

SECTION 9

Louisiana Department of Natural Resources and U.S. Environmental Protection Agency Review

During the review of the Draft Final Phase 1 Report, LDNR and EPA requested that Alternative 20 and the least rise alternative be included in the set of remaining alternatives discussed in Section 8. The purpose of adding these two alternatives was based on concerns about public reaction regarding the impacts of the water level rise compared with the five recommended alternatives in Section 8.

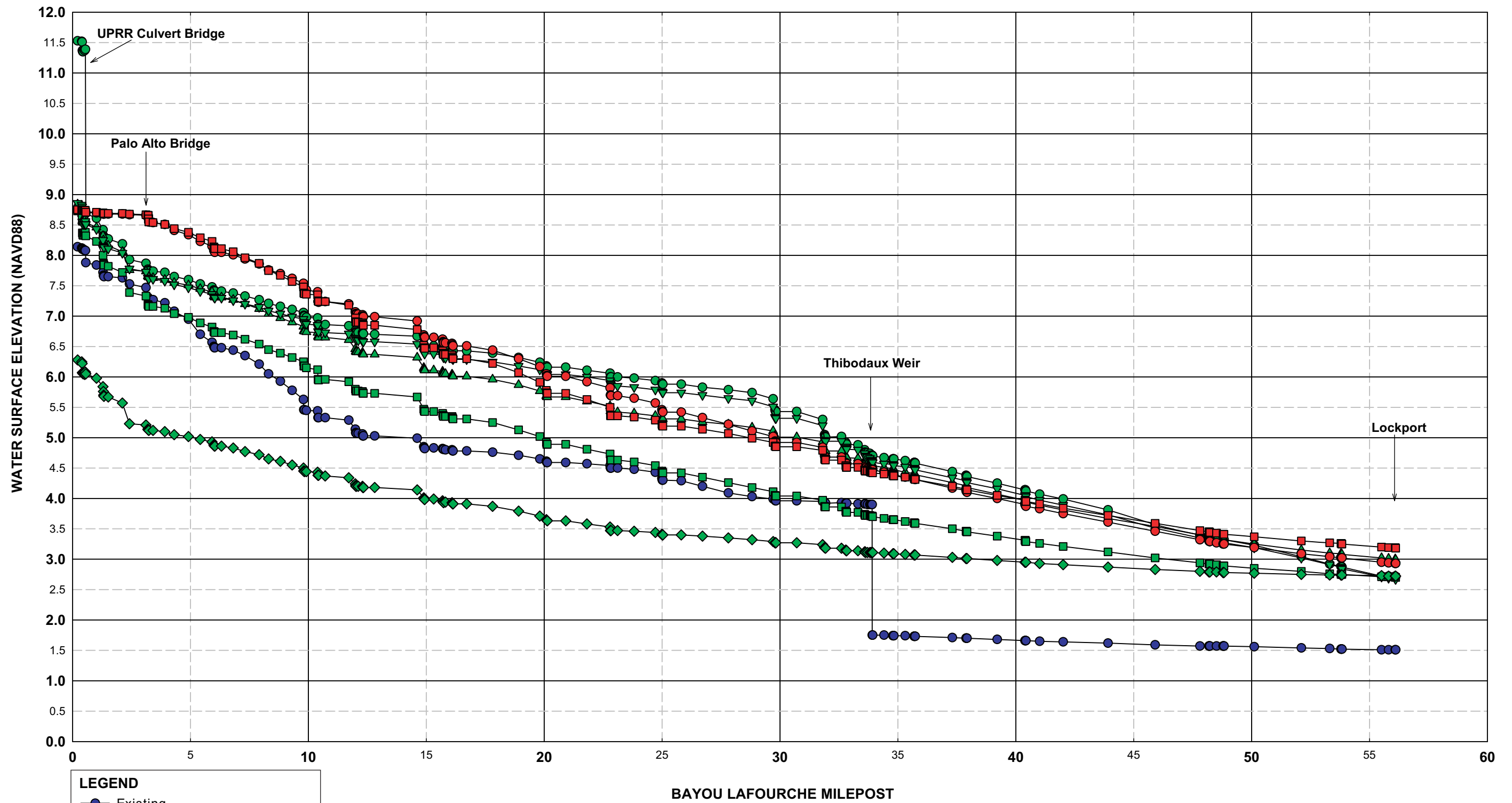
Each of the two alternatives, 20 and least rise, has a diversion flow of about 1,000 cfs. The water level rise through Donaldsonville for Alternative 20 is approximately 0.5 foot less than the three alternatives using the Donaldsonville pump station (15, 32, and 38), and nearly 1.0 foot less than the two alternatives using the Smoke Bend pump station (44 and 47). The least rise alternative water level is actually below the existing water level in Donaldsonville because of the 8-foot dredging.

For the least rise alternative, impacts associated with decreased water levels (e.g., low-water impacts to boat docks and ramps) could be mitigated by use of a check structure/rubber dam to artificially raise water levels in the Donaldsonville reach. Figure 9-1 shows the water level profiles for the seven alternatives.

In the Thibodaux area, the water level for the two additional alternatives is approximately 0.5 foot lower for Alternative 20 and about 1.5 feet lower for the least rise as compared to the group of five alternatives discussed in Section 8 (this varies depending on the distance downstream of the weir, see Figure 9-1). Neither Alternative 20 nor the least rise alternative will provide a water surface lower than existing water levels downstream of Thibodaux because of the tailwater conditions and increased flow. The water level rise below Thibodaux for the seven alternatives ranges from 1.4 to 3.0 feet. The 3.0-foot rise is only at the location immediately downstream of the existing weir, and the water level rise above existing levels decreases downstream of the weir.

Table 9-1 shows the major attributes of the seven alternatives recommended by LDNR and EPA to be carried into the 30 percent design. The unit costs range from \$59,000/cfs to \$121,000/cfs. Figure 9-2 shows a graphical distribution of the alternatives' unit cost compared with diversion flow. The trend of the five recommended alternatives from Section 8 is up-and-to-the-right showing slightly increasing unit cost for the added flow. Four alternatives have flow capacities of about 1,000 cfs, with unit costs from \$59,000/cfs to \$121,000/cfs.

Each of the seven alternatives will be evaluated in the 30 percent design for engineering and costs. A final recommended alternative will be prepared as part of the 30 percent design report.



- LEGEND**
- Existing
 - Alt. 15, 2'-0' RM29, 1,025 cfs, BL
 - Alt. 20, 2'- All, 1,020 cfs, BL
 - ▲ Alt. 32, 8'-2' RM29, 1,530 cfs, BL
 - ▼ Alt. 38, 2'-0' RM29, 970 cfs, BL
 - ◆ Least Rise, 8'- All, 1,000 cfs, BL
 - Alt. 44, 2'- All, 1,400 cfs, SB
 - Alt. 47, 8'- All, 2,000 cfs, SB

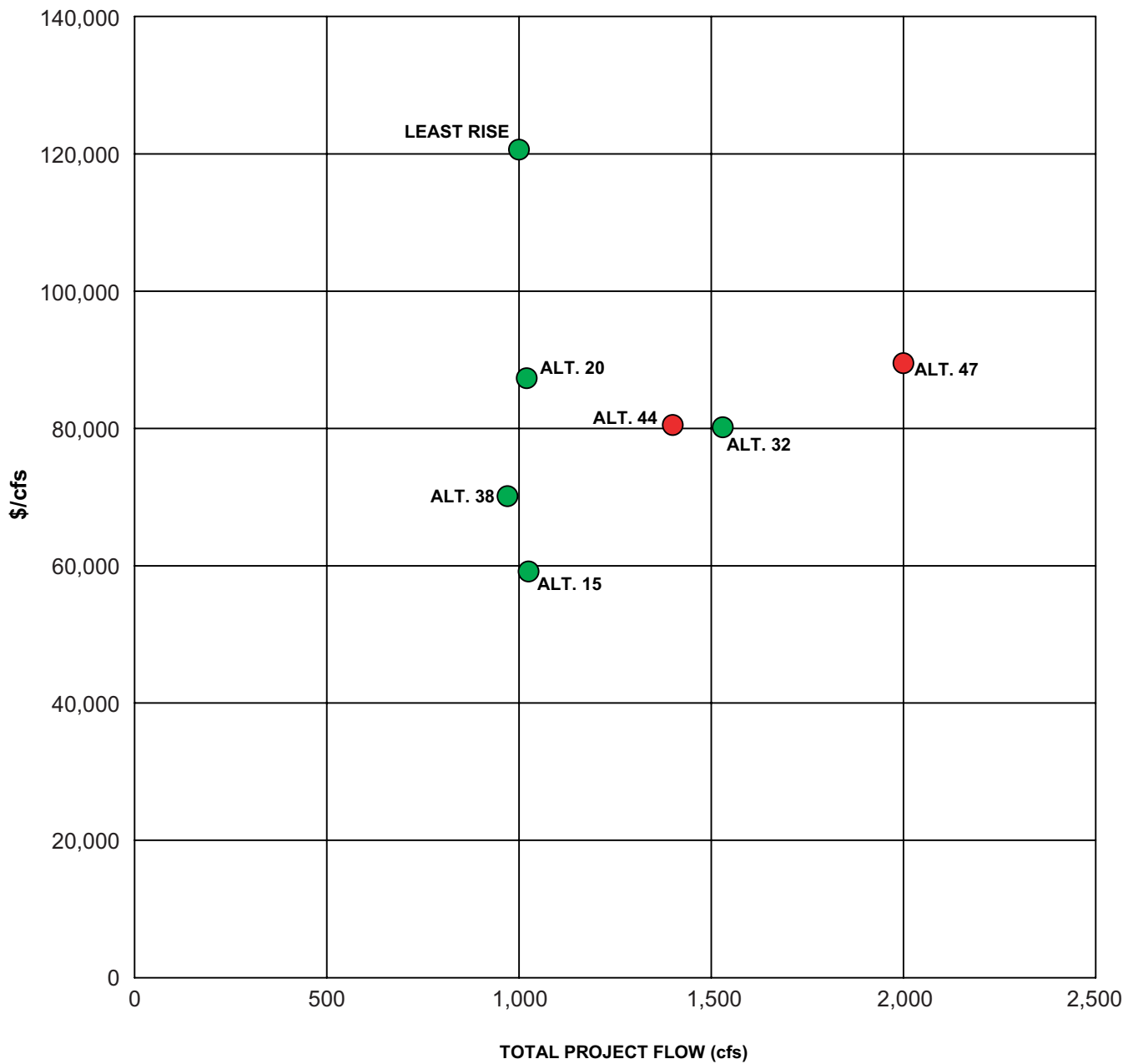
FIGURE 9-1
WATER SURFACE PROFILES
SEVEN REMAINING ALTERNATIVES
BAYOU LAFOURCHE CHANNEL
 MISSISSIPPI RIVER REINTRODUCTION INTO BAYOU LAFOURCHE
 LOUISIANA DEPARTMENT OF NATURAL RESOURCES
 PHASE 1 DESIGN REPORT

TABLE 9-1
 LDNR- and EPA-recommended Alternatives for Further Study in the 30 Percent Design
Mississippi River Reintroduction into Bayou Lafourche – Phase 1 Design Report

Alternative	Alignment Alternative	Donaldsonville Railroad Crossing	Dredge Template	Maximum Target Water Level	Potential Cost (nearest million \$)	Project Flow (cfs)	Cost per cfs (\$)
15	BL	NM	2-0@RM29	MW	61	1,025	59,150
32	BL	M, NB	8-2@RM29	MLW	123	1,530	80,150
38	BL	M, NB	2-0@RM29	MLW	68	970	70,100
44	SB	NM	2-ALL	MLW	113	1,400	80,500
20	BL	M, NB	2-ALL	MLW	89	1,020	87,300
47	SB	NM	8-ALL	MLW	179	2,000	89,500
Least Rise	BL	M, NB	8-ALL	E	121	1,000	120,600

Notes:

BL = Bayou Lafourche
 M = Modified
 NB = New Bridge
 NM = Not Modified
 SB = Smoke Bend



LEGEND

- DONALDSONVILLE ALTERNATIVES
- SMOKE BEND ALTERNATIVES

**FIGURE 9-2
COST-EFFICIENCY PLOT OF
SEVEN REMAINING ALTERNATIVES**

MISSISSIPPI RIVER REINTRODUCTION INTO BAYOU LAFOURCHE
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