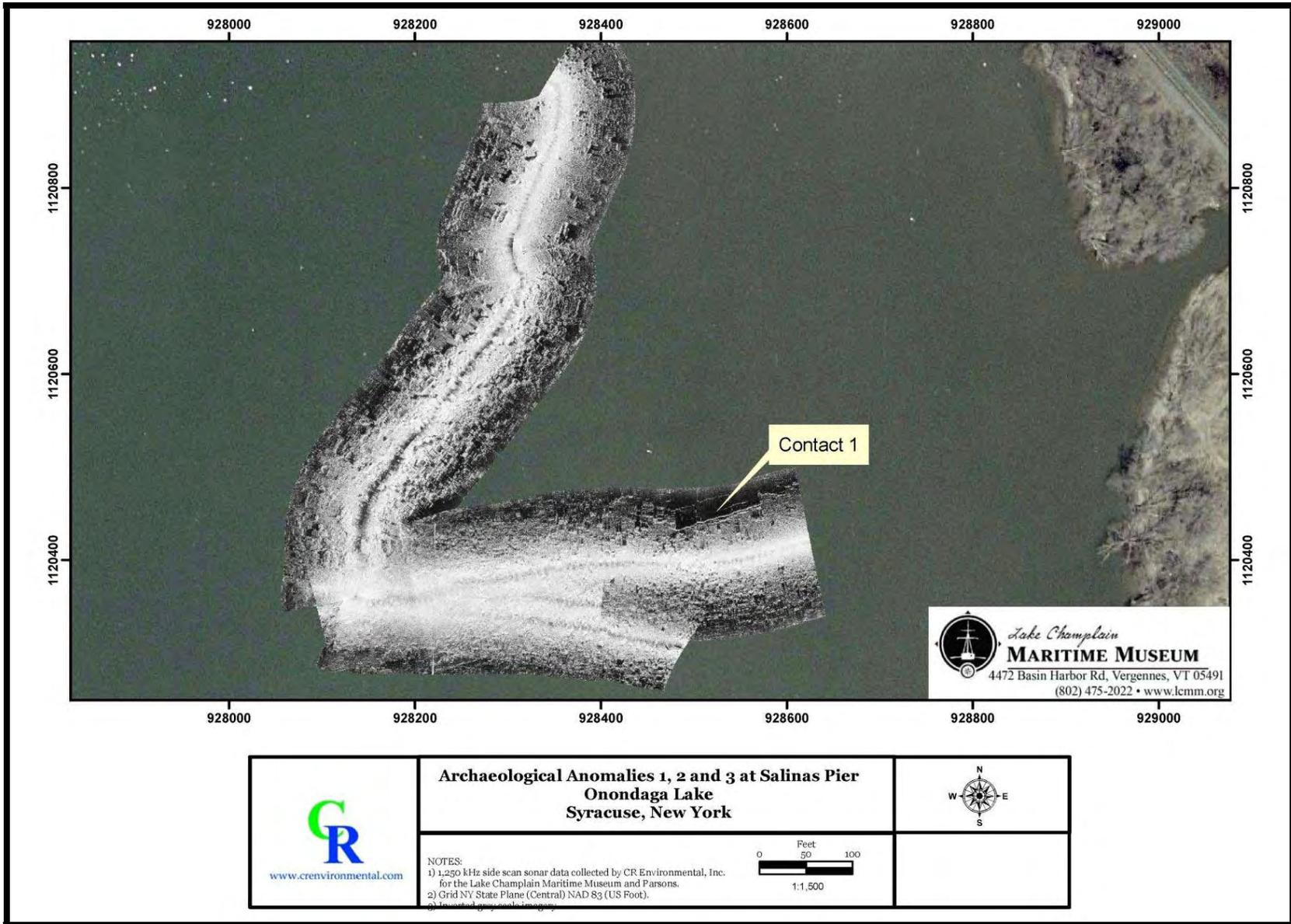


Figure 42. Side scan sonar mosaic showing Anomaly A3 (Contact 1).

Anomaly 4-1: Dump Scow

Anomaly 4-1 Summary Table	
Anomaly Identification	Wooden Dump Scow; NY Site Number 06740.012294
Remedial Impact	Dredge and Cap
NRHP Eligibility Recommendation	Eligible as Contributing Property to Syracuse Maritime Historic District
Anomaly Dataset	
Side Scan (2005)	0308
Magnetometer (2005)	743, 777
Side Scan (2010)	6/3/10
Sector Scan (2010)	6/4/10
ROV Video Footage (2010)	6/9/10
Diver Observations	No
Diver Videography	No
Maps/Charts	Yes
Aerial Imagery	Yes
Historic Accounts	No

Research Results

A4-1 is an edge-fastened scow barge which is preserved up to the deck level, although the deck is no longer present. The vessel is 78 feet (23.77m) long and 27 feet (8.23m) wide. A wreck marker appears in the vicinity of A4-1 on a 1942 navigational chart (see Figure 37). The barge rests in shallow water just off shore, and adjacent to another barge, A4-2 (Figure 43, Figure 44 and Figure 45). The archaeological data suggests that the barge’s build date is in the early twentieth century. The uppermost portions of the vessel are just below the water’s surface. The vessel’s hull structure suggests that it is a dump scow.

During the Phase 1B fieldwork, excellent surface visibility conditions allowed a detailed visual inspection of the barge’s interior structure. The barge’s principal extant members are its vertical, edge-fastened sides; longitudinal bulkheads; scow ends; transverse bulkheads; and framing. The barge’s interior is divided by two longitudinal bulkheads which run the length of the barge, compartmentalizing the vessel in to three sections. The hull is further split up by three transverse bulkheads which span the breadth of the hull. Three shorter transverse bulkheads which span only the outboard longitudinal compartment were also noted. Framing is placed every +/- 4 feet (1.22m) with futtocks approximately 6 inches (15.24cm) moulded and sided. The two longitudinal bulkheads are about 8 inches (20.32cm) thick, the transverse bulkheads are 6 inches (15.24cm) thick, while the sides are only 4 inches (10.16cm) thick. The discrepancy between the thickness of the sides and bulkheads suggests there was considerable stress in the middle of hull and less at the sides.

The original function of the barge could be deduced based on an examination of the structural components found in its middle longitudinal compartment. The compartment is bounded by longitudinal bulkheads, and the interior of each bulkhead has horizontally oriented cylinder shaped timbers paralleling the interior sides of each bulkhead. The cylinder shaped timbers have round sheaves attached to them. One compartment also has an angled timber wall running parallel to the bulkhead. These features suggest the barge is a dump scow with the central longitudinal compartment serving as an opening to the waters below. The angled wall is a dump door with the sheaves and cylinder shaped timbers used to control the opening and closing of the door. Dump scows were used to dump cargoes into water bodies. They commonly carried stone, garbage or dredge spoil. The adjacent barge (A4-2) and a barge to the north (A3) also appear to be dump scows, although the construction techniques of

the sites differ modestly. The presence of two dump scows (A4-1 and A4-2) next to each other suggests that they were abandoned here contemporaneously by the same owner.



Figure 43. Aerial view showing barges A4-1 (left) and A4-2 (right). (courtesy Microsoft® Virtual Earth).



Figure 44. Photograph of Anomaly A4-1 during a period of excellent underwater visibility (LCMM Collection).

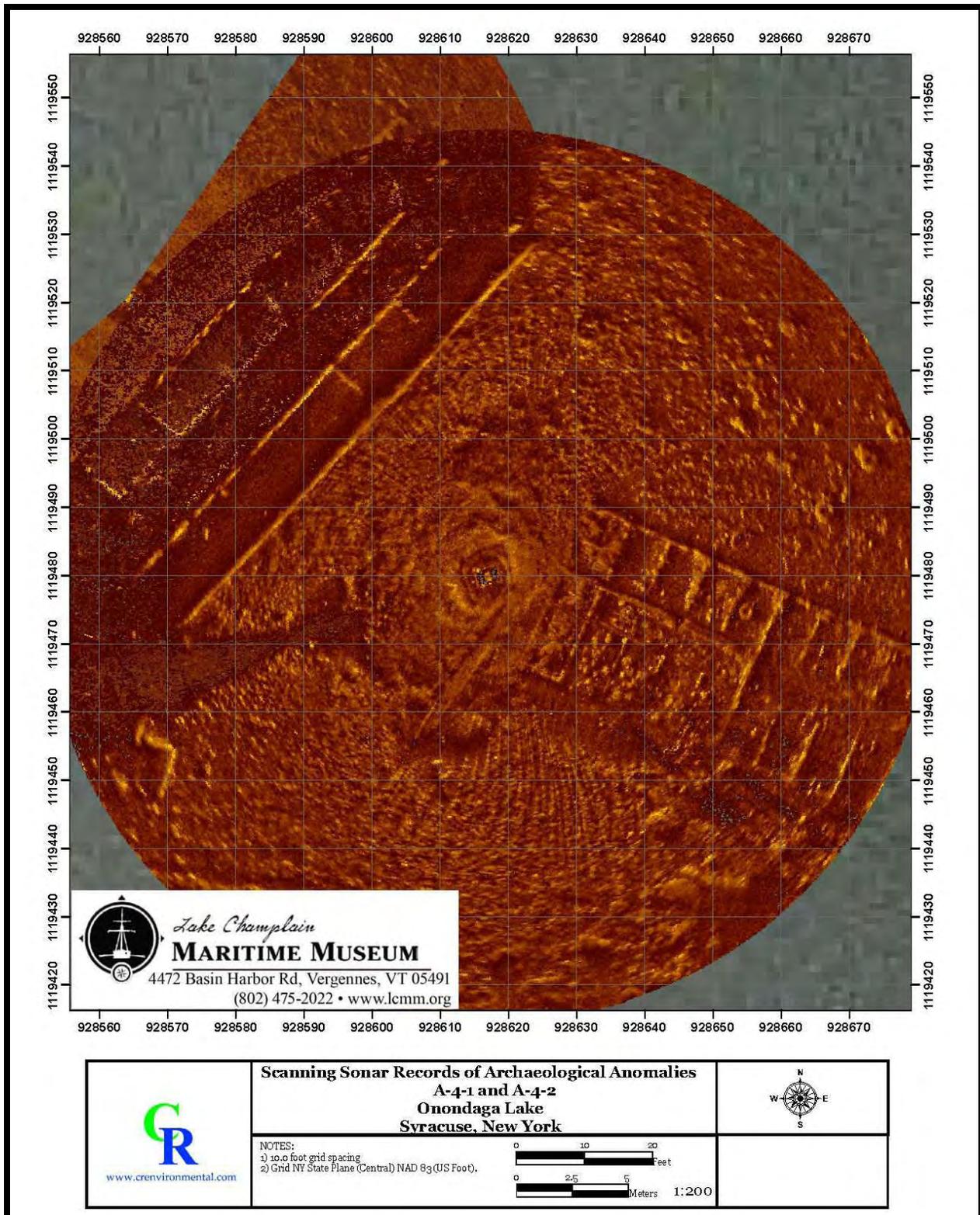


Figure 45. Scanning sonar image showing Anomaly A4-1 (left) and A4-2 (right).

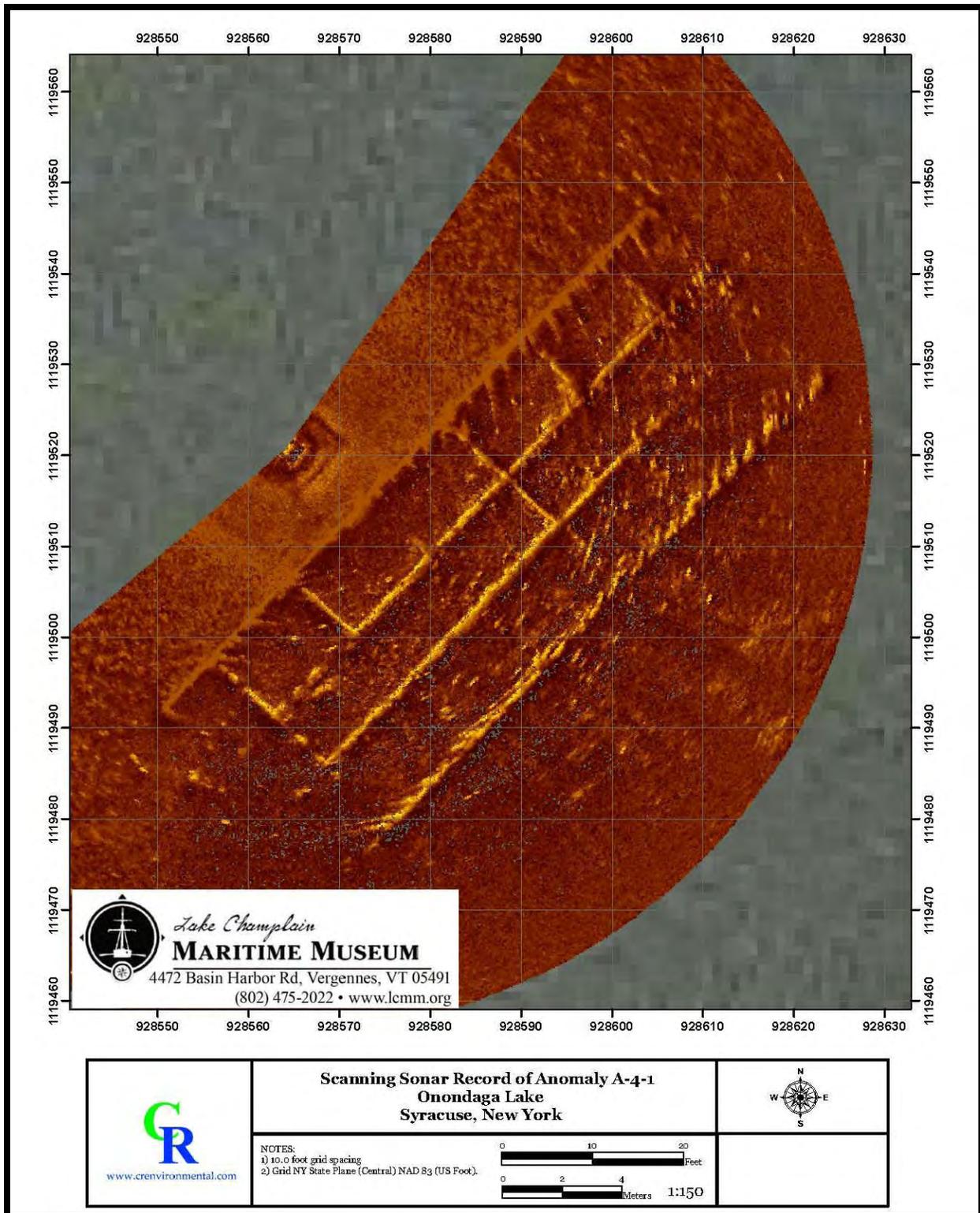


Figure 46. Scanning sonar image showing Anomaly A4-1.

Anomaly 4-2: Dump Scow

Anomaly 4-2 Summary Table	
Anomaly Identification	Wooden Dump Scow; NY Site Number 06740.012294
Remedial Impact	Dredge and Cap
NRHP Eligibility Recommendation	Eligible as Contributing Property to Syracuse Maritime Historic District
Anomaly Dataset	
Side Scan (2005)	0308
Magnetometer (2005)	743, 777
Side Scan (2010)	6/3/10
Sector Scan (2010)	6/4/10
ROV Video Footage (2010)	6/9/10
Diver Observations	No
Diver Videography	No
Maps/Charts	Yes
Aerial Imagery	Yes
Historic Accounts	No

Research Results

A4-2 is a scow barge with its eastern (shore) end partially broken up, but the remainder of the structure is preserved to just below deck level. The uppermost portions of the vessel are just below the water’s surface, and the remains are largely buried. The vessel is 73 feet (22.25m) long and 25 feet (7.62m) wide (Figure 47). A wreck marker appears in the vicinity of A4-2 on a 1942 navigational chart (see Figure 37). The barge rests in shallow water abutting the shoreline and adjacent another barge, A4-1 (see Figure 43 and Figure 45). The archaeological data suggests that the barge’s build date is in the early twentieth century. The arrangement of longitudinal and transverse bulkheads resembles that of the adjacent barge (A4-1), suggesting that A4-2 may also be a dump scow.

During the Phase 1B fieldwork, excellent surface visibility conditions allowed for a detailed visual and videographic inspection of the barge’s interior structure. However, the lower two thirds of the vessel is buried, limiting the extent to which the site could be evaluated. The barge has two longitudinal bulkheads which divide the hull into three longitudinal compartments. Three transverse bulkheads which span the entire breadth of the vessel were recorded, and at least 11 smaller transverse bulkheads which span only the outboard longitudinal compartments were noted. With the exception of the bulkhead arrangement, the barge lacked diagnostic features. The bulkheads were similar in their arrangement to the adjacent barge (A4-1), which was identified as a dump scow. Although not conclusive, it is likely that A4-2 is also a dump scow. The proximity of such similar vessels suggests that they were deposited contemporaneously.

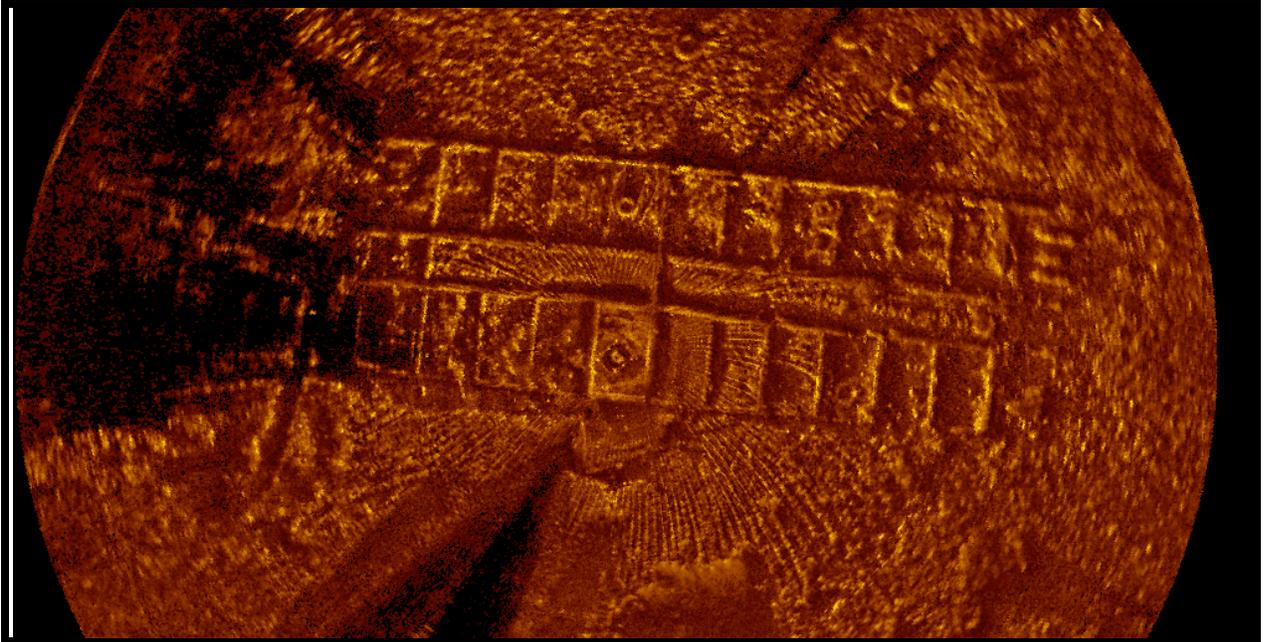


Figure 47. Sector scan image of Anomaly A4-2.

Anomaly 7: Piling Clumps

Anomaly 7 Summary Table	
Anomaly Identification	Piling Clumps; NY Site Number 06740.012295
Remedial Impact	Dredging and Capping
NRHP Eligibility Recommendation	Eligible as Contributing Property to Syracuse Maritime Historic District
Anomaly Dataset	
Side Scan (2005)	130, 169, 150, 191, 202
Magnetometer (2005)	819, 795, 220, 809, 794, 731
Side Scan (2010)	6/3/10
Sector Scan (2010)	6/5/10
ROV Video Footage (2010)	None
Diver Observations	No
Diver Videography	No
Maps/Charts	Yes
Aerial Imagery	Yes
Historic Accounts	No

Research Results

Anomaly A7 was identified from aerial images and the 2005 remote sensing survey (Figure 48). The anomaly is a series of six piling clumps marking the entrance into Syracuse’s inner harbor. The clumps consist of between three and ten pilings driven into the lakebed and held together with cables and/or iron bands. The clumps are visible above the surface, and were documented with side scan sonar, sector scan sonar and photographs (Figure 49 and Figure 50).

Analysis of historic navigational charts suggests that this channel was first marked with two lighted aids to navigation between 1915 and 1926, and an additional set of piling clumps was installed between 1937 and 1942.¹³⁴ The 1952 navigational chart continues to show four piling clumps; however, modern charts show the six that currently exist.

Statement of Significance

In 1993, the New York State Office of Parks, Recreation and Historic Preservation evaluated the New York State Canal System and found it to be eligible for the NRHP (see Appendix 5).¹³⁵ This resource evaluation found the New York State Canal System to be the most extensive canal system in North America. It is of national significance for the roles it played in the growth and development of New York State, the upper Midwest, and the nation. Contributing properties (assuming adequate integrity) include any canal-related feature including, but not limited to, built engineering features, navigational aids, maintenance fleets, boat wrecks, and terminals and/or structures associated with the canal whether publicly or privately constructed or owned.

Although it is unlikely that anomaly A7 meets the minimum 50 year threshold for a contributing property to the NHRP, these pilings are a contemporary extension of historic transportation facilities and aides to navigation which were routinely replaced. This taken into account with A7’s location within the Syracuse Maritime Historic District, LCMM recommends that A7 is a contributing property to this District.

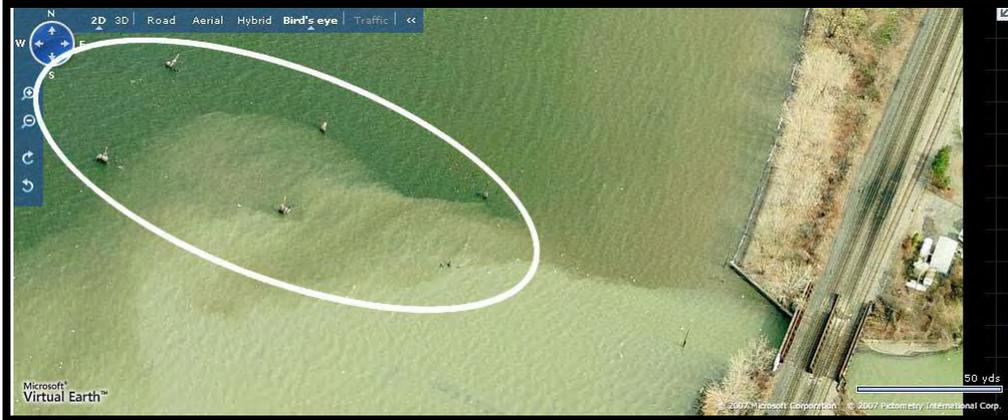


Figure 48. Canal entrance related structures creating Anomaly 7 (courtesy Microsoft® Virtual Earth).

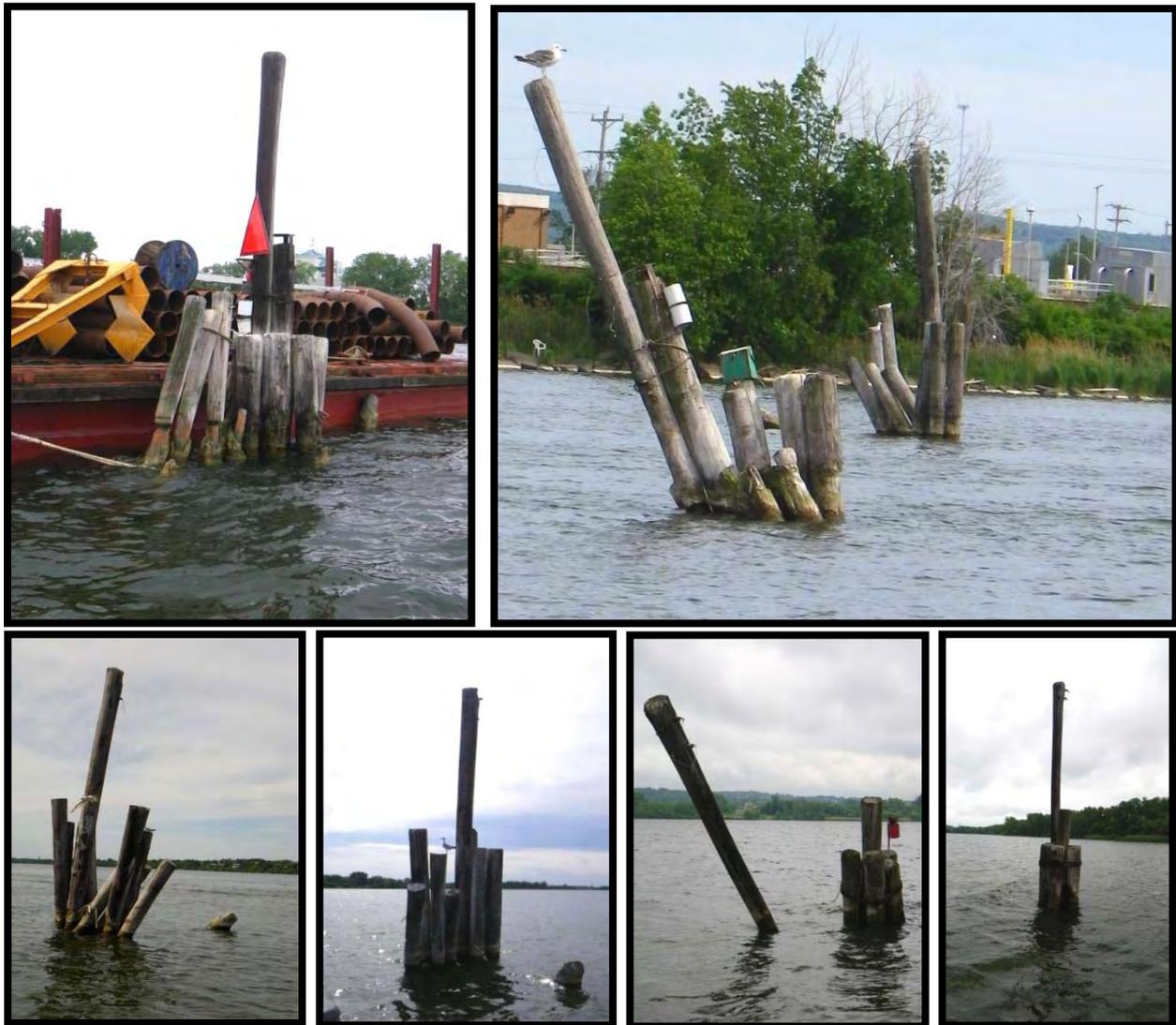


Figure 49. Photographs showing the piling clumps which comprise A7 (LCMM Collection).

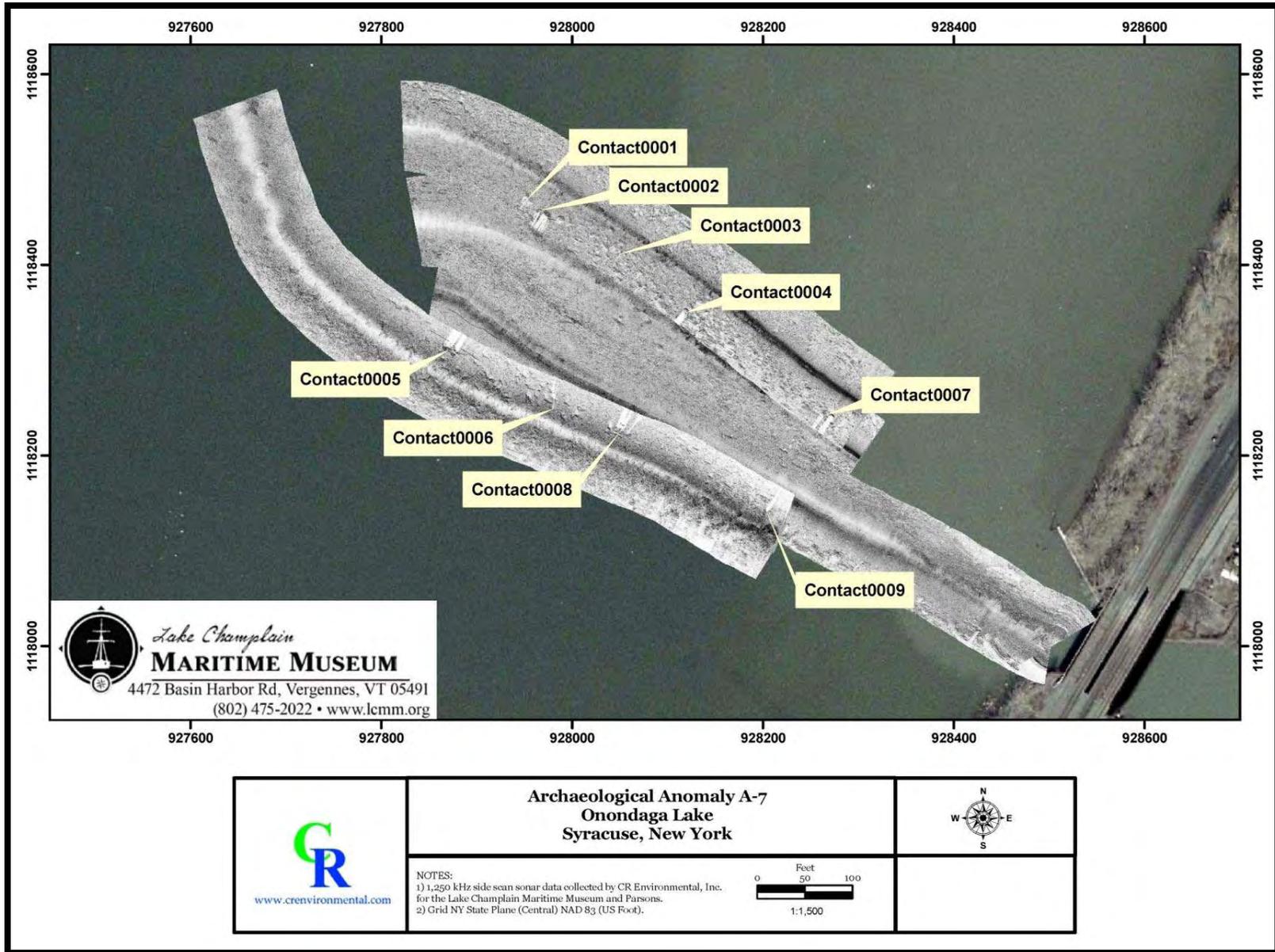


Figure 50. Side scan sonar mosaic of A7.

Anomaly 12: Derrick Lighter Spud Barge

Anomaly 12 Summary Table	
Anomaly Identification	Derrick Lighter Spud Barge; NY Site Number 06740.012296
Remedial Impact	Dredge and Cap
NRHP Eligibility Recommendation	Eligible as Contributing Property to Syracuse Maritime Historic District
Anomaly Dataset	
Side Scan (2005)	255
Magnetometer (2005)	684, 629, 253, 618, 646, 671, 659, 265
Side Scan (2010)	6/3/10
Sector Scan (2010)	6/4/10
ROV Video Footage (2010)	6/9/10
Diver Observations	No
Diver Videography	No
Maps/Charts	Yes
Aerial Imagery	Yes
Historic Accounts	No

Research Results

A12 is an edge-fastened, wooden derrick lighter spud barge. The barge is preserved up to the deck level, although the deck is no longer present. A wreck marker appears in the vicinity of A12 on a 1942 navigational chart (see Figure 37), and the site is clearly visible on modern aerial photographs (Figure 51). The mechanisms for holding the spuds are exposed above water, with the remainder of the barge is just below the water’s surface.

During the Phase 1B fieldwork, site conditions were ideal for recording sector scan (Figure 52) and side scan imagery (Figure 53), as well as a detailed visual inspection due to excellent water clarity. The barge’s principal extant members are its vertical edge-fastened sides, vertical ends, four longitudinal bulkheads, floors, framing, spud holders, and mast step. The vessel is 88 feet (26.82m) long and 32 feet (9.75m) wide. A12 is edge-fastened every +/- 18 inches (45.72cm) along the 4in (10.16cm) thick sides with framing every 3 to 4 feet (.91m to 1.22m). There are 4 bulkheads, also edge-fastened (Figure 54). The framing system consists of futtocks with a clamp holding the joint between futtock/floor. The original use of the barge as a derrick lighter spud barge is defined by the spud holders and mast step.

The spud holders are located on both sides of the vessel on the eastern end of the barge (Figure 55). Spuds are vertical posts which could be raised and lowered to hold a vessel in place, and were commonly used on barges that required maintaining a stationary position in shallow water such as pile drivers, crane barges, derrick lighters and dredge barges. The spud holder is composed of two iron horizontal knees which reinforced a vertical wooden channel in which the spud was housed. The side of the hull around the spud holder was protected with sheet iron and framed more heavily than the rest of the hull. Iron chain plates were noted along the sides of the barge adjacent to the spud holder. Chainplates, straps used to hold rigging to the boat’s side, secured the cable used to raise and lower the spuds.

The barge is believed to be a derrick lighter based on the presence of a mast step and the construction of the barge’s end. The mast step, which is located between the spud holders, indicates A12 had a vertical spar, or mast, stepped in the bottom of the hull. The mast may have held a derrick which is a pivoting spar attached to a mast used like a crane to hoist cargo and other heavy weights. Barges

equipped with derricks were known as derrick lighters, and were commonplace during the nineteenth and twentieth centuries (Figure 56). The vertical end of the barge closest to the spud holders and step is covered in sheet iron, suggesting a use which created wear on that end of the barge. The lack of other distinguishing features on the vertical end is not consistent with the features expected of pile drivers and dredges, leaving derrick lighter as the most logical identification for A12.



Figure 51. Anomaly A12 visible from aerial photography (courtesy Microsoft® Virtual Earth).

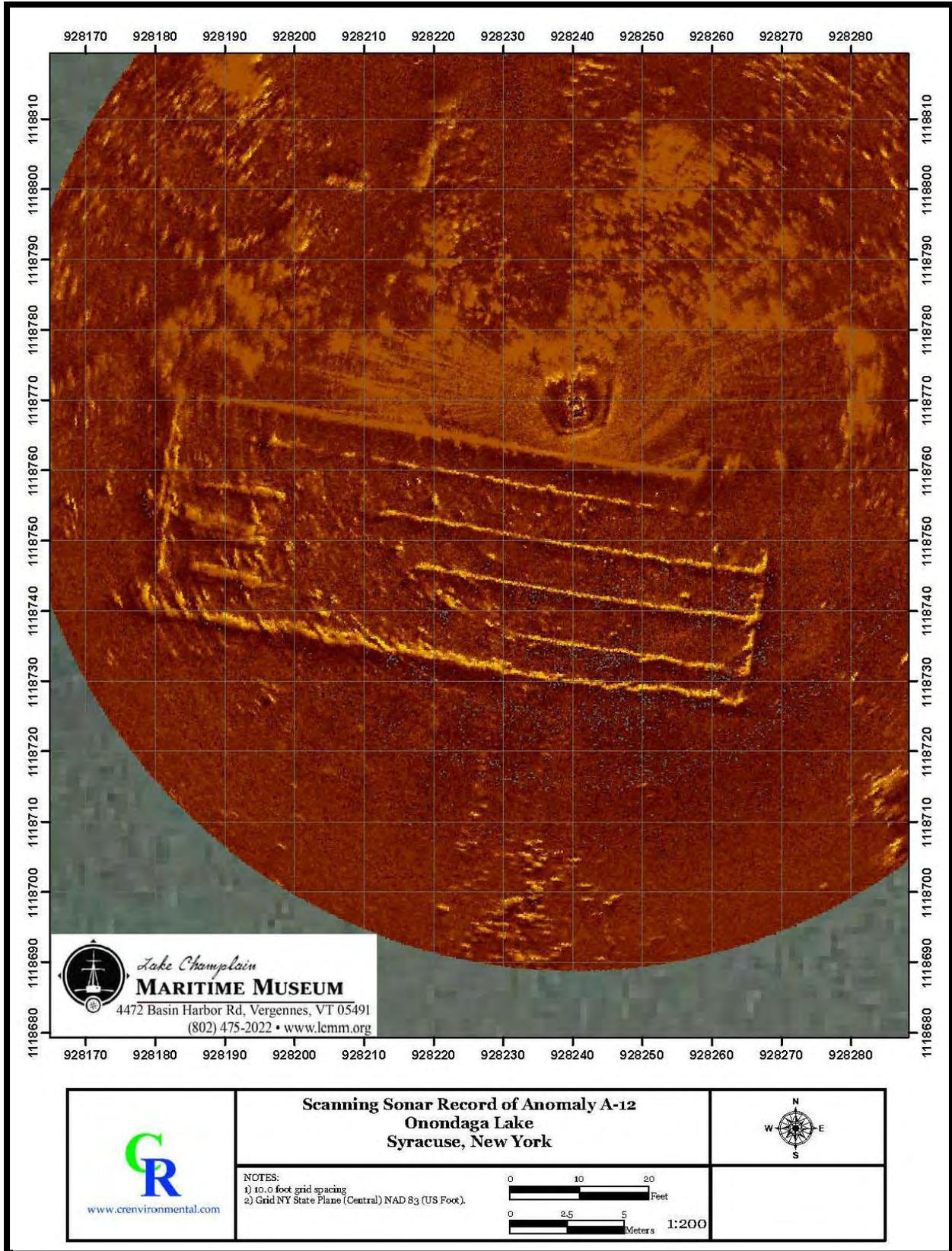


Figure 52. Scanning sonar image of A12.

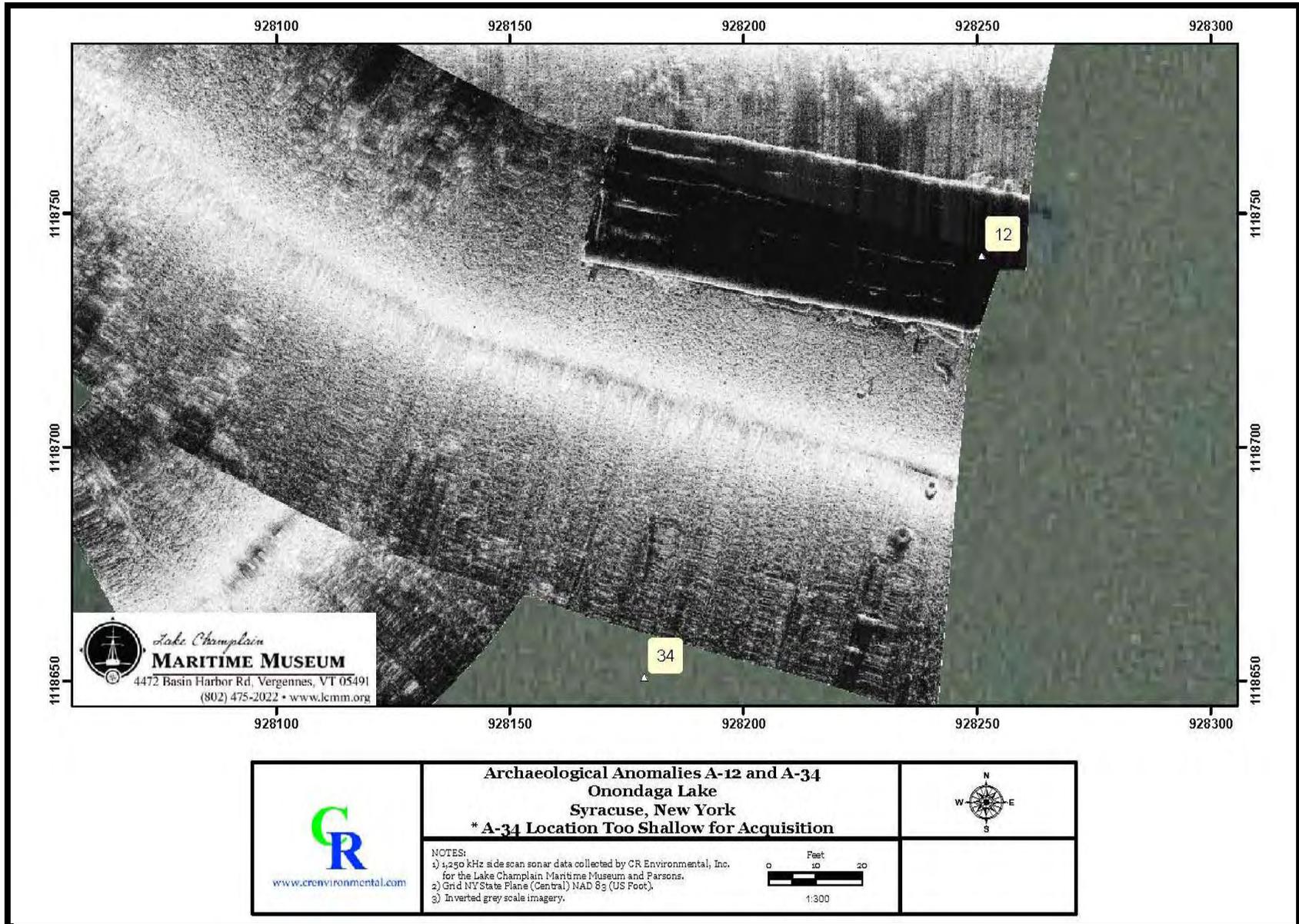


Figure 53. Side scan sonar mosaic of Anomaly A12.



Figure 54. Photograph showing Anomaly A12's longitudinal bulkheads with the spud holder in the background (LCMM Collection).



Figure 55. Photograph showing the inboard side of Anomaly A12's spud holder (LCMM Collection).

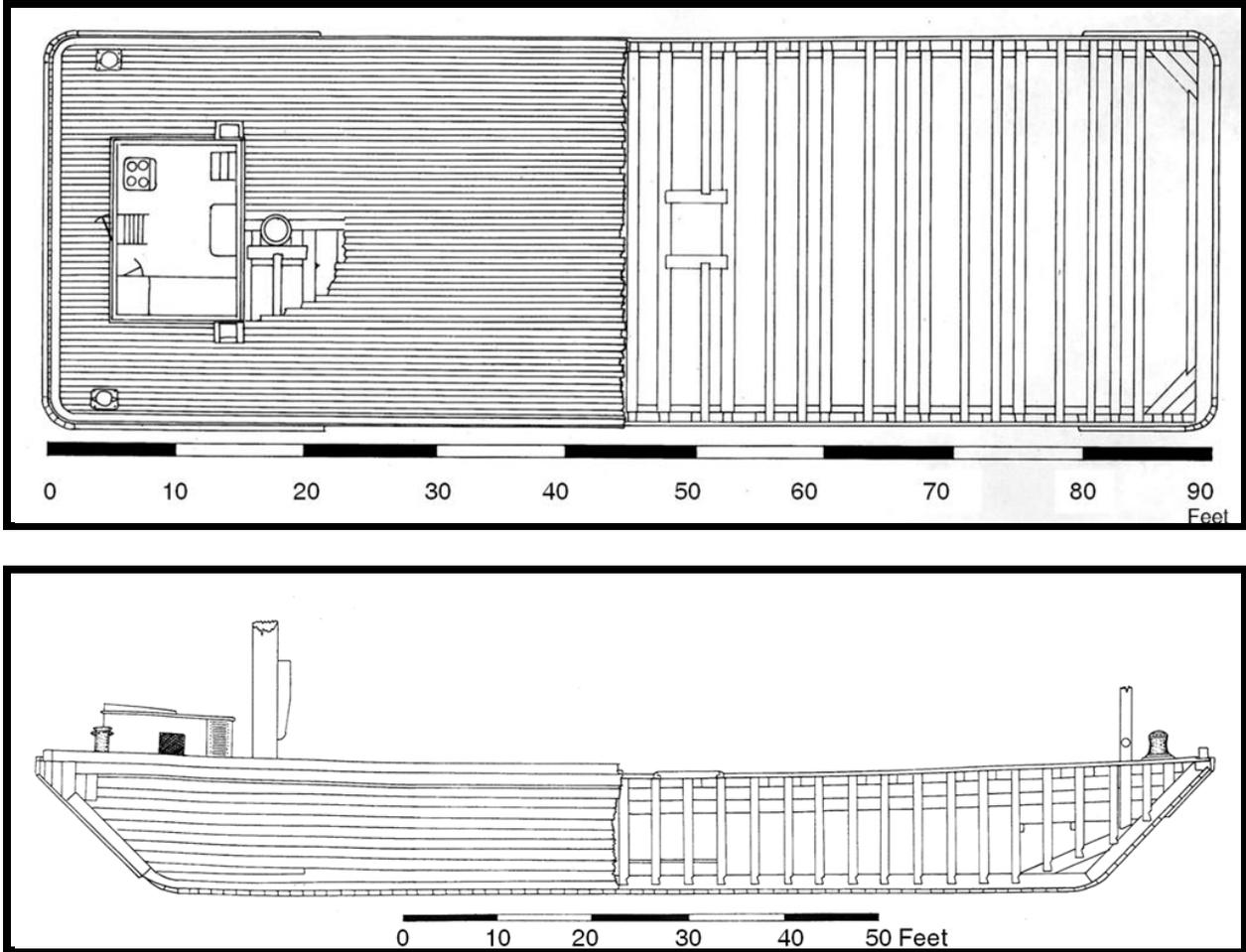


Figure 56. Plan view and profile of a derrick lighter (from the Feeney Collection at the Hudson River Maritime Museum in Kingston, New York).¹³⁶

Anomaly 34: Rock Mound

Anomaly 34 Summary Table	
Anomaly Identification	Rock Mound; NY Site Number 06740.012301
Remedial Impact	Dredge and Cap
NRHP Eligibility Recommendation	Unevaluated
Anomaly Dataset	
Side Scan (2005)	No
Magnetometer (2005)	672
Side Scan (2010)	6/3/10
Sector Scan (2010)	6/4/10
ROV (2010)	6/9/10
Diver Observations (2011)	6/21/11
Diver Videography	No
Maps/Charts	No
Aerial Imagery	No
Historic Accounts	No

Research Results

A34 is a magnetic anomaly discovered during the 2005 remote sensing survey (Figure 57). The anomaly was investigated using side scan sonar, sector scan sonar and ROV in 2010, with all results being negative. A34 was dive verified in June 2011, and determined to be a pile of stones varying sizes from 3in to 9in (8cm to 23cm). In the middle, the mound stood 12in (30cm) to 18in (46cm) above the surrounding bottom tapering at the edges, with an overall size of 42ft by 23ft (12.8m by 7.0m). Metal detecting in the mound located several iron artifacts including a 24in (61cm) long section of iron railroad rail and an unidentified iron circular object. Their location within the mound indicates a contemporaneous deposition. Extensive visual survey of the surrounding area produced no evidence for an underlying wreck or associated pier. The mound is clearly cultural in origin, most likely the result of a barge disposing of a load of stone and other debris.

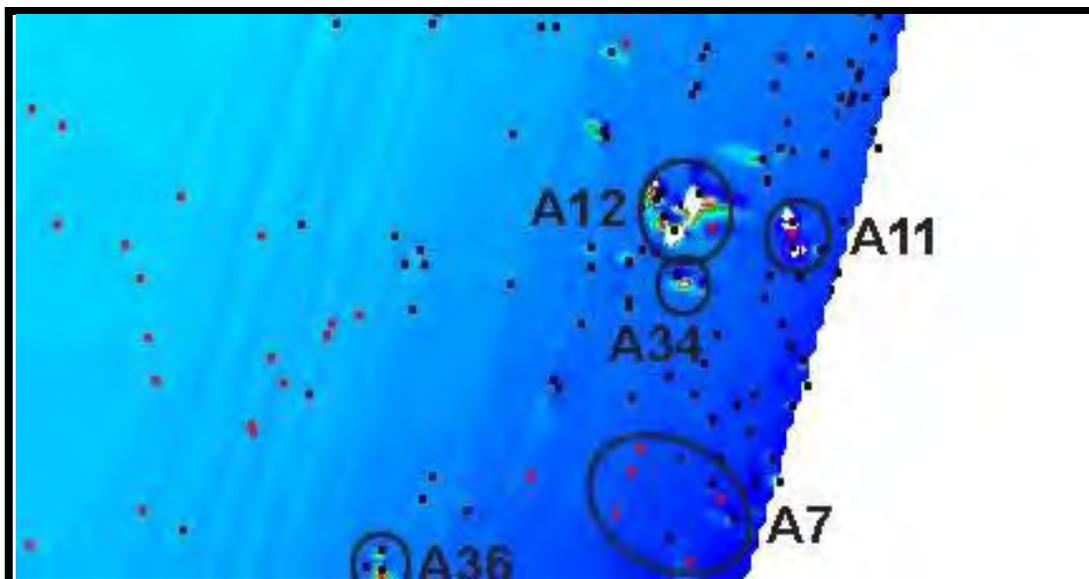


Figure 57. Magnetic intensity map of Onondaga Lake showing A34 adjacent to a barge (A12).

Anomaly 35: Unidentified Watercraft

Anomaly 35 Summary Table	
Anomaly Identification	Unidentified Watercraft; NY Site Number 06740.012302
Remedial Impact	Dredge and Cap
NRHP Eligibility Recommendation	Eligible as Contributing Property to Syracuse Maritime Historic District
Anomaly Dataset	
Side Scan (2005)	No
Magnetometer (2005)	604, 632, 617, 256, 645, 660
Side Scan (2010)	6/3/10
Sector Scan (2010)	6/7/10
ROV Video Footage (2010)	6/10/10
Diver Observations	Yes
Diver Videography	No
Maps/Charts	No
Aerial Imagery	No
Historic Accounts	No

Research Results

Anomaly A35 represents the remains of a watercraft that could not be conclusively identified due to its buried condition (Figure 58). The site was examined in June 2010 with sector scan and side scan sonar which yielded no returns suggesting the presence of a submerged cultural resource. The underwater videography recorded by the ROV showed a scatter of timbers which LCMM staff were unable to conclusively identify. Due to the lack of sufficient data to assess the nature and potential significance of the site, the anomaly was investigated by archaeological divers in October 2010. This inspection revealed the site to be the largely buried remains of a watercraft of unknown origin.

The site lies in approximately 4 feet (1.22m) of water, with an extant length and beam of 64 feet (19.51m) and approximately 14½ feet (4.42m), respectively. Very little of the site is exposed; however, the visible remains suggest that the bottom 2 to 4 feet (.61 - 1.22m) of the vessel is preserved under the lake bottom. The principal visible features include stern framing and planking, deadwood, keelson, sternpost, and a wooden hogging truss. The vessel’s stern is the most exposed portion of the remains consisting of a sternpost, frames, planking and deadwood. An iron rub rail was noted on the exterior of the port side at the stern. The planking goes from outboard of the frames to on top (interior) of the sternpost, which suggests that the sternpost is preserved to its original height. The stern post is vertical with an iron plate on the side and a gudgeon for securing the rudder. The sternpost is reinforced on its interior side with deadwood. The port side of the stern has five frames while the starboard side does not have any. The framing is light with moulded and sided dimensions of 3 inches (7.62cm). The form of the stern was difficult to determine given the paucity of exposed timbers, however, the shape is believed to be scow-like. The boat amidships had two 10 foot (3m) long longitudinal beams which were angled downward toward the stern with the bow end about 1 foot (.3m) above the lake bottom. These beams are believed to be the remains of a wooden hogging truss. The exposed remains at the bow consist of a 20 foot (6.1m) run of the keelson and the top of one frame. Probing in the bow showed the remains to be buried below only 6 to 12 inches (15 to 30cm) of sediment. The maximum length of the remains was 64 feet (19.51m); however, the stem was not located thus the true length of the boat is unknown. There is a large coil of wire rope amidships.

The paucity of exposed remains do not allow for a conclusive identification of the vessel type. The two candidate boat types are a small steamer (with machinery removed) or a canal boat. The beam

dimension of 14½ feet (4.42m), as measured between the two hogging truss timbers is suggestive of a boat designed to fit inside the Erie Canal locks between 1825 and 1862. LCMM researchers, however, do not have confidence that the distance between the hogging trusses represents the vessel's true beam since the sides of the hull were not located. The length of the remains are not reflective of the boat type since the bow is not preserved, and thus the true length is unknown.

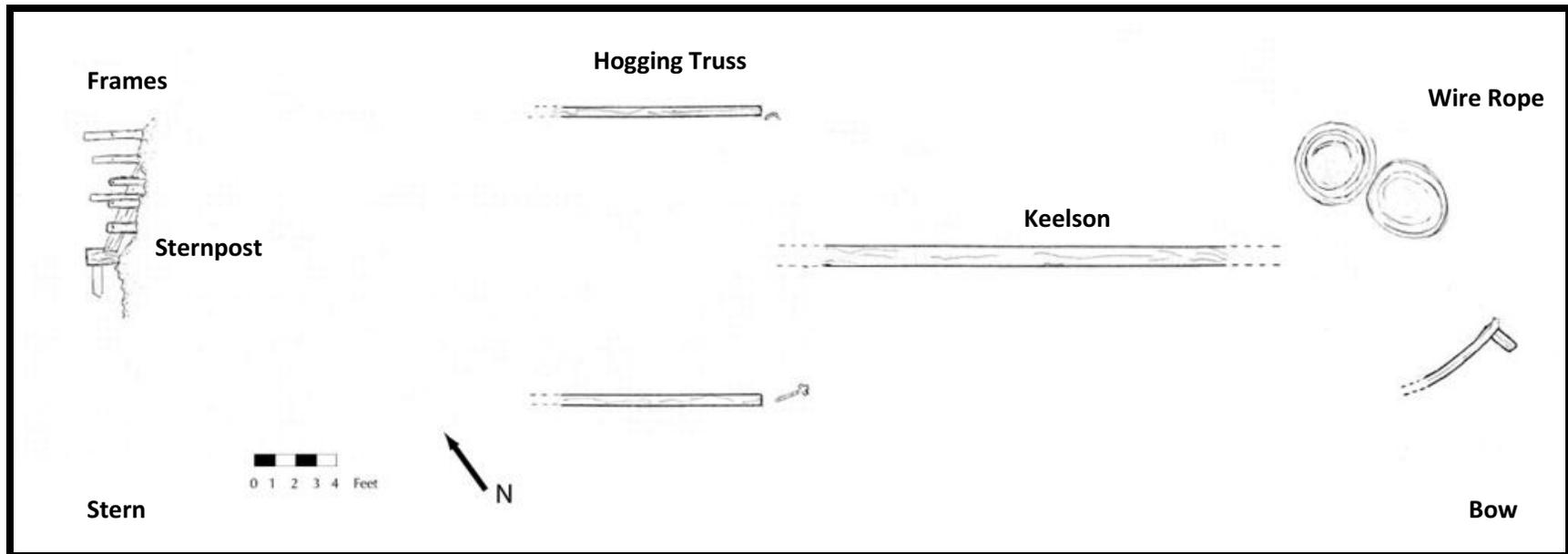


Figure 58. Preliminary scale drawing of A35 showing the scarcity of exposed vessel structure (Sarah Tichonuk, LCMM Collection).

Anomaly 38: Iron Pier Marine Infrastructure

Anomaly 38 Summary Table	
Anomaly Identification	Iron Pier Marine Infrastructure; NY Site Number 06740.012303
Remedial Impact	Dredge and Cap
NRHP Eligibility Recommendation	Eligible as a Contributing Property to the Syracuse Maritime Historic District
Anomaly Dataset	
Side Scan (2005)	No
Magnetometer (2005)	781, 747, 780, 779, 745, 778, 761
Side Scan (2010)	6/3/10
Sector Scan (2010)	6/7/10
ROV (2010)	6/9/10
Diver Observations	Yes
Diver Videography	Yes
Maps/Charts	Yes
Aerial Imagery	No
Historic Accounts	Yes

*Historic Context*¹³⁷

The Iron Pier was an amusement area. It had a public wooden pier that was constructed in 1890 by the People’s Railway Company. The resort consisted of a long narrow wooden pavilion that was 50 by 600 feet (15.2 by 183m).¹³⁸ The pier was located just west of the People’s Railway (Northern) Railroad, on the south shore of Onondaga Lake. This was situated just northwest of many of the solar salt vats, and workers’ housing. On the east end of the pier were bowling alleys; on the west end was a concert hall. Besides shops, restaurants, and amusements, the Iron Pier hosted a variety of activities including baseball games, concerts, boat rentals, a large toboggan water slide, swimming and fishing. Alcohol was also consumed at the pier; a temperance movement at the end of the nineteenth century prompted the manager in 1899 to halt the sale of liquor.¹³⁹ In 1899, a trolley line was constructed along the west side of Onondaga Lake. The line, along with the other railway lines around the lake, led to the demise of boat traffic, and made access easier and cheaper for many of the local residents of Salina, Syracuse and Geddes. By the end of 1906, Iron Pier closed. On March 16, 1907, the Iron Pier was demolished.¹⁴⁰ By 1908, the area of the Iron Pier had been covered with Solvay soda ash and refuse, and a park had been created on top of the wastes adjacent to the original mouth of Onondaga Creek.¹⁴¹ A channel basin was constructed up to the Syracuse Junction Railway. By 1924, the area was noted as being covered with Solvay waste, and there was no longer any park situated there.¹⁴²

Research Results

A38 was examined with side scan sonar, sector scan sonar and remotely operated vehicle with inconclusive results. The anomaly was selected for dive verification, which was undertaken on October 26 and 27, 2010. The site was identified as dock or pier remains based on archaeological and map data. The site consists of a 20 by 17 foot (6.1 by 5.2m) timber frame structure (Figure 59). The exterior walls are constructed of edge fastened planks reinforced with framing members every 3 to 5 feet (.91 to 1.5m). The remains appear to be preserved up to their original height based on the presence of four timbers forming a deck with a large mortice for the foot of a vertical timber. The pier has two box-like features constructed out of two layers of vertically oriented planking. The boxes are 2 feet by 2 feet (.61 by .61m) and stand 1½ feet (.46m) above the bottom. The function of the box features is unknown.

Overlays of historic maps and charts suggests that A38 is near the former location of the western end of the Iron Pier basin (Figure 60).

A38 lies immediately between anomalies A4-1 and A4-2 to the south and A55 to the north. The derelict marine infrastructure related to the Iron Pier Resort is considered a contributing property because of its causal relationship with the District. The abandonment of the Iron Pier Resort and its associated lake side structures is important in the foundation of the District because that action (or lack thereof) created an environment without active human stewardship. Had Iron Pier (or Salina Pier) still been in active use, it is highly unlikely that watercraft would have been abandoned in this area of the lake.

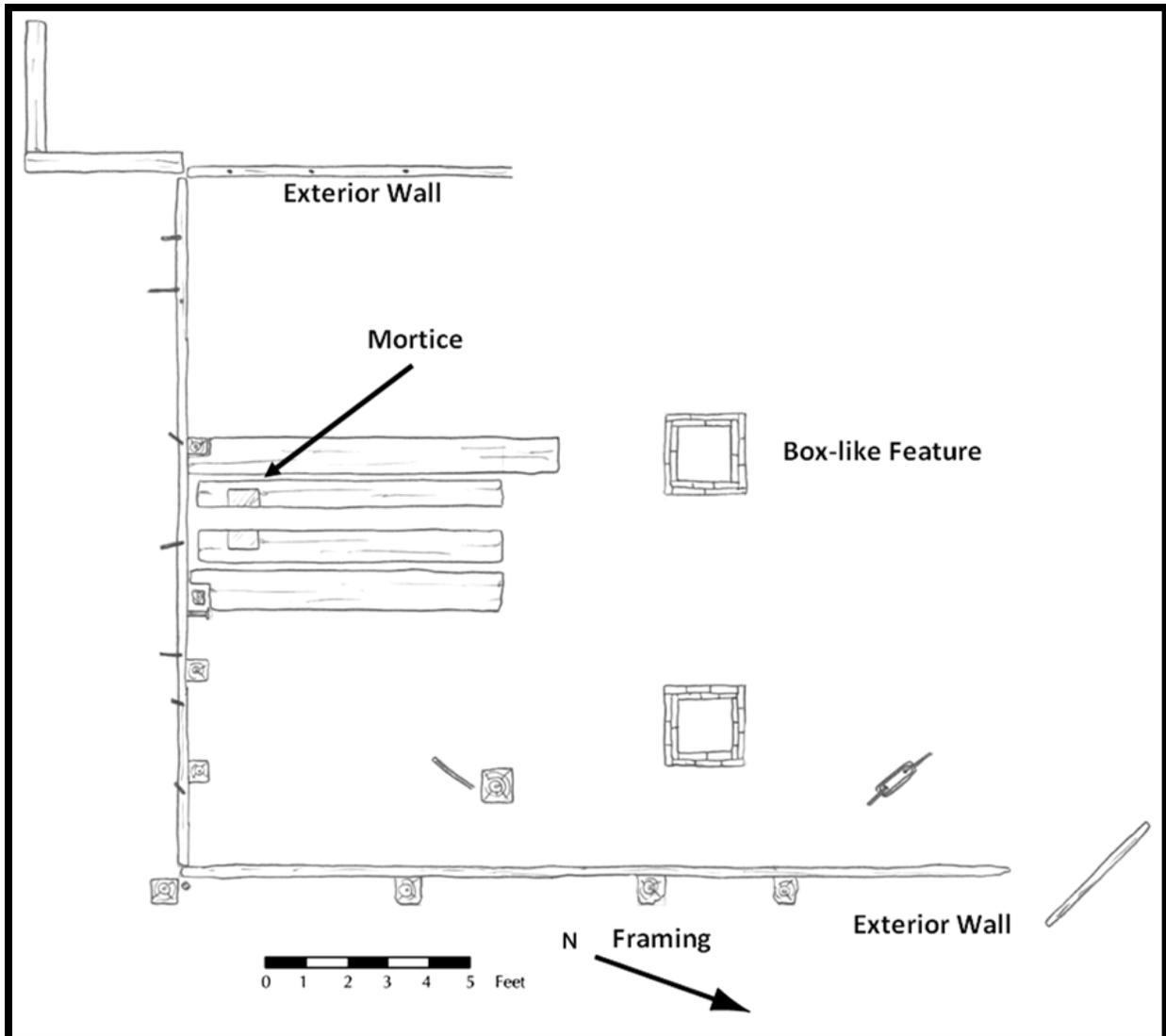


Figure 59. Plan view drawing of A38 (Sarah Tichonuk, LCMM Collection).

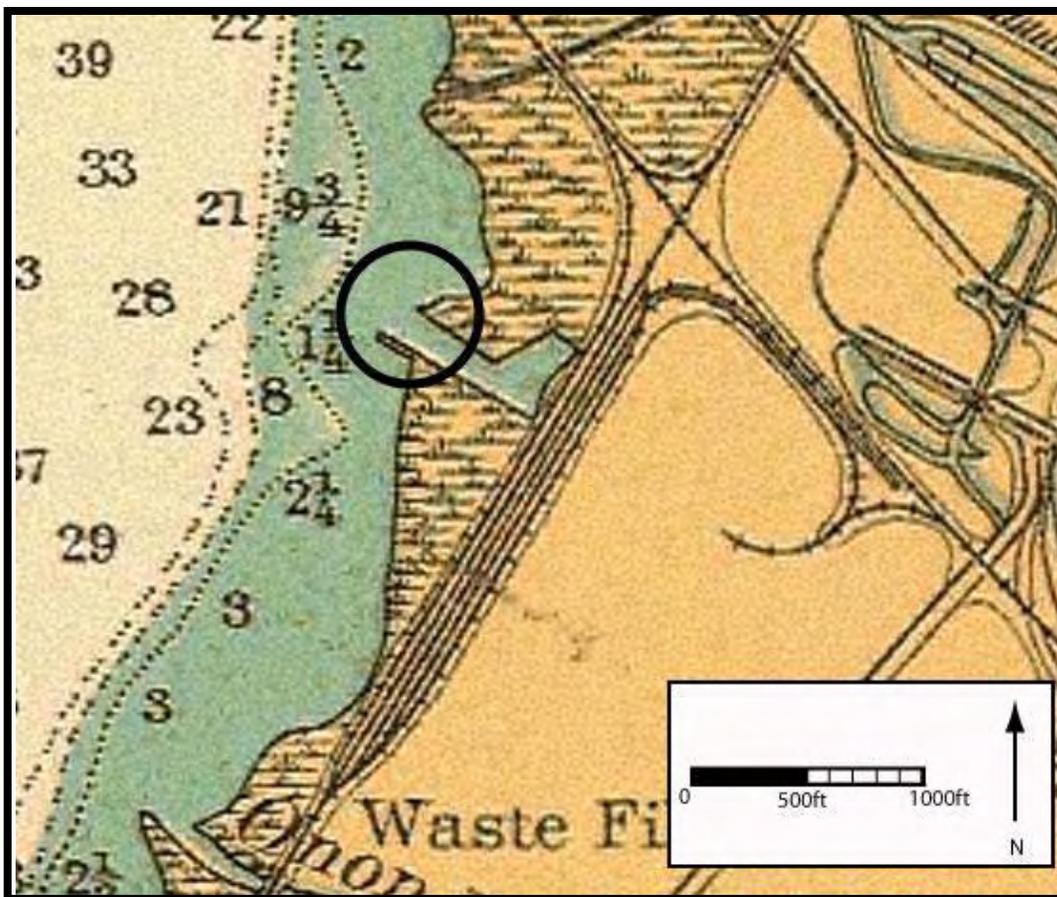


Figure 60. 1915 navigation chart of Onondaga Lake showing the location of A38 (U.S. Lake Survey Office, Chart No. 5, New York State Canals, Brewerton to Cross Lake and Syracuse to Oswego, 1915).

Anomaly 45: Concrete Breakwater

Anomaly 45 Summary Table	
Anomaly Identification	Breakwater of Concrete Bags; NY Site Number 06740.012304
Remedial Impact	Dredge and Cap
NRHP Eligibility Recommendation	Eligible as Contributing Property to Syracuse Maritime Historic District
Anomaly Dataset	
Side Scan (2005)	No
Magnetometer (2005)	705, 796, 810, 817, 732, 773, 766, 712, 797, 811
Side Scan (2010)	6/2/10
Sector Scan (2010)	6/7/10
ROV (2010)	6/10/10
Diver Observations	6/26/11
Diver Videography	No
Maps/Charts	Yes
Aerial Imagery	Yes
Historic Accounts	No

Research Results

A45 is a breakwater situated southeast of the entrance to the Syracuse Inner Harbor. Analysis of navigational charts suggests that the structure was installed between 1937 and 1942 (Figure 62), and was abandoned/partially submerged by 1947. The breakwater is 20 feet wide (6.1m) and extends 250 feet (76.2m) from the shoreline (Figure 61). Dive verification in 2011 showed the site to be made of concrete bags, likely constructed by placing bags of concrete in the water. Each concrete block was pillow-shaped with two indentations from circular bands. Given the breakwater’s location, its intended purpose was likely to dampen wave action at the harbor entrance for entering and exiting boats. The structure is densely packed along the exterior walls of the breakwater with an open gap containing only sporadic concrete bags in between (Figure 63 and Figure 64). Only one tier is visible. The site lies in 2 to 3 feet (.61 to .91m) of water. No timber crib or other wooden structures were noted, suggesting that the site is a breakwater and not a pier.



Figure 61. Aerial view showing A45 (courtesy Microsoft® Virtual Earth).