FHWA-LA-EIS-01-01-F
STATE PROJECT NO. 700-29-0112
FEDERAL AID PROJECT NO. HP-NH-TO21(002)

LOUISIANA 1 IMPROVEMENTS
GOLDEN MEADOW TO PORT FOURCHON

REVISED RECORD OF DECISION
MARCH 2009

REVISED RECORD OF DECISION
MAY 2004

RECORD OF DECISION
JANUARY 2003

U.S. DEPARTMENT OF TRANSPORATION
FEDERAL HIGHWAY ADMINISTRATION

RECORD OF DECISION (REVISED MAY 2004 & MARCH 2009)

Louisiana 1 Improvements
Golden Meadow to Port Fourchon
State Project No. 700-29-0112
F.A.P. No. HP-NH-TO21(002)
March 2009

(SUMMARY: The Record of Decision (ROD) signed January 2003 and revised May 2004 is being revised again to include updated minor refinements (planned, designed or under consideration) in the project, particularly for Phase 2.)

Since the Record of Decision was approved on January 29, 2003, and revised in May 2004, for the subject project there have been ongoing minor changes/refinements in design to the portion from Leeville to Golden Meadow: namely a shift westward of a portion of the alignment to lessen conflicts with active pipelines and pipeline crossings; minor dredging of existing canal to maintain navigation access for oil and gas industry; minor dredging to facilitate high level bridge construction near the Golden Meadow Hurricane Protection Levee along with the placement of bridge pier within levee limits. The proposed shift in the alignment to avoid the conflict with the pipelines within the segment north of Leeville to Golden Meadow was covered in the May 2004 revised ROD. However, at that time, the extent of the shift was unknown.

The proposed changes/refinements have been undertaken in cooperation with the resource and permitting agencies, such as the U.S. Army Corps of Engineers (COE), U.S. Coast Guard (USCG), Louisiana Department of Natural Resources (DNR) Coastal Management Division, U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. The changes/refinements have been made through a continued collaborative decision-making process that included a thorough consideration of all identified social, economic and environmental factors with continued resource and permitting agency coordination.

Project Phasing

The LA1 Improvements Project was divided into two segments: The southern alignment (Phase 1) extending from Fourchon to Leeville and the northern alignment (Phase 2) extending from Leeville to Golden Meadow. The mainline southbound lanes and connector roads of Phase 1 are currently under construction. Phase 2 is currently in the preliminary design phase. Due to factors outlined below, the alignment has been modified/refined to provide a more environmentally friendly and cost efficient project.

Existing Pipeline Restrictions

Early investigations of the oil and gas infrastructure throughout the project corridor revealed several conflict areas with active producing wells and active transmission pipelines. The need for a minor shift in the alignment was covered in the May 2004

revision to the ROD. Three existing transmission pipelines would require over 1000 ft. of pipe relocation. Pipeline relocations would be costly, impact existing coastal marsh and would be potentially harmful to the environment. It was determined that the alignment should be relocated approximately 1200 ft. westward to avoid conflicts with the pipelines in this location. In addition to eliminating these pipeline relocations, the shift reduces the number of pipeline crossings. For comparison purposes, the attached exhibit in the appendix entitled, "LA1 Improvements-Phase 2, Revised Alignment-Leeville to Golden Meadow" shows both the original alignment and the shifted alignment.

Navigation Impacts

Several navigable canals used by the oil and gas industry for access to existing infrastructure are located in the project area. The LA1 bridges will span many of these waterways. The Final Environmental Impact Statement (FEIS) commits a 40 ft. vertical clearance for the crossing at the Bollinger Canal, but makes no vertical clearance requirements for any other canal within the northern alignment limits. Bollinger Canal is used primarily by the oil and gas industry to service existing wells in the project area and is interconnected with several other oil and gas access canals near Leeville. The landowner requested a minimum vertical clearance of 55 ft. for Bollinger Canal. Preliminary engineering indicated that a 55 ft. vertical clearance at the current Bollinger Canal crossing location would not be possible within the requirements of the geometric design criteria.

An alternative crossing location has been identified that would require minor dredging in order to maintain existing accessibility to the oil and gas facilities. The relocated Bollinger Canal will have a 55' vertical clearance and 65' minimum horizontal clearance. Both the US Coast Guard (USCG) and the landowner agreed with the alternative crossing location. All existing canals could potentially be accessed with this layout. Attached hereto in the appendix is "Figure 26" from the permit application which shows the location of the alternative crossing and its relationship to the canals in the area. The clearances for the other seven canals will be determined in the final design of Phase 2. All seven crossings were discussed with the USCG who requested that the crossings be identified and included in the future USCG permit, as an approved span arrangement has not yet been determined. Several wells were identified as having access from canal 7. Although access to these wells will be impacted by the construction of the project, the wells all appear to be plugged and no longer serviceable.

The northern limits of the construction canal may accommodate the contractor in feeding the end-on construction. The existing canals can be utilized as an access point or staging area while conventional construction is being conducted.

Golden Meadow Hurricane Protection Levee Crossing

Due to the skew of the crossing of the Golden Meadow Hurricane Protection Levee, alternative alignment crossings were studied, including both bridge and embankment crossings. The design team coordinated with the U.S. Army Corps of Engineers (COE)

Levee Section regarding placing a structure within the levee limits. The COE Levee Section deemed this methodology acceptable contingent upon the final design meeting COE design requirements. Also, during the coordination effort, the COE stated that their preliminary studies indicate that the levee will need to be raised to a final elevation of +25.5 NGVD at the LA1 project crossing.

Based on this information, the design team is recommending steel spans crossing the levee structure with a pier in the levee crown. The pier will also serve as a flood protection wall to accommodate the COE and South Lafourche Levee District's flood protection needs. The entire superstructure of the bridge will be above the anticipated +25.5 ft elevation. Also, in order to facilitate construction of the high level crossing of the levee, either construction canals or a haul road is anticipated. Several figures in the appendix depict the impact of either option, the construction of canals or a haul road. The first figure is sheet 18 from the permit application and is entitled, "LA 1 Mainline – Plan Profile." This sheet shows the plan and profile for both options at the levee. The next sheets, Figures 28 and 29 from the permit application, show typical cross sections. Figure 28 is entitled, "Typical Canal Section" and depicts the cross section for the dredge option. Figure 29 is entitled, "Potential Fill Area Schematic" and depicts the cross section for the haul road option.

Wetlands/Mitigation Plan

Due to alignment adjustments to the northern alignment, a revision to the Wetland Technical Report Update was performed in December 2008. This report will be utilized in the permit modification requests necessary for the northern alignment shift and additional dredge quantities. Permit modifications were submitted to permitting agencies on January 12, 2009. All unavoidable wetland impacts will be mitigated for by the Louisiana Department of Transportation and Development (DOTD) and the Federal Highway Administration (FHWA). FHWA and DOTD will coordinate any changes in mitigation requirements with the COE, the National Marine Fisheries Service, and other state and federal resource agencies, as appropriate.

A Compensatory Mitigation Plan has been prepared for this project and permitted under CMD Permit P20041053 and COE Permit 2004-1455. This plan includes identified spoil deposition areas and mitigation sites. Due to the complexity of scheduling for this project, the Phase 2 impacts will be assessed and the mitigation plan updated once a construction schedule has been identified. It is expected that the same criteria incorporated in the Compensatory Mitigation Plan for Phase 1 will be utilized for Phase 2 mitigation.

The original commitment to use end on construction remains. A large portion of Phase 2 will be constructed using this technique. Top down is being projected from Sta. 597+00 to Sta. 920+00. Conventional construction from Sta. 503+00 to Sta. 597+00 and then Sta. 920+00 to Sta. 961+18. The attached exhibit in the appendix entitled, "LA1 Improvements-Phase 2, Construction Type Map" depicts the extent of end on construction planned in this phase.

Dredge and Fill

In order to facilitate construction of the Bollinger Canal navigable crossing, additional dredging is necessary. It is DOTD's responsibility to relocate and dredge the canal as part of the project. Dredging limits will be extended from Sta. 530+00 to Sta. 597+00 for a standard 150' width and a bottom elevation of -7.0 NGVD. The anticipated dredge quantity for this activity is 186,100 yd^3 over 23.1 acres. Also, to facilitate high level bridge construction near the Golden Meadow Hurricane Protection Levee, dredging limits between Sta. 920+00 to Sta. 928+00± (toe of levee) will be added. This canal will have a 350' max width with a bottom elevation of -7.0' NGVD. The anticipated dredge quantity for this activity is 93,300 yd^3 over 6.4 acres. Also, to maintain marine access to the oil and gas facilities, Relocated Bollinger Canal will require 45,100 yd^3 of dredging over 5.6 acres. The total dredge quantity for this project will be increased by 324,500 yd^3 from 948,000 yd^3 to 1,272,500 yd^3. The additional 324,500 yd^3 of excavation includes 122,600 yd^3 over 15.2 acres of non-vegetative water bottoms and 201,900 yd^3 over 19.9 acres of wetlands. Note that quantities of excavation between Sta. 503+00 to Sta. 530+00 were accounted for in the original permit. Beneficial use of dredge material is expected and will be addressed in the mitigation plan for this project.

In order to allow the contractor to determine the most cost efficient method of construction, a haul road could be also anticipated between Sta. 920+00 and Sta. 928+00± (toe of levee) near the Golden Meadow Hurricane Protection Levee. The haul road is being permitted as permanent fill to elevation +5.0 NGVD in order to provide protection to the existing levee and also serve as a wave berm. The anticipated permanent fill quantity for the haul road is 31,000 yd^3. This will increase the total project permanent fill from 51,000 yd^3 to 82,000 yd^3. The total fill quantity for this project will be increased from 386,000 yd^3 to 417,000 yd^3.

Cultural Resources Investigation

In August, 2008, a cultural resources survey was performed on the segment of the revised LA1 Phase 2 northern alignment to determine if impacts to cultural resources exist. Judgmental shovel testing and bank line inspections did not recover any artifacts or other evidence of archaeological sites within the alignment. A copy of this report addendum was reviewed and commented on by the Louisiana State Historic Preservation Officer (SHPO). A determination of no historic properties affected was made and sent to the SHPO for concurrence with the final report addendum on January 23, 2009. The SHPO concurred with the determination on February 12, 2009.

Landowner Impacts / Public Notification

Maintaining the rights of individual landowners associated with the project area is addressed both in the FEIS and in the applicable regulatory programs. For landowners directly impacted by the project, a copy of the permit application has been provided, and discussions have been initiated with those where mitigation will be required. Moreover,

information about the project will be provided to landowners within one half mile as part of the USCG permitting process. Any relocation required by the project will be handled through the DOTD Acquisition of Right of Way and Relocation Assistance process.

Interagency & Landowner Coordination

Interagency meetings were held regarding Phase 2 changes/refinements on February 12, 2008, April 17, 2008, and October 7, 2008. At these meetings the proposed changes/refinements and their impacts and permit modification requirements were discussed with the agencies. Additional meetings were held with the South Lafourche Levee District and local representatives and with the COE regarding the levee crossing.

On February 12, 2008, the first interagency meeting was held. At this meeting the project team presented an alignment shift west of the selected alignment and existing pipeline corridor. The major reason for the proposed alignment shift is to minimize project costs and direct wetland impacts associated with relocating the existing transmission pipelines crossing the original alignment. Also, the issue concerning the clearance requested at Bollinger Canal was also discussed. The agencies in attendance did not object to the shift, but reminded the group that permit modifications would be necessary. The COE specifically requested that the permit modification explain the reasons for the shift and include a comparison wetland computation. The COE also thought that the permit modification would require a public notice. The Louisiana Department of Natural Resources (DNR) agreed essentially requesting the same data in the application for a modification to the Coastal Use Permit. Not all of the resource agencies were able to attend this first meeting. The project team agreed to follow-up with those agencies, in particular U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries. These agencies were sent a copy of the meeting minutes. At the meeting, it was noted that the revised ROD included the shift in the alignment to avoid conflicts with the pipelines. At the time of this first agency meeting, it was believed that another revision to the ROD was not necessary.

The project team coordinated with the two largest landowners affected by the changes, Apache and Burlington. On January 22, 2008, the project team met with Apache, the landowner at the northern end of the project. Apache expressed concerns about blocking access to their property between the existing LA 1 highway and the proposed bridge. Apache requested that proposed alignment be as close to the existing LA 1 as possible. As a result of the Apache meeting the project team adjusted the alignment. In March 2009, the project team met with Apache who subsequently concurred with the current alignment.

On January 31, 2008, the project team met with Burlington, the landowner at the southern end of the project. The major concern presented by Burlington was the access to existing wells in the vicinity of Bollinger Canal. Burlington is concerned about drilling rigs being able to access this property for maintenance of existing wells as well as for future exploration work. As a result, the proposed alignment will remain on the original alignment at the south end to keep Bayou Pierre open. The project team also agreed to

investigate a canal crossing to this field that would provide 55' of clearance, the same clearance that was negotiated in Phase 1. It was explained that due to the north connector being located so close to the Bollinger Canal, the 55' clearance cannot be obtained at the existing location of Bollinger Canal. Therefore, the project team proposed dredging and extending one of the other canals in the area to maintain access to the area. The proposed location for 55' clearance is labeled Canal "6" on the figure in the appendix.

A meeting was held on February 25, 2008, with the Corps of Engineers to discuss the restrictions and/or requirements the COE may have for structures crossing the levee, and to determine any future plans for upgrading the levee at Golden Meadow. Studies are being conducted by the COE to determine future requirements for the levee in this area; however, results were not available at the time of this meeting. Early reports from the COE indicate that a final elevation of 25' to 30' could be expected for the levee. The COE stated that structures crossing their levees are required to "completely span" the levee and any stability berm. Under these restrictions and a 30' height future levee, bridge spans of over 350' for a perpendicular crossing to over 450' for the original alignment may be required when crossing. The COE and the project team agreed that the perpendicular crossing of the levee is strongly preferred.

The project team and DOTD met with FHWA on March 31, 2008. FHWA pointed out that the perpendicular levee crossing would have more impact on the structures in the residential development located at the south end of Golden Meadow. FHWA's preference is to shift over to the original alignment at the northern end of the project.

On April 17, 2008, the second interagency meeting was held to present the proposed alignment shift and preliminary wetland impacts. Two alignment alternatives over the levee in Golden Meadow were presented, one being the original alignment and one being more perpendicular to the levee structure. Representatives from the DOTD, DNR Coastal Management Division, COE, FHWA, LA 1 Coalition, NOAA National Marine Fisheries, USFWS and U.S. Coast Guard were in attendance. At this meeting the COE noted that new requirements were taking effect in June regarding mitigation plans, and FHWA asked for more information regarding the levee options.

Following the second interagency meeting the project team met with the South Lafourche Levee District and local representatives on May 7, 2008. The local representatives expressed concerns about additional property impacts associated with the perpendicular levee crossing. A decision was made to stay on the original alignment through Golden Meadow. The project team then met with the COE on May 27, 2008, to inform them of the decision to stay on the original alignment and discuss structural requirements for the levee crossing. COE gave their approval for placing a bridge support in the middle of the levee providing it is designed as part of the levee structure and meets COE criteria.

Two meetings were subsequently held with DOTD and FHWA to follow-up on the concepts discussed at the COE meeting. The first meeting was held on June 6, 2008, soon after the COE meeting to brief the DOTD on the discussions. At that meeting, the FHWA requested the DOTD have the design team develop cost comparisons for crossing both the existing and future levee heights with either bridge or embankment.

The design team prepared 4 comparison layouts and cost estimates requested by FHWA. These were presented to DOTD and FHWA on July 9, 2008. The design team made a recommendation to cross the levee at the future height with a bridge as originally conceived in the approved FEIS.

The project team attended a meeting on July 23, 2008, with the DOTD Geotechnical and Bridge Sections to present the levee crossing options. At the July 23, 2008, meeting the design team and DOTD also discussed the Corps plan to raise the levee to elevation 25.5 ft. The design team and DOTD agreed that the future levee should utilize T-wall construction and not embankment. The recommended bridge structure will incorporate a flood protection wall in the bridge substructure. This wall could be continued northward to the LA 1 project limits. This matter will require additional communication and coordination with the Corps to ensure the integrity of the LA 1 structure is not compromised by raising the levee.

The third interagency meeting was held at the DOTD Headquarters on October 7, 2008, to discuss the LA1 Improvements Project with the regulatory agencies. This meeting was held to present the proposed alignment shift and final wetland impacts from Golden Meadow to Leeville. Agency comments reflected a desire to adequately document the activities and reasons for decisions. The project team noted that the Line and Grade study updated in August 2008 included this documentation. FHWA representatives asked that approval be obtained from the COE for placing the bent in the levee. The project team noted that approval was received at a meeting held with the COE on this issue and documented with meeting minutes.

Conclusion and Approval

The Federal Highway Administration (FHWA) approves the minor design changes/refinements that have taken place since the Record of Decision (ROD) was approved on January 2003, and revised May 2004, for the subject project, in agreement with the Louisiana Department of Transportation and Development (DOTD), and in cooperation with Federal and State permitting agencies. These changes/refinements have been made through a continued collaborative decision-making process that included a thorough consideration of all identified social, economic and environmental factors with the continued extensive resource and permitting agency coordination. These refinements have been presented for public review via the regulatory permitting process.

4/1/09 signed

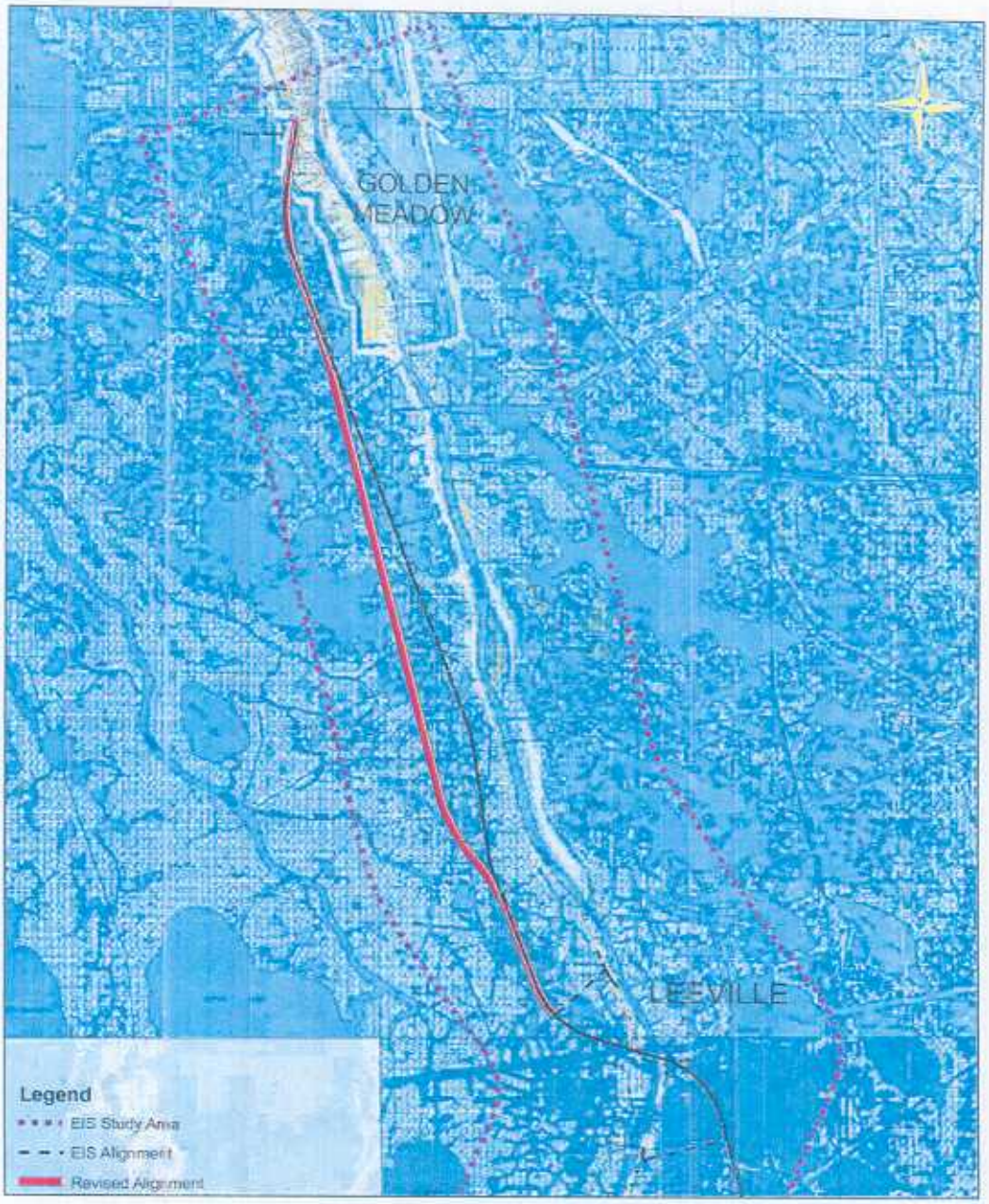
Date

Charles "Wes" Bollinger
Louisiana Division Administrator
Federal Highway Administration

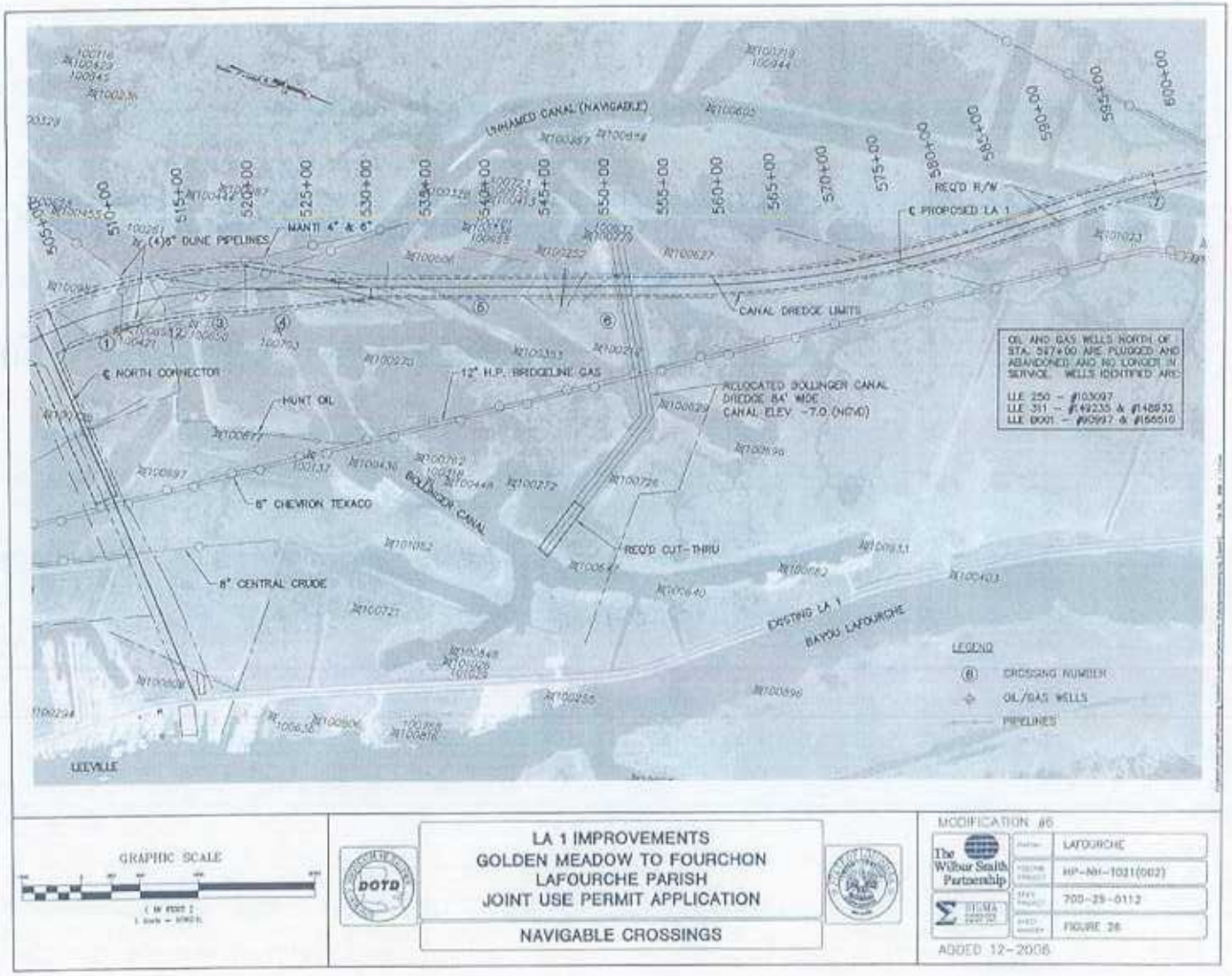
Appendix

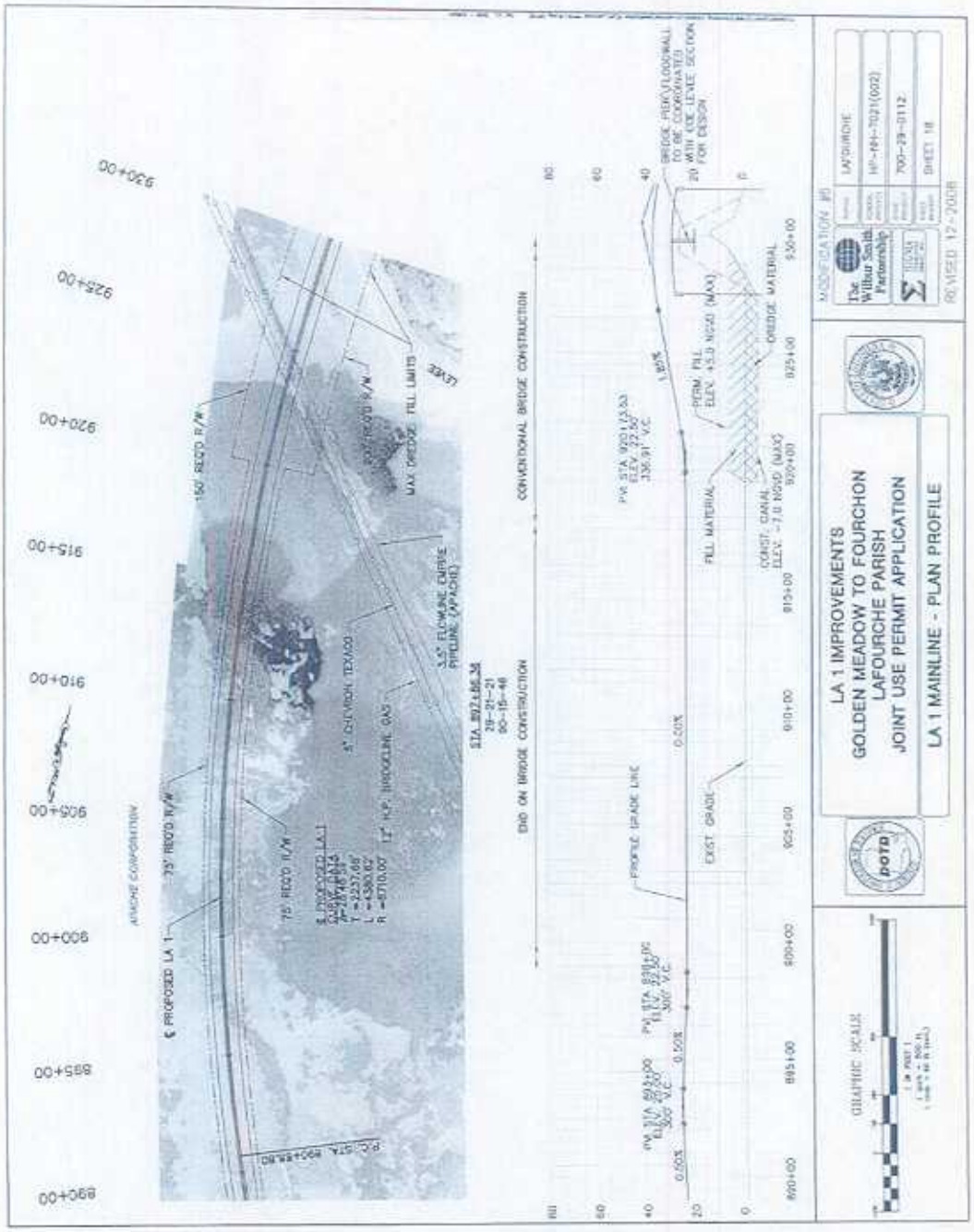
Exhibits

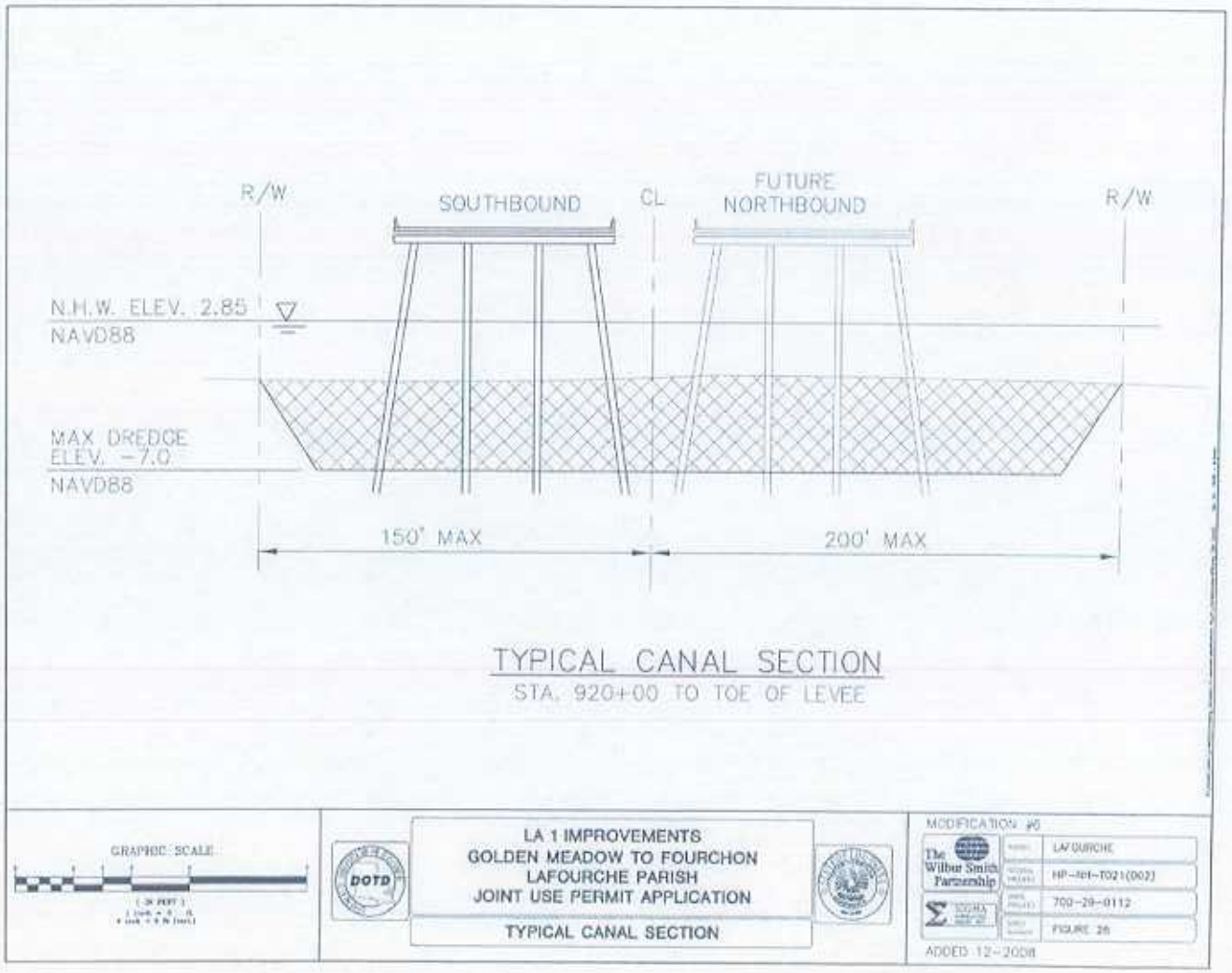
- LA 1 Improvements-Phase 2, Revised Alignment – Leeville to Golden Meadow
- Figure 26 from permit application, entitled "Navigable Crossings"
- Sheet 18 from permit application, entitled "LA 1 Mainline – Plan Profile"
- Figure 28 from permit application, entitled "Typical Canal Section"
- Figure 29 from permit application, entitled "Permanent Fill Schematic"
- LA 1 Improvements-Phase 2, Construction Type Map

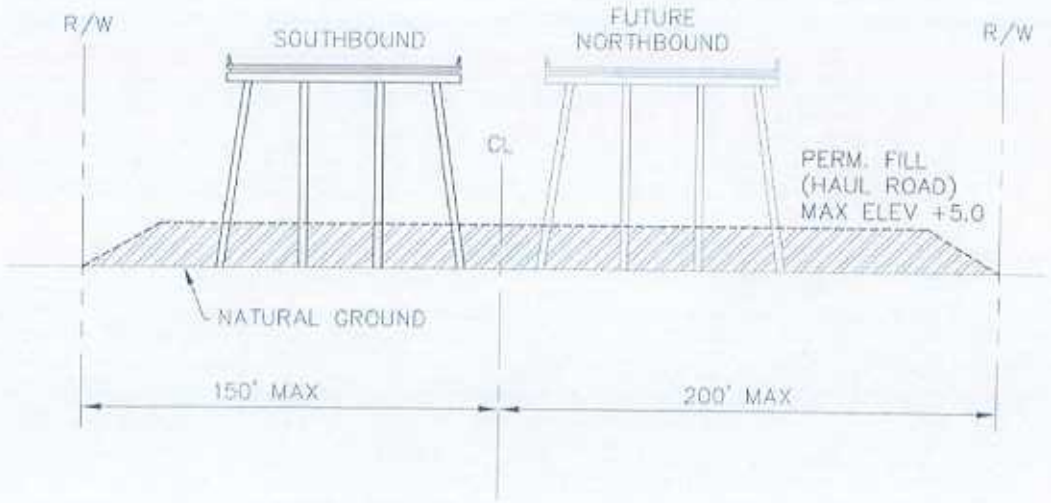


LA1 Improvements - Phase 2
Revised Alignment - Leeville to Golden Meadow


(NHAMCO CANAL (NAVIGABLE)
MANTI 4" & 6"
(4)8" DUNE PIPELINES
℄ NORTH CONNECTOR
HUNT OIL
8" CHEVRON TEXACO
8" CENTRAL CRUDE
12" H.P. BRIDGELINE GAS
BOLLINGER CANAL
CANAL DREDGE LIMITS
RELOCATED BOLLINGER CANAL
DREDGE 84' WIDE
CANAL ELEV -7.0 (NGVD)
REQ'D CUT-THRU
EXISTING LA 1
BAYOU LAFOURCHE
REQ'D R/W
℄ PROPOSED LA 1
LEEVILLE
OIL AND GAS WELLS NORTH OF STA. 587+00 ARE PLUGGED AND ABANDONED AND NO LONGER IN SERVICE. WELLS IDENTIFIED ARE:
LLE 250 - #103097
LLE 311 - #149235 & #148933
LLE 0001 - #90997 & #166510
LEGEND
CROSSING NUMBER
OIL/GAS WELLS
PIPELINES
GRAPHIC SCALE
LA 1 IMPROVEMENTS
GOLDEN MEADOW TO FOURCHON
LAFOURCHE PARISH
JOINT USE PERMIT APPLICATION
NAVIGABLE CROSSINGS
MODIFICATION #6
The Wilbur Smith Partnership
SIGMA
LAFOURCHE
H.P.-NH-1031(002)
700-29-0112
FIGURE 26
ADDED 12-2006


LA 1 IMPROVEMENTS
GOLDEN MEADOW TO FOURCHON
LAFOURCHE PARISH
JOINT USE PERMIT APPLICATION
LA 1 MAINLINE - PLAN PROFILE
MODIFICATION #5
The Wilbur Smith Partnership
LAFOURCHE
HP-HH-7021(002)
700-29-0112
SHEET 18
REVISED 12-2008
GRAPHIC SCALE
END ON BRIDGE CONSTRUCTION
CONVENTIONAL BRIDGE CONSTRUCTION
PROFILE GRADE LINE
EXIST. GRADE
FILL MATERIAL
DREDGE MATERIAL
PERM. FILL
CONST. CANAL
MAX DREDGE FILL LIMITS
LEVEE
150' REQ'D R/W
75' REQ'D R/W
5" CHEVRON TEXACO
12" H.P. BRIDGELINE GAS
3.5" FLOWLINE EMBRE PIPELINE (APACHE)
APACHE CORPORATION
PROPOSED LA 1
890+00
895+00
900+00
905+00
910+00
915+00
920+00
925+00
930+00


R/W
SOUTHBOUND
CL
FUTURE
NORTHBOUND
R/W
N.H.W. ELEV. 2.85
NAVD88
MAX DREDGE
ELEV. -7.0
NAVD88
150' MAX
200' MAX
TYPICAL CANAL SECTION
STA. 920+00 TO TOE OF LEVEE
GRAPHIC SCALE
DOTD
LA 1 IMPROVEMENTS
GOLDEN MEADOW TO FOURCHON
LAFOURCHE PARISH
JOINT USE PERMIT APPLICATION
TYPICAL CANAL SECTION
MODIFICATION #6
The Wilbur Smith Partnership
LAFOURCHE
HP-701-T021(002)
700-29-0112
FIGURE 26
ADDED 12-2008



PERMANENT FILL SCHEMATIC

STA. 920+00 TO TOE OF LEVEE

GRAPHIC SCALE

LA 1 IMPROVEMENTS
GOLDEN MEADOW TO FOURCHON
LAFOURCHE PARISH
JOINT USE PERMIT APPLICATION

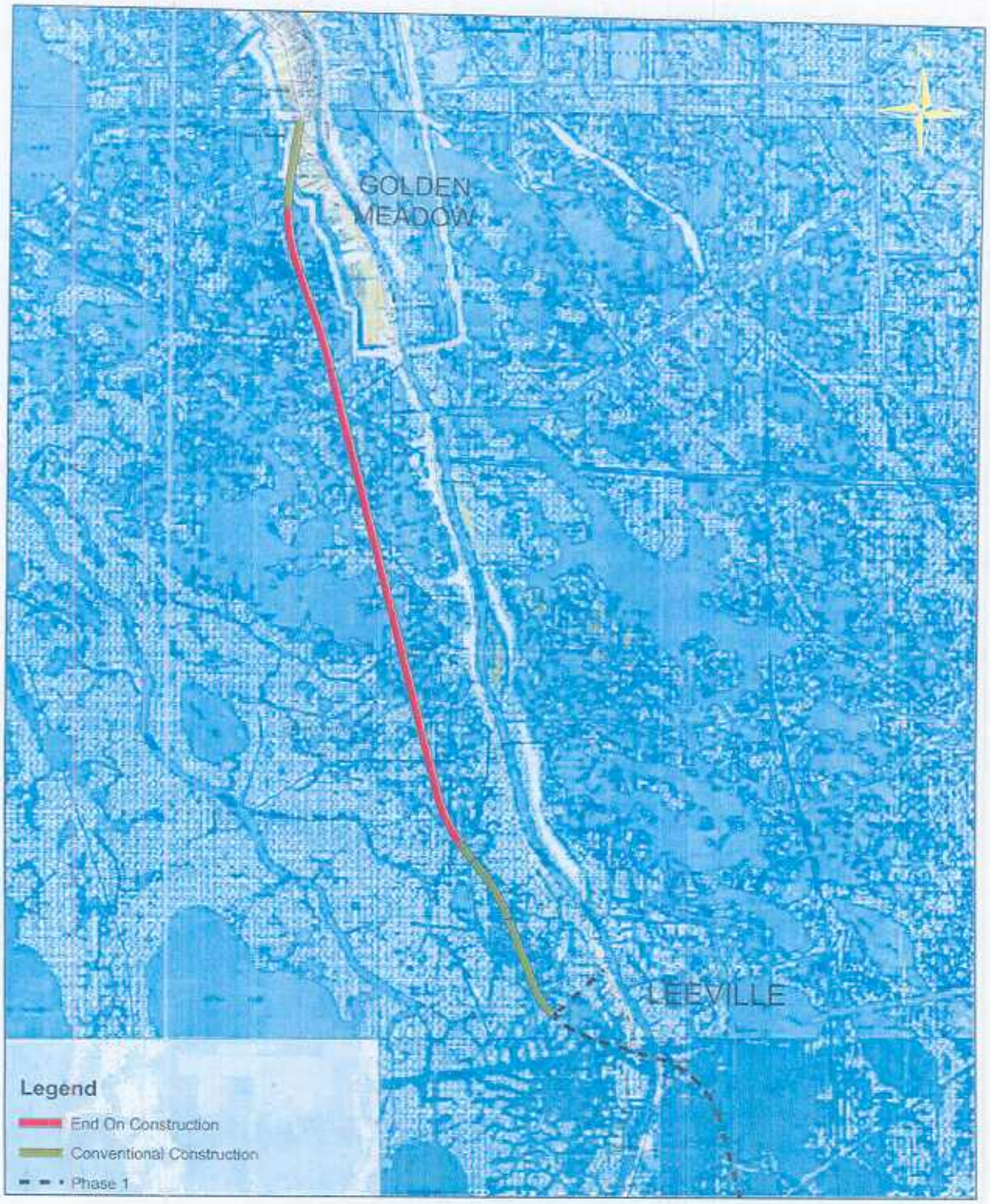
POTENTIAL FILL AREA SCHEMATIC

MODIFICATION #6

The Wilbur Smith Partnership

PARISH	LAFOURCHE
FEDERAL PROJECT	HP-NH-1021(002)
STATE PROJECT	700-29-0112
SHEET NUMBER	FIGURE 29

ADDED 12-2008



LA1 Improvements - Phase 2
Construction Type Map