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**The Ortona Canals: Aboriginal Hydraulics  
and Engineering**

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## THE ORTONA CANALS: ABORIGINAL CANAL HYDRAULICS AND ENGINEERING

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Aboriginal canals in Florida served a variety of functions, most often allowing for a quicker or safer canoe route by linking natural hydrologic features. Canals also may have served in ritual or political activities, as some canals run through major mound centers, while others provide access to burial mounds. All known canals are associated in one manner or another with mound or habitation sites, and their possible role in transport of exchange items or tribute has been discussed by Luer (1989a). In this paper, I focus on the history of the Ortona Canals, as well as the relationship of the canals with the natural and aboriginal landscape. Whereas many of Florida's aboriginal canals are sea level features, the Ortona Canals appear to be unique in their arrangement as a simple sluiceway. They are fed by feeder streams, connecting with Lake Flint and the Caloosahatchee River.

Measurements made on the Ortona Canals allow for calculation of channel slope, as well as velocity and flow of water through the system. These calculations help in interpreting the aboriginal placement and engineering involved in building the canals. They reveal that the canal builders had a detailed knowledge of their environment as well as the techniques required to plan and execute functional hydraulic systems.

Other aspects of aboriginal canal building remain a mystery. For example, questions regarding dates of construction remain unanswered. It is likely that the Ortona Canals were built and used sometime after 2000 B.P. and before 500 B.P., when the aboriginal site was on its ascendancy. Most aboriginal Florida canals are known from the southern part of the state, and fall within the Everglades, Ten Thousand Islands, Caloosahatchee, and Okeechobee culture regions (Figure 1). The Ortona Canals were built by inhabitants of the Okeechobee or Belle Glade region, occupied by the Mayami, Serrope, and Guacata tribes during the European contact era.

### Background

Escalante Fontaneda, a young captive of Florida Indians in the mid-16th century, describes the enigmatic interior region of southern Florida's Lake Mayami (Lake Okeechobee):

On this lake, which lies in the middle of the country, are many towns, of thirty or forty inhabitants each; and as many more places there are in which people are not so numerous. They have bread of roots, which is their common food the greater part of the time; and because of the lake, which rises in some

seasons so high that the roots cannot be reached in consequence of the water, they are some time without eating this bread (in True 1944:13).

Thus was the land of Mayami, a place where earthworks encircle and radiate from giant sand mounds, a place where the honored dead were buried with glass beads and metal tablets. Among the immense earthwork and mound complexes is that of Ortona (8GL35) in Glades County.

One of the most distinctive features of the Ortona mound group is the pair of canals (8GL4A and 8GL4B) that link the large earthwork site with the Caloosahatchee River and the now drained Lake Flint. When Ortona was occupied, the canals provided a means for canoe traffic on the Caloosahatchee to access the aboriginal town and circumvent narrow or marshy areas of the river just above Lake Flint. Morphologically, the canals correspond to the pattern observed for other southern Florida canals constructed by extinct Indian groups. Similarities exist in cross-section, width, and overall placement on the landscape.

### History and Cartography

The Ortona or Lake Flint Canals were first noted on military maps dating to the Second Seminole War (Mackay and Blake 1839). Maps dating to the war era often show the aboriginal canals, along with Lake Flint and the military outpost Fort Thompson, the latter located to the west of Lake Flint and the Ortona site (Bruff and McClelland 1846). Following the war, explorers to the area in the mid-18th through early-20th centuries noted their more specific configurations (account of 1848 in Smith 1911:46; account of 1883 in Warringtonham 1963:51; Collins 1929:153).

The westernmost canal of the pair appears as early as 1839 on the published military map of Mackay and Blake (1839). Manuscript maps dating to 1837 or 1838 used in compiling this published map show the canal, as well as several native trails and a "ford," probably at the narrow area of the river that the canal system was designed around (Figure 2). Buckingham Smith, leader of one of the first civilian explorations of the Everglades region, notes the presence of the canals in 1848, but attributes them to the Spanish government or Spanish Cubans, suggesting such work was "too considerable to have been undertaken by the Indians of Florida" (Smith 1911:46). There is no indication, however, that Smith's expedition made first