



A0003324

CELMN-CD-NO-Q

19 Sep 95

MEMORANDUM THRU

Area Engineer, NOAO   
C/Const Div ATTN: Contr Admin Br 

FOR C/Engr Div

SUBJECT: Narrative Completion Report for Contract No.  
DACW29-94-C-0003, Lake Pontchartrain, Louisiana & Vicinity, High  
Level Plan, London Avenue Outfall Canal, Parallel Protection,  
Pumping Station No. 3 to Mirabeau Avenue Floodwall, Orleans Parish,  
Louisiana

1. The subject contract dated 15 Oct 93, was awarded to Boh Bros Construction Company, Incorporated, Post Office Drawer 53266, New Orleans, Louisiana 70153. The Notice to Proceed was issued on 18 Nov 93, with construction to start no later than 28 Nov 93. The original completion date was set for 12 May 95, with the estimated amount of the contract being \$6,684,517.00.
2. Required work under this contract included Clearing and Grubbing, Selective Demolition of 13,100 ft. of existing floodwall along with a pedestrian bridge at Mirabeau Avenue and an abandoned vehicular bridge at Benefit Street, construction of 13,100 feet of sheet piling and steel reinforced concrete I-type floodwall, structural excavation and backfill necessary to construct floodwall, embankment along the floodwall, asphalt paving repair, construction of two swing gate structures, complete with steel floodgates at railroad crossing, construction of temporary falsework necessary to build the swing gate structures, modifications of waterlines at several locations, driving of steel "H" piles necessary for swing gate construction, temporary and permanent relocation of electric feeder cables, temporary flood protection & coffer dams, and fertilizing & seeding.
3. The Preconstruction Conference was held at the New Orleans Area Office on 18 Nov 93. Detailed minutes of this meeting are located in the contract file. The Notice to Proceed was signed by the contractor on 18 Nov 93 and the contractor began mobilizing equipment and performing preliminary survey work on 26 Nov 93.
4. The contractor mobilized project trailers on 5 Dec 93 and began installing safety fence and erosion control on 30 Dec 93. The entire jobsite was enclosed during construction with the 48" safety

fence. The contractor installed 10,241 linear feet of 36" silt fence manufactured by Mirafi, Incorporated.

5. This contract provided for 17 major construction phases: (1) Clearing and Grubbing, (2) Selective Demolition, (3) Embankment, (4) Structural Excavation and Backfill, (5) Fertilizing and seeding, (6) Temporary Falsework for R/R Gates, (7) Driving Steel Sheet Piling, Type PZ22 and PSA23, (8) Driving Steel H-Piles, (9) Reinforced Concrete Floodwall, (10) Utility Modifications, (11) Incidental Paving, (12) Temporary and Permanent Relocation of Electric Pump Station Feeder Lines, (13) Structural Steel Gates and Metalwork, (14) Painting, (15) Temporary Flood Protection, (16) Erosion Control, and (17) Relocation of Trees and Shrubs.

6. The contractor started the major phases of work on 13 Jan 94 with the removal of the pedestrian foot bridge located near Mirabeau Avenue. The contractor used hand labor and a small hydraulic boom truck mounted crane to remove the walkway and handrails. The timber pilings were pulled on 9 Dec 94, with the use of Lorain 60-ton motor crane mounted on flexifloats, and the holes left were filled with a cement slurry.

7. In order to provide access to and from the jobsite, the grass on the landside of the existing floodwall was cleared and the existing levee was degraded approximately 2 feet. This material was rolled down the slope and moved around the jobsite to make a 15-20 foot shelf for the contractor's crawler cranes. The contractor used a caterpillar D-5 dozer to clear and degrade the existing levee, and a caterpillar 235 backhoe with a dump truck to move degraded material to stockpile areas. Also, the concrete steps at Mirabeau were removed to provide a clear access from the north. Additional access to the jobsite was also obtained by the contractor through Dillard University on the east side of the canal and the Parkway Commission's property on the east and west sides of the canal. This phase of work began on 25 Jan 95 and was continually maintained during floodwall construction between Mirabeau Avenue and Gentilly Boulevard.

8. The contractor relocated all of the trees and shrubs located along the levee near the residence at Dillard University on 1 Feb 95. The trees were replanted near the Physical Plant in Dillard University and maintained during the life of the project. On 12 Jul 95 all trees and shrubs were replanted at the original location along the levee and all clean-up work was completed at the residence.

9. Demolition of the Benefit Street bridge began on 9 Feb 94 with the contractor mobilizing an American 5299 crawler type crane with

an 80-foot boom, and a 410C caterpillar backhoe with a hydro-hammer, to the jobsite. The bridge deck was broken into sections with the backhoe and lifted out with the crane utilizing a fabricated harness. A small barge placed in the canal was used to catch any broken concrete from the demolition process. The demolition and removal of the bridge deck and beams was completed on 1 Mar 94. The remaining timber pilings were pulled at a later date on 17 Oct 94 by the contractor when the permanent sheetpile for the floodwall were driven in this area and all holes left were filled with a bentonite cement slurry. The contractor utilized an American 5299A crawler crane with an 80' boom to pull these timber pilings.

10. Modification to the existing waterlines began on 3 Mar 94. The existing waterline was replaced with a new 6-inch waterline between E B/L Station 20+60 to 14+31 and E B/L Station 6+36 to 1+23 and a new 4 in waterline encased in a 12" steel pipe between E B/L Station 1+23 to 0+82. All new water lines were Class 150 PVC pipe with a minimum of 3 feet of cover, except under the Railroad, which recieved 5.5 feet of cover. Also installed were five new water meters, three water valves, and one fire hydrant between E B/L Station 0+82 to 6+36. The existing waterline was removed between E B/L Station 0+82 to 1+23, and 6+36 to 13+25 and cut, plugged, and abandoned between E B/L Station 1+23 to 6+36 and 14+31 to 20+60. All newly installed waterline was pressure tested and chlorinated in the presence of a S&WB representative and a government representative. Service through the existing waterlines was not interrupted until all necessary preparations were made to perform the tie-ins at the designated locations. The waterline work was completed on 20 Jun 95.

11. The temporary relocation of the electric feederlines began on 15 Mar 94. A subcontractor, Hazard Construction Company, Inc. performed all relocation work for the contractor. The relocation of Electric Feederline No. 340 from its original position located on existing slope pavement to the vertical face of the concrete channel lining started at E B/L Station 21+00 and continued thru E B/L Station 1+25. Upon completion of this temporary relocation, feederline No. 400 was replaced with new cable in 5" conduit and temporarily installed on the vertical face of the channel lining from W/B/L Station 21+00 to 14+10. The remaining feederline cable (FL-340 from E B/L Station 21+00 to 68+56 and FL-400 from W B/L Station 21+00 to 68+88) was temporarily relocated to a trench located on the floodside of the existing floodwall to protect it during floodwall demolition. The cables were deenergized during relocation work, and tested at the pumping station to assure no damage was done to the cables during the relocation. The cables were all temporarily relocated by 16 Feb 95.

12. On 29 Apr 94 the driving of 283,866.40 sq. ft. of steel sheet piling commenced. The contractor used Syro steel sheet pile type SPZ-22, SPZ-26, and special fabricated zee and tee type sheetpile for this contract. The contractor utilized two separate driving crews on both the east and west sides of the canal. Sheetpile driving started at Mirabeau and proceeded south to pumping station No. 1.

The contractor used the following equipment to drive the sheetpile on the west side of the canal--50 ton American 5299A crane with 80' boom, 1-416 ICE vibratory hammer, 1- clothes pin hammer, and 1-40 feet steel I-beam to maintain alignment. The contractor utilized a 60-ton 670 Lorain motor crane with 80' boom mounted on (6) six-10'x40'x7' and (2) two-10'x20'x7' flexi-float barges equipped with an ICE416 vibratory hammer and a 40' steel I-beam for alignment to drive the sheetpile on the east side of the canal between Mirabeau Avenue and Gentilly Blvd and also between W B/L 17+95 to 14+21.

Prior to driving the sheetpile under interstate 610 and the uncapped sheetpile at the floodgates, the contractor procured the services of Specialty Coatings to apply the approved coal tar epoxy to these sheetpiles. These sheets were sandblasted to white metal finish and the coal tar epoxy was applied (sprayed) in two coats to provide a 16 mil thickness. The sheets under I-610 were field cut into five sections and driven in spliced (welded from interlock to interlock) sections with the use of a Gradall 880 backhoe and an ICE 216 vibratory hammer.

Within the railroad right-of-way, the contractor utilized the American 5299A crane with 100' boom, a Vulcan 08 single acting air hammer, a clothes pin hammer, and a 40' steel I-beam for alignment to drive the cofferdam sheetpile (PMA22) and the new sheetpile under the gate slab. All sheetpile driven on subject contract were driven to grade and work was completed on 25 May 95.

A private testing laboratory was retained by the Orleans Levee District, which monitored vibrations during sheet pile operations.

13. The contractor commenced construction of the reinforced concrete floodwalls on 4 May 94. There were four hundred thirty-eight (438) permanent concrete I-wall monoliths, (6) six temporary concrete I-wall monoliths, and two (2) concrete gate monoliths placed on subject contract. Prior to placing the 4-inch stabilization slab, cathodic protection was installed on the sheetpile at all monolith joints. The I-walls were placed from Elev 3.5, 4.0, and 4.5 to Elev 14.4 on both the east and west sides of

the canal. All rebar was Grade 60 and placed according to contract drawings. An approved three bulb (Tamms/Horn Products) waterstop was placed between each monolith joint along with a fibre expansion joint filler (Sealtight). The contractor used EFCO (Economy Forms Corporation) steel forms along with plyform material backed with steel double channel wales. The forms were connected with 1 1/4" x 1" taper ties spaced according to the contractor's formwork design. A rubber fractured fin form material was attached to the land side form to provide the required finish, except between Station E B/L 21+40.96 to 33+10.96 and W B/L 48+65.18 to 58+55.18 which received a repeated pattern of three BAS- relief architectural panels followed by three fractured fin panels. All formwork was set using a 5299A American Crane. The I-wall monoliths were made in one placement, and the gate monoliths were constructed in two placements.

Concrete was delivered to the jobsite by concrete mixer trucks and placed into forms with a concrete bucket and rubber trunks of various lengths. Concrete pump trucks were utilized for I-wall placements between approximate E B/L station 56+00 to 48+00, E B/L Station 20+70 to 14+50, under the I-610 on both the east and west sides, and for the two gate monoliths. The concrete pump trucks were used due to limited access along the existing levee. Quality control was maintained daily through use of the 1246 checkout list with air content tests, slump tests, temperature checks, and test cylinders done by the contractor. The contractor placed concrete on both sides of the canal simultaneously by two different concrete work crews. These crews started at Mirabeau Avenue and worked behind the sheetpile driving crews proceeding south to the pumping station. Concrete monoliths were moist cured for the entire seven day curing period. The contractor averaged three I-wall placements per week per side, between Mirabeau Avenue and Gentilly Boulevard, and two per week per side south of Gentilly Boulevard. The last concrete I-wall was placed on 8 Jun 95. The contractor utilized the following equipment per side for this item of work; 1-5299A American Crawler-type crane, 1-2CY concrete bucket, 2-concrete vibrators, form oil, several rubber chutes of various lengths, curing blankets, miscellaneous hand tools used for concrete wall construction, and occasionally a Schwing BPL 1200 concrete pump truck equipped with feeder pipe.

14. On 20 Jun 94, the contractor commenced demolition of the existing floodwall at E BL Station 12+26.95. The contractor used a caterpillar 325 backhoe equipped with a hydraulic ram (hammer) to break the concrete cap off in pieces between the pump station and approx station 21+00 on both east and west sides. The existing sheetpile were then pulled and hauled off site between E B/L Station 1+46-5+87, 12+26.95-12+85, and 14+50-20+70, and W B/L Station 10+55-12+55, and 14+24-17+95. Within the other reaches the

sheetpile was cut off at elevations from EL 5.0 to 7.0. Between W and E B/L Station 21+00 to Mirabeau Avenue, the existing concrete cap was scored in 30' sections and lifted out with the 325 Backhoe and hauled off site to a recycling yard (Pontchartrain Materials) for disposal. The existing concrete channel lining and the new perm sheetpile served as temporary flood protection in areas where the alignment of the new floodwall coincided with the old floodwall. At no time during hurricane season was there an opening in flood protection more than 300 linear feet, and non-hurricane season of 750 linear feet opened. All existing floodwall was demolished and removed from the jobsite by 25 May 95.

15. The contractor began the permanent installation of electric feeder cable (FL-400) on 26 Aug 94. Hazard construction was the subcontractor that performed all electrical work on the feederlines. Prior to any wall construction, new cable was installed 2' deep, except within LDOTD ROW which was 4' deep, in a 12" wide trench, encapsulated with 3000 psi concrete between W B/L Station 2+60 to 12+70. This new section of cable was spliced to the existing cable at Station 2+60 and new cable at 12+70. Between W B/L Station 12+70 to 14+10 new cable was installed in 5" conduit and secured to the channel lining under the Gentilly Boulevard bridge. The contractor then replaced the existing cable between W/B/L Station 14+10 to 21+00 with new cable encased in 5" conduit and made two splices at each end. This cable was installed on the new floodwall after placement of the 4" incidental paving between the new floodwall and the channel lining. Finally, the contractor relocated the existing cable to the new floodwall between W B/L Station 21+00 to 68+88. This work started at Mirabeau Avenue and proceeded south to allow the contractor to obtain slack in the line. The subcontractor utilized a small truck mounted crane and sling along with hand labor to install the cable on the new wall. The new cable was brought out on large reels and stretched out with use of a 215 caterpillar rubber tire backhoe. The backhoe was also used to excavate and backfill the trench.

The permanent installation of the electric feeder cable FL-340 began on 14 Nov 94. This work consisted of relocating the feederline to the floodside of the new floodwall using bolts and clamps to secure the line to the wall. The line was installed after the new wall was painted and all structural backfill was in place from E B/L station 1+25 to 12+85 and 14+70 to 68+56. Between E B/L Station 12+85 to 14+70, new 3/C #500 15KV cable was installed under the Gentilly Bridge and spliced to the existing FL-340 at both ends. This new cable installation at the above location, was the last electrical work done on the project, and was completed on 29 Jun 95. Also on the east side, FL-432 was passed thru the new permanent

sheetpile at approximate E B/L Station 21+60 installed in a 16" dia. split steel sleeve packed with plastic sealant and sealed with neoprene rubber sleeves.

16. The contractor commenced application of the approved Tammo seal cementitious items paint (1st coat) beginning at Mirabeau Avenue on the floodside to both the east and west floodwalls on 13 Sep 94. The cementitious paint was applied at a rate of 2 pounds/square yard of concrete surface. Upon completion of the floodside, the landside of the floodwalls were painted with the Tammo seal. Two coats of acrylic emulsion paint (Tammo sheen) was then placed over the cementitious paint on the floodside and then the landside. The contractor initially used a sprayer to apply the cementitious paint, but did not fill all voids and pits in the concrete surface. A roller was then used which provided the required finish and filled all voids in the surfaces. The final two coats of acrylic emulsion paint was sprayed on with an air sprayer. The painting operation was completed on 24 Jul 95.

17. Structural backfill was begun on 26 Aug 94 on the floodside of both the east and west floodwalls. The floodside was backfilled first to allow the contractor to relocate the feeder cable to the new wall. The material was cast over the new wall with a 880 Gradall Backhoe and compacted with hand tampers and plate compactors (Mikasa Products). The backfill was placed within 2 feet on both sides of the wall in 8" thick lifts and compacted to 90% of the max dry density. Soil samples were taken to develop standard proctor curves and compaction tests were performed by Alpha Testing Laboratory. The contractor utilized a vibratory roller (RT560-Wacker Corp) and a Tandem vibratory roller (BW90AD-Bomag) to compact the fill on the landside of the floodwall. Make note that at the R/R monoliths, the subballast supplied by Norfolk Southern was compacted as dense as the material in the same area, with hand tampers to the satisfaction of railroad personnel. All structural backfill was completed on 15 Jun 95 when the last lift was placed at E B/L Station 2+00.

18. The work within the railroad rights-of-way commenced on 7 Dec 94. This phase of work consisted of driving cofferdam and permanent sheetpile, pipe piles and steel H-piles, constructing and installing four falsework structures to maintain traffic on the railroad tracks, placing two concrete gate monoliths, and installing two steel swing gates. Prior to any work within the R/R ROW, meetings were held to establish a working relationship with the Railroad Company (Norfolk Southern). At these meetings the railroad POC established a work window for the contractor from 0730 to 1430 within the R/R ROW. During the life of the contract, the contractor was continually denied this allowable schedule and encountered delay time.



The contractor worked on the west side first by driving two rows of steel sheetpile (PMA-22), 20 feet long, perpendicular with the tracks, and one row down the centerline of both sets of tracks. Continuous pipe piles were then driven to EL-60.0 to support the falsework bridges. Structural excavation for the gate base monolith followed. The contractor removed the falsework bridge, excavated the material for the base slab, and reset the falsework bridge for one track in an 8 hour workday. After all structural excavation, the steel H-piles and the permanent sheetpile were driven. Quality assurance was maintained during the driving of the H-piles by using a level, marking the pile footage, and recording blow counts for the 2,016 LF of HP 14x73 steel H-piles. All piles were driven to grade. The contractor then constructed the reinforced gate base slabs and columns using 4000 psi concrete and epoxy coated rebar in the gate sill. The contractor completed the concrete work and removed all falsework (5' below grade) on the west side on 9 Mar 95. The contractor commenced operations on the east side on 13 Mar 95 and completed work on 15 May 95. The following equipment was utilized; 1-5299 American Crane with 100' Boom, 80' pile leads, 1-Vulcan 08 air hammer, 1-clothes pin hammer, 1-880 Gradall backhoe, 1-Schwing 1200 concrete pump truck, crane mats, 2 CY concrete bucket, concrete vibrators, and other miscellaneous hand tools for concrete work.

19. The two railroad swing gates were fabricated and painted by Manufab, Incorporated of Pearlinton, Mississippi. Quality assurance was maintained by visits to Manufab's yard. The gates were installed by Manufab on 6 Apr 95 (west) and 22 Jun 95 (east) and two trial operations were conducted. Some adjustments were made on both gates and they were accepted on 24 Jul 95. The contractor used a Caterpillar 325 backhoe to set the gates

20. After all floodwall was constructed and painted, the contractor started rebuilding and reshaping the landside levee. The embankment was built to the lines and grades shown on the plans from the existing levee material using D-4 and D-5 caterpillar dozers, 1-235 caterpillar backhoe, 1-215 caterpillar backhoe, and several dump trucks. Work commenced on 2 Feb 95 and was completed on 5 Jul 95.

21. Fertilizing, seeding, and mulching of the completed levee on the east and west side began on 19 Jun 95 between Mirabeau Avenue and Gentilly Blvd. Subcontractor, Economy Grassing performed this phase of work. After harrowing the dressed levee, an approved fertilizer and unhulled Bermuda seed was broadcast and cultipacked and wood cellulose fiber mulch was sprayed over the entire bare surface of levee. The subcontractor completed this first section 21 Jun 95. The area between the pumping station no. 1 and Gentilly



Boulevard was completed on 13 Jul 95. The following equipment was used; 1-2130 John Deere tractor, 1-seed broadcaster, 1- spike tooth harrow and 1-Hydro mulch sprayer.

22. The last phase of work was to repave London Avenue between E B/L Station 2+35 to 5+75 and W B/L Station 14+00+0 17+75, and the Benefit Street Bridge ramps on both sides of the canal. The areas damaged along London Avenue during construction operations received a 3.5" binder and 1.5" wearing course. The areas previously occupied by the Benefit Street bridge ramps received a 8" thick crushed concrete base course compacted to 95% max dry density, along with the overlay. All asphalt work was started and completed on 26 Jul 95. The following equipment was used; 1- vibratory roller, 1-D3 Caterpillar dozer, 1-Paving machine and other incidental equipment.

23. The contractor had difficulty in coordinating with utility owners for relocation of their lines located with contract R.O.W.. There were Cox Cable lines crossing the canal and running parallel with the canal located within the ROW not shown on the contract drawings. No substantial construction delays were encountered by the contractor, however, the coordination efforts of the contractor were increased due to the utility owners poor relocation work.

24. There were twenty-two modifications on this contract and a summary of each follows:

a. P00001 (FM-001) dated 23 Mar 94. This modification provided additional funds for payment in accordance with SPECIAL CLAUSE H-26, an increase of \$1,972,000.00.

b. P00002 (CIN-01) dated 31 Mar 94. This modification corrected stationing and offsets, and dimension discrepancies found after award, and increased the amount of coated sheetpile due to an error in the original stations on the east side. The modification increased the contract by \$3,879.22 with no time extension.

c. P00003 (TE-001) dated 11 Apr 94. This modification extended the required completion date of the contract (7) seven calendar days due to unusually severe weather encountered between 18 Nov 93 to 31 Mar 94. The contract price remains the same.

d. P00004 (UCO-01) dated 25 Apr 94. This modification was to provide approximately 200 feet of additional 15 KV feederline cable to be installed under the east side of Gentilly Boulevard bridge. The existing cable was damaged prior to any electrical work commencing. The UCO was written in order for the contractor to obtain the additional cable within a reasonable time from the supplier due to manufacturing time restraints. This modification

was settled at a later date.

e. P00005 (FM-002) dated 25 Apr 94. This modification provided additional funds for payment in accordance with SPECIAL CLAUSE H-26, an increase of \$3,884,517.00.

f. P00006 (CIN-03) dated 2 May 94. This modification substituted acrylic emulsion paint for cementitious paint on the landside BAS-relief architectural monoliths, and to provide a sack rubbed finish to these surfaces. The originally specified cementitious paint would cover the detail of the artwork panels. The modification increased the contract by \$5,799.30 with no time extension.

g. P00007 (CIN-02) dated 29 Jun 94. This modification changed the type and number of sill plates, stiffeners, and railroad plate deflectors, added cofferdam sheeting, modified the falsework pipe piles and changed all rebar to be epoxy coated within the gate sills on both the east and west sides. The Norfolk Southern Railroad Company requested these changes after contract award. The modification increased the contract by \$23,005.20 with no time extension.

h. P00008 (CIN-05) dated 29 Jun 94. This modification changed the size of the new waterline installed between E B/L Station 2+08 to 6+36 from 4" to 6" diameter and realigned the waterline to eliminate two bends. The S&WB of New Orleans requested a larger size waterline that was supplying a fire hydrant due to fire prevention codes. The modification increased the contract by \$1,500.00 with no time extension.

i. P00009 (TE-002) dated 11 Jul 94. This modification extended the required completion date of the contract eleven (11) calendar days due to unusually severe weather encountered between 1 Apr 94 to 30 Jun 94. The contract price remains the same.

j. P00010 (CIN-06) dated 5 Aug 94. This modification was to replace the 200 linear feet of additional electric feederline under the east side of Gentilly Boulevard. The existing cable was damaged prior to any work done on this cable. This modification definitizes UCO-01. The modification increased the contract by \$24,993.59 with an increase in contract time of ten (10) calendar days.

k. P00011 (CIN-07) dated 12 Sep 94. This modification added a feederline cable splice to the existing FL400 at W B/L Station 14+10. Due to the closing of Gentilly Boulevard Bridge, this additional splice was needed to allow the contractor to stay clear from working under the bridge for safety purposes and not be

impacted or delayed in his progress of work. The modification increased the contract by \$5,000.00 with no time extension.

l. P00012 (UCO-02) dated 16 Sep 94. This modification directed the contractor to close any gaps in hurricane protection due to expected high tides from an approaching hurricane. This work took place on 15 and 16 Sep 94 in which the contractor pulled 60' of sheet pile up to EL 11.5 between E B/L Station 20+80 to 21+40. This modification was settled at a later date.

m. P00013 (TE-003) dated 18 October 94. This modification extended the required completion date of the contract seven (7) calendar days due to unusually severe weather encountered between 1 Jul 94 to 30 Sep 94. The contract price remains the same.

n. P00014 (CIN-08) dated 17 Nov 94. This modification was for the contractor to close the gaps in hurricane protection due to an approaching hurricane. This modification definitizes UCO-02. The modification increased the contract amount by \$12,620.00 with an increase in contract time of six (6) calendar days.

o. P00015 (CIN-10) dated 12 Apr 95. This modification was for formwork modifications made by the contractor due to varying elevations of the concrete channel liner. The channel liner elevation differed in places as much as 6 inches from the plan elevation. This modification increased the contract by \$10,200.00 with no time extension.

p. P00016 (TE-004) dated 14 Apr 95. This modification extended the required completion date of the contract thirteen (13) calendar days due to unusually severe weather encountered between 1 Oct 94 to 31 Mar 95. The contract price remains the same.

q. P00017 (CIN-11) dated 23 May 95. This modification added slope pavement and reinforced retaining walls at the two railroad gates. The original contract drawings provided no details at these two ends of the job. The modification increased the contract price by \$7,500.00 with no time extension.

r. P00018 (CIN-09) dated 9 Jun 95. This modification was to remove approximately 1300 linear feet of sheetpiling above elevation 7.5 to allow placement of slope pavement and for additional demolition costs due to the sheetpile extending further in the concrete cap than shown. The contract drawings contained discrepancies as to the actual elevation of the existing sheetpile embedded in the existing concrete cap. The modification increased the contract price by \$43,000.00 with an increase in contract time of fourteen (14) calendar days.

s. P00019 (FM-003) dated 19 Jun 95. This modification provided additional funds for payment in accordance with SPECIAL CLAUSE H-26 and Contract Clause I-18, an increase of \$105,742.10.

t. P00020 (TE-005) dated 12 Jul 95. This modification extended the required completion date of the contract fifteen (15) calendar days due to unusually severe weather encountered between 1 Apr 95 to 30 Jun 95. The contract price remains the same.

u. Pending time modification (TE-006) for an additional twenty-two (22) calendar days due to unusually severe weather encountered between 1 Jul 95 to 17 Aug 95. The contract price will remain the same.

25. The contractor submitted a claim on August 11, 1995, in the amount of \$144,917.74 for construction delays encountered while working within Norfolk Southern Railroad Rights-of-Way. The claim is being analyzed for merit.

26. The following is a list of major suppliers on the subject contract:

- a. Steel Sheet Piles - Syro, Inc., Girard, OH
- b. Reinforcing Steel - Lulich Steel Corp., Slidell, LA
- c. Concrete - Carlo Ditta, Inc., New Orleans, LA
- d. Waterstop/Silt Fence/Expansion Joint Filler/Form Oil/Cementitious and Acrylic Emulsion Paint-Building Specialties, Incorporated, New Orleans, LA
- e. Waterline Supplies - Louisiana Utilities, Jefferson, LA
- f. 15 KV Feederline Cable-Okonite Co., Ramsey, NJ
- g. Feederline Splice Kits - Mac Products, Inc., Kearney, NJ
- h. Misc. Electric Feederline Supplies - Nulite Electrical, New Orleans, LA
- i. Asphalt - T. L. James & Co., Kenner, LA
- j. Crushed Concrete - Pontchartrain Materials Corp., New Orleans, LA
- k. Steel H-Piles - LB Foster Co., Pittsburgh, PA

- l. Floodgates & Metal Items - Manufab, Pearlinton, MS
- m. Coal Tar Epoxy Application - Specialty Ctgs, Kenner, LA
- n. Formwork - EFCO, Des Moines, IW
- o. Seed - Alexandria Seed, Alexandria, LA
- p. Hi-potential feederline tests - Point Eight, Belle Chasse,  
LA
- q. Density Tests - Alpha Testing, Kenner, LA
- r. Artwork Molds - H. H. Horil & Assn., Mobile, AL

27. Subcontractors performing work on this project along with the contract responsibilities are as follows:

- a. Hazard Construction & Drayage Company, 701 S. Alexandar, New Orleans, LA 70119. All electrical relocation work.
- b. Economy Grassing, Innc., 7054 W. T. Hall Roadd, Ethel, LA 70730. Seeding, Fertilizing, and Mulching.

28. The contractor submitted and enforced an adequate Accident Prevention Program. The contractor was very cooperative in the performance of the work and performed daily safety inspections in addition to holding weekly safety meetings. There were no lost time accidents throughout the duration of the project.

29. The contractor was efficient and professional in the performance of the work and any extra work required to complete this project. The equipment used was kept in good working condition. Quality Control was maintained throughout the life of the contract.

30. Following is a comparison of contract quantities versus actual quantities:

Item	Description	Qty & Unit	Unit Price	Est. Amt	Final Qty	Earnings to Date
0001	Mob & Demob	LS	LS	\$100,000	100%	\$100,000
0002	Clearing & Grub	LS	LS	\$ 20,000	100%	\$ 20,000
0003	Selective Demo (P00018)	LS	LS	\$282,000	100%	\$282,000

0004	Ped. Bridge Demo	LS	LS	\$ 5,000	100%	\$ 5,000
0005	Embankment Semicompact. fill	LS	LS	\$40,000	100%	\$40,000
0006	Structural Excav and backfill	LS	LS	\$400,000	100%	\$400,000
0007	Fertilizing & Seeding	LS	LS	\$10,000	100%	\$10,000
0008	Temp. Falsework for gates (P00007)	LS	LS	\$113,505.20	100%	\$113,505.20
0009	Piling Steel Sht Type PZ-22 (P00002)					
				273,573SF \$8.58	\$2,347,256.34	283,886.40SF \$2,435,573.71
0010	Piling, Steel Sht Type PSA-23					
				1,110 SF \$18	\$19,980	850.29SF \$15,305.22
0011	Furnish & Deliver H piles	2,020LF	\$16	\$32,320	2,016LF	\$32,256
0012	Driving Piles (Steel H piles)	2,020	\$5	\$10,100	2,016LF	\$10,080
0013	Reinforced Concrete Floodwall (P00002),(P00006) (P00015),(P00017)	LS	LS	\$2,113,569.57	100%	\$2,113,569.57
0014	Utility Mods. (P00008)	LS	LS	\$ 168,500	100%	\$168,500
0015	Temp. Relocation of Feeder lines	LS	LS	\$400,000	100%	\$400,000
0016	Permanent Relocation of Feeder lines (P00010) (P00011)	LS	LS	\$429,993.59	100%	\$429,993.59
0017	Structural Steel Gates & Misc. Metals	LS	LS	\$ 70,000	100%	\$70,000
0018	Painting (P00002)	LS	LS	\$134,469.61	100%	\$134,469.61

0019	Railroad Ins.	LS	LS	\$ 7,000	100%	\$ 7,000
0020	Temp. Flood Protec & Coffe Dams	LS	LS	\$ 5,000	100%	\$ 5,000
0021	State Req Performance Bond	LS	LS	\$70,000	100%	\$70,000
0022	Erosion Control					
	AA. First 13,900	13,900LF	\$2	\$27,800	10,241LF	\$20,482
	BB. All over 13,900	1,450LF	\$2	\$ 2,900		
0023	Temp Flood Protection (P00014)	LS	LS	\$12,620.	100%	\$12,620

31 A copy of as-built drawings are attached.

32. The contract was completed in accordance with contract plans and specifications with final acceptance on 17 Aug 95.

*Jules Boudreaux*

Jules Boudreaux  
Project Engineer  
New Orleans Area Ofc

CF:  
Proj Engr (Boudreaux)  
Proj Insp (Bollent)  
Ofc Engr w/as-built  
CELMN-CD-Q  
CELMN-PA  
CELMN-CT  
CELMN-ED-C  
CELMN-CD-CS  
CELMN-CD-B  
CELMN-PP  
CELMN-OD-ON