Volume IV

APPENDIX H:

Value Engineering Report

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Value Engineering Summary

During the week of May 18 to May 22, 2009 the Value Engineering (VE) team met to consider three projects: Small Diversion at Convent Blind River, Amite River Diversion Canal Modification, and Medium Diversion at White Ditch. The results of the VE study were published in a report prepared by Value Management Strategies, Inc. dated June 2009.

For the Small Diversion at Convent Blind River the VE team identified three (3) items as key strategies to consider and three (3) less important items to also be considered. The key items and the follow up for how the item was covered in the final feasibility study development are included for each as follows.

CB-1 Provide method for transferring water under the railroad and US 61 to the north restoration area.

The project Tentatively Selected Plan (TSP) includes 4 culvert crossings under highway 61 which follows the recommendation of the VE study. During project development it was discovered that several existing openings are provided under the railroad so those culverts for connectivity are not required. The culverts provide the connectivity to the more northerly hydrologic units.

CB-2 Use the Blind River to distribute fresh water to the project area.

The Blind River does divide the project area and receives all of the water diverted through the swamp. As the project was further developed, the concept of using additional berm gaps to distribute flow made the use of the Blind River for distribution a lower priority. In addition, further research on the Blind River designation as a scenic river in the State of Louisiana, greatly restricted any features that could be placed in the River. The advanced hydraulic calculations showed good distribution through the use of control structures and berm gaps, so using the River for distribution was no longer required.

CB-3 Consider reversible pumping of proposed river siphons to facilitate low river stage diversion flow

The project Tentatively Selected Plan (TSP) does not use siphons. When the final hydraulics and cost estimates were completed the least costly diversion method was gated culverts. These culverts are located so that there will be flow diverted for most of the year with the exception of extreme low river stages.

The additional three items are as follows with how each item was treated in the final feasibility study:

CB-4 Construct “environmentally friendly” conveyance channels

The transmission canal is designed with shallow 5:1 side slopes and the right of way was widened from 400 feet to 500 feet to allow a more environmentally friendly foot print which could be part of a recreation feature.

CB- 5 Define the hydrologic connectivity of project areas

The later modeling in the study determined the amount of flow from the diversion, through the berm gaps and into the hydrologic units in the study area. These flows were also used in the WVA to determine the environmental benefits derived from the diverted flows.

CB-6 Obtain Total Maximum Daily Flow (TMDL) waiver for diversion into Blind River

The diversion will force flow through the swamp area utilizing the berm gaps and the control structures. The swamp will have sufficient vegetation that the nutrients will be utilized and the flow into the Blind River should be relatively clean from both nutrients and sediment. It is anticipated the Blind River will environmentally benefit from the greater flows from the diversion.

The overall project has an extensive monitoring plan and includes costs for adaptive management to assure that the overall water quality in the Blind River is not degraded. The State agencies will work together to monitor the diversion operation to assist with the overall environmental improvement of the Blind River.

In addition to the six (6) Blind River specific recommendations there were ten (10) General and Plan Formulation recommendations. The following is a list of those recommendations and how they were addressed specifically in the Blind River report.

G-1 Develop plan strategies that account for rise in sea level

This project prepared a complete analysis of sea level rise scenarios and the results are made part of the report.

G-2 Provide clarification and address the WRDA 2007 regarding specified authorized funding limits and the extent of planning development of LCA projects

The Blind River project reviewed the WRDA language and the proposed Tentatively Selected Plan (TSP) is within the WRDA funding limits.

G-3 Define plan alternatives that can be optimized within project authorization

The Blind River project is within the authorization and was optimized at a flow of 3000 cubic feet per second diversion rate.

G-4 Amend project authorizations to include additional federal funding for "first phase" adaptive management measures.

The Blind River cost estimate includes the costs for monitoring and adaptive management for the first 10 years of the project.

G-5 Establish permanent trust fund for project maintainability

The project is proposed to be maintained by the State of Louisiana. The State will have adequate funds for long term maintenance and operation.

G-6 Identify impacts of multiple diversion structures on the Mississippi River and fresh water and sediment requirement of project areas

The State of Louisiana and the Corps of Engineers are conducting parallel studies on the Mississippi River and the Lake Maurepas areas to determine the long term effects of the combination of diversions and other coastal restoration efforts.

G-7 Incorporate comprehensive monitoring of project benefits before, during and after completion of diversion measures

The Blind River project has established baseline monitoring sites and continuous monitoring equipment that will be used continuously during the life of the project.

G- 8 Identify and address potential real and perceived drainage impact of proposed diversion flows.

The canals for the Blind River project have all been modeled and there is no adverse drainage or flooding as a result of the project. Additional modeling work will be completed during the engineering phase of the project.

G-9 Redefine project constraints versus project issues

The Blind River constraints and objectives have been modified to satisfy review comments.

G-10 Revisit weighted matrix of ranking initial alternative and plan elements

The matrix was revised and the final array of alternatives used the IWR-PLAN program for the final economic screening of the alternatives to select the Tentatively Selected Plan (TSP).

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