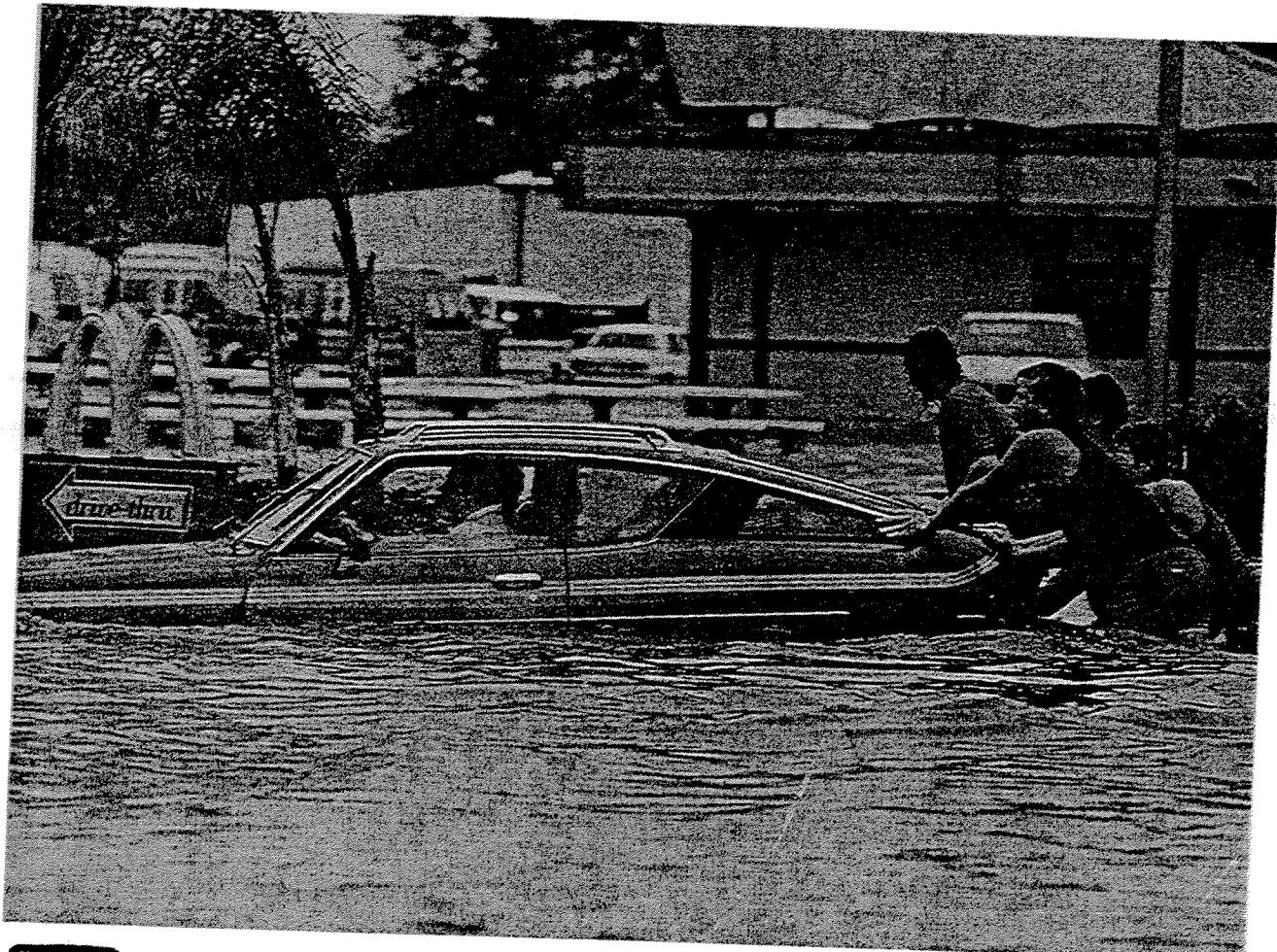


APRIL 1995

MANATEE COUNTY, FLORIDA

**CEDAR HAMMOCK
(WARES CREEK)**

**FINAL
DETAILED PROJECT REPORT AND
ENVIRONMENTAL ASSESSMENT**



**US Army Corps
of Engineers
Jacksonville District
South Atlantic Division**

**SECTION 205
FLOOD CONTROL**

FINAL

ENVIRONMENTAL ASSESSMENT

AND

FINDING OF NO SIGNIFICANT IMPACT

PROPOSED FLOOD REDUCTION MEASURES

CEDAR HAMMOCK EAST DRAINAGE CANAL AND WARES CREEK

MANATEE COUNTY, FLORIDA

MARCH 1995

CESAD-ET-PL (CESAJ-PD-PF/17 APR 96) (10-1-7) ~~2~~
Mr. Meyer/bg/404-331-4326
SUBJECT: Cedar Hammock (Wares Creek) Feasibility Environmental Assessment

Commander, South Atlantic Division U.S. Army
Room 322, 77 Forsyth Street, SW, Atlanta,
09 MAY 1996

FOR CHIEF, POLICY REVIEW AND ANALYSIS DIVISION
7701 TELEGRAPH ROAD, ALEXANDRIA, VIRGINIA

I concur in the recommendation of the District provision of flood damage reduction measures (Wares Creek) in Bradenton, Manatee County, Florida.

Encl

R. L. VanAntwerp
Brigadier General
District Commanding

application, the proposed project will reduce flooding by a minimum of 100% estimated cost includes easements and other associated costs

\$2,000 Title and \$063,000 Project

first share

the proposed project is proposed to be authorized

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
1.00 SUMMARY	EA - 1
2.00 INTRODUCTION: PURPOSE OF AND NEED FOR ACTION	EA - 2
3.00 PROPOSED ACTION AND ALTERNATIVES ANALYSIS	EA - 2
4.00 AFFECTED ENVIRONMENT	EA - 3
4.01 Air Quality and Noise	EA - 4
4.02 Water Quality	EA - 4
4.03 Cultural Resources	EA - 4
4.04 Aesthetic Resources	EA - 4
4.05 Wildlife Resources	EA - 5
4.06 Fish Resources	EA - 5
4.07 Hazardous, Toxic or Radiologic Wastes	EA - 6
5.00 ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION	EA - 7
5.01 Unavoidable adverse effects	EA - 7
5.02 Relationship between Short Term Uses of the Environment and Maintenance and Enhancement of Long-Term Productivity	EA - 7
5.03 Irreversible or Irretrievable Commitments of Resources	EA - 7
5.04 Relationship between the Proposed Action and Federal, regional, State and Local Land Use, Plans, Policies and Controls	EA - 8
5.05 Community Growth, Cohesion and Displacement of People and Businesses	EA - 8
5.06 Air Quality and Noise	EA - 8
5.07 Water Quality	EA - 9
5.08 Cultural Resources	EA - 9
5.09 Aesthetics	EA - 9
5.10 Fish and Wildlife Resources	EA - 10
5.11 Property Values	EA - 11
5.12 Cumulative effects	EA - 11
6.00 COMMITMENTS	EA - 12

<u>Title</u>	<u>Page</u>
7.00 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS	EA - 12
7.01 Clean Air Act	EA - 12
7.02 Clean Water Act	EA - 12
7.03 Coastal Zone Management Act	EA - 12
7.04 Endangered Species Act	EA - 12
7.05 Estuary Protection Act	EA - 13
7.06 Fish and Wildlife Coordination Act	EA - 13
7.07 National Historic Preservation Act	EA - 13
7.08 National Environmental Policy Act (NEPA)	EA - 13
7.09 Resource Conservation and Recovery Act	EA - 13
8.00 COORDINATION	EA - 13
9.00 LIST OF PREPARERS	EA - 14
10.00 REFERENCES	EA - 14

ATTACHMENTS

A. CLEAN WATER ACT SECT. 404 (B) (1) EVALUATION	A - 1
B. COASTAL ZONE CONSISTENCY DETERMINATION	B - 1
C. COMMENTS AND RESPONSES	C - 1

ENVIRONMENTAL ASSESSMENT

1.00 SUMMARY. This Environmental Assessment has been prepared by the Jacksonville District, U.S. Army Corps of Engineers (Corps) to document feasibility phase investigations of flood damage reduction measures along the east branch of Cedar Hammock drainage canal and Wares Creek, in the City of Bradenton and unincorporated Manatee County, Florida. Authorization for the study is contained in Section 205 of the 1948 Flood Control Act, as amended. Co-sponsor of the project is Manatee County. Flood damage reduction measures recommended are shown on Figures 1 and 2 and Plate 11. Proposed improvements would begin near the mouth of Wares Creek, on the south side of Manatee Avenue (S.R. 64), in Bradenton, and end on the north side of Cortez Road (44th Avenue West). Recommended improvements include the following: (1) snagging and clearing along lower Wares Creek, beginning south of the Manatee Avenue Bridge and extending upstream to 17th Avenue West, with some minor stream realignment recommended around the 9th Avenue West bridge; all of the snagging and clearing work to be accomplished within the existing channel; (2) Channel improvements beginning at 17th Avenue West and extending upstream to the north side of 21st Avenue West, consisting of a trapezoidal earthen channel with a 26 foot bottom width, 2 horizontal on 1 vertical side slopes and variable top width; (3) Channel improvements beginning at the south side of 21st Avenue West and extending through 30th Avenue West, ending at the 14th Street West intersection, consisting of a 40 foot wide, vertical walled, sheet pile lined channel; (4) Beginning at the intersection of 30th Avenue West and 14th Street West, extending upstream to the north side of Cortez Road (44th Avenue West) channel improvements consisting of a trapezoidal, earthen walled channel with 2 horizontal on 1 vertical side slopes and a 26 foot bottom width. Clearing and snagging and the channel improvements will generate about 100,000 cubic yards of excavated material, which will be removed to an upland disposal site (Manatee County landfill). An evaluation was made of the existing environmental resources and the probable environmental effects of implementing the alternatives discussed in the Detailed Project Report (DPR). Information on natural and man-made resources of the study area was obtained from existing sources, scoping responses from State and Federal resource agencies, studies performed under contract to the Corps, and provided by cooperating agencies and the co-sponsor. After consultation with the State Historic Preservation Officer, the U.S. Fish and Wildlife Service, Southwest Florida Water Management District and interested resource agencies and parties, the Corps has determined that no significant impacts to natural or man-made resources would result from implementation of the recommended plan. A preliminary Finding of No Significant Impact (FONSI) is attached to this Environmental Assessment (EA).

2.00 INTRODUCTION: THE PURPOSE OF AND NEED FOR THE PROPOSED ACTION. Cedar Hammock east branch and Wares Creek are upper and lower reaches of the same stream. Wares Creek is the name attached to the downstream reach, which is mostly within the city limits of Bradenton. The Cedar Hammock part of the stream is a partly hardened urban drainage waterway that empties into Wares Creek, which in turn

enters the Manatee River in Bradenton. The entire stream system covers about 6 square miles and drains densely populated residential and commercial areas of Manatee County. Residential lots crowd particularly close along both banks of Wares Creek (between 9th Avenue West and 26th Avenue West). Two large shopping malls near the upstream end of the study area (Cortez Mall and De Soto Mall) contribute significant amounts of runoff from hardened roofs and parking areas. This urban drainage basin was mostly built up prior to current State and Water Management District regulations requiring retention of storm runoff, and lacks adequate storm water retention areas. Minor flooding occurs frequently all along the lower canal and Creek, and major rainfall events such as the well-documented flood of 1988 cause extensive property damage and disruption of traffic and normal business activities along Highways (Business) 41 and US 301. Refer to the Main Report and Appendix A (Hydrology and Hydraulic Analysis) for documentation of prior floods.

3.00 PROPOSED ACTION AND ALTERNATIVES ANALYSIS. The proposed plan (Plate 11) is a combination of clearing and snagging (along most of Wares Creek) and channel widening and other improvements (between 17th Avenue West and Cortez Road). Improvements are designed to reduce flood stages for all flood events, with a bank-full capacity greater than the 5 year flood event for most of the study reach.

Proposed improvements would begin near the mouth of Wares Creek, on the south side of Manatee Avenue (S.R. 64), in Bradenton, and end on the north side of Cortez Road (44th Avenue West). Recommended improvements include the following: (1) snagging and clearing along lower Wares Creek, beginning at the South side of the Manatee Avenue Bridge and extending upstream to 17th Avenue West, with some minor stream realignment recommended around the 9th Avenue bridge; all of the snagging and clearing work would be accomplished within the existing channel; (2) Channel improvements beginning at 17th Avenue West and extending upstream to the north side of 21st Avenue West, consisting of a trapezoidal earthen channel with a 26 foot bottom width, 2H on 1V side slopes and variable top width; (3) Channel improvements beginning at the south side of 21st Avenue West and extending through 30th Avenue West, ending at the 14th Street West intersection, consisting of a 40 foot wide, vertical walled, sheet pile lined channel; (4) Beginning at the intersection of 30th Avenue West and 14th Street West, extending upstream to the north side of Cortez Road (44th Avenue West) channel improvements consisting of a trapezoidal, earthen walled channel with 2H on 1V side slopes and a 26 foot bottom width. All materials excavated would be removed and trucked to an off site upland disposal area, the Manatee County landfill.

Other alternative courses of action evaluated but not recommended as effective include no action, upstream flood retention, re-routing of one tributary, various combinations of downstream bridge removals, evacuation of residents, further widening and/or deepening of the Cedar Hammock east drainage system, and other types of flood protection, including flood-proofing. Removal of a larger number of residences would not be cost-effective, due to the extremely dense development of surrounding neighborhoods and prevailing high real estate values in the Bradenton Metropolitan area. While upstream retention might have

offered an effective solution many years ago, at present the parts of the watershed most in need of retention areas are built out into medium or high density residential and commercial property and a diligent search during the feasibility phase of the study did not identify sufficient undeveloped lands to retain a significant proportion of the runoff in most sub-watersheds. The vacant lot that had been identified in the Reconnaissance Report (located near the head of the western tributary of the Cedar Hammock East Branch) would not have contributed significantly to flood reduction, since this sub-watershed already has sufficient retention areas. Re-routing of part of the western tributary was likewise evaluated and not recommended, since it was found to worsen flood stages upstream along the eastern tributary, where flood problems were most severe. Greater widening of the east sub-tributary of the Cedar Hammock Canal was considered but not recommended because the cost would have far exceeded Federal cost limitations under the Section 205 (Continuing Authorities) program. Raising of one or more downstream bridges would have provided additional flood relief, but, as in the case of greater channel widening, the additional costs would have been borne by the non-Federal partner, who opted not to endorse this action. Likewise, flood-proofing structures by raising the general ground level would be enormously costly at this late stage in watershed development. It was determined that the proposed plan, in combination with all applicable non-structural alternatives, including a program of vigorous and regular channel cleaning and debris removal, was the only effective medium-term solution to the flooding and water quality problems in the study area.

4.00 AFFECTED ENVIRONMENT. The watershed of Cedar Hammock East Branch/Wares Creek covers about 6 square miles. Topography is nearly flat in the western part of the watershed and steeper in the eastern tributary branch. The lower watershed includes mostly single family residential structures, including a large number of manufactured homes (mobile homes). Residents of a widespread area are affected by the largest flood events. Homes, schools, churches, commercial and industrial properties and urban infrastructure elements, including sanitary sewers, are affected. Under existing conditions even a 50% ("2 year") recurrence flood causes significant interruption of commerce and daily life.

4.01 Air quality and Noise. In general, air quality in the Bradenton area and the rest of Manatee County is good. There are no non-attainment areas within the County. The largest industrial emitters in the County are a large power plant, a phosphate mining operation and a citrus processing plant, all located in the eastern part of the County at a considerable distance from the study reach. The urban environment is fairly noisy in the daytime, especially near Manatee Avenue and along the Cedar Hammock East Branch reach that runs close to Business 41.

4.02 Water quality. There are no permanent water quality stations along Wares Creek or Cedar Hammock East Branch. Water quality data for this part of the Cedar Hammock basin is taken sporadically and little published information is available. Except during high rainfall periods the predominant source of flow is groundwater exfiltration and the stream supports small fish and invertebrates as well as the wading birds that feed on them (refer to

Paragraphs 4.05 and 4.06). Due to the impervious nature of a substantial part of the watershed and the lack of on-site retention, urban and primarily residential storm runoff arrives at the stream with most of its conventional pollutant load in solution or suspension. The stream does not appear to be affected adversely by existing storm water flow as it supports healthy populations of biota as mentioned above.

4.03 Cultural resources. Initial coordination with the Florida Division of Historical Resources indicated that no known archeological or historic properties were recorded in the project area. In letters dated January 19, 1989 and March 28, 1989 the Florida State Historic Preservation Officer recommended that a cultural resources survey be completed to locate and assess the significance of historic properties that could be affected by the proposed project. A cultural resources survey was conducted by historic preservation staff of the U.S. Army Corps of Engineers on 9-10 March 1992. The survey included archival research and a surface and subsurface inspection of the project area, including alternatives that would affect bridges and residences. At the Manatee County Historical Library investigators examined ca. 1851 military maps of the project area, 1915 Sanborn Insurance Maps, and a series of aerial photos from 1940, 1951, and 1969. During the inspection of the project area investigators examined potentially significant historic features that were identified from the maps and aerial photos, examined exposed ground surfaces and excavated judgmentally placed shovel tests searching for intact archeological deposits. Three bridges crossing Wares Creek at 7th, 9th, and 12th Avenues and several residential structures north of 30th Avenue may be historically significant and eligible for inclusion on the National Register of Historic Places. No potentially significant architectural features were identified south of 30th Avenue, and no significant archeological sites were located within any part of the project area.

4.04 Aesthetic resources. Aesthetic resources are defined as "those natural and cultural features of the environment that elicit a pleasurable response" in the observer, most notably from the predominantly visual sense. Consequently, "aesthetic resources are commonly referred to as visual resources, ... features which can potentially be seen."

The existing aesthetic resources within the study area are considered to contribute important visual relief to the immediate surroundings and neighborhood character throughout the proposed project. Visual aesthetics of the area surrounding the stream are typical of older single-family residential and small scale commercial neighborhoods, with rather closely-spaced houses, mature landscape trees, many small residential neighborhoods and relatively large expanses of concrete and asphalt in relation to green spaces. The general exception is constituted by the banks of Wares Creek. Somewhat more "natural" creek settings are immediately visible from the many small bridges that cross the creek; examples would be bridges at 9th, 12th, and 14th Avenues. The creek is almost completely shaded by mature tree canopies from 14th to 21st Avenue; the tree cover provides a relaxing and cooling experience. From 21st to 23rd Avenues the project study area possesses aesthetic value because of the mature native trees on maintained grassed banks. These trees provide the dense residential development with a visual and auditory screen, color, and cooling relief

from the otherwise flat urbanized area. Upstream of the fire station bridge, a row of mature shade trees screen a residential development from the heavy traffic of Business 41. Channel areas to the south possess patchy mature tree areas with lower aesthetic value due to washed out banks, unmowed wild native perennial grasses, cross bracing, and dense commercial development along Highway 301.

4.05 Wildlife resources. Field visits and consultation with the U.S. Fish and Wildlife Service Vero Beach Field office (FWS) did not lead to identification of any critical populations or habitat resources in the area of the project. In response to early scoping for environmental issues, the State of Florida Game and Freshwater Fish Commission (FGFWFC) identified the following Endangered (E), Threatened (T), or State Species of Special Concern (SSC) as potentially present in the project area: West Indian manatee (E), wood stork (E) bald eagle (T), southeastern American kestrel (T), eastern indigo snake (T), Sherman's fox squirrel (SSC), American oystercatcher (SSC), snowy egret (SSC), tricolored heron (SSC), reddish egret (SSC), brown pelican (SSC), gopher tortoise (SSC), American alligator (SSC) and common snook (SSC). However, studies performed by U.S. FWS under the Fish and Wildlife Coordination Act (Coordination Act Report) did not find significant populations or even habitat suitable for these species in the study reach. Wading birds, including the snowy egret and wood stork, may sporadically visit the stream and feed on its fish and invertebrate fauna, but no adequate reproductive habitat occurs within the study reach, due to the dense urban surroundings and the inevitable presence of feral and domestic animal predators. Manatee habitat does exist at the mouth of Wares creek with the Manatee River, where deeper water is available; however, the study reach is too shallow to provide habitat for manatee, mature snook, or mature alligators. In addition to the above species, FWS and FGFWFC identified the Florida Scrub Jay (E) as potentially present in the undeveloped brush surrounding the upstream detention area along the west tributary to Cedar Hammock East Branch. However, as part of a Planning Aid study undertaken during the project's Reconnaissance phase, this area was inspected by Service biologists with negative results. Both FWS reports, which are reproduced in the Coordination Appendix, conclude that none of the above listed species are regularly present in the study reach, and no significant habitat for these species is present.

Birds are the most notable wildlife resource in the drainage basin. All common species of waders probably visit the stream; in addition to the species listed above, white ibis and little blue heron were observed feeding along the stream during biologists' site visits. A midstream shoal island just south of the Manatee Avenue bridge supports a young mixed stand of black and white mangroves. These shrubby trees were frozen to ground level in December, 1989, but have recovered by vigorous sprouting in subsequent years. During initial project planning the Corps was requested to consider removal of the shoal, but hydraulic studies showed that it does not contribute to upstream flooding, and its removal is not part of the presently proposed project. This small island is a significant refuge and possibly a night roost for wading birds, including tricolored, great and little blue herons. Its isolation in the middle of the stream makes it inaccessible to some urban predators, most

notably domestic cats, while the waders find abundant food resources in the small fish and invertebrates that inhabit the stream.

4.06 Fish resources. Except in the estuarine reach (generally, downstream of the 9th Avenue bridge in Bradenton), the stream is too shallow and narrow, and its water levels fluctuate too abruptly in response to rainfall-generated runoff, to support a great diversity of aquatic life. The Planning Aid Report (PAR) prepared by FWS lists mosquito fish, soft shelled turtles and other turtles as dominant faunal elements. Other freshwater fauna include diving beetles, insect larvae and small snails. The estuary supports small or juvenile individuals of mullet, needlefish, sand perch, sheepshead and killifish, and may provide some limited developmental habitat for juveniles of other estuarine fish. The fish fauna is essentially washed out of the watershed into the Manatee River during major flood events, re-establishing itself during intervening normal flow periods. Due to regular bank clearing by the County and city public works crews, creek bank habitat is moderately to severely limited.

4.07 Hazardous, toxic and radiologic waste. A preliminary assessment was conducted in March 1994 to address the existence or potential for occurrence of HTW contamination on lands, including structures and submerged lands, in the Cedar Hammock/Wares Creek study area. The assessment included a project review, site literature/document review, and site reconnaissance. During the reconnaissance, the following potential indicators were looked for: Landfills, dumps, disposal areas; burning or burned areas; aboveground or underground tanks; vats, lagoons, ponds or basin sludge pits; excavations (pits, quarries or borrow areas); containers of unidentified substances; spills, seepage, slicks; odors; dead or stressed vegetation (brown, spotted curled or withered leaves); water treatment plants; wells, ditches, trenches, depressions; transport areas (i.e., boat yards, harbors, rail yards, airports, truck terminals); abandoned buildings. The preliminary assessment report found no indicators of toxic or radiologic waste.

5.00 ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION.

5.01 Unavoidable adverse effects. Clearing and snagging at the mouth of Wares Creek will cause temporary adverse effects on wildlife habitat and fish resources due to noise of heavy machinery, disturbance of the substrate and temporary increases in water turbidity due to excavation. However, creek bottom sediments are fairly coarse (mostly sand-size) and natural settling will quickly restore stream clarity. Furthermore, stabilization of the bank slope will decrease future sedimentation due to rainstorm events. The only permanent wetland that will be affected on project lands is the stream bottom itself. The stream cross-sectional area will be widened over its present dimensions, providing additional substrate for in-stream organisms during low flow periods. However, as at present, extreme flood events will essentially wipe out attached benthic vegetation and flush out invertebrate and fish fauna, which will then gradually re-establish when the flood has abated. The mangrove-colonized sand island downstream of the 7th Avenue Bridge, once proposed for dredging by the co-

sponsor, exerts no influence on upstream flood levels, and is not proposed for removal. Since no significant wetlands resources will be affected, no specific wetland mitigation measures are proposed.

Some mature or specimen size shade trees will be removed along the channel right-of-way. These trees belong to common native or exotic species used for urban landscaping, and do not constitute significant natural resources. However, they contribute to soften the appearance of the existing channel and provide some wildlife cover. Their removal will change the appearance of the channel and reduce available shade over the water in some reaches. Tree removal will affect the visual esthetics of the project reach, and replacement plantings are recommended (refer also to Paragraph 5.09).

5.02 Relationship between short term uses of the environment and maintenance and enhancement of long term productivity. The human environment is already committed to long term residential use. The project discussed in this EA is designed to sustain and improve the quality of the existing human-dominated environment and increase business productivity by reducing the risk and frequency of flooding. No significant or highly productive natural habitats have been identified on the watershed in the study reach; furthermore, water quality modeling indicated that no change in the quality or contaminant levels in the receiving waters (the mouth of the creek) would be induced by project construction. Therefore, no trade-offs of long term productivity for short-term use can be identified in relation to the proposed project.

5.03 Irreversible or ir retrievable commitments of resources. No new irreversible commitments would be made by the proposed project. No additional natural areas would be committed or converted to urban use by the proposed project. The stream reach proposed for installation of vertical sheet pile reinforced channel walls already has a vertical or near-vertical cross-section, and most of it is now bulkheaded on one or both sides with concrete. Most commitments of resources have already been made in the study area. Almost the entire stream drainage is now committed to urban residential and commercial use, and this status is unlikely to change in the foreseeable future.

5.04 Relationship between the proposed action and Federal, State and local land use policies, plans and controls. The proposed flood control project is consistent with improvements recommended in prior flood control studies performed for Manatee County and the City of Bradenton, although it is smaller in scope than many prior proposals, since it does not include bridge removal or rerouting of the western tributary of Cedar Hammock East Branch. During plan formulation a number of potential sites for additional storm water retention were identified, but these sites were determined to offer inadequate capacity to significantly reduce flooding or contaminant loading, while at the same time greatly increasing project cost. Bridge removal options were considered but not recommended due to their extremely high cost in relation to the flood reduction benefits they potentially would have generated. Rerouting of the western East Branch tributary was dropped from further

consideration when hydraulic studies indicated that this alternative would actually worsen flooding conditions upstream.

The proposed project has also been evaluated for consistency with the Florida Coastal Zone Program and determined to be consistent. It would not cause adverse impacts on water quality or significant marine or estuarine resources; it would contribute to reduce sedimentation of lower Wares Creek, by providing armoring for those sections of the stream that would experience high water velocities, while providing a grass-lined bank with stable side slopes for the rest of the project reach. Relationship between the proposed action and Federal, State and local land use policies, plans and controls.

5.05 Effects on community growth, cohesion and the displacement of people and businesses. An estimated 11 mobile homes, located in the Bradenton Trailer Park, would need to be removed in order to allow staging and permanent maintenance access to the vertical-walled section of Cedar Hammock. No other residences or businesses would be displaced. Clearing and grubbing along the Wares Creek segment will be accomplished by placing equipment within the banks, thereby avoiding unnecessary takings of or disturbance to private properties. Access and permanent right-of-way easements have been minimized there as well as throughout the rest of the project. There will be no other permanent effects on community cohesion. No businesses would be displaced. Since the communities surrounding the study reach are already densely developed, and the purpose of the recommended plan was to avoid unnecessary and costly taking of properties along the stream, implementation of the plan, while it would not stimulate new growth, will not interfere with existing infrastructure, buildings or commerce.

5.06 Air quality and noise effects. Some temporary local increase in particulate and hydrocarbon emissions are expected while the project is under construction, due to the movement of heavy equipment (dump trucks) through the neighborhood to the county landfill. However, all applicable air quality regulations will be implemented to minimize these effects. Once the project is built air quality will be the same as under without-project conditions. The operation of construction machinery will create additional noise that is likely to disturb some residents living immediately adjacent to the creek during daytime hours. All construction activities would be accomplished during normal working hours, and appropriate noise-suppression equipment would be installed on construction vehicles. The noise environment of the study reach would return to normal once the project is built.

5.07 Water quality effects. The Florida Department of Environmental Protection (DEP) and the Southwest Florida Water Management District (SWFWMD) recommended a modeling study of storm water runoff under with-and-without project conditions, to determine if the proposed improvements would worsen water quality over existing conditions at the downstream end of the proposed project. The model chosen was the Corps water quality model HEC-5Q. The modeling study and its results are discussed in Appendix F. The conclusion, based on the model runs, was that estimated nutrient and pollutant loads of the conventional chemical constituents modeled would be no different under with-and-without

project conditions; that is, there would be no increase in loads to the receiving waters (Manatee River and eventually Tampa Bay) under design flood conditions, as compared to present conditions. This was due primarily to the short retention times in the system. There would also be no net overall increase in loading, specifically nutrients and selected other constituents, to the receiving waters. The long-term water quality effects of the project are neutral.

5.08 Effects on cultural resources. The three bridges crossing Wares Creek at 7th, 9th, and 12th Avenues and the residential structures north of 30th Avenue which may be eligible for inclusion on the National Register of Historic Places will not be affected by the proposed action. As documented during the cultural resources survey completed in 1992, no other potentially significant historic properties are located within the project area. Based on the results of the survey, and in compliance with the National Historic Preservation Act of 1966, as amended (PL 89-655) and its implementing regulation 36 CFR Part 800, the U.S. Army Corps of Engineers determined that this proposed project would have no effect on properties listed on or eligible for listing on the National Register of Historic Places. In a letter from the Florida State Historic Preservation Officer (SHPO) dated October 10, 1991, and in subsequent telephone conversations in April 1992, the SHPO concurred with this determination. If, during construction, it is determined that previously undiscovered historic properties will be adversely affected by the project, a mitigation plan will be developed, in consultation with the SHPO, and completed. All work will be conducted in compliance with the National Historic Preservation Act of 1966, as amended (PL 89-655) and the Archeological and Historic Preservation Act, as amended (PL 93-291).

5.09 Aesthetic effects. The implementation of the flood control channel improvements would clear the young native and exotic plant material from the channel and side slopes to increase capacity and flow rate in the "clearing and snagging" area. Aesthetics will be permanently affected by this project component. The trapezoidal grass-lined channel will enlarge the existing channel and take down all trees within the construction easement. Grassing channel side-slopes, where channel bank widening and reshaping will occur, is the recommended construction method for bank stabilization and aesthetic treatment. Vertical sheet pile walls beginning "just upstream of 21st Avenue" will denude the stream bed and construction easement of trees in a community park and the densely developed Bradenton Mobile Home Park. Perpetual underground tie-backs proposed for the sheet pile walls will also require tree removal for installation. Trees within the permanent project easements will be cleared to provide access for channel improvements. Staging areas have been located. Temporary impact on existing aesthetics are anticipated in these areas. However no long term adverse aesthetic impacts are anticipated to the project staging areas at this time.

The concept of an aesthetic mitigation plan is to restore the aesthetics to their pre-project condition. A tree survey is recommended as part of the plans and specifications study phase so the project can appropriately include existing trees in the final design. Project channel improvements could reflect the existing neighborhood landscape practice by "trimming up" low growing tree limbs instead of clear cutting trees in the "clearing and

"snagging" phase. The trapezoidal channel work could consider bulkheading trees which fall into the "channel construction" areas. Trees within the construction easement could be preserved, not clear-cut. If low tree limbs deny construction access, they could be properly pruned to maintain natural tree form and healthy tree growth.

Manatee County has a tree replacement ordinance in the County zoning and planning code. Tree replacement is the final and ultimate endeavor which has the greatest chance to restore impacts to aesthetics altered by the channel improvement project. The local sponsor could accomplish tree planting through contracts or volunteer programs similar to the Jacksonville Gator Bowl Tree Planting Project. The benefit of native, southern wildflower seed mix would be realized with the decreased cost of mowing and the increase of aesthetics in the area. Detailed aesthetic plans and specifications will be developed once a final survey is completed. A \$50,000 budget for tree replacement would adequately fund the planting of three gallon sized native trees by volunteers, based on the tree plantings at the Gator Bowl interchange in Jacksonville, Florida.

5.10 Effects on fish and wildlife resources. Clearing and grubbing, channel widening and bank stabilization during construction will cause temporary removal of bank slope vegetation and stream bottom vegetation, leading to mortality, disturbance or emigration of the stream fauna. After construction is complete stream bottom habitat will restore itself through re-seeding of aquatic plants and re-migration of small fish; but these organisms will continue to be (as at present) susceptible to total or partial wipe-out during heavy runoff events. Removal of trees inside the 10' wide maintenance right of way on each side of the channel will reduce shading of the channel bottom and may slightly increase daytime water temperatures in affected reaches. This factor is not expected to significantly affect overall water quality, because long stretches of the stream are already cleared of overhanging vegetation. Fish and wildlife resources of the study reach are minimal, consisting of small or transient populations of few species, mostly of small freshwater and estuarine fish and wide-ranging wading birds. Neither the Planning Aid Report (PAR) written during the reconnaissance phase of the study, nor the draft Coordination Act Report (CAR) submitted during feasibility stage studies have identified significant fish and wildlife resources. The U.S. Fish and Wildlife Service stated in the CAR that it has no objections to the project as proposed, although it did criticize the small detention areas once considered (during plan formulation), because it feared they might attract wildlife and subject it to unnecessary predation and traffic dangers.

5.11 Effects on property values. The proposed project would not cause severance of significant areas of property from parent tracts. Most of the proposed channel maintenance easements take small portions of the rear of tracts: "back yards". No effect is expected on the value of the remainder of affected tracts. Property values of tracts adjacent to Cedar Hammock/Wares Creek may now be lower than those of similar properties outside the flood zone (because of their susceptibility to frequent flooding). These existing residential and commercial properties adjacent to the study reach may increase in value if the project is built and flood frequency is reduced.

5.12 Cumulative effects. There are no additional Corps projects in the Wares Creek watershed. All of the presently foreseen project impacts are accounted for in this environmental document. Construction and operation of the proposed channel improvements for flood control will increase the cumulative urbanization of the watershed through further human-induced alterations of the Wares Creek channel; but this process is already so far advanced that impacts on natural resources would be minimal or insignificant.

6.00 COMMITMENTS.

Since no significant natural or cultural resources have been identified inside the proposed project reach, no mitigation commitments have been made to date. Should evidence of such resources be discovered during later stages of project development, consultation with the appropriate resource agencies would be re-initiated and appropriate mitigation would be considered and/or implemented as appropriate.

7.00 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS.

7.01 Clean Air Act. The project will comply with the Clean Air Act. Coordination with DEP and the Manatee County Department of Public Works indicated that the project is sited inside an attainment area. The project is not expected to cause any significant new atmospheric emissions. Applicable air quality regulations will be strictly followed.

7.02 Clean Water Act. An evaluation of the water quality effects produced by proposed modifications to the waterway has been completed as required under the Clean Water Act. This evaluation is reproduced as Attachment A. The project is specified as complying with the Act. A Water Quality Certificate from the State of Florida certifying that State water quality standards will not be exceeded will be applied for. Tampa Bay, to the north, and Sarasota Bay, to the south, are National Estuary Program sites under the Clean Water Act. None of the improvements proposed in this study would affect water quality in these estuaries.

7.03 Coastal Zone Management Act. This study and project are in compliance with the policies of the Coastal Zone Management Program of Florida. The Consistency Evaluation is found as Attachment B of this Environmental Assessment.

7.04 Endangered Species Act. No species designated under this act occur in the area. No resting, feeding or reproductive habitat of any designated species occurs in the area. Informal consultation under Section 7 of the Act was concluded during the reconnaissance phase of the study (Attachment C). The Coordination Act Report (CAR) reconfirmed the absence of Federally designated endangered or threatened species or other significant wildlife populations. The CAR is reproduced in Appendix G (Coordination).

7.05 Estuary Protection Act. This Law provides for Federal designation of Estuaries of National Significance, and consultation with the Secretary of the Interior for projects that may impact such estuaries. The Wares Creek estuary is not part of such a designated area.

7.06 Fish and Wildlife Coordination Act. The proposed project has been coordinated with the Vero Beach Field office, U.S. Fish and Wildlife Service; a Coordination Act Report (CAR) is included in Appendix G. The CAR states that no significant fish or wildlife resources occur along the proposed project alignment. Nevertheless, they recommend stream "rejuvenation" measures for fish and wildlife habitat enhancement along lower Wares Creek (widening meanders, creation of riffles, etc) that would require a much wider real estate footprint than the current clearing and snagging proposed by the Corps, and would require extensive additional land acquisition through densely developed residential neighborhoods. Since this proposed "rejuvenation" is for the purposes of enhancing stream habitat quality, it does not consider flood retention capacity, nor the probable effects of existing frequent floods on such a "rejuvenated" floodplain, if it were built. The proposal was not further considered, because the CAR states that no significant habitat will be impacted by the recommended project; therefore there is no justification for the improvements proposed.

7.07 National Historic Preservation Act. This law requires Federal agencies to take into consideration the effects of their undertakings on historic properties, and to afford the Advisory Council on Historic Preservation or the State Historic Preservation Officer the opportunity to comment on the effects of the undertaking. This project is in full compliance with the National Historic Preservation Act.

7.08 National Environmental Policy Act (NEPA). An Environmental Assessment (EA) of the potential effects of the proposed snagging and clearing has been conducted. The draft document has been coordinated for public comment and comments received. Based on the results of the EA and comments from various state and federal agencies as well as nonprofit and private parties, the NEPA process will be finalized.

7.09 Resource Conservation and Recovery Act. A preliminary (Level 1) assessment was carried out in October, 1993 to detect the possible presence of toxic, hazardous or radiologic waste. No indicators of toxic or radiologic waste were observed.

8.00 COORDINATION. Interagency coordination of the Cedar Hammock/Wares Creek flood control studies began in 1987 when a letter was received from Manatee County requesting assistance in a study of the Cedar Hammock East Branch. This request was combined with a previous request, dated January 11, 1984, by the city of Bradenton for a study of flooding problems along Wares Creek. A Reconnaissance Report was published in March 1990. The Reconnaissance study was coordinated with the Florida State Historic Preservation Officer, the Department of Environmental Regulation, the Department of Community Affairs and Department of Natural Resources. Early scoping for the feasibility phase study was completed in 1991 and early 1992. Potential environmental issues that surfaced during early scoping included: potential effects on threatened, endangered, or State

species of special concern; potential adverse effects of further hardening and channeling on downstream water quality; potential water quality effects on outstanding Florida waters; compatibility with the SWIM Plan for Tampa Bay, and basin-wide stormwater modeling. (Refer to Main Report Appendix F). These issues have been discussed where applicable in the Detailed Project Report and this Environmental Assessment.

All substantial comments received during public coordination of the draft Detailed Project Report and Environmental Assessment are compiled as Attachment C of this EA. Please refer to Attachment C for responses to pertinent comments.

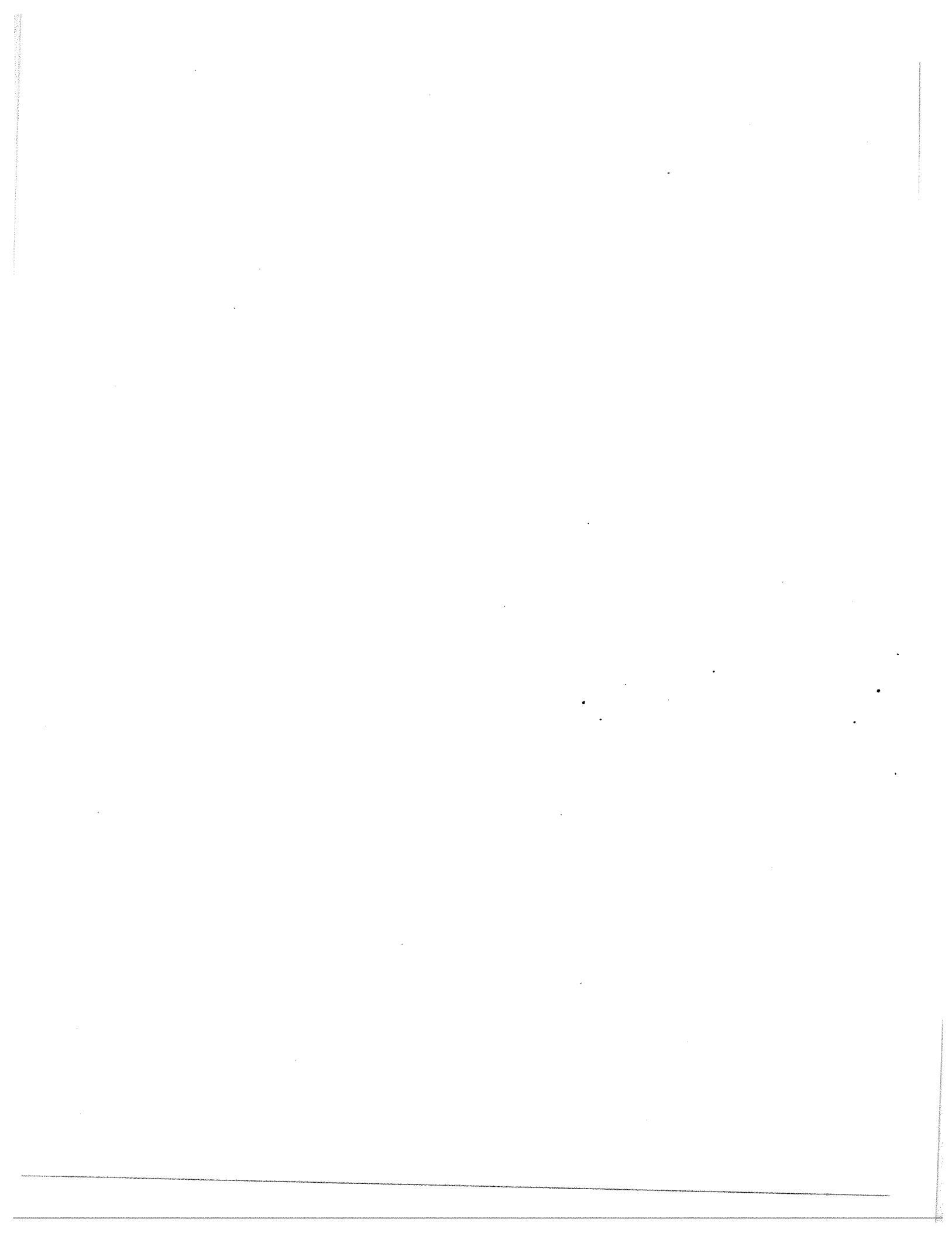
9.00 LIST OF PREPARERS. The following persons were substantially responsible for the contents of this Environmental Assessment: Barbara Cintrón, Biologist (principal compiler); Kimberly Koelsch, Biologist; Jim McAdams, Environmental Engineer; David McCullough, Archeologist; Paul Stevenson, Landscape Architect; Priscilla Trigg, Civil Engineer.

10.00 REFERENCES.

U.S. Army Corps of Engineers 1990. Reconnaissance Report. Cedar Hammock (Wares Creek), Manatee County, Florida. Flood Control Section 205 Study. Planning Division, Jacksonville District U.S. Army Engineer Division, Jacksonville Florida. 23 pp, Plates, Append.

Carroll, J. 1989. Planning Aid Report, Cedar Hammock, Bradenton, Manatee County. U.S. Fish and Wildlife Service, Vero Beach Field Office, Vero Beach, Fl. 3. pp.

Gallagher, J., 1993. Draft Fish and Wildlife Coordination Act Report, Wares Creek/Cedar Hammock Flood Reduction Project, Bradenton, Manatee County. October, 1993. U.S. Fish and Wildlife Service, Vero Beach Field Office, Vero Beach, Fl. 9 pp, figures.





DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019



REPLY TO
ATTENTION OF

FINDING OF NO SIGNIFICANT IMPACT
PROPOSED FLOOD REDUCTION MEASURES
CEDAR HAMMOCK EAST DRAINAGE CANAL AND WARES CREEK
BRADENTON, FLORIDA

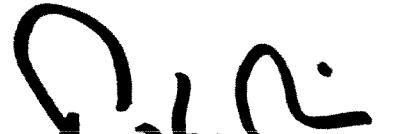
I have reviewed the Environmental Assessment (EA) for the proposed action. Based on information analyzed in the EA, reflecting pertinent information obtained from other agencies and special interest groups having jurisdiction by law and/or special expertise, I conclude that the proposed action will have no significant impact on the quality of the human environment. Reasons for this conclusion are, in summary:

1. The study area is densely urban. It encompasses parts of the city of Bradenton and adjoining Manatee County. Significant or potentially significant cultural resources have been identified in the general study area; however, none will be affected by the proposed works. The State Historic Preservation Officer has concurred with this determination.
2. Fish and Wildlife habitats on the project are minimal due to the urban nature of the environment and current poor stream water quality. A Coordination Act Report provided by the U.S. Fish and Wildlife Service (FWS) did not identify significant fish or wildlife habitats requiring mitigation actions. The Florida Game and Freshwater Fish Commission concurred with the findings of FWS.
3. As a result of informal consultation under Section 7 of the U.S. Endangered Species Act, no threatened or endangered species or their habitat were identified on project lands according to the report cited in the preceding paragraph. Therefore, the project is in compliance with the Act.
4. Hydrologic and storm-water modeling performed as required by the Florida Department of Environmental Protection (DEP) indicated that construction of the proposed improvements would not lead to deterioration of surface water quality in lower Wares Creek nor increase the pollutant load to the Manatee River.
5. The proposed project has been determined to be consistent with the Florida Coastal Management Program.
6. Excess dredged materials will be deposited in the Manatee County landfill. There will be no discharge of dredged materials to waters of the United States.
7. A level 1 survey did not identify any areas likely to contain hazardous, toxic or radiologic waste along the proposed project area.

In consideration of the information summarized, I find that the proposed actions described in the Report and Environmental Assessment will not significantly affect the human environment and do not require the preparation and circulation of an Environmental Impact Statement.

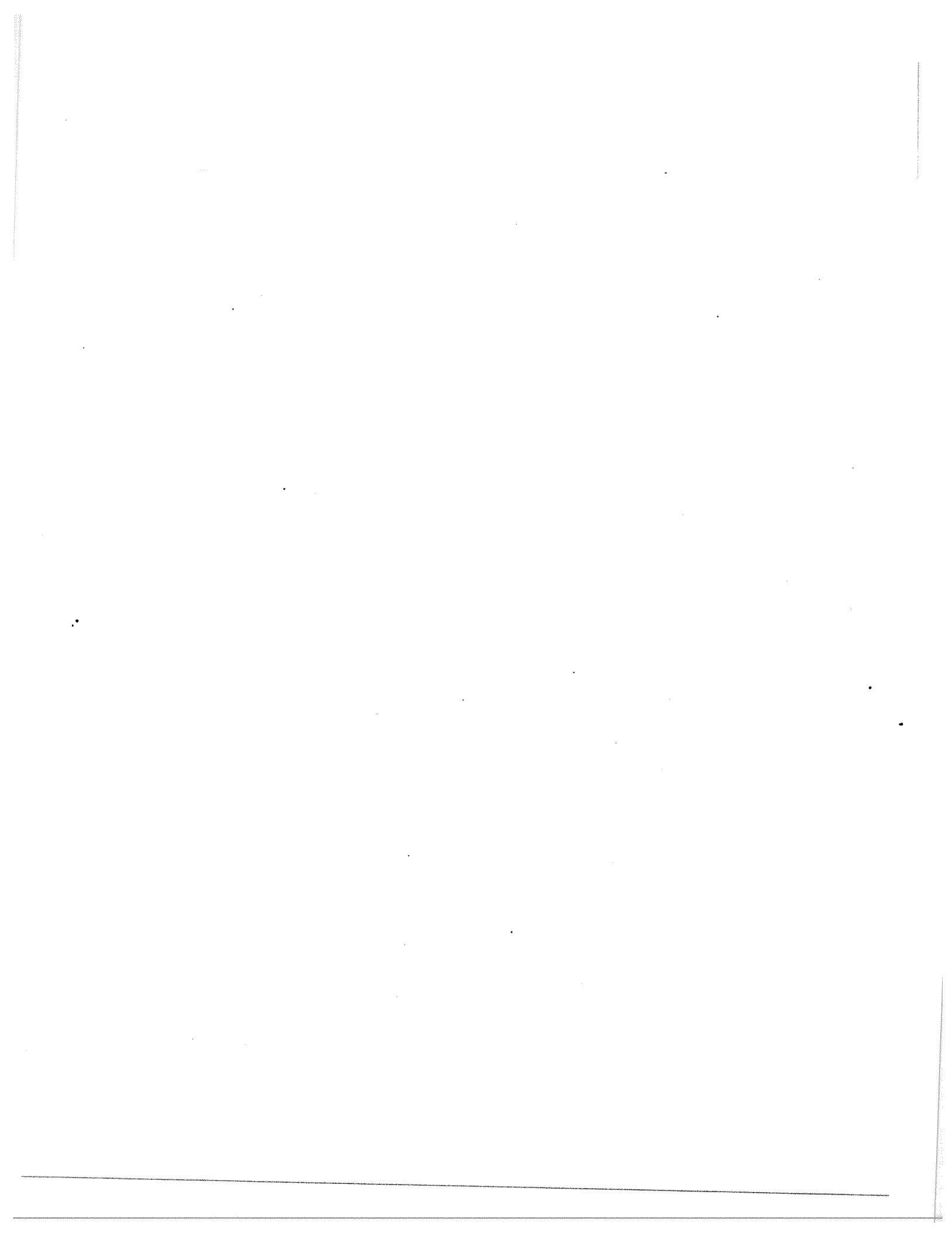
13 Apr 55

Date



TERRY L. RICE
Colonel, Corps of Engineers
Commanding

**ATTACHMENT A
CLEAN WATER ACT
SECTION 404(B)(1) EVALUATION**



CEDAR HAMMOCK/WARES CREEK
FLOOD CONTROL STUDY
SECTION 404(B)(1) EVALUATION REPORT

I. Project Description

A. Location. Cedar Hammock East Canal drains into Wares Creek in Manatee County and Bradenton, Florida. The canal/creek system discharges into the Manatee River.

B. General description. To improve flood flows in the study reach, a combination of snagging and clearing and channel improvements are proposed. Sand, rock and weedy vegetation will be removed from the banks of Wares creek in Bradenton, beginning on the south side of the Manatee Avenue Bridge and continuing south to 17th Avenue west. Channel widening will occur between 17th Avenue West and the end of the project at the north side of Cortez road, in Manatee County. A section of channel between 21st Avenue West and 30th Avenue West will be vertical walled and lined with sheet pile. The remaining channel walls will be trapezoidal in section. Rip-rap armoring will protect high-velocity reaches of the trapezoidal channel from erosion and sedimentation.

C. Authority and Purpose. The study leading to the recommendations contained in the Report and Environmental Assessment (EA) was authorized under Section 205 of the Flood Control Act of 1948, as amended. The purpose of the works is to provide partial flood protection to parts of the city of Bradenton and unincorporated Manatee County, Florida.

D. General description of Dredged or Fill material. Material to be grubbed and dredged consists of sandy sediments and overlying vegetation. Material to be dredged includes sandy sediments, smaller amounts of silt and clay and some limestone rock (refer to Appendix C, Geotechnical Investigations).

(1) Characteristics of material. Materials in the upper strata of the channel banks are quartz sands. They are underlain, at varying depths, by hard limestone. Between the sands and the limestone is a thin weathered layer of limestone, clays and silts. Splitting of the limestone will be required in some areas; blasting is not expected to be necessary.

(2) Quantities of material.

- About 101,640 cubic yards of sediments will be removed from the channel by dredging; an additional 14,500 cubic yards of stone will be removed after drilling and splitting. All 116,140 cubic yards will be removed from the project area and disposed of in the Manatee County landfill, an upland disposal site.

- About 106,810 square feet of steel sheet piling will be emplaced in the channel to create the vertical walled center section of the project. This sheet piling will be tied back with 494 soil anchors.
- Transition areas of the channel will be reinforced with 1,790 tons of bedding stone covered by 4,130 tons of riprap.

(3) Source of Material. Materials will be grubbed or dredged from the bottom of Wares Creek and Cedar Hammock East Branch.

E. Description of the Proposed Discharge Site.

(1) Location. The Cedar Hammock East Branch/Wares Creek stream system begins in unincorporated Manatee County. The East Branch drainage canal initially flows toward the east, makes a sharp turn to the north and empties into Wares Creek, which in turn is a tributary of the Manatee River.

(2) Size. The drainage covers about 6 square miles of nearly flat to gently sloping lands south of the Manatee River. "Cedar Hammock" east branch is basically a man-made urban drainage ditch. Lands are covered densely with residential and commercial structures.

(3) Type of site. Directly impacted wetlands types include: estuarine open water (lower Wares Creek, up to approximately the 9th Avenue bridge) and riparian (stream bottom and stream bank). About 12 acres of stream habitat will be affected by the proposed improvements.

(4) Type of habitat. The estuarine open water area is habitat for small sized individuals of estuarine fish, including mullet, killifish, sheepshead and sand perch, as well as insects and small crustaceans. Wading birds feed and rest along the banks and on offshore islands, which will not be affected by the proposed project. The upstream, freshwater reaches of the stream are almost devoid of fish fauna. Banks in this section are near-vertical or undercut. Frequent clearing by county maintenance personnel and shallow water depths limit the habitat formation in the upstream reaches. Fauna includes diving beetles, insect larvae and small snails.

(5) Timing and duration of discharge. Discharge of materials into the stream (sheet pile and riprap) will occur during construction, which is expected to take about two years. Fauna living attached to the stream bottom will be removed by clearing and dredging during construction, but are expected to re-populate the reach once construction is finished.

F. Description of disposal method. High capacity earth moving equipment such as bulldozers, dump trucks and front-end loaders will be used. All grubbed and dredged materials will be carted off site to an upland disposal area. Only materials to reinforce the channel walls will be discharged into waters of Cedar Hammock/Wares creek.

II. Factual determinations.

A. Physical Substrate Determinations.

(1) Substrate elevation and slope. The slope of the stream bottom is very gradual in the study area. Stream depth varies from over 3 feet at the downstream (Manatee Avenue Bridge) end of the project to less than one inch at Cortez Road.

(2) Sediment type. Stream bottom sediments consist of medium to fine quartz sands overlying hard limestone rock.

(3) Fill material movement. No unconsolidated fill will be discharged into the channel. There will be no fill movement.

(4) Physical effects on benthos. Benthos at dredging and grubbing sites will be removed. The effects of grubbing and dredging will be similar to the present effects of severe flooding, which scours the bottom of the channel and washes benthos out into the Manatee river.

B. Water Circulation, Fluctuation and Salinity Determination.

(1) Water Column effects. There will be a temporary increase in water turbidity during grubbing and dredging, but this effect is expected to be limited to the immediate work area, due to the coarseness of the sediments. Long-term, suspended sediment loads of the channel system should decrease, since erodible banks will be armored to prevent further sedimentation of the channel.

(2) Current Patterns and Circulation. The proposed project will not significantly affect current patterns or water circulation.

(3) Normal Water Level Fluctuations and Salinity Gradients. The estuarine part of the Creek will not be deepened. There will be no change in normal water level fluctuations or salinity gradients.

C. Suspended Particulate/Turbidity Determinations.

(1) Expected Changes at the Disposal Site. Suspended particles from levee construction will temporarily increase water turbidity during dredging, construction of the sheet pile walls and emplacement of bedding stone and riprap. These effects will not persist once construction is complete, because normal flows will not be of high velocity, and erodible areas will be armored. Finished trapezoidal stream banks will be grassed to stabilize side slopes and avoid sedimentation of water bodies.

(2) Effects on chemical and physical properties of the water column.

(a) Light penetration. Will be reduced during elevated turbidity periods immediately during construction. Will quickly return to normal.

(b) Dissolved oxygen. No effect due to immediate construction. The stream is so shallow that light penetrates to the bottom.

(c) Toxic metals, organics and pathogens. No toxic levels of metals or organic materials are known or expected, based on a level-1 survey to detect potential sources of toxic or hazardous waste in the project area performed as part of the study. No changes will occur in other conventional pollutants or pollutant loading to the Manatee River.

(d) Aesthetics. In the downstream section to be cleared and grubbed, machinery will work within the existing stream banks. Very little visual effect is expected. Upstream channel improvements will include removal of existing undermined sheet pile walls, undercut and sedimented areas. A few mature trees will be removed in the trapezoidal channel reach.

(3) Effects on biota.

(a) Primary productivity and photosynthesis. Due to the disturbed, urban nature of the environment and to frequent clearing of stream banks for flood control, no significant impacts on primary productivity of the project reach are expected. Existing vegetation consists of grasses and low bushes.

(b) Suspension/filter feeders. No populations of this biotic group were identified in the project reach. This stream floods frequently enough that it is expected that flood-induced scouring regularly removes attached suspension/filter feeders from the stream bottom and sides.

(c) Sight feeders. Mobile aquatic forms will be able to move away from clearing and grubbing and dredge areas. Land crabs will be displaced.

D. Contaminant Determinations. No contaminants have been identified after a preliminary survey for indications of hazardous, toxic or radiologic waste.

(1) Endangered or Threatened Species. None inhabit the area where disposal will occur. FWS has concurred with this determination.

E. Proposed Disposal Site Determinations.

(1) Mixing Zone Determination. Not applicable.

(2) Determination of Compliance with Applicable Water Quality Standards. The proposed clearing and grubbing will comply with applicable water quality standards of the State of Florida and the Southwest Florida Water Management District.

(3) Potential Effects on Human Use Characteristics.

(a) Municipal and Private Water Supplies. Surface waters in the Cedar Hammock east/Wares Creek subsystem are not suitable for potable water supply.

(b) Recreational and commercial fisheries. There will be no effect on recreational fisheries—basically limited to the Creek mouth and the area near the Manatee Avenue bridge. The rest of the system is too shallow to support any but very tiny fish.

(c) Water Related Recreation. No effect.

(d) Aesthetics. No effect.

(e) Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and similar preserves. No such preserves exist in the project reach.

F. Determination of Cumulative Effects on the Aquatic Ecosystem. There will be no cumulative effects that result in major impairments of water quality.

Findings of Compliance or Non-compliance with the Restrictions of Discharge.

A. No significant adaptations of the guidelines were made relative to this evaluation.

B. No practicable alternative exists which meets the study objectives that does not involve discharge of fill into waters of the United States.

C. The discharge of fill materials will not cause or contribute to violations of any applicable State water quality standards. The discharge operation will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

D. The placement of fill material will not jeopardize the continued existence of any listed species or adverse modification of any critical habitat as specified by the Endangered Species Act of 1973, as amended.

E. The placement of fill materials will not result in significant adverse effects on human health and welfare, municipal and private water supplies, recreational and commercial fishing plankton, fish, shellfish, wildlife, and special aquatic sites. The life stages of aquatic species and other wildlife will not be adversely affected. Significant adverse effects on aquatic ecosystem diversity; productivity and stability; and recreational, aesthetic and economic values will not occur.

F. Appropriate steps to minimize potential adverse impacts of the discharge on aquatic systems included selecting the plan with the least real impact on the aquatic environment.

G. The proposed clearing and grubbing site is specified as complying with the requirements of these guidelines. The disposal site (Manatee County landfill) is an upland site not subject to these guidelines.

ATTACHMENT B

STATE OF FLORIDA COASTAL ZONE MANAGEMENT PROGRAM

FEDERAL CONSISTENCY EVALUATION



ATTACHMENT B
FLORIDA COASTAL ZONE MANAGEMENT PROGRAM
FEDERAL CONSISTENCY EVALUATION

1. Chapter 161, Beach and Shore Preservation.

The intent of the coastal construction permit program established by this Chapter is to regulate construction projects located seaward of the line of mean high water and which might have an effect on natural shoreline processes.

Response: This statute is not applicable to the Cedar Hammock-Wares Creek Project.

2. Chapters 186 and 187, State and Regional Planning.

These Chapters establish the State Comprehensive Plan which sets goals that articulate a strategic vision of the State's future. Its purpose is to define, in a broad sense, goals and policies that provide decision-makers directions for the future, and provide long-range guidance for an orderly social, economic and physical growth.

Response: This project has been developed at the request of Manatee County and the City of Bradenton to address a long-term problem identified in regional planning documents. The small flood control project described in the accompanying Report and Environmental Assessment will significantly relieve local flooding and cause no significant adverse effects on the human or natural environment, terrestrial or aquatic. The study was coordinated with the State Clearinghouse at the beginning of its Feasibility Phase and found consistent. The attached report and environmental assessment will be coordinated again with State agencies prior to receiving approval.

3. Chapter 252, Disaster Preparation, Response and Mitigation.

This Chapter creates a state emergency management agency, with the authority to provide for the common defense; to protect the public peace, health and safety; and to preserve the lives and property of the people of Florida.

Response: Clearing, grubbing and channel improvements in Cedar Hammock East Branch/Wares Creek will reduce the frequency and severity of overbank flooding in affected neighborhoods, lowering the risk of personal injury, property damage and interruption of normal business activities; therefore the proposed project is in compliance with this Chapter.

4. Chapter 253, State Lands.

This Chapter governs the management of submerged state lands and resources within state lands. this includes archeological and historical resources; water resources; fish and wildlife resources; beaches and dunes; submerged grass beds and other benthic communities;

swamps, marshes and other wetlands; mineral resources; unique natural features; submerged lands; spoil islands; and artificial reefs.

Response: No significant submerged natural resources have been identified in the reaches of Wares Creek and Cedar Hammock East drainage canal proposed for improvements. There is a small intertidal sand island in the center of the channel south of the Manatee Avenue Bridge that has a cover of young mangroves. This island will not be grubbed or removed, as its presence has no effect on upstream hydraulics or flooding. Stream banks in the reach to be improved are covered with grass and low bushes. The channel is regularly scoured by flood flows in its existing condition, resulting in conveyance of sandy sediments downstream and their deposition in the upper estuary. After construction of the channel improvements, this sedimentation of the estuary will stop or be greatly retarded. Therefore, the work should aid in maintaining significant submerged resources in lower Wares Creek and the Manatee River, and will be consistent with the goals of this chapter.

5. Chapters 253, 259, 260 and 375, Land Acquisition.

This Chapter authorizes the State to acquire land to protect environmentally sensitive areas.

Response: The project does not include environmentally sensitive lands. No encumbrance of the State's rights under this chapter is established under the project.

6. Chapter 258, State Parks and Aquatic Preserves.

This Chapter authorizes the State to manage State parks and preserves. Consistency with this statute would include consideration of projects that would directly or indirectly adversely impact park property, natural resources, park programs, management or operations.

Response: The proposed work would not affect any State parks or aquatic preserves.

7. Chapter 267, Historic Preservation.

This Chapter establishes the procedures for implementing the Florida Historic Resources Act.

Response: The project has been coordinated with the Florida State Historic Preservation Officer. No eligible resources will be affected by the project. Historic preservation compliance will be completed to meet all responsibilities under Chapter 267.

8. Chapter 288, Economic Development and Tourism.

This Chapter directs the state to provide guidance and promotion of beneficial development through encouraging economic diversification and promoting tourism.

Response: Contribution from the project area to the State's tourism economy will not be compromised by the project.

9. Chapters 334 and 339, Public Transportation.

This Chapter authorizes the planning and development of a safe, balanced and efficient transportation system.

Response: No public transportation systems would be impacted by this project. Flooding would be reduced in frequency and severity on Business 41, improving traffic flow.

10. Chapter 370, Saltwater Living Resources.

This Chapter directs the state to preserve, manage and protect the marine, crustacean, shell and anadromous fishery resources in State waters, to protect and enhance the marine and estuarine environment; to regulate fishermen and vessels of the State engaged in the taking of such resources within or without State water; to issue licenses for the taking and processing products of fisheries; to secure and maintain statistical records of the catch of each such species; and to conduct scientific, economic, and other studies and research.

Response: The proposed project would occur in freshwater and the uppermost part of the Wares Creek estuary, a highly urbanized reach. Any effects from clearing and snagging in the upper estuary would be minor and transitory. There is no evidence that upper Wares Creek presently serves a significant nursery function for saltwater or migratory species; but even if this were the case, the natural environment will recover quickly. Widening of the freshwater channel reaches and riprap armoring of erodible zones will lead to an overall reduction in sedimentation in the Wares Creek estuary. Therefore the project is in compliance with this Chapter.

11. Chapter 372, Living Land and Freshwater Resources.

This Chapter establishes the Game and Fresh Water Fish Commission and directs it to manage freshwater aquatic life and wild animal life and their habitat to perpetuate a diversity of species with densities and distributions which provide sustained ecological, recreational, scientific, educational, aesthetic and economic benefits.

Response: According to the Planning Aid and Coordination Act Reports prepared for the study by the U.S. Fish and Wildlife Service (FWS), no significant freshwater aquatic life or wild animal life will be affected by the project. Although FWS suggested adoption of an alternate plan to "rejuvenate" lower Wares Creek, it stated that the plan recommended in this Report and Environmental Assessment would not significantly impact living resources in the

project area. The alternate plan proposed by FWS would have required the acquisition of many established residences along lower Wares Creek and significant widening of the waterway; its potential cost would have been far beyond the range authorized under Section 205 of the Flood Control Act and would likely have caused major controversy among affected residents. The Florida Game and Freshwater Fish Commission was consulted during early development of the study; species identified as present or likely to be present in the project area were considered or searched for by FWS. None were found to have significant habitat or populations in the study reaches. The Report and EA will be re-coordinated with G & FWF through the State Clearinghouse. Therefore, the project is in compliance with this Chapter.

12. Chapter 373, Water Resources.

This Chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: This project is under coordination with the Southwest Florida Water Management District (SWFWMD), the State agency responsible for implementing this statute. Modeling performed to determine the hydraulic performance of the project predicted insignificant changes in peak flood flow delivery times to receiving waters, and therefore no effect on resources protected under this Statute.

13. Chapter 376. Pollutant Spill Prevention and Control.

This Chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

Response: A concern raised by State water resources and pollution control agencies has been the potential for the project to increase instantaneous loads of pollutants or nutrients to the receiving waters (Manatee River) in comparison to existing conditions. The quality of water in the Manatee River and eventually Tampa Bay were suspected to be affected by stormwater whose quality might be degraded by operation of the proposed flood control project. Therefore, a computer simulation of the stream was run, using the "HEC-5Q" simulation model. Results indicated that there would be no significant change in water quality in the Manatee River. Therefore the project is in compliance with this Chapter.

14. Oil and Gas Exploration and Production.

This Chapter authorizes the regulation of all phases of exploration, drilling, and production of oil, gas, and other petroleum projects.

Response: The project does not involve exploration for/production of petroleum products.

15. Chapter 380. Environmental Land and Water Management.

This Chapter establishes criteria and procedures to assure that local land development decisions consider the regional impact of proposed large-scale development.

Response: The study and proposed project are local and small scale, rather than of a regional nature, but do not involve development decisions. All of the area within the flood control project is already developed to near-maximum density; therefore, no development decisions will be affected, either positively or adversely, by the project.

16. Chapter 388. Arthropod Control.

This chapter provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the state.

Response: The project will not involve construction of structures or water bodies likely to induce the propagation of arthropod pests; nor does it incorporate pest control measures or strategies. Therefore it is in compliance with this Chapter.

17. Chapter 403. Environmental control.

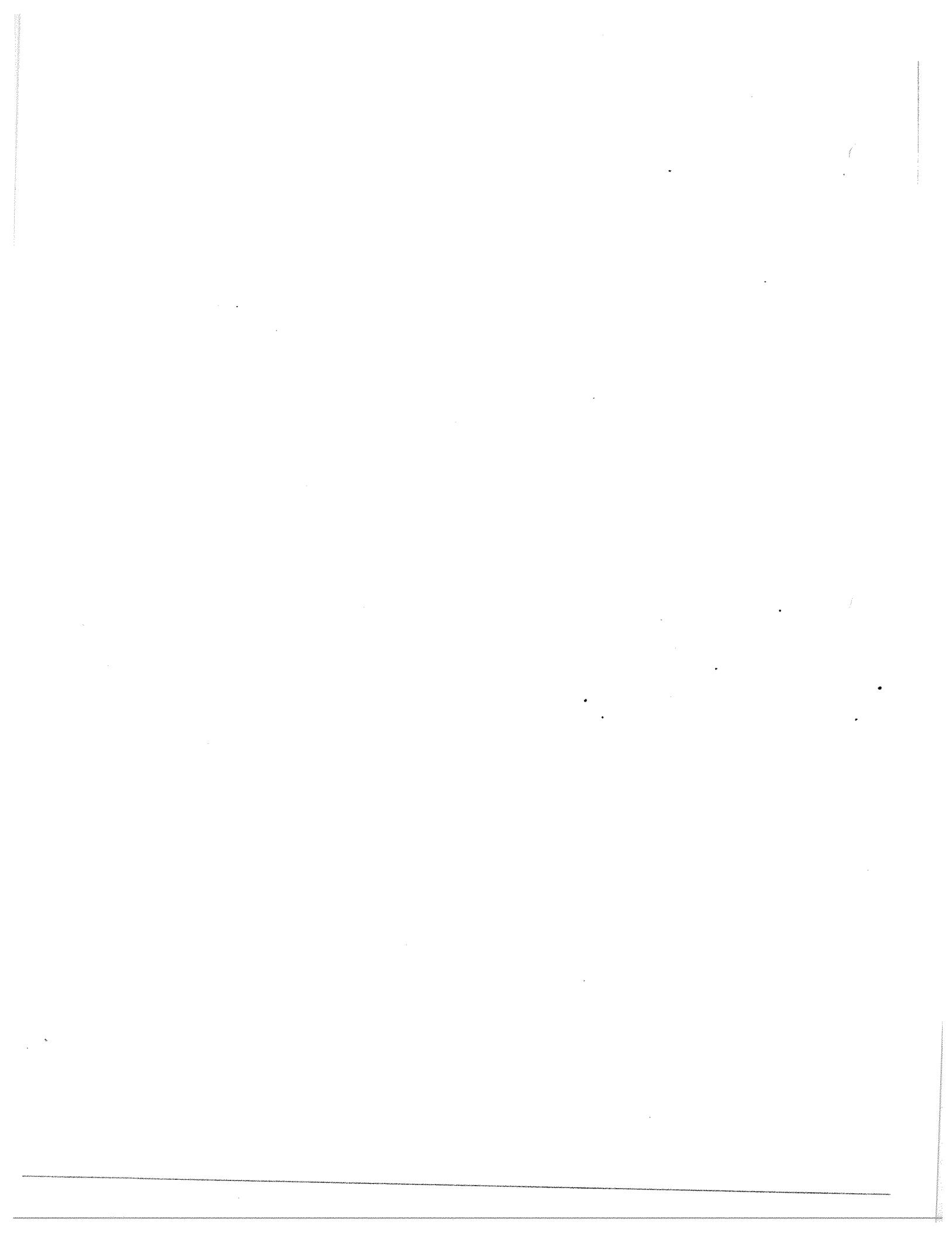
This Chapter authorizes the regulation of pollution of the air and waters of the State by the Department of Environmental Protection.

Response: All regulations to prevent pollution will be complied with. Permits will be acquired as required under this statute and under the Federal Clean Water Act. As explained in Paragraph 13, above, this project's potential to increase pollutant loading of the receiving waters was simulated, with a finding of no significant increase of nutrients or conventional pollutants.

18. Chapter 582. Soil and Water Conservation.

This Chapter establishes policy for the conservation of the State's soil and water through the Department of Agriculture. Land use policies will be evaluated in terms of their tendency to cause or contribute to soil erosion or to conserve, develop and utilize soil and water resources both on site or in adjoining properties affected by the project. Particular attention will be given to project on or near agricultural lands.

Response: No agricultural lands adjoin the project reaches. Some erosion of soil from the banks of Cedar Hammock/Wares creek is occurring under existing conditions, because the banks are undercut and unprotected. The grassed trapezoidal channels, riprap and sheet pile armoring will reduce soil erosion and sedimentation of the estuary, in comparison to present conditions, and therefore would be in compliance with this Chapter.



ATTACHMENT C

**COMMENTS AND RESPONSES TO COORDINATION OF THE
DRAFT DETAILED PROJECT REPORT AND
ENVIRONMENTAL ASSESSMENT**



STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

WATER MANAGEMENT
DIVISION

December 13, 1994
INDA LOOMIS HULLY
WATER

Mr. A. J. Salem
Chief, Planning Division
Department of the Army
Corps of Engineers
Jacksonville District
Post Office Box 4970
Jacksonville, Florida 32232-0919

RE: Flood Control Projects - Section 205 - Draft Detailed

Project Report and Environmental Assessment (EA) -
Cedar Hammock (Ware Creek) - Manatee County, Florida
SAI: FL905180810CR
Dear Mr. Salem:

Pursuant to the National Environmental Policy Act, 42 U.S.C., sections 4321, 4331-4335, 4341-4347, as amended, the Coastal Zone Management Act, 16 U.S.C., section 1451-1464, as amended, Executive Order 11372 and Governorial Executive Order 91-10, the State of Florida has completed its review of the above referenced Draft Detailed Project Report and Environmental Assessment (EA).

The Department of Community Affairs, designated as the lead coastal agency pursuant to section 36(e)(o) of the Federal Coastal Zone Management Act, 16 U.S.C., section 1456(o) of the Army Corps of Engineers (COE) Statutes (F.S.), hereby notifies the project at this stage of development that the state agrees that the Florida Coastal Management Program (FCMP), is consistent with the

notwithstanding this determination of consistency, several concerns have been raised which must be addressed by the COE in the EA before it is finalised. The DEP, identified two major concerns regarding water quality degradation in the receiving waters. The DEP's concerns have been the subject of ongoing discussions between the COE and DEP. The concerns are referenced in our enclosed December 6, 1994 letter to the COE, and are

MANAGEMENT • HOUSING AND COMMUNITY DEVELOPMENT • RESOURCE PLANNING AND MANAGEMENT

C-1

Solent
December 13, 1994
D. T. C.

Letter detailed in the DEP's December 12, 1994 letter, which is enclosed for your review.

The DEP's December 12th letter outlines the concerns andiciencies which remain despite the lengthy discussions with COT. The DEP notes that:

1. The main factor in defining the scope of work to perform a water quality evaluation is the change in the creek's hydraulics due to the channel modifications. The COE, in the Draft Detailed Project Report and Environmental Assessment submitted on November 9, 1994, addressed the changes in delivery times of water and indicated that the delivery time was one hour less with the channel modifications for a two year rainfall event. From the discharge hydrographs sent to the state, the one hour time difference and the channel location for these hydrographs could not be identified. If this delivery time difference can be substantiated, this small change in delivery times would result in insignificant changes in water quality and pollutant loading.

- 2a. The HEC-5Q water quality model was modified based on previous state comments. However, the COE should reconcile the following discrepancies between the input data and the node points in the model:

The model input data files show model node point 9 beginning at the upstream reach and decreasing to node point 1 at the mouth of Wares Creek. The input data numbering system for the channel cross section geometry and water quality input values are reversed from this model node arrangement.

- b. There are differences in the number of node points for observed water quality (8 node points), subwatershed inflow (7 node points), and subwatershed water quality concentrations (8 node points). Therefore, it is not known where each set of input values is located in the model.

- c. Inflow data is absent for model node points 2 and 6 in the HEC-5Q input data files although the hydraulic model configuration indicates that these two nodes receive inflow from subwatersheds.

CORPS RESPONSE TO COMMENTS:

1. **RESPONSE:** The HEC-5Q program showed a relative difference of two hours; however, the model was not calibrated with hydrologic data. A comparison in the differences in peak times of ten minutes is shown in the hydrologic portion of the report.

2a. **RESPONSE:** There were several typos in the data sets and the initial conditions for the "dummy" reservoir needed fixed. This data was changed, new graphs run and the new data sets were sent to Kevin Petrus, FDEP, on 12/3/94. Descriptions of the locations of all the parts of the input deck are shown in Appendix F of the Final Environmental Assessment.

2b. **RESPONSE:** The model included a "dummy reservoir" and eight model nodes. The locations of the nodes geographically did not correspond to the location of the samples taken and the last sample was taken below the area modeled. The maps in Appendix F of the Final Environmental Assessment provide the extra information needed.

2c. **RESPONSE:** This is provided on attachment 1 of Appendix F of the Final Environmental Assessment.

October 13, 1994
FCC

For each of the 9 model nodes, all input data should be identified and clearly labeled in the report. This would include the observed water quality data in the subwatershed and water quality data and In addition, the channel cross section concentrations should be identified.

The Southwest Florida Water Management District has also

expressed concern regarding potential water quality impacts. In part the District indicates that these concerns can be addressed through the District's permitting process, the COE is instructed to address these at the earliest possible time.

District indicates that:

Rainfall distribution Type II Rainfall distribution should be based on the Florida

consistent with the district's permitting requirements. Since the mean high tide elevation is 1.6, the water surface profile for 2, 5, and 10 year events should use a minimum starting water surface elevation of 1.6 for each.

Figures A-1, A-2, A-5, and A-7 do not provide inundations durations (i.e., 1 day, 3 day, 7 day inundation) for the 25-year, 100-year, and 500-year floods.

Based on the supplemental analysis, most of the pollutant concentrations after the improvements do not appear to be significant. The improvements do not solids (TSS). The TSS increases for total suspended load conditions are considered about 20% when the low is significant. Therefore, some form of mitigation may be required. All impacts associated with changes in pollutant concentrations should be evaluated with changes in the existing ecosystems in the creek and at the outfall.

Due to the urban development between 21st Avenue West and 14th Street West, there may not be a uniform 12 foot center-to-center tie rod spacing for P227 sheet piling.

Detailed sediment analyses must be conducted to identify pollutants and/or toxins existing within the sediments which will be dredged. This may significantly affect the extent of dredging and

CORPS RESPONSE TO COMMENTS:

1. **RESPONSE:** A balanced storm distribution, which preserves the storm frequency throughout the storm, was chosen for the economic evaluation of the project and presented in the report. The peak flow estimates by the Florida Modified Type II rainfall distribution were used to compare with the Peak Flow Estimates presented in the report. The Florida Modified Type II rainfall estimates the 10³ and 100¹ events at the mouth by 6.83 and over 2.98, respectively.
2. **RESPONSE:** The water surface elevations initially used were considered reasonable for the analyses. However, hydrologic model designs were rerun with an initial elevation of 2.5, and 10 year profiles. The resulting water surface profiles showed that the higher upstream (1.6 feet, NCVB) did not change water surface profiles upstream of 9th avenue.
3. **RESPONSE:** The Cedar Hammock serves a small urban drainage basin with critical basin response. Therefore, the analysis was limited to a 24 hour period.
4. **RESPONSE:** While the changes in TSS appear to be significant they may be affected by settling basins or other methods to reduce suspended solids which may be totally under the control of the local sponsor. Further methods to refine the control of the cause of siltation there are no established water quality standards if the water are insignificant, and its effects on the quality
5. **RESPONSE:** The final design of the P227 steel sheet piling and specifications will be revised during the preparation of the plans and specifications, after all detailed field information and surveys have been obtained.
6. **RESPONSE:** The Corps will budget for sediment quality testing to be accomplished in the next phase of work. We do not expect however for this area to have significant amounts of flora and fauna existing in the area do not appear to be stressed and the watershed is primarily urban rather than industrial. The Corps will coordinate with the SWFWMD on this matter.

Salem
October 13, 1994
Page Four

CORPS RESPONSE TO COMMENTS:

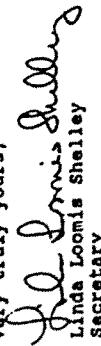
1. dredging methodologies which must be utilized to prevent adverse environmental impacts resulting from the re-suspension of toxins in the water column. Additionally, this sediment analysis will also dictate which upland disposal sites or landfills will be acceptable for the appropriate disposal of dredged material.

The Florida Game and Fresh Water Fish Commission (GRFWC) indicates that its previous comments regarding impacts to threatened and endangered species and their habitat remain applicable for this project. Please refer to the GRFWC's enclosed November 1, 1994 letter and the previous letters which outline the GRFWC's specific concerns.

The Department of State (DOS) indicates that the archaeological and historical survey conducted for this project has not yet been reviewed by the State Historic Preservation Officer. The COE should submit the survey report to the DOS for review as soon as possible and fully comply with any conditions specified by the DOS following its review.

All subsequent environmental documents prepared for this project will be reviewed to determine the project's continued consistency with the FCHP. The state's continued concurrence with the project will be based, in part, on the adequate resolution of the critical environmental protection and water quality issues identified during this and earlier reviews. We appreciate the opportunity to continue working with you to resolve the issues outlined above.

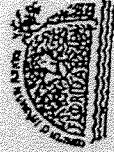
Very truly yours,


Linda Loomis Shelley
Secretary

LLS/rk

Enclosures
cc: Mark D. Phelps, Southwest Florida Water Management District
Lynn Griffin, Department of Environmental Protection
George W. Percy, Department of State
Norman E. Feder, Department of Transportation
Bradley J. Hartman, Game and Fresh Water Fish Commission
Estus Whitfield, Executive Office of the Governor, Office of Planning and Budget

onsolidate letter, 1994. All comments were addressed in the



Department of Environmental Protection

Mulberry Hall
100 Government Building
Tallahassee, Florida 32399-0001

Linton Chappell
Governor

Virginia B. Williams
Secretary

December 12, 1994

Deborah Tucker
Executive Office of the Governor
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32399-0001
Dear Ms. Tucker:

Re: Detailed Project Report and
Draft Environmental Assessment (EA)
Cedar Hammock/Hazes Creek
SRP 9205180910CR

The Corps of Engineers has evaluated the proposed Cedar Hammock/Hazes Creek drainage project in the referenced draft EA. The primary environmental concern for this project is whether it will result in water quality degradation in receiving waters which are included in the water quality modeling section of the project. Since July 1993, Department staff have not worked with the South Florida Water Management District (SFWMD) and Hensel-Peterson to discuss and evaluate the water quality modeling original draft EA and requested preliminary comments on the evaluation document. The Corps provided supplemental information on the November 2, 1994, draft EA and requested a supplement to the November 2, 1994, draft EA, addressing staff concerns. On review of the following comment addendum, the Corps by telephone on November 2, 1994, addressed all information we received. The Corps addressed all information we received from the Corps offices in the EA before it was finalized.

1. The main factor in defining the scope of work to perform hydraulics due to the change in the creek's channel modifications, addressed the delivery time was 1 hour less than the channel modifications for a two year rainfall.

2. The Corps' evaluation of the scope of work to perform hydraulics due to the change in the creek's channel modifications, addressed the delivery time was 1 hour less than the channel modifications for a two year rainfall.

Ms. Tucker,
December 12, 1994
Page Two

event, from the discharge hydrographs sent to us, the 1 hour time difference and the channel location for these hydrographs could not be identified. If these differences can be substantiated, this small change in delivery time would result in insignificant changes in water quality and pollutant loading.

2. The HEC-30 water quality model was modified based on our previous comments, however we have identified discrepancies between input data and the node points in the model. The model input data files show model node point 9 beginning at the upstream reach and discharging to node point 1 at the south of Hazes Creek. The input data numbering system for the channel uses station numbers and water quality input values are reversed from this model's node arrangement. There are differences in the number of node points for node points 1 and 2 (node Point 1 is node Point 2, subwatershed inflow concentrations (subwatershed water quality where each set of input values are located in the model). Inflow data is absent for node node points 2 and 3 in the HEC-30 input data files, however within the hydraulic model configuration these two nodes receive inflow from

*Per each of the 2 model nodes all input data should be identified and clearly labeled in the report. This would include the observed water quality data and subwatershed cross section geometry for each node. Also the channel node in Hazes Creek should be identified.

Although the Corps still has not provided complete data and no change in water quality after project completion that there will be no change in water quality at this time. Department staff has satisfied that the project is unlikely to result in significant water quality degradation. According to the Department under its Coastal Management Program, a final consistency review will be conducted in conjunction with review of this resource permit application by SWFMD.

"With genuine and sincere thanks for your attention and朱新海"

C-5

No. Tucker
December 12, 1994
Pam, Please

We appreciate the opportunity to comment on this document.
If you have any questions or require further information, please
contact me at 487-2221. Questions concerning the technology, please
comment in this letter may be directed to Kevin Petrus at
480-0780.

Cordially,

Lynn Griffis
Lynn Griffis
Intergovernmental Programs

LG/kp
cc: Virginia Wetherell
Pam McVety
Al Biemp

C.

consolidated letter, and comments were addressed in the



STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS
7740 CINTERVIEW DRIVE • TALLAHASSEE, FLORIDA 32399-2100

LAWTON CHILES
Governor

December 6, 1994

LINDA LOOMIS SHELLY
Secretary

Mr. A. J. Salem
Chief, Planning Division
Department of the Army
Jacksonville District Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

RE: Flood Control Projects - Section 205 - Draft Detailed
Project Report (DPR) and Environmental Assessment (EA)
- Cedar Hammock (Wares Creek) - Manatee County, Florida
SAI : FL9205180810CR

Dear Mr. Salem:

The following represents a confirmation of the commitments made by your staff to provide the State of Florida with the information and data previously requested by the state.

As you are aware, the draft DPR and EA submitted to the state on October 10, 1994 lacked the modeling information required to determine the project's water quality impacts. Without this information, the State of Florida will be unable to determine the project's consistency with the state's water quality permitting criteria. The necessity of this information and the date to be included in the modeling was discussed at meetings held on July 18 and September 7, 1994. Staff or both the Department of Environmental Protection (DEP) and the Southwest Water Management District (enclosed) summarized the information to be included in the analysis.

On November 15, 1994, the state received a supplement to the draft DPR/EA which included modeling results.

However, some of the data and information were missing from the model. Over the last week, technical staff from the DEP have discussed the data deficiencies with your staff and identified the following items to be provided to the state:

1. The units of inflow used in the HEC-5Q model.

INTEGRITY MANAGEMENT - HOUSING AND COMMUNITY DEVELOPMENT - RESOURCE PLANNING AND MANAGEMENT

Mr. A.J. Salem
SAI : FL9205180810CR
December 6, 1994
Page Two

2. Correct the absence of observed water quality values in the upstream model reach.
3. Reconcile the discrepancy between sample points in the creek and node points in the model.
4. Rerun the model flow scenarios to simulate water quality further upstream at sample location 2.
5. Confirm that the calibration mode setting was operating properly.
6. Supply model flow values and loadings of total nitrogen, total phosphorus and total suspended solids for the model node at sample location 2.

Although your staff agreed to provide the above stated information to the state by the close of business on Friday, December 2, 1994, we are unable to confirm receipt of all of the information at this time. Some of the information has been received and the state has been informed that additional information was to have been sent on Monday, December 5, 1994.

As per the Corps' news release which requested comments by December 12, 1994, the Corps is advised that the state will be unable to complete its analysis of the modeling results until the reviewing agencies have been received and analyzed by our staff. We will make every effort to provide you with our determination in a timely manner. We appreciate your efforts to supply the required information. If you have questions concerning these comments, please contact Cynthia Morani at 904/488-5551.

Very truly yours,

D. O. Linda Loomis Shelling
Linda Loomis Shelling
Secretary

LLS/jr
Enclosures

cc: Lynn Griffin, Department of Environmental Protection
Al Bishop, Department of Environmental Protection
Paul O'Neill, Southwest Florida Water Management District

nclosure to the Florida Department of Community Affairs Letter dated December 13, 1994. All comments were addressed in the consolidated letter.



Department of
Environmental Protection*

Florida Benjamin Doull Building
1000 Government Boulevard
Tallahassee, Florida 32399-2009

Union City
General

Virginia & Weinstein
Inquiry

December 1, 1994

Deborah Tucker
Executive Office of the Governor
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32399-0001

Dear Ms. Tucker:

Re: Draft Detailed Project Report and Environmental
Assessment, Cedar/Sawmills/Horse Creek
SAC YL P20160102K

The Department of Environmental Protection has been conducting a review of the referenced document and the supplemental modeling information relayed on November 15, 1994. As a result of this review, we have several questions and concerns which need to be addressed by the Corps before we can complete our assessment of water quality impacts. In a conversation today with Corps staff, we requested the following information. The Corps agreed to supply this information by December 2, 1994.

1. The units of inflow used in the HEC-5Q model.
2. Correct the absence of observed water quality values in the upstream model reach.
3. Reconcile the discrepancy between sample points in the creek and node points in the model.
4. Rerun the model flow scenarios to simulate water quality further upstream at sample location 2.
5. Confirmation that the calibration mode setting was operating properly.
6. Supply model flow values and loadings of total nitrogen, total phosphorous and total suspended solids for the model node at sample location 2.

Following receipt of this information, we will complete a modeling analysis and determine whether our results confirm the water quality conclusions of the Corps' modeling. We expect to complete this review and provide comments next week.

407-4231. If you have any questions, please contact me at:

Cordially,

Lynn Griffin
Lynn Griffin

Lynn Griffin,
Environmental Manager
Office of Intergovernmental
Programs

/A
cc: Pam McNett,
Kevin Petrus

*Protect, Conserve and Manage Florida's Environment and Natural Resources

Printed on recycled paper

dated Dec 13, 1994. All comments were addressed in the consolidated letter.

Florida Department of
Environmental Protection



Lawn City
Lawn City
Twin Tower Office Building
2400 Blair Stone Road
Tallahassee, Florida 32399-2400.

RECEIVED

July 26, 1994

Mr. Ed Sales
U.S. Army Corps of Engineers
Jacksonville District
P.O. Box 4910
Jacksonville, Florida 32232
Dear Mr. Sales:

The Point Source Evaluation Section has reviewed the draft Water Quality modeling document for the Cedar Hammock/Hare's Creek Flood Control Project at the request of COR personnel during a meeting with the DCP held on July 18, 1994. The following are our comments.

1. The model used for the simulation, Hare's Creek, represented the creek channel as a series of one dimensional horizontal elements. A portion of Hare's Creek is tidal and modeling or any tidal areas would need to account for changes in direction of flow. If the Hare's Creek model can adequately simulate the hydrodynamics of this system, an alternative model would have to be applied.

2. Since the Hare's Creek model was not calibrated it is simulated. Monitoring of water quality was adequately so that a calibrated model can be developed. The monitoring should include the following parameters:

Flow
Temperature
Dissolved oxygen
pH
Conductivity
Total Kjeldahl Nitrogen

NO₃ and NO₂ Nitrogen
NH₃ Nitrogen
Total Phosphorus
PO₄ Phosphorus
CDBOs

The number of sites monitored in the creek should be selected based on the locations of significant points of inflow. Two synoptic monitoring surveys should be performed under different flow conditions to account for water quality variability.

For your records only.

Mr. Ed Sales
July 26, 1994
Page Two

3. Since a main objective of the modeling is to predict changes in delivery times of the water and corresponding water quality to the Manatee River, the corresponding model should be run for a shorter time period to predict loadings. Model results should include predicted modifications and the design flood hydrograph with the channel modifications. The model results for the current channel configuration, flow rates and water quality should then be used to calculate the estimated loadings of total nitrogen and total phosphorus leaving Hare's Creek under the two channel configurations.

If we can be of further assistance, you may contact me or Kevin Petrus at 904/363-0780.

Sincerely,

AJ Bishop, P.E.
Administrator
Point Source Evaluation Section

AB/kp
cc: Lynn Griffrin✓

AB/kp

cc: Lynn Griffrin✓

closure to the Florida Department of Community Affairs Letter dated December 13, 1994. All comments were addressed in the consolidated letter.



Southwest Florida Water Management District

2319 Durcou Shovel • Brooksville, Florida 34609-0809 • 1-800-423-1470 (Florida Only) or
(904) 795-7211 • SUNCOM 828-4150 • I.D. Number Only (Florida Only): 1-800-231-0103
160 Highway 31 North
Lakewood Ranch 34240-1104
401 N. 85th Street Lakewood Park 34270

RECEIVED

December 7, 1994

DEC 12 1994

Florida Coastal
Management Program

Cedar Hammock (Wares Creek) Project Report and Environmental Assessment

FL 202051008 (OCR)

Dear Ms. Traub-Mellay:

The staff of the Southwest Florida Water Management District (District) has conducted a consistency evaluation for the project referenced above. Consistency findings are divided into four categories and are based solely on the information provided in the subject application.

FINDING	CATEGORY
	Consistent/No Comment
X	Consistent/Comments Attached
	Inconsistent/Comments Attached
	Not Applicable

This review does not constitute permit approval under Chapter 373, Florida Statutes, or any rules promulgated thereunder, nor does it stand in lieu of normal permitting procedures in accordance with Florida Statutes and District rules.

If you have any questions or if I can be of further assistance, please contact me in the District's Planning Department.

Sincerely,

Mark D. Pheps, AICP

Mark D. Pheps, AICP
Development Review Coordinator
MDP

cc: Ralph Central, DCA
Paul Desmarais, SWFWMD
Paul O'Neil, SWFWMD

Excellent
Hazard
Quality
Service

SWFWMD STAFF COMMENTS CEDAR HAMMOCK ENVIRONMENTAL ASSESSMENT

December 7, 1994

Background

The purpose of the Cedar Hammock (Wares Creek) Environmental Assessment is to determine the economic feasibility and potential environmental impacts of reducing flood damages and related problems within the East Branch of the Cedar Hammock basin in Manatee County, Florida. This study was conducted at the request of Manatee County and prepared by the U.S. Army Corps of Engineers (USACOE) under the authority provided in Section 205 of the 1984 Flood Control Act.

The drainage area of the East Branch of the Cedar Hammock Drainage Canal encompasses 6.23 square miles in a highly urbanized area in and around the City of Bradenton.⁴ Heavy rains in September 1988 and June 1992 caused extensive flooding to the area. Annual average flood damages in the area are estimated at \$6,725,000. The selected plan would provide reduced flood stages for all flood events, with a bandfull capacity greater than the five-year flood event for most of the project reach. The 10-year flood would cause some street flooding and begin to erode on residential structures in the lowest lying area.

Preliminary Finding of No Significant Impact

District staff concurs with the USACOE's Preliminary Finding of No Significant Impact in that preparation of an Environmental Impact Statement is not necessary. The District does have some concerns regarding potential water quality impacts. These impacts can be addressed in part through the District's permitting process. Also, it should be acknowledged that project costs may increase if required water quality treatment measures extend beyond the scope of the current proposal.

Nonstructural Considerations

The District believes that nonstructural measures, such as planning, zoning and land acquisition, can help reduce property damage caused by flooding. The expenditure of federal, state, and/or local dollars for this project, which offers only partial relief, should be contingent upon local government planning and zoning measures designed to control further development of this area.

Purchasing structures within the floodplain should also be considered, since modifying the channel will cost in excess of \$13,000,000 and will only provide protection from the 10-year flood event. Public ownership and management of the flood-prone lands offers a more permanent solution and could be implemented over a long period of time.

Detailed Comments on the Project Report

1. Rainfall distribution should be based on the Florida Modified Type II Rainfall distribution, consistent with SWFWMD permitting requirements.
2. Since the mean high tide elevation is 1.6, the water surface profile for 2-, 5-, and 10-year events should use a minimum starting water surface elevation of 1.6 instead of elevations 0.8, 1.2, and 1.5, respectively (see page A-7).
3. Figures A-1, A-2, A-5, and A-7 do not provide inundation durations (i.e., 1 day, 3 day, 7 day inundation) for the 25-year, 100-year, and SPF floods.
4. Based on the supplemental analysis, most of the pollutant concentrations after the improvements do not appear to be significant except the total suspended solids (TSS). The TSS increases about 20% when the low flow condition is considered. This increase in TSS is significant and some type of mitigation should be required. All impacts associated with changes in pollutant concentrations should be evaluated based on the existing ecosystems in the Creek and at the outfall.
5. Due to the urban development between 21st Avenue West and 14th Street West, there may not be a uniform 12 foot center-to-center tie rod spacing for PZ27 sheet piling.
6. Detailed sediment analyses must be conducted to identify pollutants and/or toxins existing within the sediments which will be dredged. This may significantly affect the extent of dredging and dredging methodologies which must be utilized to prevent adverse environmental impacts resulting from the re-suspension of these toxins in the water column. Additionally, this sediment analysis will also dictate which upland disposal sites or landfills will be acceptable for appropriate disposal of dredged material.

Inclosure to the Florida Department of Community Affairs
dated December 13, 1994. All comments were addressed in the
consolidated letter.

RECEIVED



FLORIDA GAME AND FRESH WATER FISH COMMISSION

NOV 1 1994
J. MARK HILLARD J. IRV K. MORRIS QUINTON L. HENRY/HANNIBAL, c/o G. HUMPHREY
Tallahassee Julie K. Morris Sarasota
Executive Director Miami
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32399-0001

LODGE, CHURCH & D. CONNOR, BOONE
WILLIAM C. MANN, Attorney General, Florida
Division
Florida State Clearinghouse
Executive Office of the Governor
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32399-0001

NOV 1 1994
FLORENCE H. HUMPHREY
Altemus
PARKS DIVISION
303 South Florida Street
Tallahassee, FL 32399-1401
(850) 488-1400
TDD (800) 488-3950

November 1, 1994

Ms. Janice L. Hatter, Director
Florida State Clearinghouse
Executive Office of the Governor
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32399-0001

RE: SAI #FL9205180810CR, Manatee
County, U.S. Army Corps of
Engineers, Cedar Hammock
(Hares Creek), Section 203
Flood Control Study

Dear Ms. Hatter:

The Office of Environmental Services of the Florida Game and Fresh Water
Commission has reviewed the referenced document, and offers the following
comments. Our enclosed letters of June 22, 1992, to the Florida Department of
Environmental Regulation, remain applicable for this project.

Sincerely,

Bradley J. Newby, Director
Office of Environmental Services

BWH/JWB/lav
ENV 1-3-2
Enclosures
cedarham.saf

SH AS STEWARD Nov 1 1994
AS STEWARD OF FLORIDA'S FISH AND WILDLIFE

C.

consolidated letter. 1994. All comments were addressed in the

FLORIDA GAME AND FRESH WATER FISH COMMISSION

QUESTION, HEDGEFETH, DDS MRS. GILBERT W. HUNTHIREY
Kittens
Kittens
JOE MARTIN HILLARD
Chairman
BEN HOWE
Gainesville
JULIE K. MCGHIN
Secretary



KOUNT AL MANTY, Executive Director
ALLAN ECKERT, Ph.D., Assistant Executive Director

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

November 19, 1992

Ms. Carol Browner
Secretary
Department of Environmental Regulation

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: DER #411880019, Manatee County
Public Works Department, Cedar
Havenock

Dear Ms. Browner:

The Office of Environmental Services of the Florida Game and Fresh Water Department has reviewed this permit application received from the District, in compliance with the U.S. Army Corps of Engineers, Jacksonville.

The applicant proposes to dredge and expand an existing channel

originally dredged in 1985 (DER #411034663). A new seawall with rip-rap would be constructed on both banks of the channel. Backfill would be placed landward of the retention walls. This project is part of a proposed flood control project reviewed by the Florida State Clearinghouse as FAL #PL9109190439C and SAI #PL9205160810C. We commented that this would have negative impacts on the remaining wildlife habitat, water quality, and fishery habitat in this relatively urbanized part of coastal Manatee County in the enclosed correspondence dated June 22, 1992, and October 4, 1991, and these comments remain applicable.

Sincerely,

Bradley J. Hartman, Director
Office of Environmental Services

Attn: Bradley J. Hartman

C-13

Ms. Carol Browner
November 19, 1992
Page 2

BJH/jwb/ras
ENV 1-2-2
cedarhaven.dcr
cc: Mr. Sia Hollomanzar
Manatee County Public Works
Engineering Division
315 75th Street West
Bradenton, Florida 34209

ENCLOSURE TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL SERVICES
dated December 13, 1994. All comments were addressed in the
consolidated letter.

FLORIDA GAME AND FRESH WATER FISH COMMISSION

DOV WRIGHT QUINON L. HEDGEETH, DDS MRS. GILBERT W. HUNTERY JOE MARCUS WILLARD BEN ROWE
Orlando Miami西湖县 Cleveland Gainesville
ROBERT AL. MANTLY, Executive Director
ALLAN L. EICHART, P.E., Andrew Executive Director



KOHLER AL MANTLY, Executive Director
ALLAN L. EICHART, P.E., Andrew Executive Director

June 22, 1992

Ms. Janice L. Alcott, Director
Florida State Clearinghouse
Executive Office of the Governor
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32399-0001

RE: SAI #FL92051808100, Manatee
County; Cedar Hammock (Waccas
Creek), USACOE Reconnaissance
Report, Control Section 205

Dear Ms. Alcott:

The Office of Environmental Services of the Florida Game and Fresh Water
Fish Commission reviewed the proposed project, and find that our comments
remain as stated in our letter (enclosed) of October 4, 1991.

Sincerely,

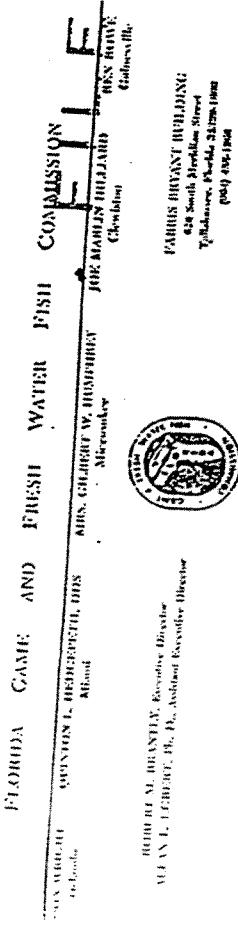
Bradley J. Hartman
Bradley J. Hartman, Director
Office of Environmental Services

BWH/JMB3/rjs
ERV 1-3-2
Enclosure

cc: Mr. A.J. Salem, Chief
Planning Division
U.S. Army Corp of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Received 6/23/92

dated December 13, 1994. All comments were addressed in the consolidated letter.



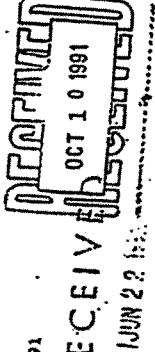
Ms. Janice L. Alcott, Executive Director

Attn: Director, Microcopy

JUNIOR W. HUMPHREY

Gainesville

PAULIS BROWNE BUILDING
624 South Florida Street
Tallahassee, Florida 32399-0001
(904) 484-1944



October 4, 1991

Ms. Janice L. Alcott, Director
Florida State Clearinghouse
Executive Office of the Governor
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32399-0001

RE: JAI #FL9109190439C, Cedar
Hammock/Wales Creek Flood
Damage Reduction Study
USACOZ, Manatee County

OFFICE OF
ENVIRONMENTAL SERVICES

Dear Ms. Alcott:

The Office of Environmental Services has reviewed the referenced document, and offers the following comments.

The Jacksonville District of the U.S. Army Corps of Engineers has begun a feasibility study to develop a detailed project report for flood damage reduction measures in the Cedar Hammock/Wales Creek basin in Manatee County. Flood protection measures include channel alterations along the east branch of the Cedar Hammock Canal, enlargement of an existing upstream detention basin, re-routing the flow from the detention basin to a more direct route to the snugging of the Wales Creek segment, blocking an existing tributary channel, and clearing and from 21st Avenue to 30th Avenue. Two alternative plans are under consideration. Plan 1 consists of a vertical concrete wall channel. Plan 2 consists of a grass-lined, channel with 1:2 side slopes.

The following endangered (E), threatened (T), and species of special concern (SSC) animal species are present, or have the potential to be present, in the project area: West Indian manatee (E), wood stork (E), bald eagle (T), southeastern American kestrel (T), eastern indigo snake (T), Sherman's fox squirrel (SSC), American oystercatcher (SSC), snowy egret (SSC), tricolored heron (SSC), little blue heron (SSC), reddish egret (SSC), brown pelican (SSC), copper tortoise (SSC), American alligator (SSC), and common snook.

Ms. Janice L. Alcott
October 4, 1991
Page 2

The clearing, snagging, bulkheading, and channel profile changes proposed on Wales Creek and Cedar Hammock have a strong potential to eliminate the remaining wildlife habitat in this relatively urbanized part of Manatee County. In coastal Manatee County, the loss of relatively small acreages of upland and wetland forest constitutes proportionally large losses of the total remaining habitat.

The proposed project is not consistent with the water quality and fishery habitat goals of the Agency On Bay Management and the Tampa Bay Surface Water Improvement and Management (SWIM) program. The channelization of tributary streams and the elimination of upland buffers in tributary floodplains will both accelerate the non-point source pollutant loading of Terra Ceia Bay Aquatic Preserve, thus negatively impacting fish and wildlife values on a regional basis. There is a disturbing trend of channelization and hardening of banks of the Tampa Bay region. This is contrary to our natural and partially impacted waterways of pollution abatement, estuarine management, and fisheries conservation.

Impacts to wildlife species in wetlands and uplands in the project alignment should be addressed in project design. We recommend that the hardening of the new creek profile be eliminated or minimized to the greatest extent possible. Alternative creek profile designs, including littoral meanders, areas for emergent macrophyte growth, riparian buffers, and internal meanders, should be reviewed in the proposed study document. We recommend against Plan 1 for the middle reaches of the project. We recommend

It is possible to provide sound water management in an urban setting without complete destruction of the habitat values of natural waterbodies. We would be happy to work with the Corps in attaining this goal. Please call me or Mr. Jim Beaver (813-639-3515) if we can be of assistance.

Sincerely,

Bradley J. Hirschman, Director
Office of Environmental Services

BJH/JWB/rs
ENV 1-3-2

cc: Mr. A.J. Salas
Chief, Planning Division
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32212-0019

RECEIVED
10/10/91

Inclosure to the Florida Department of Community Affairs Letter dated December 13, 1994. All comments were addressed in the consolidated letter.

RECEIVED

NOV 21 1994

FLORIDA DEPARTMENT OF STATE
Jim Smith
Secretary of State
Florida Coastal
Management Program

DIVISION OF HISTORICAL RESOURCES
R.A. Gray Building
500 South Bronough
Tallahassee, Florida 32399-0130
Director's Office Telecopier Number (FAX)
(901) 481-1460 (901) 481-3333

November 15, 1994

Ms. Janice L. Hatter, Director
State Clearinghouse
Executive Office of the Governor
Room 1603, The Capitol
Tallahassee, Florida 32399-0001
Director's Office (901) 481-1460
RE: Cultural Resource Assessment Request
SAI# FL9205180810CR
Cedar Hammock (Wares Creek) Draft Detailed Project Report
Environmental Assessment
Manatee County, Florida

Dear Ms. Hatter:

In accordance with the provisions of Florida's Coastal Zone Management Act and Chapter 267, Florida Statutes, as well as the procedures contained in 36 C.F.R. Part 800 ("Protection of Historic Properties"), we have reviewed the referenced project(s) for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places, or otherwise of historical or architectural value.

We note that an archaeological and historical survey was conducted was performed based on recommendations from this office. The project report indicates that several historic buildings and bridges were identified. However, our records indicate that we never received this report.

If you have any questions concerning our comments, please do not hesitate to contact us. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

Laura A. Kammeyer
for
George W. Percy, Director
Division of Historical Resources
and
State Historic Preservation Officer

GWP/KK
(901) 481-1460
Florida Folklife Programs
(901) 481-1192

Historic Preservation
(901) 481-3333
Museum of Florida History
(901) 481-1464

C-1



United States Department of the Interior

OFFICE OF THE SECRETARY OFFICE OF ENVIRONMENTAL POLICY AND COMPLIANCE

Richard B. Russell Federal Building
76 Spring Street, S.W.
Atlanta, Georgia 30303

November 25, 1994

ER-94/827

Mr. A.J. Salem, Chief
Planning Division
Jacksonville District
U.S. Army Corps of Engineers
Attn: CESAJ-PD-PF
Jacksonville, Florida 32232-0019

Dear Mr. Salem:

The Department of the Interior has reviewed the draft Detailed Project Report and Environmental Assessment for Cedar Hammock (Wares Creek) East Branch Drainage Canal in Manatee County, FL, as requested.

The Fish and Wildlife Service (Service) provided a Planning Aid Report for the Wares Creek/Cedar Hammock Flood Reduction Project in October, 1993. This report contained information on the environmental impacts of the proposed project from small detention ponds, channeling, clearing, and snagging in the basin. Basically, the City of Bradenton's urban stormwater runoff and urbanized area resources, and although the Service does not oppose the project, a stream rejuvenation component for Wares Creek is strongly recommended. We favor elimination or the proposed channeling, clearing, and snagging aspects of the project and establishing more natural stream features such as meanders, pools, riffles, rock cribs, weirs, and shoreline vegetation.

The elements put forward by the Service do not appear to be discussed or considered in the project report or environmental assessment. We believe serious consideration is due to restoring more natural stream conditions in aid of flood control. We have focused on unchannelizing the Everglades, where Federal attention is recommend using this opportunity in the Wares Creek/Cedar Hammock basin to be environmentally proactive while providing flood control to Bradenton.

We appreciate the opportunity to comment on the draft Project Report and EA. If you have questions regarding the comments, you may contact Mr. Dave Farrell at 407/561-3909.

Sincerely yours,

James H. Lee
Regional Environmental Officer

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

May 14 1994

District Engineer, Jacksonville
P.O. Box 4970
Jacksonville, FL 32232

Attn: Mr. A.J. Salem

Subject: Environmental Assessment (EA) and Finding of No
Significant Impact (FONSI) for Cedar Hammock (Wares
Creek) East Branch Drainage Canal, Manatee County, FL

Dear Sir:

Pursuant to Section 309 of the Clean Air Act, EPA, Region 4 has reviewed the subject document which discusses the various flood control/drainage measures along the east branch of Cedar Hammock and Wares Creek. Recommended structural improvements to expedite water movement through this reach include snagging/clearing, channel realignment and enlargement, and installation of sheet piling. The excavation associated with this proposal will generate approximately 100,000 cubic yards of material which will be transported to the Manatee County landfill.

From the information in the Detailed Project Report and Appendix A of the EA the noted measures should reduce flood stages for all rainfall events, with inbank storage for at least the five-year storm episode for most of the study reach. However, we are less confident that the impacts to the natural environment are as nominal as stated.

We suggest that the following be examined before the "Finding of No Significant Impact" for this project is finalized:

Wares Creek and Cedar Hammock are essentially urban culverts within the project reach and do not provide any significant instream biological value(s) due to non-point pollutant loadings from development in the adjacent floodplain. This situation was exacerbated as the assimilative capacity of the natural flood plain/riverine habitat was incrementally displaced by encroachment of this development. While the biological importance of the urban reach of this watercourse may be discounted, degraded flows eventually enter the Manatee River and Tampa Bay which do have important regional amenities. The incremental effect of these adverse impacts is the reason why the latter has been placed in the surface water improvement and management program.

Stormwater retention basins could be used to trap the first

inch of non-point runoff and lessen the perturbations associated with rain events. Unfortunately, there is insufficient reasonably available/vacant property in the sub-basin to construct effectively sized structures. Therefore, retention areas were eliminated from the selected plan.

We share the water quality concerns of the Department of Environmental Protection (DEP) about this project, i.e., pollutant loadings to Manatee River/Tampa Bay should not be increased. In this instance proposed structural measures will facilitate an increase in stream flow rates thereby decreasing delivery times of pollutants. Modelling was used to determine the significance of this change on the river/bay system. We understand that the HEC-5Q modeling results showed only localized water quality problems around the mouth of Wares Creek after project implementation.

However, this model is not precisely geared to address the tidal variations and physical characteristic found in this particular system. Hence, DEP has raised some concerns about the confidence which should be assigned to these results. Moreover, the input from Cedar Hammock appears incidental. Nonetheless, enough inputs from a system's constituent sub-elements can create a significant dilemma. The difficulty of addressing incremental effects and how individual actions affect an overall ecosystem have proven to be very perplexing to evaluate. This is one of the major reasons why dealing with the cumulative effects of individual drainage projects remains a problem.

Since providing flood relief within the project area is such a desirable societal goal, we believe that sufficient latitude could be found within the Section 205 Program (Flood Control Act of 1948) to provide cost effective water quality benefits remote from the project reach, but within the overall watershed. Efforts should be made in this regard prior to construction. The results of these investigations should be communicated/coordinated with the pertinent resource agencies.

Thank you for the opportunity to comment on this action. If we can be of further assistance in this matter, Dr. Gerald Miller (404-347-3776) will serve as initial point of contact.

Sincerely,

[Signature]
Heinz J. Mueller, Chief
Environmental Policy Section
Federal Activities Branch

C



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, Florida 33702

November 10, 1994

Colonel Terry Rice
District Engineer, Jacksonville District
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Colonel Rice:

This responds to your letter, dated October 7, 1994, requesting comments regarding the Draft Detailed Project Report and Branch Environmental Assessment (EA) for Cedar Hammock (Wares Creek) East Branch Drainage Canal in Manatee County, Florida.

The National Marine Fisheries Service (NMFS) has reviewed the subject documents. The documents adequately describe the affected environments and consequences of the investigated alternatives. The preferred plan (Plan A) involves trapezoidal grass lined channel improvements, vertical wall channel improvements and clearing and snagging of the existing channel. The NMFS recommends alternative 2A with retention ponds as the final plan. This plan would construct approximately 7 acres of retention ponds and replace vertical bulkhead with sloped, vegetated shoreline in the center portion of the project. Vegetated shoreline in the ponds assist in the enhancement of water quality by assimilating pollutants and sediments from up-stream sources. The additional measures in Plan 2A could reduce the amount of polluted water entering the Tampa Bay ecosystem and thereby enhance the quality of estuary habitat to living marine resources which utilize this important

Although the added benefits of Plan 2A may be minor it is our opinion that they should not be dismissed as too costly. We strongly recommend that the Corps of Engineers (COE) pursue alternatives which promote improving the quality of the environment. Section 115 of the Water Resources Development Act provides a funding mechanism for environmental improvements of areas affected by COE projects. The COE should attempt to maximize the environmental benefits of this and future civil works projects.

Please direct related comments or questions to Mr. David N. Dale of our St. Petersburg Area Office. He may be contacted at 813/570-5317.

Sincerely,

Eduardo J. Aguirre

Andreas Hager, Jr.
Assistant Regional Director
Habitat Conservation Division

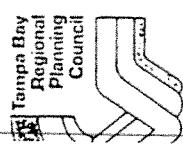


cc:
Mr. A. J. Salem
Chief, Planning Division
Department of the Army, Corps of Engineers
Flood Control and Flood Plain Management
P.O. Box 4970
Jacksonville, Florida 32232-0019
EPA, ATL
DEP, TALL
GFWFC, TAMPA
GMFHC, TAMPA
FWS, TERO
F/SEC2
F/SEC2-6T PETE

CORPS RESPONSE TO COMMENTS:

The lands and damages costs associated with Alternate Plan 2A (over 5 million dollars) are 2.5 times greater than the selected Plan. For this reason and due to its low Benefit-to-Cost Ratio, Plan 2A was not selected for project implementation.





U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
ATLANTA OFFICE
Richard B. Russell Federal Building
75 Spring Street, S.W.
Atlanta, Georgia 30303-3384

October 20, 1994

Mr. A. J. Salem, Chief
Planning Division
Flood Control & Flood Plain Management Section
Department of the Army
Jacksonville District Corps of Engineers
P. O. Box 4970
Jacksonville, Florida 32232-0019

Attn: Mr. McNamee Jr.

Subject: IC&R #264-94, Cedar Hammock Drainage Canal Flood
Measures, Manatee County

Dear Mr. Salem:

Attn: Rudy Fernandez

Secretary/Treasurer

Commissioner

Richard A. Fluegel

Executive Director

John E. Green

Vice-Chairman

Councilman

Attn: Rudy Fernandez

Secretary/Treasurer

Commissioner

Richard A. Fluegel

Executive Director

John E. Green

Vice-Chairman

Councilman

Attn: Rudy Fernandez

Secretary/Treasurer

Commissioner

Richard A. Fluegel

Executive Director

John E. Green

Vice-Chairman

Councilman

Attn: Rudy Fernandez

Secretary/Treasurer

Commissioner

Richard A. Fluegel

Executive Director

John E. Green

Vice-Chairman

Councilman

Attn: Rudy Fernandez

Secretary/Treasurer

Commissioner

Richard A. Fluegel

Executive Director

John E. Green

Vice-Chairman

Councilman

Attn: Rudy Fernandez

Secretary/Treasurer

Commissioner

Richard A. Fluegel

Executive Director

John E. Green

Vice-Chairman

Councilman

Attn: Rudy Fernandez

Secretary/Treasurer

Commissioner

Richard A. Fluegel

Executive Director

John E. Green

Vice-Chairman

Councilman

Attn: Rudy Fernandez

Secretary/Treasurer

Commissioner

Richard A. Fluegel

Executive Director

John E. Green

October 18, 1994

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

Attn: Rudy Fernandez
Secretary/Treasurer
Commissioner
Richard A. Fluegel
Executive Director
John E. Green

If you have any questions, please do not hesitate to contact me.

Sincerely,

Janet McGovern
Janet McGovern, Project Manager
Intergovernmental Coordination & Review
IN/McG/J)

C-2f