

**BOCA RATON INLET MANAGEMENT STUDY
IMPLEMENTATION PLAN
CERTIFICATE OF ADOPTION**

WHEREAS the Department of Environmental Protection, in partnership with the City of Boca Raton, has sponsored a study of the inlet known as Boca Raton, under the provisions of Section 161.161, Florida Statutes, for the purposes of evaluating the erosive impact of the inlet on adjacent beaches, and

WHEREAS the Department has developed an implementation plan which contains corrective measures to mitigate the identified impacts of the inlet, and

WHEREAS the implementation plan is consistent with the Department's program objectives under Chapter 161, Florida Statutes,

The Department does hereby adopt the following implementation actions:

- 1) Bypass sediment to downdrift beaches.

As a minimum, bypassing of material shall meet the average annual placement objective of 71,300 cubic yards as determined by the sediment budget. The bypassing objective should be achieved through a combination of maintenance dredging using the City-owned dredge and nourishment of downdrift beaches using the inlet ebb shoal as a borrow source. The sediment budget contained in the study report is adopted as an interim measure and shall be formally validated or redefined in subsequent revisions of the plan by December 31, 2001 based on a comprehensive monitoring program.

- 2) Construct the deposition basin to facilitate bypassing objectives.

Final configuration of basin should be based upon wave refraction studies to insure that adjacent shorelines will not be adversely impacted.

- 3) Maintain existing jetty structures.

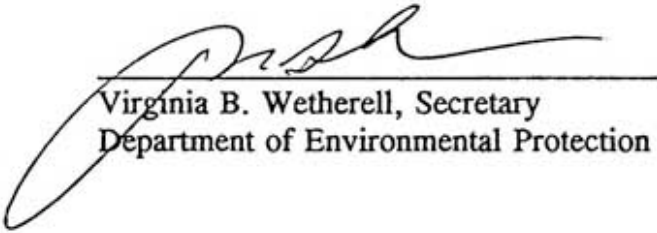
- 4) Implement a comprehensive beach and offshore monitoring program subject to the approval of the Department.

This plan is based on the supporting data contained in the study report, Boca Raton Inlet Management Plan, September 1992, Coastal Planning & Engineering, Inc. and comments provided by public agencies and the citizenry of Palm Beach County. Each implementation action contained in this plan is subject to further evaluation, and subsequent authorization, as part of the Department's environmental permitting and authorization process.

It is the intent of the Department to assist in the implementation of the plan through the provision of funds granted under the Florida Beach Erosion Control Program. The Department's financial obligations shall be contingent upon sufficient legislative appropriations.

Nothing in this plan precludes the evaluation and potential adoption of other alternatives or strategies for management at Boca Raton Inlet.

APPROVED FOR ADOPTION


Virginia B. Wetherell, Secretary
Department of Environmental Protection

9/19/97
Date

**BOCA RATON INLET MANAGEMENT STUDY
SUMMARY OF FINDINGS REPORT
and
RECOMMENDED IMPLEMENTATION PLAN**

Introduction

The City of Boca Raton, sponsored a study of the inlet known as Boca Raton. The study, Boca Raton Inlet Management Plan, September 1992, Coastal Planning & Engineering, Inc. was conducted under the provisions of Section 161.161, Florida Statutes, for the purposes of evaluating the erosive impact of the inlet on adjacent beaches, and to recommend corrective measures to mitigate identified impacts.

The study has been evaluated by the staff of the Bureau of Beaches and Coastal Systems as it relates to the Bureau's statutory responsibilities and program objectives. As a result of that evaluation, the Bureau has developed a recommended implementation plan. Adoption of the plan will facilitate and streamline the coastal construction permitting process during its implementation by providing a basis for consistency determination, and enable governmental entities to seek financial assistance from the Department to conduct management activities authorized in the plan.

This report contains a brief history of Boca Raton Inlet a summary of the Inlet study findings, and a consistency determination. The report also contains the recommended implementation plan.

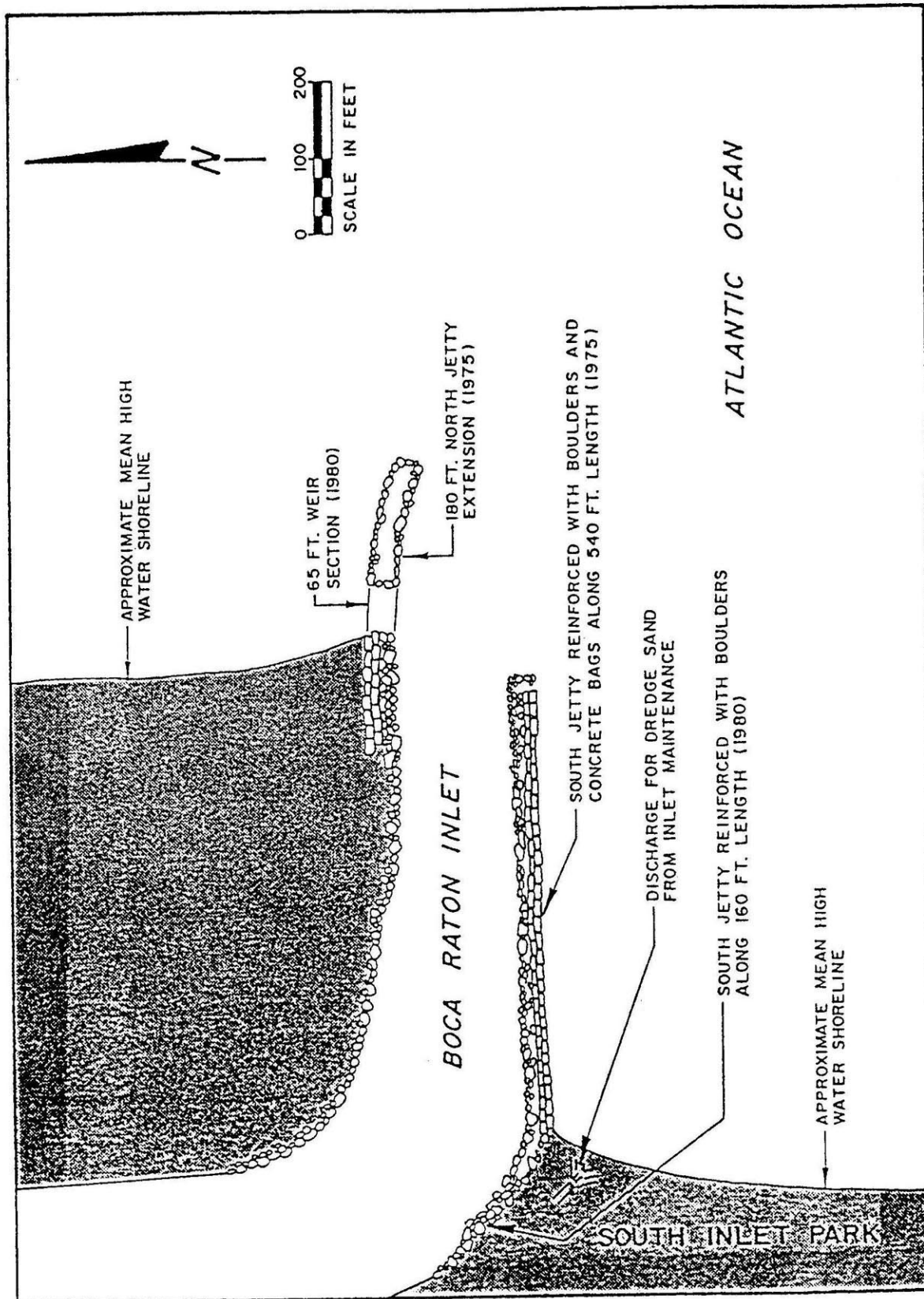
History of Boca Raton Inlet

Boca Raton Inlet is an improved natural inlet located on the Atlantic Ocean in southern Palm Beach County within the City of Boca Raton. In its natural state, the inlet was infrequently open and served as an outlet for Lake Boca Raton.

Efforts to improve navigation by dredging the inlet were initiated by local interests in 1925-26, followed by the construction of jetties in 1930-31. In 1972, the City of Boca Raton was deeded the inlet and its jetties, and accepted the responsibility of maintaining the inlet. As a means to maintain navigability, the city purchased a hydraulic pipeline dredge and began efforts to bypass sand to the downdrift beaches located south of the inlet. Over the years the city has repaired and modified both jetties, including the extension of the north jetty and construction of a weir section (see Figure 1). In addition, the city has enhanced its bypassing program through mechanical improvements to its maintenance dredging operation. The dredge program annually bypasses an average of 35,100 cubic yards to the downdrift beaches (1985-91).

Figure 1

Jetty Improvements



COASTAL PLANNING & ENGINEERING, INC.,

Inlet Influence

The area evaluated under the study encompassed the shoreline located approximately 3,000 feet north of the inlet to the city's southern boundary, approximately one mile south of the inlet. The study evaluated data from the period of 1975 and 1991, which reflects the most recent modifications to the inlet and reliable survey information. Based on data evaluated in the report, major inlet effects on the Atlantic shoreline extend from approximately 2,500 feet north of the inlet to 3,000 feet south of the inlet. The impacted northern area is primarily accretional, while the southern area reflects adverse impacts to the downdrift beaches. This southern area corresponds with the Department's identification of the shoreline as experiencing critical erosion. A sediment budget developed as part of the study estimates the need to bypass 71,300 cubic yards annually to offset the impacts of the inlet (see Figure 2).

Through structural modifications of the jetties and maintenance dredging activities, the City of Boca Raton has tempered the adverse effects of the inlet on the beaches. Efforts to mitigate the inlet effects have resulted in the restoration of beaches south of the inlet in 1985, with subsequent maintenance nourishment of the beaches in 1996. In both instances, sand was dredged from the inlet's ebb shoal. The city maintains an extensive beach and inlet monitoring program to document shoreline change.

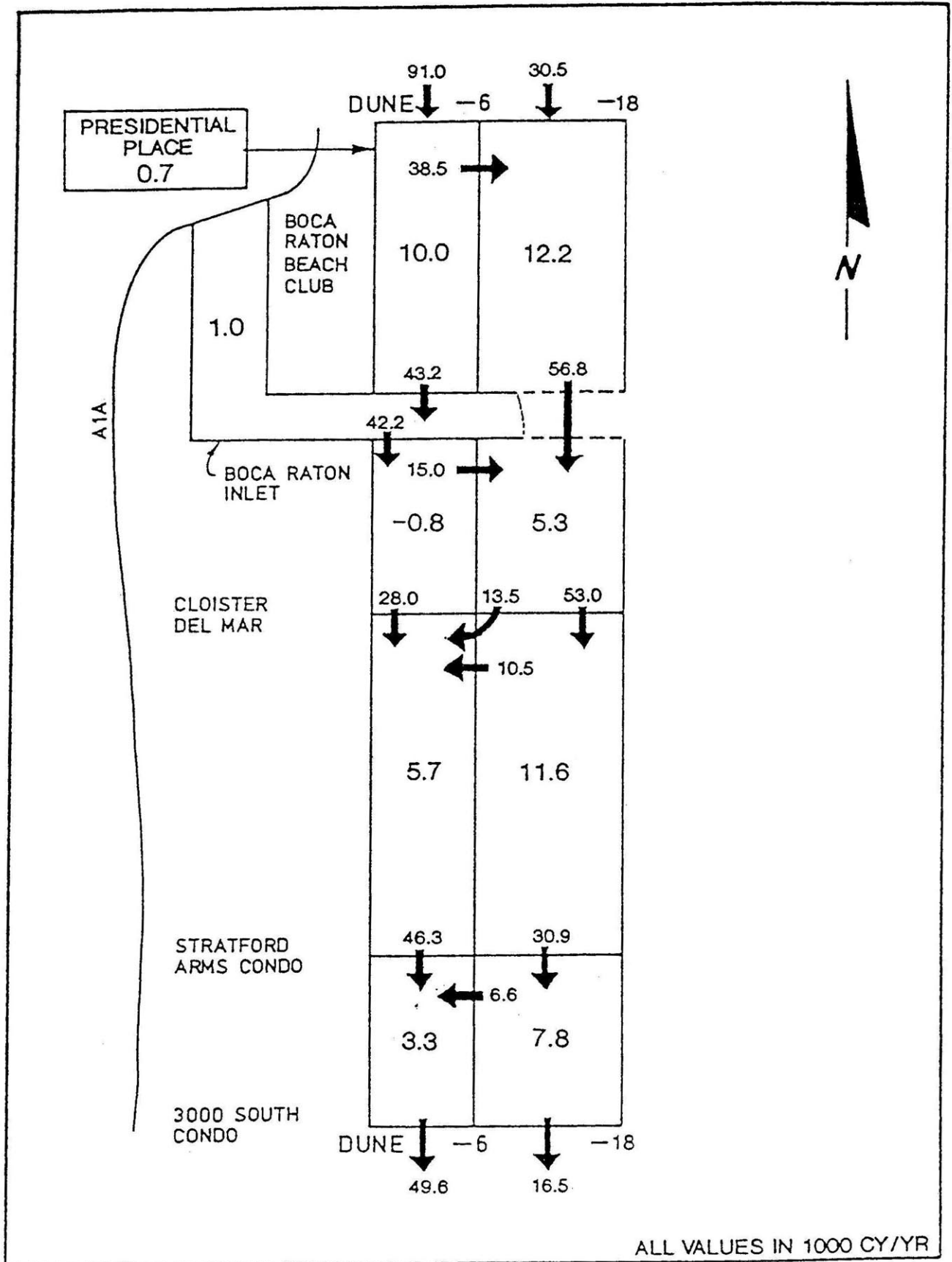
Study Summary

To accomplish the plan objectives, the study evaluated five potential management alternatives in terms of environmental impacts, permitting constraints, fiscal concerns, and potential achievability. The study recommends a combination of alternatives involving continued sand bypassing, erosion control activities to mitigate inlet impacts, and maintenance of the jetty structures. The primary recommendations consist of the following:

- 1) Continue periodic maintenance dredging of the inlet with sand bypassing to the beaches located south of the inlet.
- 2) Continue periodic nourishment of downdrift beaches as mitigation of inlet effects.
- 3) Construct a deposition basin located within the inlet's ebb shoal (see Figure 3). The proposed basin would be used as a borrow source for periodic nourishment of the downdrift beaches.
- 4) Maintain existing jetty structures.
- 5) Continue beach and inlet monitoring program.

Figure 2

Sediment Budget



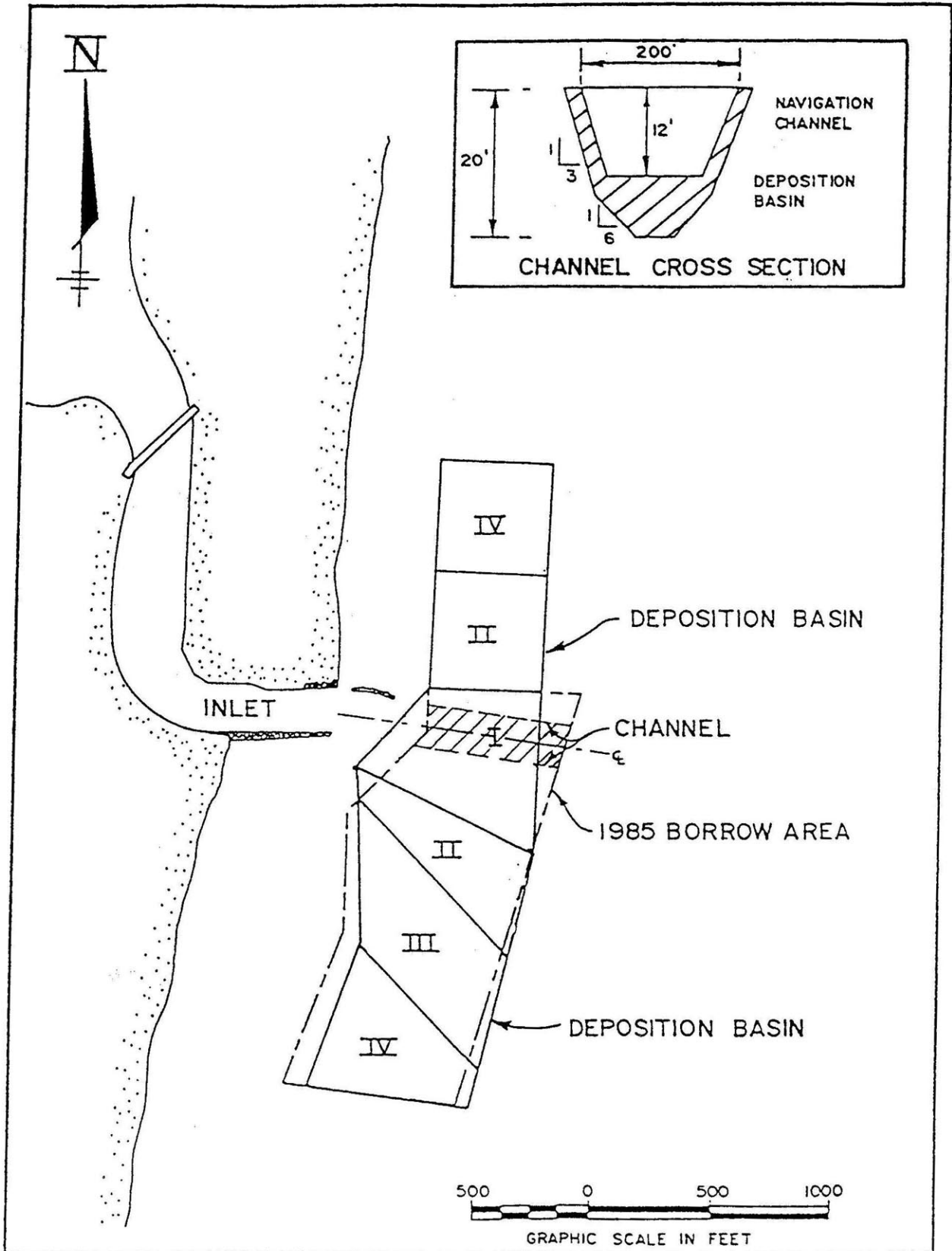
Consistency Determination and Comments

Each of the five primary recommendations has been evaluated for consistency with program objectives under Chapter 161, Florida Statutes. The consistency determination is based solely upon the recommendations as presented in the study report. A determination does not preclude further study of other potential management alternatives. Comments regarding each recommendation are as follows.

- 1) Maintenance dredging through the use of the City-owned dredge has proven to be an effective and efficient method for bypassing sediment to the downdrift beaches. This activity is consistent with program objectives.
- 2) Program objectives require the mitigation of inlet effects. Since mitigation for this area was achieved through the 1985 and 1996 beach nourishment projects, future nourishment activities will be eligible only as a method to meet the annual bypassing requirements as determined by the study.
- 3) Construction of the deposition basin would facilitate the bypassing of sand to the downdrift beaches and accordingly meets program consistency requirements. However, the extent of the basin, as proposed in the study, could have an adverse impact upon the adjacent shorelines. Wave refraction studies should be conducted to demonstrate that construction of the deposition basin is a feasible activity.
- 4) The existing configuration of the jetty structures is designed to facilitate the bypassing of sand and minimize impacts to the adjacent shorelines. Maintenance of the structures is consistent with program objectives however, any future modification to the structures may require additional studies.
- 5) Monitoring of the beach and inlet is consistent provided that those beaches are located within the influence of the inlet.

Figure 3

Study Recommendation: Deposition Basin



Recommended Implementation Plan

The Bureau recommends the following implementation plan be adopted to meet the requirements of Chapter 161, Florida Statutes:

- 1) Continue efforts to bypass sediment to the downdrift beaches. As a minimum, bypassing of material shall meet the average annual placement objective of 71,300 cubic yards as determined by the sediment budget. The bypassing objective should be achieved through a combination of maintenance dredging using the City-owned dredge and nourishment of downdrift beaches using the inlet ebb shoal as a borrow source. The sediment budget contained in the study report is adopted as an interim measure and shall be formally validated or redefined in subsequent revisions of the plan by December 31, 2001 based on a comprehensive monitoring program.
- 2) Construct the deposition basin to facilitate the bypassing objectives as stated above. Final configuration of basin should be based upon wave refraction studies to insure that adjacent shorelines will not be adversely impacted.
- 3) Maintain existing jetty structures.
- 4) Implement a comprehensive beach and offshore monitoring program subject to the approval of the Department.

This plan is based on the supporting data contained in the study report, Boca Raton Inlet Management Plan, September 1992, Coastal Planning & Engineering, Inc. and comments provided by public agencies and the citizenry of Palm Beach County. Each implementation action contained in this plan is subject to further evaluation, and subsequent authorization, as part of the Department's environmental permitting and authorization process.

The implementation activities identified above shall be eligible for state financial participation subject to Department approval and an appropriation from the Florida Legislature. The level of state funding shall be determined based upon the activity being conducted and Department policy. The Department may choose not to participate financially if the proposed method for implementation is not cost effective or fails to meet the intent of Section 161.142, Florida Statutes.

Nothing in this plan precludes the evaluation and potential adoption of other alternatives or strategies for management at Boca Raton Inlet.