11. CONSTRUCTION REQUIREMENTS.

C11.1 Project Access During Construction.

C11.1.1 General. Bayou Sorrel Lock is located in an isolated location on the East Atchafalaya Basin Protection Levee (EABPL). The lock is part of the IWW Alternative Route from Port Allen to Morgan City. The lock provides the crossover point from the protected side of the EABPL to the floodway side of the basin. The replacement lock will be located northwest of the existing lock.

C11.1.2 Waterway Access. Access to the construction site will be available from the IWW. The contractor may mobilize his equipment by barge through the Port Allen Lock southward on the IWW Alternative Route to the lock and northward on the IWW Alternative Route from Morgan City.

C11.1.3 Access Roads. The existing access roads to the lock are the roads along the East Atchafalaya Protection Levee. The access road south of the lock is known as Bayou Pigeon Road. Bayou Pigeon Road connects to LA State Highway 75 South of Pigeon LA by way of a bridge on LA State Highway 997. The access road north of Bayou Sorrel Lock is known as Bayou Sorrel Road. Bayou Sorrel Road connects to LA State Highway 75 via a bridge at Bayou Sorrel, LA. Neither of these bridges appears to be adequate to handle the weight of large equipment that will be required for construction of the replacement lock. Access to the lock for vehicular and small equipment will be possible on these roads.

C11.2 Sequence of Construction.

C11.2.1 One contract will be awarded to construct the lock structure and connecting channels. Included in the contract will also be the realignment of the East Atchafalaya Basin Protection Flood Protection and Atchafalaya Basin East Access Channel that runs along the East Atchafalaya Basin Protection Levee.

C11.2.2 The replacement lock will be located northwest of the existing lock. The lock structure will consist of two sector-gated monoliths with a concrete U-frame chamber of approximately 1200 feet in length.

C11.2.3 The existing lock will remain in operation during construction of the new lock and will be decommissioned only after the new lock is operational. The old lock will become part of the Atchafalaya Basin Flood Protection after it is closed and a closure is placed between its sector-gate monoliths.

C11.2.4 The approximate sequence of work per year for the 75-foot wide lock with a concrete U-frame chamber of approximately 1200 feet in length is listed below. Work time for some items extends into more than one year. Shown below is the anticipated year in which an item is to be started.

First Year.

1. Mobilization, clearing and grubbing.

2. Drive probe piles at both gate bays. Perform pile load tests based on probe piles driving resistance.

3. Install piezometers and first stage wellpoints at elevation 4.0 (tip el. -37.0), and start initial excavation and cofferdam construction. Operate wellpoint system so that the hydrostatic heads in the foundation sand and silt layers between elevations -15.0 and -37.0 are maintained below the bottom of the excavation.

4. Complete construction of the cofferdam and excavate to el. -11.0. Excavated material will be stockpiled onsite at locations where future flood protection will be constructed (geotechnical investigations for stockpiling will be investigated at a later date).

5. Install second stage wellpoints at elevation -11.0 (tip el. -37.0). Operate wellpoint system so that the hydrostatic heads in the foundation sand and silt layer between elevations -15.0 and -37.0 are maintained below the bottom of the excavation. Continue excavation.

6. Install deep wells at elevation 5.0 (tip elevation -182.0). Operate wells to reduce the excess hydrostatic head in the foundation sands below elevation -60.0. Continue excavation. Installation and testing of the deep well shall be completed prior excavation to elevation -12.0. Continue excavation.

7. Start driving piles and placing stabilization slab for chamber monoliths.

8. Install third stage wellpoints at elevation -16.0 (tip el. -37.0), around gate-monolith excavation areas. Installation of these wellpoints shall be completed prior to excavation below elevation -22.0 for the gate monoliths. Operate wellpoint system so that the hydrostatic heads in the foundation sand and silt layer between elevations -15.0 and -37.0 are maintained below the bottom of the excavation. Complete excavation.

9. Drive piles and sheetpile cutoffs, and place stabilization slabs for gate-bay monoliths.

Second Year.

10. Mobilization of earthwork equipment to mechanical dredging site for Atchafalaya Basin East Access Channel and forebay channel. Start excavation for realignment Atchafalaya Basin East Access Channel.

11. Place first lift of base slab for gate-bay monoliths. After completion of first lift, wellpoint system at elevation -16.0 shall be removed. The wellpoints and any corresponding piezometers shall be sealed with grout. Continue with base slab construction.

12. Construct/refurbish access roads and retaining dikes for disposal areas east of existing lock and southwest of realigned Atchafalaya Basin East Access Channel.

13. Place base slab and adjacent fill for chamber monoliths.

14. Place walls and adjacent fill for gate-bay and chamber monoliths. After completion of walls and placement of adjacent fill to elevation -12.0, the wellpoint system at elevation -11.0 shall be removed. The deep wells may also be removed. The wells, wellpoints and any corresponding piezometers shall be sealed with grout. Continue placement of concrete and backfill.

15. Mobilization of hydraulic dredge. Start dredging tailbay for new lock. Dredging of the forebay between the existing East Atchafalaya Basin Protection Flood Protection and new lock location will take place after completion of the lock.

Third Year.

16. Place final fill for gate-bay and chamber monoliths. After backfill is placed to elevation 0.0, the wellpoint system at elevation 4.0 shall be removed. The wellpoints and all piezometers shall be sealed with grout. Start fertilizing and seeding operations.

17. Construct levees for East Atchafalaya Basin Flood Protection; earthen levee sections for T-walls and I-walls and levee enlargement over existing Bayou Sorrel Lock earthen embankments. The sheetpile for the I-wall and T-wall shall be placed to provide temporary flood protection.

18. Construct new operating buildings.

19. Place sector gates and miscellaneous steel. Perform mechanical and electrical work for structure and operating buildings.

20. Complete hydraulic and mechanical dredging for forebay and tailbay. Flood structure.

21. Construct guidewalls and dolphins. Perform associated mechanical and electrical work.

22. Complete mechanical dredging of the access channel. Construct closure of old east access channel.

23. Place stone bedding and riprap (Part of the stone bedding and riprap may be performed in the dry).

24. Open new lock and decommission old lock.

25. Drive piles for T-walls and I-walls for East Atchafalaya Basin Flood Protection. Construct concrete portion of T-walls and I-walls.

26. Construct closure of old lock, including removal of old line of flood protection. Closure construction shall include approximately 236 feet of temporary I-wall sheeting.

27. Complete any miscellaneous work, including fertilizing and seeding.

28. Demobilization.