

EVERGREENE
Architectural Arts

CORAL GABLES WHITE WAY HISTORIC LAMPPOST ASSESSMENT

City of Coral Gables, Florida



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INTRODUCTION

EXECUTIVE SUMMARY

Conservation Solutions, a Division of EverGreene Architectural Arts, Inc. (EverGreene) was retained by the City of Coral Gables Historical Resources and Cultural Arts Department to conduct an assessment of the remaining historic lampposts that make up the city's "White Way" lamps. The objective of the assessment was to accurately document existing conditions of the historic lampposts and quantify the locations, extent of deterioration, and number of missing components. The results of the assessment will be used to create a comprehensive scope of work for restoration of the White Way Lights. For the purposes of this report, the term "lamppost" refers to the whole lamp, including the lantern, not just the post. EverGreene conducted site work from January 13th – 15th, 2020. Management oversight was provided by Mark Rabinowitz, Vice President and Principal Conservator, and Kelly Caldwell, Senior Conservator and Conservation Manager. Assistant Conservator Katharine George performed the field survey and authored this report.

Drawings based on historic images of the lampposts detailing the location of deterioration, with corresponding image numbers keyed to these locations, are included in Appendix A. Appendix B contains a map which shows the location of extant historic lampposts as of the time of the survey; January 2020.

All remaining lampposts were inspected either in situ or in storage. Observations were limited to the exteriors of the installed lampposts while the interiors of those in storage could also be inspected. The condition assessment identified a range of conditions affecting the historic lampposts, including cracks, corrosion, missing pieces, detachment, and previous repairs. All the original lanterns are missing. 12 original lampposts were identified in the Public Works Department storage yard (Y1-Y12). However only 10 of these lampposts have a base and pole and all but one lamppost (Y1) are missing the access panel. The most predominant condition found was corrosion (rust), which covers the majority of the surface area of all the poles, inside and out.

Treatment recommendations include the replication of missing elements in kind, most prominently the access panels, removal of corrosion, and complete refinishing and recoating with an appropriate high-performance coatings system. The replication of the original lanterns is recommended for all lampposts to restore the original visual intent. These should be re-fitted to provide current standards for energy efficiency and light levels

PROJECT BACKGROUND¹

The historic cast iron “White Way” lamps of Coral Gables, Florida were designed by architects Phineas Paist and Denman Fink in 1926.² Five hundred ornamental lampposts were designed for the “City Beautiful” to line approximately 8 miles of streets from Douglas Entrance to Ponce de Leon Blvd.³ Although the original color of the lampposts is undocumented, a historic finish investigation carried out by Longevity Art Preservation in 2019 concluded that the original color was a warm gray. See the Recommendations section for further discussion.

The cast iron ornamental base is circular in plan above an octagonal baseplate with four paneled sections separated by high relief figurative corbels attached with ferrous screws. The relief corbels depict figures which relate to the history and symbology of Coral Gables. Between the relief figure heads are alternating panels of a Spanish castle and a rampant lion, taken from the coat of arms of Castile and León. Encircling the top of the base are the words “Coral • Gables • – The • Miami • Riviera, • Fla.” See figure 5 for an illustration of the lamppost components.



Figure 1. Fully intact original “White Way” lamppost (GE publicity department, July 1927).

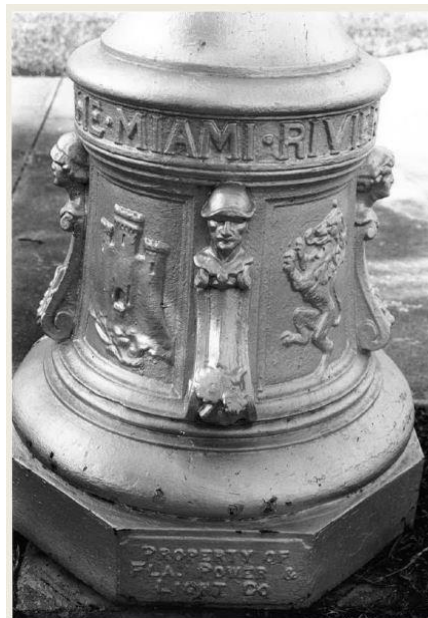


Figure 2. Original base, fully intact, painted silver (photo from client, source and date unknown).

Currently 55 of the lampposts remain in Coral Gables, with 43 in the place on the street. All of the original lanterns are missing. A globe lantern has been retrofitting onto the poles still in-situ. The lampposts are painted silver that is generally in poor condition, leaving the cast iron exposed to corrosion.

¹ Only limited archival research was included in the scope of this project.

² City of Coral Gables Landmark Site Fact Sheet, “White Way” Street lights with ornamental bases, 05 June 1980. Provided by client.

³ Ibid.

METHODOLOGY

Archival Research

Primary archival research was not included in the scope of this project, however all archival documents and prior reports provided by the client were reviewed. As no drawings existed of the lamp standards, a drawing based on historic photographs was made by EverGreene and is the basis of the condition drawings in this report.

On-Site Assessment

EverGreene was on site in Coral Gables from January 13th – 15th, 2020, during which time a visual condition survey of the lampposts was completed. The surveyed lampposts included all those along University Dr and Riviera Dr, those in the yard at the Public Works Department and the single lamppost located at 1253 Palermo. The lampposts in-situ are identified by their location on the map provided in Appendix B. Lampposts in the yard were marked with their identifying number using a white paint pen on the interior and exterior for future identification. A graphic condition survey drawing which outlines the conditions of each lamppost can be found in **Appendix A**. A map which locates each extant lamppost along University and Riviera Drive can be found in **Appendix B**.



Figure 3. Lampposts in Public Works storage yard (photo by EverGreene, January 2020)



Figure 4. Lamppost HX (photo by EverGreene, January 2020)

Limitations and Constraints

The condition assessment of the lampposts was limited to what was accessible in their current locations. The lampposts in the yard were thoroughly inspected on all sides at close range. Lampposts that remained installed were surveyed from ground level, therefore up-close inspection of the area surrounding the lantern was not possible. In some cases, the base plate of the lamppost was completely or partially buried in soil.

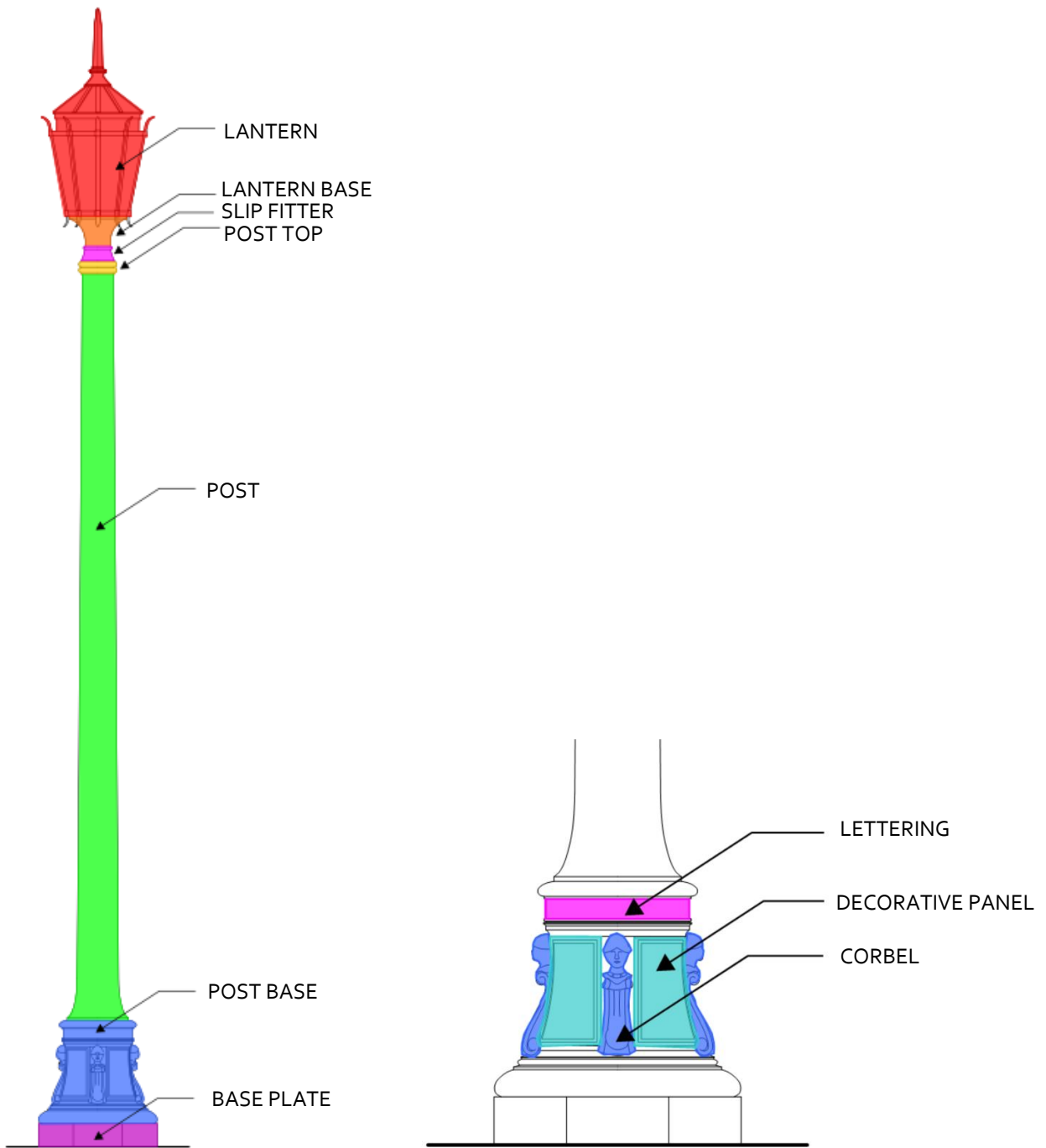


Figure 5. Lamppost part diagram listing the definition and the location of each part; close up of post base is to the right.

CONDITION ASSESSMENT

General Conditions

Overall, the lampposts are in fair-to-poor condition. The posts and bases retain a high degree of material integrity as very few show areas of material loss, but all need extensive treatment in order to remove corrosion and re-coat to prevent further deterioration. Minimal replacement or repairs have been conducted on the poles and bases. All of the lanterns are missing or have been replaced.

It was noted that a number of access panels of lampposts on the street were completely detached and no longer held in place with caution tape (figure 6). It is recommended that these panels be removed and put into storage or re-attached to the post as soon as possible so as to avoid them going missing. These posts are noted in Table 1 below.

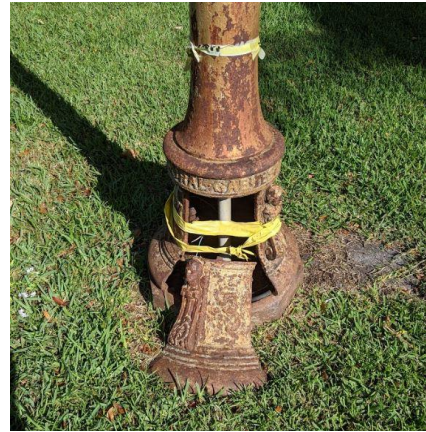


Figure 6. Example of access panel at risk of going missing (No. H28) (photo by EverGreene, 2020).

Corrosion is concentrated at the post base, where the ornament tends to catch and hold moisture. As a result, some of the definition of the ornament has been lost. Conditions are categorized as follows:

Cracks

Cracking along stress points as a result of past impact or corrosion. This condition was most commonly found along edges. Cracks were found on few lampposts.

Corrosion

Corrosion is the most common condition, seen on 100% of the lampposts surveyed, to different degrees of severity. Corrosion is the result of generalized weathering and exposure of cast iron to moisture. Generally, corrosion is not a major concern as the lampposts will be cleaned of existing paint layers and re-coated.

Corrosion pitting

Corrosion pitting is a more severe form of general corrosion which shows the beginnings of section loss as a result of corrosion activity. This condition is concerning as the loss of material degrades its structural integrity. Corrosion pitting was generally found on the bases of the lampposts and on the inside of the posts that are in the storage yard.

Improper weld

Welds used to fix cracks or pieces that had previously broken off were found on lampposts Y4 and H16. These welds have mostly already failed and are visually incompatible.

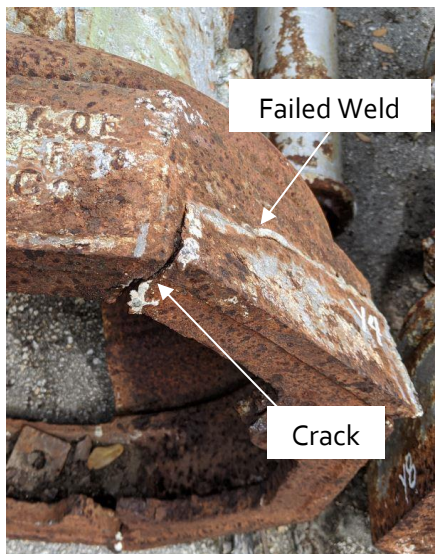


Figure 7. Improper weld around piece broken off from base plate (Y4), since failed. (photo by EverGreene, January 2020)



Figure 8. Close-up of lamppost base showing corrosion where paint has worn off. (photo by EverGreene, January 2020)

Loose and detached pieces

Wherever accessible, each corbel and access plate on the base of the lampposts were tested to determine if any pieces were loose. Other than loose access panels, of which there were many, only a few post bases had loose decorative pieces. Detachment was generally exclusive to the access panels which are only held in place with one screw at the bottom.

Improper hardware (replacements) and missing pieces

Improper hardware describes any replacements which do not match the original or those that are not visually compatible. 100% of the lanterns are either missing or replaced with a modern lamp.



Figure 9. Missing figurative corbel (photo by EverGreene, January 2020).



Figure 10. Detached access panel (photo by EverGreene, January 2020).

Table 1. Lamppost Inventory

Refer to sheet number in Appendix A for graphic condition survey.

Number	Approximate Location	Sheet No.	Replacements needed*	Notes
Y1	Storage yard	Z001	Lantern base	Piece of slip fitter broken off
Y2	Storage yard	Z002	Access panel, lantern base, slip fitter	--
Y3	Storage yard	Z003	Access panel, lantern base	--
Y4	Storage yard	Z004	Access panel, lantern base	Large crack with failed previous repair along base plate
Y5	Storage yard	Z005	Access panel, lantern base, slip fitter	Severe corrosion pitting on base
Y6	Storage yard	Z006	Access panel, lantern base, slip fitter	Screw hole in center of panel
Y7	Storage yard	Z007	Access panel, lantern base	---
Y8	Storage yard	Z008	Access panel, lantern base	Inner flange of slip fitter broken
Y9	Storage yard	Z009	Access panel, lantern base	Piece missing from slip fitter
Y10	Storage yard	Z010	Access panel, lantern base, slip fitter, lower part of post base and base plate	Large piece of base plate broken off
Y11	Storage yard	Z011	Access panel, everything half-way up the post and above	Not a clean break on the post
Y12	Storage yard	Z012	Access panel, base plate, 80% of pole	Fragment, missing majority of parts, not salvageable
H1	University Dr & Bird	Z013	Access panel, lantern base	Covered in rust and bio-growth
H2	University Dr & Durango	Z014	Access panel, lantern base, slip fitter	---
H3	915 University Dr	Z015	Lantern base	Access panel loose
H4	University Dr & Toledo	Z016	Lantern base and slip fitter	Access panel loose
H5	University Dr & Anderson	Z017	Access panel	Access panel cast replacement, not compatible

H6	University Dr & Monserrate	Z018	--	Access panel misaligned/loose
H7	717 University Dr	Z019	Corbel on access panel, lantern base and slip fitter	Access panel loose
H8	617 University Dr	Z020	Lantern base, slip fitter	--
H9	University Dr & Cadima	Z021	Access panel, lantern base, slip fitter	--
H10	Riviera & Anastasia	Z022	Access panel	--
H11	Riviera & Durango	Z023	Lantern base, slip fitter	Caution tape around lantern base
H12	3211 Riviera	Z024	--	Severe corrosion of post base; details indiscernible
H13	3222 Riviera	Z025	--	Access panel loose
H14	3223 Riviera	Z026	Piece of post base	Access panel loose
H15	Riviera & Toledo	Z027	--	Access panel detached, need to be removed or reattached with tape; piece missing from lantern base
H16	3238 Riviera	Z028	Lantern base, slip fitter	
H17	Riviera & Toledo Plaza	Z029	--	Piece of lower post base missing; base plate buried
H18	3250 Riviera	Z030	--	Severe corrosion on base plate
H19	Riviera & Anderson	Z031	--	--
H20	3258 Riviera	Z032	--	Access panel loose
H21	3261 Riviera	Z033	--	--
H22	3270 Riviera	Z034	--	Access panel detached on the ground; Remove or reattach immediately
H23	3271 Riviera	Z035	--	Access panel very corroded
H24	3282 Riviera	Z036	--	--
H25	3291 Riviera	Z037	Lantern base, slip fitter	Access panel loose; base plate buried
H26	3294 Riviera	Z038	--	Access panel loose
H27	Library parking lot	Z039	--	--
H28	WW Historic Marker	Z040	--	Access panel detached; Remove or reattach immediately
H29	327 University Dr	Z041	--	Base plate buried
H30	330 University Dr	Z042	--	--

H31	University Dr & Salzedo	Z043	--	--
H32	250 University Dr	Z044	--	Access panel has small chip missing from lower lip
H33	220 University Dr	Z045	Access panel	Access panel hole filled in with a metal sheet; some holes in decorative panels
H34	University Dr & Malaga	Z046	--	Access panel loose; chip on lip of lantern base; replacement globe loose and falling off
H35	205 University Dr	Z047	Access panel	--
H36	University Dr & Salzedo	Z048	--	--
H37	University Dr & Salzedo	Z049	--	--
H38	333 University Dr	Z050	--	--
H39	333 University Dr	Z051	--	Crisp ornament, good candidate for casting
H40	Across from 400 University Dr	Z052	--	Access panel loose; replacement globe broken
H41	405 University Dr	Z053	--	Base plate buried
H42	1253 Palermo	Z054	--	Spray painted at bottom

*Other than lantern

RECOMMENDATIONS

Historic Considerations

The original lanterns should be replicated on all lampposts. Specifications for the original lanterns were found by the Historic Preservation Association of Coral Gables in the original manufacturers catalog. An identical original fixture was identified the collection Preservation Association (figure 11).

Color

A historic finish investigation carried out by Longevity Art Preservation in 2019 concluded that the original color was a warm grey. Depending on where the sample was taken (12 were taken and analyzed total) the color varied slightly. The most common color match is listed in the report is N6 from the Munsell Color System. The second campaign of color detected was a verdigris-light-green, matched as Munsell number 2.5G 7/2.



Figure 11. Original Lantern, restored by the HPA of Coral Gables (photo by EverGreene, 2020).

EverGreene matched the Munsell colors for both the grey and green to commercial Benjamin Moore colors. A custom color in an appropriate coating will be needed. It should be noted that the color identified in the microscopy study appears darker than the fragments seen on the lampposts today. This could be a result of sun damage and age, which would degrade and wash out the pigment, giving it a lighter appearance.

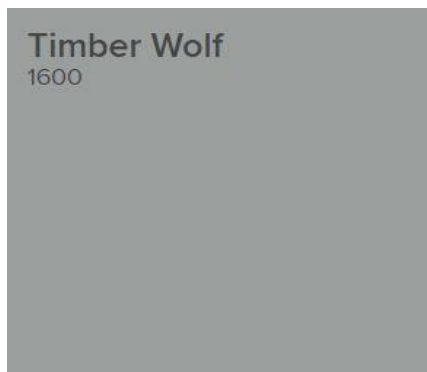


Figure 12. Benjamin Moore Classic Color Timber Wolf, matched to Munsell N6.



Figure 13. Benjamin Moore Classic Color Pine Forest, matched to Munsell 2.5G 7/2.

Repair Recommendations

Cleaning and priming of surfaces

Surfaces should be cleaned to a SSPC-SP 10 (Near White Metal). Cleaned surfaces should be primed within eight hours of blasting and removal of residue. The presence of lead or other metals in the coatings should be tested prior to cleaning and, if found, appropriate containment and disposal measures should be taken. Coating recommendations are discussed below.

Repair of cracks

The current failed welds should be repaired and reattached with an appropriate repair method for historic cast iron. Re-attachment of broken pieces can be performed with mechanical attachments or stitch welding. As welding is notoriously difficult with cast iron, welds should only be used when necessary. Mechanical repairs would allow for a long-term solution that would minimize risk of damage to the historic cast iron. Stitch welding the pieces is not recommended due to the curved and decorative nature of the pieces.

Mechanical repairs

This method involves fabrication of a new elements or repairs with flanges and bolt attachments. This would be most suitable in areas where structural stability is important, for instance the broken pieces of the flange where the lantern meets the pole, or at the base plate. Modifications should be designed to be visually inobtrusive. Flat head stainless steel bolts should be used when joining the pieces. If implementing this method, gaps in the metal (where broken welds are currently) should be sealed with a high-solids iron bulked epoxy faired to match the cast iron profiles.

Welding

Welding should only be done when necessary and in areas that were not originally bolted. If chosen, pre-heating the cast iron and welding with nickel-alloy welding rods is recommended as the material requires a lower heat and results in a lower strength weld. This will protect the original iron and allow for the weld to fail prior to the historic cast iron. Properly prepare the weld area prior to welding, stitch weld, and clean exposed welded joints of beaded welding flux.

Repair/Replacement of damaged pieces of lampposts

Missing pieces should be recreated. Replacement for missing cast iron elements should be based on scans or molds of cleaned existing matching elements re-sized to accommodate shrinkage during casting. They should be attached using a similar method as to the historic assembly methods (bolted). Recast materials can be fiberglass, iron, or aluminum. If re-casting with iron, special attention should be made to compensate for the shrinkage of the iron. Prior to choosing the replacement material, care should be taken to ensure that the replacement material meets needs for strength and function.

Recreation of lanterns

Specifications regarding the recreation of the lanterns have been sourced by the Preservation Alliance of Coral Gables. Spring City Electrical Manufacturing Company has created drawings based the original General Electric lanterns. Based on the existing lantern salvaged and the drawings, Spring City will be able to replicate the lanterns.

Coating

A high-performance coating system should be applied to all surfaces, including the interior hollow elements. It should consist of a three-coat system:

1. a zinc-rich primer or zinc metallizing spray
2. an epoxy barrier coat
3. aliphatic urethane or fluorinated topcoat

The topcoat should be color-matched to the historic coloring to the greatest extent possible. The internal hollows should be coated with the primer and epoxy coat only. They should be left open to allow for condensation and moisture to drain through the interior.

The lanterns should be fitted with energy efficient lamps that meet current light level standards and codes.