

## Restoration of U.S. Coast Guard Motor Lifeboat CG-36538

### Comment Regarding the Eligibility of a Boat for Historic Preservation Grant Funding

The National Park Service, which oversees and sets the standards for the National Register of Historic Places, considers boats, trains, cars, airplanes, etc. as “structures.” The National Park Service gives the following definition:

The term “structure” is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter...[e.g.] boats and ships, railroad locomotives and cars, telescopes, carousels, bandstands, gazebos, and aircraft.<sup>1</sup>

The *Cape May County Open Space Program Guide* for 2016 specifically states on page 4 that eligible projects include “Historic preservation of historic properties, structures, facilities, sites, or areas...” Thus, the Coast Guard Motor Lifeboat is eligible for funding.

There is precedent at the state level for using public historic preservation funds for the restoration of a boat: New Jersey’s tall ship, the 1928 oyster schooner *A.J. Meerwald*, received \$265,000 in grant funds from the New Jersey Historic Trust for restoration in 1992. The schooner is listed in both the State and National Registers of Historic Places. Similarly, the WWII TBM-3 bomber airplane housed at Naval Air Station Wildwood Aviation Museum (which was restored without grant monies) is also listed in both Registers.

### 1. Site Features

#### **A. Historical Background and Significance**

##### *Historical Background*

CG-36538 was completed on November 12, 1952 at the Curtis Bay, Maryland boat yard. She served at Coast Guard Station Atlantic Beach, New York (on Long Island) from 1952 until the early 1960s and from the early 1960s to 1972 at Great Egg Station (formerly Station Ocean City) in Cape May County, New Jersey. While stationed at Ocean City, she was used almost exclusively for winter rescues and winter assistance calls.

She was transferred to the USCG Academy Museum in Connecticut on June 1, 1972, and prior to her transfer to the USCG Academy Museum she was at the South Street Seaport Museum. The current owner took possession of the boat in November 2014. Based on this preliminary history, the boat’s period of significance runs from 1952 (the date of the boat’s construction) to 1972 (the year it was retired from service).

##### *Significance*

Under Criterion C/architecture, CG-36538 is significant as a type TRS for its motor lifeboat design characteristics that reflect the evolution and improvement of the Coast Guard’s 36-foot wood

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<sup>1</sup> *National Register Bulletin 16A*, “How to Complete the National Register Registration Form,” National Park Service, Department of the Interior, 1991, 15.

lifeboat from type T developed in 1928, to type TR built from 1931 to 1937, to type TRS that was built from 1937 through 1956. The TRS motor lifeboat was the last wooden-hulled coastal lifeboat design developed by the Coast Guard and was the first to use laminated wood components in its construction. It was also built over a longer period of time than any other lifeboat model--almost twenty years, from 1937 through 1956. In 1962 it was replaced by the 44' twin propeller steel motor lifeboat.

Type T (thought to be named for “new type”) was designed to be a more powerful lifeboat for carrying out not only traditional types of coastal rescues in heavy weather, but also for responding to the increasing number of rescues requiring the towing of recreational or fishing boats. It was outfitted with a single-masted sloop rig with jib and mainsail intended to be used only when its gasoline engine failed. Self-bailing methods were greatly improved on type T’s which were given more efficient side scuppers than the through-bottom bailing tubes of earlier lifeboats which weakened the hull structure and promoted rot. Survivor accommodations were also upgraded with a lengthened and enclosed forward compartment with a watertight door. Re-righting took from 7 to 9 seconds and self-bailing approximately 13-14 seconds. Twenty-seven were built between 1929 and 1931.<sup>2</sup>

Type TR (meaning type T, revised) was made from 1931 to 1937. Minor revisions to the length, width, and hull lines shifted the center of gravity and buoyance, improving the lifeboat’s stability and behavior when working in a sea. This type retained the same sailing rig as its predecessor, again for use in emergency situations. Exhaust noise was reduced, a useful trait because these craft were designed for anti-smuggling operations. Tests showed that this type re-righted itself in about 5 seconds and self-bailed in about 20 seconds. A total of 69 were built.<sup>3</sup>

Experience with the type TR lifeboat indicated that further efforts could be made toward simplifying construction, reducing weight, and controlling construction costs. Thus, the type TRS (with the “S” standing for “simplified”) was introduced in 1937. Although there is little difference visually between the TR and the TRS models, the main differences are in the details. The TRS model has nine freeing scuppers on each side, versus eight on each side in the TR model. Almost all of the bright work (brass) on the earlier model was eliminated and replaced with wooden components painted white or occasionally varnished. The sailing rig on T- and TR- models was eliminated on the TRS because crewmen rarely used it and often found it a hindrance, hampering movements around the boat during rescue operations. This provided a weight savings of over 400 lbs. and improved stability and boat response characteristics.<sup>4</sup>

T- and TR- models had a semi-enclosed rudder system that was eliminated in the TRS, reducing costs and improving reliability in boat speed and power. Many construction features were simplified. All decks were laid flat, eliminating the camber feature in T- and TR- models, buoyancy blocks were removed, and the hull was made thicker, thereby eliminating the need to add a 5/8” - thick ice sheathing layer and allowing the corrosion-resistant Monel sheathing to be applied directly to the hull bottom.

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<sup>2</sup> U.S. Coast Guard, *36-Foot Motor Lifeboat-type T*, as found at <http://www.uscg.mil/history/cutters/boats/docs/36FootMLBTypeT.pdf>, accessed 1-12-2016.

<sup>3</sup> U.S. Coast Guard, *36-Foot Motor Lifeboat-type TR*, as found at <http://www.uscg.mil/history/cutters/boats/docs/36FootMLBTypeTR.pdf>, accessed 1-12-2016.

<sup>4</sup> U.S. Coast Guard, *36-Foot Motor Lifeboat-type TRS*

TRS hulls built after WWII, like that of CG-36538, were made of laminated wood construction, the first use of this type of construction by the Coast Guard. After WWII, stocks of seasoned wood and large size oak planks had been depleted by war-time use, and the Curtis Bay Yard turned to laminated wood built up to sufficient size to be used for some framing, stem and stern pieces, and knees. All type TRS lifeboats completed between 1946 and 1956 were built with this type of construction.<sup>5</sup>

When first built, the TRS model was capable of a speed of 8 knots and had a cruising range of about 200 miles. It was originally designed with gasoline powered engines which were later changed out for diesel ones beginning in 1946. Diesel engine installation in lifeboats had not been initially possible due to the larger size and weight of diesel engines compared to gasoline engines of similar horsepower. By the end of WWII, however, smaller-sized diesel engines had been developed for marine use and although more expensive than gasoline engines, offered advantages in cruising range (300 nautical miles vs. 170 nautical miles), fuel costs, and the reduced flammability risks associated with diesel fuel.

An undated listing (ca. 2008?) found on the internet identified 22 extant TRS model lifeboats. Of these, ten were located on the West coast, four on the east coast (including CG-36538), and the rest in the Great Lakes region.<sup>6</sup> At the time, CG-36538 was still in storage at the Coast Guard Academy in New London, CT. Three of the 22 have been restored and are fully operational; one is owned by a private individual and the other two are owned by non-profit organizations. Of those on the east coast, only the fully-restored CG36500 (famous for the spectacular rescue shown in the January 2016 movie, *The Finest Hours*) is operational and it is about to moved indoors to a museum facility on Cape Cod. Once restored, CG36538 will thus be the only seaworthy TRS model lifeboat on the east coast available for people to experience life as a crew member on board.

## **B. Existing Conditions**

### **Description:**

The motor lifeboat CG-36538 was built in 1952 at the Curtis Bay Maryland Coast Guard Yard, the production facility for all 36-foot TRS model lifeboats. The all-wood TRS model 36-footer, which replaced the TR-model, was the standard-issue lifesaving boat for most US Coast Guard Lifeboat stations in the mid-20<sup>th</sup> century. It held a crew of three and had room for 30 passengers. Between 1937 and 1956, 138 boats of this model were produced. The last active TRS model was retired in 1987.<sup>7</sup>

The TRS model is a heavily built double-ended, self-righting and self-bailing motor lifeboat designed to withstand the most severe sea conditions. It is designed to roll over and recover upright by means of features including a ballast keel and skeg made from solid bronze weighing 2,000 pounds,

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<sup>5</sup> Ibid.

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[http://webcache.googleusercontent.com/search?q=cache:\\_EaxDDpRPt8J:www.savewoodisland.com/uploads/7/0/1/2/7012043/nationwide\\_rescue\\_craft\\_status.doc+&cd=11&hl=en&ct=clnk&gl=us](http://webcache.googleusercontent.com/search?q=cache:_EaxDDpRPt8J:www.savewoodisland.com/uploads/7/0/1/2/7012043/nationwide_rescue_craft_status.doc+&cd=11&hl=en&ct=clnk&gl=us)

<sup>7</sup> U.S. Coast Guard, *36-Foot Motor Lifeboat-type TRS*, as found at <http://www.uscg.mil/history/cutters/boats/docs/36FootMLBTypeTRS.pdf>, accessed 1-12-2016. Much of the technical and historical information in this preliminary application is taken from this document.

watertight compartments, and scuppers above the splash rail to drain water. The overall length of the boat is 36' 8" with a 10' 8" beam and 3' 5" draft; it weighs over 20,000 pounds, has a maximum speed of eight knots, and a range of about 300 miles.

The boat has five water-tight compartments: a forward cabin with bench seating for passengers, an engine room located amidships, an aft compartment, another under the coxswain's station, and the forward well. Cockpits are located forward and aft.

Plans for this model, CG-36538, show that it was originally built with a 4-cylinder GM diesel engine. Its original diesel engine is extant, but was damaged beyond repair by exposure to salt water and salt air.

CG-36538 retains many original features including its white oak frame comprised of sawn and steam-bent laminated and whole framing members. The cypress planked wood hull is enclosed with original 1/6" thick Monel sheathing that will be removed during the boat's restoration, but will be saved for reinstallation. Monel is made from nickel and copper with small amounts of other metals, creating an alloy that is resistant to corrosion, particularly rapidly flowing seawater. Other original features include, but are not limited to, the bronze keel, rudder, portholes, instrument panel, gear box, steering mechanism, manual bilge pump, ladders, bronze and nickel life lines, some bronze light fixtures, radio, safety equipment, light mast, copper windscreen and fuel /engine cooling systems.

### **C. The Proposed Restoration**

The goal of the restoration is to return the boat to its as-built, 1952 appearance and to make it seaworthy. Once back on the water, the boat will be used for educational purposes and as a way to raise money for the Maritime Museum by giving open-water tours of the Cape May harbor during the summer and early fall tourist season. Approximately two-thirds of the restoration budget is devoted to structural repairs, while about one-third of the budget is for non-structural repairs.

Structural repairs needed to make the boat seaworthy are extensive. Existing finishes, planking, and framing components (e.g. keel, hull framing, decking, and bulkheads) will be carefully removed to first determine what they are made of and how they are put together, and second to assess what can be restored and what needs to be replaced in-kind. Proper wood species for replacement will be purchased depending on the results of the preliminary assessment. Framing members to be replaced will be steamed into proper shape on-site. Hatches will be reproduced, decks and planking will be finished or re-finished with paint and canvas, and furniture (e.g. benches) will be restored or remade as necessary in the engine room and forward cabin. Each panel of Monel sheathing (about 87 of them) will be stripped of its paint and reinstalled with bronze screws. The total cost of structural repairs is \$106,375.

The non-structural repair category includes a new muffler and exhaust system for the GM471 engine donated by Mystic Seaport Museum which is currently being overhauled; the cost to overhaul the engine is not included in this budget since work is already underway. Other costs include a new steering wheel and assembly, throttle, gear box, cables, and mechanical bilge. The 200-gallon diesel fuel tank will be replaced with a new identical tank and will also require supply and return lines. Necessary electronic components include a depth finder, GPS, (both not original to the boat but required by law to make the vessel seaworthy), a VHS radio, and bronze instrument panel with

instruments. Also included in the budget is new wiring for such components as the bilge and fuel tank, and cabin, running, search, and anchor lights. The total cost of non-structural repairs in \$42,255.

Missing components will be replicated based on the original drawings and include the propeller, drive shaft, teak helmsman mat, canopy, and hatches.

It is estimated that 80-90% of the boat's original fabric survives intact. This survival rate exceeds most wooden hull vessels listed in the National Register, which range from 5-95% of the vessels' original fabric.<sup>8</sup>

No historic preservation plans or studies have been completed on the boat, but all work will be done in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. For example, distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period (1956) will be preserved. Deteriorated features from the restoration period will be repaired rather than replaced. However, where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.

#### **D. Innovation/Energy Conservation**

This type of project does not lend itself to integrate energy conservation into the boat's preservation.

## **2. Community Needs and Planning**

### **A. Community Support**

There is strong community support for this project. The U.S. Coast Guard, which has a strong presence through its training center in Cape May, enthusiastically endorses the restoration of this lifeboat especially because of its ties with the Coast Guard facility in Ocean City. Cape May Commanding Officer Capt. G.T. Prestidge's letter of support is included in this application. Other letters of support included in this application are from state senator Jeff Van Drew, assemblymen Bob Andrzejczak and Bruce Land, congressman Frank LoBiondo, Coast Guard Historian William Thiesen, the U.S. Life-Saving Service Heritage Association, and Lower Township Mayor Michael Beck.

### **B. Existing Historic Resources and How This Project Enhances Them**

As a project that directly relates to the county's rich maritime history, restoration of CG-36538 not only enhances existing maritime history sites but also brings a unique resource that will enrich visitor experiences. Other historic maritime sites open to the public in Cape May County include two lighthouses (Cape May and Hereford Inlet), a portion of the Naval Air Station Wildwood Aviation Museum that is devoted to the history of the U.S. Coast Guard, the concrete ship *Atlantus* off of Sunset Beach in Lower Township (which is only minimally interpreted), and the World War II Lookout Tower in Lower Township. Historic Cold Spring Village, the County Museum in Cape May Court House, and the Mid-Atlantic Center for the Arts and Humanities also have displays or

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<sup>8</sup> National Register nomination, US Coast Guard Motor Lifeboat CG-36500.

tours that touch on the county's maritime history. The 1886 Ocean City Life Saving Station is currently being restored. Additionally, the grant applicant is in the process of raising money to recreate the 1876 lifesaving station that once stood in Lower Township north of Cape May Point.

There are no other restored historic boats located in Cape May County that are interpreted and open to the public. The *A.J. Meermal*, a restored early 20<sup>th</sup>-century oyster schooner that is New Jersey's official Tall Ship, does typically visit Cape May County and offers tours in the summer, but she represents an entirely different part of the Delaware Bay's maritime history. Thus, this project—once the boat is restored—provides a unique opportunity for visitors to experience another significant aspect of the county's maritime history as it relates to life saving, provides a direct tie with the US Coast Guard Training Center in Cape May City, and offers an important link to other historic maritime sites within the county.

### **C. Land Use/Development Patterns**

N/A

### **D. Access**

Once restored, the boat will be available for tours from mid-May to early September. Hours for the 45-minute tours of Cape May Harbor will be at 8:00 9:30 11:00 13:30 &15:00, (6 1/2) days per week, with two Sunday afternoon tours, all weather-permitting. The charge for tours will be \$12.50 for children (15) and under; seniors \$25 (62+) and adults \$30. Free dockside boat tours will be available from noon to 1 p.m. on cruising dates. During its touring season, the boat will be docked at a public marina and there will be no restriction to access while docked there.

Because the boat is not now, nor will ever be, handicapped accessible, a video or Powerpoint presentation discussing the boat's history and showing photos of its interior spaces will be available on a tablet for viewing by handicapped visitors.

## **3. Leverage of Investment and Long-Term Viability**

### **A. Project Budget**

A detailed budget for this project is given below. The applicant is asking the county to fund 50% (\$74,315) of the total cost of the restoration (\$148,630). The applicant will provide the 50% match; fundraising is currently underway and any shortfall by the time of signing contracts will be provided through a bank or personal loan.

### **Budget to Restore Coast Guard Motor Lifeboat CG36538**

April 2016

#### **Structural (labor and materials)**

Prepared by:

Milt Edelman, restoration shipwright  
115 Third Ave.  
West Cape May, NJ 08204  
609.602.1051

A. Gain Access to Interior Areas. Document Dimensions, Species, and Construction Details (month 1)

1. Remove rubrails, toe rails, side decks and inside coamings.
2. Remove double planking covering 3 cabins leaving bulkheads and cabin framework.
3. Remove cockpit and cabin soles.
4. Scrape loose paint, degrease and clean bilge.

\$6,500

B. Repairs to Keel. Extent unknown. (months 1 and 2)

1. Remove garboard and other planking as needed.
2. Unbolt and drop lead ballast keel.
3. Replace compromised keel section as needed, scarphing onto good remainder.
4. Re-bolt repaired area to stem and other backbone members.
5. Reinstall ballast keel.
6. Re-plank hull.

\$26,450

C. Hull Framing (month 3)

1. Re-plank cypress hull planking where needed.
2. Refasten hull planking where needed.
3. Scrape, plug, fill, sand and prime planking.
4. Reef and re-caulk hull as needed.

\$13,800

D. Bulkheads. Interior Framing. (months 4 and 5)

1. Remove 5 cabin bulkheads.
2. Repair/replace floors, clamps, shelf and hull frames as needed.
3. Install new bulkheads.
4. Install new coamings, side deck framing and cockpit sole framing.
5. Repair/replace steamed and sawn cabin framing.

\$28,750

E. Finishing (months 6 and 7)

1. Re-plank cockpit soles.
2. Install new t/g side decks finished with paint and canvas.
3. Install new double planking to 3 cabin enclosures finished with paint and canvas.
4. Repair forward cockpit area (unobserved).
5. Remake removable hatch over engine room.
6. Remake removable hatch over fuel tank.
7. Remake engine room sole and furniture.
8. Remake fwd. cabin sole and furniture.



(5) gal. bottom paint, primer and finish	1,250
Abrasion paper, caulk, reefing mat'l, gloves (volunteers will do labor)	<u>250</u>
	2,900
<b>Total Non-structural</b>	<b>\$42,255.</b>

**GRAND TOTAL of Project Budget..... \$148,630.**

**B. Leverage**

The investment of County Trust Fund dollars in this restoration project has the potential to leverage existing and planned public/private projects throughout lower Cape May County. As previously stated, the project developer is also raising money (and has site plan approval) to re-create the 1876 Life Saving Station that once stood not far from Steamboat Landing at the western terminus of Sunset Boulevard in Lower Township. Since that project relates directly to the history of the Coast Guard and its life-saving efforts, restoration of CG-36538 augments that one. Similarly, restoration of this lifeboat provides a direct link with activities at the US Coast Guard Training Center and with that part of the Naval Air Station Wildwood Aviation Museum which interprets the history of the Coast Guard. Restoration of the boat also enhances and furthers support for Cape May City's prestigious designation as one of only 17 *Coast Guard Communities* in the nation.

**C. Project timeline**

The restoration team anticipates it will take approximately 10 months to complete the restoration from the date of signing the grant contracts (assumed to be mid-August 2016) and that the boat will be seaworthy and ready for tours by June 2017. The timeline is as follows:

- Month 1 (Aug. 2016): A. Gain Access to Interior Areas. Document Dimensions, Species, and Construction Details
- Months 1 and 2 (Aug.-Sept. 2016): B. Repairs to Keel
- Month 3 (Oct. 2016): C. Hull Framing
- Months 4 and 5 (Nov. -Dec. 2016): D. Bulkheads. Interior Framing.
- Months 6 and 7 (Jan.-Feb. 2017): E. Finishing
- Months 8 and 9 (March-April 2017): F. Mechanical
- Months 8 and 9 (March-April 2017): G. Electrical and Electronic
- Months 9 and 10 (April-May 2017): H. Accessories & Safety
- Month 10 (June 2017): I. Paint

It should be noted that, as with any restoration project, unforeseen problems may arise with existing conditions, availability of parts, weather, etc. These have the potential to affect the timeline and will most likely extend it beyond what is stated here.

#### **D. Level of Commitment of Project Developer**

The Cape May Maritime Museum and Education Center has dedicated board with a long-term commitment to educating the public about Cape May's rich maritime history. In addition to restoring the Coast Guard Lifeboat, the non-profit is also in the process of raising funds for re-creation of the 1876 lifesaving station that once stood on the Delaware Bay side of Lower Township. The organization has begun accepting donations of artifacts that relate to the county's maritime history, particularly its life-saving history. The Maritime Museum's Youth Outreach Boat Building Program and its development of a Migratory Monarch Butterfly Habitat are two examples of its educational outreach and commitment to our community.

#### **E. Qualifications of Project Developer**

Although Kevin Maloney, president of the board, has no prior experience with heading a non-profit organization, he is passionate about the success of the maritime museum and the boat restoration. His career as a manager at the GE Space Division and Lockheed Martin spanned 30 years with many notable accomplishments and he brings his management talents to the museum board. The board of nine includes some with successful non-profit project development experience and all with demonstrated leadership skills and a commitment to bringing a spirit of positive change to the community. Among the board members are Wayne Adams, retired US Coast Guard Master Chief; Linda Steenrod, retired school superintendent and former Cape May City Council Member; Brian Sullivan, a building contractor; and Jonathan Sachar, an attorney and videographer.

The key people involved in her restoration are listed in page 3 of the application. Others lending assistance include:

- a.) Dr. William Theisen, USCG – Commander Coast Guard Historian's Office  
Portsmouth, VA. - Consultant
- b.) Commander Tim Dring, US Navy (Retired) President U.S. Life-Saving Service Heritage  
Association – Consultant
- c.) Suzanne Smigo – Project Manager – Verizon (25) Years (Retired); Board member, Cape  
May Maritime Museum and Education Center
- d.) Kevin Maloney – President, Cape May Maritime Museum and Education Center. GE /  
Lockheed Martin Manager Engineering (30) Years (Retired).
- e.) Jerry Graham - Master Diesel Engine Mechanic (40+) Years Experience – Retired  
Coast Guard
- f.) Walt Ansel – Senior Shipwright Mystic Seaport Museum Shipyard. Whaleship Charles  
W. Morgan, Project Lead East Rig Dragger Roann and Steam Ferry Sabino.
- g.) Dan Laughlin – Electronics Engineer – PBS (30+) Years (Retired)
- h.) Michael Smith – Master Electrician - (30+) Years (Retired)