TABLE 1
ENVIRONMENTAL COMMITMENTS

Significant Issue or Resource	Reason for Commitment	Commitment
Vehicular Transportation (continued)	Continued from previous page.	A temporary bridge would be constructed at St. Claude Avenue to provide uninterrupted traffic flow through this corridor while a new permanent bridge is constructed.[1]
		Appropriate detour signs and signals would be erected to maintain access to local streets if streets are closed for utility relocations.[1]
		Offsite parking areas for construction workers would be provided on the east and west sides of the IHNC. Shuttle vans would transport workers to and from construction areas.[1]
		Contracts requirements would require as much material as possible to be moved by barge, including debris from demolished buildings and structures.[1]
		A new permanent road to link St. Bernard Highway and West Judge Perez Boulevard with an extension of Florida Avenue would be constructed to provide an easily accessible detour for commuters.
		In the vicinity of the IHNC, traffic signals would be synchronized and no less than four computerized message boards would be provided to direct traffic flow.
		An incident management plan would provide for a police detail and two tow trucks to stand by during rush hours for accident and breakdown response during periods of bridge work.
		Local streets that would serve construction-related traffic would be resurfaced prior to initiation of project construction.
		A light rail line would be included on the new St. Claude Ave. bridge and approach ramps to be compatible with the RTA's long-term plan to implement streetcar service.

TABLE 1
ENVIRONMENTAL COMMITMENTS

Significant Issue or Resource	Reason for Commitment	Commitment
Vehicular Transportation (continued)	Continued from previous page.	Provide for additional school crossing guards on each side of the IHNC during bridge construction periods.
		A program of street resurfacing and drainage improvements would be implemented on both sides of the IHNC.
Noise	Project construction would expose residents, employees of businesses, and school children near the construction site to elevated noise levels.	Pile driving tests would be performed with various types of equipment to measure noise levels and delineate noise level contours.[1]
		Contract specifications would limit noise levels to certain levels at specified distances from the construction site.[1]
		Contract specifications would require monitoring of noise levels to verify adherence to contract specifications.[1]
		Contract specifications would the use of pile driving equipment designed to minimize noise levels. Actual requirements would depend on the results of pile driving tests.[1]
		Specific routes would be designated for construction-related traffic to avoid residential areas. Construction staging sites would be designated away from heavily populated areas.[1]
		Residential and commercial structures lying within areas exposed to "unacceptable" noise levels would be modified to reduce noise levels inside of the structures.
		Pile driving and heavy truck hauling would be restricted to daylight hours, not to exceed 10 hours per day.
		Pile driving for the new St. Claude Avenue bridge would be done during summer to avoid impacts to school children.
		Residents immediately adjacent to high noise activities, especially pile driving for the St. Claude Avenue bridge, would be compensated if they choose to temporarily relocate.

TABLE 1
ENVIRONMENTAL COMMITMENTS

Significant Issue or Resource	Reason for Commitment	Commitment
Air Quality	Construction equipment would emit air pollutants and increase dust levels.	Contracts would require monitoring and compliance with Federal and State air quality standards and preservation of air quality, especially airborne particulate matter (dust), within specified levels.[1]
Wooded Lands	The detour road in St. Bernard Parish could cause the loss of up to 2.8 acres of woods.	The detour road would be constructed alongside of a parish drainage canal where a right-of-way is maintained by local interests for canal access. The loss of wooded area would thereby be minimized.
Wetlands	The requirement to mitigate for impacts of lock module construction site (graving site).	Impacts of the graving site would be minimized by restricting direct impacts to no more than 25 acres. Mitigation for impacts of the graving site would consist of wetland development with uncontaminated material from the east bank of the IHNC. Other soil and sediment would be placed in previously-used MRGO disposal areas.
Aesthetic Values	Floodwalls constructed on levees will reduce the recreational use of the levee and batture area.	Both sides of the new lock would be back-filled and landscaped to create green space and sites for community use.[1]
		Street lighting would be improved or added along designated detour routes, including both existing and new routes.[1]
		A walking/jogging/bicycling path would be built in proximity to the floodwalls and levees. The path would be extended to St. Bernard Parish.
	Bridge approaches, bridge piers, and re-aligned levees and floodwalls would adversely affect the aesthetic appeal of the historic neighborhoods.	Landscaping would be provided around levees, floodwalls, and bridge approaches.[1]
		Textured surfaces would be used on exteriors of floodwalls, bridge approaches, and bridge piers to add visual appeal.[1]
		One or more observation decks, with interpretive displays and benches, would be constructed on the new floodwall to preserve the current recreational viewing opportunities.

TABLE 1
ENVIRONMENTAL COMMITMENTS

Significant Issue or Resource	Reason for Commitment	Commitment
Aesthetic Values (continued)	Continued from previous page.	Lighting and green space would be provided in vacant areas created by reconstruction of the St. Claude Avenue bridge approaches.
		Public right-of-ways along existing streets would be landscaped.
	A grove of large live oak trees provides an aesthetically important feature. They trees would have to be removed for the bypass channel around the old lock.	Compensation for loss of the oak trees would involve either transplanting some of the trees to nearby public lands, or, if this is not feasible, planting of nursery stock.
Cultural Resources	Three structures eligible for listing in the Federal Register would be removed: the Galvez Street Wharf, the St. Claude Avenue Bridge, and the existing IHNC lock. The project is perceived by some local residents to present a threat to the historic nature of their communities.	A permanent historical record of the eligible structures would be prepared in coordination with the State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the New Orleans Historic Districts Landmarks Commission.[1]
		One or more key historically-significant components of the old lock and/or the St. Claude Avenue bridge would be salvaged and displayed.
		A brochure addressing various historical features of the existing lock and St. Claude Avenue bridge, as well as significant historical attributes of the surrounding community would be produced.
		Markers and displays which feature appropriate information concerning the old lock, other historic structures, and the surrounding neighborhoods would be erected.
		Oral histories of local residents would be taken to preserve the history of the neighborhoods adjacent to the IHNC.
		A large display concentrating on the maritime history of New Orleans and south Louisiana would be constructed.

[1] These items and their costs are part of the general project construction plan. Their costs are not included in the community impact mitigation plan.

2. TABLE OF CONTENTS

TITLE PAGE

LIST OF TABLES

3. NEED FOR AND OBJECTIVES OF ACTION

3.1. STUDY AUTHORITY

3.1.1. Authority for replacement of the navigation lock connecting the Mississippi River-Gulf Outlet (MRGO) with the Mississippi River was established by Public Law (PL) 84-455 of 1956. The authorizing legislation provided:

> ". . . that when economically justified by obsolescence of the existing Industrial Canal Lock or by increased traffic, replacement of the existing lock or an additional lock with suitable connections is hereby approved to be constructed in the vicinity of Meraux, Louisiana, with type, dimensions, and cost estimates to be approved by the Chief of Engineers . . . ."

3.1.2. Section 186 of the Water Resources Development Act of 1976 (PL 94-587), amended PL 84-455 and made construction of bridge relocations a Federal responsibility (not to exceed the cost of $71,500,000) when required by the construction of the MRGO channel.

3.1.3. A Site Selection Report, prepared in 1975 by the New Orleans District in cooperation with the Port of New Orleans, recommended the Lower Site below Violet, Louisiana, in St. Bernard Parish, as the best overall location for a new lock. The report was approved by the Office of the Chief of Engineers in 1976. Subsequently, President Carter requested a review of all water resource projects in his message to Congress concerning the 1978 budget, and recommended that:

> "The project should be modified to eliminate consideration of the new channel location. Further study should be carried out to determine whether repair or replacement is needed of the existing lock at the existing site. If replacement and expansions are deemed necessary, special care should be taken to minimize dislocation and disruption of residents near the site. Cost savings from the modification will depend on the outcome of the analysis . . . ."

3.1.4. The Director of Civil Works, in a letter, dated June 10, 1977, to the Corps of Engineers, Lower Mississippi Valley Division, directed that:

> "The Phase 1 document will address all alternatives; hence the Violet location and other sites must be fully covered in the report, as well as economic analysis of various incremental lock sizes."

3.1.5. In an August 10, 1977 letter, the Director of Civil Works further stated that:

> "This report would present events leading to the choice of the existing site. . . . The selected plan must be economically justified . . . ."

3.1.6. A Preliminary Draft Evaluation Report/Environmental Impact Statement was prepared in November 1982. The draft recommended construction of an adjacent lock at the existing site and maintenance of the existing lock in a stand-by condition for use only during emergencies. The report was not released to the public because of unresolved issues.

3.1.7. The Water Resources Development Act of 1986 (PL 99-662) modified the project and changed the cost-sharing arrangement. The act specifies that the cost of the lock shall be allocated between general cargo navigation and inland navigation. The shallow-draft cost would be funded 50 percent from the general funds of the U.S. Treasury and 50 percent from the Inland Waterway Trust Fund. The trust fund is administered by the Inland Waterway Users Board which is composed of representatives of the shallow-draft navigation industry. The funding source for the trust fund is a tax paid on the fuel used for shallow-draft navigation. The incremental, deep-draft costs of the project would be shared 75 percent by the U.S. Treasury and 25 percent by a non-Federal sponsor for a lock up to 45 feet deep and equally cost-shared for depths over 45 feet. The point at which shallow-draft becomes deep-draft is not specified in the act. The act provides that the lock and connecting channels shall be in the area of the existing lock or at the Violet site. The act also states that maximum effort should be made to assure full participation of minority groups living in the area of construction.

3.1.8. The U. S. House of Representatives, Committee on Appropriations, prepared Report Number 101-536, entitled Energy and Water Development Appropriations Bill, 1991. This report directed the Corps of Engineers, in conjunction with the local sponsor to:

> . . . implement a community participation process with affected residential, business, and government entities. . . . The Corps, in conjunction with the local project sponsor, shall develop a comprehensive plan to identify and mitigate to the maximum any adverse social and cultural impacts of the project. Such plan shall include measures to provide adequate replacement housing, street circulation, and enhanced neighborhood amenities to insure that communities adjacent to the project remain as complete, liveable, neighborhoods during and after construction of the project. . . .

3.1.9. Section 326 of the Water Resources Development Act of 1996 amends Section 844 of the Water Resources Development Act of 1986 by adding:

> . . . the Secretary shall implement a comprehensive community impact mitigation plan, as described in the evaluation report of the New Orleans

District Engineer dated August 1995, that, to the maximum extent practicable, provides for mitigation or compensation, or both, for the direct and indirect social and cultural impacts that the project described in subsection (a) will have on the affected areas referred to in subsection (b).

3.2. PUBLIC CONCERNS

3.2.1. There is a long history of local opposition associated with this study which has been a major factor in prolonging the study process. The recommended plan is the culmination of the Corps of Engineers' extensive efforts to develop a plan that is acceptable to all affected interests including local citizens, local governments, cost-sharing partners, environmental organizations, and the navigation industry. Section 6, Public Involvement, Review, and Consultation, contains information about the concerns expressed by various interests throughout the study process.

3.2.2. Even though many of the concerns expressed by local residents during the study process have been minimized or eliminated through development and selection of the recommended plan, there remains the concern about the long duration of project construction activities. Construction noise, vibrations from pile driving, traffic delays, the addition of floodwalls on top of levees, and general disruption of the community during project construction are the main concerns of area residents. Commuters, who must cross the IHNC during rush hours are concerned about increased travel times during the construction period.

3.2.3. The U.S. Inland Waterways Users Board has identified the IHNC Lock replacement as a Category 1 project. Category 1 projects are those they have determined should be accelerated consistent with maximum Corps of Engineers' capabilities or for which increased capabilities would be appropriate. The shallow-draft shipping industry is well aware, probably more so than an other interest, of the of the existing IHNC lock's inefficiencies and the need for improvement.

3.3. PLANNING OBJECTIVES

The following objectives were established in response to the problems, needs, and opportunities identified by public and private interests:

- To develop plans that reduce or eliminate delays to navigation between the Mississippi River and tidewater facilities and waterways to the east of the river;

- To develop plans that avoid and minimize relocations and other impacts to local residents and businesses to the maximum extent practicable;

- To develop plans that avoid and minimize environmental impacts to the maximum extent practicable; and

- To design and recommend appropriate mitigation features for unavoidable impacts to local residents, cultural resources, and environmental resources.

4. ALTERNATIVES

4.1. PLANS ELIMINATED FROM FURTHER STUDY

4.1.1. New Lock Sites Eliminated during Early Studies

4.1.1.1. Since planning for a new lock began in 1960, eight locations have been investigated, to various degrees, for construction of a new lock (Plate 2). In addition, various lock and connecting channel sizes, alignments, and construction methods have been considered at several of the locations.

4.1.1.2. During early studies, it was determined that the Meraux site, mentioned in the original authorizing legislation, was unsatisfactory due to industrial development and adverse river conditions. A Site Selection Report prepared in 1975 by the New Orleans District evaluated fourteen plans at the seven remaining sites. Based on criteria which included costs, benefits, construction difficulty, local economic and social impacts, environmental impacts, operation and maintenance difficulties, and public sentiment, five sites were eliminated and two sites were selected for additional study. The Scarsdale, Caernarvon, and Bohemia Sites were eliminated partially because they were too circuitous for practicality and would cause massive, irreversible damages to extensive areas of productive coastal marshes. The Saxonholm Site would have caused considerably more disruption to the residents of St. Bernard Parish than the Upper or Lower Sites in the vicinity of Violet, Louisiana and was also eliminated. Between the Upper and Lower Sites, the Upper Site was eliminated because it would be more disruptive to local residents than the Lower Site. The two sites selected for additional study were the IHNC site and the Lower Site near Violet, Louisiana (Plate 3). The Site Selection Report recommended a new lock at the Lower Site since it would cause less disruption to residents than the IHNC site.

4.1.2. Elimination of the Violet (Lower) Site

4.1.2.1. In 1977, President Carter directed the Corps of Engineers to undertake further studies of a replacement lock at the IHNC site with emphasis on actions to minimize the displacement and disruption of residents. A preliminary draft feasibility report/EIS was prepared in 1982, but was not released to the public. Alternatives under consideration at that time included an extension of the existing lock, an extension of the existing lock with a congestion fee added, an additional lock east of the existing lock, replacement of the existing lock with a new lock to the east of the existing lock, and a new lock at the Lower Site. Since 1975, the only sites that have been considered are the IHNC and Lower Sites, although several alternative alignments and bridge replacement scenarios have been investigated at the IHNC site.

4.1.2.2. The Water Resources Development Act of 1986 provided specific direction that expansion or replacement of the IHNC lock shall be in the area of the existing lock or at the Violet (Lower) Site. Extensive studies of both sites were made during the late 1980's with emphasis on minimizing potential impacts to the natural environment at the Lower Site and on minimizing social and economic impacts at the IHNC site. Even after reducing the right-of-way requirements for a lock and connecting channels at the Lower Site to the absolute minimum necessary, over 550 acres of brackish marsh, 240 acres of bottomland hardwood forest, and 380 acres of scrub/shrub wetlands would have to be destroyed. In addition, substantial losses would occur to brackish marsh and scrub/shrub habitat from construction of an eased barge channel which would be necessary at the intersection of the GIWW and MRGO. The hydrology of nearly 20,000 acres of brackish marsh and shallow open water, lying on both sides of the lock tail-bay channel would be altered, resulting in considerably decreased habitat quality. A freshwater diversion siphon, located at the head of the Violet Canal, which diverts Mississippi River water into the tidal wetlands, would be rendered useless by a lock project near Violet. The siphon's function could only be partially restored by incorporation of a replacement siphon into the lock project. A project at Violet would bisect a State-designated scenic stream. This type of disturbance to a scenic stream would require an act of the State Legislature. Adverse effects would also occur to five other state-designated scenic streams.

4.1.2.3. The major, negative impacts on the environment, together with widespread and long-standing opposition to construction of a lock in St. Bernard Parish, and the higher cost compared to a new lock at the IHNC, led the New Orleans District to request higher authority of the Corps of Engineers to approve dropping the Lower Site from further consideration. Additional information concerning public views on the Violet site is included in Section 6, Public Involvement, Review, and Consultation. The written request included a "mini-report" explaining the rationale behind the request to eliminate the Lower Site from consideration. The Corps' Lower Mississippi River Valley Division, along with Headquarters, U.S. Army Corps of Engineers and the Assistant Secretary of the Army for Civil Works agreed, but stated that the feasibility report should present the evidence leading up to the decision. Additional rationale for eliminating the Lower Site from further consideration is provided in the Plan Formulation Section of the Main Report.

4.1.3. Elimination of Lock Alignments at the Inner Harbor Navigation Canal

4.1.3.1. Elimination of the Violet site as a viable alternative left the IHNC site as the only practical location for a new lock. A variety of alternative alignments, construction methods, and other structural and non-structural alternatives for reducing lock congestion have been studied for the IHNC site. The Appropriations Committees of the U.S. House of Representatives and the U.S. Senate, in conjunction with the FY 1991 Appropriations Act, directed that the Corps of Engineers establish a broad-based community participation plan to insure that the local community is fully informed about the project planning process and that the local community has a voice in that process. In addition, the committees directed the Corps of Engineers to give maximum consideration to alternatives

which minimize residential and business disruption while meeting the goal of improving waterborne navigation. They also instructed the Corps of Engineers to develop a comprehensive plan to identify and mitigate, to the maximum extent practicable, any adverse social and cultural impacts of the project. In 1991, the New Orleans District had a socioeconomic impact analysis of five alternative lock replacement plans prepared by a local contractor. The plans analyzed in the report were:

- 200-foot east of the existing lock, conventional construction, new mid-level bridges at St. Claude and Claiborne Avenues
- 200-foot east of the existing lock, steel shell, float-in construction, new mid-level bridges at St. Claude and Claiborne Avenues
- 200-foot west of the existing lock, conventional construction, new mid-level bridges at St. Claude and Claiborne Avenues
- In situ replacement, concrete or steel shell, float-in construction, new mid-level bridge at St. Claude Avenue
- In situ replacement, float-in gate-bays, new mid-level bridge at St. Claude Avenue

4.1.3.2. The 200-foot east, 200-foot west, and in situ plans are shown on Plates 4, 5, and 6, respectively. All five plans included replacement of the St. Claude Avenue bridge with a mid-level crossing. A mid-level crossing is required because the lock chamber for any of the above scenarios would be immediately next to St. Claude Avenue and a low-level bridge would seriously affect operation of the lock. Such is the case under existing conditions. If a staging area for vessels was available between the bridge and the lock, a low-level bridge would cause significantly less interference with the lock.

4.1.3.3. A mid-level bridge replacement at St. Claude Avenue would not require displacement of any residences or businesses along St. Claude Avenue. Noise associated with pile driving and other bridge construction features, along with traffic detours and congestion would be a significant problem for local residents during the construction phase. A mid-level bridge *would* require conversion of several neighborhood streets to one-way traffic to accommodate some through-traffic approaching and exiting the bridge. Routing of through traffic down narrow neighborhood streets would cause safety problems and is objectionable to the residents.

4.1.3.4. The 200-foot east plans and the 200-foot west plan would require replacement of the Claiborne Avenue bridge with a mid-level crossing. The existing bridge is mid-level, but a new lock situated either east or west of the existing lock would not be properly aligned to allow vessels to navigate through the existing bridge.

4.1.3.5. Replacement of the Claiborne Avenue bridge would also produce significant adverse socioeconomic impacts. For the 200-foot east plans, east and west approach ramps and loops would require the displacement of 25 dwelling units inhabited by 57 people, along with 3 businesses. For the 200-foot west plans, east and west approach ramps and

loops would require the displacement of 117 dwelling units housing 274 people. As would be the case with replacement of St. Claude Avenue bridge, noise and other bridge construction activities, traffic detours, and traffic congestion associated with the replacement of the Claiborne Avenue bridge would significantly affect local residents.

4.1.3.6. In addition to displacements necessary for bridge replacements, the 200-foot east plans would require substantial relocation of dwelling units and individuals for the lock structure and connecting channels. Either of the two 200-foot east plans would require displacement of 87 dwelling units housing 205 people. Forty-two of the dwelling units are located within the Holy Cross Historic District. The displacement of 2 public facilities and 6 businesses or industries would also be required. Displacements would also be necessary for the relocation of an historically important sewage pumping station that lies within the required right-of-way for the new lock. It is estimated that 15 dwelling units housing 26 persons would be required for relocation of the pumping station.

4.1.3.7. Table 2 shows the total relocations required for the alternatives evaluated for the 1991 socioeconomic impact analysis.

TABLE 2
RELOCATIONS NECESSARY FOR LOCK REPLACEMENT PLANS

	200-foot east plans	200-foot west plan	In situ plans
Dwelling Units	127	121	12
Population	288	336	84
Public Facilities	2	3	2
Businesses and Industries	9	6	0
Employees	115	310	250

4.1.3.8. The right-of-way required for a new lock under the 200-foot west plan would require displacement of 4 dwelling units, housing 12 people. A U.S. Coast Guard (USCG) Station which provides housing for 50 employees would also have to be relocated, although this relocation is not considered to be a significant negative effect. The 50 USCG employees housed at the facility are on active duty and are transferable to other locations. In addition to the military personnel who live at the facility, an undetermined number of other employees, both civilian and military, work there. The cost of relocating the USCG facility is a project cost. The estimated cost of relocating the facility is $10,000,000.

4.1.3.9. The in-situ replacement plans, listed previously, would also require displacements for the new lock right-of-way. The right-of-way for a new lock would require displacement of 12 housing units occupied by 30 people. These displacements are necessary because the new lock would be wider than the existing lock and additional

right-of-way is needed for construction and levee setback. The single largest drawback to the in-situ replacement plans is the required long-term shutdown of traffic through the IHNC. The maritime industry has stated that it would not support a plan that requires a long-term shutdown of the IHNC -- they would rather endure the lock congestion. Furthermore, long-term shutdown of the lock substantially reduces project net benefits.

4.1.3.10. The socioeconomic impact analysis determined that all five of the alternatives under study would cause massive, significant, adverse impacts to the local community. It was also determined that the communities surrounding the IHNC are highly stressed. This determination was based partly on a loss in the area's population and an increase in vacant dwelling units as reported by the 1990 census. The socioeconomic impact study contractor recommended the initiation of an overall, community-based improvement program to strengthen the communities prior to project initiation, to increase the probability that project consequences would be effectively mitigated. Otherwise, the contractor believed that the viability of the neighborhoods would be undermined by any of the alternatives investigated.

4.1.3.11. The socioeconomic impact contractor recommended re-evaluation of a site north of Claiborne Avenue for a new lock. Although the socioeconomic impact study did not investigate or rate the engineering feasibility of the site, the site was believed to offer significant advantages over the other sites for the following reasons:

- The need for residential displacements would likely be eliminated.
- Business and industrial displacements would be minimized.
- A temporary bypass channel could be maintained around the construction site allowing traffic through the IHNC during project construction.
- The St. Claude Avenue bridge could be replaced with a low-level bridge since a vessel staging area would be available between the bridge and the new lock.
- The Claiborne Avenue bridge would probably not have to be replaced.
- All of the physical impacts to the Historic Districts would be avoided.
- Most of the noise and vibration impacts to the nearby communities would be avoided.
- Vehicular traffic congestion would be minimized.

4.1.3.12. The New Orleans District had studied a North of Claiborne Avenue alternative during the 1975 Site Selection Study, but the conceptual design at that time required a long-term shutdown of traffic through the IHNC to demolish the existing lock. For that reason and others, including the engineering feasibility of the plan, the North of Claiborne Avenue site had been eliminated. Based on the socioeconomic impacts that were to be expected from the other alternative sites, and the insistence of neighborhood working groups, the New Orleans District investigated innovative engineering designs and developed a plan for the North of Claiborne site in late 1991. The construction sequence was designed to avoid a long-term shutdown of the canal. In order to take full advantage of the impact-reducing potential of the site, a float-in lock design was developed.