

Miami Circle at Brickell Point

National Historic Landmark Nomination

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FLORIDA DEPARTMENT *of* STATE

MIAMI CIRCLE AT BRICKELL POINT

United States Department of the Interior, National Park Service

National Register of Historic Places Registration Form

1. NAME OF PROPERTY

Historic Name: **Miami Circle at Brickell Point**

Other Name/Site Number: **Miami Midden No. 2, Brickell Point/8DA12**

2. LOCATION

Street & Number: 401 Brickell Avenue

Not for publication:

City/Town: Miami

Vicinity:

State: Florida

County: Miami-Dade

Code: 025

Zip Code: 33131

3. CLASSIFICATION

Ownership of Property

Private:

Public-Local:

Public-State:

Public-Federal:

Category of Property

Building(s):

District:

Site:

Structure:

Object:

Number of Resources within Property

Contributing

1

1

Noncontributing

buildings

sites

structures

objects

Total

Number of Contributing Resources Previously Listed in the National Register: 1

Name of Related Multiple Property Listing: N/A

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4. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ____ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ____ meets ____ does not meet the National Register Criteria.

Signature of Certifying Official

Date

State or Federal Agency and Bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria.

Signature of Commenting or Other Official

Date

State or Federal Agency and Bureau

5. NATIONAL PARK SERVICE CERTIFICATION

I hereby certify that this property is:

- ____ Entered in the National Register
- ____ Determined eligible for the National Register
- ____ Determined not eligible for the National Register
- ____ Removed from the National Register
- ____ Other (explain):

Signature of Keeper

Date of Action

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6. FUNCTION OR USE

Historic:	Domestic	Sub:	Habitation Site
	Domestic		Village Site
	Commerce/Trade		Trade (Archeology)
	Religion		Ceremonial Site

Current:	Park	Sub:	
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7. DESCRIPTION

Architectural Classification: N/A

Materials:

Foundation:

Walls:

Roof:

Other:

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Describe Present and Historic Physical Appearance.**SUMMARY (Description)**

The Miami Circle at Brickell Point site is a nationally significant example of an accretionary midden as defined in the National Historic Landmark (NHL) theme study “Southern Florida Sites Associated with the Tequesta and their Ancestors” (Wheeler 2004a). The Miami Circle at Brickell Point is nationally significant under NHL Criterion 6 and National Register of Historic Places (NRHP) Criterion D for its demonstrated and potential archeological significance. One of the most significant aspects of the site is the presence of architectural features, carved into the soft oolitic limestone bedrock. Research at the site has produced an impressive body of data, which will likely make it one of the most intensively studied sites in southern Florida. Some of the studies have been significant in their use of raw material sourcing, and in using advanced 3D laser scanning and modeling technology. The Miami Circle at Brickell Point can be considered under “Peopling Places” within the National Park Service’s thematic framework for history and prehistory, especially within the “ethnic homelands” sub-theme. The site contains early and late components of the primary village of the Tequesta people, who were one of the first Native North American groups encountered by Juan Ponce de Leon in 1513 (Davis 1935). Considerable research has been conducted at the site since the discovery of intact deposits and features in 1998. The site’s significance lies in well-preserved evidence of American Indian architecture, considerable materials related to patterns of regional and long-distance exchange, elements of ceremonialism involving animal interments, and association with the Tequesta people, who are significant because of their cultural persistence following European Contact and their association with the unique environment of the Everglades.

The Miami Circle was discovered during archeological salvage excavations at the Brickell Point site (8DA12) in 1998. The Miami Circle is comprised of holes and basins carved into the shallow Miami Oolite limestone formation. Stratified accretionary midden deposits occur over and in the holes that make up the Circle. The midden is comprised of organically stained soil, dense deposits of faunal bone, and occasional lenses of marine bivalve shells. Artifacts found during excavations are typical of the Glades Area, including sand-tempered ceramics and some early decorated Glades series sherds, as well as bone and shell implements. Exotic items, like basaltic stone celts, galena, pumice, imported pottery, and chipped stone artifacts, also have been recovered. Public outcry over the impending destruction of the Miami Circle and development of the property led to additional research at the site, which documented the limestone formation with cut holes on about 70% of the property and intact accretionary midden deposits on at least 35% of the property. Research suggests that the Miami Circle represents the “footprint” of a prehistoric structure, and further analysis of the site and associated cultural materials should help broaden our understanding of American Indian architecture, long-distance exchange networks, and patterns of animal interment. A cooperative effort between the State of Florida, Miami-Dade County, and many other public and private organizations and individuals led to the state’s acquisition of the Brickell Point site and Miami Circle feature in 1999 (Levinson 2000; Miami-Dade County Historic Preservation Division 1999; Stroup and Brown 2000).

ENVIRONMENTAL SETTING

The Brickell Point Site occupies a 2.2-acre parcel of land on the south bank of the mouth of the Miami River where it meets Biscayne Bay (Figures 1 and 2, Photograph 1). The property is situated within downtown Miami, and is abutted by the Icon Brickell development to the south, the Miami River to the north, the Brickell Avenue Bridge to the west, and Biscayne Bay to the east. The Miami River is one of

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several drainage basins that cross-cut the Atlantic Coastal Ridge, providing an outlet for waters of the Everglades (Parker 1984).

The Brickell Point parcel is located on the Atlantic Coastal Ridge, a limestone formation that underlies all of coastal Miami. The bedrock underlying the site is Miami Oolite, which is comprised of minute, egg-shaped, calcium carbonate sands and is reported to be 125,000 years old (Hoffmeister 1974). This limestone occurs at or near the surface in many parts of Miami and coastal Miami-Dade County. Scarry's (in Griffin et al. 1982) reconstruction of prehistoric vegetation zones in the vicinity indicates that the immediate area of the Brickell Point site was dominated by hardwood hammock forest fringed by mangrove along the bay and riverfront, with vast tracts of pine flatwoods and prairie within a mile of the site.

Nineteenth and early twentieth century accounts of this area describe a jungle of maritime hammock plants with pine and palmetto on higher sandy areas (Parks 1982:8-10). Early photographs show traces of this hammock, along with a grove of coconut palms planted by American settlers, and outcrops of the craggy limestone rock (Gaby 1993:cover; Parks 1982:124). The Miami Oolite limestone is an integral part of the Brickell Point site, providing the substrate into which the basins and holes comprising the Miami Circle feature were carved and the surface on which later midden material and soils were deposited (Means and Scott 2000). Presumably the rise in sea level circa 5,500 to 6,000 years ago, which contributed to the formation of the Everglades and Lake Okeechobee, also allowed for the development of the Miami River and other drainage channels that dissect the coastal ridge (Brooks 1974:256).

An engineering survey made in 1995 located 37 trees on the property (13 were over 24 inches in diameter), many of which were ornamentals planted around the Brickell Point Apartments in the 1950s (Biscayne Engineering Co. 1995). Comparison with an aerial photograph of the apartment complex in 1954 shows that most original or Brickell-era plantings had been removed (cf. Granger 1954). Despite previous episodes of clearing, the archeological deposits at the Brickell Point site retain excellent integrity, with deposits ranging from 10 to 60 cm in thickness. Today the area lacks native vegetation, and filling and leveling have removed most traces of original topography as well as ornamental trees. A project conducted by the State of Florida and Miami-Dade County in May 2000 filled in many of the open excavation units, leveled or removed spoil piles, and removed construction debris; since that time the Brickell Point property has developed a healthy cover of grasses, sedges, and some native groundcovers like railroad vine (Photograph 2).

PERIODS OF SITE OCCUPATION

Radiocarbon dates place the Miami Circle and associated deposits within the Glades I period, including both the Glades I early (500 B.C.-A.D. 500) and Glades I late (A.D. 500-750) subperiods (see Table 1). Dates and examples of Opa Locka Incised and Miami Incised ceramic sherds indicate occupation during the Glades IIa Period, as well (ca. A.D. 750-900). These dates are consistent with those obtained for the Sheraton Hotel (now the Icon Brickell development) portion of the Brickell Point site in 1981 (Carr and Ricasak 2000:267). Comparison with the Granada site (a short distance upstream on the opposite bank of the Miami River) indicates that these periods were poorly represented there (Griffin in Griffin et al. 1982:51), suggests that the Brickell Point site may have been the major focus of occupation during these time periods at the mouth of the Miami River. In general, the Glades I period is poorly studied, largely because sites of this era are dominated by sand-tempered plain pottery, making the positive identification of sites from this era difficult. Dates on the marine animal interments from the Miami Circle, however,

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indicate some later use of the site, ca. A.D. 1500-1700. Occasional sherds of St. Johns Check Stamped and Glades Tooled confirm the later use of the site during Glades IIIb through IIIc periods (A.D. 1400-1763).

Widmer's (2004) excavations of the area to the east of the Miami Circle feature (discussed below as 2000 Excavations) included 18 additional radiocarbon determinations, all made on *Lucina pectinata* bivalve shells recovered from secure contexts. The 2 sigma calibrated results indicate a date range from 760 B.C. to A.D. 540. This is consistent with the dates from the Miami Circle feature, helping to confirm the Glades I Period (500 B.C. - A.D. 750) occupation of the site. Widmer recovered a few temporally diagnostic sherds as well, including Fort Drum Punctated, Gordon's Pass Incised, and Opa Locka Incised, also indicating occupation during this period.

Within the broader context of the archeology of the southeastern United States, the Miami Circle at Brickell Point site appears to date to the Early and Middle Woodland stage (ca. 1000 B.C. - A.D. 500) (Bense 1994:124, 137). Middle Woodland sites and artifacts appear to be rare in southern Florida, but are represented at sites like the Royce Mound (Austin 1993), Oak Knoll Mound (Dickel and Carr 1991), and the Mound-Pond Complex of Fort Center (Sears 1982). Luer (1995) discusses the presence of Middle Woodland platform pipes in southern Florida, indicating that people in this part of Florida were participating in far-reaching exchange networks of the Midwest and Southeast. The association of the Miami Circle with the Middle Woodland stage is suggested by the radiocarbon dates and is supported by the Deptford stamped sherds, as well as the exotic items like the galena and stone celts found at the site.

The Antiquity of the Miami Circle Feature

Prior to publication of a site report and research findings by the archeologists who excavated the Miami Circle, there was considerable discussion about the antiquity, origin, and affiliation of this feature, primarily in newspapers, but also on the internet and via e-mail. The antiquity of the Miami Circle was first called into question by Ft. Lauderdale-based magician and paranormal debunker James Randi, also known as the Amazing Randi. Randi, in an e-mail newsletter dated February 20, 1999, suggested that the Miami Circle feature that had been so prominently featured by the media may have been a drainfield related to the 1950s Brickell Point Apartment's septic tank that obscures the southern part of the Circle feature. Alternative interpretations of the feature suggested association with a railroad line, a recent circular building, or a circular driveway, perhaps dating to the nineteenth or early twentieth century Brickell family occupation of the property.

John Ricisak (personal communication, October 2000; also see Wilson 1999) contacted Mr. Randi and discussed the archeological evidence for the antiquity of the site, as well as the as-built plans for the Brickell Point Apartment's septic system that clearly indicate that the 14 septic tanks located on the property were linked to a main header pipe, which connected to the Miami River via a large port in the concrete seawall (Anonymous 1970) (see Figure 3). This evidence satisfied Mr. Randi, but not before Florida Museum of Natural History curator Jerald T. Milanich adopted a similar criticism of the Miami Circle feature. Milanich (1999) published his questions about the antiquity of the Miami Circle in the September/October issue of *Archaeology* magazine. He recommended further examination of building plans; interviews with the Brickell Point Apartment builders and residents; and additional excavation, including excavation around another septic tank at the site.

Ricisak (1999) responded to Milanich's recommendations in an on-line forum hosted by *Archaeology* magazine and Wheeler (2000a, 2000b) excavated another septic tank on the site, but found no association

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with a feature like the Miami Circle. Despite the efforts of Ricisak and the excavations by Wheeler, the most conclusive evidence for the antiquity of the carved holes and basins that make up the Miami Circle was offered by geologists from the Florida Geological Survey. After the State of Florida became involved in the possible acquisition of the Miami Circle at Brickell Point property in March 1999, the Florida Division of Historical Resources asked that geologists examine the features carved into the Miami Oolite limestone at the site. State geologists Harley Means and Tom Scott visited in the site in May 1999 and produced a short report on their observations, which was subsequently published in *The Florida Anthropologist* (Means and Scott 2000). Means and Scott (2000:324) note that the surface of the limestone at Brickell Point is coated with a thin layer of laminated duricrust. They explain that this crust is the result of a chemical process that acts on the limestone while it is buried under soil; acidic water moving through the soil causes dissolution of calcium carbonate (CaCO₃), which is then deposited on the surface of the bedrock as a laminated crust. Research by Multer and Hoffmeister (1968) on similar crusts in the Florida Keys indicates that duricrust formation averages 1mm per 1000 years. Means and Scott (2000:364) state that this crust was broken through when the holes and basins forming the Miami Circle were first carved and that additional duricrust reformed around these holes. Modern intrusions into the limestone (large holes for septic tanks and geophysical borings) showed no sign of duricrust reformation (Means and Scott 2000:Figure 1). This geological evidence confirms the antiquity of the Miami Circle and other carved features at the Brickell Point site.

Further claims by Milanich that the Miami Circle represents the foundation for a twentieth century gazebo (Milanich 2005; National Historic Landmark Committee, meeting minutes, Spring 2005) diminish in the light of the 2005 discovery of another American Indian circular feature on the north bank of the Miami River. The Royal Palm Circle was found during a salvage archeology project at site 8DA11 directly across the river from the Miami Circle. Similarities in the dimensions, geological setting and archeological context of the Miami Circle and Royal Palm Circle support the antiquity of both features (see additional information on the Royal Palm Circle, p. 48).

The Association of the Midden Deposits and the Carved Holes

While the carved basins and holes give the Miami Circle feature an impressive, if not unique, sculptural quality, the association between the midden deposits and the carved hole features is problematic. At sites where postholes and post molds are present in soil it is possible to associate them with floor features, or to radiocarbon date post remnants, or at least to date materials found within the posthole feature. The Miami Circle excavators report a lack of wooden post remains within any of the holes excavated (Carr and Ricisak 2000:275). Further, they report difficulty in distinguishing stratification within the black midden soil. Several alternative scenarios are possible. For example, Randolph Widmer's (2004) working hypothesis suggests that initial occupation of the site occurred when there was little or no soil covering the limestone bedrock. He hypothesizes that the American Indian inhabitants excavated postholes to aid in support of elevated structures, similar, perhaps, to much later Seminole chickees built on tree islands in the Everglades (Spoehr 1944). In order to date the carved holes, Widmer (2004) collected lucine clam shells found cemented to the bottoms of the holes. He suggests that patterns of paired postholes resulted when rotting posts were augmented by the addition of fresh posts.

Another scenario would suggest that many of the holes, including the large basins that form the Miami Circle feature, were carved when moderate soils and midden accumulations already covered the limestone bedrock. The ancient builders would have first excavated through soil and midden before reaching the limestone where they carved their postholes. In this scenario, excavated soils and limestone rubble would

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have been used to fill around posts. In some cases midden accumulations may be close in age to the carved holes, while in other places the ancient Tequesta may have excavated through older deposits. This hypothesis is bolstered by the development of the laminated duricrust, which forms under subaerial conditions; the fact that the Circle builders carved through areas with considerable limestone dissolution (the southeastern quadrant of the Circle), suggesting they were not working with exposed limestone where they could avoid such areas.

The answer to the age of the Miami Circle feature may lie in further study of the soil matrix of the black earth midden deposits. While the soils appear similar macroscopically, it may be possible to detect different grain-size, compositional, and chemical differences that relate to discrete periods of deposition. Gifford (2004:77-78) experimented with radiocarbon dating different fractions of bulk soil samples. Two dates on the same soil sample confirm occupation during the Glades I early Period (500 B.C. - A.D. 500), as indicated by radiocarbon dates reported by Carr and Ricisak (2000:267, 282) and Widmer (2004:37). Widmer's (2004) analysis of 27 stratigraphic zones and a suite of radiocarbon dates led him to conclude that all of the cut holes at the site were produced during the Glades I Period.

APPEARANCE OF THE SITE DURING THE PREHISTORIC OCCUPATION

Envisioning the appearance of the Brickell Point site during its occupation is perhaps one of the most difficult challenges an archeologist can face. The natural environment, as it has been described when Anglo-American settlement began in the area in the nineteenth century, is perhaps a starting point. It is clear, however, that the Tequesta and their ancestors who occupied the site and the surrounding region had a distinct impact on the landscape. A dense maritime hammock is unlikely, but one can imagine a significant clearing occupied by residential structures, enclosures, smaller storage buildings, racks for roasting food, cooking fires and the like. Some desirable tree cover likely remained, and some plants may have been encouraged by the site occupants. The natives probably cleared the site of most vegetation, and may have affected vegetation in neighboring environments as well—mangroves from Biscayne Bay were likely reduced for fuel wood and pine from the upland ridge to the west were probably harvested for architecture, tool and handle making, as well as canoe manufacture.

From the ground up, the archeologists who have worked on the site have even argued about whether or not the original occupants of the site lived on bare rock (panel discussion hosted by the Historical Museum of Southern Florida, November 2002). Considering the natural processes of winnowing and sediment transport, it seems likely that the site founders lived on a thin layer of soil that overlaid the oolite limestone bedrock. Archeologist Randolph Widmer (2004), who has argued that the original site inhabitants lived directly on the limestone bedrock, has, however, noted that some of the strata identified in his work are less midden-like and may be related to natural soil development. In general, the surface of the limestone is inconsistent with limestone that is exposed to the elements, which tends to be more craggy or at least pockmarked (see Craighead 1971:72-77). Archeologists George M. Luer and Ryan J. Wheeler served as consultants to the Historical Museum of Southern Florida during the development of their exhibit on the first inhabitants of southeastern Florida. They proposed a scenario in which the original site inhabitants lived on thin soil deposits overlying the limestone bedrock. Erection of structures required excavation through soil and into the soft limestone. The exhibit includes three large murals depicting aspects of the native past of southeastern Florida, including one that illustrates the Brickell Point site and the Miami Circle. Data about the site and the neighboring Granada site (a component of 8DA11, across the Miami River to the north) were used to assist muralist John LoCastro of Synergy Design who created the illustration in Figure 4. The mural depicts the construction of the Miami Circle, including excavation of

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midden soil and carving of the basins and holes, which were likely made to receive vertical wooden uprights that formed an enclosure or building wall. The background shows the busy comings and goings of canoes, as well as the large mound and village across the river at the Miami Midden No. 1 site (8DA11).

As noted above, the Miami Circle feature and the 2.2-acre Brickell Point property were part of a larger site complex on the south side of the Miami River (see Figure 5 for nearby site locations). Early descriptions of the area include information about sand mounds, likely located to the south of Brickell Point (Carr 1981a; Douglass 1884, 1885; Straight 2003). For example, Miami Sand Mound No. 4 (8DA13) and Miami Sand Mound No. 2 (8DA15) were both located on the south side of the river and probably were closely associated with the Brickell Point site. Miami Rock Mound No. 2 (8DA17) also was located on the south side of the river, and may have been associated with the Brickell Point site as well. William Straight's (2004) research into A.E. Douglass' early probing of the Miami Sand Mound No. 4 indicates it was a burial mound containing an unusual ceramic vessel that has been difficult to categorize. Recent archeological testing of Brickell Park confirmed past observations that this part of the Brickell Point site contains an American Indian cemetery (Carr et al. 2001; Gelman and Schaffer 2007). Carr et al. (2001:1, 9-10) excavated forty-one 50 by 50 cm tests at Brickell Park, with seventeen containing human remains. This is consistent with Felmley's (1991:67-71) model of southeastern Florida aboriginal mortuary patterns, which found that cemeteries located within habitation sites were often near burial mounds. Subsequent excavations of part of the park cemetery recovered remains of 12 individuals (Gelman and Schaffer 2007). All of this helps in reconstructing how the site appeared when inhabited by the Tequesta and their ancestors. The larger site likely had a number of components or precincts: 1) an active village area and associated midden; 2) the sand and rock mounds; 3) the midden cemetery (or cemeteries) associated with the mounds; and 4) other areas dedicated to specific purposes—like the area where the presumed structure associated with the Miami Circle stood.

PAST AND CURRENT IMPACTS

Evidence of nineteenth and twentieth century disturbance is abundant at Brickell Point (e.g., Anonymous 1970). The occupation of the property by the Brickell Family included the construction of several buildings, driveways, and sea walls. Evidence of this occupation is found in artifacts and building debris, as well as postcard photographs, early city maps, and descriptions of the developing City of Miami. Construction of the Brickell Point Apartments in 1950 probably led to the most significant alteration of the property. Archeological excavation shows that the natural topography was altered when portions of the black earth midden and Miami Oolite formation were cut away to create a level platform for construction of the six apartment buildings and a swimming pool. This is most pronounced at the southern side of the property, where the natural elevation of the limestone increased. Associated disturbances include excavation for septic tanks and related pipes, excavation for ornamental tree planting, and excavation of footing trenches for the buildings. In some cases these excavations disturbed midden deposits and removed parts of the limestone bedrock that held the carved and cut holes and basins. These disturbances are obvious and can be seen in the photographs and plans of the Miami Circle. These types of disturbance are expected at an urban site like Brickell Point, but led to some controversy concerning the origin of the Miami Circle feature (Milanich 1999). Extensive historical, geological and archeological research by Carr and Ricisak (2000), Wheeler (2000a, 2000b), and Means and Scott (2000), however, have effectively demonstrated the antiquity of the site and the Miami Circle feature.

Land Use History

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Carr and Ricisak (2000:263-265) compiled a detailed land use history, outlining the nineteenth and twentieth century evidence for occupation and use of the Brickell Point property. A slightly edited and revised version of their research is presented below.

The Brickell Point site was originally part of a 640-acre land grant received by Rebecca Egan (also spelled Hagan) shortly after Spain ceded Florida to the United States in 1821. Rebecca was the widow of John Egan, a land surveyor from St. Augustine who in 1808 had received his own grant from the Spanish government of 100 acres on the north bank of the Miami River (Parks 1982). The Egan (or Hagan) Donation included about one mile of bayfront land south of the south bank of the Miami River and stretched for approximately one-half mile along the riverfront. Although Egan is believed to have lived on the property for a time, the exact location of the homestead is unknown (Security Abstract Company 1907).

In 1831, the Egan Donation was sold to Richard Fitzpatrick, who also acquired over three square miles of additional land immediately north and south of the Miami River. Fitzpatrick established a short-lived plantation that spanned both sides of the river where fifty or sixty slaves raised a variety of crops and livestock. Fitzpatrick was forced to abandon the plantation in 1836 at the outbreak of the Second Seminole War, and the Seminoles subsequently destroyed it (Parks 1982). He later sought reparations from the Federal government, claiming among his losses numerous frame houses and other structures that reportedly occupied the plantation grounds at the time of its abandonment. Information about the specific locations of the buildings is lacking, but at least one is listed in court documents as a framed house, south side Miami river [worth] \$300.00 (U. S. Congress, House 1858).

With the end of hostilities in 1842, Fitzpatrick sold his land to his sister's son, William English, who optimistically platted out the Village of Miami on the south side of the Miami River as settlers began trickling back into the area after the war (Parks 1982). In 1844, the seat of the fledgling county of Dade was moved to the south side of the Miami River west of Brickell Point, on property owned by Robert Fletcher (Straight 1998). An 1849 U.S. Coast Survey map of the mouth of the Miami River shows only one structure, labeled Duke, near Brickell Point, apparently on a rise south of the subject site; this was the residence of Reason Duke, who acted as keeper of the Cape Florida lighthouse on Key Biscayne. Duke had acquired this house and an acre of surrounding land from William and Harriet English by trading lands he owned several miles south of the river (Circuit Court of Monroe and Dade County 1858, cited in Carr and Ricisak 2000:264).

Although Duke occupied the house for some years, he apparently never received the title for it. An 1852 U.S. Coast Survey map depicts a lone structure in the same general location as the house in the 1849 map but labels it as a Court House (see the 1850 and 1854 maps by Lt. James Robinson in Kleinberg 1985:14-15 and Parks 1991:34-35). A two-story house topped by a cupola, probably the Duke residence, is also the only structure in evidence on the south bank of the river in an 1869 sketch of the river's entrance by Jeffries Wyman (Eck 2000; Gifford 1978). The exact location of this structure and what became of it are uncertain.

Circa 1870, William and Mary Brickell acquired all but ten acres of the original Egan Donation, including the land around Brickell Point, from Harriet English, who was Fitzpatrick's sister and the mother of William English (Security Abstract Company 1907). There is some question as to the exact year in which the Brickells took possession of the property, since historical references vary between 1868 and 1872 on this point (Carr 1981b; Hollingsworth 1936; Security Abstract Co. 1907). It is generally accepted, however, that by 1871 the Brickells had established their residence and a general store just south of the

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mouth of the Miami River. The store was to become a major site of Seminole Indian trade in southern Florida during the last three decades of the nineteenth century (Branning 1950; Carr 1981b). Most of the Brickell family's activities were centered on the Brickell Homegrounds, about seven acres of land that included the Brickell Point site parcel and land south of the site currently occupied by the Icon Brickell development and Brickell Park.

Photographs from the late 1890s through the early 1900s show a two-story wooden structure, topped by a cupola, located on the point where it would appear to lie within the nominated site parcel's eastern end (see Photograph 3). A small boathouse and two docks also appear along the riverbank in these photographs, as well as in later plat and insurance maps (Sanborn 1918, 1921, 1925). Interestingly, the two-story building bears a resemblance, architecturally and in orientation, to the structure in Wyman's 1869 drawing but appears much closer to the water's edge than the house that Wyman depicted. The building is believed to be the Brickell warehouse, reportedly constructed in 1889, where surplus merchandise was kept for their general store (Miami Metropolis 1909; Security Abstract Co. 1907).

The warehouse was demolished in 1909 to make way for the construction of a three-story residence built of rusticated cement block (Miami Metropolis 1909, 1910). Aerial photographs dating from 1918 to 1945 show this building squarely within the project parcel's eastern end, just east and southeast of the Circle feature. The State of Florida excavations encountered several large blocks of molded concrete near the eastern edge of the property, thought to be associated with the 1909 house (Wheeler 2000a:319). It was demolished prior to the construction of the Brickell Point Apartments in 1950. The Brickell store, believed to have been located just off the project parcel and to the southeast of the Miami Circle feature, was demolished in 1910 and replaced by another three-story residence corresponding in every detail to the one built a year earlier (Miami Metropolis 1910). The house was used as a guesthouse through the 1940s and razed in the 1950s. Both structures were apparently built as rental properties and were not occupied by the Brickells themselves. Instead, the family resided in a third mansion, built sometime prior to 1907, that was located south of the project parcel, immediately north of today's Brickell Park and within the Icon Brickell property. It replaced the Brickells' original home, which was far less grand and which is believed to have occupied the same location. Other than the granite Brickell Mausoleum that still stands in Brickell Park today, the Brickell mansion was the last remaining Brickell structure in the vicinity of Brickell Point when it was demolished in 1961.

The natural contour of the riverbank and bayfront of Brickell Point was significantly altered during the Brickell occupation. In 1896, railroad baron Henry Flagler dredged a nine-foot deep channel from the mouth of the river into Biscayne Bay and piled a massive heap of broken rock onto Brickell Point (Gaby 1993; Miami Metropolis 1896). The Brickells left the pile intact for several years but eventually used the fill to expand their property eastward along Biscayne Bay and to create a 10-12 ft wide strip along the length of the riverbank that was used as a road and walkway. In 1916, the Brickells financed a major dredge and fill project which bulkheaded and expanded the bayfront for one half-mile south of the river beginning at Brickell Point (Miami Metropolis 1916). Although this appears to have had a negligible effect on the Brickell Point site parcel, it extended the bayfront shoreline out into Biscayne Bay by as much as 400 ft in other places. Around 1918 the riverfront portion of the parcel also was bulkheaded and filled, straightening a deep bend in the southern bank and extending the bank farther out into the river by some 25 to 110 ft from the original shoreline (Hoit 1918). By 1929 the Brickell Avenue Bridge was constructed, giving the area its more-or-less modern appearance (King 1992:37, 48-49).

The northernmost five acres of the Brickell Homegrounds, including the Brickell Point site, were

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acquired by the Miami Lodge of the Elks Club in 1948 (Miami Herald 1948). The Brickell Point parcel was subsequently sold by the Elks Club in about 1980. The Brickell Point Apartments were built on the site in 1950. The complex consisted of six apartment buildings, two and three stories in height, that were oriented roughly perpendicular to the riverfront. Advertised as Aa country club home in the city, it included an in-ground swimming pool, landscaped promenade walks and grounds, and a parking area, which together with the buildings filled the entire parcel. An aerial photograph from early 1950 shows the property completely cleared of vegetation as it was being prepared for construction. Trenches dug as part of the demolition of the Brickell Point Apartments revealed that a mantle of fill, averaging between one and three feet thick, was placed over the parcel after it was cleared. Apparently the uppermost levels of the midden deposits also were graded flat, thereby removing much of the most recent historic components in many areas and possibly the most recent prehistoric deposits. In addition, the bedrock was scraped along the parcel's southern boundary to produce a more-or-less level grade across the site. The overall result of this was the elimination of much of the midden deposits along the southern third of the parcel. The thickness of the remaining midden deposits is largely a factor of the relative depth of the bedrock in relation to the existing grade. In other words, the thickness of the midden layer increases as the elevation of the bedrock decreases until the historic edge of the river is approached, at which point the thickness of the midden rapidly diminishes.

Integrity of the Miami Circle at Brickell Point Site

The above discussion of land use history provides a brief overview of the major nineteenth and twentieth century uses of the Miami Circle at Brickell Point site. The earliest structure for which we have documentary evidence within the 2.2-acre parcel is the Brickell warehouse, which is depicted in a number of postcards and photographs dating to the late nineteenth century (Photograph 3). The photographs depict a two-story building topped by a cupola near the river shore, likely supported by piers. This may well be the frame structure depicted in Jeffries Wyman's 1869 drawing of Brickell Point (Eck 2000:286), though other sources suggest the warehouse was built in 1889. Outbuildings from this time period include at least two docks and a boathouse. The warehouse was demolished in 1909 when a two-story concrete block house was built on the site. Wheeler (2000a:314), during the State of Florida study, found molded concrete blocks at the eastern edge of the property that probably are the remnants of the footings of this structure, which is labeled "The Palm Tree Hotel" on Sanborn fire insurance maps of the 1920s (Sanborn 1921, 1951). The footings did not extend to the limestone bedrock, and intact midden deposits were found under the concrete blocks. Archeologist Jerald T. Milanich circulated an e-mail in November 2002 with an image of Brickell Point, including the rusticated concrete building (Photograph 4). Milanich suggested in his e-mail that the image shows a circular gazebo in front of the building and speculates that the foundation for the so-called gazebo is, the feature described as the Miami Circle (Milanich 2002). The Sanborn fire insurance maps do not show any gazebo or other circular building; a photograph in the Florida State Archives, taken from a different vantage point, clearly shows that the rusticated concrete block house had a porch supported by columns, which could be mistaken for a gazebo in Milanich's postcard view (Photograph 5).

The most significant impacts to the 2.2-acre parcel are associated with the construction of the Brickell Point Apartments in 1950. Archeologist Jorge Zamanillo prepared an interesting map, a revised version of which is included here as Figure 6, in which he illustrates the footprint of early to mid-twentieth century structures on the Brickell Point parcel in relation to the Miami Circle feature, historic and contemporary shorelines, and roads and pathways. This map shows the relative position of "The Palm Tree Inn" (the rusticated concrete block building discussed above) as well as the Brickell Point Apartments. Physically, the apartments almost completely filled the 2.2-acre parcel, with limited parking and roadway access.

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Archeological monitoring and the State of Florida investigation (Wheeler 2000a, 2000b) demonstrated that the installation of the apartment buildings= footers, swimming pool, and septic system had impacted the integrity of localized parts of the site. As-built plans dated March, 1970, illustrate the septic system originally installed with the apartment buildings in 1950, along with modifications to allow connection to the city sanitary sewer system (Figure 3). These plans show the location of 14 septic tanks and associated pipes and clean-outs. The septic tank found in the southern part of the Miami Circle, as well as one excavated during the State of Florida excavations and one encountered by Widmer (2004) during the 2000 field school, are clearly marked on this plan. All three septic tanks examined were set into shafts cut into the limestone bedrock; in all cases, these were uniform pits, about 7 by 12 ft (2 by 3.6 m). The swimming pool represents another large disturbance; however, Jorge Zamanillo's map shows that less than half of the pool was dug into the limestone bedrock, and much of it was installed in fill near the northern edge of the property (Figure 6). The impact of the apartment footings on site integrity varied across the property. In some cases the trenches for the footings cut into the surface of the limestone bedrock, while in other areas the footings rested on midden soil. The first instance is illustrated by the linear disturbance evident at the eastern edge of the Miami Circle feature; this disturbance is the footing trench associated with the western wall of Brickell Point Apartments Building No. 5. Despite its impact to the midden and the upper portion of the limestone, archeological features carved into the limestone are still evident. In contrast, the State of Florida investigation included study of a trench dug during the apartments' demolition (Trench 11), which removed the footing associated by Building No. 3 (Wheeler 2000a:298). In the bottom of this trench we discovered intact midden deposits overlying the limestone bedrock.

The State of Florida investigations by Dr. Ryan Wheeler in October through November of 1999 specifically addressed the extent and condition of the site (Wheeler 2000a, 2000b). An auger survey of the Brickell Point property revealed that approximately 70% of the property contains the oolite limestone formation, which harbors cut holes similar to those that comprise the Miami Circle feature (compare Figures 6, 7, 8 and 9). The remaining 30% of the property contains fill and a now-buried portion of the Miami River. The auger survey further demonstrated that black earth midden deposits, some exceeding 50 cm in thickness, occur on approximately 35% of the property. Occasional disturbances to the midden and limestone bedrock are found, but these are typically localized, and have a minimal impact on the integrity of the site. The entire 2.2-acre Brickell Point parcel is included in the site boundary, including the Miami Circle feature, surrounding midden, and other archeological features present on the property. Approximately 1.54 acres of limestone bedrock with carved holes are present within the property boundaries and 0.7 acres of accretionary midden are present.

Current Condition

Currently, the parcel is a vacant lot covered with fill that was recontoured in May, 2000, when construction debris was removed and the previously excavated footer trenches were backfilled. There are no standing structures on the parcel and no non-contributing elements to the nominated property.

Since the Miami Circle feature was discovered in 1998 there has been concern about its exposure to the elements and possible adverse effects. At various times this concern has led to temporary covering of the Miami Circle, chiefly with plywood boards, a geotextile filter fabric, and limestone gravel. There are at least three possible sources of damage. Foot traffic on the limestone has resulted in some damage to the Miami Circle feature. Edges of features have been chipped, the duricrust layer is chipped and broken in some places, and some limestone cobbles have been removed or dislodged from their original position. In general, foot traffic is limited and these disturbances have not been major. The second possible source of

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deterioration is from various molds and algae that have colonized the exposed limestone surfaces. These organisms are likely responsible for the change in color from white to grey noted by archeologist John Ricisak (personal communication, October 1999) not long after the Miami Circle was exposed. It is unclear how these organisms may be affecting the feature. The third possible source of damage is related to the interaction of rainwater that accumulates on the limestone surface and in some of the basin features. Prior to the excavation of the site, the black earth midden that covered the limestone and filled the cut hole and basin features may have served as a buffering agent to neutralize the acidity of the rainwater. The surface of the limestone has clearly been very active geologically, since dissolution of the limestone has led to the lithification of some of the midden and the formation of the duricrust. A fourth potential factor is possible changes in the water content at the surface of the limestone. Some fine cracking of the duricrust and expansion of larger cracks evident on the limestone surface may be related to drying of the limestone at or near its surface since excavation. All of the above potential impacts have likely had some affect on the limestone, though in general the Miami Circle feature still is similar in appearance to when it was originally uncovered.

PREVIOUS INVESTIGATIONS

The Brickell Point property considered in this study contains the northernmost portion of the site originally recorded by John Goggin (1949a:opposite 119) as Miami Midden No. 2 (8DA12) (Figure 5). Karl Squires (1941:41) briefly mentions this site, describing a very large village on the north bank of the Miami River and another on the south bank at Brickell Point. Laxson (1959:57-58) excavated midden deposits to the south of the Brickell Point property, prior to the construction of the Elks Lodge in the late 1950s, and presents information that the site once extended to the west of the Brickell Bridge, perhaps as far as Miami Avenue (Laxson 1968:56-58). Several other lots to the south contain portions of the site, including those occupied by the Icon Brickell development, Brickell Park, and the First Presbyterian Church. Carr (1981b:65; Carr and Ricisak 2000:265-266) notes that salvage excavations preceding the construction of the Holiday Inn (subsequently a Sheraton hotel and now the site of the Icon Brickell development) encountered "several alignments of postholes drilled in the oolitic limestone," which he interpreted as aboriginal. Also see Carr (1981a) and Eck (2000) for more on previous research in the Brickell Point area.

Three main projects have been conducted at the Brickell Point site. The first, an outgrowth of required archeological monitoring, led to the discovery and excavation of the Miami Circle feature. The second project, conducted by the State of Florida prior to public acquisition of the site, was designed to understand better the rest of the Brickell Point site and help in placing the Miami Circle in its archeological context. The most recent project was a University of Houston fieldschool conducted by Randolph Widmer. The goals of this project included further study of areas identified during the State of Florida project.

Discovery and Excavation of the Miami Circle

The discovery of the Miami Circle was not an accident, rather, it was the result of a well conceived and generally well implemented historic preservation ordinance passed by Miami-Dade County in 1981 (Miami-Dade County 1981). At the time of its passage, this ordinance required local municipalities to pass their own historic preservation ordinances within one year or comply with the Miami-Dade County ordinance and forfeit jurisdiction to the County's Historic Preservation Division. In 1982, the City of Miami passed a relatively weak historic preservation ordinance that was eventually strengthened in 1985 after the County threatened litigation. In 1988, as part of two Development of Regional Impact (DRI) master development

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orders affecting the City of Miami, a Letter of Understanding regarding archeological reviews was entered into between the county and the city whereby the Historic Preservation Division would examine permit applications within archeological zones and provide recommendations as to the required scope of work to be accomplished by the applicant. Additionally, the agreement provided the division with the authority to survey and excavate any site with significant archeological artifacts.

In 1992, the City of Miami's ordinance was revised a second time to include a map of archeological conservation areas identified by the county archeologist. This map became the basis for requiring that developers secure a Certificate of Appropriateness (COA) from the city prior to performing work within areas of known or potential archeological significance. The COA is a permit containing conditions that are based on recommendations by the county archeologist and are intended to address archeological resources located within a given area through actions such as monitoring, excavation, or preservation.

On May 19, 1995, the Miami-Dade County archeologist notified the City of Miami that a proposed development plan for Brickell Point, a 2.2-acre parcel of land located on the south bank of the mouth of the Miami River and within a city archeological conservation area, would require archeological testing and monitoring. The property was known to have a high potential for containing a significant archeological site, but it was uncertain whether anything had survived the site's previous development in 1950 as a low-rise apartment complex (the Brickell Point Apartments).

In May 1998, the demolition of the Brickell Point Apartments was initiated as the first step toward building two high-rise towers on the property. Robert Carr, at that time Director of the County's Historic Preservation Division, inspected the demolition work and noted that the required archeological monitoring was not being performed. As a result, he requested that all work cease until the developer, Brickell Point Limited, retained an archeological consultant to monitor the demolition, recover materials uncovered, record site data and report to the city and county whether any significant artifacts were discovered. Shortly afterward, Historic Preservation Services, Inc. was hired by the developer to provide monitoring services.

Salvage archeological investigations of the Brickell Point site began in June of 1998 with the demolition of the Brickell Point Apartments. The archeological consultant retained by the property's developer monitored ground disturbing activities associated with the demolition work, including the destruction of a below ground swimming pool and basement area, the removal of several large ornamental trees, and the excavation of some of the building footings. Digging associated with the demolition exposed substantial black earth midden deposits throughout much of the property and resulted in several open trenches, where building footings were removed. This also generated numerous spoil piles consisting of a mix of demolition debris, modern fill, and midden material. It is important to note that the trenches referred to here are related to the demolition of the Brickell Point Apartments and were not excavated by archeologists; the trenches, however, were used to examine the site's deposits and stratification (see Figure 2 for a sketch map of all the demolition trench locations).

By June 23, 1998, on-site demolition activity revealed intact black dirt midden deposits beneath a thick layer of modern fill that covered much of the property. Carr subsequently sent a letter of notice of discovery to the developer and the City of Miami detailing what had been found and outlining the steps required to document them. As the demolition progressed, it became increasingly apparent that the property contained black dirt midden deposits throughout much of the site and numerous artifacts were uncovered.

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On July 20, 1998, the County's Historic Preservation Division advised the developer that the site merited more intensive archeological investigations prior to the start of construction. The developer agreed to allow salvage archeological excavations to take place during the 4 to 6 week period prior to his anticipated receipt of city permits and the beginning of construction work. That same week, Carr and John Ricasak, acting as field director, began what would prove to be a much longer field investigation than anyone had anticipated.

Thus, after demolition was completed, further investigation of the site began on July 27, 1998, under the direction of the Miami-Dade County Historic Preservation Division with assistance from the Archeological and Historical Conservancy, Inc. and numerous local volunteers. The original goals of this investigation were to determine the basic chronology of the site's pre-modern occupation and to recover a representative sample of the site's material assemblage. The plan to accomplish this was by excavating several 5 foot square test units in areas of the deepest midden, as revealed by the footing trenches.

Three areas were selected for excavation (Figure 2). Excavation Area #1 was located east of the 295E line, along the east side of Trench #5. This area was selected because of its location in the approximate center of the widest portion of the parcel and because a thick deposit of intact midden could be seen clearly in the trench profile. Area #2 was established north of Trench #8, to the northwest of Area #1. It was chosen because of its proximity to the original bank of the Miami River. A single 5 by 5 foot unit (Unit #17 – 130N, 193E) was excavated in a third location in the western portion of the parcel, immediately west of Trench #16. Excavation units were numbered sequentially in the order in which they were initiated. A total of fifty-seven (57) units were assigned numbers and excavated in Area #1, where the Circle feature was exposed. Eight (8) units were excavated in Area #2. Features also were excavated and documented within two 2-meter wide trenches extending for approximately 5 meters from the east and west sides of Area #1.

Excavation in each area began with the removal of fill and demolition debris to the fill/midden interface using both manual and mechanical means. This material was discarded without screening. Because the site's midden deposits typically exhibited no readily discernible stratification, excavation in each unit generally proceeded in arbitrary levels of four-tenths of a foot (10.16 cm). In a few instances this was reduced to two-tenths of a foot (5.08 cm). During the latter stages of the project, levels were sometimes combined or disregarded entirely for the sake of expediency. Excavation of the midden deposit proceeded until the surface of the underlying oolitic limestone bedrock was encountered. Although the general characteristics of each level were recorded on individual "level forms," profile drawings were typically not drawn because discrete stratigraphic variation or features were rarely observable in profile.

All midden material was water-screened through ¼ inch hardware cloth using freshwater from a nearby municipal supply. Animal bone and shell refuse was typically present in the midden in such high quantity (up to ten gallons in volume per level) that total retention of all screened material from each excavation unit was impractical. Recovery from the general units was confined to all diagnostic material, including all ceramics, all lithic material other than unworked limestone, all items of worked bone and shell, all historic materials (i.e., glass, metal, ceramics, etc.) other than that which was obviously associated with the modern debris/fill layer, all bone material identified or suspected as being human, and any other items that were otherwise judged to be remarkable in some respect (e.g., bone exhibiting butcher marks). Collected material was placed in sealed plastic bags marked with the appropriate provenience information.

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Column samples measuring 1 by 1 foot were retained in each of the three excavation areas for the purpose of obtaining unscreened representative midden samples for later analysis. Several core samples of midden deposits also were taken using four-inch diameter aluminum pipe driven into the ground by hand.

All features were designated and labeled sequentially in a feature log. Each hole in the limestone bedrock was described in a feature form and its location plotted on the unit form. The 688 features designated during salvage excavations at Brickell Point consisted almost entirely of midden-filled cavities in the oolitic limestone bedrock underlying the site's midden deposits. The presence of these hole features was not foreshadowed by readily observable differences in the color or texture of the midden immediately overlying them. Nothing akin to post molds, stains, or other visible evidence of intrusions that might suggest the presence of an underlying feature in the bedrock was observed. This probably speaks less to the complete absence of such features and more to the difficulties of discerning them in the rich black midden soil matrix. Because of this, a hole in the bedrock was typically designated as a feature only after its rim was completely delineated.

The outline of the Miami Circle feature was predicted based on the arc formed by the larger basin features exposed in the excavation of Unit #s 1, 2, 10, 12 and the western halves of Units 14 and 15 (Photograph 6). This realization came in late September 1998 when destruction of the site appeared imminent. As noted above, Carr and Ricisak (2000) decided to expose the feature in the most expeditious manner possible, which seemed to be the only option available at the time. The predicted outline of the circle was traced on top of the overlying fill with spray paint and a back hoe was used to remove the fill and midden to within one to four tenths of a foot from the bedrock surface, with the underlying basin features located using a metal probe. The exposed basins were excavated and their midden contents removed.

State of Florida Investigation

The State of Florida investigations at Brickell Point were designed to investigate other portions of the Brickell Point property, in order to understand better the archeological context of the Miami Circle feature and to assess the potential for other significant deposits and features (Wheeler 2000a, 2000b). Operations were conducted in October and November, 1999. This included making stratigraphic profiles of the existing construction/demolition trenches on the property, systematic auger survey and thematic mapping of the Miami Oolite surface and midden deposits, and excavations in potentially significant areas. A grid using letter and numeral designations was established on 12 ft (3.7 m) centers. Auger testing on this grid allowed a series of maps to be made, including the contemporary appearance of the site, limestone bedrock contours, midden surface contours, and midden thickness (Figures 7, 8 and 9). Historical documents and auger testing were used to locate another septic tank, which was investigated to demonstrate the relationship between modern disturbance and intact archeological deposits and features. An area, dubbed the "Valley of the Holes," due to the high concentration of cut hole and basin features, to the northeast of the Miami Circle feature was investigated with a 5 by 5 m block excavation (Photograph 7).

University of Houston Field School

Dr. Randolph Widmer, archeologist and professor of anthropology at the University of Houston, conducted two three-week field school sessions at Brickell Point during June and August, 2000 (Widmer 2004). This project focused on the area between the "Valley of the Holes," described above, and the Miami Circle feature (Photograph 8). A large block excavation (18 2 x 2 m units) was opened in this area in the hope of finding additional structures like the Miami Circle. Numerous holes and basins (n = 507) carved

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into the limestone were encountered, along with artifacts and midden, but no definite patterns were recognized. Seventeen additional radiocarbon dates and some diagnostic ceramics indicate a fairly uniform age for the Brickell Point midden, consistent with the previous two excavation operations discussed above. Widmer's (2004) report also provides a series of questions and directions for future research that help in understanding the significance of the Miami Circle at Brickell Point site.

ARCHEOLOGICAL DEPOSITS AND FEATURES

Site Description

An auger survey of the Brickell Point property revealed that approximately 70% of the property contains the oolite limestone formation, which harbors cut holes similar to those that comprise the Miami Circle feature (Figures 7 and 8). The remaining 30% of the property contains fill and a now-buried portion of the Miami River. The auger survey further demonstrated that black earth midden deposits, some exceeding 50 cm in thickness, occur on approximately 35% of the property. The midden deposits overlie the Miami Oolite formation, though in some places a very thin lens of white or tan sand was observed at the interface; this observation is consistent with reports of a similar lens encountered during excavations of the Miami Circle feature. Other deposits routinely encountered across the site include a disturbed midden, which contains nineteenth and twentieth century artifacts, as well as deposits of modern construction fill and early twentieth century dredge fill. The entire 2.2-acre Brickell Point parcel is included in the site boundary, including the Circle feature, surrounding midden, and other archeological features present on the property.

The intact archeological deposits found across the site are black earth midden, with occasional lenses of lucine (*Lucina pectinata*) clam shells (Photograph 9). The deposits overlie the oolitic limestone and fill the cut holes, as well as solution features present. In many places this midden has become concreted to the limestone, and the lucine clam shells are regularly found cemented to the limestone. Radiocarbon dates from the midden associated with the Miami Circle and artifacts recovered during subsequent survey and excavation projects suggest that the midden deposits date between 1400 and 2000 years B.P., representing the Glades I early (500 B.C.-A.D. 500) through Glades IIa (A.D. 750-900) periods; later periods of use also are indicated. The artifacts recovered are typical of American Indian sites in the Everglades region, and it is possible that some have a direct historical connection with the Tequesta Indians who occupied the area during the European contact era (Carr and Beriault 1984; Griffin 1988:113; 1989; Willey 1949:79-120). Information from Brickell Point and the Miami Circle feature complements data from the nearby Granada site, and comparison suggests the inhabitants of both sites were part of the same cultural complex—the Glades Tradition (Goggin 1949b:28-32).

Stratification

The profile and plan of Trench 11 was recorded during the State of Florida investigation of the site (Figure 10). The profile provides a detailed cross-section of over 10 meters of the site. During the profiling it became evident that the removal of the Brickell Point Apartments footers in 1998 had left a considerable deposit of intact midden in the bottom of this trench. Excavation of this material revealed numerous solution features filled with intact midden deposit. At least two cut holes also were encountered in the bottom of the trench. Other notable features include the partial, articulated remains of a raccoon (primarily the lower portion of the body, including pelvis fragments, femurs, tibia, and *os baculum*) as well as those of a sea turtle (portions of the carapace, humerus). These remains confirm that the midden is intact here and

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indicate that it probably was deposited rather rapidly (similar features with butchered and articulated animal bone are reported in accretionary middens of southeastern Florida, e.g., Wheeler [1992a:6]). The midden observed in the trench walls is relatively uniform, with lenses of lucine clam shells in several places. The profile of the trench reveals five major strata, which are roughly representative of the entire Brickell Point property.

Zone 1 is the uppermost unit and consists of construction fill (limestone rubble, broken concrete, light colored sands, and modern debris) dating from the mid-twentieth century to the present. This zone is exposed on the surface of this area and is over 1 meter thick. This stratum is associated with the construction of the Brickell Point Apartments in 1950 and their demolition in 1998.

Zone 2 is a gray to brown layer of disturbed, redeposited midden soil that contains nineteenth and early twentieth century artifacts. This stratum varies in thickness across the site, from a thin lens to a thicker unit of 25 to 35 cm; both variants are present in the trench. This stratum probably represents a leveling episode associated with the demolition of the earlier Brickell houses in 1950.

Zone 3 is the black earth midden; this stratum is rich in faunal bone, and has some pottery, shell and bone artifacts, and occasional lenses of lucine clam shells. Water-washing of intact deposits of this midden also produced many small to medium sized cobbles of oolitic limestone, which may be debitage from the production of the cut holes found throughout the site. This layer is rather thick (50 cm) in the southern portion of the trench, thinning rapidly at the historic shoreline to the north. Artifacts include sand-tempered plain sherds, bone artifact fragments, and shell tool fragments. Features encountered in the midden include partially articulated animal remains, suggesting that the midden was deposited rapidly here along the water's edge.

Zone 4 is composed of dredge fill—oolitic limestone, white sand, and gray clay soil. This material was added to the site late in the 1910s or early 1920s when the concrete bulkhead was built. This stratum is not present in all parts of the site and is found only along the historic shoreline, where fill was deposited.

Zone 5 is the local formation of Miami Oolite limestone, which underlies the midden and other strata described above. The precipitate crust or duricrust noted for the Miami Oolite is obvious across the surface of this formation.

The plan view of the footer trench reveals the complex arrangement of solution features that were encountered upon the excavation and removal of the intact black earth midden. The elevation declines gradually, but there are at least two or three major ledges that drop off dramatically. Cemented bone and shells of lucine clam were often observed on the surface of the limestone, along with the precipitate crust that is usually present on the oolitic limestone. Cut holes, like those encountered elsewhere on the property, were infrequent in the bottom of the trench, but several were noted.

Widmer (2004), based on his 2000 field school excavations, defined 27 different strata (Zones I through XXVII) following the Harris (1989) method (Figure 11 and Table 2). Widmer's work is significant because these strata were primarily found within cut holes that were excavated by strata. Some of these strata were

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recognized during the earlier phases of fieldwork at the site, but were labeled lenses within the broader zones defined above. Descriptions of each stratum are given below:

Zone I. This stratum designation refers to the historic fill that was utilized to create a level property after the demolition and removal of the Brickell Point Apartments (Carr and Ricisak 2000:265). Wheeler (2000a:304) also labeled this stratum as Zone 1 and notes that it is light colored sand with modern debris. A brief description of the uppermost fill matrix is provided by the geologists that assessed the sedimentary nature of the site (Means and Scott 2000:324). They describe it as “a thin veneer of recent fill material... it consists of sand, concrete and other materials hauled onto the site during past and recent construction ... strictly anthropogenic in origin” (Means and Scott 2000:324). Additional examination revealed that the fill sediments are characterized by brownish gray sand with limestone gravel. The gravel varies from marble to fist size pieces. The upper portion of the soil is very loose, but the sediments close to the bedrock are extremely hard packed and are difficult to excavate through. This suggests that they have some clay or dissolved limestone silt content that has made them hard. It also could be the case that drying of the soil creates this hard compact character. Over 20 cm of Zone I deposit was removed from the 2000 field school excavation area and even after this from 5 to 20 cm of fill deposit remained over the bedrock. The deposit was thicker in the south than in the north and sloped with the bedrock grade. The entire area of the 2000 field school excavation was covered with Zone I fill.

Zone II. This stratum consists of brownish gray fine silty sand located at the interface between Zone I above and the bedrock below it. Some modern cultural material occurs in this stratum. There are some tiny flecks of lucine clam shell within the matrix with a few whole shells as well. The deposit is thin, ranging between 1 and 3 cm in thickness and at first was thought to represent a possible early historic activity surface. This is clearly just the lower boundary of the modern fill horizon and once this was recognized it was not differentiated from Zone I. This stratum is in no way comparable to the Zone 2 that was identified in the State of Florida excavations (Wheeler 2000a:304).

Zone III. This stratum consists of concreted, compacted white limestone gravel that has formed a macadam surface over a sloping low spot in the limestone bedrock. It is only found in units N54E122 and N54E124. It is clearly historic era in context and is thought to date to the historic Brickell occupation of the site. It probably represents fill brought in to create a road surface or driveway.

Zone IV. This stratum represents the so-called “Black Earth Midden” described by Carr and Ricisak (2000) and Wheeler (2000a, 2000b). It is identical with the stratum labeled Zone 3 in the State of Florida excavations (Wheeler 2000a:304). It is charcoal in color and is organically stained fine sand with limestone silt within the matrix. It is very hard packed and contains ample bone. It also contains small pea to walnut sized whitish limestone gravel in its matrix. This gravel was originally thought to be modern, since there are some historic artifacts found in the upper layers of the zone. However, since this limestone gravel is found deeper in the deposit, below modern historic material, it seems that the limestone gravel is prehistoric, not modern and is associated with use of the site a considerable time *after* the holes were cut. This is because gray gravel with duricrust formation was encountered in deposits associated with sediments inside the cut holes and probably originates from the tailings of cut hole excavations. It is difficult to ascertain whether the whitish limestone gravel is found throughout all areas of the Brickell Point site, but is ubiquitous in the area excavated during the 2000 field school project. There is some fragmentary lucine clam shell in the matrix as well. Zone IV is a distinct, easily identifiable stratum.

Zone V. This stratum was found in a basin in the bedrock in unit N54E120. The soil is characterized by its

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higher organic content when compared to Zone IV. Less compaction is noted in comparison to Zone IV as well. Zone V is darker, having a jet-black appearance, and the density of faunal remains in this horizon is much less than it is in Zone IV.

Zone VI. This stratum is similar to Zone IV with two important differences. First of all, it contains no limestone gravel of any kind. Secondly, it has no lucine clam shell fragments or whole valves in its matrix. No historic artifacts are found in its sediments. This stratum is interpreted as an aboriginal deposit with some modern or historic contamination. Only five Zone VI proveniences, containing a total of only 11 fragmentary artifacts, were documented. Two postholes had historic material in Zone VI matrix. Posthole #8 in N56E118 had 2 fragments of coal in its Zone VI matrix and Posthole #42 in N56E120 had a single nail in Zone VI, level 2. Three shallow basins, Feature 32, 79, and 100 contained historic material and here only small fragments of nails and glass were found. It seems that these historic artifacts represent isolated intrusive fragments into an otherwise prehistoric stratum. Zone VI lies directly under Zone IV and is only found in basins and postholes. Of note is that these few historic artifacts found appear to be early historic rather than modern in age.

Zone VII. This stratum is similar in texture to Zone IV, but is much lighter in color, being a light gray. It also has less organic content. It has a drier, looser consistency as well. The texture and color of the deposit is similar to that of cement. The deposit is found only in a basin in unit N54E124 and the lighter color is thought to result from the percolation of lime sediments from the macadam gravel matrix of Zone III, which is above it. It appears to be fill and would therefore predate Zone III above it since Zone IV is found below it.

Zone VIII. This deposit was found in unit N54E120. It is soft and has a distinct salt and pepper appearance. It is a fill deposit found below Zone V and is very distinct from it. Its stratigraphic position beneath Zone V suggests an earlier temporal assignment for this stratum, at least earlier than Phase IV (ca. A.D. 200-600, see Table 9).

Zone IX. This is a gray salt and pepper stratum found in Posthole #1 of N52E122, FS #236, SS #16. It is shallow posthole fill.

Zone X. This deposit is black, organic stained, silty sand. It is distinguished from other strata at the site by its lucine clam shell content. About 90 percent of the matrix of Zone X consists of lucine clam shell, with most of it fragmentary. It was found in Posthole #12 in N52E122 under Zone IV, level 2.

Zone XI. This deposit is black organic sand with a salt and pepper appearance. It is identical to Zone VI in texture, compaction, and color. It is differentiated from Zone VI based on its artifact content. It contains 30 times the faunal bone that Zone VI contains. About 65% of the faunal bone is burned. There is very little shell in the matrix, hence its similarity with Zone VI. This is clearly a midden and substantiates the claim that the artifact density of Zones IV and VI is not high enough to constitute a midden classification. This deposit type was first encountered in Feature 26 of N24E124. It also was found in Posthole #19 of this unit.

Zone XII. This stratum was first identified in Posthole #11 of N54E122. It is somewhat similar to Zone IV, which it is under but there are important differences. First, it contains numerous whole and fragmentary lucine clam shells that comprise about 10% of the matrix. Even more distinctive is that it contains copious amounts of limestone gravel. This gravel is very different in appearance than the limestone gravel found in Zone IV. The gravel is a dark gray or charcoal in color and much more eroded or rounded than the gravel

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that is seen in Zone IV. It is not modern fill material and instead is thought to represent tailings from the original creation of the cut holes. Such gravel was not found in the strata above this zone. Zone VI, a deposit that is void of limestone gravel, also is found above this stratum.

Zone XIII. This zone is similar to Zone VI except like Zone XII, it contains dark eroded limestone gravel; it is different from Zone XII in that it contains only a little lucine clam shell. It does, however, like Zone VI, contain abundant faunal bone. The limestone is thought to be associated with the original creation of the postholes.

Zone XIV. This stratum is “clean” black silty sand. No shell, faunal bone or “old gravel” was found within its matrix. The deposit contains no artifacts. It is very soft and has little compaction. It is completely distinct from any of the other deposits encountered. It was found under Zone XII in Posthole #11 of N54E122.

Zone XV. This stratum has a similar texture to Zone VI but differs from it because it has large gravel associated with the aboriginal occupation of the site. It was found initially in N54E122, Posthole #10 under Zone VI, level 2. It also is found in Posthole #6 of N54E116.

Zone XVI. This stratum was found in Posthole #10 under Zone XV and also in N52E116. There is no gravel in the matrix. Instead, the sediments are composed of about 30 percent loose broken lucine clam shell lying flat. The remaining sediments consist of loose, black, fine silty sand. There is more silt than is present in Zone VI. The proportions of silt and sand are about 50 percent each.

Zone XVII. This stratum consists of a crumbling encrustation that is derived from the limestone crust in Feature 33 of N54E124. This eroding crust is mixing with what looks like typical Zone VI matrix and comprises approximately 75 percent of the matrix. This pulverized, crumbly limestone encrustation is quite homogeneously mixed with the remaining Zone VI-like matrix.

Zone XVIII. This matrix was found in Posthole #27 of N52E120. It is similar in texture and color to Zone VI but contains both lucine clam shell and aboriginal limestone gravel. One articulated lucine clam shell also was found in this stratum and was utilized for a radiocarbon date. There are some artifacts in this Zone.

Zone XIX. This stratum is identical to Zone XVI except that it has unburned bone in it as well. The bone is about as abundant as the lucine clam shell. It was found in N52E10, Feature 16 Posthole #30 under Zone XVIII. There is very clear stratigraphic separation between the two zones. There is no limestone gravel in the matrix and it is very loose. There are increasing numbers of tree roots in the deeper parts of this zone.

Zone XX. This stratum is characterized by loose “salt and pepper” colored sand that has very distinct black and white sedimentary granules. The sediment is distinct in that it contains oyster shell, the first encountered in the excavations. This oyster shell includes both whole and fragmentary valves. The matrix contains small amounts of unburned faunal bone and a stone crab claw fragment. This stratum was found in Posthole #32 of N52E120 under Zone VI.

Zone XXI. This stratum has a soil matrix similar to Zone VI. It differs from it, however, in that it contains a much higher lucine clam shell frequency than Zone VI. This lucine clam shell is mostly broken and has been concreted together. This stratum differs from Zone X in that it has less shell (only 75 percentage), has no whole shell, has the shell cemented together, and also contains faunal bone in the same percentage (10

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percent) as in Zone VI. This stratum was first found in N56E122.

Zone XXII. This stratum refers to pockets of cemented lucine clam shells that have fused to the bottoms of limestone basins and postholes. They consist of about 50% Zone VI-like matrix and 50% fused lucine clam shell. What is important about this deposit is that it has fused to the bottom of cut postholes. This means that there was no soil in the bottom of the postholes when the shell was deposited. Therefore, the shell predates the filling of the postholes with sediments indicating that this zone predates the accumulation of soil in the deposits and represents the period shortly after, if not during, the period when the cut holes contained wooden posts. They were found in Feature 44 of N56E120, in the southern arm-like extension of Feature 44, in Posthole #10 of Feature 27, and in Posthole #20. This is a very important deposit and was utilized to obtain radiocarbon dates on the empty postholes prior to their filling in with other sediment. The results of the radiocarbon dates unambiguously support the above stratigraphic interpretation of these deposits.

Zone XXIII. This stratum is similar to Zone VI except that it contains numerous bone fragments, comprising approximately 30 percent of the matrix, and it is devoid of gravel and shell. It was found in Posthole 16 of unit N56E122.

Zone XXIV. This stratum is gray mottled sand with a texture like Zone VI. This is the only stratum to have this type of colored sediment. It contained a square cut nail in its matrix and so this deposit is interpreted as representing a Pioneer Period historic component of the late nineteenth - early twentieth century.

Zone XXV. This stratum consists of a salt and pepper, loose sand matrix containing about 30 percent broken and whole lucine clam shell and aboriginal limestone gravel. The gravel is gray in color and not whitish like that found in Zone IV. This might be the result of duricrust formation on the gravel itself. It appears that this gravel is the debris from the excavation of the cut holes. The matrix also contains about 5 percent faunal bone in its matrix. This deposit was found in Posthole #1 N52E11 under Zone XVI. The stratum has a very loose compaction.

Zone XXVI. This stratum is similar in many ways to Zone VIII, particularly its texture and salt and pepper coloration. It is different from Zone VIII in its high faunal bone content, which comprises about 30 percent of the matrix. The deposit also contains some lucine clam shell. This stratum is compacted.

Zone XXVII. This stratum is a sepia colored fill deposit containing numerous small historic artifacts mixed together with prehistoric aboriginal artifacts. Historic artifacts include brickbats, square cut nails, and brown and blue glass sherds. This deposit probably represents a disturbed Pioneer Period deposit on top of a prehistoric aboriginal sedimentary horizon that was truncated or mixed by clearing and leveling activities for the construction of the Brickell Point Apartments. It also could be the case that this fill was brought in from a location foreign to the Brickell Point site since its texture and color do not match any other deposit on the site. In any case, the deposit is clearly disturbed and so its origin or original context is unknown.

Zone XXVIII. This stratum is very similar to Zone XXVI except that it contains more shell. The deposit was initially found in N50E118. It has very loose sediments unlike those found in Zone XXVI and contains the same amount of faunal bone as in Zone XXVI. No aboriginal gravel was found in the matrix.

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Based on his identification of the 27 stratigraphic zones described above, Widmer (2004) concludes that there can be little doubt that the deposits and sediments that are within postholes differ considerably from the sediments resting directly on top of the bedrock and even with those in the upper levels of the postholes. Further, he suggests that this indicates a different depositional environment within the postholes than above the unmodified bedrock surface. This is an extraordinary finding that has allowed for important insights into the stratigraphy of deposits at the Miami Circle at Brickell Point site.

The Miami Circle

The Miami Circle feature is characterized primarily by a patterned group of large and small holes, dug into the oolitic limestone bedrock underlying the Brickell Point Site, that collectively form a circle approximately 11.5 m (38 ft) in diameter (Figures 12, 13, 14 and 15; Photographs 10, 11, 12 and 13). The features comprising the Circle are arranged in a readily discernible pattern, alternating between relatively large oval and quasi-rectangular "basins" and smaller oval and round holes, many of which contain smaller secondary holes within them. Many of the basins contained limestone cobbles, which might have been used as wedges to secure upright wooden structural elements. Vertical cut marks, perhaps made by a shell tool, were observed on many of the carved holes and basins (see Photograph 14). Twenty-four (24) of the large oval and quasi-rectangular basin holes occur along the Circle's circumference and are, for the most part, well defined (Photographs 15, 16, 17 and 18). Multiple additional, typically circular, holes occur both within and immediately outside the Circle's perimeter; however, their relationships to the main Circle feature are in most cases unclear, although some parallel the arc of the basins and form a discontinuous outer ring.

Description of the Major Miami Circle Features

The Miami Circle is comprised of 26 numbered basin features. The position of each basin feature is illustrated in Figure 13, based on the simplified sketch map prepared by archeologist George Luer (Weisman et al. 2000:344). Each basin feature is described below, based on information from field forms, beginning at the eastern edge of the Circle and proceeding clockwise:

Feature 17. This feature is located at the western edge of the Miami Circle, within the northwestern quadrant of the larger Circle feature (see Photograph 13). It is comprised of two joined basins. The smaller, tail-like basin extends to the south from its larger, more rectangular counterpart. The larger, more regular, rectangular basin is approximately 33.5 cm wide by 54.8 cm long. The sides are very uniform, and taper only slightly, with maximum dimensions at the bottom only a few centimeters smaller than those at the top. The depth of the larger basin ranges between 20 and 26 cm. The excavators noted distinctive vertical tool marks on the walls of the basin. Seven smaller, round holes are cut into the bottom of Feature 17. These range from 7 to 12 cm in diameter and from 5 to 13.5 cm in depth. They are arranged in a roughly linear fashion, forming a slight arc within the bottom of the basin features.

Feature 56. This feature is located within the northwestern quadrant of the Miami Circle. Like many of the other basin features in this quadrant, Feature 56 is comprised of two joined basins. The rectangular, northernmost basin is 40 cm wide by 70 cm long, with a depth of 60 to 62 cm. Like many of the other carved holes and basins, there are vertical striations along the walls. The walls are uniform and do not taper. Eleven smaller holes were documented in the bottom of Feature 56, with diameters around 8 to 14 cm and depths ranging from 3 to 28 cm. Limestone cobbles were found within the midden deposits inside Feature 56, near the bottom of the basin feature.

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Feature 71. This feature is located in the northwestern quadrant of the Miami Circle, and like most of the other basin features in this quadrant, is comprised of two joined basins (see Photograph 15). The larger, rectangular basin is 36 cm wide, 60 cm in length, and about 30 cm in depth. The smaller basin also is roughly rectangular and is connected to the larger basin by a narrow, slightly arcing channel; the smaller basin is 42 cm long by 27 cm wide. The walls of both basins are nearly vertical and have vertical cut marks. Five smaller holes, ranging in diameter from 6 to 12 cm, are present in the bottom of the feature. A large number of limestone cobbles, many cemented together, are wedged into both basins. The excavators note one "square gap," about 14 cm on a side, formed by the cobbles and suggest this gap might have accommodated a post. The midden matrix contained fairly typical materials: faunal bone, some marine shell, sand-tempered plain ceramics, and fragments of concretion and limestone.

Feature 77. This feature is located in the northwestern quadrant of the Miami Circle, and like most of the other basin features in this quadrant, is comprised of two joined basins (see Photograph 16). The larger basin is oblong and about 64 cm long by 36 cm wide, with a depth of 33 cm. The smaller basin is a rectangular extension from the larger feature, and measures 54 cm long by 24 cm. The sides of both basins are vertical and have vertical cut marks. Ten smaller holes are present in the bottom of Feature 77, ranging in diameter from 4 to 15 cm and 3 to 29 cm in depth. At least two of the smaller holes are paired, making a total of 12 smaller holes in the bottom of the basin. The midden matrix excavated from this feature included faunal bone, some marine shell, burned limestone, at least two large limestone cobbles, concreted midden, sand-tempered plain sherds, and at least one check stamped sherd.

Feature 79. This feature is located in the northwestern quadrant of the Miami Circle, and like most of the other basin features in this quadrant, is comprised of two joined basins. The larger, rectangular basin is 39 cm wide, 82 cm in length, and about 42 cm in depth. The smaller basin is oblong and 21 cm wide by 33 cm in length. The walls of each basin taper gently, so the dimensions at the bottom of the basins are slightly smaller than those at the limestone surface. Nine smaller holes are carved into the bottom of the two basins, including one hole that abuts the eastern edge of the big basin. The smaller holes range in diameter from 4 to 15 cm and 6 to 25 cm in depth. The midden matrix is described as homogenous, with large quantities of animal bone, including burned bone, some marine shell, fragments of concretion, small pieces of charcoal, one large piece of limestone, sand-tempered plain pottery, and at least one check stamped sherd. The excavation notes mention numerous burned sea turtle bones and suggest the basin might contain some refuse from a single collecting/cooking episode.

Feature 80. This feature is located at the northern edge of the Miami Circle, within the northwestern quadrant of the larger Circle feature (see Photograph 17). Feature 80 is a large, rectangular basin with a short projection to the west. The primary basin is 49 cm in width, 73 cm in length (100 cm total length, including the projection), with depths to 50 cm. The walls are nearly vertical and bear vertical cut marks. Four smaller holes are cut into the bottom of the basin, forming a line along the southern wall of the feature. They range in diameter from 5 to 17 cm and in depth from 6 to 13 cm. Limestone cobbles were found packed into the bottom of the basin and surrounding some of the smaller cut holes. Larger cobbles were concentrated on the north side of the basin. Midden material excavated from the feature contained faunal bone, some marine shell, and a few pottery sherds.

Feature 81. This feature is another large, rectangular basin with a smaller basin projecting to the west. It is located in the northeastern quadrant of the Miami Circle, near the northern edge of the arc of large basins. The main basin measures 39 cm in width, 58 cm in length, with depths to 37 cm. The smaller basin also is

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rectangular, measuring 18 cm in width and 51 cm in length. The walls of both basins are nearly vertical and bear obvious tool marks. Eight smaller holes occur in the bottom of the basins, primarily clustered in an arc along the southern side of the feature. The smaller holes range in diameter from 10 to 13.5 cm and in depth from 6.5 to 17 cm. The excavation notes show a large number of limestone cobbles piled in the bottom of the feature. Excavation of the midden matrix from the feature produced a large amount of faunal bone, sand-tempered plain ceramic sherds, concretion fragments, marine shells, and some marine shell tools.

Feature 95. This feature is located in the northeastern quadrant of the Miami Circle. It is comprised of a large, rectangular basin, with projections to the east and west. The main basin is 61 cm in length, 36 cm in width, with depths to 40 cm. The overall length of Feature 95, including the projections to the east and west, is 168 cm. The walls of the feature are nearly vertical, with obvious tool marks in some places. Eight smaller holes occur in the bottom and sides of the feature, including two that project from the north and south sides (see Figure 16). Most of the other small holes occur in an arc along the southern side of the feature; they range in diameter from 9 to 16 cm and in depth from 8 to 17 cm. Large limestone cobbles were found in the bottom of the feature, often in close association with the smaller holes. Midden from the feature contained faunal bone, shell tools, concretion fragments, limestone cobbles, chert debitage, and sand-tempered plain and St. Johns Check Stamped ceramic sherds.

Feature 102. This feature is located in the northeastern quadrant of the Miami Circle. Feature 102 is a smaller, cigar-shaped basin, 60 cm in length and only 15 cm in width. It is similar to the smaller basins typically associated with the larger basin features; it may be related to Feature 100, which is directly to the south and east. Like Feature 100, this basin was packed with concreted limestone cobbles, making complete excavation difficult. The excavation notes also mention a large quantity of shell within the midden matrix.

Feature 100. This feature is located in the northeastern quadrant of the Miami Circle. It is comprised of a large, rectangular basin with a narrow projection to the south. The feature's maximum length is 100 cm, with widths ranging from 27 cm along the narrow projection to 37 cm along the larger basin. Depths average 27 cm. This feature is interesting, since the midden matrix contained a large number of limestone cobbles. Some limestone cobbles were concreted together and could not be removed from the feature (see Photograph 18). Only four smaller holes were documented in the base of the feature, though others may be present under the concreted limestone cobbles. Like other small holes at the site, these ranged in diameter from 5 to 14 cm and in depth from 5 to 10 cm.

Feature 103. This feature is located in the northeastern quadrant of the Miami Circle. It consists of one large, rectangular basin, 79 cm in length, 39 cm in width, and from 21 to 31 cm in depth. The walls are vertical, with vertical tool marks evident in some areas. One corner of this feature was damaged by the demolition trench visible in the plans and photographs of the Miami Circle feature. Only one small hole was documented in the base of this feature, but like many of the other basins in this quadrant of the Circle, Feature 103 was filled with large limestone cobbles, many of which had become concreted to one another and to the walls of the basin.

Feature 110. This feature is located in the northeastern quadrant of the Miami Circle. It is a small, rectangular basin, 39 cm in length, 34 cm in width, and 15 cm in depth. The top of this feature was removed by the demolition trench, explaining why it is shallower than some of the neighboring basins. Its walls taper gently, giving dimensions at its base of 15 by 21 cm. Like many of the other basins in this part

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of the Circle, Feature 110 was filled with large and small limestone cobbles. Two small holes were present in the bottom of the feature, with diameters of 7 and 16 cm, and depths of 8 and 4 cm, respectively.

Feature 112. This feature is located in the northeastern quadrant of the Miami Circle. It is a large, oblong basin, with one small projection to the south. It measures 70 cm in length and 51 cm in width. The maximum depth was difficult to estimate, since at least 7 large limestone cobbles were concreted to the bottom of the basin. Three smaller holes, including one that forms the southern projection of the basin, were found in the bottom of the feature. They range in diameter from 6 to 14 cm and in depth from 12 to 27 cm. The limestone cobbles may obscure other small holes. The midden fill excavated from this feature contained faunal bone, some marine shell, and at least one sand-tempered plain ceramic sherd.

Feature 114. This feature is located in the northeastern quadrant of the Miami Circle. It is a small basin filled with limestone cobbles, including one large central rock. The field notes state that it is “shaped like a human eye.” Feature 114 gained considerable notoriety in the press because of its resemblance to an eye, and the large limestone cobble in the center of the feature suggests a pupil, adding to the basin’s eye-like appearance. The maximum dimensions are 41 cm in length, 21 cm in width, and 28 cm in depth. Cut marks are evident on the walls of the feature. The field maps indicate that Feature 114 is due east of the center of the Miami Circle feature.

Feature 129. This feature is located in the northeastern quadrant of the Miami Circle, near the eastern side of the circle’s arc. It is a large, rectangular basin with a short projection to the north. In many ways it more closely resembles the basins at the northern edge of the Circle (e.g., Features 79, 80 and 81). The basin measures 114 cm in length, 42 cm in width, and 37 cm in depth. Eight smaller holes were found in the bottom of the basin, ranging in diameter from 4 to 11 cm, and in depth from 3.5 to 12 cm. Like many of the other basins in this area, Feature 129 contained a large number of limestone cobbles. The excavation notes indicate that the midden within it contained a large number of queen conch (*Strombus gigas*) shells and shell fragments, as well as faunal bone and fragments of concreted midden.

Feature 139. This feature is located in the southeastern quadrant of the Miami Circle, near the eastern side of the circle’s arc. It is a large, rectangular basin; it was severely damaged by the demolition trench. It measures 55 cm in length, 49 cm in width, and 15 cm in depth; the original depth was probably 33 cm. The walls are vertical, with vertical tool marks evident in some areas. At least three small holes were found in the bottom of this feature, ranging in diameter from 3 to 15 cm, and in depth from 6.5 to 17 cm. Dissolution of the limestone in this area also has impacted Feature 139. Midden fill from this feature contained faunal bone, marine shell, limestone cobbles and concreted midden, and a few ceramic sherds. At least seven large limestone cobbles were present in the feature as well.

Feature 172. This feature is located in the southeastern quadrant of the Miami Circle. It is a large, rectangular basin measuring 67 cm in length, 39 cm in width, and 37 cm in depth. It is possible that this basin is associated with Feature 171. The walls are vertical, with vertical tool marks evident in some areas. Three small holes are present in the base of the feature. Large and small limestone cobbles were found, some cemented to the walls of the basin. Artifacts recovered from the midden fill include sand-tempered plain pottery, bone artifacts, faunal bone, marine shell, and chert flakes.

Feature 171. This feature is located in the southeastern quadrant of the Miami Circle. It is a small, cigar-shaped basin, measuring 43 cm in length, 18 cm in width, and 18 to 24 cm in depth. It is possible that this basin is associated with Feature 172. The walls taper gradually and bear vertical cut marks. Two smaller

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holes were found in the base of this feature—one was 9 cm in diameter and 11 cm deep, while the other was 11.5 cm in diameter and 4 cm deep. Dark gray midden soil filling Feature 171 contained bone tools, faunal bone, some marine shell, and ceramic sherds. Some limestone cobbles were found and some were cemented to the walls and base of the feature.

Feature 162. This feature is located in the southeastern quadrant of the Miami Circle. It is in an area where the limestone bedrock has lost integrity due to dissolution. It is clear that much of this dissolution had occurred before the Miami Circle had been carved by the indigenous people. This is demonstrated by a distinctive white rock at the southwestern corner of Feature 162; part of the basin was carved through this detached piece of limestone, which is only supported by soil and midden material. Feature 162 appears to have originally been comprised of two rectangular basins, with a total length of 226 cm and a width around 46 cm. At least nine smaller holes were documented in the bottom of the basin, ranging in diameter from 8 to 21 cm, and in depth from 5 to 34 cm. The midden excavated from within Feature 162 contained pottery, faunal bone, marine shell, and numerous limestone cobbles.

Feature 163. This feature is located in the southeastern quadrant of the Miami Circle, near the southern edge of the Circle's arc. The field notes indicate that this feature was probably originally comprised of two basins, and measurements are estimated at 280 cm in length, 33 cm in width, and 33 cm in depth. Unfortunately, the septic tank associated with the 4th building of the Brickell Point Apartments seriously damaged this feature. Limestone cobbles and midden were still present in the surviving portion of the feature, and at least 5 smaller holes were noted in the base of the feature. It appears that another basin was located to the west of Feature 163, but this, too, seems to have been obliterated by the septic tank trench.

Feature 141. This feature is an oblong basin in the southwestern quadrant of the Miami Circle. Its maximum dimensions are 32 cm in width, 64 cm in length, and a depth of 30 cm. The walls are uniform, with a slight taper at the eastern and western sides and with almost vertical walls along the long axis of the feature. Evidence of vertical cut marks was noted by the excavators. Three smaller holes occur in the base of the feature, ranging in diameter from 10 to 13 cm and in depth from 6 to 19 cm. Excavation of the midden matrix produced faunal bone, some marine shell, a small collection of pottery, as well as two piles of limestone cobbles.

Feature 140. This is a large and complex basin feature in the southwestern quadrant of the Miami Circle. One main, roughly rectangular basin is connected to two smaller basins to the northwest and southeast. The maximum width of the basin group is 33 to 36 cm and the overall length is 200 cm. The central basin is 67 cm long by 36 cm wide. The depth ranges from 28 to 30 cm. The walls are nearly vertical, especially along the basin's long axis, with some tapering at either end. Tool marks are evident on the walls, and duricrust deposits of around 6 mm are present on the walls and on the bottom of the basin. Eleven smaller holes, ranging in diameter from 7 to 23 cm, are present in the bottom of the basin group. Most are conical or cylindrical holes with depths between 7 and 28 cm. Large limestone cobbles were mapped in the central and southeastern basins. The midden matrix contained faunal bone, marine shell, 3 marine shell tools, ceramic sherds (including one linear stamped sherd), and fragments of concreted midden and limestone.

Feature 66. This feature is located in the southwestern quadrant of the Miami Circle. The primary feature is a rectangular basin, 40 by 70 cm, with two arm-like extensions to the northwest. The basin ranges in depth from 21 to 42 cm. Nine smaller holes occur in the bottom and sides of the basin and the arm-like extensions, with diameters ranging from 5 to 23 cm and depths ranging from 1 to 36 cm. Limestone cobbles were found along the eastern wall of the main basin. The excavation notes mention the presence of a thin

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coating (around 5 mm) of duricrust on the walls of the basin. Materials recovered from the midden include faunal bone, a large quantity of marine shell, a few ceramic sherds (including one stamped sherd), and fragments of limestone.

Feature 20. This feature is comprised of three large, interconnected basins in the southwestern quadrant of the Miami Circle. Together the three basins are 192 cm long, with a maximum width around 42 cm and depths ranging from 33 to 39 cm. The walls are very straight and exhibit cut marks. The northernmost basin is roughly rectangular, while the other two basins are oblong. Seven smaller holes occur in the bottom and sides of the larger basins, with diameters ranging from 9 to 13 cm and depths between 8 and 43 cm. Excavation of sandy, black midden deposits from within the basins produced a few ceramic sherds, a shark tooth, and fragments of gray marl.

Feature 19. This feature is located in the southwestern quadrant of the Miami Circle. It is a roughly rectangular basin of 46 cm by 35 cm, with a depth between 33 and 38 cm. The walls taper only slightly, and exhibit vertical cut marks. Three smaller holes are present in the northwestern, northeastern and southeastern corners of the basin; the largest of these holes is in the northwestern corner and projects outside the rectangular outline of the basin. Artifacts found in the midden deposit within Feature 19 included a large queen conch (*Strombus gigas*) shell, Glades ceramics, fire-cracked rock, and limestone cobbles.

Feature 18. This feature is located at the eastern edge of the Miami Circle feature, within in the southwestern quadrant of the Circle. Feature 18 is a somewhat irregular, rectangular basin. Maximum dimensions at 32.5 cm in width by 61 cm in length, with a maximum depth of 35 cm. Five smaller holes are carved into the bottom and southern margin of this feature, with diameters ranging between 13 and 30 cm and depths of 9 to 17 cm. Vertical cut marks were noted on the basin walls. Excavation of the midden deposits within the basin produced shell, perforated shark teeth, marine shells, as well as a large limestone boulder that may have been used to wedge posts into the smaller holes.

Architectural Aspects of the Miami Circle

While the basins described above vary in their configuration and size, there are some interesting similarities. All except two of the major basins harbor smaller holes. At least 140 of these smaller holes are present, not to mention others that occur between the big basins. In some cases, clusters of limestone cobbles wedged into the bottom of the basins might have formed sockets for other small posts. In some basins, especially those forming the northeastern arc of the Miami Circle, the limestone cobbles might have been used to wedge posts into the small holes. All of this suggests that the large basins may be analogous to a wall trench. If this is the case, the Circle may have formed the foundation for a structure comprised of small poles, ranging in size from 4 to 23 cm in diameter. The lack of an inner ring of roof support poles suggests several possibilities. In one scenario, the structure might have simply been an enclosure, rather than a roofed building. Architect Herschel Shepard, who developed plans for the reconstructions of the American Indian buildings at Mission San Luis in Tallahassee, Florida, suggested that it is possible to have built a 38 ft (11 m) diameter structure without internal supports (Shepard, personal communication to James J. Miller and Ryan J. Wheeler, March 2000). Archeologist Randolph Widmer (2004) suggests that the posts associated with the Miami Circle feature might have supported a building on raised piers or pilings.

Following the initial discovery of the Miami Circle and in response to questions regarding the origin and significance of the site, project director Bob Carr invited an independent team of archeologists and

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architects to examine the site and provide their opinion. The report, coauthored by archeologists Brent Weisman and George Luer, and historic architect Herschel Shepard, included their observations on the intentionality and architectural aspects of the Miami Circle feature (Weisman et al. 2000). The following paragraphs are excerpted from their published report:

Preliminary study indicates that many of the smaller, human-made holes within and around the Miami Circle do not create a recognizable pattern when viewed as a group, but further study is required. However, the clearly visible Miami Circle, approximately 11.5 m (38 ft) in diameter, is represented by a series of the human-made holes (within the excavation grid lines 295-335 East and 105-145 North). This series consists of large, approximately rectangular holes or basins, that are fairly regularly spaced and that alternate with smaller approximately rectangular holes or basins. The rectangular openings, both large and small, were apparently created by locating circular, or near-circular, holes adjacent to one another and by then removing intervening material. The long axes of the rectangular holes lie on the circumference of the circle. There is evidence that 22, and possibly 23 or 24, large holes or basins were hewn into the limestone. The total number of smaller openings provided between the large holes is less clear, for a smaller opening does not seem to have been provided between larger holes near the east-west axis on the east side, or near the north-south axis on the south side. In addition, the smaller hole near the east-west axis on the west side seems to have been offset to the north. [Weisman et al. 2000:343]

Another less-visible circle, approximately concentric with the 38-foot circle, is traced by a series of human-made holes which lie a foot or two outside the 38-foot circumference. These circular holes, from 12-15 cm in diameter, can be traced around the northern half of the circle and around part of the southern portion of the circle. The holes seem to be regularly spaced at about the same interval as the larger holes in the 38-foot circle. In addition, smaller holes at various spacings are located between the larger holes of the larger circle. [Weisman et al. 2000:343, 345]

There also is evidence, in at least two instances, that some of the human-made holes are aligned in straight rows. One row of irregularly spaced holes runs approximately east-west through the Miami Circle and is nearly aligned with the north face of the septic tank. A second row runs approximately west-northwest to the east-southeast through the Circle, intersecting the Circle a little north of its east-west axis on the east side. [see Figure 13] [Weisman et al. 2000:345]

One very large, circular, human-made hole [Feature 363] is located, approximately, on the east-west axis of the Miami Circle, about half-way between the center and the circumference, toward the Circle's west side. Further analysis may reveal other patterns which are not immediately obvious. [Weisman et al. 2000:345]

The holes aligned in circles and straight lines suggest that the holes received posts that were part of a structure or structures. However, there are not enough data available to determine whether or not the holes aligned in straight rows were related to each other or to the circles, another structure, or other entities. Therefore, they will not be discussed further here, except to say that although they seem to be contemporary with the other holes, they may be evidence that the site contained successive structures. [Weisman et al. 2000:345]

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We should state explicitly that the holes arranged in circles (described above and discussed here) are not part of any European colonial, American territorial, or later American construction typologies with which we are familiar. [Weisman et al. 2000:345]

The holes arranged in circles appear to reflect certain construction typologies used in the southeastern United States by Native Americans for large structures utilized as council houses, chiefs' residences, and for other purposes. The wide spacing of the holes indicates that the structure was not a circular palisaded defensive structure, which is another type of Native American structure. Prehistoric and historic council houses and similar structures have been documented in historical accounts and archaeology, a summary of which can be found in Shapiro and McEwan (1992:7-18, 63-68). [Weisman et al. 2000:345]

If one assumes that the holes arranged in circles are evidence of a council house or similar structure and compares this site with other documented sites, several similarities and differences become apparent. The roof and sidewalls, if any, probably were thatched with palm. If the 38-foot circle marks the outer perimeter of the structure, the structure is similar in size to smaller structures at other documented sites. There is no evidence of interior columns, with the exception of the one large off-centered hole, for which there is no precedent for use as a column. It is possible that a conical roof, similar to that at the Chief's House at Mission San Luis [in Tallahassee, FL], was constructed, with or without sidewalls, but without interior columns. It is possible that this smaller building was accompanied by a larger structure which served as a council house. On the other hand, the 38-foot circle may be an inner ring of support posts for a larger structure, possibly 18 m (60 ft) or more in diameter. This larger size, however, would not eliminate the possibility that other and possibly larger structures existed at the site. The presence of the two concentric circles, similar in size and hole spacing, may indicate that different structures occupied the site at different times. Similarly, the elongation of the large and small holes on the 38-foot circle might have resulted from the construction of successive buildings, or might have provided some tolerance for adjusting the spacing of posts around the perimeter. The smaller holes located between the larger holes, and many holes that appear to have been located at random, may be related to support posts for benches constructed for the occupants. Entrances, or passageways between benches, might have been located on the east, south, and west extremes of the Circle where there seems to be no evidence of smaller holes. [Weisman et al. 2000:345]

One interesting detail documented in 2002 during the total station work at the Circle was the mapping of a gap between Features 129 and 139 in the southeastern quadrant of the Miami Circle (see Figure 13). At this point, the southern arc of basins curves slightly inward, while the northern arc curves outward, creating what is likely an entrance. The configuration is of further interest, since someone entering the structure would be required to turn to the right and then left before completely gaining access. Following a 17 degree azimuth across the center of the Circle, one finds a smaller gap between Features 17 and 18. The identification of these entrances is significant in interpreting the Miami Circle as an American Indian structure.

Other Cut Holes and Hole Patterns

Additional portions of the site were selected for excavation, including the N34 Area dubbed the "Valley of the Holes" and the area investigated by Randolph Widmer in summer 2000 (Figures 17 and 18). This area was initially identified during the auger survey when four of the auger tests encountered cut holes in the limestone.

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The area is situated between grid points M34 and O34, just to the west of the depression left by the demolition of the Brickell Point Apartments' swimming pool. The machine-made cut in the limestone associated with the pool is evident just to the east of this area. This area is about 90 feet northeast of the Miami Circle feature, near the original shoreline of the Miami River and Biscayne Bay. The fill in this area is thin, ranging from 6-10 cm to 30-45 cm in thickness. Midden deposits overlying the limestone bedrock are absent in most places, though thin lenses are evident in several places. The cut holes and solution features encountered in this area are filled with intact black earth midden. An area 5 meters north-south by 5 meters east-west was excavated (about 25 square meters). Seventy-three (73) distinct features have been identified here, including ten (10) large basin-like troughs or depressions, eight (8) "double" or connected holes, one (1) set or pair of holes placed close together, fifty-one (51) single holes cut in the limestone, and what appear to be three (3) aborted or abandoned holes (Wheeler 2000a, 2000b).

These features are interesting since they give some indication of the process that the Indians used in making the cut holes (Figure 19). Some of the features are circular depressions, chopped into the surface of the limestone, and then apparently abandoned with no further modification. The next stage in making a hole seemingly involved continuing the hole downward into the limestone with almost vertical sides. Holes left in this stage of manufacture often have sides with very distinctive vertical grooves, giving the hole a scalloped or gadrooned effect. Many more of the holes examined in this area were cut even farther into the limestone, and have diagonally sloping sides in their lower half, giving the overall hole a conical form. Vertical grooves in these holes are usually absent or faint, and there is evidence, in the form of lateral striations on the walls of the holes, that suggest these grooves might have been intentionally removed.

Close examination of the cut holes in this area indicates that many (if not all) have a thin (1 to 2 mm) indurated crust on the limestone surface extending down into the hole. This is in contrast to the unaltered limestone surface around the holes, which has an indurated crust ranging from 8 to 10 mm in thickness. In some places near the cut holes, this crust has been broken or spalled off in antiquity, perhaps when the cut holes were originally made. This matches the description given by Means and Scott (2000) during their geological examination of the Miami Circle feature; they note that these crusts may be the result "of subaerial exposure where acidic soil waters cause dissolution of CaCO_3 and capillary action and evaporation cause reprecipitation in the form of a laminated crust on the bedrock surface."

Cut hole feature "R" is a good example of the "double" holes encountered in this area (see Figure 19). The brown, disturbed layer at the surface of the limestone here contained a sherd of whiteware or white ironstone, probably dating to the late nineteenth century. The midden removed from the double hole cut in the limestone did not contain any historic material, and was tightly packed in the hole. At 12 cm below the surface of the limestone a sherd of Opa Locka Incised pottery was found within the hole. The bottom of the hole was filled with concreted midden. In all, the hole was probably around 25 cm in depth. Like many of the other holes, the sides were straight until around 10 cm below the limestone surface, from where the paired holes tapered gradually to the bottom, with a slight ridge separating the two holes (Wheeler 2000a:312, 2000b:30, 32-33).

Widmer (2004) expanded the area discussed above during his summer 2000 excavations at the site. He delineated 507 posthole features cut into the oolitic limestone, similar to those found during the excavations of the Miami Circle and the area dubbed "Valley of the Holes" (Figure 18). Widmer (2004) recognized five post configurations, including: 1) solitary postholes that did not cluster with other holes; 2) paired postholes; 3) postholes clustered in groups of three; 4) postholes clustered in groups of four; and 5) postholes inside other postholes. One-hundred and ninety-nine (34.5 %) of the postholes documented during the 2000 field school excavation were paired posts. Widmer (2004) notes that the size of the posthole features (averaging 11 to 12

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cm in diameter) is consistent with postholes known from other pre-Columbian American Indian Florida sites, supporting the conclusion of earlier work at the site that the postholes are of American Indian origin. He further argues that the uniform size of postholes in southern Florida sites relates to a broader pattern of tree size selection, suggesting some common architectural pattern.

Animal Interments

Three features—the interments of a shark, a dolphin cranium, and a sea turtle carapace—discovered during the excavation of the Miami Circle are significant in developing a broader understanding of southeastern Florida archeology and in understanding site stratification, age, and the origins of the Miami Circle feature (Elgart 2006).

Shark Interment (Feature 234)

The shark interment (Feature 234) was encountered in excavation units 30 and 35, within the southeastern quadrant of the Miami Circle feature (Elgart 2006:179, 181) (Photograph 19). The feature consists of a mass of teeth, representing the animal's head, oriented to the west, and articulated centra (vertebrae) extending to the east. Masses of dermal denticles (components of the shark's skin) were present as well. Measurements and preliminary identification indicate that it was a 167 cm (5.5 ft) long requiem shark (*Carcharhinus* sp.). Bone collagen from the shark was radiocarbon dated at 670 +/- 30 BP (A.D. 1560-1680, 2 sigma calibrated age). This feature is significant since it is related to a broader pattern of animal interments in southern Florida. Animal interments, while rare, have been reported from several sites in southern Florida, including an alligator and perhaps two sawfish (*Pristis* sp.) from the Palmer burial mound near Sarasota (Bullen and Bullen 1976:44-46, Pl. 17), and an alligator, snakes, raccoons, and turtles from the Margate-Blount site in northern Broward County (see discussions in Felmley 1991:102 and Wheeler 1992b:94-95).

Turtle Carapace (FS #1028)

The turtle carapace (FS #1028) was recovered from Unit 64, within the northeastern portion of the Miami Circle (Elgart 2006:181). Unlike the shark burial, the turtle carapace feature seems to represent an intentionally buried artifact. The turtle carapace was not accompanied by any related skeletal elements and was found with its dorsal surface down. The proximal end of the carapace was oriented approximately to the east. It is the largest single object recovered from the Miami Circle excavations, other than the limestone cobbles found in some holes and basins. It is possible that the carapace represents a platter or similar artifact. Measurements of the carapace (carapace length = 65 cm) indicate that it is not an adult, but rather a sub-adult. Data from live measurements of nesting females in Broward County indicate adult female carapace lengths ranging from 97 to 100 cm (Fletemeyer 1984:32). Sea turtle expert Jeannette Wyneken confirmed the preliminary identification as a loggerhead sea turtle (*Caretta caretta*) (personal communication to Alison Elgart, September, 2007). Charcoal recovered in association with the carapace was radiocarbon dated at 420 +/- 80 BP (A.D. 1330-1650, 2 sigma calibrated age). Similar interments are not recorded in the literature, though intentionally buried shell and ceramic vessels are encountered in southern Florida sites. Johnson (1952:36) does, however, report the crania of two sea turtles, a loggerhead (*Caretta caretta*) and a Kemp's ridley (*Lepidochelys kempii*), recovered from the Palm Beach 3 burial mound (8PB26), and excavations at the Santa Lucea site (8MT37) in St. Lucie County recovered the cranium and some post-cranial elements of a large loggerhead turtle that was buried in a pit within a midden deposit (Carr and Steele 1993:14; James Dunbar, personal communication, November 2004). Schaffer and Ashley (2003:253) and Frazier (2003:12) suggest some religious or ceremonial significance for marine turtles or their remains in southern Florida sites.

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Bottlenose Dolphin Cranium (Feature 218)

The fragmentary remains of a bottlenose dolphin (*Tursiops truncatus*) were found in units 32 and 33 (northeast quadrant of the Miami Circle, just to the east of the marine turtle carapace described above) and designated Feature 218 (Elgart 2006:179) (Photograph 20). Reconstruction of the available bones indicates that most of the cranium is present, lacking teeth and lower mandible (Photograph 21). Radiocarbon dating of bone collagen from the dolphin skull produced an age of 690 +/- 40 BP (A.D. 1530-1680, 2 sigma calibrated age). Initial reports of this discovery indicated that interments of dolphin skulls were not known outside the Pacific Northwest; however, further research by physical anthropologist Alison Elgart (2006:184) uncovered correspondence between 1930s excavator Vernon Lamme and Smithsonian Institution archeologist Matthew Stirling that suggests there was a dolphin skull burial at the Marineland site near St. Augustine. Unfortunately, Lamme's (1941:1) report on the Marineland site only mentions dolphin remains among the food refuse. Florida artist Hermann Trappman (personal communication, December 2003) indicates that the remains of a dolphin skull were found during demolition of the Tierra Verde burial mound near St. Petersburg. Sears' (1967) salvage excavation of the site produced a quantity of Weeden Island and Safety Harbor ceramics. Wheeler (2002a, 2004b:149-150) suggests that dolphin skulls may have been kept in order to extract the numerous, conical teeth, which occasionally appear as perforated beads or pendants in Florida archeological sites (including examples from the Granada and Miami Circle sites). At least one example of a perforated bottlenose dolphin tooth was recovered from excavations at the Miami Circle.

The Miami Circle and Broader Patterns of Animal Interment

The shark, marine turtle carapace, and dolphin skull are important finds for several reasons. Both the shark and dolphin have very rare parallels at other Florida sites, suggesting animal ceremonialism that is not known in neighboring parts of the Southeast (Elgart 2006:186-187). The complete, articulated remains of a requiem shark is the most conclusive feature associated with this phenomenon. A bottlenose dolphin skull and a sub-adult sea turtle carapace are included in this category, but may represent artifacts deposited at the site and not animal interments. Several other sites with rare animal interments occur in southeastern Florida and neighboring parts of the state, including the Palmer burial mound near Sarasota where an alligator and perhaps two sawfish were interred in a mound with human burials (Bullen and Bullen 1976). Ethnohistoric documents indicate that the Tequesta adorned their cemeteries with animal parts, confirming use of animals in ritual (Childers 2003:77). The possibility that other animal interments are present at the Miami Circle at Brickell Point site makes the site important in understanding this rare phenomenon.

Hill's (2000) study of animal interments in the southwestern United States documented examples of avian interments, primarily those of raptor, turkey, macaw and parrot. She suggests that the contexts of these interments conform to the description of "ceremonial trash," in other words, the birds were ritually dispatched and then buried after their feathers had been removed (Hill 2000:388-389). Hill's study (2000:388) also documented rare occurrences of bear burials and widespread interments of canids (dogs and their taxonomic allies). Similar survey studies of animal interments in the southeastern United States have not been conducted, though examples of animal interments other than those of dogs appear to be extremely rare. A brief review of archeological literature of the Caribbean and Mesoamerica indicates that animal interments occur in these areas as well. Righter (2002a:Figures 1.17c, 1.29, 65) describes a green sea turtle (*Chelonia mydas*) interment from the Tutu site in St. Thomas, U.S. Virgin Islands. The carapace was present and contained some of the major long bones, though head, plastron and claws were absent. Like the sea turtle carapace from the Miami Circle, the Tutu example was deposited on its back with the anterior oriented to the east. The feature was interred in a

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midden, and several ceramic artifacts were located nearby; flat rocks and a hearth feature were located near the sea turtle interment as well. Righter (2002a:65-66) compares the Tutu sea turtle interment to similar features at the Golden Rock site on St. Eustatius and the Tanki Flip site of Aruba (see van der Klift 1992:7-75, Shinkel 1992:171, Rostain and Versteeg 1997:333). Chase and Chase (1998:324-326) mention the interment of three articulated crocodiles at the North Acropolis of Tikal in Guatemala; these interments would be considered dedicatory or commemorative offerings in Hill's (2000:389) model of animal interment.

The late dates for these three features suggest some important possibilities in understanding and interpreting the Miami Circle feature. The dates suggest that these animal and animal part interments were made at a much later date than the deposition of the accretionary midden. This opens the possibility for two periods of site use—one in which the majority of the midden was laid down, circa 500 B.C. - A.D. 500—and another protohistoric or European Contact Period occupation when at least three animal and/or artifact interments were made. Randolph Widmer (personal communication, July 2000) suggested that the site of the Miami Circle might have remained an important sacred locale long after any associated structures had fallen into disuse or disappeared completely.

None of the Caribbean or Mesoamerican comparisons discussed above are meant to suggest a direct relationship between the Miami Circle at Brickell Point site and these neighboring cultures. However, the animal interment features from the Miami Circle seem to suggest participation in broader Circum-Caribbean patterns that are not well-known in the Southeast. It is not clear at this point if the Miami Circle animal interments represent dedicatory offerings or “ceremonial trash,” though both possibilities seem to be suggested. The existing data on the interments and the possibility that other interments are present in the site confirm the significance of the Miami Circle beyond the regional level and suggest that broader questions (both at a national and Circum-Caribbean level) relating to the ritual use of animals may be addressed with data from the site.

ANALYSIS

Analysis of artifacts and other data recovered from the Miami Circle excavations has been funded by a State of Florida special category grant to the Historical Museum of Southern Florida. Thirteen major analyses have been conducted or are on-going on materials recovered from the Miami Circle. Each of these is discussed briefly below:

Basaltic/Diabase Celts

Geologist Jacqueline Dixon and her colleagues (Dixon et al. 2000) conducted one of the first analyses of material from the Miami Circle at Brickell Point. Their analysis focused on the origin of several basalt or diabase ground stone celts and celt fragments recovered during excavation of the Miami Circle (Figure 20). Two basaltic celts and fragments of several others were recovered from within the area of the Miami Circle feature, including one celt that was found *in situ* inside one of the holes in the bedrock (Carr and Ricisak 2000:272, 276) (Photograph 22). A third basaltic celt was reportedly collected and stolen by one of the volunteers who appeared on the site as part of a weekend workday, and a fourth celt was found in spoil in 2001. Spectrographic analysis of basaltic celt fragments from the site indicates that the Macon, Georgia, area is a likely source for this material (Dixon et al. 2000:336-337). This analysis is significant for several reasons. First, the sourcing helped dispel speculation that the stone celts demonstrated contact with the Caribbean, Mesoamerica, or northern South America. Second, this work represented one of the first attempts to source stone celts found in Florida sites. Third, the sourcing study helped demonstrate that the Tequesta and their ancestors participated in long-distance exchange networks with other parts of Florida and the Southeast.

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Fourth, the study located other ground stone celts from southern Florida sites that could be used in future sourcing studies (Dixon et al. 2000:335-336). Such studies may help in understanding the role of the Tequesta and their ancestors in exchange networks in southern Florida, Florida, and neighboring states.

Chipped Stone

Sites in southern and southeastern Florida are typically not associated with large assemblages of chipped stone artifacts. Contrary to this pattern, the Miami Circle produced a large quantity of chipped stone debitage and some finished tools (n = 1,431) (Figure 21). Archeologist Robert Austin (2004) analyzed the chipped stone assemblage from the site. He identified cherts from cobbles originating in the Tampa Limestone outcrops of Hillsborough and Pinellas counties; cherts from cobbles typical of the Suwannee and Ocala formations found in Polk, Pasco, extreme northeastern Hillsborough counties, and outcrops of the Ocala Arch; as well as non-cobble forms from the same formations and a few silicified corals from outcrops in Hillsborough, Polk, and Pasco counties. These localities are in the central Gulf Coast part of Florida, approximately 320 km from the Miami Circle at Brickell Point site. Artifact forms included numerous flakes (n = 1,111), thermal shatter (n = 179), cores and unmodified cobbles (n = 43), hammerstone fragments (n = 5), bifaces (n = 19), unifaces (n = 3), microliths (n = 32), modified flakes (n = 13), and utilized flakes (n = 24). Austin (2002:125-126) indicates that the cobble-based chipped stone technology evident at the Miami Circle has only one analog in southern and central Florida—the Fort Center site on Fisheating Creek. This site is located approximately 170 km from the Miami Circle, on the western side of Lake Okeechobee. Austin (2004:128) hypothesizes that the Miami Circle cobbles were obtained through exchange with the Fort Center peoples.

Austin (2004:113, 117) suggests that down-the-line or redistributive forms of exchange could have characterized the system in place in southern Florida. He explains that in down-the-line exchange, the chert cobbles would have moved from the source area to Fort Center and then on to the Miami Circle, while in the more formal redistributive system, one community would serve as a redistribution center for other communities within the exchange network. Austin's (2004:118, 127-128) analysis leads him to conclude that a redistributive exchange system was in operation, with Fort Center serving as a center for redistribution of cobbles and other cherts. The Miami Circle site may well have had a similar role in the redistribution of pumice.

Working with the chipped stone artifact proveniences and the GIS data from the 3D laser scanning project, Austin (2004:123-125) detected vertical and horizontal patterns within the Miami Circle excavation area (Figure 22). Austin (2004:123) explains that the upper three levels of the excavation units within Area 1 (the Miami Circle feature) contain the bulk of the chipped stone artifacts (n = 1,049 or 83.19 %). Austin (2004:124) detected two horizontal concentrations within the same area—the northwest and southwest quadrants of the Miami Circle; the concentrations are centered in excavation unit 36 in the northwest and excavation unit 35 in the southeast, with a concentration of chipped stone in an arc between the two areas. Interestingly, there are more tools and cores found in the northwest concentration. Austin (2004:124) notes that the majority of tools from this area have evidence of use on very hard materials like marine shell. The spatial distribution of other artifacts (e.g., pumice and shell) show similar concentrations, suggesting that this might have been an activity area or the concentration may be related to prehistoric refuse dumping behavior.

Pumice Artifacts and Sourcing

Kish (2004, 2006) and Wheeler (2002b, 2006) recognized that a large number of pumice fragments and artifacts recovered from the Miami Circle might afford another opportunity to use geochemical and

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petrographic analyses to explore exchange systems in southern Florida. Prior to excavation of the Miami Circle, archeologists would occasionally report the occurrence of pumice abraders in southern Florida sites, believing they had been made from pumice clasts washed ashore from the Lesser Antilles (Wheeler 2002b:1-2, 2006). Temporally, most sites or site components producing examples of pumice date to the Middle Woodland Period. While most sites have only a few such artifacts, the Miami Circle produced 173 fragments of pumice, representing 121 artifacts. Analysis of pumice artifacts from the Miami Circle and other sites reveals a uniform group of shapes and wear patterns, including: 1) dome-shaped examples with a flat surface, 2) pumice clasts with cup-shaped depressions, 3) pumice clasts with one or more flat surfaces or facets, 4) clasts with deep grooves, 5) clasts with narrow grooves, 6) plummet-form objects of pumice, 7) crescent or donut-shaped examples, and 8) small, cube-shaped examples (Wheeler 2002b) (Figure 23).

Specimens from the Miami Circle and museum collections from other sites were used in a sourcing study that considered index of refraction, petrography, and major and trace element chemistry (Kish 2004, 2006; Kish and Wheeler 2004). Results of the study indicate at least three sources for the pumice, one major source near Veracruz on the Gulf Coast of Mexico; a minor source, also in the vicinity of Veracruz; and a minor source from the Canary Islands. Most of the pumice seems petrographically and chemically similar, and is likely from the Mexican source. Review of the distribution of pumice artifacts indicates occurrence at 39 sites, primarily in southeastern and eastern Florida, and in the area around Lake Okeechobee; Middle Woodland period sites in the area east of Pensacola also have examples of pumice, similar to those from southern Florida. Wheeler (2002b, 2006) hypothesized that the large number of pumice artifacts from the Miami Circle is associated with either a major eruption or a major storm event. Considering the source of the pumice, the latter mechanism is the most likely, since volcanoes in the Mexican Gulf Coast area were most active before 4,000 years ago (Kish 2004:46, 2006). The lack of other exotic materials from Mexico within archeological sites of southern Florida suggests that the pumice was not transported to Florida by humans, but rather via ocean currents. The geographic distribution of pumice suggests a "bull's eye" pattern, indicating that a large number of pumice clasts became available at one time and were then distributed throughout the exchange system (Figure 24). Unlike local materials, which could be difficult to discern in archeological contexts, the pumice has been important in illustrating linkages in the exchange network. Not surprisingly, this pumice was present at sites in the Florida Keys, Everglades, and Miami-Dade and Broward county coasts. Interestingly, the study shows that pumice similar to that recovered at the Miami Circle also is present at sites like Fort Center and Whitebelt 1, which are on the western and eastern sides of Lake Okeechobee, respectively. Examples of pumice from southwestern Florida were rare, and none could be located in museum collections. This suggests that ancestral Tequesta exchange networks were active during the Glades I period, and reached well into the interior of the neighboring Lake Okeechobee area.

Bone Artifacts

Wheeler (2002a, 2004b) conducted a morphological and microscopic wear pattern analysis of 554 bone and tooth artifacts recovered from all three excavation operations at the Miami Circle at Brickell Point. Thirty-one major tool and ornament categories were recognized, based on comparison to other analyzed collections, including Richardson and Pohl's (1982) study of bone artifacts from the Granada site. The two sites share many categories of bone implements, though the Brickell Point assemblage has few examples of carved and decorated bone in contrast to 38 % of the specimens from the Granada site, which was decorative or ornamented in some way (Table 3). Most of the bone tools from Brickell Point are utilitarian objects associated with fiber, leather and woodworking, and are typical of bone tool assemblages from other Florida sites. The collection was particularly significant because of the large number (n = 131) of modified shark teeth; few other assemblages have over 100 teeth, making the Brickell Point useful as a representative sample and for

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comparison with other large samples of worked shark teeth from sites like Granada, Jupiter Inlet 1, and Fort Center (Table 4). Some bone working debitage was recovered at the Brickell Point site as well, suggesting that bone tool making occurred at the site. The assemblage also suggests that the accretionary midden covering the Miami Circle and comprising the Brickell Point site represents fairly mundane household activities like weaving, wood carving, and bone working.

While decorated objects were scarce, one small pendant (MDC.1.388.4) is interesting, since it provides evidence for connections to decorative shell working at the Crystal River site and other Middle Woodland sites (Photograph 23). The 1.7 cm long pendant is manufactured from a 0.5 cm thick section of a large mammal bone and retains the concave/convex nature of the bone surface. The pendant is round, with a central perforation surrounded by five concentric circles engraved on the obverse (convex) side of the artifact. The reverse (concave) side is not engraved. An eared knob protrudes from one end of the circular pendant, presumably the means of suspension. Earlier studies of Florida decorated bone artifacts have failed to identify any similar bone pendants (see Wheeler 1992b, 1996).

Despite the lack of comparable bone pendants, there are similar pendants or gorgets of shell from at least four sites in southern and west-central Florida. Moore (1903:397-398, Figure 43; 1907a:417) illustrates 6 engraved shell pendants similar to the Brickell Point bone pendant from his excavations at Crystal River. Like the bone pendant, the shell specimens are circular with a knob or tab projecting from one side. In most cases the convex side has varying numbers of engraved concentric circles surrounding the central perforation. Willey (1949a:Pl. 24f) included one of Moore's shell pendants in his catalog of Santa Rosa/Swift Creek artifact forms and Sears (1962:8) considers pendants of this form as part of the Hopewellian Yent complex, which includes the Crystal River, Pierce, and Yent Mound sites on the Florida Gulf coast. Moore (1907b:462-463) illustrates a similar shell pendant from Chokoloskee in the Ten Thousand Islands. An equal armed cross motif replaces the engraved concentric circles on this variant. Moore (1907b:461) acknowledges that the shell ornament from Chokoloskee resembled those of Crystal River. Dubin (1999:Figure 271) illustrates a small (ca. 2.0 cm) shell pendant of this design from Lee County, which she ascribes to the "Hopewell culture." Only the concave reverse side of the pendant is illustrated, so it is unclear if the obverse side is decorated. In size, this shell pendant most resembles the bone example from Brickell Point. Closer geographically to the Brickell Point site, Willey (1949b:109) describes another small (2.2 cm), circular shell gorget with "suspension nub on the rim and a central perforation" excavated from a Dade County site. Goggin (n.d.:544) offers that this pendant is from one of the Golden Glades sites in northern Dade County. This partial catalog of this pendant form indicates a fairly widespread artifact type that has some Hopewellian affiliation.

Shell Artifacts

One-hundred and thirty-five shell artifacts were analyzed by Wheeler (2002c, 2004c). These artifacts were recovered from each of the three excavation operations conducted at the site. Analysis considered form, traces of manufacture, use wear, and species represented. Comparison with other analyzed collections was made, with attention to the Granada site assemblage and Masson's (1988) study of *Strombus* celt production and use. Most of the shell tools identified from the Miami Circle at Brickell Point are related to woodworking, and represent recognized types characteristic of southeastern Florida. Tools made of the *Strombus* spp. conch were most common in the assemblage (59 %), followed by the large gastropod *Pleuroploca gigantea* (19 %) (Photograph 24). Assemblages dominated by *Strombus* conchs are typical of southeastern Florida, since this coincides with the animal's biogeographic range in the continental United States. Other shells used for tool making include the whelk *Busycon sinistrum* (14 %), and rare examples of the bivalve *Lucina pectinata*, the helmet shell *Cassia* spp., and the West Indian chank shell *Turbinella angulata*. The latter shell is a rare find in southeastern Florida,

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where it is occasionally found in the Florida Keys. Recent research has shown that some sites have examples of plummets made from the distinctive three plaited columella of the *Turbinella angulata*, including several Gulf Coast sites and the Belle Glade site near Lake Okeechobee.

Fourteen artifact categories were identified in the analysis of shell tools from the Brickell Point excavations (see Table 5). Debitage from shell reduction and tool manufacture suggests that many of the shell artifacts were produced at the site. Many of the tools were identified as woodworking tools, with analogies to metal wedges, gouges, and adzes found in nineteenth century American tool boxes (Photograph 25). As with the pumice and chipped stone artifacts, shell tools were concentrated in the northwestern quadrant of the Miami Circle excavation (Wheeler 2004c:180-181). Wheeler (2004c:180) controlled for variations in volume of soil excavated from different units and quadrants, and discovered that the northwestern quadrant of the Circle and areas closer to the original Miami River shoreline had higher densities of shell tools per cubic foot of soil. Within the category of shell tools, tools like *Strombus* celts had an even greater density in the western half of the Miami Circle and in units closer to the water. This likely represents manufacture, breakage, and discard of these tools near the water's edge, where woodworking activities would have focused on production of canoes and other large carvings requiring heavy reduction. Like the analysis of bone artifacts, the shell tool and ornament assemblage suggests rather mundane tool production and use at the site.

Ceramics

Ceramic analysis was conducted by Robert S. Carr (2006), Executive Director of the Archaeological & Historical Conservancy, Inc. The ceramic assemblage of 26,281 sherds from all excavations at the Miami Circle at Brickell Point site is dominated by sand-tempered plain (Glades Plain) pottery, though some decorated Glades types are present, including Fort Drum Incised, Fort Drum Punctate, Opa Locka Incised, and Key Largo Incised—indicating occupation during the Glades I and Glades II periods (Carr 2006:155-156; Griffin 2002:139; note: 23,979 sherds were used in the analysis presented in Table 6). Extra-local types include sherds of the Deptford series, which is consistent with hypothesized connections to Middle Woodland cultures (Photograph 26). A small collection of incised and zoned punctated sherds are reminiscent of Middle Woodland types from other parts of the state (Carr 2006:154-155, Figure 23). Table 6 summarizes ceramic types identified from excavations at the Miami Circle at Brickell Point. Fragments of at least three ceramic platform pipes were found (Carr 2006:140, Figures 12 and 13); Luer (1995:306) discusses the importance of ceramic platform pipes in Florida and their possible role in interregional exchange, especially during the Middle Woodland Period. St. Johns Check Stamped and Glades Tooled types also were identified during the ceramic analysis, indicating some occupation during the Glades III Period. The radiocarbon determinations suggesting Glades I Period occupation combined with the large assemblage of sand-tempered plain pottery offers an opportunity for additional studies of paste, temper, and vessel form during this poorly studied period.

Zooarcheology

Quitmyer and Kennedy (2002) conducted zooarcheological analysis of vertebrate faunal samples recovered from the Miami Circle excavations of 1998-1999. They identified fauna from six of the basin features that form the Miami Circle feature (0.25 in screened samples from Features 71, 79, 80, 81, 101, and 103). Eight composite matrix samples (or column samples), each measuring 40 by 40 by 5 cm, were processed through 0.25 in, 0.125 in, and 0.0625 in screen for use in statistical comparisons (these samples came from Features 71, 77, 79, 80, 81, 112, 140, and 141) (see Table 7). The results for the composite matrix samples were combined in order to improve sample adequacy (number of taxa identified compared to Minimum Number of Individuals identified [MNI]). Quitmyer and Kennedy's (2002:8-11) zooarcheological analysis included identification of

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skeletal elements to the lowest possible taxa, estimation of biomass based on allometric formulas, analysis of trophic level, and tests of faunal diversity and equitability (see Table 8 for common and scientific names of taxa identified). Analysis of trophic level is an attempt to understand human impacts upon natural resources. Quitmyer and Kennedy (2002:9-10) explain that it is possible to observe changes in the archeological record that relate to overfishing of taxa from high trophic levels (e.g., reef predators). With regard to the Brickell Point site, the trophic level formula would help determine “where in the food chain the Miami Circle folks were obtaining aquatic resources and the size classes of those animals” (Quitmyer and Kennedy 2002:10).

The faunal analysis found that the basin features contained 9,071 identifiable specimens representing 261 MNI (Quitmyer and Kennedy 2002:13). Bony fishes (MNI range = 62 to 73 %) were the most frequently identified remains, followed by reptiles—primarily terrestrial and aquatic turtles (MNI range = 9 to 22 %), with mammals (MNI range = 6 to 11 %) forming the third most common group. Garfishes (*Lepisosteus* spp.), bowfin (*Amia calva*), catfishes (Ictaluridae/Ariidae), groupers (Serranidae), sunfishes (Centrarchidae), snappers (Lutjanidae), and mullets (*Mugil* spp.) were the most frequently identified animals. Sharks and rays also were quite common in the samples, with six species of shark identified from the basin features. MNI similarity coefficients between each basin sample were high, ranging from 85 to 97 %; comparison to the Granada site faunal analysis also indicates a high similarity coefficient (Quitmyer and Kennedy 2002:14-15, 20). Quitmyer and Kennedy (2002:15) further conducted a Chi-square test to compare the MNI categorical distribution between the basin samples, composite matrix samples, and the Granada site faunal assemblage. The results confirm that each assemblage is very similar. This similarity suggests that the midden fill found in the basins is analogous to the accretionary midden deposits found at Brickell Point and Granada, and is not the result of ritual activity (Quitmyer and Kennedy 2002:21).

Zooarcheological analysis of the composite matrix samples identified 162 MNI representing 62 taxa. Quitmyer and Kennedy (2002:15) note that future studies may consider using larger sample sizes in fine-screen analysis to improve sample adequacy (the ratio of MNI to number of taxa identified). Despite issues of sample adequacy, the composite matrix samples help in understanding the contribution of smaller animals to the Brickell Point diet. Like the basin samples, fishes account for 82.7 % of the MNI and 36 of the species identified; the dominant taxa include many of those that occurred commonly in the basin samples, with the addition of grunts (Haemulonidae) and pinfish (*Lagodon rhomboides*). As in the basin samples, reptiles and mammals form the second and third most common groups. Interestingly, Caribbean monk seal (*Monachus tropicalis*) remains (one flipper element) were identified from the composite matrix samples and several teeth were found during the general site excavation. Quitmyer and Kennedy (2002:16) note that this now extinct species occurs in faunal assemblages throughout the Caribbean and Florida, including the Granada site. Overall, the fine screen fraction from the composite matrix samples indicates that small fish played a significant role in the Brickell Point diet (Quitmyer and Kennedy 2002:21).

Quitmyer and Kennedy (2002:16-18) also considered the habitats represented by the fauna recovered from the Miami Circle. The majority of the fauna (MNI) were from aquatic environments (90.6 %), with less than 4 % of these exclusive to freshwater. Thirteen percent of the species (MNI) can be found in brackish and freshwater, while 20 % of the species were defined as occupants of shallow coastal waters, including sea grass meadows and mangroves. Quitmyer and Kennedy (2002:17) report that 30 % of the fauna identified from the composite matrix samples represent reef carnivores like snappers, groupers, and grunts. Animals tolerant of both fresh and brackish water include some of the aquatic turtles, like the mud/musk turtles (Kinosternidae), cooters (Emydidae), and softshell turtles (*Apalone ferox*). Some species, like marine turtles and the monk seal, are most likely indicative of high saline environments. Evidence for seasonality was not readily apparent, though Quitmyer and Kennedy (2002:18) identified the remains of Canada goose (*Branta canadensis*) and red-

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breasted merganser (*Mergus serrator*), neither of which currently occur in the Miami area. They suggest they may represent isolated strays, evidence for extended ranges of these species, or exchange items brought from areas farther north. Fradkin (1980:112-113), in her study of avian fauna from southern Florida sites, identified Canada goose from Fort Center and red-breasted merganser from Boca Weir (southern Palm Beach County). She indicates that red-breasted merganser may indicate a winter season of occupation, and notes the presence of other bird taxa in southern Florida that suggest increased ranges for a number of species in the past. Quitmyer and Kennedy (2002:22) suggest that the Miami Circle at Brickell Point samples indicate a non-specialized approach to subsistence, utilizing a broad range of fauna and exploiting a wider range of habitats than groups in other parts of the Caribbean basin and Florida. Fishing technology also probably varied to include traps, weirs, nets, spears, and hook-and-line methods.

The analysis of trophic level presented by Quitmyer and Kennedy (2002:24-27) speaks to the significance of the Miami Circle at Brickell Point site and its role in future research. They indicate that the estimated mean trophic level of the Miami Circle faunal assemblage is most similar to faunal assemblages from Caribbean sites. The difference is that at Caribbean sites high-level reef predators are the focus, while at the Miami Circle, sharks, snooks, freshwater bass, and some reef carnivores provide the mean high trophic level observed. The data also indicate that brackish shallow water habitats were most important in vertebrate food procurement. Caribbean zooarcheological studies have demonstrated that species abundance and animal size decrease proportionately as exposure to human populations increases (Quitmyer and Kennedy 2002:25). As populations of reef carnivores and territorial predators ebb, the catch of reef herbivores and omnivores increases, resulting in a decline in mean trophic level. In some cases these shifts are accompanied by changes in technology. The zooarcheological data from the Miami Circle is significant, since the midden samples appear to represent the early occupation of the area and provide a baseline for further studies of changes in trophic level and human impact to the environment. Other directions for study include additional comparison to zooarcheological assemblages from the Granada and Honey Hill sites, as well as specific studies of certain animals—like marine turtles, which were an important part of the diet.

Human Remains

Physical anthropologist Alison A. Elgart (Elgart and Carr 2006) analyzed a small collection of human remains from the excavations at the Miami Circle. Elgart and Carr (2006) report that two human bone fragments and ten human teeth were found associated with the Miami Circle feature and two bones and eleven teeth were found in excavations elsewhere on the site. Human bones present in the collection include a patella, an axis (C2), a fragmentary atlas (C1), and a mineralized mandible fragment. The distribution of the human bones from across the site do not suggest a formal cemetery within the Miami Circle parcel, though it is possible some of these bones are from the prehistoric cemetery located to the south within the broader 8DA12 site area (Elgart and Carr 2006:244, 246, 248); the teeth may represent teeth shed during life and Elgart and Carr (2006:244) note that discovery of isolated human teeth is quite common at midden sites in southern Florida.

Radiocarbon Dating

Widmer's (2004) work at the Miami Circle at Brickell Point site included an extensive series of 18 radiocarbon assays conducted on lucine (*Lucina* sp.) clam shells recovered from various contexts in the 2000 field school excavations (see Figure 25 and Table 9). Many of these shell samples were removed from cut hole features. Widmer (2004:37) compiled these with 6 dates from the Sheraton Hotel component of the site (excavated by Robert Carr in 1980, and now destroyed) and 5 dates obtained during the initial study of the

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Miami Circle (Carr and Ricisak 2000:267, 282). Based on the radiocarbon dates from his study and previous dates, Widmer (2004:38-39) proposed five prehistoric chronological phases for the site. The dates confirm that the site deposits are primarily from the Glades I early period (ca. 760 B.C. - A.D. 550). The major break in dates comes between Phases IV and V, with the later phase representing a much later occupation, ca. A.D. 1330-1680 (approximately the Glades IIIb and c periods).

Stratigraphy and Site Chronology

Widmer's (2004:19-25) stratigraphic work, built on the 27 zones defined during the 2000 field school project and the suite of radiocarbon dates, is significant in understanding the chronology of the Miami Circle at Brickell Point site. Seven archeological phases were established for the Brickell Point site. Five of these are prehistoric in age and are based on radiocarbon assays from all of the excavations at the site. Two phases are historic in context. These include the modern fill deposit, previously designated Zone 1 in the State of Florida excavations, that was brought to the site when the Brickell Point Apartments were constructed in 1950 (Wheeler 2000a:304). The other is a Pioneer late eighteenth-early nineteenth century phase. This is *not* equivalent to the Zone 2 disturbed deposit recorded in the State of Florida excavations that are similar in age (Wheeler 2000a:304). The Pioneer phase encountered during the 2000 field school excavation was *in situ* and undisturbed. It was found in only a few places and consisted of three distinct deposit types; Zones III, VII, and XXIV. The disturbed Zone 2 that was identified in the State of Florida excavations was grouped into Widmer's Zone I, since it could not be stratigraphically separated from it. However, this may not be the totality of phases present at the site. For example, there is a very large temporal gap in radiocarbon dates between Phase IV and Phase V, and Phase V is represented exclusively by the remains of an articulated shark, sea turtle carapace and dolphin cranium, which postdate the period of cut holes at the site (Carr and Ricisak 2000). It seems clear that there is a hiatus, if not complete abandonment, of the Brickell Point site after A.D. 580 when habitation shifted across the river to the north bank of the Miami River at the Granada site where there is copious evidence of intensive occupation from Glades I late to the European Contact Period. This is exactly the period subsequent to A.D. 500 for which radiocarbon dates are absent and occupational data poorly represented at the Brickell Point site.

Widmer (2004:29-30, 39) notes that it is difficult to date the various Zones from the site. The summary of data in Table 10 indicates that zones are not necessarily exclusively associated with a single phase. There is some evidence to suggest that Zone VI, represented by six radiocarbon dates and is the most extensive in the excavations, dates from Phase I through Phase III depending primarily on depth of deposit. Zone XXII is clearly Phase I and II in date but also ranges into Zone III. Widmer (2004:39) argues that this stratum is associated exclusively with the bottom of cut holes and actually directly dates the cut holes rather than any deposit within them. Zone XIV dates to both Phase II and Phase III, but is represented by dates on only two examples. Zone X clearly seems to be Phase I in age but there is only a single date on this deposit. A tentative stratigraphic positioning of the Zones has already been presented in the Harris Matrix for the site in Figure 11 but this represents only the relative positioning of the zones, not their chronometric age.

As originally argued by Carr and Ricisak (2000:282), Widmer states that there can be little doubt of the prehistoric context of *all* the cut holes features found at the Brickell Point site, other than the easily recognizable modern disturbances. His work indicates that all of these cut hole features predate A.D. 200 and most of them, if not all of them, were made in the Early Woodland Period and might have continued in use during the Middle Woodland Period. There is no evidence, whatsoever, that the cut hole features were utilized as postholes during the Glades II and later periods and it is doubted that they were even used during the late Glades I Period, although this is not as well established. It is argued that the larger cut holes uncovered in the

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2000 field school excavation are early in the construction sequence at the Brickell Point site and that this pattern holds true for the Miami Circle feature uncovered by Carr and Ricisak (2000). If true, this means that the Miami Circle feature dates to the Early Woodland Period.

Widmer (2004:39) emphasizes the significance of Zone XXII, which was always deposited in the bottom of cut holes *without* loose sediment fill; he argues that since this zone is shell that is fused to the bottom of the cut holes, then these dates should provide some idea of the age at which holes were cut into the limestone bedrock. There are eight radiocarbon dates directly on Zone XXII, with two dates run on the same sample. Phase I has 3 dates, Phase II has 4 dates, and Phase III has 2 dates. If the frequency of dates of these samples is any gauge of the actual frequency of aboriginal posthole excavation, then we would expect holes were cut at roughly the same rate through all three phases. This spans a period from 760 B.C. to A.D. 240 or some 1000 years.

Soils Analysis

A soils analysis study was conducted by John Gifford (2002, 2004) of the University of Miami. This analysis focused on ten samples collected from proveniences within the Miami Circle feature, the Area 2 excavation block to the northwest of the Circle, and the 2000 field school excavations to the east of the Circle (Table 11). Gifford (2002:6) identified six constituent particle categories in the samples, including 1) friable carbon aggregates (micro-concretions of charcoal, limestone and quartz sand); 2) tabular calcium carbonate fragments (weathering rinds from marine shell and fragments of the laminated duricrust); 3) quartz grains (two types, likely related to the weathering of the parent limestone bedrock and sands transported by longshore currents from Biscayne Bay); 4) mollusk shell fragments (food refuse from the midden deposits); 5) charcoal fragments (representing several wood species); 6) oolitic bedrock fragments; and 7) miscellaneous materials (includes faunal bone fragments and some microfauna). The analysis also examined particle size, adjusting for the larger size materials and the anthropogenic origins of the midden. Gifford (2002:7, 2004:68) found two major groupings—one lacking very coarse to coarse sand size fractions, a second that has a substantial percentage of these fractions, with one sample transitional between the two (see Table 12). This suggests the possibility for two depositional events, but also points to the relative uniformity of the deposits across the site. Gifford (2002:8, 2004:72; also see Doran and Hodson 1975:176) continued the analysis by comparing the size fractions using a multivariate statistical method involving hierarchical linkage of the size fractions by particle types. This analysis shows that samples 1036 and 1033 were most similar to one another, followed by 1035, 1030, and 1034, which are next linked to 1037, 313, and 379, and finally linked to 1031 and 329, which are the least similar of all (Gifford 2002:13, 2004:72, 77-78). This analysis shows little correlation with the initial groupings. Gifford continued the analysis by focusing on four new data sets dealing solely with the sand-size fractions of the ten samples. This analysis demonstrated a more comprehensible pattern based on one size fraction (+1 to +2 on the Phi [Φ] grain size scale); the result is that samples 1031, 1034, and 1035 are most similar, followed by samples 1030, 1036 and 1037. Samples 313 and 379 form a third group, with samples 329 and 1033 being dissimilar to all three groups and from one another (Table 13). Gifford (2002:15, 2004:72) indicates that there is some correlation between the particle size groups presented here in Table 12 and the hierarchical cluster analysis groups presented in Table 13, though he notes that it is not possible at this point to explain the differences between the three groups and the two outlier samples (320 and 1033). He suggests several directions for future research, including focusing on the medium sand fraction in a larger number of samples. This, and other soil science applications, may aid in detecting depositional events that are not easily discerned in the black earth midden. Other significant aspects of Gifford's (2002:15-16; 2004:72-77) soils analysis include Environmental Scanning Electron Microscope (ESEM) study that indicates there is no evidence (e.g., no marine microfauna) to suggest over-washing of the Brickell Point site by storm surges.

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Gifford (2004:77-78) also obtained radiocarbon dates on silt and charcoal fractions from the bottom half of Feature 690, a posthole carved into the limestone bedrock. Interestingly, the two dates differed, with the silt fraction dated to 1500 +/- 110 B.P. (A.D. 330-700, 2 sigma calibrated age) and the charcoal dated to 2310 +/- 40 B.P. (400-210 B.C., 2 sigma calibrated age). He suggests several reasons the two fractions differed in age, including the possibility that the charcoal represents the initial in-filling of the feature and the silt moved down through the soil column and is related to a more recent period of deposition. Despite the disparity, both dates fall within the range of the early Glades I Period (500 B.C. - A.D. 500), which is consistent with other dates for the site. The experiment suggests this may be a useful technique in understanding the depositional history of the accretionary midden, and helps support an early date for construction of the Miami Circle feature.

Galena Analysis and Sourcing

Two galena artifacts were recovered from excavations at the Miami Circle at Brickell Point. Galena is a mineral of lead sulfide that forms in cubic crystals, with major sources in Missouri, the upper Mississippi Valley, and in Illinois and Kentucky. American Indians used galena as a source of white pigment and as a raw material for manufacture of beads, pendants, and other ornaments. It was exchanged extensively during the Hopewellian and Mississippian horizons in the Southeast and Midwest. Specimen MDC.1.412.7 is a 3.5 g cube of galena recovered from Feature 177 (a cut hole, 11 cm in diameter and 22 cm deep in the southwestern quadrant of the Miami Circle) during the initial excavation of the Miami Circle feature; BAR.1.127.1 is a 3.2 g bead manufactured from a cube of galena found during the State of Florida excavations in the "Valley of the Holes" (Depression V, N34 Area) (Wheeler 2000a:312). Galena artifacts are found occasionally in Florida sites, primarily in the northern part of the state (Austin et al. 2000), though rare examples are known from sites in southern Florida. A preliminary spectrographic analysis of lead isotopes of galena artifacts, including examples from the Miami Circle; the Hopewellian era Oak Knoll Mound and Block-Sterns site; and the Mississippian Period Lake Jackson, Mound 3, indicates a similar source in central Missouri (Stephen Kish, personal communication, October 2004). This research is ongoing, and will include analysis of sulfur isotopes and comparison of isotopic ratios among the Florida specimens, field collected specimens, and analysis of galena from other states.

Mapping and 3D Laser Scanning

In the summer of 2002 archeologists from Panamerican Consultants, Inc., working with the Archaeological & Historical Conservancy, Inc. and the Historical Museum of Southern Florida, used a total station surveying instrument to bound all of the cut basins and holes that comprise the Miami Circle feature and other cut hole features exposed during excavation. The survey was tied to benchmarks established around the site by a professional surveyor, and included data on the original grid system used during excavation. The original plans drawn during excavation were used to relocate all features, and numbered aluminum disks were placed in each hole. Along with the major basins and holes that form the Miami Circle, a total of 870 cut features in the limestone were mapped.

The mapping project initiated in summer 2002 continued in July 2003 when archeologists from Panamerican Consultants, Inc., and the University of South Florida, Tampa, collaborated with a consultant from the Geomatic Services division of Phillips & Jordan, Inc., to create 3-dimensional laser scans of the Miami Circle and other site areas (Weisman and Collins 2003; Collins et al. 2006). This method was chosen since it seemed the most efficient way to document the extremely complex features uncovered at Brickell Point (e.g., Karaim 2002). Laser scans were made from 3 different positions around the Miami Circle and from 3 different crane positions overhead. Weisman and Collins (2003:7) explain that "the 'cloud of points' that comprise the

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scans are of a density so tight that the resulting image of points collected is near photographic quality.” Based on the data collected, GIS software was used to create a detailed contour map with 1 and 5 cm contour intervals (Figure 14), as well as a Triangulated Irregular Network (TIN), which can be used in volumetric calculations, terrain analysis, and high-quality elevation contours (Figure 15) (Weisman and Collins 2003:9, 11; Collins et al. 2006). The result was a 3-dimensional, georeferenced model of the limestone surface showing the carved holes and basins.

Historic Artifacts

Archeologist Robert S. Carr (Carr 2004) provided the following draft summary report about the small collection of historic artifacts recovered from the Miami Circle at Brickell Point site:

A total of 340 historic artifacts was recovered as a result of the three phases of archeological investigations at the Miami Circle parcel. Recovered materials are divided into three classes of materials: ceramics, metal, and glass.

Metal artifacts total 283. The most numerous of this historic artifact type are iron fasteners—mostly nails and spikes. All are hand forged but difficult to identify as to age because of oxidation but undoubtedly most, if not all, are of the nineteenth century. Other metal artifacts include bullet casings (n = 6), lead musket balls and shot (n = 4), and a percussion cap (n = 1). In addition, three coins were recovered, all dating to the nineteenth century, two of them perforated and probably used by Seminole Indian visitors to the Brickell family’s trading post. Other nineteenth century metal artifacts include a silver thimble and three buttons.

Historic ceramics (n = 24) were characterized by a variety of types including numerous nineteenth century types such as pearlware and various kinds of stoneware. A total of 15 nineteenth century sherds was identified. Creamware, which bridges the gap between the late eighteenth century and early nineteenth century, was represented by six sherds. Scarcest were earlier types, which include two coarse tin glazed earthenware sherds, possibly dating from the early seventeenth century. A single tin glazed creamware sherd, possibly from the eighteenth century also was found. Spanish olive jar sherds were conspicuously absent from the entire ceramic assemblage.

Fourteen kaolin pipe fragments, all dating to the nineteenth century, were recovered. These include 11 stem fragments and three bowls or bowl fragments. Some of the bowl designs were similar to bowls recovered from the Granada site on the north side of the Miami River.

Glass is represented by 50 bottle fragments and 14 beads. Most of the bottle fragments date from the nineteenth and early twentieth centuries, but ten are earlier, dating from the seventeenth and eighteenth centuries. Most of the beads are nineteenth century and are probably associated with Seminole Indians visiting the Brickell trading post, operated by the Brickell family from ca. 1870-1900 (Carr 1981a). Several beads, however, are still unidentified and may be earlier.

Miscellaneous nineteenth century historic artifacts include an abalone shell pendant with metal fastener or pin, and English pistol flint, one bone and one shell button, and a porcelain doll leg.

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It is worth noting that although most of the historic artifacts were recovered from disturbed contexts, such as trench spoil piles, the largest group of *in situ* historic artifacts was recovered from the northern block of test units (Area #2) excavated by the Miami-Dade County Historic Preservation Division. This block is of particular interest because it coincided with the historic bank of the river, and its sediments were relatively intact, having been covered by fill ca. 1918 when dredge spoil was spread across the river bank. It is an area that does not appear to have been adversely affected by bulldozing during the construction of the Brickell Point Apartments. In addition, about 20% of the excavation units associated with the Miami Circle yielded historic artifacts. Two lead glazed earthenware sherds and two glass fragments were recovered from units within the Circle, but most are from levels 1 and 2, with a few from level 7. Most artifacts from the Circle units date from the nineteenth century.

In summary, pre-nineteenth century historic artifacts are a small part (less than 10%) of the historic artifact assemblage, suggesting that even with considerations made for disturbances and redeposited materials, pre-nineteenth century historic activities were marginal on the subject parcel. This is consistent with existing archival documents indicating Spanish occupation focused on the north bank of the Miami River, and intensive use of the south bank was during the nineteenth century by early settlers and visiting Seminoles. [Carr 2004]

Additional On-going Studies

Analyses that are ongoing at this time include paleobotanical analysis and geochemical studies of the galena artifacts found at the site. Additional publications expected include studies of the historic artifacts, the paleobotanical analysis, the galena study, and the zooarcheological analysis.

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8. STATEMENT OF SIGNIFICANCE

Certifying official has considered the significance of this property in relation to other properties:

Nationally: X Statewide: __ Locally: __

Applicable National

Register Criteria: A__ B__ C__ DX

Criteria Considerations

(Exceptions): A__ B__ C__ D__ E__ F__ G

NHL Criteria: 6

NHL Theme(s): Peopling Places, ethnic homelands

Areas of Significance: Archeology - Prehistoric

Period(s) of Significance: 500 B.C. - A.D. 900
A.D. 1400 - 1513

Significant Dates: N/A

Significant Person(s): N/A

Cultural Affiliation: Glades I early (500 B.C. – A.D. 500)
Glades I late (A.D. 500 – 750)
Glades IIa (A.D. 750 – 900)
Glades IIIb (A.D. 1400 – 1513)

Architect/Builder: N/A

Historic Contexts: Southern Florida Sites Associated with the Tequesta and their Ancestors Theme
Study, accretionary shell midden

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State Significance of Property, and Justify Criteria, Criteria Considerations, and Areas and Periods of Significance Noted Above.**SUMMARY (Statement of Significance)**

A National Historic Landmark theme study "Southern Florida Sites Associated with the Tequesta and their Ancestors" has been prepared by Ryan J. Wheeler (2004a) in order to document and demonstrate the national significance of sites occupied by the Tequesta peoples in the Everglades of southeastern Florida and adjacent areas. The Miami Circle at Brickell Point is being nominated under this theme study.

The Miami Circle at Brickell Point site is a nationally significant example of an accretionary midden as defined in the NHL theme study "Southern Florida Sites Associated with the Tequesta and their Ancestors." The site contains early and late components of the primary village of the Tequesta people, who were one of the first Native North American groups encountered by Juan Ponce de Leon in 1513 (Davis 1935). Considerable research has been conducted at the site since the discovery of intact deposits and features in 1998. The site's significance lies in well-preserved evidence of American Indian architecture, considerable materials related to patterns of regional and long-distance exchange, elements of ceremonialism involving animal interments, and association with the Tequesta people, who are significant because of their cultural persistence following European Contact and their association with the unique environment of the Everglades.

Excavations from 1998-2000 indicate that the site preserves evidence for complex and intentionally planned architecture with posthole and basin features that are carved into the local limestone bedrock. This includes the Miami Circle feature, which is a 38-ft (11-m) circular footprint of a prehistoric structure. Other significant aspects of the site include artifacts of non-local raw materials, representing exchange with neighboring groups and participation in long-distance exchange reaching to other parts of the Southeast and Midwest. Pumice and chipped stone materials indicate a relationship with the Fort Center site (8GL13), and help in understanding patterns of redistributive exchange in southern Florida. Some artifacts and exchange items indicate a relationship with the Middle Woodland Hopewellian exchange network. Evidence from studies of animal remains offers the potential to understand better the early occupation and exploitation of the Atlantic Coastal Ridge adjacent to the Everglades. Study of the animal remains from the site represents the first modern zooarcheological analysis of a large, coastal site in southeastern Florida and has presented new information on animal exploitation and reflects the environments targeted by the early American Indian occupants of the area. The zooarcheological data can also be compared and contrasted with patterns of animal use found at other sites occupied by the Tequesta and their ancestors. Also significant is the presence of animal interments, which links the site to a rare pattern of ceremonialism encountered at a few other sites in Florida where entire animals or parts of animals are buried in mound or midden contexts. While much of the site dates to the early occupation of the junction of the Miami River and Biscayne Bay, the animal interments date to the protohistoric and/or early European Contact Period. This suggests that some of the site may be significant in understanding the Tequesta people who were first encountered by the Spanish in the sixteenth century. Unlike many native groups, whose socio-political structures fell quickly after the introduction of European diseases and the Spanish maritime presence, the Tequesta persisted for over 250 years, largely due to well-established cultural and psychological patterns of traditionalism and reinterpretation.

The Miami Circle at Brickell Point is nationally significant under National Historic Landmark Criterion 6 and National Register of Historic Places Criterion D for its demonstrated and potential archeological significance. Research at the site has produced an impressive body of data, which will likely make it one of the most intensively studied sites in southern Florida. Some of the studies have been significant in their use of raw

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material sourcing, and in using advanced 3D scanning and modeling technology. The Miami Circle at Brickell Point can be considered under “Peopling Places” within the National Park Service’s thematic framework for history and prehistory, especially within the “ethnic homelands” sub-theme.

SIGNIFICANCE, PEOPLING PLACES

The Miami Circle at Brickell Point is significant in terms of its identity and context as an American Indian archeological site associated with the Tequesta and their ancestors (Weisman et al. 1999, 2000). Documentation of the Tequesta peoples for the NHL theme study indicates that the Miami Circle at Brickell Point is part of the remains of the larger village of Tequesta situated at the mouth of the Miami River. This village is mentioned in the accounts of Juan Ponce de Leon’s 1513 expedition to Florida and appears on the Freducci map, which is thought to be associated with that voyage (True 1944). The association with the Tequesta is significant, since this group apparently attained a complex, chiefdom level of socio-political organization based on very specific patterns of resource utilization. They appear to be one of several powerful groups, including the Calusa and Ais, who occupied southern Florida at the time of European Contact. Zooarcheological studies at the Miami Circle and other sites document a broad pattern of vertebrate faunal exploitation, primarily focused on freshwater and marine resources. Studies of plant remains (yet to be completed at the Miami Circle) indicate the Tequesta intensively utilized very specific subtropical fruit species. Studies of plant remains from the Miami Circle should be interesting, especially since a well-documented foraging pattern is already documented at the Granada and Honey Hill sites.

The Miami Circle at Brickell Point’s position in the landscape suggests that it had an important role within the larger village site. Situated near the riverbank, it was easily accessible by canoe via the mouth of the Miami River and Biscayne Bay; situated on a point, it was widely visible from Biscayne Bay and the Miami River. Its location commanded wide views overlooking both Biscayne Bay to the east and a stretch of the Miami River to the west (Weisman et al. 2000:135). Excavation and research at the Miami Circle at Brickell Point site may help in better understanding the other components of this village, including the Granada site (8DA11), which was the focus of study almost twenty years ago (Griffin et al. 1982). Also, patterns identified at the Granada site can be compared with those found at the Miami Circle at Brickell Point, allowing for consideration of 2,000 years of occupation at one locality.

The Miami Circle represents the most complete remains to be identified archeologically in southeastern Florida of what appears to be an American Indian architectural structure (Weisman et al. 2000). Architecture at Florida archeological sites typically includes patterns of post molds and postholes, defined by differences and disturbances observed in the soil. Often times when postholes are encountered it is impossible to discern broader architectural patterns, and only areas with concentrations of these features can be distinguished (cf. Browning 1975). At Brickell Point, however, the American Indian inhabitants dug through thin layers of midden and soil into the soft limestone bedrock to create postholes to receive upright structural elements. In some cases limestone cobbles appear to have been used as wedges to hold assumed wooden timbers in place. Some areas, like those investigated during the State of Florida and 2000 field school excavations, are similar to those seemingly random posthole arrangements found at many other Florida sites. The Miami Circle feature, however, exhibits a very intentional arrangement of carved basins and holes. The 24 to 26 basins comprising the 11.5-m (38-ft) diameter Circle harbor smaller holes, with the basins serving as a type of wall trench. The basins are roughly rectangular and typically bipartite—with a larger basin placed adjacent to a smaller basin. On the northern arc of the circle, the smaller basins are to the left of the large basins, while in the southern arc, the pattern is reversed, giving the impression of a mirror image. The individual basin pattern and the overall plan of the feature suggest considerable intent in the design and layout of the structure. One large internal

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posthole is consistent in size with the outer ring of basins, but numerous other cut holes make it difficult to determine if there were internal supports.

Comparison with the Royal Palm Circle

Archeological excavations on the north bank of the Miami River in 2005 and 2006 resulted in the discovery of another circular feature carved into the shallow limestone bedrock, dubbed the Royal Palm Circle (Robert S. Carr, personal communication, 2006; Collins et al. 2006:163-165) (Figures 26 and 27, Photographs 27 and 28). This feature, comprised of three concentric rings of small posthole features, is associated with Miami Midden No. 1 (8DA11), an expansive village deposit similar to that at Brickell Point on the south bank of the river (portions of 8DA11 to the west also are known as the Granada site). The investigation of this new circle feature reveals some interesting similarities and differences with the Miami Circle. 3D laser scanning by University of South Florida researchers documented the most striking similarity—the two circles are identical in size; Collins et al. (2006:Figure 12) report that the Miami Circle has a radius of 18.12 ft (5.52 m), which compares favorably with the radius of 18.02 ft (5.49 m) measured for the Royal Palm Circle (Figure 26). Unlike the Miami Circle, where the most distinct features are the large basins that form the arc of the circle, the Royal Palm Circle is characterized by smaller diameter holes arranged in two concentric circles (Figure 27). These smaller holes are similar in size and shape to the numerous small holes that dot the interior of the Miami Circle, averaging 10 to 15 cm in diameter. Material excavated from the holes comprising the Royal Palm Circle is a black earth midden, similar to that found at the Miami Circle; similar artifacts also were found, suggesting the site also may date to the early Glades Period. A laminated crust with occasional faunal remains cemented to the limestone also parallel the archeology of the Miami Circle. Both circle features have evidence of historic and modern intrusion; in the case of the Royal Palm Circle, Henry Flagler's turn of the twentieth century hotel foundation intrudes on the northern portion of the circular feature, as well as a historic trench cut into the limestone bedrock, both disturbances being visible in maps and photos included here (Figures 26 and 27, Photographs 27 and 28).

The discovery of the Royal Palm Circle provides context for the Miami Circle. It is not clear yet if the Miami Circle and Royal Palm Circle were contemporary, or if the somewhat simplified design of the Royal Palm Circle is an incipient version of the more complex Miami Circle. Data has been salvaged from the Royal Palm Circle, which is, unfortunately, destined for destruction due to the re-development of downtown Miami. The similarity of the two sites and their archeological situation supports the case that both features represent foundations for structures built by the Tequesta or their ancestors.

Comparisons with Southeastern and Midwestern Archeology

The circular form is a primary element of American Indian architecture throughout eastern North America (Nabokov and Easton 1989). Cross cultural research on dwellings indicates that circular houses are an ancient type, reflecting the circle as observed in nature and cosmological associations as well (Raglan 1964 in Altman and Chemers 1980:167). As in the Caribbean examples, cited below, many cultures regard the house as a mirror of the physical and spiritual world, with particular alignments, corners, areas and entranceways assigned some significance (Altman and Chemers 1980:169-171). Individual studies following some tenets of structural anthropology and structuration theory that imply a cosmological, social or political significance for the design and use of dwellings, like that of Donley-Reid (1990) in her consideration of the Swahili house and its archeological implications, indicate that a direct historical connection between ethnographic data and archeological remains are necessary for extensive analysis in this approach. While it may be difficult to apply this structural analysis to the Miami Circle, the prevalence of circular dwellings with doorways on their eastern side is ubiquitous in North America, suggesting a broad cultural pattern. For example, the communal earth

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lodges of the Pawnee described by Weltfish (1965:14-15, 88-89), which are circular with an eastern entrance and imbued with a variety of symbolic significance in terms of space.

In eastern North America, the circle appears on a variety of scales, from massive earthworks found in the Midwest and Florida (Squier and Davis 1848; Carr 1985) to Adena houses of the Ohio Valley (Clay 1998; Webb and Snow 1945) to historic Creek town houses (Bartram in Waselkov and Braund 1995:168-184) to the chief's and council houses of the Apalachee of northern Florida (McEwan 1992; Shapiro and McEwan 1992). These structural remains consist of postholes (stains within the soil delineating the original holes excavated for a post) and post molds (casts of wooden timbers, sometimes including fragments of wood or charcoal) preserved in the soils and deposits of archeological sites. What makes the Miami Circle unique is that, while it appears to be part of a broader Southeastern tradition of circular dwellings, the postholes are preserved in limestone rock, rather than soil. Excavations outside of the Miami Circle indicate that much of the Brickell Point site harbors postholes carved into limestone, representing other structures.

Work during a more recent mapping project identified similarities between features like the Miami Circle and Royal Palm Circle and post-Hopewell Period houses in the Midwest (see Baby 1971:195-196); basins in the southeastern quadrant of the Miami Circle overlap slightly, suggesting a doorway. Directly opposite this possible entrance (along a 17 degree azimuth) another gap in the basins suggests a possible egress. Other alignments of posts at the site were noted, including several linear arrangements of paired posts, which may be structures pre- or post-dating the Miami Circle (Weisman et al. 2000). By way of comparison, Clay (1998:6-9) discusses circular, paired-post structures at Adena sites in the Ohio Valley, noting that these sites average 37-ft in diameter, lack central hearths, and may not have had roofs. Some of these similarities to house sites in other parts of the Southeast and Midwest may simply be related to broader, shared cultural patterns, but such comparisons have been impossible up to this point, due to the lack of data from southern Florida.

Carr and Ricisak (2000:281) suggest a further comparison with the circular structures identified at the mission site of San Luis de Apalachee in Tallahassee, Florida. Shapiro and McEwan (1992) describe the San Luis council house as a large timber and thatch structure, approximately 36.4 m in diameter, while McEwan (1992:31, 33-35, 51) describes the chief's house as 20.5 m in diameter. Both of these structures are much larger than Apalachee domestic architecture, where circular houses range in diameter from six to eight meters (Scarry and McEwan 1995). The council house had eight large support posts, probably connected by a wall plate, which provided the primary structure, with wall posts extending from a large roof opening directly to the ground. The remains of a central hearth, two concentric rows of interior benches, and smudge pits also were found. The chief's house had a similar plan. Shapiro and McEwan (1992:63-68) compare the San Luis council house to other similar structures in Florida and the Southeast, including 12-m diameter examples at the Borrow Pit site (8LE170) and the San Pedro y San Pablo de Patate sites, both in Leon County, Florida. Shapiro and McEwan (1992:65) note that many of the council houses have evidence of rebuilding. While it is not clear if the Miami Circle feature represents a council house or chief's house, like those found among the Apalachee and in other parts of the Southeast, it may represent part of this broader architectural tradition. This possible association is significant, since the well-preserved postholes of the Miami Circle may be useful in understanding the architecture of the Tequesta and their ancestors, as well as broader patterns of domestic architecture in the Southeast.

Comparisons with Caribbean Archeology

Review of literature regarding Caribbean archeology indicates that remains of circular structures have been found at a number of sites. Righter (2002b:312-331) identified the remains of eight prehistoric structures at the

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late Ostionoid (ca. A.D. 1150-1500) Tutu village site, St. Thomas, U.S. Virgin Islands based on mapping of 655 postholes. As in Florida and the Southeast, evidence for architecture typically is found with mechanical scraping or large-scale block excavation. The form and size of the Tutu site structures varies; for example, Structure 2 had at least 10 interior posts, including several large supports, and 35 outer posts, with an overall diameter of 6.4 to 6.75 m (Righter 2002b:304-305, 318). Many of the interior and larger postholes of the Tutu site structures included rock wedges, and examples of double or paired posts were present as well (Righter 2002b:329). Many of the structures also had exterior appendages, interpreted as windscreens, fences or porticos, as well as multiple entranceways. The largest structures at the Tutu site were oval, with maximum dimensions 10.75 and 12.25 m. Righter (2002b:335, 338) argues that these larger structures were likely associated with higher status individuals, based on ethnohistoric accounts that refer to native structures of the Bahamas, Cuba, and Hispaniola.

Other Caribbean sites also have revealed linear, large oval, and smaller circular patterns of post molds and postholes. For example, at the Tanki Flip site on Aruba, Bartone and Versteeg (1997:35-38) describe a linear alignment of postholes that may be a fence or palisade marking the boundary of the site. This may be similar to the linear alignment of postholes carved into the limestone at the Brickell Point site, located on a parcel adjacent to the Miami Circle feature (Carr and Ricisak 2000:266). Bartone and Versteeg (1997:101) suggest that at least 15 structures were represented by the postholes uncovered at the Tanki Flip site, including five large oval structures interpreted as *malocas*—a form of communal house likely associated with colonization of the island by groups from Venezuela; smaller round structures were interpreted as houses occupied by nuclear families. While it is unlikely that the Miami Circle feature represents a *maloca*, Bartone and Versteeg (1997:118-119) point out that these structures, ranging in maximum length from 11 to 16 m, were common in northern South America and embody cosmological aspects of the cultures that built them. Separate doors for men and women; internal family partitions; other aspects of shape and orientation; and intrasite relationships to other structures reflect broader aspects of social, political, and ceremonial organization (also see Hugh-Jones 1995). In the case of the Miami Circle at Brickell Point site, where postholes are well-preserved, further investigations may help in identifying broader organizational patterns within American Indian architecture reflected in internal structural patterns and intrasite relationships, especially when compared to other parts of the Southeast and Midwest.

The comparisons to broader Circum-Caribbean patterns of architecture are not made to suggest any direct relationship between these cultures. However, some similarities emphasize the significance of the Miami Circle in understanding broader patterns of native architecture. Also, the Caribbean examples may prove useful in interpreting the myriad of postholes uncovered at the Miami Circle. The presence of rock wedges and double or paired posts in the Caribbean sites help confirm these architectural traits noted at the Miami Circle as typical elements of native architecture. The comparison does, however, point to the unusual character of the Miami Circle at Brickell Point—no Caribbean examples of postholes carved into rock could be found in the literature, and the density of posthole features preserved at the Miami Circle site is staggering—with over 1,400 postholes uncovered in the Operation 1 and 3 excavations, compared to 655 postholes recorded at the Tutu site, including those exposed in large areas that were mechanically scraped, and ca. 2,000 features uncovered in 2,275 m² at the Tanki Flip site in Aruba. The Caribbean comparison also points to significant questions that can be addressed through architecture. For example, Curet (1992) used ethnohistoric and archeological data about house size in Puerto Rico to address changes in social organization through time, and Hugh-Jones (1985, 1995) argues that *maloca* architecture in northern South America reflects broader social, political, and cosmological principles.

The Role of the Miami Circle at Brickell Point in Regional and Long-Distance Exchange

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Excavators working at the Miami Circle at Brickell Point were initially impressed by the diverse exotic artifacts recovered from the site (Carr and Ricisak 2000). One small copper bead, a galena bead and another small piece of galena suggested long-distance exchange networks involving other parts of the Southeast and Midwest (see photographs in Zamanillo 2003:25). A sourcing study of basaltic stone axes helped confirm exchange networks reaching to the Macon, Georgia area (Dixon et al. 2000). Studies of American Indian exchange in Florida are rare, and southern Florida has often been viewed as somewhat parochial. However, studies of ceramics, pumice, and chipped stone artifacts from the Miami Circle at Brickell Point site have provided a significant look at patterns of exchange in southern Florida. Pumice artifacts have been little studied, but a large quantity from the Miami Circle at Brickell Point led to a study of artifact form and geochemical sourcing of materials from a number of southern Florida sites. The study found consistent patterns of pumice artifact form, likely related to polishing bone and wood artifacts; the geochemical study was more interesting, suggesting that the majority of pumice found in Florida sites was introduced during a few major eruptive or storm events (Kish 2006; Wheeler 2006). The study of chipped stone material from the Miami Circle complements the pumice study, since it points to a connection with the Fort Center site located on Fisheating Creek to the west of Lake Okeechobee; both sites exhibit similar cobble technologies of lithic reduction and Austin (2003) suggests that Fort Center may have served as a center for redistribution of chert cobbles initially procured in the Tampa Bay area. Likewise, the inhabitants of the Miami Circle at Brickell Point may have controlled distribution of pumice. The ceramic analysis identified pottery and ceramic pipe fragments from other parts of the state that confirm regional connections; Deptford sherds from north Florida, Gulf Check Stamped and micaceous wares from the Florida panhandle and Florida Gulf Coast were found at the site in small quantities (Carr 2006). Prior to these studies our ideas about patterns and systems of exchange in southern Florida were limited. Many of the studies conducted during the Miami Circle Project have indicated connections with Hopewellian sites and cultures in Florida. This suggests a more active role in long-distance exchange networks for the Tequesta and their ancestors.

The Miami Circle, the Tequesta, and their Ancestors

The Miami Circle's association with the Tequesta is significant, since the site represents the poorly known early Glades I Period (500 B.C. - A.D. 500), as well as a possible occupation during the protohistoric and early European Contact Period (ca. A.D. 1350-1680). The Tequesta are significant since their cultural patterns persisted for over 250 years after European Contact. This is in contrast to many American Indian groups in other parts of Florida and the Southeast, where disease led to depopulation and Spanish missions altered demographics, social organization, settlement, and patterns of indigenous leadership and religion (Dobyns 1983:131, 328-334). Independent studies by Hann (2003:175-177) and Wheeler (1996:364-366) have documented the cultural conservatism exhibited in southern Florida, which likely helped in this cultural persistence after contact. Interestingly, Hann's (2003:155) study of ethnohistoric documents—including Spanish contact with both groups—indicates that the Tequesta contrasted with their powerful neighbors the Calusa, in several ways, including their general demeanor, which was characterized by “affability, humility, and calmness.” For example, Spanish accounts of the mid-seventeenth century mention the prominence of Don Diego, the brother of the Tequesta chief, who was sent for baptism and education to Spain by Pedro Menéndez de Avilés (Hann 2003:157-158). Upon his return to southern Florida, the Spanish priests hoped that Don Diego's influence as an intermediary and peacemaker would help in reestablishing missions. This suggests that despite sharing broader patterns of cultural conservatism, each group possessed very different approaches to the world. Archeologically this may be evident in distinctive shell tool technologies, styles of carved bone, and a greater reliance on subtropical plant foods by the Tequesta. Identification of these patterns is significant in recognizing the Tequesta and their ancestors as a distinct group and in providing a theoretical structure for

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study of archeological materials. The Miami Circle at Brickell Point embodies many of the aspects of Tequesta traditionalism, reinterpretation, and creativity—major cultural processes identified in Wheeler’s (1996) study of American Indian art in peninsular Florida.

AMERICAN INDIAN PERSPECTIVES

The initial media reporting of the discovery of the Miami Circle feature in 1998 resulted in widespread interest in the Brickell Point site (see newspaper accounts by Calvo 1998; Loney 1998; Merzer 1999; Walters 1998). Some early media accounts were clouded with erroneous allusions to Atlantis, the Maya, and Stonehenge. Interest in the site mounted in early 1999 when it became clear that the property owner, Brickell Point Ltd., intended to destroy the circular feature and much of the associated site as development proceeded. Public outcry ultimately led to legal action by Miami-Dade County in February, 1999, that resulted in the eminent domain taking of the 2.2-acre parcel, with title held by the State of Florida. Details of this part of the Miami Circle story are related by Levinson (2000) and Bawaya (2002).

Emerging from the numerous claims about the site were the views of some American Indians. Individuals such as Bobbie C. Billie, Spiritual Leader of the Independent Traditional Seminole Nation of Florida, and Geeta Sacred Song, Huichol-Maya ceremonialist, stated that the Brickell Point site was sacred. Their views were presented at the Fifth Tribal Sovereignty Symposium—“Sacred Sites and Modern Lives: the Miami Circle and Beyond,” held at the St. Thomas University School of Law in Miami (February 2000) and are included in the proceedings of that seminar (see Billie 2000; Sacred Song 2000). Their statements clearly indicate that there are other values (beside scientific) associated with the site.

In a letter to the *Miami Herald*, Billy Cypress, Tribal Chairman of the Miccosukee Tribe of Indians of Florida, responded to criticism that American Indian groups had been reluctant to participate financially in the acquisition of the Miami Circle at Brickell Point (Cypress 1999). While brief, Chairman Cypress’ letter expresses some of the American Indian sentiment regarding the site when he states:

While there are major cultural differences, the Miccosukee and the Tequesta are all one people. We share concerns for their sacred sites and for our own. However, because it [the Miami Circle] is a sacred site, it is culturally unbecoming to the Miccosukee to place a price on the value of such a site.... [Cypress 1999:B6]

Chairman Cypress’ comments are important in understanding the divergent views of American Indians, archeologists, anthropologists, and historians. While archeology brings a more rigid interpretive framework to the Miami Circle, one of typology, chronology, and measurement against standards of significance, Chairman Cypress suggests a more fluid paradigm where differences between the ancient Tequesta and the modern Miccosukee are not emphasized. A similar theme is evident in the words of Bobbie C. Billie, Spiritual Leader of the Independent Traditional Seminole Nation of Florida. His presentation to the Fifth Tribal Sovereignty Symposium included the following thoughts:

The whole Miami, I guess the county, Dade County, Collier County, Monroe County, all the way down to Key West is Sacred Ground. Not only Indigenous Burial Ground. It is a Special Place. I guess you would describe it like a kidney. It cleanses the water and the air and the systems of the earth. That is why we call it the Mother Earth. If that ground dies, you kill part of the system of the Earth. That is why some of those Indigenous Sacred Grounds are there. They are protecting all natural creation, especially the one the people call the Miami Circle. It is not the

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Miami Circle. It is the Sacred Circle of the Life of All Creation of the Earth.

The reason the Circle has been covered for many years is that when the enemy arrived in this Country, they killed all the people, slaughtered them and hunted them down. The ones they captured they killed them and piled them up and buried them. But now, I understand they dug them up and moved all those remains so there is no evidence anymore. So to us, we see the Circle of Life; it's more than the people's church, more than the cathedral, more than the court house, more than the capitol building in Washington, D.C. It is more than those are. That's why Indigenous People have to have the responsibility to take care of their Sacred Grounds. [Billie 2000:114]

Mary Louise Pfeiffer (2004) completed a Master's thesis entitled "Resacralizing Place: An American Indian Land Ethic of Sacred Sites and the Miami Circle." Pfeiffer's study is important because she recognizes that the Miami Circle may offer an opportunity to understand the genesis or, at least, rediscovery, of sacred places by contemporary indigenous people. This may ultimately prove one of the most significant aspects of the Miami Circle site—the opportunity to study how a physical place (in this case an ancient archeological site) becomes a sacred site to indigenous people. The National Register of Historic Places recognizes sacred sites under the rubric of "traditional cultural properties" (Parker and King 1998). Parker and King (1998) describe a traditional cultural property as "one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community."

Evaluation of the Miami Circle at Brickell Point using the National Park Service guidelines for identifying traditional cultural properties suggests that several factors mitigate against such a status at this time. Parker and King (1998) describe at least one instance where an African American cemetery, lost over time, was rediscovered during an archeological investigation and was still vested with traditional cultural significance by the contemporary congregation and community. All archeological and historical research, however, has documented the demise of the ancient Tequesta inhabitants of southeastern Florida and the repopulation of the region with Indians from other parts of the Southeast in the mid-eighteenth century. Archeologist Jerald Milanich, in his book *Florida Indians and the Invasion from Europe*, sums up this research when he writes:

By the early 1760s the indigenous population of Florida, once numbering in the hundreds of thousands, was reduced to almost nothing. Handfuls of individuals, some of whom still identified with groups by then totally decimated, were taken to Cuba when the Spanish population withdrew from Florida in 1763. The only descendants of the original inhabitants of Florida who maintained their ethnic identity past the 1760s was a group of Apalachee who had fled west, ending up in Louisiana on the Red River. For the Florida Indians it was the end of time. [Milanich 1995:230-231]

Archeologist and anthropologist Charles Fairbanks (1974) prepared a definitive ethnohistorical study of the Florida Seminoles at the request of the Indian Claims Section of the United States Department of Justice in response to claims made by some Seminoles living in southern Florida. Part of that claim for compensation due to the loss of tribal lands asserted that the ancestors of the modern Seminole had resided in Florida from time immemorial—reminiscent of the statements of Billie (2000) and Cypress (1999) included above. Fairbanks documented the origins of the Florida Seminole peoples dating back to 1738 when Oconee Creeks settled in the Alachua savanna near present-day Gainesville and the genesis of the Seminole polity around 1800. Fairbanks' research, along with testimony by other archeologists and anthropologists, helped secure a favorable decision

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from the Indian Claims Commission, though monetary compensation was never dispersed. Ensuing research on Seminole archeology confirms the origin of the Seminole and Miccosukee with the settlement of Creek groups in Florida in the mid-eighteenth century (e.g., Weisman 1989). Relationships with ancient Florida tribes are not supported by any of this research. This break in cultural continuity between ancient tribal groups and the contemporary Seminole and Miccosukee peoples indicates that the Miami Circle at Brickell Point does not meet the National Register of Historic Places guidelines for a traditional cultural property. Since the Miami Circle at Brickell Point has gained the attention of present-day American Indian groups, however, it may be valuable in understanding the genesis of sacred places.

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Previous documentation on file (NPS):

- Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
- Previously Listed in the National Register.
- Previously Determined Eligible by the National Register.
- Designated a National Historic Landmark.
- Recorded by Historic American Buildings Survey: #
- Recorded by Historic American Engineering Record: #

Primary Location of Additional Data:

- State Historic Preservation Office
- Other State Agency
- Federal Agency
- Local Government
- University
- Other (Specify Repository): Historical Museum of Southern Florida, Miami (includes all artifact collections, copies of some fieldnotes); other materials can be found as follows: Bureau of Archaeological Research, Tallahassee (fieldnotes and photographs, State of Florida Investigation), Miami-Dade Office of Historic Preservation, Miami (original fieldnotes, maps, and photographs, 1998-1999 excavation of Miami Circle project), Archaeological & Historical Conservancy, Inc., Davie (materials related to analysis of artifact collections).

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10. GEOGRAPHICAL DATA

Acreage of Property: 2.2 acres

UTM References:	Zone	Easting	Northing
	17	581207	2850208
	17	581380	2850218
	17	581207	2850159
	17	581353	2850172

Verbal Boundary Description:

The property is located at 401 Brickell Avenue. The boundary of the nominated property (8DA12) consists of the 2.2-acre parcel (Parcel #01-0210-000-1050) recorded in Plat Book 8, Page 34, in the Public Records of Miami-Dade County, Florida (Parcel 1), Chancery Order Book 719, Page 191, of the Public Records of Miami-Dade County, Florida (Parcel 2), and Plat Book 8, Page 93, of the Public Records of Miami-Dade County, Florida (Parcel 3).

Boundary Justification:

The original extent of the Miami Midden No. 2 site (8DA12) is much larger than 2.2-acre Miami Circle site at Brickell Point property discussed in this nomination. Some parts of the larger site have been destroyed by development (i.e., 495 Brickell Avenue—the Icon Brickell parcel adjacent to the Miami Circle at Brickell Point site), while other portions of 8DA12 may still contain significant cultural resources eligible for designation as a NHL. Most notably, this includes that part of the site found in the City of Miami's Brickell Park (located two lots south of the Miami Circle at Brickell Point site at 501 Brickell Avenue); burials at Brickell Park, however, may be a prehistoric cemetery associated with Miami Sand Mound No. 4 (8DA13). 8DA13 is a related burial site, but is not technically within the boundaries of 8DA12. Destruction of some parts of the site and limited access to other parts of the site make it difficult to assess the boundaries, age, and significance of other site components outside the nominated area. At this time we do not have enough information about other portions of the site that may have survived downtown development to include a larger boundary.

The portion of 8DA12 proposed for listing is that part of the site containing the Miami Circle feature and associated deposits and artifacts (see Figures 28, 29, 30 and 31). Miami-Dade County and the State of Florida expended considerable effort and financial resources to preserve this surviving portion of 8DA12. This is the site being nominated for NHL designation. This part of the site apparently contains extensive evidence for prehistoric architectural features that are not common on adjacent and nearby portions of the site. All significant parts of the site that are currently known and that are related to the Southern Florida Sites Associated with the Tequesta and their Ancestors National Historic Landmark theme study are within the 2.2-acre Miami Circle at Brickell Point property being nominated in this documentation. Some significant deposits may be outside the boundary, but these have not been available for study, are privately owned, are disturbed or destroyed, or date to other periods.

Maps Depicting the Boundary. The boundary of the Miami Circle at Brickell Point has been plotted on a number of U.S.G.S. 7.5-minute topographic quadrangle maps. The first plot is included here as Figure 28; the base map is U.S.G.S. *Miami* (1988, photoinspected 1990). Reviewers found this map difficult to read because

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of the numerous hatched shapes that depict the large buildings that populate downtown Miami. Arrows with the UTM (Universal Transverse Mercator) easting and northing coordinates are included in the detail to aid in identifying the 2.2-acre Brickell Point parcel, while the smaller-scale version shows the approximate original boundaries of 8DA12. In order to eliminate some of the distracting background information, the boundaries are shown in Figures 28 and 29, older versions of the same *Miami* quadrangle map. The base map in Figure 29 dates to the 1960s (U.S.G.S. 1962, photorevised 1969). The rectangular outlines shown are the Brickell Point Apartments and the Elks Lodge. Figure 30 is based on the 1950 edition of the same map (U.S.G.S. 1950). The buildings shown on this version are the three Brickell family houses discussed at the beginning of this document. The handwritten notation "DA-12" accompanied by an arrow was made by Florida archeologist John M. Goggin when the site was originally recorded. It should be noted that all three of these maps are at 1:24,000 scale and the original editions are printed in color. At this scale, it is impossible to depict accurately the site boundaries within a 2.2-acre parcel; at best, the entire 2.2 acres is shown. Black and white versions of these maps also tend to obscure details. For a more accurate sense of the site boundary refer to Figures 2 and 6.

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11. FORM PREPARED BY

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NATIONAL HISTORIC LANDMARKS SURVEY
December 29, 2010

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Additional Documentation

Submit the following items with the completed form:

Continuation Sheets**Maps** A USGS map (7.5 or 15 minute series) indicating the property's location.

A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs Representative black and white photographs of the property.**Additional items** (Check with the SHPO or FPO for any additional items)**Property Owner**

(Complete this item at the request of the SHPO or FPO.)

name State of Florida, Board of Trustees of the Internal Improvement Trust Fundstreet & number c/o Department of Environmental Protection, 3900 Commonwealth Blvd.

telephone _____

city or town Tallahassee state FL zip code 32399**PHOTOGRAPHS**

- 1
- 1) Brickell Point site (8DA12)
 - 2) Brickell Point, City of Miami, Miami-Dade County, FL
 - 3) Al Diaz
 - 4) January 1999
 - 5) Miami Herald, Miami, FL
 - 6) oblique aerial view of Brickell Point property showing excavation areas and demolition trenches; the Sheraton Hotel (now demolished) is to the left and the Dupont Plaza (now demolished) is to the right of the Miami River, camera facing west
 - 7) 1 of 28

Items 1-2 are the same for the remaining photographs, except as noted

- 2
- 3) Ryan J. Wheeler
 - 4) July 2003
 - 5) Panamerican Consultants, Inc., Tallahassee, FL
 - 6) oblique view of Brickell Point property showing grass cover and view of Biscayne Bay, camera facing east
 - 7) 2 of 28
- 3
- 3) Anonymous

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- 4) ca. 1898
 - 5) Image Rc05722, Florida State Archives, Tallahassee, FL.
- 6) view of Brickell Point, ca. 1898. The buildings visible on the southern bank of the river include, from left to right, a thatched structure, the Brickell warehouse, and the boathouse, camera facing south
 - 7) 3 of 28
- 4 3) Anonymous
 - 4) ca. 1910s-1920s
 - 5) Florida Museum of Natural History, Gainesville, FL
 - 6) post card titled "Aeropalne (sic) view, Royal Palm Hotel and Miami River, Miami, Fla." Image circulated in November 2002 by archeologist Jerald T. Milanich. The structure shown on the south bank of the river is likely the rusticated block building built in 1909 by the Brickell family and used as a boarding house. Milanich speculated that the columns of the front porch were a gazebo related to the prehistoric Miami Circle feature. Compare with Photograph 5, camera facing south
 - 7) 4 of 28
- 5 3) Richard B. Hoit
 - 4) ca. 1918
 - 5) Image Rc19618, Florida State Archives, Tallahassee, FL
 - 6) aerial photograph of Brickell Point and the Miami River. The photograph shows the dredging and bulkheading of the Brickell property on the south bank of the river. The structure shown on the south bank of the river is the rusticated block building built in 1909 by the Brickell family and used as a boarding house. Comparison of this photograph with the image in Photograph 4 demonstrates that the columns in front of the building are simply part of the front porch, camera facing west
 - 7) 5 of 28
- 6 3) John Ricisak
 - 4) September 1998
 - 5) Miami-Dade County Office of Historic Preservation, Miami, FL
 - 6) view of the northern arc of the Miami Circle shortly after the feature was uncovered and prior to the excavation of the midden material from the individual basin features; the basin features are (foreground to back ground) Features 79, 80, 81, and 95, camera facing east
 - 7) 6 of 28
- 7 3) Ryan J. Wheeler
 - 4) November 1999
 - 5) Bureau of Archaeological Research, Tallahassee, FL
 - 6) view of the "Valley of the Holes" or N34 area during excavation, camera facing southeast
 - 7) 7 of 28
- 8 3) Ryan J. Wheeler
 - 4) August 2000
 - 5) Bureau of Archaeological Research, Tallahassee, FL
 - 6) view of the Miami Circle feature (in foreground), with Operation 3 excavations on-going under tents, camera facing northeast
 - 7) 8 of 28
- 9 3) Ryan J. Wheeler
 - 4) August 2000
 - 5) Bureau of Archaeological Research, Tallahassee, FL

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- 6) view of midden deposit with lucine clam lens under the low concrete footing; the ruler is resting on the oolitic limestone bedrock, camera facing east
 - 7) 9 of 28
- 10
- 3) Ryan J. Wheeler
 - 4) July 2003
 - 5) Panamerican Consultants, Inc., Tallahassee, FL
 - 6) view of Miami Circle feature during 3D laser scanning, Dupont Plaza in background, camera facing northeast
 - 7) 10 of 28
- 11
- 3) John Ricisak
 - 4) February 1999
 - 5) Miami-Dade County Office of Historic Preservation, Miami, FL
 - 6) aerial view of Miami Circle feature, top of photograph is slightly west of north
 - 7) 11 of 28
- 12
- 3) Ryan J. Wheeler
 - 4) August 2000
 - 5) Bureau of Archaeological Research, Tallahassee, FL
 - 6) aerial view of Miami Circle feature, top of photograph is north
 - 7) 12 of 28
- 13
- 3) John Ricisak
 - 4) January 1999
 - 5) Miami-Dade County Office of Historic Preservation, Miami, FL
 - 6) view of excavated basins along western arc of the Miami Circle feature; the basin features are (foreground to background) Features 20, 19, 18, 17, camera facing northeast
 - 7) 13 of 28
- 14
- 3) Jack Lamont
 - 4) October 1998
 - 5) Archaeological & Historical Conservancy, Miami, FL
 - 6) view showing the vertical cut marks on the walls of one of the large basins
 - 7) 14 of 28
- 15
- 3) John Ricisak
 - 4) October 1998
 - 5) Miami-Dade County Office of Historic Preservation, Miami, FL
 - 6) view of basin Feature 71 during excavation, note dark midden soil and limestone cobbles in place, camera facing north
 - 7) 15 of 28
- 16
- 3) John Ricisak
 - 4) January 1999
 - 5) Miami-Dade County Office of Historic Preservation, Miami, FL
 - 6) view of basin Feature 77 during excavation, midden is removed—note numerous smaller holes in the base of the feature and limestone cobbles in place, camera facing east
 - 7) 16 of 28
- 17
- 3) John Ricisak
 - 4) January 1999

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- 5) Miami-Dade County Office of Historic Preservation, Miami, FL
 - 6) view of basin Feature 80 during excavation, midden is removed—note numerous smaller holes in the base of the feature and limestone cobbles in place, camera facing north
 - 7) 17 of 28
- 18
- 3) James J. Miller
 - 4) March 1999
 - 5) Bureau of Archaeological Research, Tallahassee, FL
 - 6) view of excavated basin (Feature 100) along northeastern arc of the Miami Circle feature, with numerous limestone cobbles in place, camera facing south
 - 7) 18 of 28
- 19
- 3) John Ricisak
 - 4) December 1998
 - 5) Miami-Dade County Office of Historic Preservation, Miami, FL
 - 6) shark interment (Feature 234, Units 30 and 35); top) oblique overview of complete shark interment (cf. *Carcharhinus* sp.), camera facing south; bottom) close-up of the shark's head, showing mass of teeth, camera facing north
 - 7) 19 of 28
- 20
- 3) John Ricisak
 - 4) December 1998
 - 5) Miami-Dade County Office of Historic Preservation, Miami, FL
 - 6) dolphin (*Tursiops truncatus*) interment (Feature 218, Units 32 and 33), camera facing east
 - 7) 20 of 28
- 21
- 3) Ryan J. Wheeler (and others as indicated)
 - 4) December 2003
 - 5) Panamerican Consultants, Inc., Tallahassee, FL
 - 6) comparison of reconstructed dolphin cranium (Feature 218) from the Miami Circle at Brickell Point (top) and contemporary cast of complete dolphin cranium (bottom); reconstruction by Alison Elgart-Berry, photograph by Jorge Zamanillo
 - 7) 21 of 28
- 22
- 3) Jack Lamont
 - 4) October 1998
 - 5) Archaeological & Historical Conservancy, Miami, FL
 - 6) ground stone celt *in situ* in carved posthole Feature 127, top of photograph is southeast
 - 7) 22 of 28
- 23
- 3) Ryan J. Wheeler
 - 4) March 2002
 - 5) Panamerican Consultants, Inc., Tallahassee, FL
 - 6) obverse and reverse of bone pendant, carved mammal (cf. *Odocoileus virginianus*) bone; recovered from midden at center of Miami Circle feature, Cat. No. MDC.1.388.4
 - 7) 23 of 28
- 24
- 3) Ryan J. Wheeler
 - 4) August 2002
 - 5) Panamerican Consultants, Inc., Tallahassee, FL
 - 6) obverse, side and reverse of shell (*Pleuroploca gigantea*) plummet-pendant, Cat. No. MDC.1.523.1

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-
- 7) 24 of 28
- 25 3) Ryan J. Wheeler
4) August 2002
5) Panamerican Consultants, Inc., Tallahassee, FL
6) shell (*Pleuroploca gigantea*) columella plane or gouge, two views, MDC.1.191.13
7) 25 of 28
- 26 3) John Ricisak
4) November 1998
5) Miami-Dade County Office of Historic Preservation, Miami, FL
6) Deptford Linear Stamped sherds *in situ* on limestone bedrock, Unit 25 (southeastern quadrant of Miami Circle feature), top of photograph is west
7) 26 of 28
- 27 1) Royal Palm Circle site (8DA11) and Brickell Point site (8DA12)
2) Mouth of Miami River, City of Miami, Miami-Dade County, FL
3) Richard Haiduven
4) March 2005
5) Florida Division of Historical Resources, Tallahassee, FL
6) oblique aerial view of archeological excavation showing the Royal Palm Circle in the foreground and the Miami Circle across the river, camera facing south
7) 27 of 28
- 28 1) Royal Palm Circle site (8DA11)
2) Mouth of Miami River, City of Miami, Miami-Dade County, FL
3) Richard Haiduven
4) March 2005
5) Florida Division of Historical Resources, Tallahassee, FL
6) oblique aerial view of archeological excavation showing the Royal Palm Circle, camera facing south
7) 28 of 28

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TABLES

Table 1. Miami Circle Radiocarbon Dates.

FS	Lab#	Feature #	Material	Conventional Radiocarbon Age	Calibrated Result (2 sigma)
514	Beta 128477		Charcoal	1950 +/- 150 BP	BC 365-AD 415
515	Beta 128478		Charcoal	1920 +/- 70 BP	BC 45-AD 245
585-A	Beta 134545		Charcoal	1600 +/- 40 BP	AD 390-550
807-B	Beta 134546		Sea turtle bone (bone collagen)	2040 +/- 40 BP	AD 250-440
519	Beta 134544	234	Shark centra (bone collagen)	670 +/- 30 BP	AD 1560-1680
495	Beta 161899	218	Dolphin cranium (bone collagen)	690 +/- 40 BP	AD 1530-1680
1028		"A"	Charcoal, in assoc. w/ sea turtle carapace	420 +/- 80 BP	AD 1330-1650

Table 2. Summary of zones and strata identified during the 2000 field school excavations (Widmer 2004:Table 1).

Stratum	Deposit Context	Phase
1
2
3
4	...	1-2
5	...	1-3
6	...	2-3
7	...	2-4
8	...	3-4
9	...	3-5
10	...	3-5
11	...	3-5
12	...	3-5
13	...	3-5
14	...	3-5
15	...	3-5
16	...	3-5
17	...	3-5
18	...	3-5
19	...	3-5
20	...	3-5
21	...	3-5
22	...	3-5
23	...	3-5
24	...	3-5
25	...	3-5
26	...	3-5
27	...	3-5

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Stratum	Deposit Context	Phase
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□ □	□ □ □ □ □ □ □ □ □ □	□ - □ □
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□ □ □	□ □ □ □ □ □ □ □ □ □	□ - □ □
□ □ □ □	□ □ □ □ □ □ □ □ □ □	□ - □ □
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□ □ □ □ □	□ □	□ □

Table 3. Comparison of modified bone categories (count/percent) at Brickell Point, Granada, and Old Enterprise. The Old Enterprise site is a Middle to Late Archaic, St. Johns River area site.

Site	Unclassified	Debitage	Fiber work/ weaving	Wood & bone working	Stone working	Ornament s
Brickell Point	228 44%	23 4%	110 21%	146 28%	5 1%	9 2%
Granada	915 31%	262 9%	121 4%	551 19%		1122 38%
Old Enterprise	172 43%	82 20%	54 13%	42 10%	3 <1%	49 12%

Table 4. Brickell Point shark tooth artifacts.

Taxon	Number	Element
Cut Roots/Abraded—Tip Worn		
<i>Isurus</i> spp.	1	upper tooth
<i>Carcharhinus</i> spp.	1	upper tooth
<i>Carcharhinus</i> spp.	1	lower tooth
unid. shark	1	tooth
Cut Roots/Abraded--Filed		
<i>Carcharhinus obscurus</i>	1	lower tooth
<i>Negaprion brevirostris</i>	1	lower tooth
Cut Roots/Abraded—Filed—Perforated—Tip Worn		
<i>Carcharhinus leucas</i>	1	lower tooth
<i>Carcharhinus</i> spp.	1	lower tooth
Cut Roots/Abraded—Perforated—Tip Worn		
<i>Carcharodon carcharias</i>	1	tooth
<i>Isurus</i> spp.	1	tooth
<i>Carcharhinus leucas</i>	3	upper tooth
<i>Carcharhinus limbatus</i>	2	lower tooth
<i>Carcharhinus obscurus</i>	3	upper tooth
<i>Carcharhinus plumbeus</i>	8	upper tooth
<i>Carcharhinus</i> spp.	6	upper tooth

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Taxon	Number	Element
Carcharhinidae	3	tooth
Cut Roots—Tip Worn		
<i>Carcharhinus leucas</i>	1	lower tooth
<i>Negaprion brevirostris</i>	1	lower tooth
Perforated		
<i>Carcharhinus plumbeus</i>	2	upper tooth
<i>Galeocerdo cuvieri</i>	1	tooth
unid. shark	3	tooth
Perforated—Tip Worn		
<i>Carcharodon carcharias</i>	1	tooth
<i>Carcharhinus leucas</i>	12	upper tooth
<i>Carcharhinus cf. leucas</i>	1	upper tooth
<i>Carcharhinus leucas</i>	1	lower tooth
<i>Carcharhinus obscurus</i>	4	upper tooth
<i>Carcharhinus cf. obscurus</i>	1	upper tooth
<i>Carcharhinus plumbeus</i>	7	upper tooth
<i>Carcharhinus spp.</i>	6	upper tooth
Carcharhinidae	2	upper tooth
Carcharhinidae	1	lower tooth
<i>Galeocerdo cuvieri</i>	5	tooth
<i>Sphyrna mokarran</i>	1	lower tooth
Perforated/Abraded		
<i>Carcharhinus acronatus</i>	1	upper tooth
<i>Carcharhinus limbatus</i>	1	upper tooth
<i>Carcharhinus leucas</i>	4	upper tooth
<i>Carcharhinus plumbeus</i>	3	upper tooth
<i>Carcharhinus spp.</i>	1	upper tooth
<i>Negaprion brevirostris</i>	1	upper tooth
<i>Galeocerdo cuvieri</i>	2	tooth
<i>Sphyrna mokarran</i>	1	upper tooth
unid. shark	2	tooth
Perforated—Cut Roots—Tip Worn		
<i>Carcharhinus obscurus</i>	3	upper tooth
Filed—Tip Worn		
<i>Carcharhinus leucas</i>	3	lower tooth
<i>Negaprion brevirostris</i>	1	upper tooth
<i>Negaprion brevirostris</i>	2	lower tooth
unid. shark	1	tooth
Tip Worn		
<i>Carcharhinus spp.</i>	1	lower tooth
<i>Negaprion brevirostris</i>	1	upper tooth
Fragments		
Odontaspis spp.	1	tooth
<i>Carcharhinus leucas</i>	1	upper tooth
<i>Carcharhinus cf. leucas</i>	1	upper tooth
<i>Carcharhinus spp.</i>	2	upper tooth
<i>Galeocerdo cuvieri</i>	1	tooth
Carcharhinidae	1	tooth
unid. shark	7	tooth

Table 5. Shell artifact categories from the Miami Circle and possible uses.

Artifact type	Count	Possible uses
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Artifact type	Count	Possible uses
Debitage	29	shell working and tool production
Plummets	8	ornaments
Disks	3	ornaments
Beads	1	ornaments
Perforated bivalve shells	3	net weights, fishing
Rectangles	3	net making, fishing
<i>Busycon</i> adze	2	woodworking
<i>Strombus</i> gouge	5	woodworking
Columella Plane or Gouge	1	woodworking
Columella cutting-edge tools	4	woodworking
Cutting-edge tools	1	woodworking
Gastropod hammers	4	shell working?
Columella hammers	13	stone, shell and bone working
<i>Strombus</i> lip tools and celts	58	woodworking

Table 6. Summary of ceramic types from the Miami Circle at Brickell Point compared with similar data from the Granada site (based on Griffin 1982:Table 5 and Carr 2006).

Ceramic type	Granada site (8DA11)	Miami Circle at Brickell Point (8DA12)
sand-tempered plain	7,472	23,326
Glades Red	110	0
Glades Tooled	1,147	1
Surfside Incised	34	0
Key Largo Incised	651	22
Dade Incised	65	5
Miami Incised	182	17
Opa Locka Incised	186	63
Matecumbe Incised	81	2
Fort Drum Punctate	82	22
Fort Drum Incised	18	7
Glades Embossed/Noded	7	1
Sanibel Incised/Gordons Pass Incised	4	1
Natural Bridge Incised	1	0
Cane Patch Incised	10	0
Turner River Rouletted	10	0
Goodland Plain	25	0
Goodland Red	3	0
St. Johns Check Stamped	1,723	14
St. Johns Plain	563	427
St. Johns Red	2	0
Dunns Creek Red	0	2
St. Johns linear check stamped	0	17
St. Johns simple stamped	0	15
St. Johns Incised	7	0
Deptford Series	0	13
Gulf Check Stamped	0	4
Weeden Island Plain	6	0
Oklawaha Plain	3	0
Engelwood Incised	4	0
Sarasota Incised	1	0
cord marked	0	8

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misc. incised/zoned-punctated	-	11
Belle Glade Plain	412	1

Note: unidentified and indeterminate types have not been included here.

Table 7. Proveniences of zooarcheological samples from the Miami Circle at Brickell Point.

Feature No.	Description	¼ samples	in composite matrix samples
71	basin, NW quadrant of Miami Circle	X	X
77	basin, NW quadrant of Miami Circle		X
79	basin, NW quadrant of Miami Circle	X	X
80	basin, NE quadrant of Miami Circle	X	X
81	basin, NE quadrant of Miami Circle	X	X
101	irregular basin, NE quadrant of Miami Circle	X	
103	basin, NE quadrant of Miami Circle	X	
112	basin, NE quadrant of Miami Circle		X
140	basin, SW quadrant of Miami Circle		X
141	basin, SW quadrant of Miami Circle		X

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Table 8. Common and scientific names of taxa identified in the Miami Circle at Brickell Point faunal samples (after Quitmyer and Kennedy 2002:Table 1).

Common Name	Scientific Name	Composite Matrix Feature Samples							Basin Features						
		Fea. 71	Fea. 77	Fea. 79	Fea. 80	Fea. 81	Fea. 112	Fea. 140	Fea. 141	Fea. 71	Fea. 79	Fea. 80	Fea. 81	Fea. 101	Fea. 103
vertebrates	Vertebrata		X	X	X	X	X	X	X	X	X	X	X	X	X
terrestrial vertebrates	Tetrapoda									X					
cartilaginous fishes	Chondrichthyes	X		X	X	X		X	X						
cartilaginous/bony fishes	Chondrichthyes/Osteichthyes								X	X					
lamniform sharks	Lamniformes	X	X	X	X	X	X	X	X	X	X	X	X	X	X
nurse shark	<i>Ginglymostoma cirratum</i>	X									X				
mako shark	<i>Isurus</i> spp.										X	X			
requiem sharks	Carcharhinidae	X	X	X	X	X		X	X	X	X			X	
carcharhinid sharks	<i>Carcharchinus</i> spp.	X			X										
bull shark	<i>Carcharchinus leucas</i>					X									
tiger shark	<i>Galeocerdo cuvieri</i>									X	X		X	X	
Atlantic sharpnose shark	<i>Rhizoprionodon terraenovae</i>					X		X	X	X	X		X		X
skates and rays	Rajiformes	X	X	X	X	X	X	X	X	X	X	X	X	X	X
bony fishes	Osteichthyes	X	X	X	X	X	X	X	X	X	X	X	X	X	X
bony fish (large)	Osteichthyes (large)							X		X					X
gar	<i>Lepisosteus</i> spp.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
bowfin	<i>Amia calva</i>	X	X	X	X	X		X	X	X	X	X	X	X	X
bowfin	cf. <i>Amia calva</i>						X								
ladyfish	<i>Elops saurus</i>			X		X									
bonefish	<i>Albula vulpes</i>			X	X			X	X		X		X		X
bonefish	cf. <i>Albula vulpes</i>							X							
eels	Anguilliformes							X							
American eel	<i>Anguilla rostrata</i>	X			X	X	X	X	X			X			
morays	<i>Gymnothorax</i> spp.					X		X						X	X
shads and herrings	Clupeidae	X	X	X	X	X									
catfishes	Siluriformes	X	X	X	X	X	X	X	X	X	X	X			X
freshwater catfishes	Ictaluridae		X	X	X	X			X						
freshwater catfish	<i>Ictalurus</i> spp.	X			X	X				X		X			
saltwater catfishes	Ariidae	X	X				X	X	X	X	X	X	X	X	X
hardhead catfish	<i>Arius felis</i>	X	X	X	X	X		X	X	X	X	X	X	X	X
gafftopsail catfish	<i>Bagre marinus</i>	X		X					X	X	X		X		X
pike	<i>Esox</i> spp.										X			X	
toadfish	<i>Opsanus</i> spp.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
needlefishes	Belonidae	X		X	X	X			X						
needlefish	<i>Strongylura</i> spp.									X					
needlefish	<i>Tylosaurus</i> spp.											X	X		
needlefish	cf. <i>Tylosaurus</i> spp.							X							
killifishes	Cyprinodontidae		X												
squirrelfishes	<i>Holocentrus</i> spp.											X			
snook	<i>Centropomus</i> spp.	X			X					X		X			
groupers/hinds	Serranidae	X		X	X		X			X	X	X			X
groupers/hinds	<i>Epinephelus</i> spp.	X			X	X				X	X	X		X	

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		Fea. 71	Fea. 77	Fea. 79	Fea. 80	Fea. 81	Fea. 112	Fea. 140	Fea. 141	Fea. 71	Fea. 79	Fea. 80	Fea. 81	Fea. 101	Fea. 103
red grouper	<i>Epinephelus morio</i>									X		X			X
red grouper	<i>Epinephelus cf. morio</i>										X				
sunfishes	Centrarchidae					X							X		X
cf. sunfishes	cf. Centrarchidae						X	X	X						
sunfish	<i>Lepomis spp.</i>	X	X	X			X		X			X			
redear sunfish	<i>Lepomis microlophus</i>	X	X	X	X	X				X	X	X			X
cf. redear sunfish	cf. <i>Lepomis microlophus</i>							X							
freshwater bass	<i>Micropterus spp.</i>	X			X				X	X	X	X	X	X	
large mouth bass	<i>Micropterus salmoides</i>											X	X		X
jacks	Carangidae	X	X	X	X	X			X		X	X	X	X	X
jacks	cf. Carangidae														X
jack	<i>Caranx spp.</i>	X		X			X	X	X	X	X				
bar jack	<i>Caranx cf. ruber</i>										X				
moonfish/lookdown	<i>Selene spp.</i>							X				X			
snappers	Lutjanidae				X			X	X	X			X		
snappers	cf. Lutjanidae									X	X				
snapper	<i>Lutjanus spp.</i>	X		X	X	X				X	X	X	X	X	X
gray snapper	<i>Lutjanus griseus</i>				X	X			X		X	X	X		
mojarra	Gerreidae												X	X	
mojarra	<i>Diapterus spp.</i>														
grunts	Haemulonidae					X	X	X	X	X	X				
grunt	<i>Haemulon spp.</i>	X	X	X	X	X		X	X	X	X	X	X	X	X
grunt	cf. <i>Haemulon spp.</i>										X				
grunt	<i>Haemulon album</i>							X							
grunt	cf. <i>Haemulon album</i>														X
margate	<i>Haemulon cf. album</i>						X				X				
bluestriped grunt	<i>Haemulon sciurus</i>										X				
pigfish	<i>Orthopristis chrysoptera</i>	X													
porgies	Sparidae			X		X		X	X		X			X	X
porgies/drums	Sparidae/Sciaenidae						X	X	X		X				
sheepshead	<i>Archosargus probatocephalus</i>												X		
sheepshead	<i>Archosargus spp.</i>									X		X			
porgy	<i>Calamus spp.</i>				X	X			X		X	X			X
pinfish	<i>Lagodon rhomboides</i>	X		X	X	X		X	X						
drums	Sciaenidae									X					
seatrout	<i>Cynoscion spp.</i>														X
black drum	<i>Pogonias cromis</i>									X	X	X			
red drum	<i>Sciaenops ocellata</i>									X					
red drum	cf. <i>Sciaenops ocellata</i>							X							
wrasses	Labridae			X				X	X						
hogfish	<i>Lachnolaimus maximus</i>										X				
parrotfishes	Scaridae		X			X	X	X	X			X			
parrotfishes	<i>Scarus spp.</i>	X											X		
parrotfishes	<i>Sparisoma spp.</i>				X	X	X			X	X			X	

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		Fea. 71	Fea. 77	Fea. 79	Fea. 80	Fea. 81	Fea. 112	Fea. 140	Fea. 141	Fea. 71	Fea. 79	Fea. 80	Fea. 81	Fea. 101	Fea. 103
mullet	<i>Mugil</i> spp.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
cutlass fish	<i>Trichiurus lepturus</i>								X	X				X	
surgeonfish	<i>Acanthurus</i> spp.					X									
barracuda	<i>Sphyræna</i> spp.		X	X		X		X	X	X	X	X			X
triggerfish	<i>Balistes</i> spp.					X							X		
boxfishes	<i>Lactophrys</i> spp.					X									
puffers	Tetraodontidae							X			X				
spiny puffers	Diodontidae			X		X									
burrfish	<i>Chilomycterus</i> spp.														
reptiles	Reptilia		X	X					X						
lizards	Squamata					X									
iguanaid lizards	Iguanidae		X												
snakes	Serpentes	X	X	X	X	X	X	X	X	X	X	X	X	X	X
non-poisonous snakes	Colubridae	X			X	X		X	X		X	X	X		
water snake	<i>Nerodia</i> spp.			X		X				X	X		X	X	X
poisonous snakes	Viperidea														
cottonmouth snake	<i>Agkistrodon</i> spp.			X											
crocodiles/alligators	Alligatoridae											X			
turtles	Testudines	X	X	X	X	X	X	X	X	X	X	X	X	X	X
snapping turtle	<i>Chelydra serpentine</i>	X			X	X									
mud/musk turtles	Kinosternidae	X								X		X			X
emydid turtles	Emydidae	X						X	X		X				X
cooter/red-bellied turtles	<i>Pseudemys</i> spp.				X										X
box turtle	<i>Terrapene carolina</i>	X	X				X				X				
gopher tortoise	<i>Gopherus polyphemus</i>	X	X		X	X		X	X	X	X	X	X	X	X
sea turtle	Cheloniidae	X	X	X	X	X	X	X	X	X	X	X	X	X	X
green sea turtle	<i>Chelonia mydas</i>								X						
softshell turtle	<i>Apalone ferox</i>	X	X	X	X		X	X	X	X	X	X	X	X	X
frogs and toads	Anura		X	X	X				X						
bull frog	<i>Rana</i> spp.		X	X							X				
salamander, sirens, newts	Caudata							X							
birds	Aves	X			X			X			X	X	X		X
e.g., gull, crow	Aves (medium)	X												X	
cormorant	Phalacrocoracidae												X		
ducks	Anatidae							X					X		
Canada goose	<i>Branta canadensis</i>				X								X		
red-breasted merganser	<i>Mergus serrator</i>				X										
raptors	Strigidae/Accipitridae									X					
mammals	Mammalia	X			X			X	X		X			X	
e.g., seals, white-tailed deer	Mammalia (large)	X			X	X		X	X	X	X	X	X		X
e.g., mice, rats, squirrels	Mammalia (small)		X	X	X	X	X	X	X		X				X
e.g., raccoon, opossum	Mammalia (medium)					X	X					X		X	X
opossum	<i>Didelphis virginiana</i>									X					
marsh rabbit	<i>Sylvilagus palustris</i>									X					

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		Fea. 71	Fea. 77	Fea. 79	Fea. 80	Fea. 81	Fea. 112	Fea. 140	Fea. 141	Fea. 71	Fea. 79	Fea. 80	Fea. 81	Fea. 101	Fea. 103
rabbit	<i>Sylvilagus</i> spp.					X				X			X		
rodents	Rodentia	X		X	X	X	X		X	X			X		
eastern fox squirrel	<i>Sciurus niger</i>														X
mice and rats	Muridae							X	X		X			X	X
hispid cotton rat	<i>Sigmodon hispidus</i>	X	X	X		X		X		X					
hispid cotton rat	cf. <i>Sigmodon hispidus</i>								X	X					
canids	<i>Canis</i> spp.								X						
Caribbean monk seal	<i>Monachus tropicalus</i>	X													
white-tailed deer	<i>Odocoileus virginianus</i>	X	X	X				X		X	X	X	X	X	X

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Table 9. Radiocarbon dates from the Miami Circle at Brickell Point (8DA12) and Brickell Point/Sheraton Hotel (8DA98) (after Widmer 2003:Table 5, with additions). OP# refers to the three successive archeological operations conducted at the Miami Circle at Brickell Point; Operation 1 is initial excavation of the Circle by Miami-Dade County and the Archaeological & Historical Conservancy, Inc., Operation 2 is the State of Florida investigation, and Operation 3 is the University of Houston archeological fieldschool project. RC# refers to radiocarbon sample numbers assigned during Operation 3. FS# refers to the field specimen number assigned during excavation and sample collection.

OP#	RC#	FS#	Lab#	Material	Context	Conventional Radiocarbon Age	2 Sigma Calibrated Age	Phase
3	11	558	166858	<i>Lucina</i> shell	Cut-hole	2770 +/- 70 BP	Cal 760 - 370 BC	I
3	2	343	146939	<i>Lucina</i> shell	Cut-hole	2720 +/- 70 BP	Cal 740 - 340 BC	I
3	4	395	166850	<i>Lucina</i> shell	Cut-hole	2720 +/- 70 BP	Cal 740 - 340 BC	I
3	1	274	146938	<i>Lucina</i> shell	Cut-hole	2710 +/- 70 BP	Cal 730 - 340 BC	I
SHC ¹		690	02452	Charcoal	?	2350 +/- 50 BP ²	Cal 520 - 370 BC	I
3	4	395		<i>Lucina</i> shell	Cut-hole	2650 +/- 100 BP ³	Cal 500-300 BC	II
SHC		700D	1675	<i>Lucina</i> shell	?	2700 +/- 110 BP	Cal 760-170 BC	II
3	3	355	146940	<i>Lucina</i> shell	Cut-hole	2600 +/- 40 BP	Cal 760-170 BC	II
3	4	395	146941	<i>Lucina</i> shell	Cut-hole	2570 +/- 70 BP	Cal 400-230 BC	II
3	5	434	166851	<i>Lucina</i> shell	Cut-hole	2570 +/- 70 BP	Cal 410-135 BC	II
3	18	493	166856	<i>Lucina</i> shell	Cut-hole	2560 +/- 60 BP	Cal 400-150 BC	II
3	16	778	165684	<i>Lucina</i> shell	Cut-hole	2580 +/- 60 BP	Cal 400-160 BC	II
3	17	883	165685	<i>Lucina</i> shell	Basin	2520 +/- 70 BP	Cal 350-50 BC	II
3	13	615	165681	<i>Lucina</i> shell	Cut-hole	2470 +/- 60 BP	Cal 350-30 BC	II
3	10	529	166857	<i>Lucina</i> shell	Cut-hole	2460 +/- 70 BP	Cal 350 BC-AD 10	II
3	14	685	165682	<i>Lucina</i> shell	Cut-hole	2390 +/- 70 BP	Cal 160 BC-AD 10	III
3	15	732	165683	<i>Lucina</i> shell	Cut-hole	2280 +/- 80 BP	Cal 150 BC-AD 240	III
3	8	481	166854	<i>Lucina</i> shell	Cut-hole	2270 +/- 70 BP	Cal 100 BC-AD 240	III
3	9	487	166855	<i>Lucina</i> shell	Cut-hole	2270 +/- 70 BP	Cal 100 BC-AD 240	III
SHC		689	02451	charcoal	?	2080 +/- 50 BP	Cal 200 BC-AD 30	III
1		514	128477	charcoal	?	1950 +/- 150 BP	Cal 365 BC-AD 415	III
1		515	128478	charcoal	?	1920 +/- 70 BP	Cal 45 BC -AD 245	III
SHC		847	02450	charcoal	?	1910 +/- 60 BP	Cal 40 BC-AD 240	III
3	7	473	166853	<i>Lucina</i> shell	Cut-hole	2020 +/- 70 BP	Cal AD 180-530	IV
1		807-B	134546	bone collagen— sea turtle bone shell	midden	2040 +/- 40 BP	Cal AD 250-440	IV
SHC		700+	1674	columella	?	1980 +/-70 BP	Cal AD 250-580	IV

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OP#	RC#	FS#	Lab#	Material	Context	Conventional Radiocarbon Age	2 Sigma Calibrated Age	Phase
SHC		667	02449	charcoal	?	1710 +/- 60 BP	Cal AD 220-440	IV
1		585-A	134544	charcoal	?	1600 +/- 40 BP	Cal AD 390-550	IV
1		1028		charcoal	Feature "A"-turtle carapace	420 +/- 80 BP	Cal AD 1330-1650	V
1		495		bone collagen	Feature 218-dolphin skull	690 +/- 40 BP	Cal AD 1550-1680	V
1		519	134544	bone collagen	Feature 234-shark interment	670 +/- 30 BP	Cal AD 1560-1680	V

¹ SHC (Sheraton Hotel Complex) dates from Carr and Ricasak 2000:267, Table 1; OP#1 dates from Carr and Ricasak 2000:282, Table 2).

² SCH FS #690 has an early appearing date range due to flatness in the calibration curve at this point.

³ This date represents the average of two combined C14 dates on the same sample.

Table 10. Radiocarbon date phases by zone based on the 2000 field school excavations (Widmer 2004:Table 6).

Phase I	Phase II	Phase III	Phase IV	Phase V
Zone X (RC #1)	Zone VI, lvl 2 (RC #3)	Zone VI, lvl 1(RC #8)	Zone VI, lvl 1(RC #7)	None
Zone VI, lvl 3 (RC #2)	Zone XXII (RC #4)	Zone XIV, lvl 2 (RC #9)		
Zone XXII (RC #4)	Zone XVIII (RC #5)	Zone XXII (RC #14)		
Zone XXII (RC #10)	Zone XIV, lvl 1 (RC #10)	Zone XXII (RC #15)		
Zone XXII (RC #11)	Zone XXII (RC #13)			
	Zone XXII (RC #16)			
	Zone XXII (RC #17)			
	Zone VI (RC #18)			

Table 11. Soil sample proveniences from the Miami Circle at Brickell Point.

FS #	Provenience	Weight (g)
1030	Miami Circle/Excavation Area 1, Unit 66, N. wall, Feature 690, 0-25 cm deep	> 5000.0
1031	Miami Circle/Excavation Area 1, Unit 66, N. wall, Feature 690, 25-40 cm deep	1084.0
1033	Excavation Area 2, East wall, bulk sample from 114-120 cm below surface (just above bedrock)	97.0
1034	Excavation Area 2, East wall, bulk sample from 100 cm below surface (middle of exposure)	68.0
1035	Excavation Area 2, East wall, bulk sample from 80 cm below surface (top of exposure)	125.0
1036	Miami Circle/Excavation Area 1, s. end of concrete footer, bulk sample directly above bedrock	104.0
1037	Miami Circle/Excavation Area 1, s. end of concrete footer, bulk sample 20 cm above bedrock	111.0
313	Operation 3, Unit N52 E 120, PH #9, Soil Sample #83, Zone VI, Level 1	313.0
329	Operation 3, Unit N52 E 120, PH #13, Soil Sample #99, Zone VI, Level 1	241.0
379	Operation 3, Unit N52.58 E 120.37, PH #23, Soil Sample #145, Zone VI, Level 1	113.0

Table 12. Subjective grouping of sediment samples based on particle size curve similarities.

FS #	Provenience	Group
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FS #	Provenience	Group
1034	Area 2, East wall, middle of exposure (100 cm below surface)	1
1035	Area 2, East wall, top of exposure (80 cm below surface)	1
1036	Area 1, S. end of concrete footer, directly on bedrock	1
1037	Area 1, S. end of concrete footer, 20 cm above bedrock	1
1030	Area 1, Unit 66, Feature 690, posthole matrix, 0-25 cm	1
1031	Area 1, Unit 66, Feature 690, posthole matrix, 25-40 cm	transitional
313	Area 3, posthole matrix	2
329	Area 3, posthole matrix	2
379	Area 3, posthole matrix	2
1033	Area 2, East wall, on bedrock (120-114 cm below surface)	2

Table 13. Grouping of sediment samples based on single-link hierarchical cluster analysis.

FS #	Provenience	Group
1034	Area 2, East wall, middle of exposure (100 cm below surface)	1
1035	Area 2, East wall, top of exposure (80 cm below surface)	1
1031	Area 1, Unit 66, Feature 690, posthole matrix, 25-40 cm	1
1030	Area 1, Unit 66, Feature 690, posthole matrix, 0-25 cm	2
1036	Area 1, S. end of concrete footer, directly on bedrock	2
1037	Area 1, S. end of concrete footer, 20 cm above bedrock	2
313	Area 3, posthole matrix	3
379	Area 3, posthole matrix	3
329	Area 3, posthole matrix	4
1033	Area 2, East wall, on bedrock (120-114 cm below surface)	5

Miami Circle at Brickell Point

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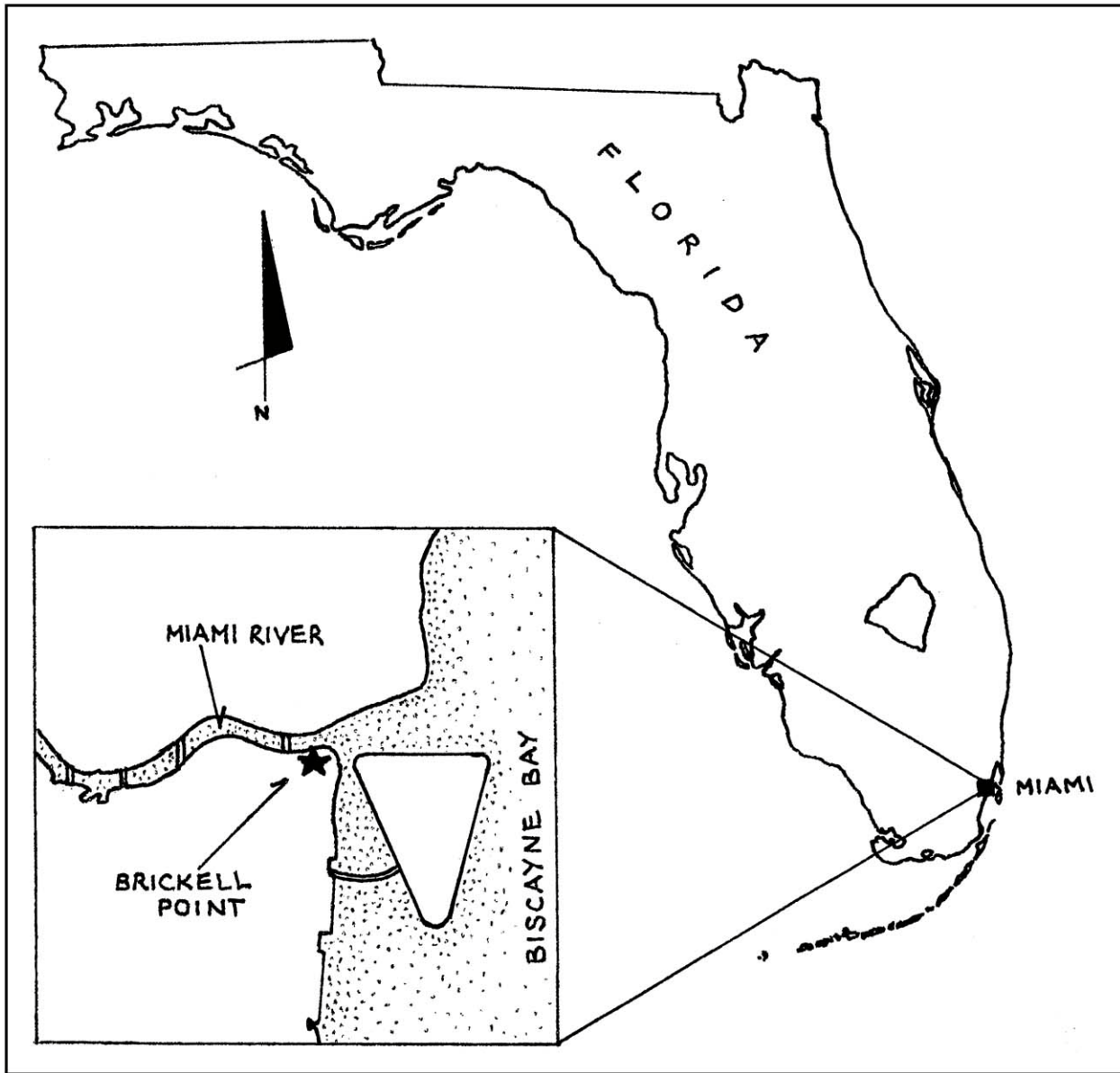


Figure 1. Locator map (after Dixon et al. 2000:Figure 1).

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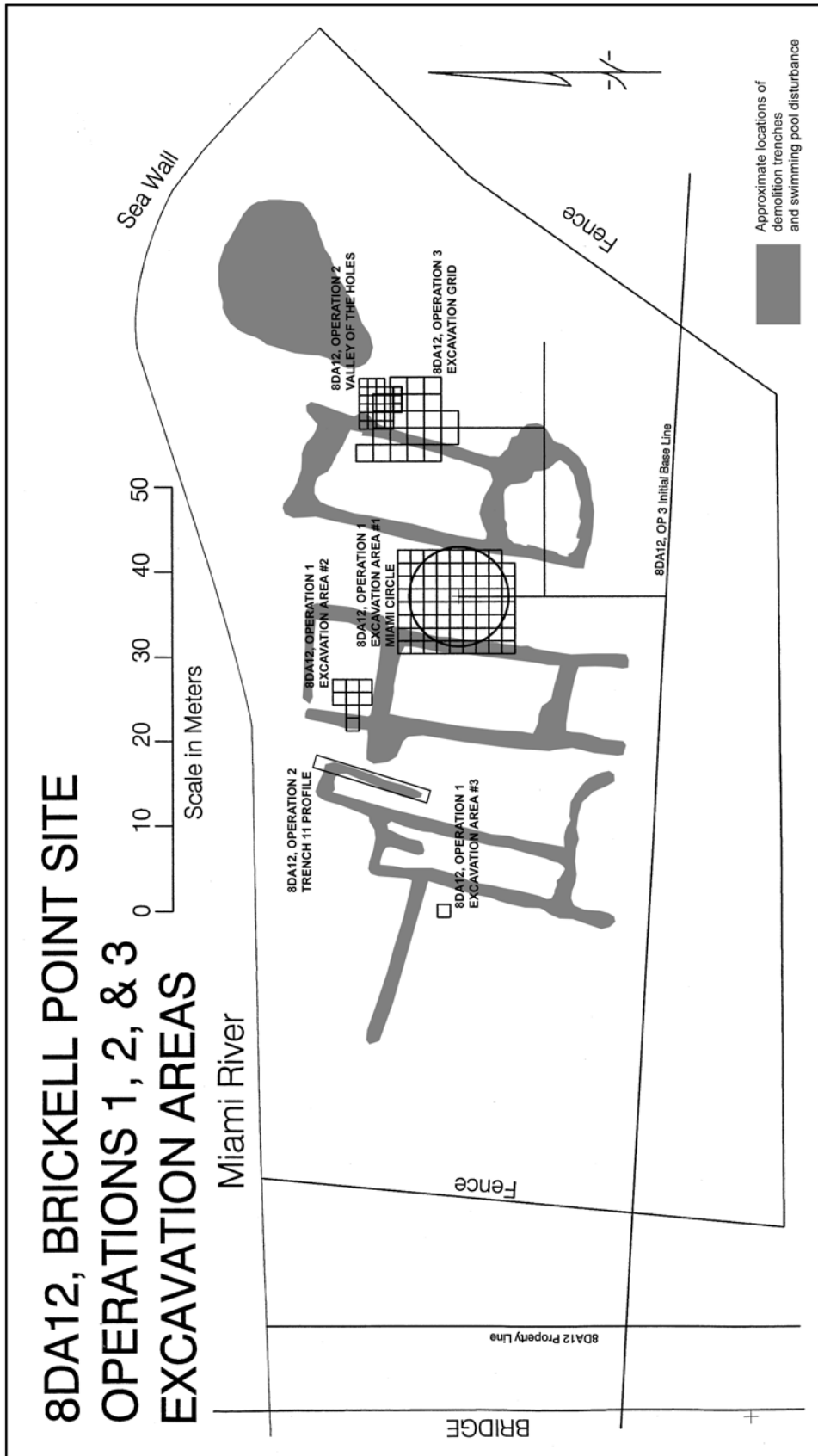


Figure 2. Map of the 2.2 acre Brickell Point parcel showing major excavation operations (after Widmer 2003:Figure 1).

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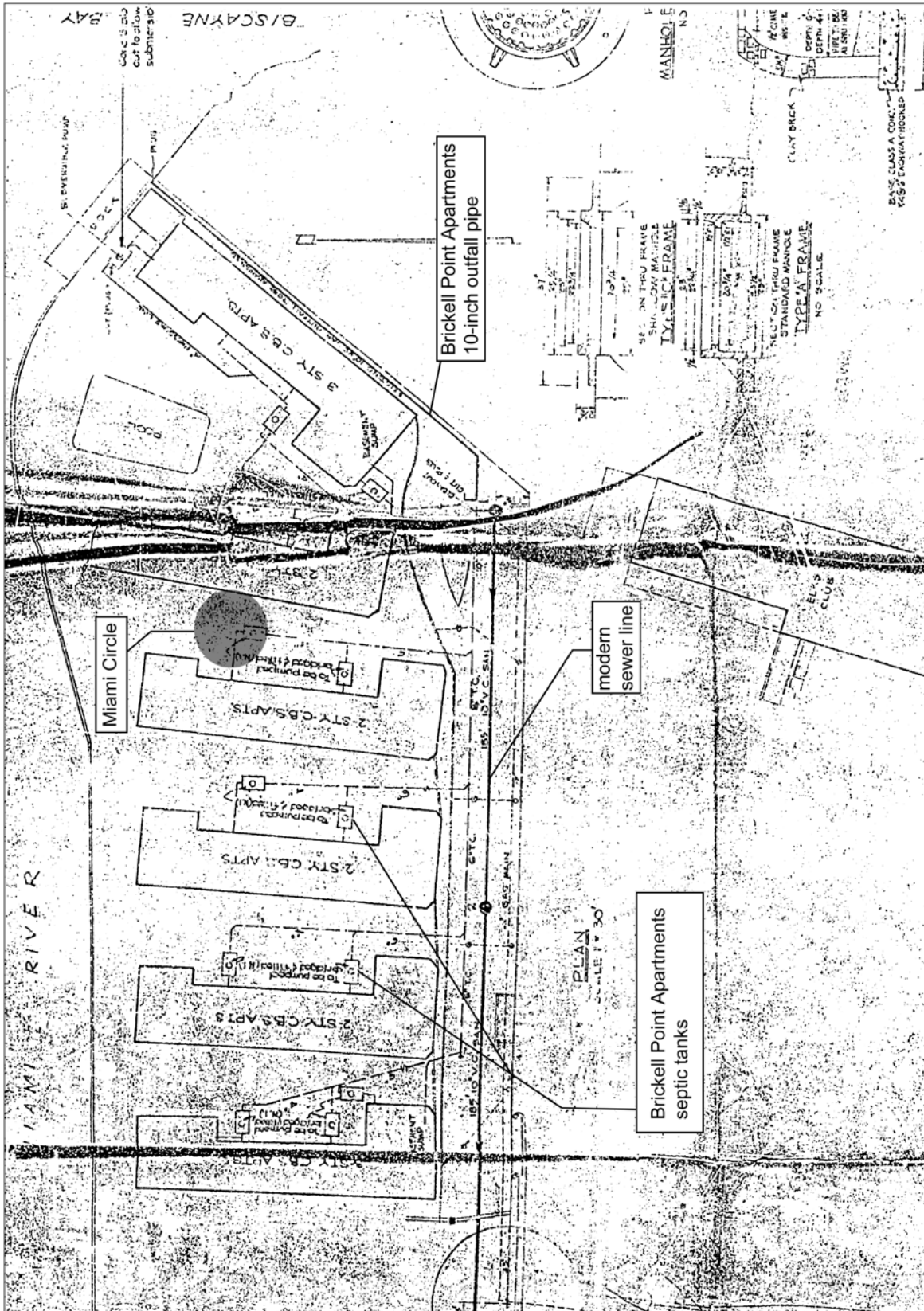


Figure 3. Portion of plan showing the Brickell Point Apartments as-built sewer system (Anonymous 1970).

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Figure 4. "First Arrivals" mural by John LoCastro (courtesy the Historical Museum of Southern Florida, Miami). The scene illustrated includes the excavation of the basins and placement of structural elements.

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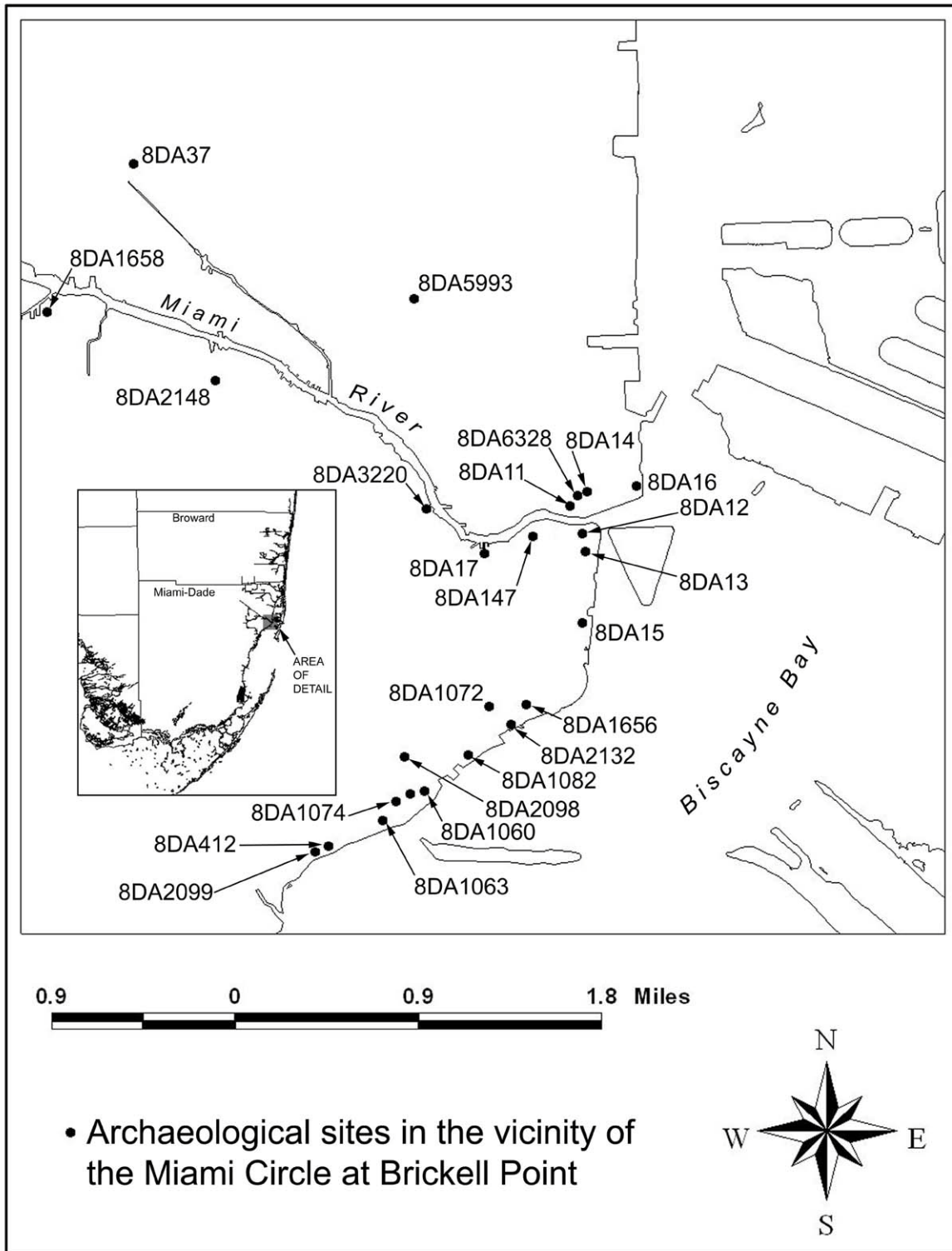


Figure 5. Map showing Miami Circle at Brickell Point site (8DA12) and other sites in the vicinity (data from the Florida Master Site File, Florida Division of Historical Resources, Tallahassee).

Miami Circle at Brickell Point

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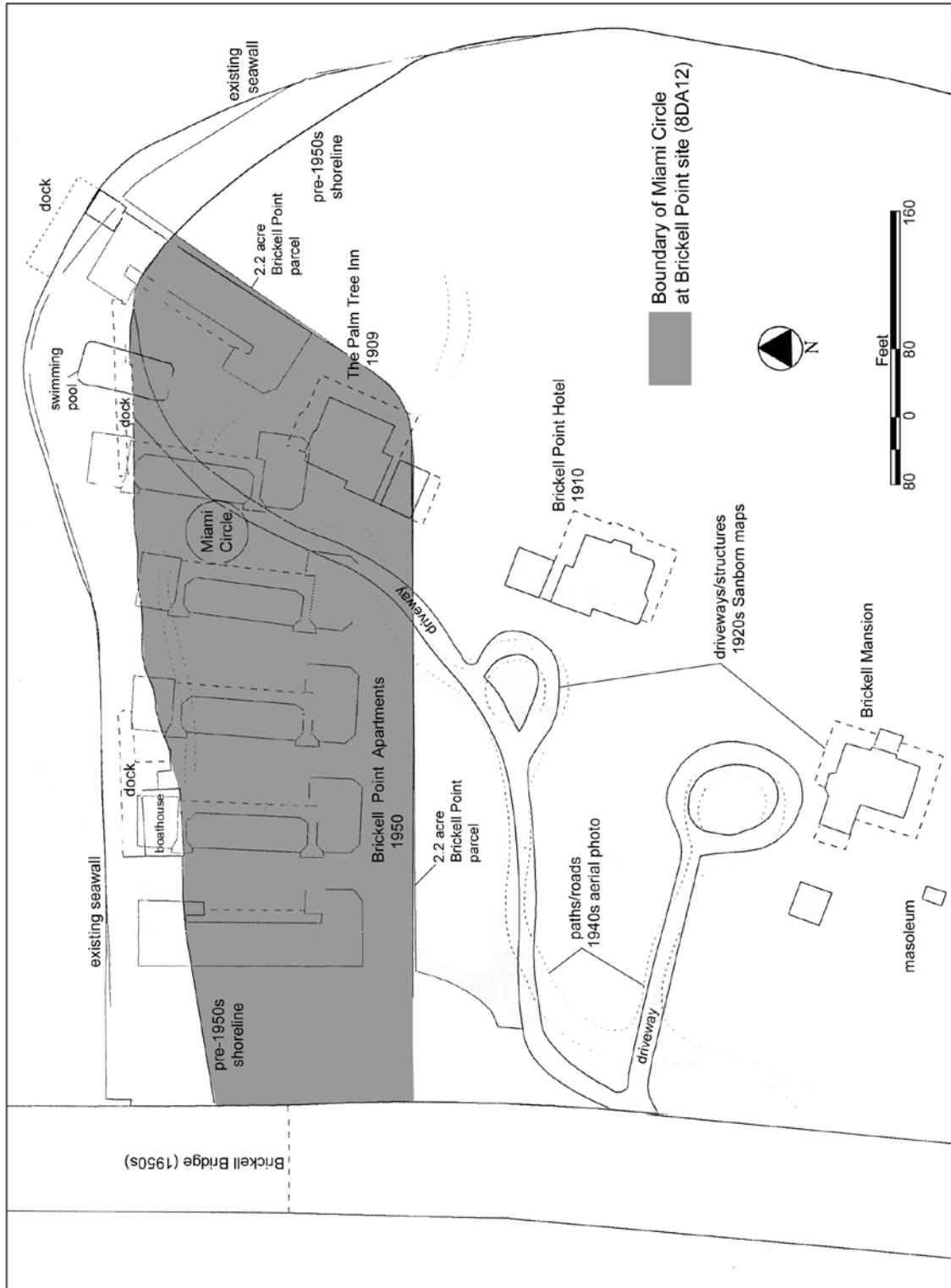


Figure 6. Map by archeologist Jorge Zamanillo showing the footprint of the Brickell family buildings and driveways, as well as the footprint of the Brickell Point Apartments. The archeological deposits of 8DA12 are shown in gray.

Miami Circle at Brickell Point

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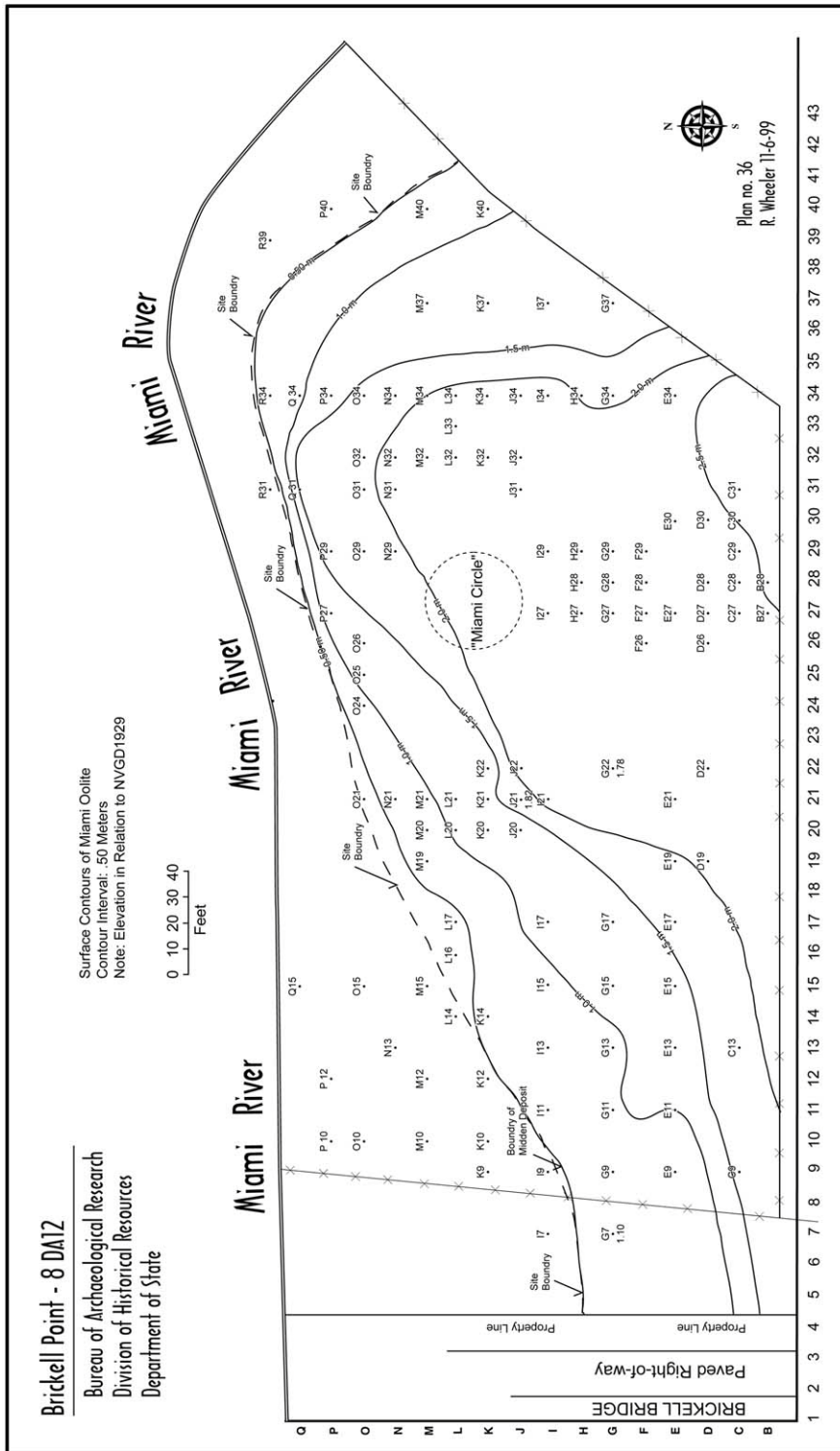


Figure 7. Surface contours of the Miami Oolite limestone formation at the Brickell Point site (after Wheeler 2000:Figure 4).

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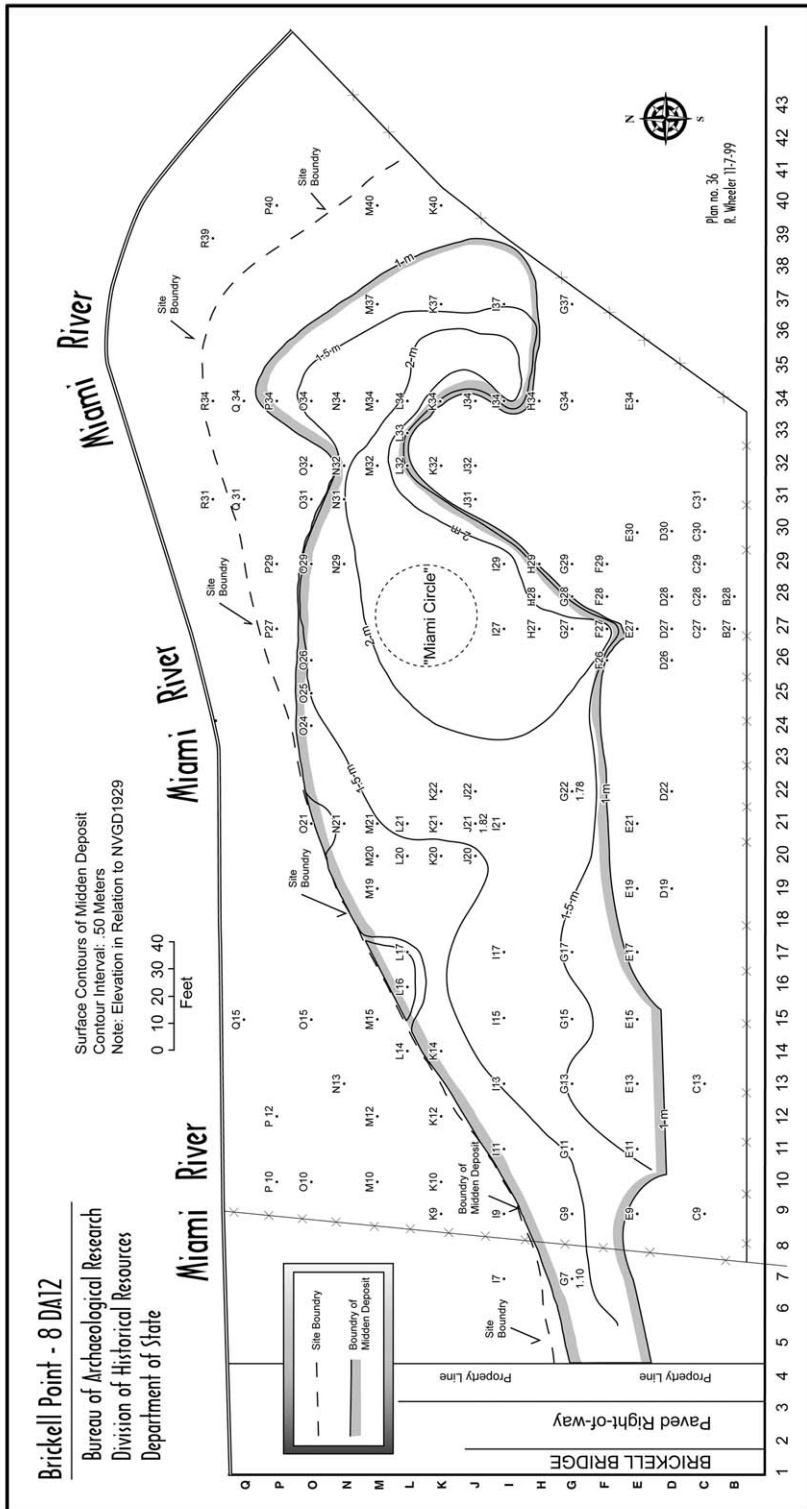


Figure 8. Surface contours of midden deposit at the Brickell Point site (after Wheeler 2000:Figure 5).

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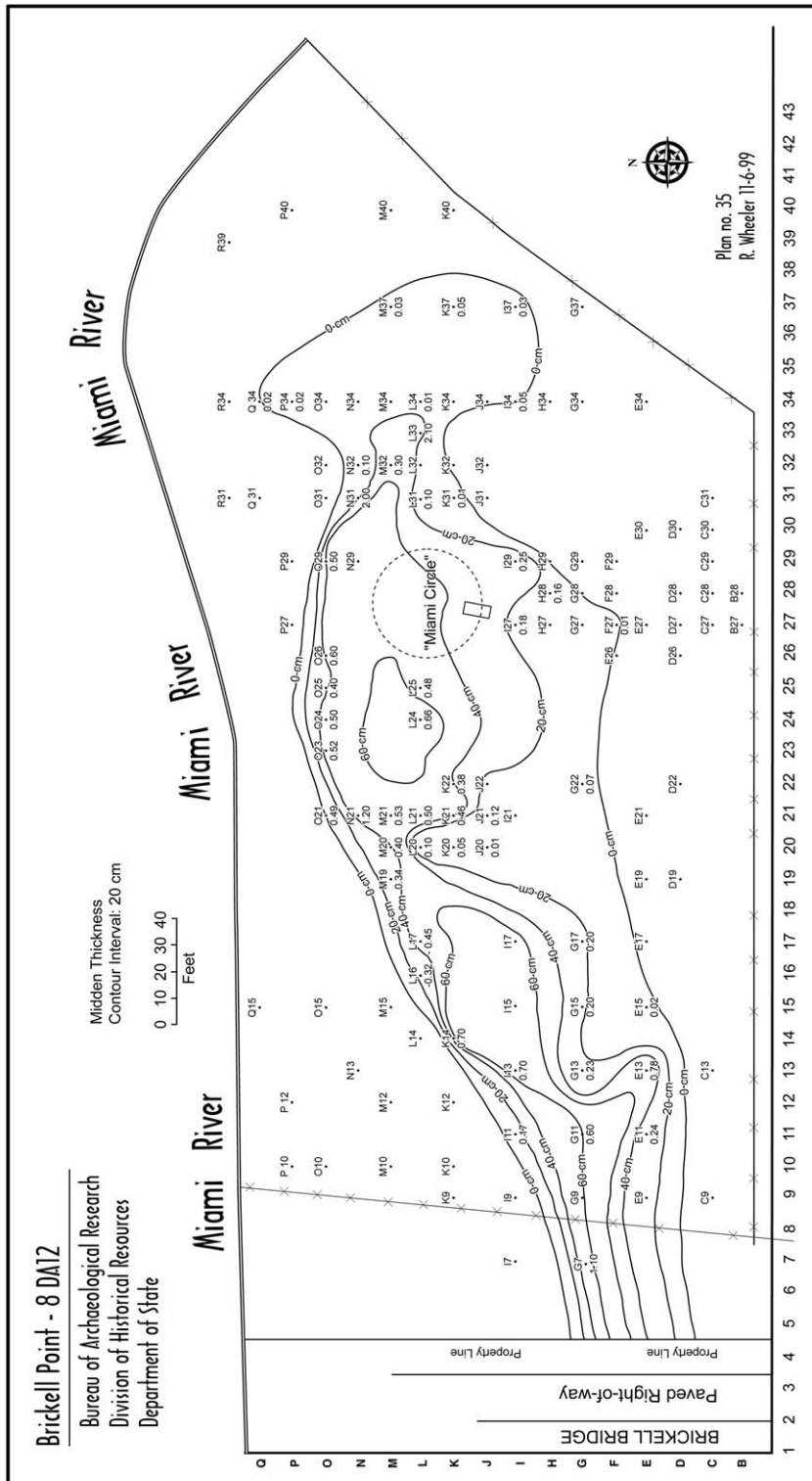


Figure 9. Isopach map showing thickness of midden at the Brickell Point site (after Wheeler 2000:Figure 6).

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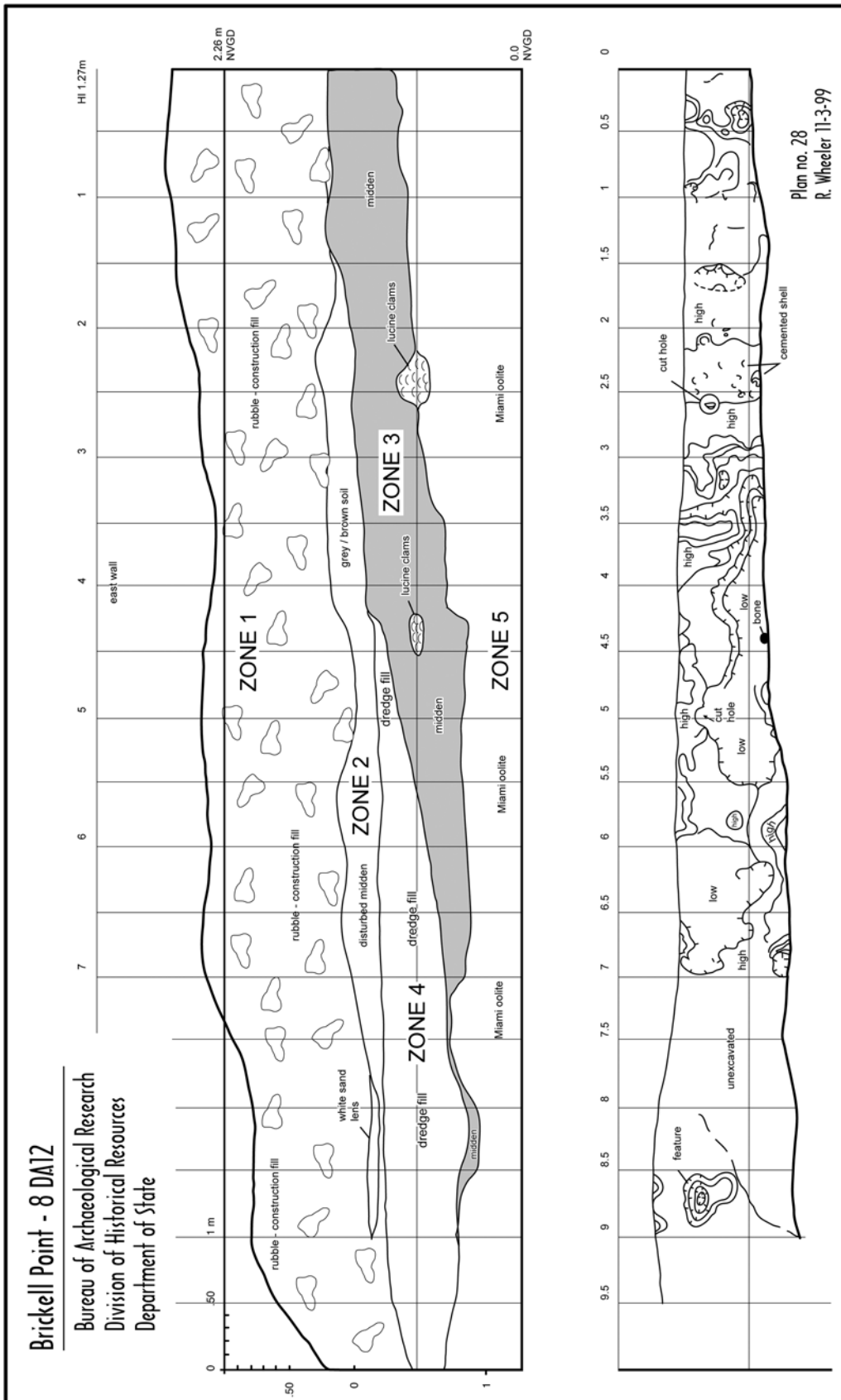


Figure 10. Profile and plan of Trench 11 (after Wheeler 2000:Figure 7).

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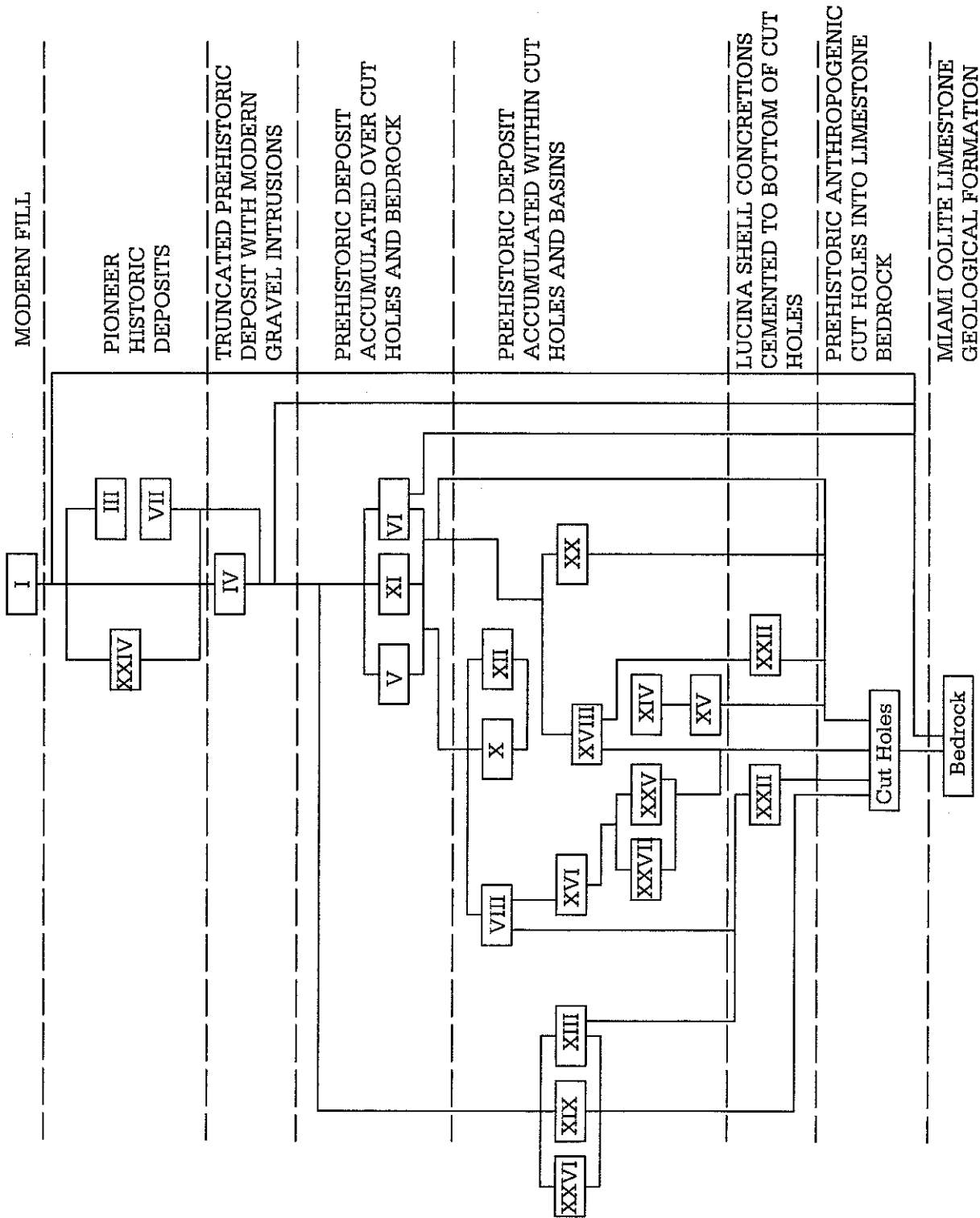


Figure 11. Harris Matrix of stratigraphic zones identified during the 2000 field school excavations at Brickell Point (after Widmer 2003:Figure 5).

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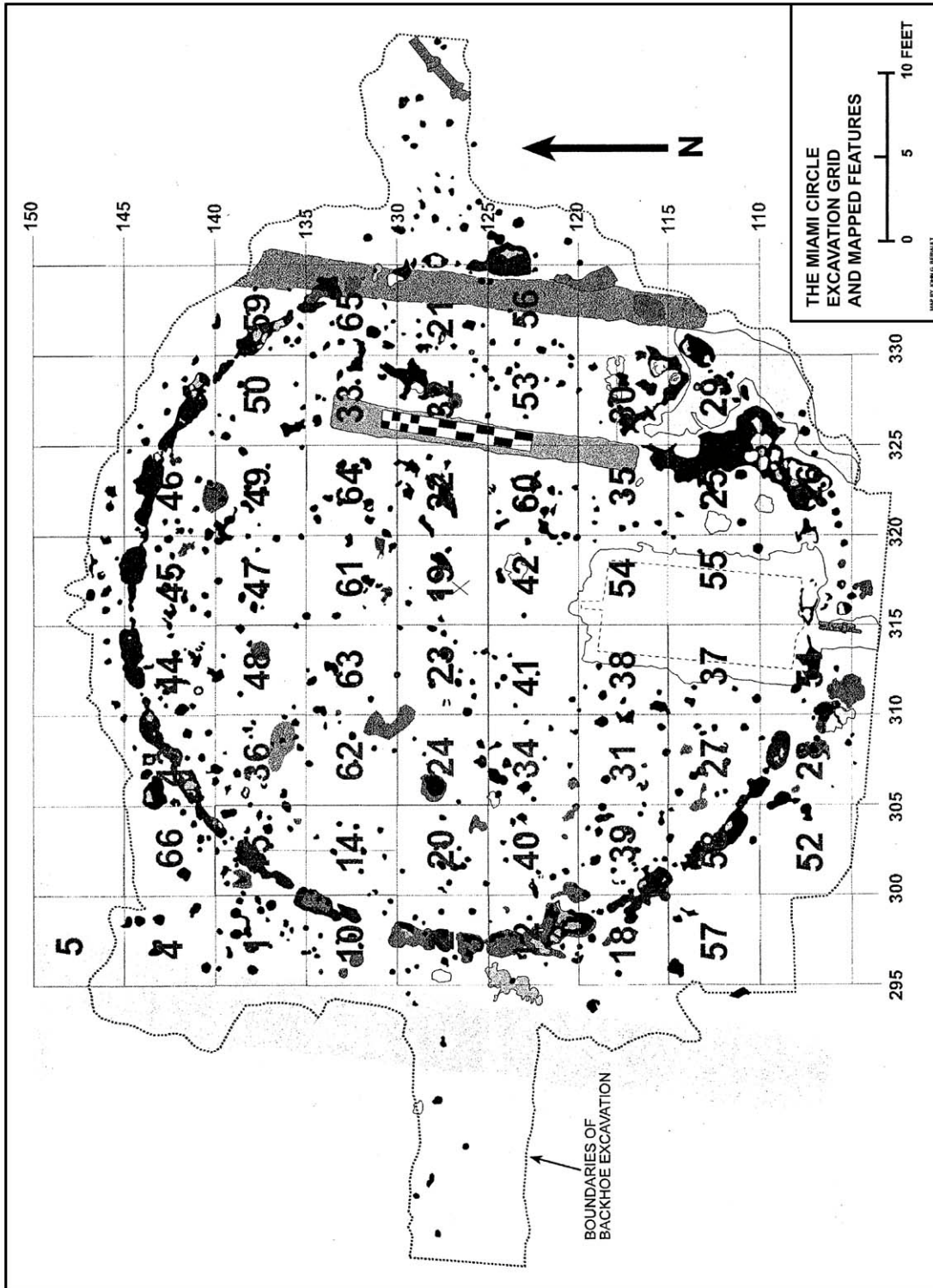


Figure 12. Plan of the Miami Circle, showing excavation unit numbers and major basin and hole features (after Carr and Ricsak 2000:Figure 8).

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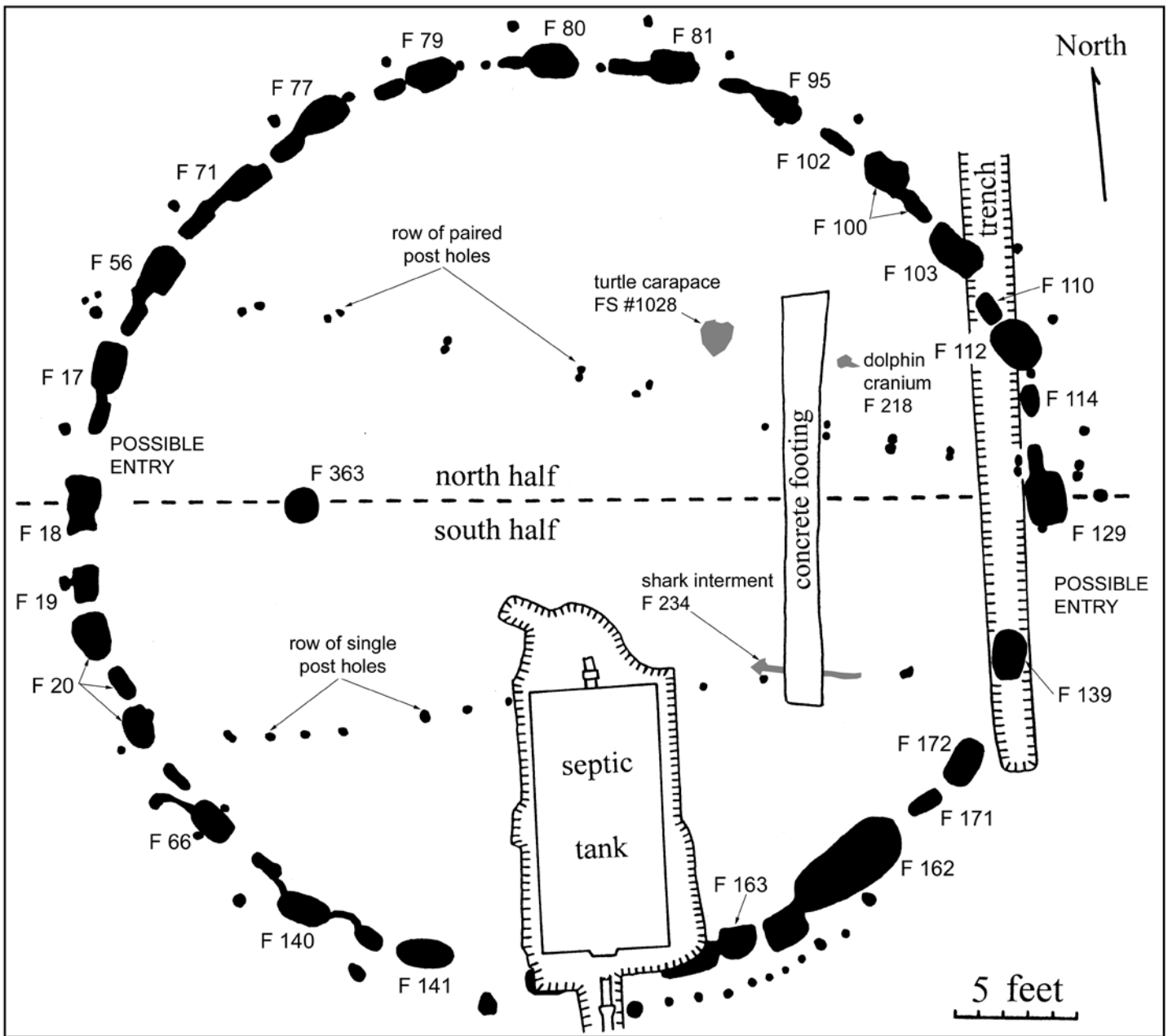


Figure 13. Simplified sketch map of the Miami Circle showing the major features (after a map by George Luer, see Weisman et al 2000:344).

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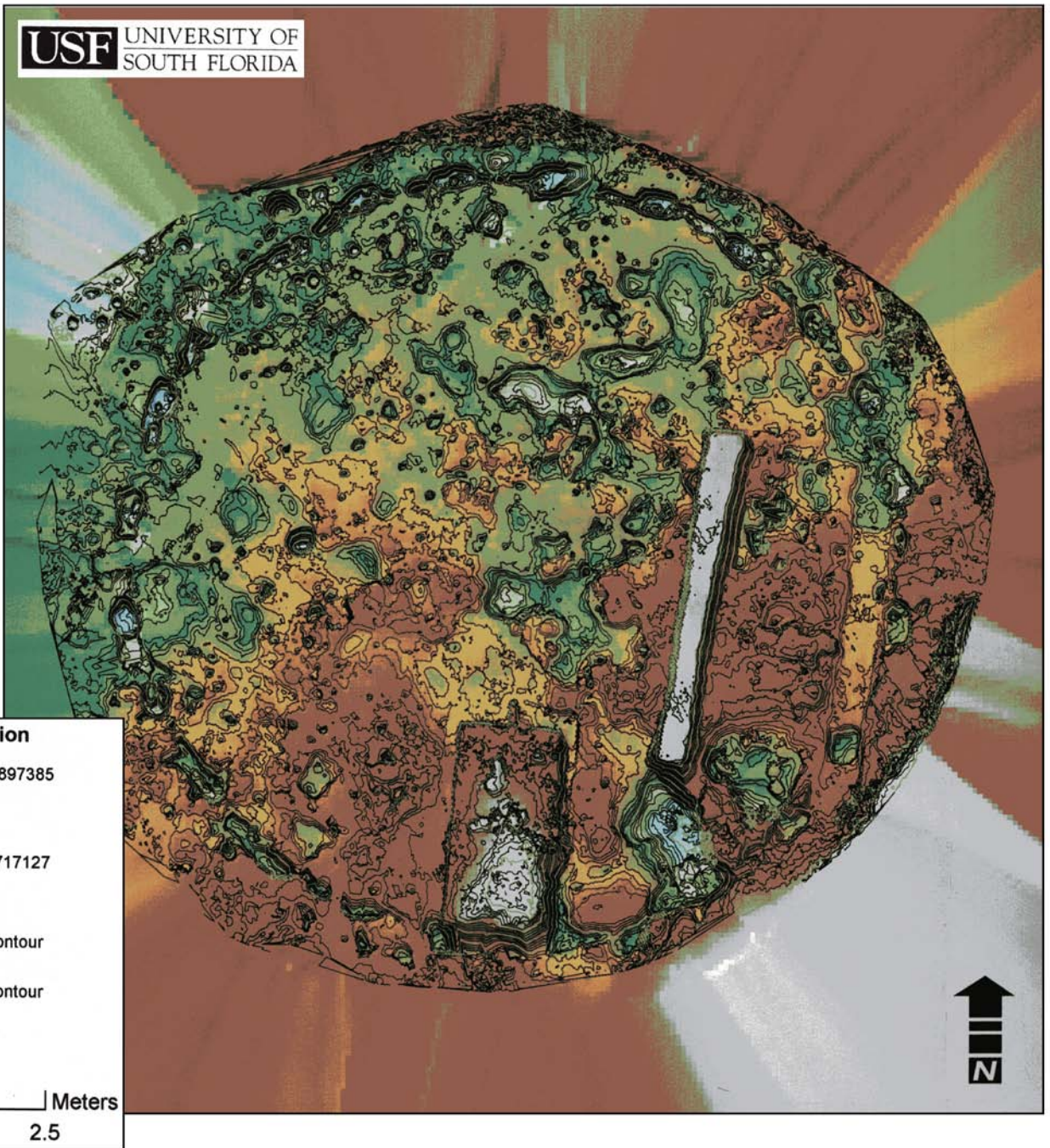


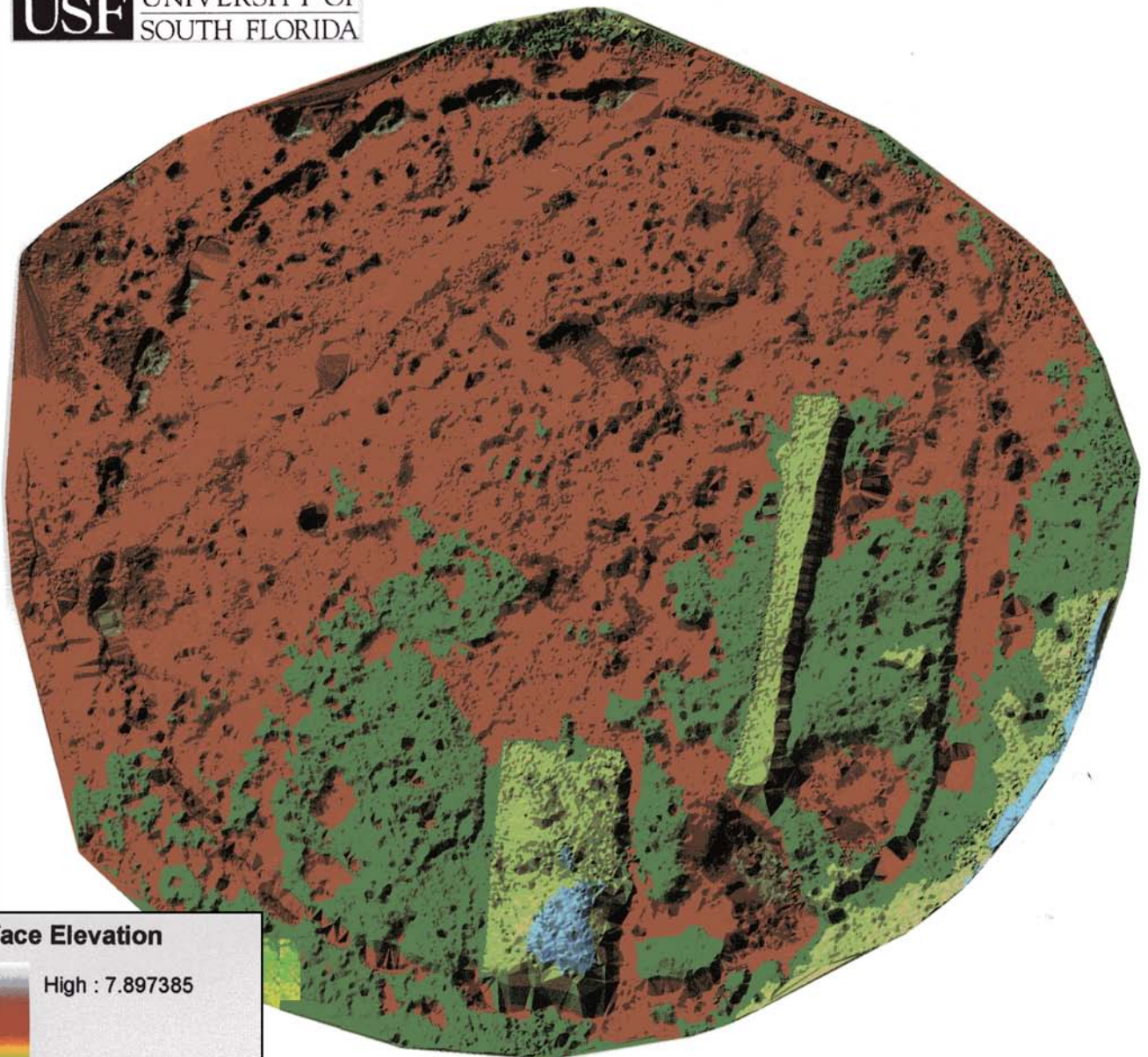
Figure 14. Surface analysis and contour map of the Miami Circle, based on 3D laser scanning (after Weisman and Collins 2003:Figure 7).

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USF UNIVERSITY OF SOUTH FLORIDA



Surface Elevation

High : 7.897385

Low : 2.717127

5cm contour

Meters

0 1.25 2.5



Figure 15. Triangulated Irregular Network (TIN) of the Miami Circle, based on 3D laser scanning (after Weisman and Collins 2003:Figure 12).

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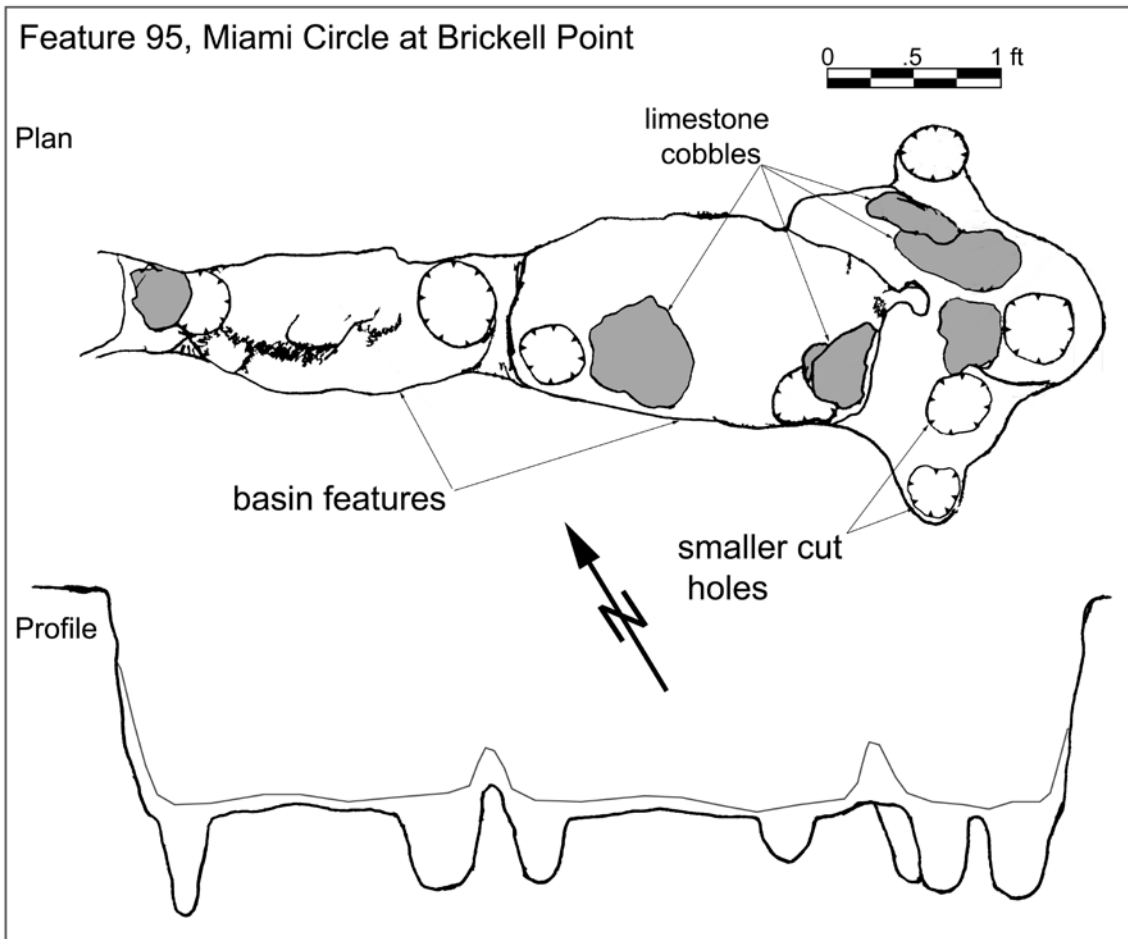


Figure 16. Plan and profile cross-section of Feature 95 from the northeastern arc of the Miami Circle feature. The drawing illustrates the arrangement of the large basin features and the smaller holes found in the bottom of the basins (based on field sketches).

Miami Circle at Brickell Point

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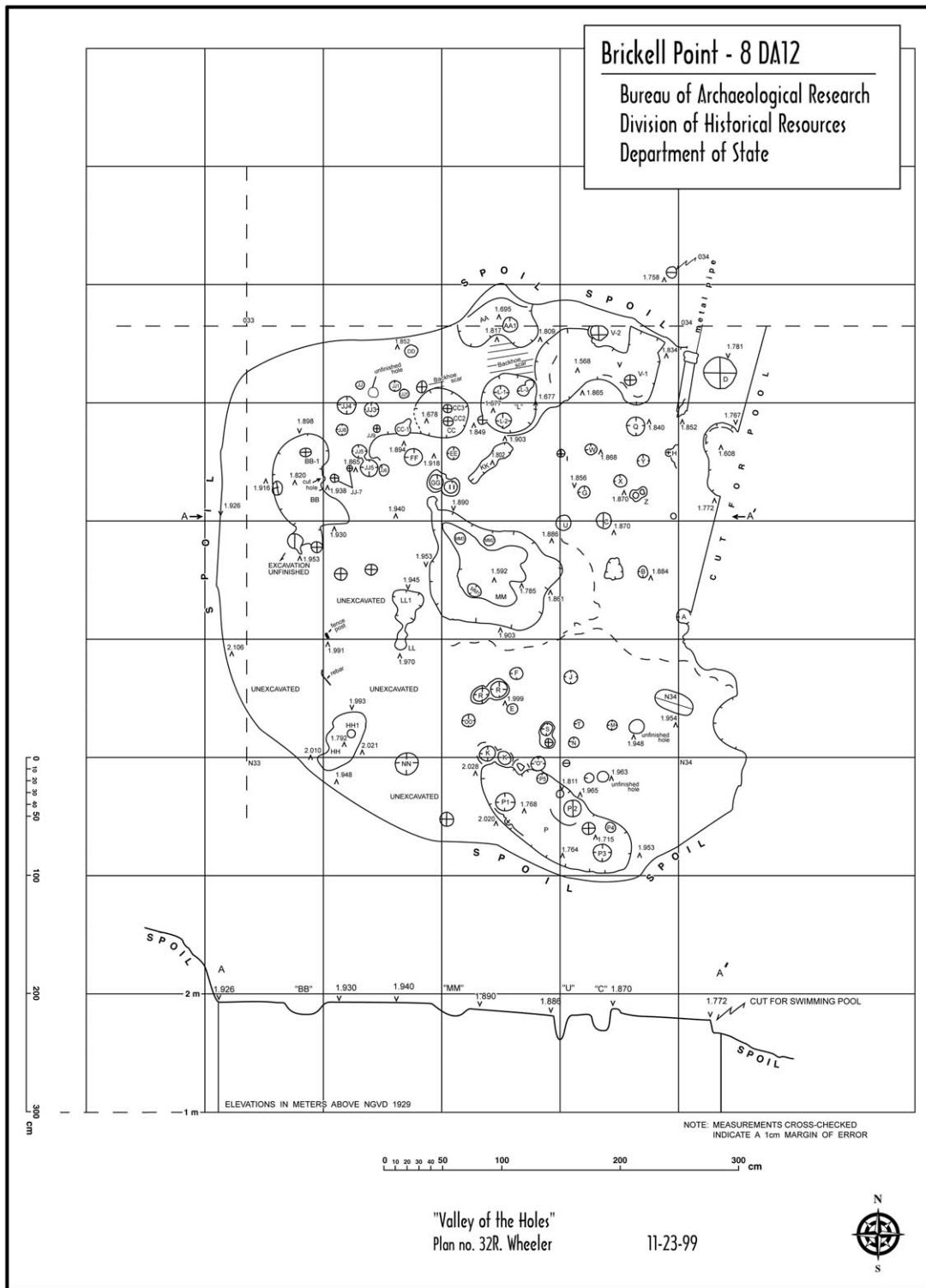


Figure 17. Plan of the N34 or "Valley of the Holes" area investigated during the State of Florida/Operation 2 excavations (after Wheeler 2000a:Figure 13).

8DA12, OP2 & OP3, BRICKELL POINT SITE Post Hole Locations

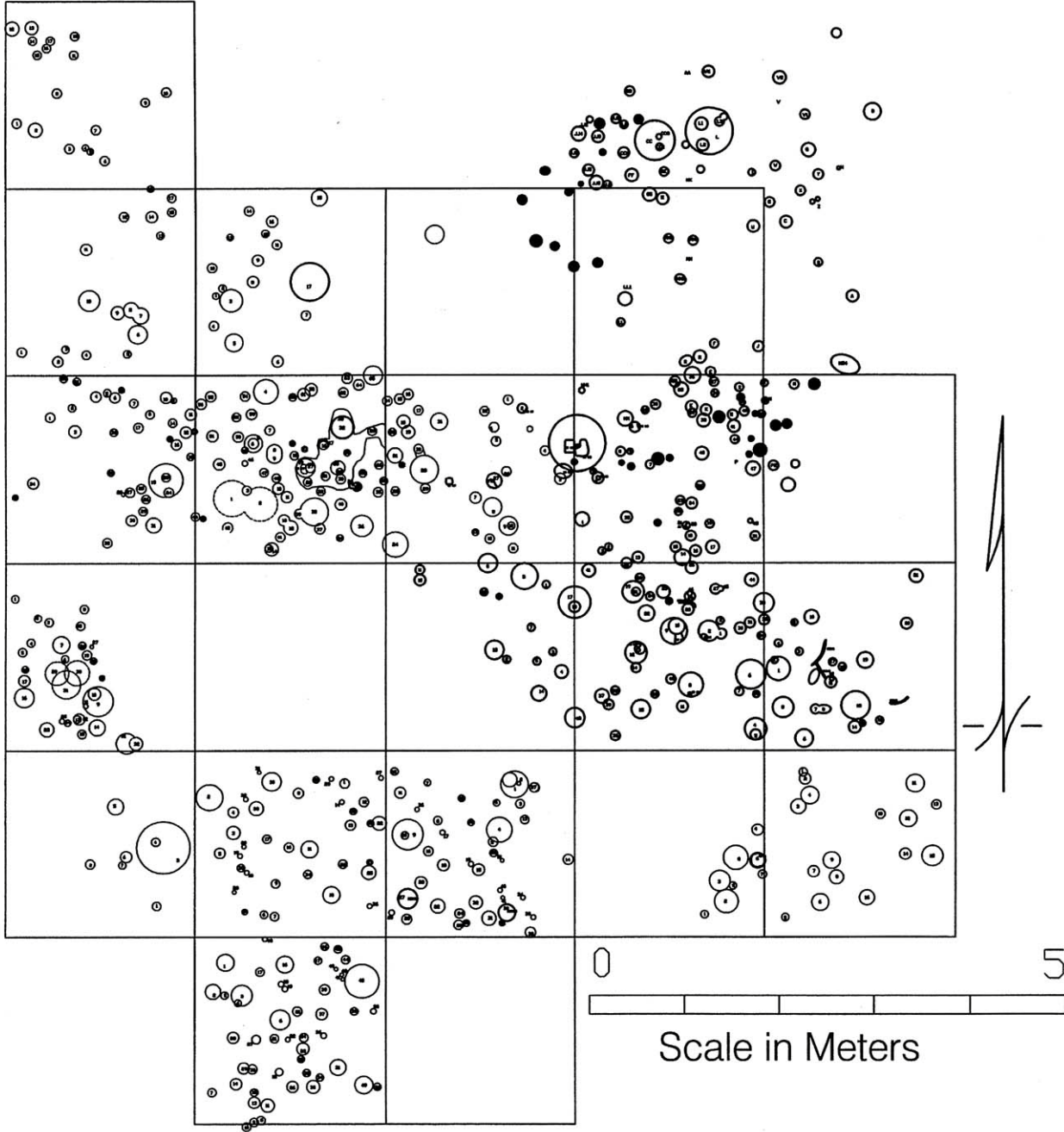


Figure 18. Plan of State of Florida investigations ("Valley of the Holes") and 2000 field school excavations (after Widmer 2003:Figure 13).

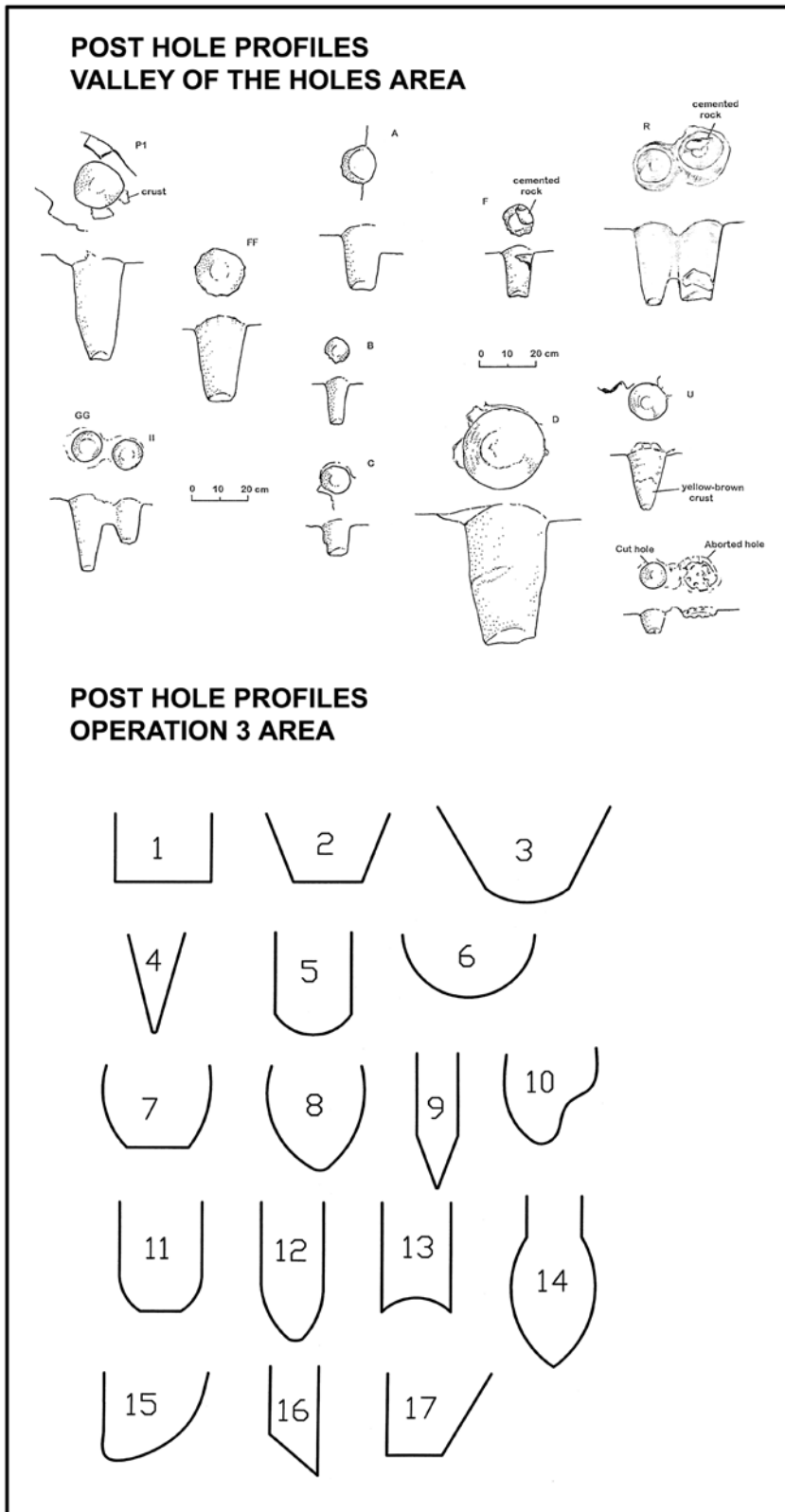


Figure 19. Posthole forms encountered during excavations: top) State of Florida investigation; bottom) 2000 field school excavations (after Wheeler 2000a:Figure 15 and Widmer 2003:Figure 14).

Miami Circle at Brickell Point

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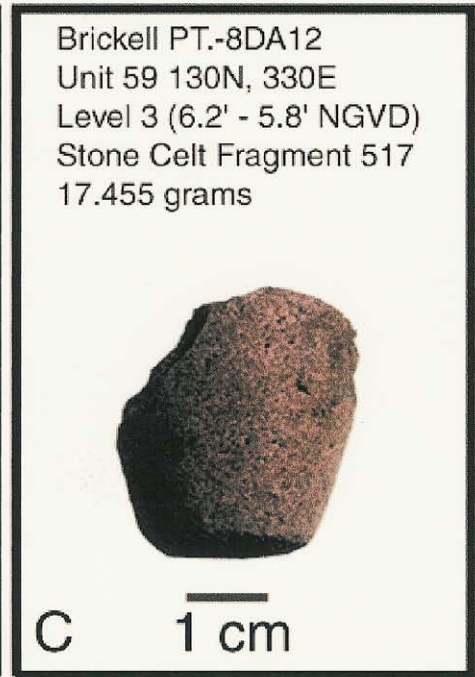
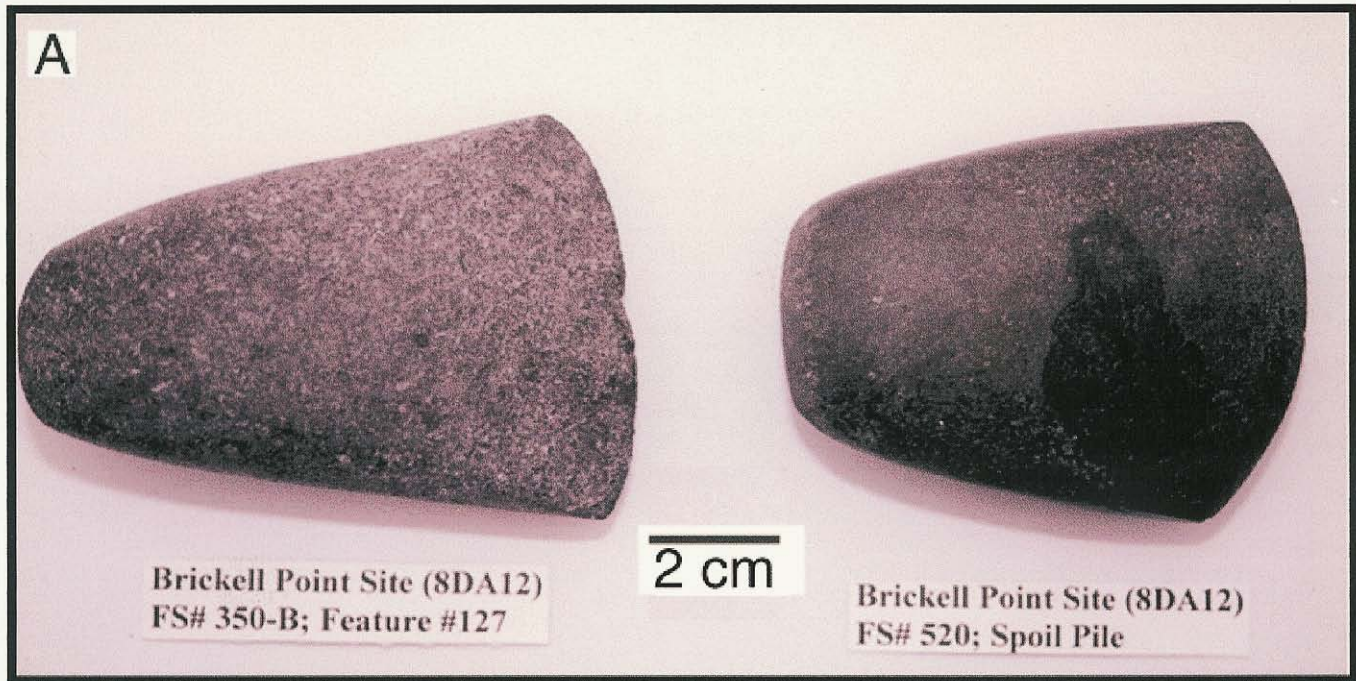


Figure 20. Ground stone celts and celt fragments from the Miami Circle at Brickell Point, used in sourcing study (after Dixon et al. 2000:Figure 3).

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Figure 21. Bifacial and unifacial chipped stone artifacts from the Miami Circle at Brickell Point (after Austin 2003:Figure 5): a) Hernando biface fragment; b) possible Columbia biface; c-d) proximal ends of possible hafted drills; e) distal drill fragment; f) blank or perform; g-h) small unifacial scrapers.

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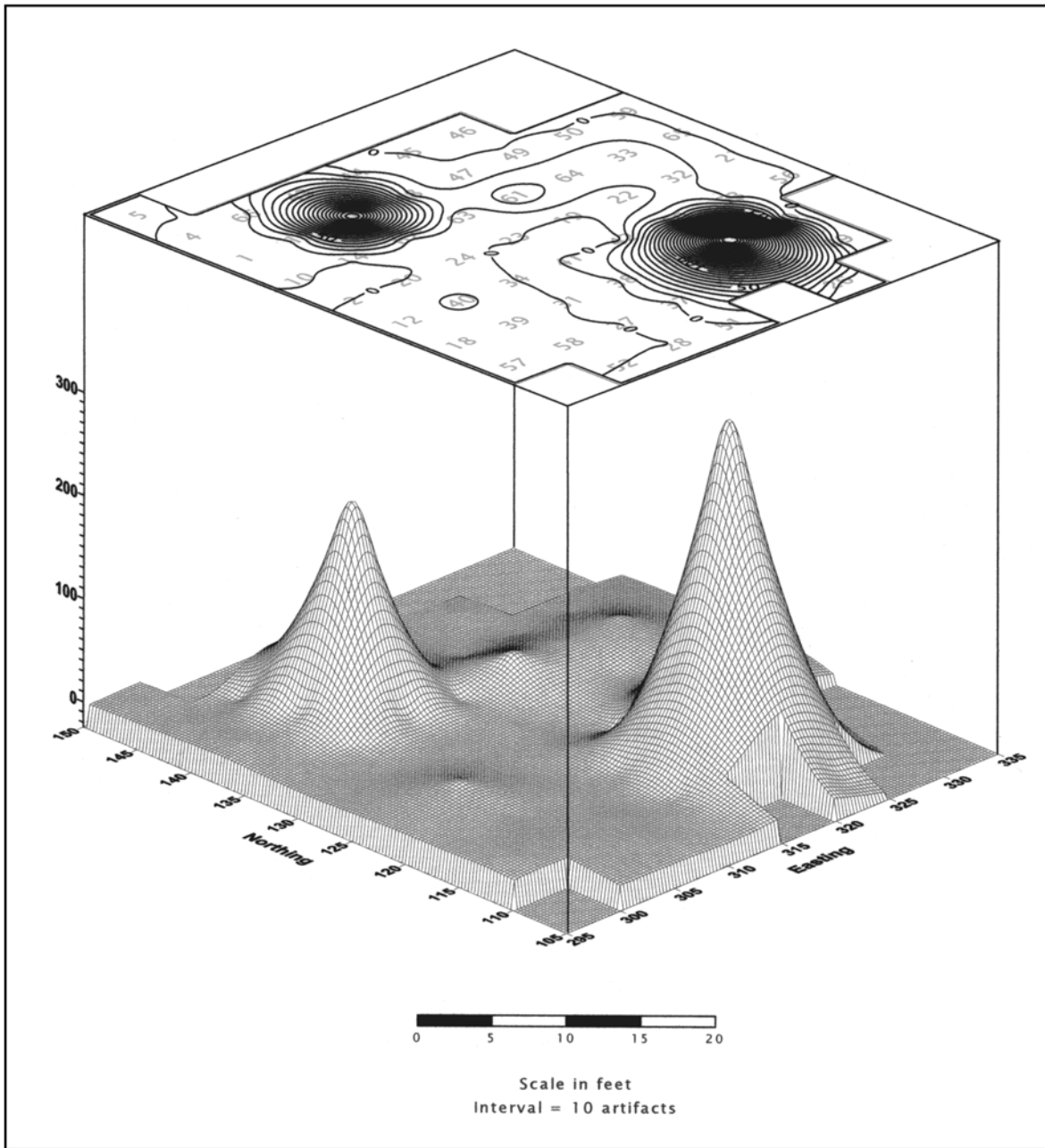


Figure 22. Spatial distribution of chipped stone artifacts in the excavations of the Miami Circle (from Austin 2004:122).

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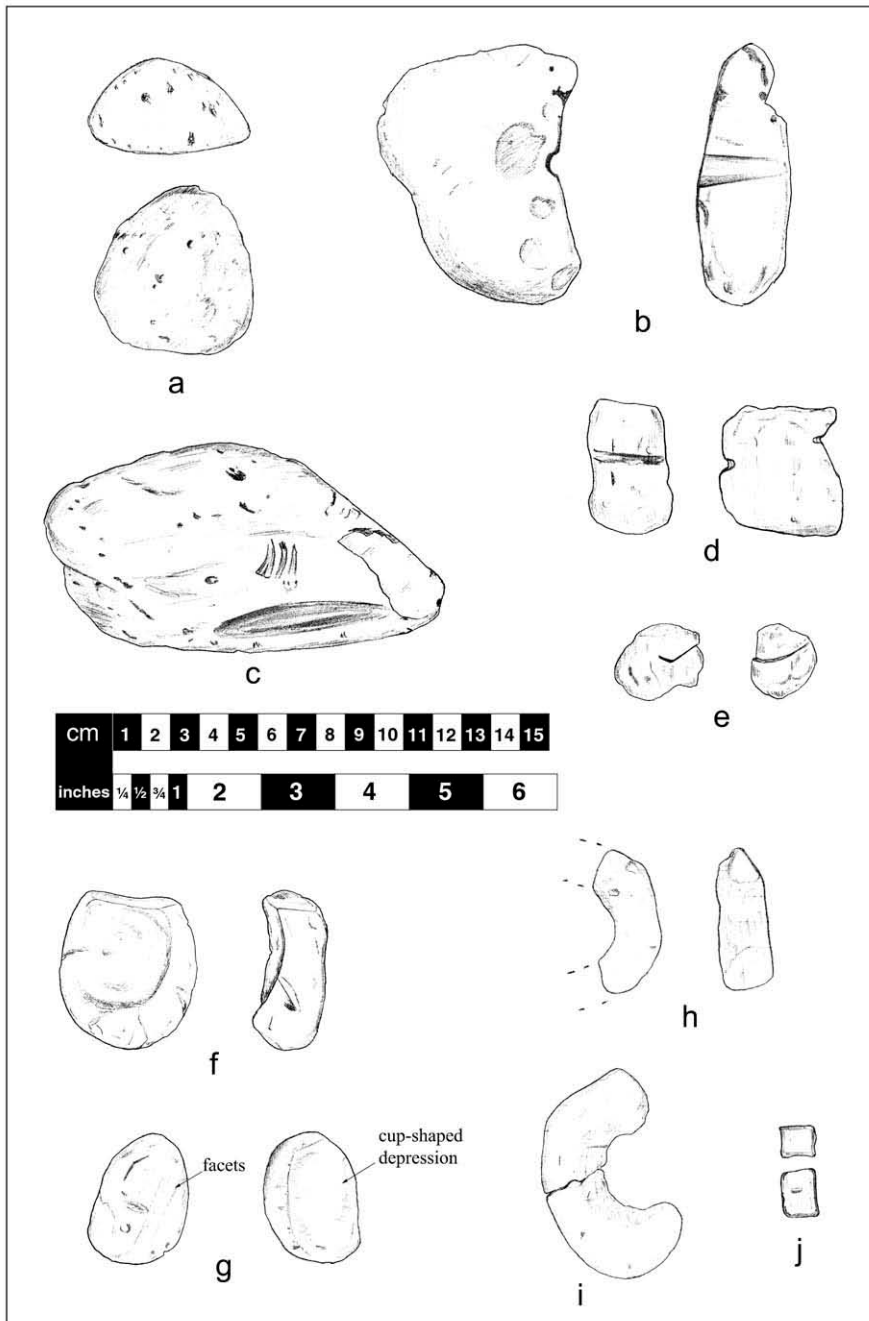


Figure 23. Pumice artifact forms (after Wheeler 2002b:Figure 7): a) dome-shaped with one flat surface (MDC.1.254.25c); b) shallow groove (MDC.1.471.6); c) shallow groove (MDC.1.166.4); d) deep scoring (MDC.1.579.12); e) deep scoring (MDC.1.427.9); f) cup-shaped depression, side and reverse reviews (HMSF 492, Brickell Point site); g) facets on obverse, cup-shaped depression on reverse (MDC.1.569.12); h) crescent-shaped (MDC.1.628.9); i) crescent-shaped (MDC.1.629.13); j) cube-shaped (MDC.1.254.25a). All from Miami Circle, except f (from the neighboring Holiday Inn/Sheraton Hotel/Icon Brickell parcel).

Miami Circle at Brickell Point

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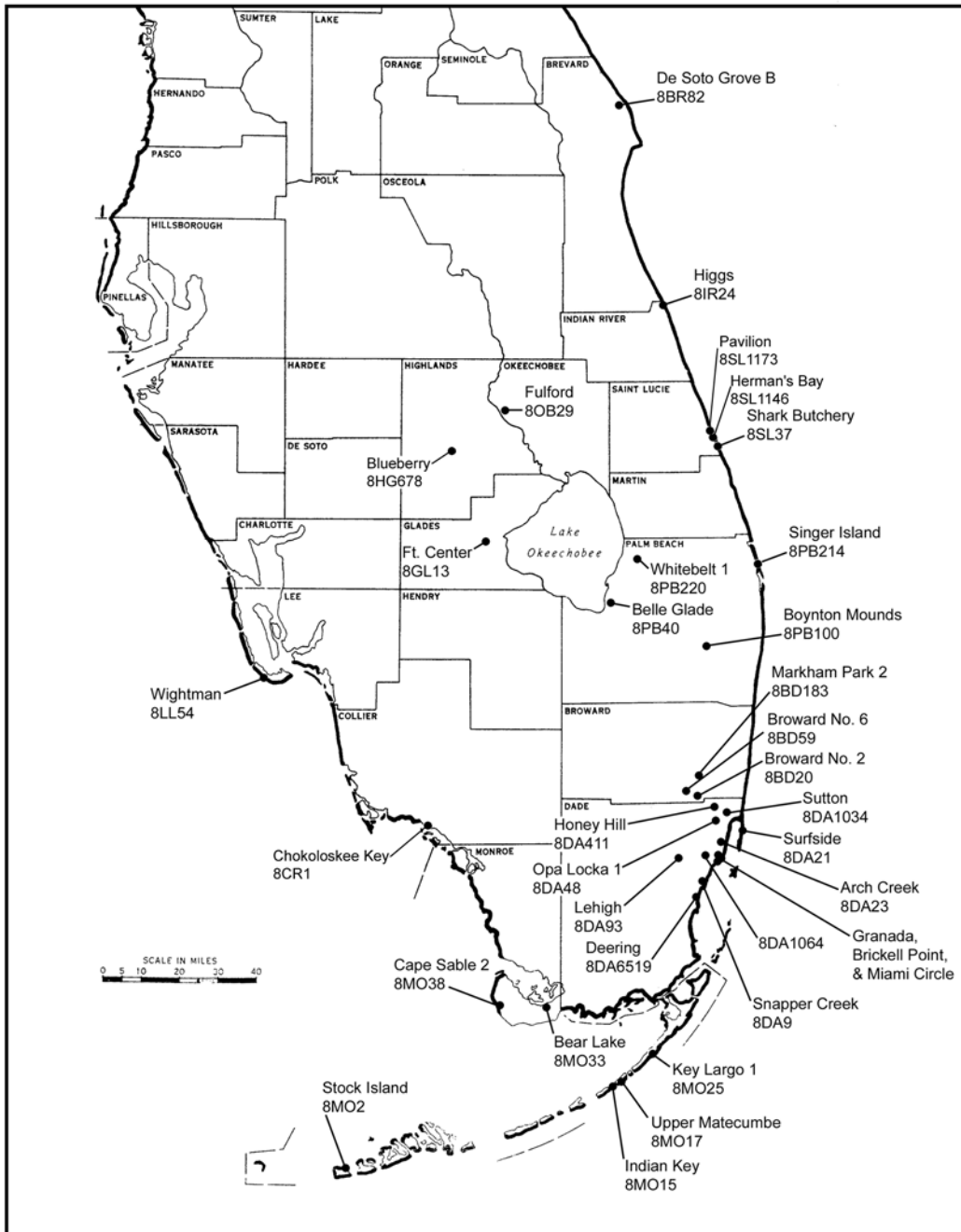


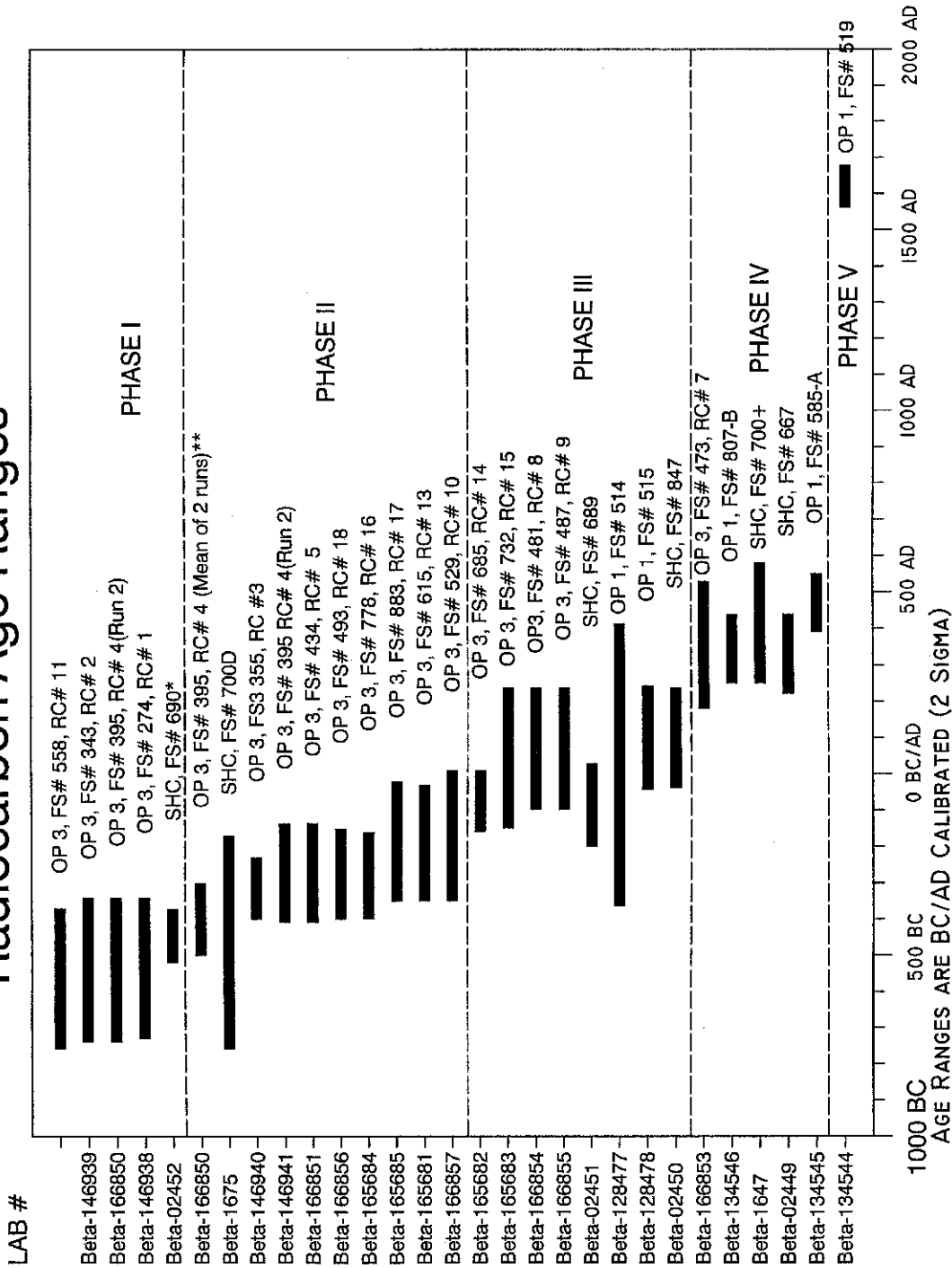
Figure 24. Distribution of pumice artifacts in archeological sites of southern Florida (Wheeler 2002b:Figure 11).

Miami Circle at Brickell Point

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8DA12 Brickell Point Site Radiocarbon Age Ranges



* SHC FS# 690 has an early appearing date range due to a flatness in the calibration curve at this point.

** This date represents the average of two combined C14 dates (Beta-166850 & Beta-14694) on the same sample.

SHC dates are from Carr and Ricipsak 2000:267 Table 1, OP 1 dates are from Carr and Ricipsak 2000:282 Table 2.

Figure 25. Radiocarbon age ranges from the Miami Circle at Brickell Point (8DA12) and Brickell Point/Sheraton Hotel (8DA98) (after Widmer 2003:Figure 11).

Miami Circle at Brickell Point

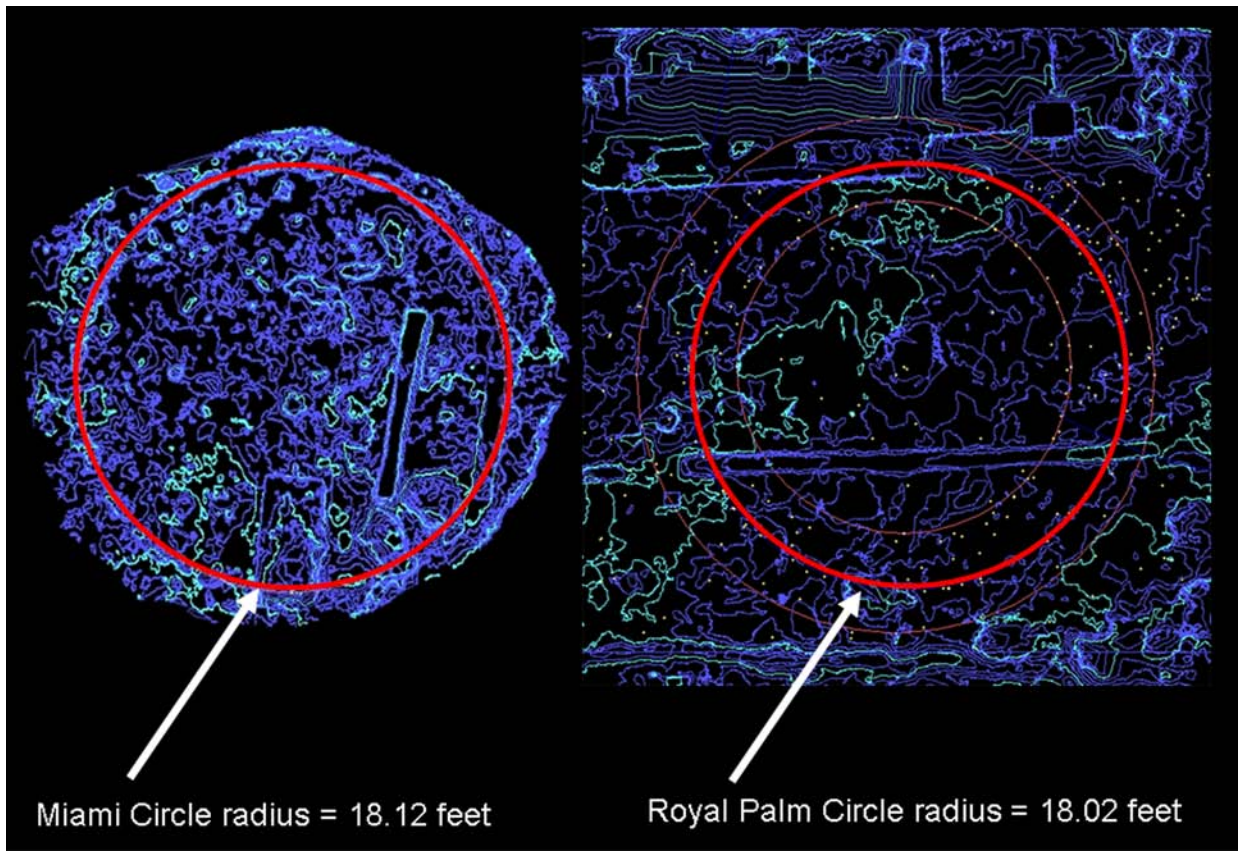


Figure 26. 3D scan survey data for the Miami Circle (left) and Royal Palm Circle (right) comparing radius measurements (from Collins et al. 2006:Figure 12).

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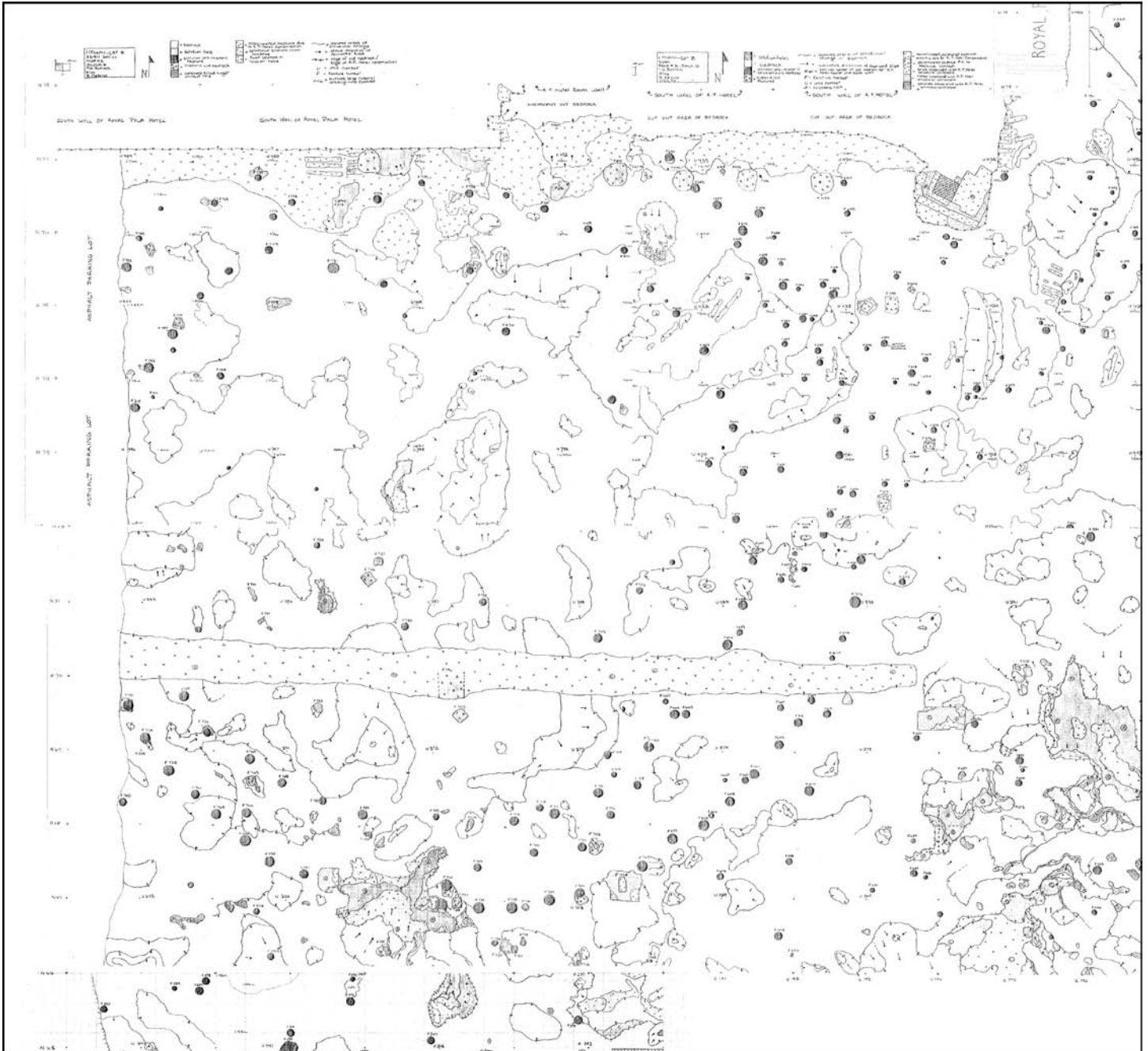


Figure 27. Field map of the Royal Palm Circle at site 8DA11 (courtesy of the Archaeological & Historical Conservancy, Inc.).

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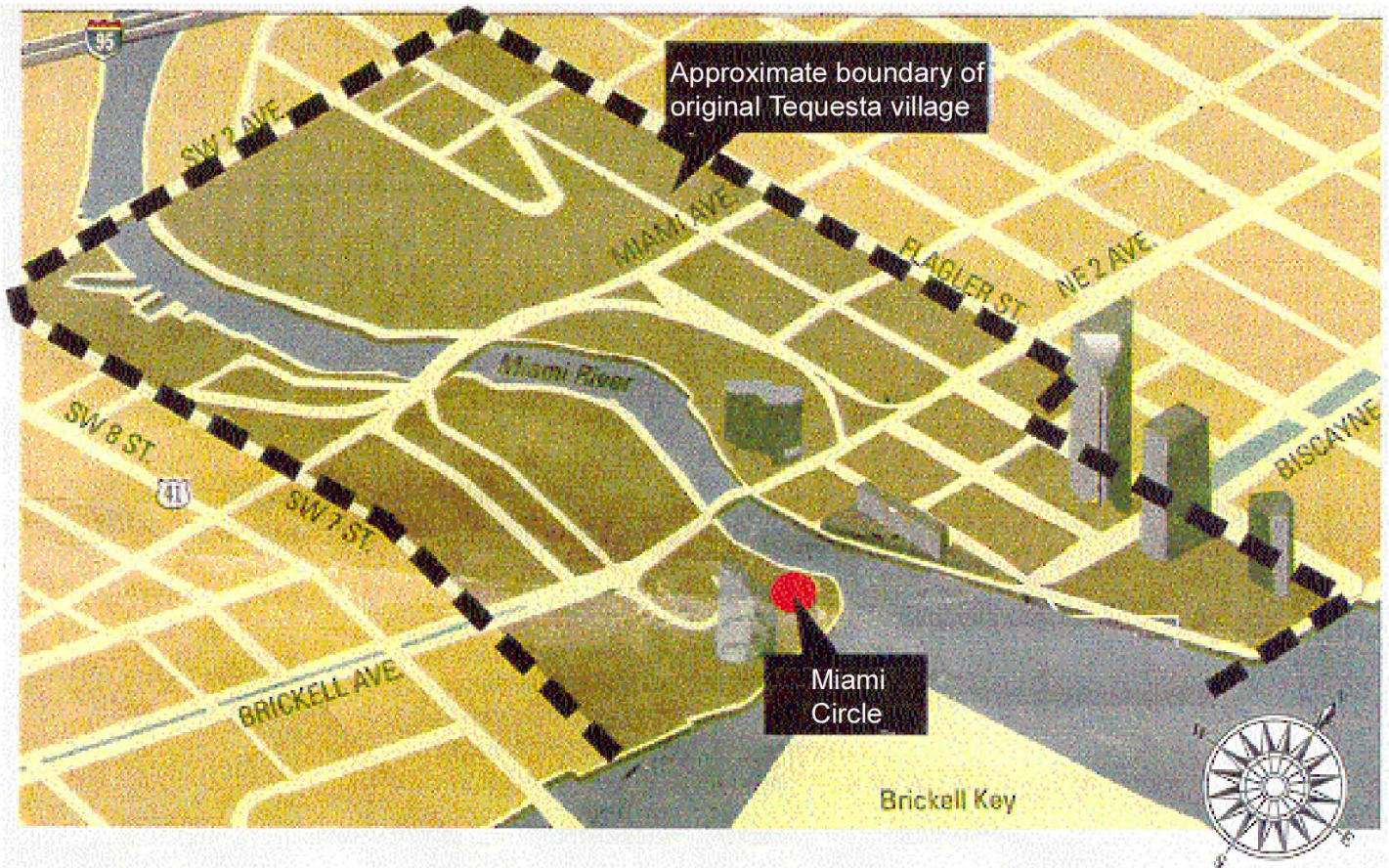


Figure 28. Oblique view showing approximate original extent of the Tequesta village and the Miami Circle at Brickell Point site considered in this nomination (based on a graphic produced by the Miami Herald).

Miami Circle at Brickell Point

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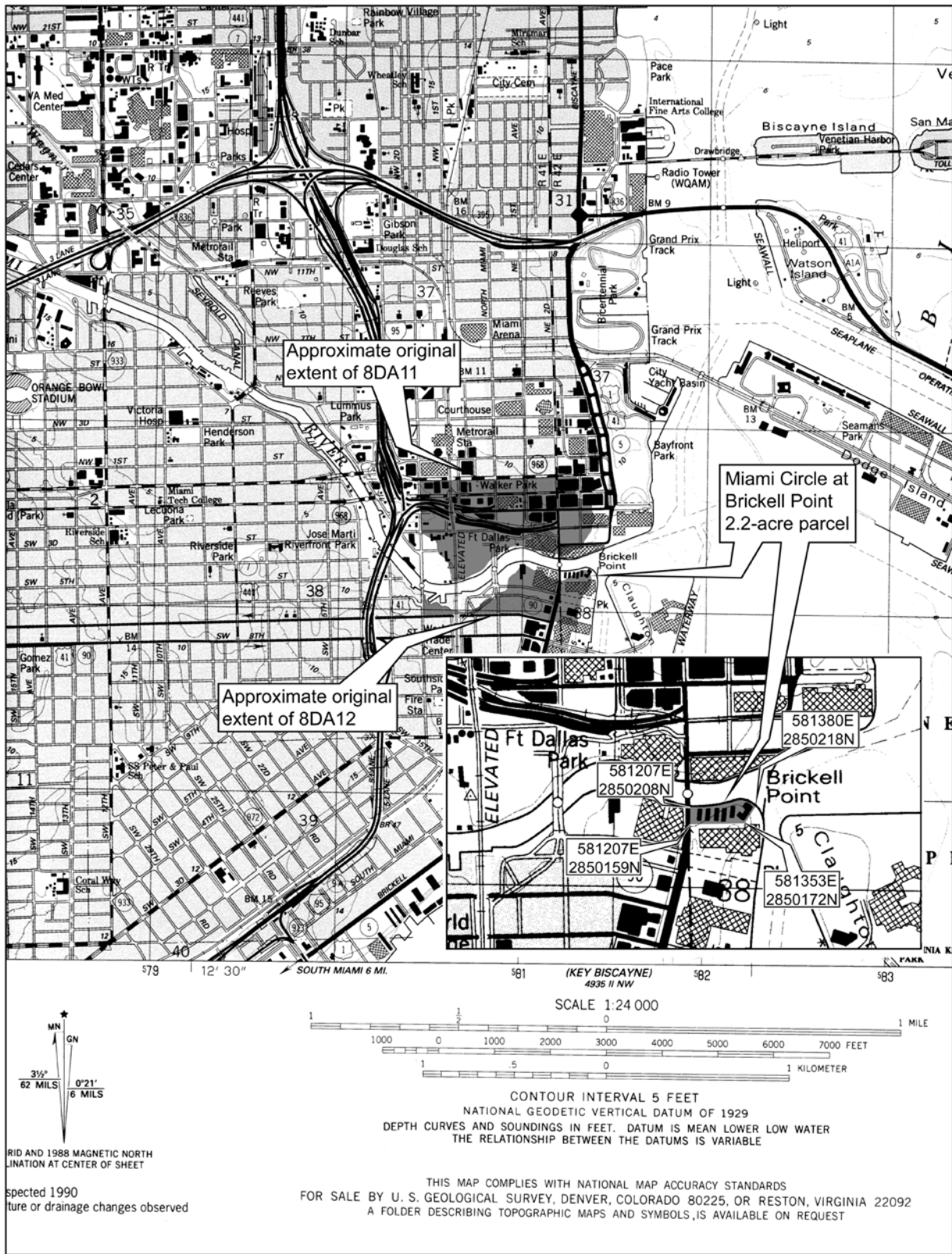


Figure 29. Map showing the approximate original extent of Miami Midden No. 1/Granada site (8DA11) on the north side of the Miami River and Miami Midden No. 2 (8DA12) on the south side of the river, along with the Miami Circle at Brickell Point site considered in this nomination (base map from U.S.G.S. 1988). Detail includes UTM coordinates for the 2.2-acre Miami Circle at Brickell Point property.

Miami Circle at Brickell Point

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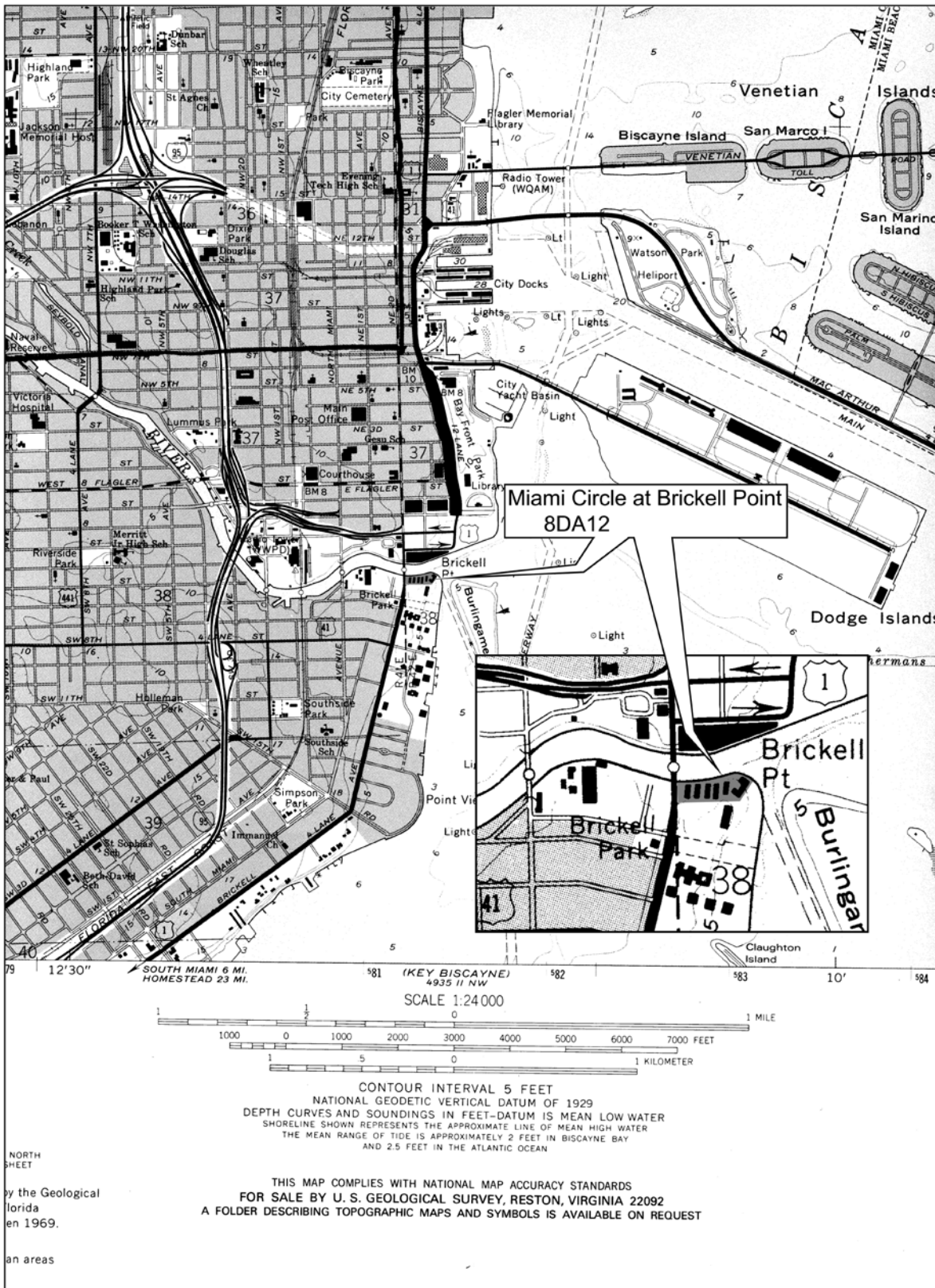


Figure 30. The Miami Circle at Brickell Point site boundaries overlain on the 1960s era map of downtown Miami. The black rectangles shown within the 2.2-acre shaded parcel are the Brickell Point Apartments (base map U.S.G.S. 1962).

Miami Circle at Brickell Point

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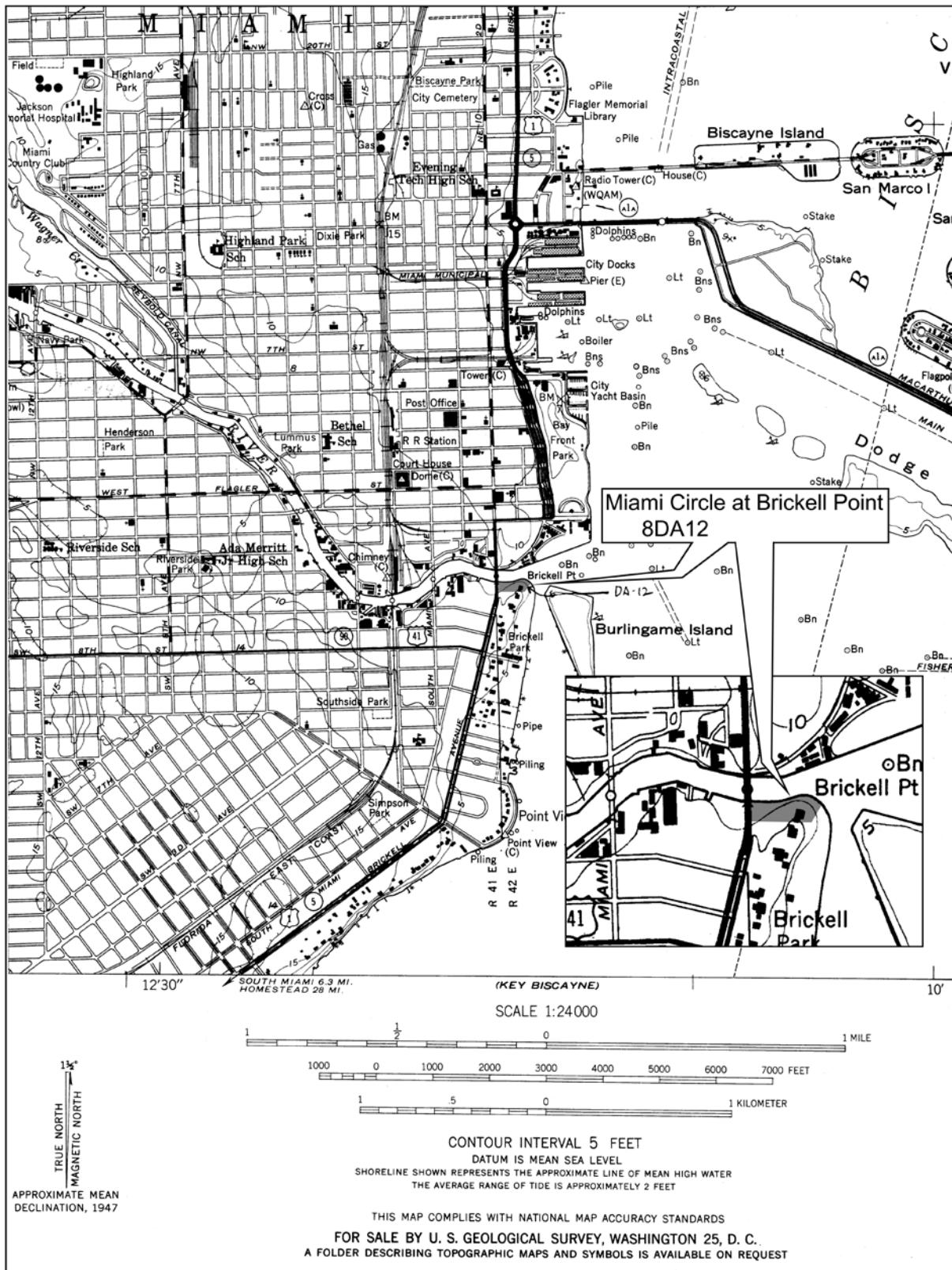
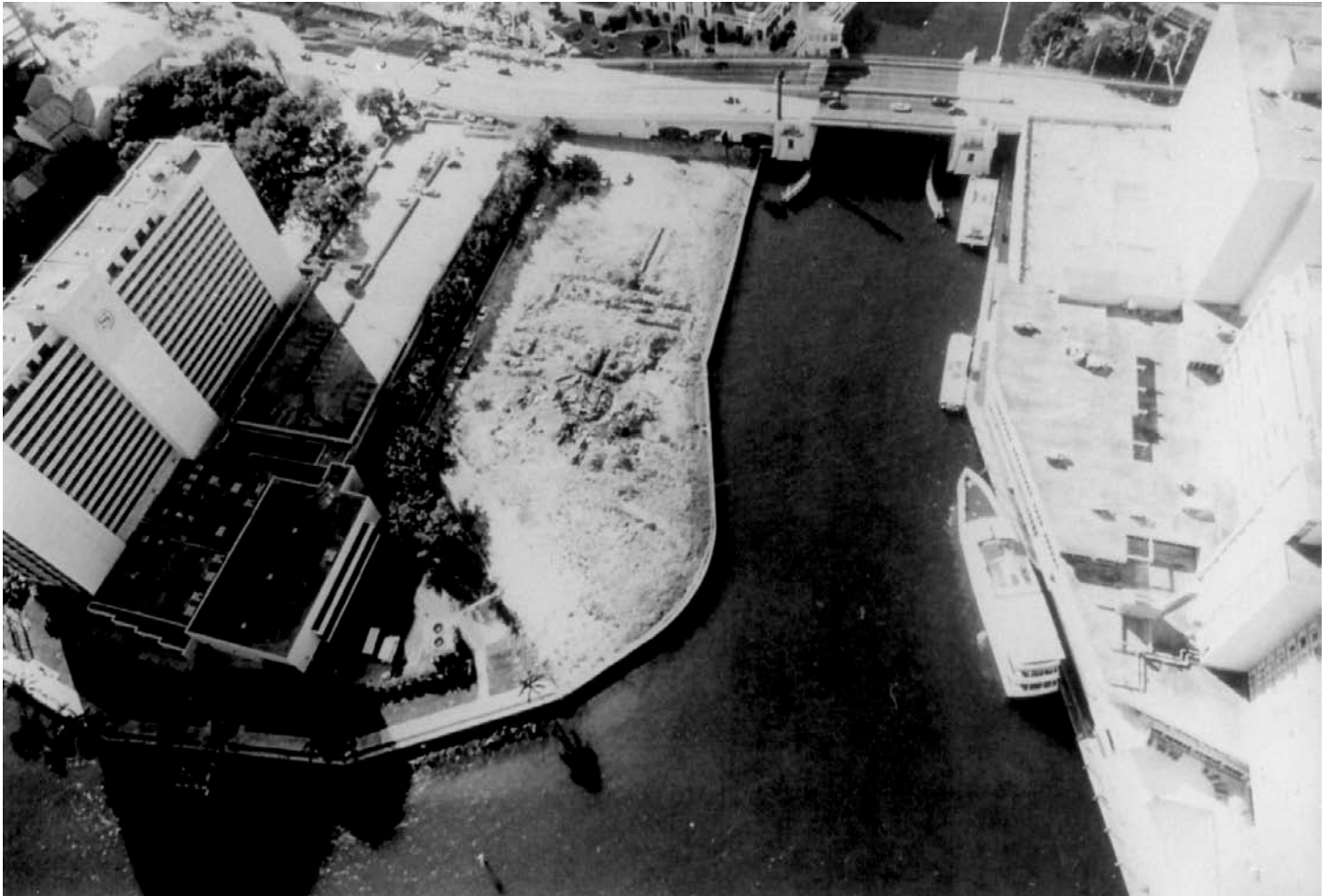


Figure 31. The Miami Circle at Brickell Point site boundaries overlain on the 1950 map of downtown Miami. The black rectangle shown within the 2.2-acre shaded parcel is the rusticated concrete block house built in 1909 by the Brickell family. Other Brickell family buildings are located to the south of the shaded parcel (base map U.S.G.S. 1950).

Miami Circle at Brickell Point**Page 123**

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Photograph 1 of 28. Oblique aerial view of Brickell Point property showing excavation areas and demolition trenches; the Sheraton Hotel (now demolished) is to the left and the Dupont Plaza (now demolished) is to the right of the Miami River, camera facing west. Photograph by Al Diaz, Miami Herald, Miami.

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Photograph 2 of 28. Oblique view of Brickell Point property showing grass cover and view of Biscayne Bay, camera facing east. Photograph by Ryan J. Wheeler, Panamerican Consultants, Inc., Tallahassee.

Miami Circle at Brickell Point**Page 125**

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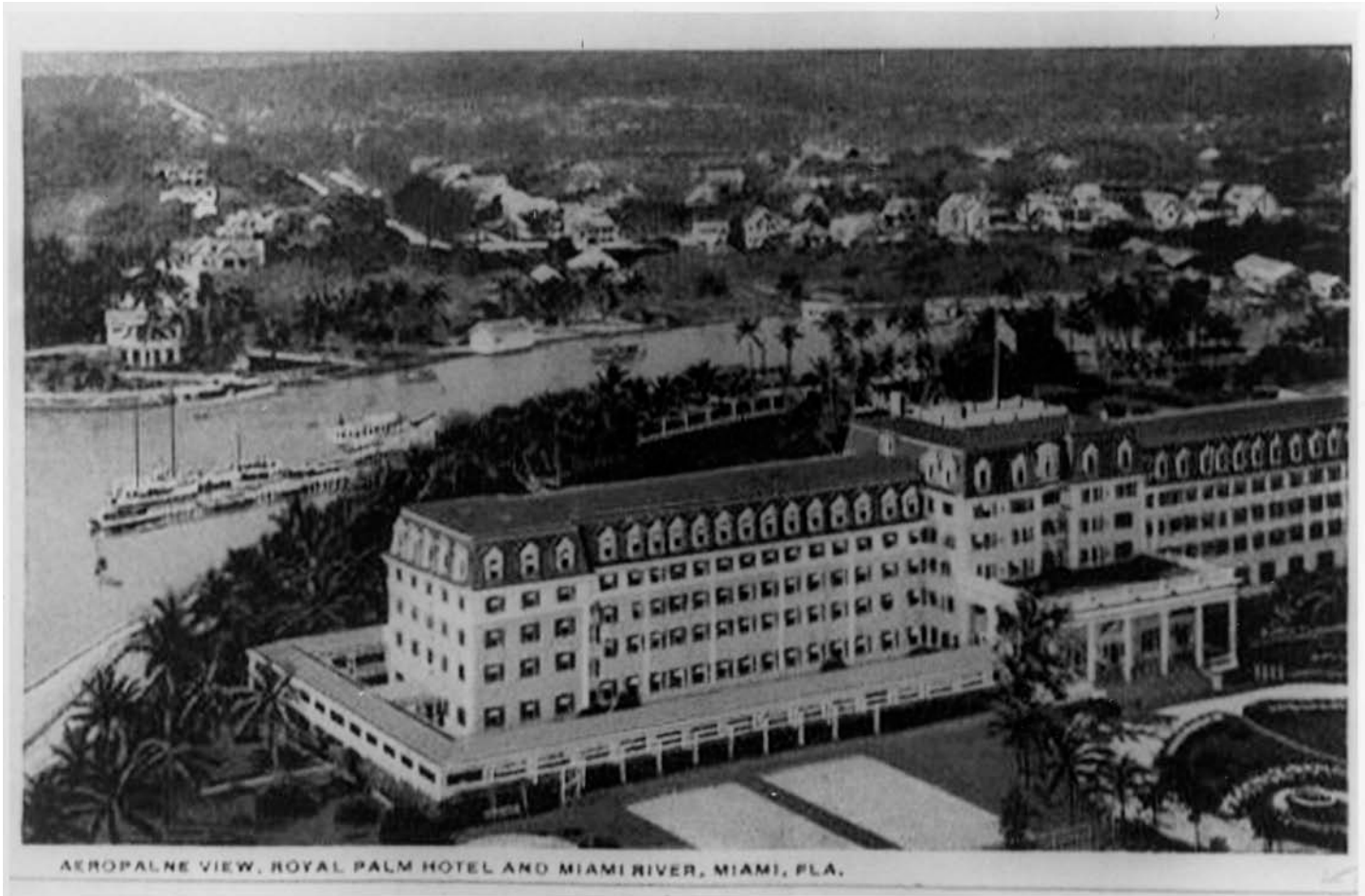


Photograph 3 of 28. View of Brickell Point, ca. 1898, camera facing south. The buildings visible on the southern bank of the river include, from left to right, a thatched structure, the Brickell warehouse, and the boathouse. Image Rc05722, Florida State Archives, Tallahassee.

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Photograph 4 of 28. Post card titled "Aeropalne (sic) view, Royal Palm Hotel and Miami River, Miami, Fla." Image circulated in November 2002 by archeologist Jerald T. Milanich. The structure shown on the south bank of the river is likely the rusticated block building built in 1909 by the Brickell family and used as a boarding house. Milanich speculated that the columns of the front porch were a gazebo related to the prehistoric Miami Circle feature. Compare with Photograph 5.

Miami Circle at Brickell Point**Page 127**

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Photograph 5 of 28. Aerial photograph of Brickell Point and the Miami River, ca. 1918 by Richard B. Hoit. The photograph shows the dredging and bulkheading of the Brickell property on the south bank of the river. The structure shown on the south bank of the river is the rusticated block building built in 1909 by the Brickell family and used as a boarding house. Comparison of this photograph with the image in Photograph 4 demonstrates that the columns in front of the building are simply part of the front porch. Image Rc19618, Florida State Archives, Tallahassee.

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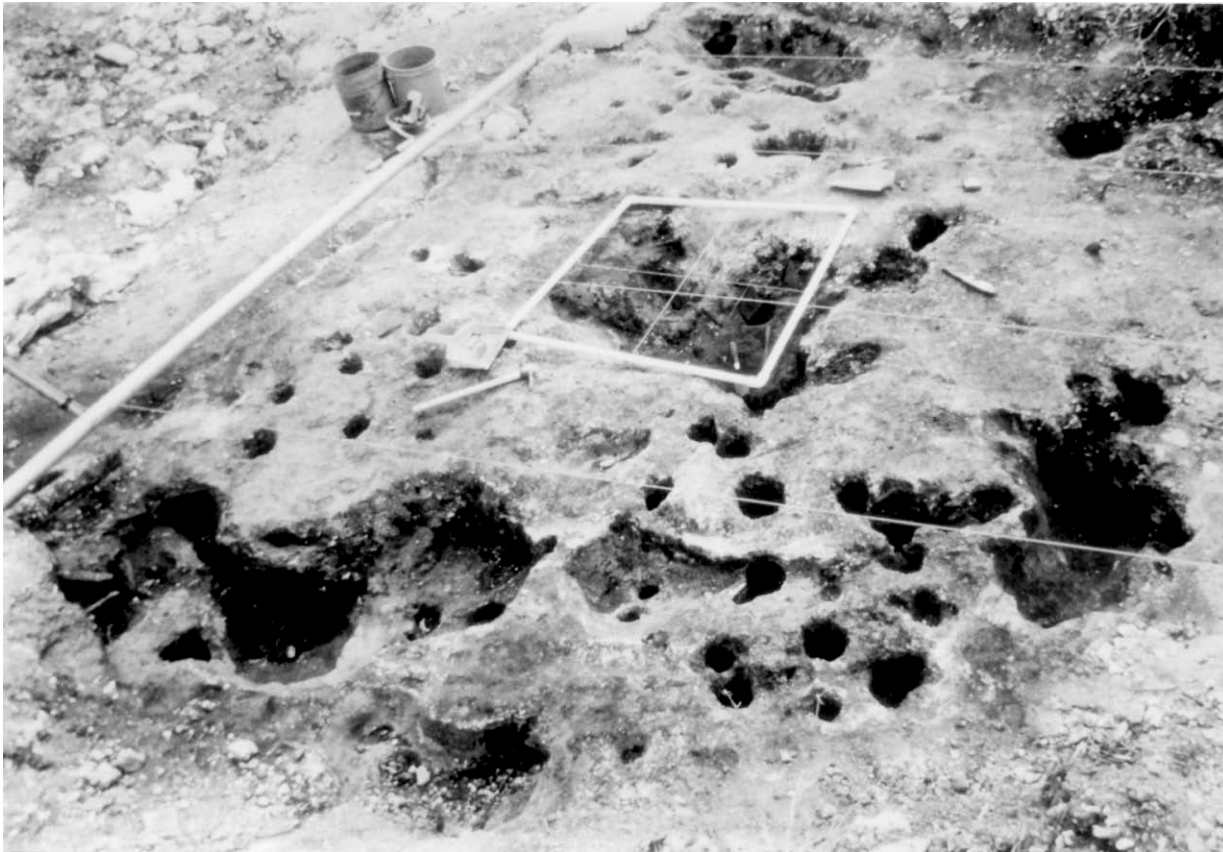


Photograph 6 of 28. View of the northern arc of the Miami Circle shortly after the feature was uncovered and prior to the excavation of the midden material from the individual basin features; the basin features are (foreground to back ground) Features 79, 80, 81, and 95, camera facing east. Photograph by John Ricisak, Miami-Dade County Office of Historic Preservation, Miami.

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Photograph 7 of 28. View of the "Valley of the Holes" or N34 area during excavation, camera facing southeast. Photograph by Ryan J. Wheeler, Bureau of Archaeological Research, Tallahassee.

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Photograph 8 of 28. View of the Miami Circle feature (in foreground), with Operation 3 excavations on-going under tents, camera facing northeast. Photograph by Ryan J. Wheeler, Bureau of Archaeological Research, Tallahassee.

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Photograph 9 of 28. View of midden deposit with lucine clam lens under the low concrete footing; the ruler is resting on the oolitic limestone bedrock, camera facing east. Photograph by Ryan J. Wheeler, Bureau of Archaeological Research, Tallahassee.

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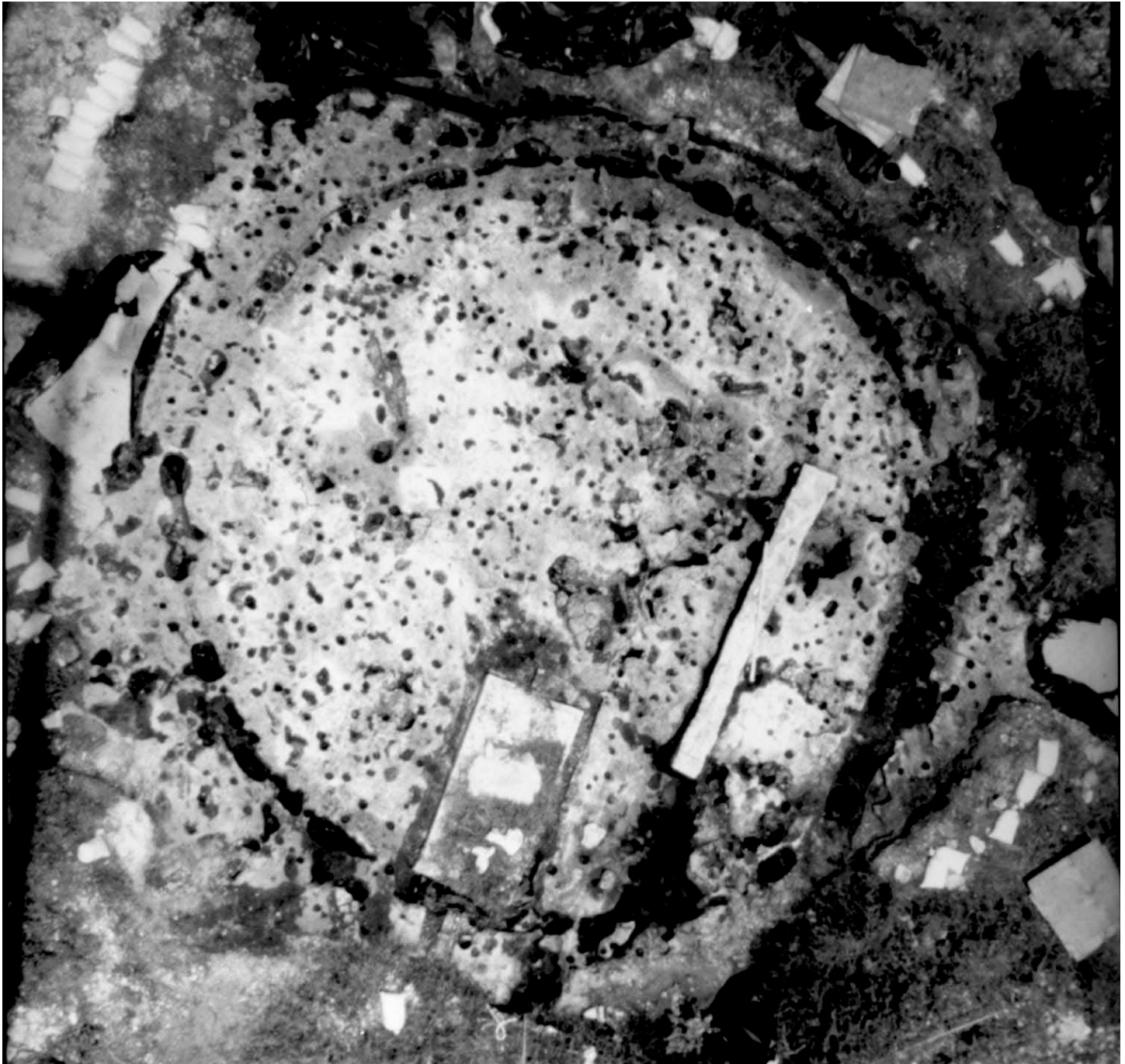
Photograph 10 of 28. View of Miami Circle feature during 3D laser scanning, Dupont Plaza in background, camera facing northeast. Photograph by Ryan J. Wheeler, Panamerican Consultants, Inc., Tallahassee.

Miami Circle at Brickell Point



Photograph 11 of 28. Aerial view of Miami Circle feature, top of photograph is slightly west of north. Photograph by John Ricisak, Miami-Dade County Office of Historic Preservation, Miami.

Miami Circle at Brickell Point



Photograph 12 of 28. Aerial view of Miami Circle feature, top of photograph is north. Photograph by Ryan J. Wheeler, Bureau of Archaeological Research, Tallahassee.

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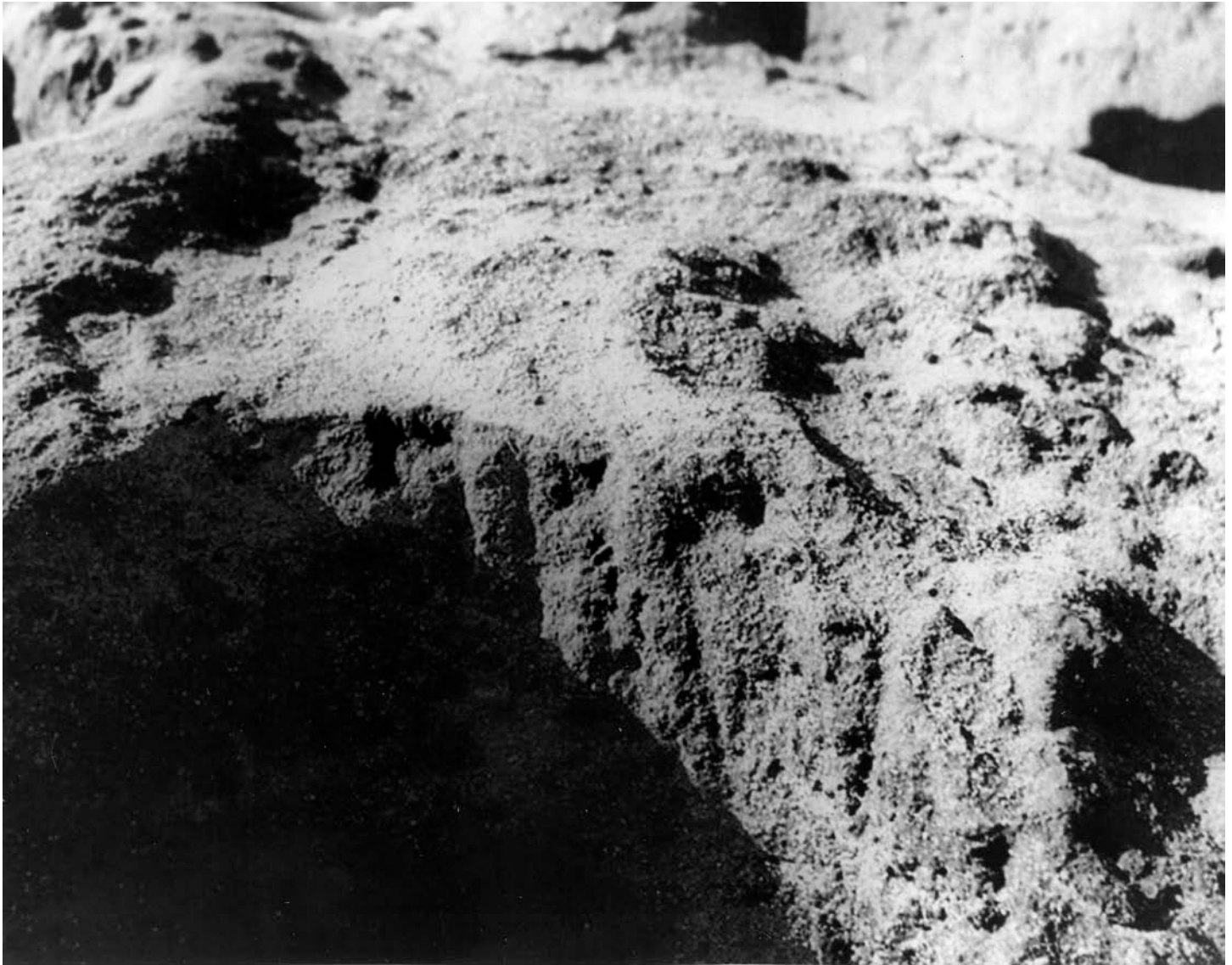
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Photograph 13 of 28. View of excavated basins along western arc of the Miami Circle feature; the basin features are (foreground to background) Features 20, 19, 18, 17, camera facing northeast. Photograph by John Ricisak, Miami-Dade County Office of Historic Preservation, Miami.

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Photograph 14 of 28. Photograph showing the vertical cut marks on the walls of one of the large basins. Photograph by Jack Lamont, Archaeological & Historical Conservancy, Inc., Miami, 1998.

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Photograph 15 of 28. View of basin Feature 71 during excavation, note dark midden soil and limestone cobbles in place, camera facing north. Photograph by John Ricasak, Miami-Dade County Office of Historic Preservation, Miami.

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Photograph 16 of 28. View of basin Feature 77 during excavation, midden is removed—note numerous smaller holes in the base of the feature and limestone cobbles in place, camera facing east. Photograph by John Ricisak, Miami-Dade County Office of Historic Preservation, Miami.

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Photograph 17 of 28. View of basin Feature 80 during excavation, midden is removed—note numerous smaller holes in the base of the feature and limestone cobbles in place, camera facing north. Photograph by John Ricisak, Miami-Dade County Office of Historic Preservation, Miami.

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Photograph 18 of 28. View of excavated basin (Feature 100) along northeastern arc of the Miami Circle feature, with numerous limestone cobbles in place, camera facing south. Photograph by James J. Miller, Bureau of Archaeological Research, Tallahassee.

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Photograph 19 of 28. Shark interment (Feature 234, Units 30 and 35); top) oblique overview of complete shark interment (cf. *Carcharhinus* sp.), camera facing south; bottom) close-up of the shark's head, showing mass of teeth, camera facing

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north. Photograph by John Ricisak, Miami-Dade County Office of Historic Preservation, Miami.

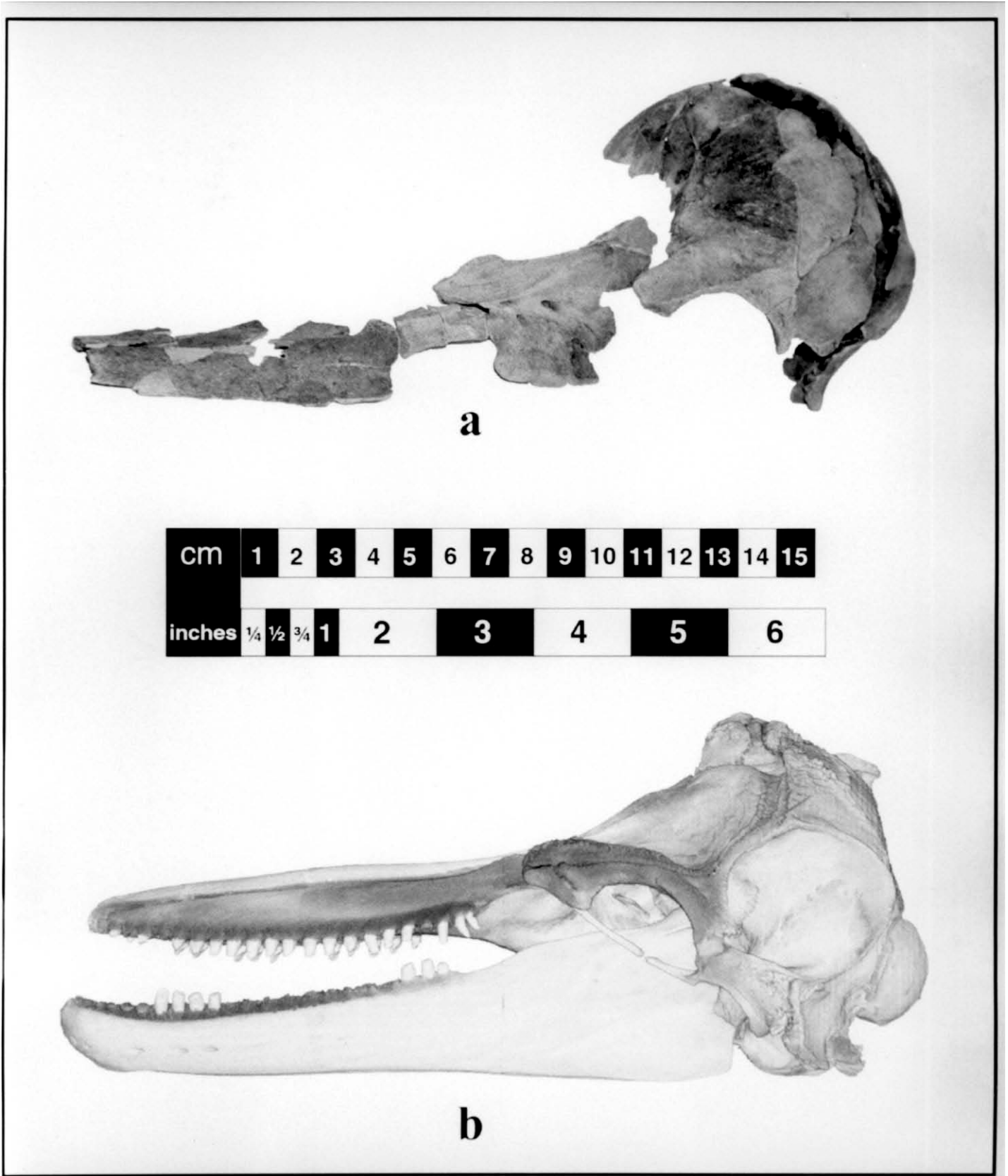


Photograph 20 of 28. Dolphin (*Tursiops truncatus*) interment (Feature 218, Units 32 and 33), camera facing east. Photograph by John Ricisak, Miami-Dade County Office of Historic Preservation, Miami.

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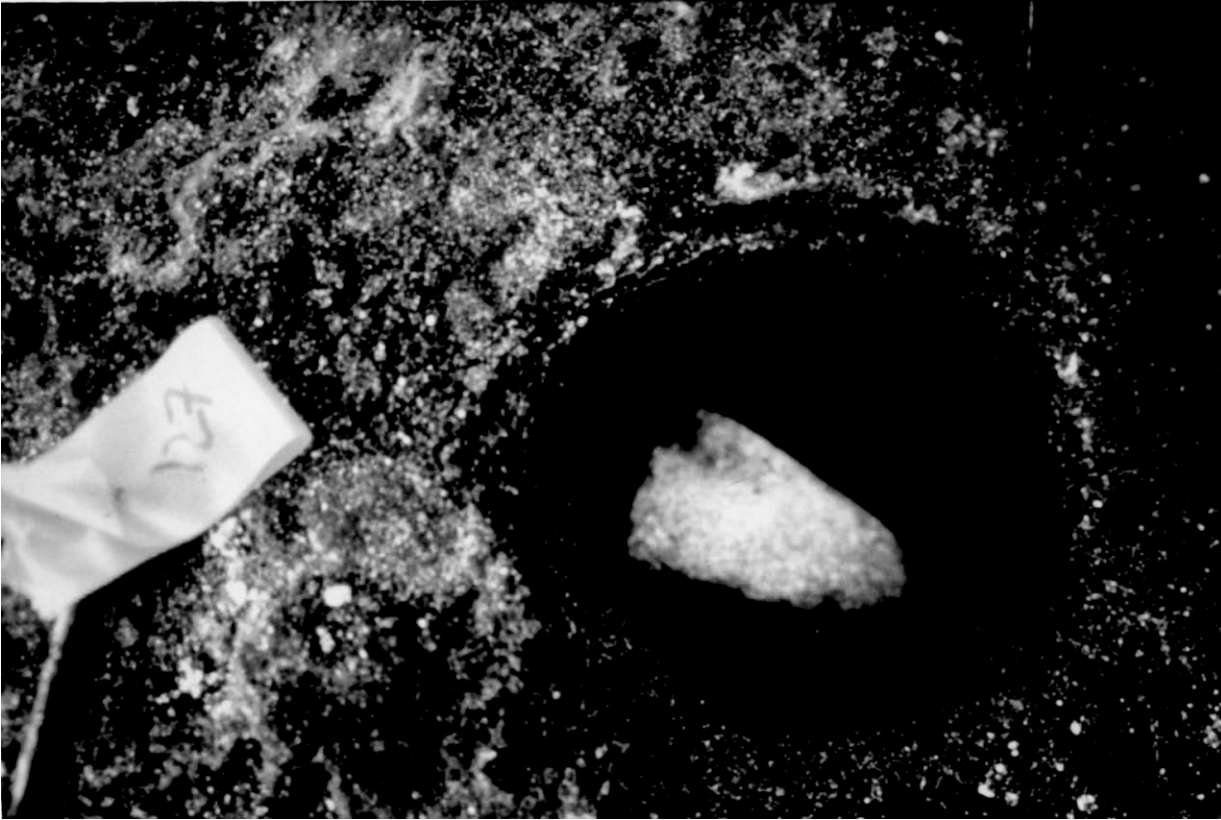
Photograph 21 of 28. Comparison of reconstructed dolphin cranium (Feature 218) from the Miami Circle at Brickell Point (top) and contemporary cast of complete dolphin cranium (bottom); reconstruction by Alison Elgart-Berry, photograph by

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Jorge Zamanillo.



Photograph 22 of 28. Stone celt *in situ* in carved posthole Feature 127, top of photograph is southeast. Photograph by Jack Lamont, Archaeological & Historical Conservancy, Inc., Miami.

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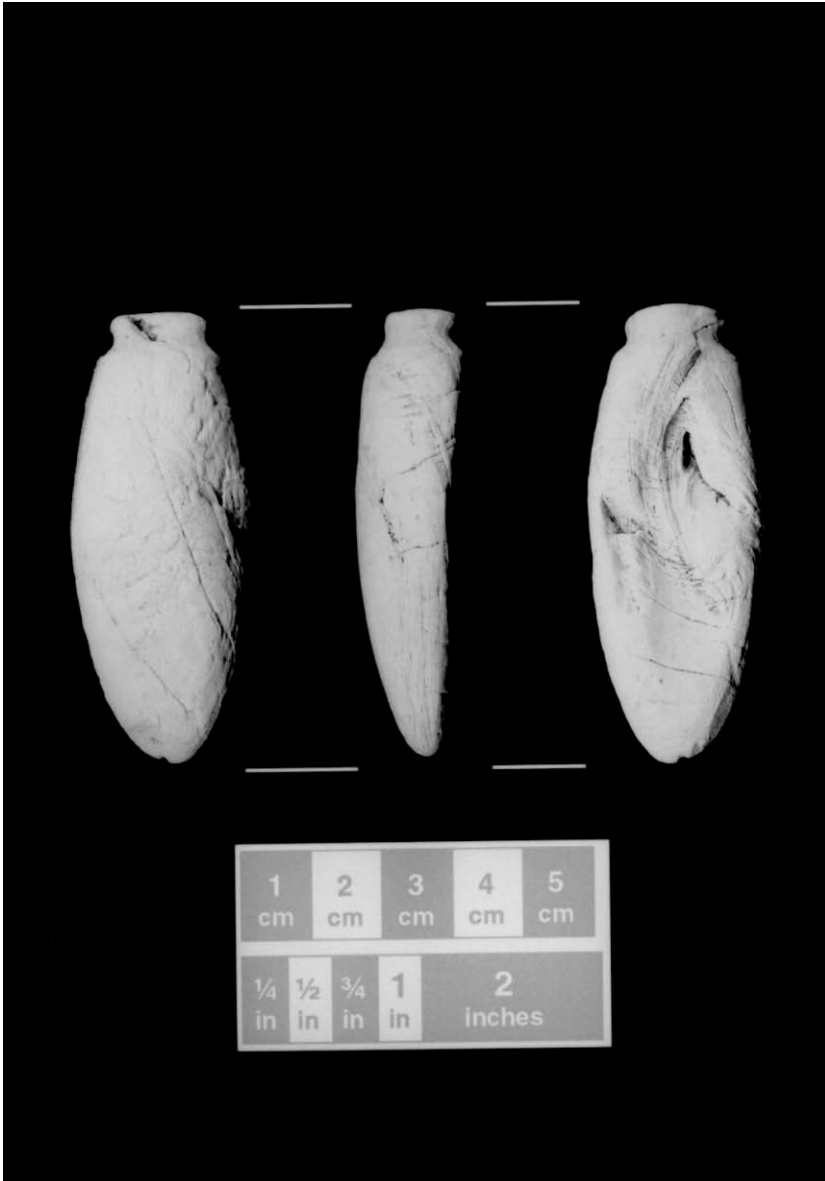


Photograph 23 of 28. Obverse and reverse of bone pendant, carved mammal (cf. *Odocoileus virginianus*) bone; recovered from midden at center of Miami Circle feature, Historical Museum of Southern Florida, Cat. No. MDC.1.388.4. Photograph by Ryan J. Wheeler, Bureau of Archaeological Research, Tallahassee.

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Photograph 24 of 28. Obverse, side and reverse of shell (*Pleuroploca gigantea*) plummet-pendant, Historical Museum of Southern Florida, Cat. No. MDC.1.523.1. Photograph by Ryan J. Wheeler, Panamerican Consultants, Inc., Tallahassee.

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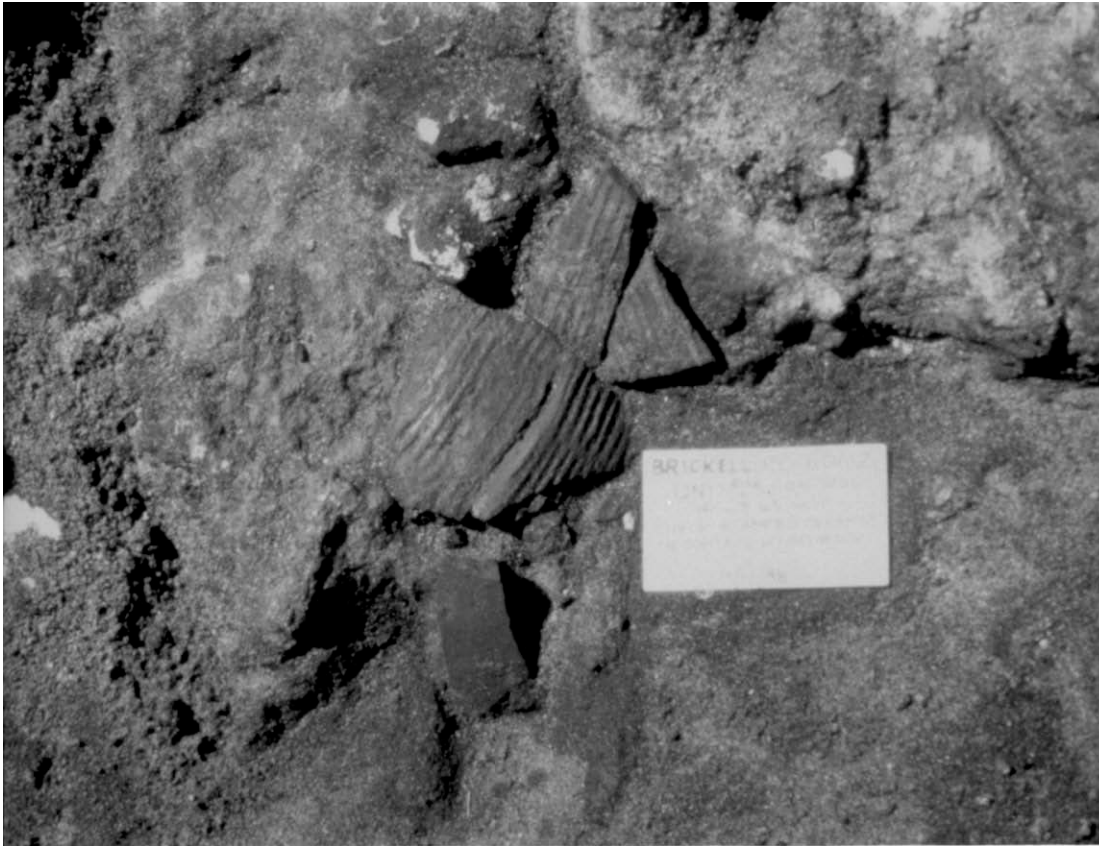


Photograph 25 of 28. Shell (*Pleuroploca gigantea*) columella plane or gouge, two views, Historical Museum of Southern Florida, Cat. No. MDC.1.191.13. Photograph by Ryan J. Wheeler, Panamerican Consultants, Inc., Tallahassee.

Miami Circle at Brickell Point

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Photograph 26 of 28. Deptford Linear Stamped sherds *in situ* on limestone bedrock, Unit 25 (southeastern quadrant of Miami Circle feature), top of photograph is west. Photograph by John Ricisak, Miami-Dade County Office of Historic Preservation, Miami.

Miami Circle at Brickell Point

Photograph 27 of 28. Royal Palm Circle site (8DA11) and Brickell Point site (8DA12). Oblique aerial view of archeological excavation showing the Royal Palm Circle in the foreground and the Miami Circle across the river, camera facing south. Photograph by Richard Haiduven, Florida Division of Historical Resources, Tallahassee.

Miami Circle at Brickell Point

Photograph 28 of 28. Royal Palm Circle site (8DA11). Oblique aerial view of archeological excavation showing the Royal Palm Circle, camera facing south. Photograph by Richard Haiduven, Florida Division of Historical Resources, Tallahassee.

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COMPOSITE EXHIBIT "A"

LEGAL DESCRIPTION

PARCEL 1:

All that portion of BRICKELL POINT, according to the Plat thereof, as recorded in Plat Book 8, Page 34, in the Public Records of Miami-Dade County, Florida, lying East of the Easterly boundary line of S.E. 2nd Avenue Bridge approach across the Miami River, described as follows:

COMMENCE at the intersection of the North line or its prolongation Eastward of the Northerly line of S.E. 5th Street, with the Easterly boundary line of Brickell Avenue, (S.E. 2nd Ave.) according to the plat thereof, as recorded in Plat Book 8, at Page 34, of the Public Records of Miami-Dade County, Florida; thence Northerly along the Easterly boundary line of the S.E. 2nd Ave. Bridge approach, across the Miami River, according to condemnation proceeding recorded July 16, 1928, in Circuit Court Minute Book 36, at Page 290, of the Public Records of Miami-Dade County, Florida, and along a tangential circular curve having a radius of 532.28 feet, through a central angle of 15°13'30", for an arc distance of 141.44 feet to the end of said curve; thence continue along the East boundary line for the S.E. 2nd Ave. Bridge approach as aforesaid and along the bearing of North 1°52'35" West for a distance of 112.78 feet to the POINT OF BEGINNING of the parcel of land herein described; thence continue North along the aforesaid S.E. 2nd Avenue Bridge approach for a distance of 186.52 feet (186 feet by Deed) to a point on the bulk-head line along the South bank of the Miami River; thence run North 86°35'21" East for 282.07 feet (North 86° 27'45" East 282.37 feet by Deed) along said bulk-head line to a point; thence continue along said bulk-head line North 72°13'21" East for a distance of 131.59 feet (North 72°7'25" East 131.07 feet by Deed) to a point marking the beginning of a tangential circular curve; thence run Easterly and Southeasterly along said bulk-head line and along a curve having a radius of 100.21 feet, through a central angle of 55°52'21" for an arc distance of 97.54 feet (100 feet radius, central angle 56°, 97.74 feet by Deed) to the end of said curve; thence continue South 51°52'18" East along said bulk-head line along a line tangent to the aforesaid curve for a distance of 64.53 feet to a point (South 51°52'35" East, 64.54 feet by Deed); thence run South 38°17'25" West for a distance of 221.00 feet to a point; thence run South 88°07'25" West for a distance of 407.5 feet to the POINT OF BEGINNING.

LESS:

The West 10 feet thereof, dedicated for Street and sidewalk containing 1637.70 square feet and subject to an easement for Ingress and Egress of the Southwesterly corner of described property being all of that portion of circular sector having a radius of 35 feet and a central angle of 180°, and an area of 1924.2 square feet, said easement being a portion of that certain easement granted in Chancery Case No. 54,811 of the Circuit Court of Dade County, Florida.

LESS:

That portion of BRICKELL POINT, according to the Plat thereof, as recorded in Plat Book 8, at Page 93, of the Public Records of Miami-Dade County, Florida, and lying in Section 38, Township 54 South, Range 42 East, Miami-Dade County, Florida, being bounded and described as follows:

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COMMENCE at the point of intersection of the Easterly Right of Way line of Brickell Avenue with the Northerly line of S.E. 5th Street as shown on the plat of BRICKELL POINT, as recorded in Plat Book 8, at Page 93, of the Public Records of Miami-Dade County, Florida, and also being the point of curvature (P.C.) for a curve having the following elements, a radius of 532.28 feet, a central angle of 15°13'48", a chord of 141.07 feet and a chord bearing of North 05°20'00" East; thence run along said Easterly Right of Way line and curve to the left, an arc distance of 141.48 feet to the point of tangency (P.T.) for said curve; thence North 02°16'54" West along said Right of Way line a distance of 112.78 feet to the point of curvature (P.C.) of a circular curve to the right having the following elements, a radius of 35.00 feet, a central angle of 44°52'27", a chord 26.72 feet and a chord bearing of North 20°09'20" East; thence continue along said Right of Way line and curve to the right an arc distance of 27.41 feet to the point of termination (P.O.T.) for said curve, also being the POINT OF BEGINNING of the parcel of land hereinafter to be described; thence run North 02°16'54" West along said Right of Way line a distance of 162.10 feet to a point on the bulkhead line as recorded in Official Records Book 10973, at Page 342, of the Public Records of Miami-Dade County, Florida; thence run North 86°11'02" East along said bulkhead line a distance of 17.17 feet; thence run South 02°16'54" East a distance of 153.10 feet to a point of intersection with a circular curve having the following elements: a radius of 35.00 feet, a central angle of 32°31'08" a chord of 19.60 feet and a chord bearing of South 58°51'07" West; thence run along said curve to the left an arc distance of 19.87 feet to the POINT OF BEGINNING. Being a portion of those lands recorded in Official Records Book 10973, at Page 341, of the Public Records of Miami-Dade County, Florida.

PARCEL 2:

Together with all rights of ingress and egress established in that certain order dated March 9, 1945, entered in Chancery Case No. 54,811 of the Circuit Court of the Eleventh Judicial Circuit in and for Dade County, Florida, as recorded in Chancery Order Book 719, Page 191, of the Public Records of Miami-Dade County, Florida.

BEGIN at the intersection of the Easterly prolongation of the North Line of SE 5th Street with the Easterly line of Brickell Avenue, according other plat of BRICKELL POINT, recorded in Plat Book 8, at Page 34, of the Public Records of Miami-Dade County, Florida; thence run Northerly on the Easterly boundary line of Brickell Avenue (S.E. Second Avenue Bridge Approach) across the Miami River, according to Condemnation Proceedings recorded July 16, 1928, in Circuit Court Minute Book 36, at Page 290, of the Public Records of Miami-Dade County, Florida, along a circular curve to the left, concave to the West, having a radius of 532.28 feet, a central angle of 15°13'30", for an arc distance of 141.44 feet, to the Point of Tangency; thence continue along the East boundary line of said Southeast Second Avenue Bridge approach across the Miami River, along a line whose bearing is North 1°52'35" West, for a distance of 112.78 feet, to a point; thence run Northerly, Easterly and Southerly along a circular curve to the right concave to the South, having a radius of 35 feet, a central angle of 235°09'00" through an arc distance of 143.65 feet, to the point of Reverse Curve; thence run Southwesterly and Southerly along a circular curve to the left, concave to the East, having a radius of 35 feet, a central angle of 55°09'00", through an arc distance of 33.69 feet to the Point of Tangency; thence run South 1°52'35" East, along a line parallel to and 40 feet Easterly from the Easterly boundary line of said Southeast Second Avenue Bridge approach across the Miami River, measured at right angles thereto, for a distance of 55.33 feet to the Point of Curve; thence run Southerly on a line parallel to and 40 feet Easterly from, measured at a normal to the Easterly boundary line of said Southeast Second Avenue Bridge approach across the Miami River, along a curve to the left,

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concave to the West, having a radius of 572.28 feet, a central angle of 15°13'30", through an arc distance of 152.07 feet to a point on the North boundary line of the Private Drive as shown on the aforesaid Plat of BRICKELL POINT; thence run North 76°39'55" West, along a North boundary line of said Private Drive, for a distance of 40 feet to the POINT OF BEGINNING.

LESS:

That portion of BRICKELL POINT, according to the Plat thereof, as recorded in Plat Book 8, at Page 93, of the Public Records of Miami-Dade County, and lying in Section 38, Township 54 South, Range 42 East, Miami-Dade County, Florida, being bounded and described as follows:

COMMENCE at the point of intersection of the Easterly Right of Way line of Brickell Avenue with the Northerly line of S.E. 5th Street as shown on the Plat of BRICKELL POINT, as recorded in Plat Book 8, at Page 93, of the Public Records of Miami-Dade County, Florida, said point being the point of curvature (P.C.) for a circular curve having the following elements, a radius of 532.28 feet, a central angle of 08°08'44", a chord of 75.61 feet and a chord bearing of North 08°52'32" East; thence run along said Easterly Right of Way line of Brickell Avenue and said curve to the left an arc distance of 75.67 feet to the POINT OF BEGINNING of the parcel of land hereinafter to be described, said point lying on the arc of a curve, said curve having the following elements, a radius of 532.28 feet, a central angle of 07°05'04", a chord of 65.77 feet and a chord bearing of North 01°15'38" East, thence continue along said Right of Way line and said curve to the left an arc distance of 65.81 feet to the point of tangency (P.T.) of said curve; thence North 02°16'54" West along said Right of Way line a distance of 112.78 feet to a point of curvature (P.C.) of a circular curve to the right having the following elements, a radius of 35.00 feet, a central angle of 77°23'35", a chord of 43.76 feet and a chord bearing of North 36°24'53" East; thence continue along said Easterly Right of Way line of Brickell Avenue and said curve to the right an arc distance of 47.28 feet to a point of intersection with a non tangent line; thence run South 02°16'54" East along said non tangent line a distance of 16.37 feet to the point of curvature (P.C.) with a circular curve to the right having the following elements, a radius of 604.25 feet, a central angle of 15°13'48", a chord of 160.15 feet and a chord bearing of North 05°20'00" East; thence run along said curve to the right an arc distance of 160.62 feet to the point of tangency (P.T.); thence run South 12°56'54" West a distance of 38.84 feet to the POINT OF BEGINNING. Being a portion of those lands described in Official Records Book 11262, at Page 739, of the Public Records of Miami-Dade County, Florida.

LESS and except the 9/15th interest owned by Bell Brickell, et al; their successors and assigns, in that portion of the access easement granted by Order dated March 9, 1945, in Chancery Case No. 54,811, which easement is more particularly described in Exhibit "B" of Disclaimer recorded in Official Records Book 12378, Page 1108.

PARCEL 3:

Non-Exclusive right, privilege and easement to the use and benefit of the "Access Road" for ingress and egress, as defined in, and subject to, that Easement Agreement, by and between MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY and 97807 CANADA LTD/LTEE., a Canadian corporation, 468310 ONTARIO, INC., a Canadian corporation, and 757214 CANADA, INC., a Canadian corporation, filed May 24, 1995, in Official Records Book 16791, Page 2538, as said Access Road is constructed from time to time upon the following described property:

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COMMENCE at the point of intersection of the Easterly Right of Way line of Brickell Avenue with the Northerly Right of Way line of a private drive (16 foot wide) as shown on the Plat of BRICKELL POINT, as recorded in Plat Book 8, at Page 93, of the Public Records of Miami-Dade County, Florida, thence run South $77^{\circ}03'36''$ East along the Northerly line of said private drive for a distance of 40.00 feet to point of intersection with a circular curve, said curve having the following elements, a radius of 572.28 feet, a central angle of $3^{\circ}22'04''$, a chord length of 33.63 feet, and a chord bearing of North $11^{\circ}15'33''$ East; thence run along said curve to the left for an arc distance of 33.64 feet to the POINT OF BEGINNING of the hereinafter described parcel of land; thence continue along the arc of the last described curve, a distance of 118.43 feet, through a central angle of $11^{\circ}51'26''$, a chord length of 118.22 feet and a chord bearing of North $3^{\circ}38'49''$ East to a point of tangency (P.T.) of said curve; thence run North $02^{\circ}16'54''$ West a distance of 55.33 feet to the point of curvature (P.C.) of a circular curve having the following elements, a radius of 35.00 feet, a central angle of $46^{\circ}27'56''$ and a chord bearing of North $21^{\circ}57'04''$ East; thence run along said curve to the right for an arc distance of 29.61 feet to a point of cusp of a circular curve, said curve having the following elements, a radius of 20.00 feet, a central angle of $24^{\circ}26'14''$, and a chord bearing of South $15^{\circ}45'58''$ West; thence run along said curve to the left for an arc distance of 8.53 feet to the point of tangency (P.T.) of said curve; thence run South $03^{\circ}32'51''$ West for a distance of 51.70 feet to a point; thence run South $02^{\circ}18'46''$ East for a distance of 104.12 feet to the point of curvature (P.C.) of a circular curve having the following elements, a radius of 47.00 feet, a central angle of $49^{\circ}03'50''$, and a chord bearing of South $22^{\circ}13'09''$ West; thence run along said curve to the right of an arc distance of 40.25 feet to the POINT OF BEGINNING.

SUBJECT TO ALL EASEMENTS HELD BY THE FLORIDA DEPARTMENT OF TRANSPORTATION, IF ANY.