ATTACHMENT IV

BIG ISLAND MINING PROJECT

PROJECT COMPLETION REPORTS
&
AS-BUILT DRAWINGS

ENGINEERING CLOSURE REPORT

BIG ISLAND MINING (XAT-7)
AND
ATCHAFALAYA SEDIMENT DELIVERY (PAT-2)

AS-BUILT CONSTRUCTION PHASE

Prepared For:

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES
AND
NATIONAL MARINE FISHERIES SERVICE
DNR CONTRACT NO. 25085-95-04

DECEMBER 1998

Brown Cuninngham Gannuch
ENGINNEERS ARCHITECTS CONSULTANTS
9181 Interline Ave. Suite 100 Baton Rouge, LA 70809

ENGINEERING CLOSURE REPORT
BIG ISLAND MINING (XAT-7)
AND
ATCHAFALAYA SEDIMENT DELIVERY PROJECTS

DECEMBER 1998

BY: BROWN CUNNINGHAM & GANNUCH, INC.
EMMETT J. MAYER, JR., P.E.

ABSTRACT:

This is the third and final engineering report submitted by BCG on the Big Island Mining (XAT-7) and Atchafalaya Sediment Delivery (PAT-2) C.W.P.P.R.A. projects. These two projects are designed to enhance the east-west sub-delta development of the emerging Lower Atchafalaya River into Atchafalaya Bay in St. Mary Parish, Louisiana. This report describes the construction and presents the as-built channel alignments, disposal area configurations, final dredged quantities and costs of the project. Also presented and discussed are the engineering field changes made during construction to better fit the in-situ field conditions encountered.

Construction commenced on January 28, 1998 and was completed on October 27, 1998. The actual construction cost of $7,238,449.36; was $258,351.54 below the awarded contract price of $7,496,801.00; and, the project was completed in 273 days; 27 days ahead of the contract time. Some 51,250 linear feet of conveyance channels were dredged and 1202.57 acres of new marshlands were created by strategically placing dredged disposal to mimic a natural delta configuration. Accompanying this report and delivered to the LDNR under separate cover are hard copies and electronic diskettes of before and after dredging surveys to verify the dredged quantities and final channel sections as well as final disposal area fill elevations.

The two previous reports prepared by BCG on this project are:

Report No. 1: ENGINEERING SUMMARY REPORT:
BIG ISLAND MINING AND ATCHAFALAYA SEDIMENT
DELIVERY - PROJECT
REVIEW PHASE (JANUARY 1995)

Report No. 2: ENGINEERING DESIGN REPORT:
BIG ISLAND MINING AND ATCHAFALAYA SEDIMENT
DELIVERY - PRELIMINARY
DESIGN PHASE REVIEW (MARCH 1995)

ENGINEERING CLOSURE REPORT
BIG ISLAND MINING (XAT-7) AND ATCHAFALAYA SEDIMENT DELIVERY (PAT-2) CWPPRA PROJECTS

AUTHORIZATION:

The Louisiana Department of Natural Resources (LDNR) approved Brown Cunningham & Gannuch, Inc. (BCG)'s plans and construction documents for both of the subject CWPPRA projects and authorized BCG to provide construction engineering management and resident project inspection during construction of the projects. LDNR awarded one construction contract for both projects to River/Road Construction, Inc. of Mandeville LA (RRCC) in the amount of $7,496,801.00; and issued Notice to Proceed on January 28, 1998. The contract time was established as 300 days, with an ending date of November 24, 1998.

INTRODUCTION:

Project Location:

Both Subject CWPPRA projects are located in the Lower Atchafalaya River Delta, near latitude N 29° 27' 00" and longitude W 91° 17' 30", at its entrance to Atchafalaya Bay in St. Mary Parish, LA. The Big Island Mining project is located in the west delta lobe and the Atchafalaya Sediment Delivery is in the east delta lobe.

Project Coordination:

Both locations are within the Atchafalaya Delta Wildlife Game Management Area under the control of the LA Department of Wildlife and Fisheries (LDWF). The federal sponsor for this project is the National Marine Fisheries Service (NMFS). In addition, the U.S. Army Corps of Engineers (COE) maintains a navigation channel in the Atchafalaya River at this location.

BCG was responsible for directing and monitoring all field activities performed by RRCC to assure that the intent of the plans and specifications were achieved. BCG established the following team and activities to keep all impacted government agencies informed of the daily construction in progress.

1. Establish a Key People Team representing all of the impacted agencies as follows:
   a. LDNR: Contract Owner
      1) Mr. Van Cook - Project Manager for Owner
      2) Mr. Herbert Juneau - Field Engineer

b. LDWF: Atchafalaya Delta Management
   1) Mr. Greg Linscombe - Program Manager
   2) Mr. Mike Carloss - Assistant Program Manager

c. NMFS: Federal CWPPRA Sponsor
   1) Dr. Erik Zobrist - Project Manager
   2) Mr. Rickey Ruebsaman - Local Area Supervisor

d. RRCC: Construction Contractor
   1) Mr. Chris Rayer - Project Manager
   2) Mr. Tom Windes - Job Superintendent

e. BCG Project Consulting Engineers
   1) Mr. Emmett J. (Ike) Mayer, Jr. - Construction Engineer Manager
   2) Project Inspectors (two) - Ira Nedadire and Mark Dawsey

2. Perform Weekly Job Inspections
   a. Review daily reports for progress and problems.
   b. Perform site inspections and monitor contractor's methods.
   c. Identify and resolve field contingencies with contractor.
   d. Have owner's representative present.
   e. Have LDWF's manager present.

3. Prepare Periodic Progress Reports to all Owners
   a. Completed construction progress.
   b. Review and recommend Contractor's invoices for payment.
   c. Review before and after dredging surveys.

4. Prepare Field Changes for Owners review and approval prior to issuance to Contractor

5. Prepare As-Built Plans upon project completion and a final construction closure report.

Project Closure Report

This report is intended to describe project construction progress, problems encountered and solutions made, present the project quantities and costs, present the final total volume of material dredged from channels, total acreage at Disposal Areas, and include the listing of before and after dredging surveys used to verify the project volumes and dimensions.

GENERAL:

The Atchafalaya Sediment Delivery Project included re-opening the silted in Natal Channel for some 8800 linear feet with a 1500 foot branch channel at station 74+00; and re-opening the Castille Pass from its entrance for 2000 linear feet, both are distributary channels from East Pass.

Some 668,683 cubic yards of material was dredged from Natal Channel and four disposal areas creating some 257 acres of new coastal marshland was constructed. On Castille Pass, some 32,242 cubic yards of material was dredged and 20.5 acres of new marshland was created. The ASD project volumes were approximately 17% of the Big Island Mining project volumes.

The Big Island Mining project consisted of creating a new west delta lobe behind Big Island to enhance the accretion of land beyond the west bank of the Atchafalaya River. The BIM project consisted of a main stem and five branch channels designed to mimic nature by aligning the branch channels at 45° to the main stem and developing delta lobe land masses between the bifurcations. The main stem, called Channel A, extended from the Atchafalaya River's west bank for a distance of 20,600 linear feet and required dredging 2,470,427 cubic yards of material.

The five branch channels dredging and lengths are as follows:

Channel B @ 310,958 cubic yards and 5500 feet
Channel C @ 89,595 cubic yards and 2400 feet
Channel D @ 174,000 cubic yards and 4000 feet
Channel E @ 217,462 cubic yards and 4150 feet
Channel F @ 100,033 cubic yards and 2300 feet

Five Disposal Areas were created with the channel dredged material to form some 916 acres of new marshlands, strategically placed and configured to resemble a river delta.

The project started on January 28, 1998 with the Contractor mobilizing his plant which consisted of the 20 inch hydraulic cutterhead Dredge Katrina and the 20" North Carolina, two dredge tenders, two anchor barges, floating line and plastic land line, three marsh backhoes, a quarter barge, office barge and crewboat. The Contractor also utilized an 8 cy bucket dredge. The Contractor began working the ASD project first, starting at Castille Pass (Feb. 2, 1998) and ending with Natal Channel on March 30, 1998.

The Contractor re-mobilized his plant to the BIM project and began dredging Channel A with the North Carolina on March 29, 1998. The Contractor continued dredging Channel A, utilizing both dredges to expedite the dredging in the 450' and 400' wide bottom segments of Channel A, since the 20 inch dredge's nonimal swing capacity is 170 feet wide cut without an idler barge. Disposal Area 1 was constructed first. The Contractor was able to manage construction progress efficiently by dredging the branch channels and the main stem to minimize the distance between the dredge and discharge point within the various disposal areas. Due to changed field conditions encountered, Channel D was realigned and Disposal Area No. 3 was eliminated. Disposal Area 4/5 was enlarged to partially offset the loss of DA No. 3. Areas, No. 6, and No. 9 were built as designed. DA No. 8 was enlarged to receive material from Channel F, which was not part of the original design, but was added as a field change. Channel D was the first branch channel dredged and Channels B, E, C and F followed, respectively.

The BIM/ASD project was accepted substantially completed (physical work) on October 27,

1998. The Contractor temporarily demobilized due to weather conditions only once during construction, and that was from September 1, 1998 to September 3, 1998 due to Tropical Storm Earl.

All five disposal areas in the BIM project utilized perimeter containment dikes. The project design called for substantial front dikes contiguous with the channel banks and minor diking around the rear boundaries to contain the dredged solids. The front dikes were constructed with an eight cubic yard bucket dredge, Capt. Bufford Berry, that met specification with a 140 foot boom reach.

Due to the extremely soft nature (low shear resistance) of the bottom clays the front dikes averaged 100' to 150' feet wide by 3' to 5' high (initially). The dikes quickly settled to between 75% to 80% of their initial heights. These dikes performed very well to protect the leading edges of the disposal areas which were designed to be like naturally occurring lobe islands. The rear diking was constructed to only 1' to 2' high utilizing the marsh hoe machines. The front dike construction by bucket dredge was expeditious and payable since the material came from within the channel cut. Whereas, the rear dikes were non-payable.

Long term settlement in the disposal areas is the result of a combination of shrinkage of the hydraulically placed dredged material and long term consolidation of the underlying subsoils due to the load placed by the dredged fill. In the placement of poor quality soils within a hydraulic fill, the elevation of the final discharge has the greatest impact upon how fast the material will shrink. When the final discharge is within 1 foot above the nominal water surface the soil is buoyed by the water (submerged weight) and consolidation is very slow. Only when low tide (drop in water level) occurs does the material have the opportunity to consolidate under its own weight. Conversely, when the final discharge is greater than 1 foot above the nominal water level the material will shrink quicker due to its weight. It is difficult to quantify the shrinkage of hydraulically placed material. However, based upon the soils report by Gore Engineering it is believed that settlement of the hydraulically placed material could range between 30 to 50 percent of its initial placement height.

The front dikes along the disposal areas close to the Atchafalaya River (Natal DA-1 & DA-2; BIM DA-1 and DA-5 @ Channel A & D have settled approximately 30 percent. The final dike surveys show the elevations of Natal DA's at $\pm$ 3.0 and the BIM DA-1 and DA-5 (@ Channel D) at 4 to 5 feet. The front dike of DA-5 along Channel A at the beginning of Channel D has only settled approximately 20 percent due to the material being sandy and the subsoil foundation being sandy. As the dike construction progressed further from the river the soil became weak clays and dikes constructed showed as much as 50 percent settlement. This is primarily shrinkage. In the long term these dike fills could settle another 9 to 16 inches, based upon current heights above the nominal water level and the subsoil strengths. The front dikes on the BIM disposal areas have breaches cut through them to allow for high river flow into the disposal areas to allow for accreation to help offset the expected settlements. The shell piles have also settled due to consolidation of the subsoil since the tops of piles initially placed ranged between 4

to 7 feet. The final surveys show the shell pile elevations currently between 3 to 5 feet, with additional long term settlement expected.

The marshlands (material placed below elevation 2.5) seem to be settling only slightly, about 10 percent. These areas will continue to settle slowly in the long term. Hopefully high river flows will provide the additional accreation needed to maintain their wetland characteristics. The project target elevations were +3.0 feet for front dikes (lobe islands) and +1.5 feet for marshlands. We feel that these targets have been achieved in most of the disposal areas except at the beginning of DA-5.

An unanticipated benefit was the quick germination of the vegetation covering the newly created marshlands. Evidently, the dredged material had embedded dormant seeds of plants indigenous to this area that sprouted almost immediately once material placement was completed. Another unanticipated condition encountered was the dredging through shell reefs at four locations in the BIM project and in Natal Channel on the ASD project. Intermittent Shells were encountered dredging Channel A in the first 2000' of Channel A, again, around station 135+00. Shells were encountered at the beginning of Channel D and in the mid reach of Channel C. Due to the non-flow nature of shells the Contractor was instructed to make individual piles of shells with placement not to exceed +6.0 NGVD and even side slopes surrounding the mounds. In discussing the shell problem the "Team" decided upon the pile configuration since its vertical relief was beneficial to shore bird nesting. In fact, the shell pile placed within Disposal Area No. 3 on Natal Channel was utilized immediately by the shore birds requiring the Contractor to leave his shore dredge pipe in place until the eggs hatched and chicks matured enough to leave their nest areas. The Contractor was not able to efficiently place the shells in the low profile marshland acres. Therefore, the Contractor was instructed to place "shell piles" within the various disposal areas such that they were within the lobe island portion of the disposal area. In addition to Natal Channel DA No. 3, there are "shell piles" within BIM Disposal areas No. 1, No. 4, No. 5 and No. 9.

Two disposal areas in the ASD project did not utilize perimeter diking, Castille Pass DA and Natal Channel DA No. 4. These two areas were for enough removed from the new channel cuts that diking wasn't necessary to prevent material from returning to the channel. In addition, due to the observed discharged material flow characteristics, it was felt the material would settle out. This resulted in the material placed in these two (undiked) disposal areas being deposited over a larger area than if diking were present. The resulting material heights stayed rather low between 1.5 to 0.5 feet NGVD.

The BIM project site was in an abandoned oil field area, and two bid items were included to perform magnetometer surveys and relocate any abandoned or unknown pipelines that could interfere with the channel dredging. Fortunately, no pipelines were encountered that interfered with the channel dredging. There was also a special work area included where Channel A crossed the twin 30" active high pressure gas lines. The Contractor dredged this segment of channel by using only cables and no spuds. A representative of the gas line company was on board the dredge while working within this special work zone.

The ASD project was dredged prior to the high river period. Following this high river period monitor surveys were made on the entrance to Natal Channel and Castille Pass. A shoal developed at the entrance to Natal Channel which reduced the channel depth to only 5 feet. Based upon the survey and a computed under run of dredge quantities for the Natal Channel; the Engineer recommended that the channel be re-dredged to remove some 23,247 cubic yards of material by bucket dredge and to construct two parallel dikes on both banks of Natal Channel between station 12+00 and 21+00 to better train the incoming flows from East Pass. The construction of the training dikes would also eliminate the cross flow entering Natal Channel from the trench created in building the front dike of Disposal Area No. 1. The Owner-Team agreed to the removal of this
shoal. LDNR should continue to monitor the entrance to Natal Channel since shoaling has occurred here.

Project Estimated vs As-Built Quantities and Costs

Table A below presents a comparison of the project quantities and costs of the original and actual values. In reviewing the values of each of the variables in Bid Item 300, BIM Channels, only Channels A and C on BIM were less than estimated. Channels B, D, E and F were more than originally estimated Bid. However, the aggregate actual over all totals were less than estimated. In Bid Items 500, ASD Channels, both Natal Channel and Castille Pass were less than estimated, including the re-dredging of the Natal shoal. Item 600 and 700 were not utilized during construction also resulting in a savings. The resulting as built project construction cost was $7,238,449.36 and was an under run of $258,351.65 when compared to the project award price of $7,496,801.00.

Disposal Areas

Originally planned disposal areas, which were permitted, were obtained to assure that adequate permitted areas would be available for disposal of dredged material from the project. The ASD project allowed Contractor to dredge an access channel in East Pass if it became necessary in order to mobilize the dredge to Natal Channel and/or Castille Pass. Fortunately, East Pass had sufficient depth, and the access channel was not needed on the ASD project. Some of the bidding contractors expressed concerns that the dredged material would stay in an expanded, suspended state and would require more disposal areas then planned for the project. BCG disagreed with the Contractor's concerns. However, LDNR directed BCG to revise the existing Coastal Use Permit to include DA 1A and DA 5 in the ASD project; and, DA 8A and DA 10A in the BIM projects. The dredged material performed as originally predicted by BCG and the additional areas were not utilized. However, LDNR should endeavor to renew the C.U.P. every three years to maintain the availability of these permitted areas. The permitting of these added areas will benefit LDNR in that they will be available for maintenance dredging during the life of the project.

Disposal Areas Constructed

There were five disposal areas created on the ASD project and five created on the BIM project, Table B presents the acreage for each of the ten disposal areas. The disposal areas as shown in Appendix E are the as-built configurations and show the as-built contour elevations in 0.5 feet increments to N.G.V.D. Also, TABLE C shows the disposal area acreage break down per half foot of elevation. At Big Island the recorded water level varies from a low elevation of -1.26 N.G.V.D. during the low river season and a high of 3.92 N.G.V.D. during river headwater flooding. The yearly average water elevation, based upon the Amerada Hess Gage is 1.6 N.G.V.D. Assuming this to be the demarcation line between emergent marshland and subaqueous marshland; those acreages laying below the 1.5 elevation level would be considered to be subaqueous marshlands. Similarly, those acreages above the +2.5 elevation would be considered to be lobe islands, above the nominal tidal influence. According to TABLE C the acreage created on the two projects totaled:

ELEVATION	BIM	ASD
Acreage Above EL. 2.5	61.53 Ac	20.76 Ac
Acreage Between EL. 2.5 and 1.5	231.08 Ac	48.73 Ac
Acreage below EL. 1.5	629.8 Ac	211.05 Ac
TOTAL ACREAGE	922.41	280.54 Ac

A breakdown of each disposal area is listed in TABLE C.

BEFORE AND AFTER SURVEYS

The project specification required the Contractor to take Before Dredging Surveys of channel alignments and disposal area boundaries prior to any dredging and disposal. Also, After Dredging Surveys of channels and disposal areas after all dredging was completed were required. This information was to be presented on hard copy and electronic diskettes and delivered to the Engineer. The delivered hard copies of channel and disposal areas consisted of drawings showing channel plan and cross sections at 100' intervals and disposal area plans showing the elevations to NGVD and x and y coodinates to the NAD27 datum. Channels and Disposal area base lines are referenced to Louisiana State Plane Coordinate System. The electronic back-up surveys are contained on 3 1/4 magnetic computer disks. The entire project data collected are contained in three electronic files called DWG, DXF, and TXT files. The DWG and DXF files can be opened utilizing AutoCadd program and shows layout of surveys taken. The TXT files show listings of every survey point taken which includes survey point index number, elevation and "X" and "Y" state plane coordinate. The TXT files can be opened under Word or Word Perfect Program, or Lotus Program for Windows 95/98.

The Contractor utilized GPS Real Time Kinematic Survey equipment to layout channel and disposal area alignments. The channel after dredging cross sections were taken by using a Fathometer and GPS equipment. The hard copies and electronic back up disks of the Before and After Surveys were delivered to LDNR by the Engineer under separate cover. A listing of all surveys delivered to LDNR is included in Appendix D of this report.

AS-BUILT DRAWINGS

Utilizing the Contractor's surveys the Engineer controlled the project, implementing field changes, redirecting dredging activities and verify constructed quantities on the project. "As Built" drawings showing the actual channel and disposal area construction were prepared by the Engineer and half scales showing channel plans and disposal areas are contained in Appendix E of this report. The drawings show the as built channel center lines and disposal area boundaries showing distances as established by the Engineer. Each drawing has a varying scale in order to clearly show elevations.

TABLE A: COMPARISION OF ESTIMATED ANd AS-BUILT PROJECT CONSTRUCTION COSTS

BID	ITEMS	UNIT COSTS		ESTIMATED VALUES		AS-BUILT VALUES	
NO.	DESCRIPTION	UNIT	RATE	QUANTITY	COST	QUANTITY	COST
100	Mobilization	L.S.	L.S	1	$274,401.00	1	$274,401.00
200	BIM Surveys	L.S.	L.S.	1	$250,000.00	1	$250,000.00
300	BIM Channels						
	Channel A	CY	$1.68	2,780,000.00	$4,670,400.00	2,470,427.00	$4,150,317.00
	Channel B	CY	$1.50	280,000.00	$420,000.00	310,958.00	$466,437.00
	Channel C	CY	$1.50	107,000.00	$160,500.00	89,595.00	$134,392.50
	Channel D	CY	$1.50	101,000.00	$151,500.00	174,060.00	$261,090.00
	Channel E	CY	$1.50	145,000.00	$217,500.00	217,462.00	$326,193.00
	Channel F	CY	$1.50	0.00	$0.00	100,033.00	$150,049.50
400	ASD Surveys	L.S.	L.S.	1.00	$150,000.00	1.00	$150,000.00
500	ASD Channels						
	Natal Channel	CY	$1.50	670,000.00	$1,005,000.00	668,683.00	$1,003,024.50
	Castille Pass	CY	$2.25	50,000.00	$112,500.00	32,242.00	$72,544.50
600	Change Locations	EA	2,500.00	2.00	$5,000.00	0.00	$0.00
700	Remove Pipelines	EA	40,000.00	2.00	$80,000.00	0.00	$0.00
	TOTALS				$7,496,801.00		$7,238,449.36

TABLE B
DREDGED DISPOSAL AREAS ACREAGE

BIG ISLAND MINING		
Disposal Area	Plan Design Acres	As-Built Acres
DA-1	85.1	111.08
DA-2 (Reserved for COE)	0	0
DA-3	43.1	0
DA 4/5	352.7	323.07
DA-6	207.3	222.39
DA-7 (Deleted)	0	0
DA-8	96.4	150.36
DA-8A (Optional)	37.5	0
DA-9 (Optional)	81.8	115.15
DA-10 (Optional)	15.1	
DA-10A (Optional)	147.2	
TOTAL ACRES	1066.2	922.05 Ac

ATCHAFALAYA SEDIMENT DELIVERY		
Disposal Area	Plan Design Acres	As-Built Acres
Castille Pass D.A.	39.9	20.66
Natal DA-1	32.6	47.53
Natal DA-1A (optional)	54.8	0
Natal DA-2	53	70.07
Natal DA-3	36.4	47.49
Natal DA-4	81.6	94.77
Natal DA-5 (optional)	25.6	0
TOTAL	323.9 AC	280.52

TABLE C

DISPOSAL AREA ACREAGE CREATED VERSES ELEVATION (NGVD)

Disposal Area	-2.0 to -1.5	-1.5 to -1.0	-1.0 to -0.5	-0.5 to 0.0	0.0 to 0.5	0.5 to 1.0	1.0 to 1.5	1.5 to 2.0	2.0 to 2.5	2.5 to 3.0	3.0 to 3.5	3.5 to 4.0	4.0 to 5.0
BIM DA-1					8.60	10.09	17.30	24.38	22.15	15.57	8.16	3.35	1.80
BIM DA 4/5			35.12	10.67	13.58	68.25	74.93	70.35	21.78	15.84	11.40	1.01	0.17
BIM DA-6				12.39	42.02	84.09	35.16	47.04	1.69				
BIM DA-8			0.51	18.78	32.40	45.69	26.81	16.68	9.41	0.07	0.02		
BIM DA-9	1.34	4.38	4.19	7.30	29.79	30.85	15.56	11.94	5.66	1.80	1.43	0.62	0.29
BIM TOTAL	1.34	4.38	39.82	49.14	126.39	238.97	169.76	170.39	60.69	33.28	21.01	4.98	2.26
ASD-CAST					11.65	6.10	2.91						
ASD-NDA-1					12.46	7.84	9.64	7.66	9.94				
ASD-NDA-2					16.42	7.79	8.78	4.64	11.68	16.80	3.96		
ASD-NDA-3					9.85	10.57	12.27	13.07	1.74				
ASD-NDA-4				10.78	53.96	22.13	7.90						
ASD TOTAL				10.78	104.34	54.43	41.50	25.37	23.36	16.80	3.96		

Table C Totals:

BIM = 922.41 Ac

ASD=280.54 Ac

Total=1202.95 Ac

Note: In comparing the total acres of Table C to Table B there is a slight variance due to the rounding off of acreage in the sub areas. Table B values should be used to represent the true actual values on the project.

ATCHAFALAYA SEDIMENT DELIVERY CONSTRUCTION DETAILS

The Contractor commenced Before Dredging surveys by staking the planned centerline of Castille Pass and plotted cross sections at 100 foot intervals of the existing Castille Pass Channel. After reviewing the surveys and the planned centerline. The Engineer recommended Field Change No. 1 (FC-1) to the Owners that the channel centerline be shifted approximately 75' toward Ibis Island (southward) and also that the bottom width of Castille Pass be reduced from 190 as planned to 125. It was observed that Castille Pass was maintaining itself with a 120' wide bottom with only the first 2000 feet silted in with an average bottom elevation of -6.0 NGVD. Field Change No. 1 was accepted and the Contractor was issued same. The Contractor requested permission to access the disposal area by tracking the 20 inch dredge pipeline across Ibis Island vegetated area and to place an alternate disposal area adjacent to the back side of Ibis Island. The LDWF Manager stipulated that this would be acceptable provided that only one 30' wide traverse across the vegetation would be placed and Contractor's equipment stayed within this access. The Contractor was also instructed to build the alternate disposal area in FC-1. The Contractor commenced dredging the 2000 feet of Castille Pass on February 2, 1998 with the Katrina. On Feb. 4th the North Carolina replaced the Katrina which had extensive mechanical problems. Castille Pass was completed to station 21+08 on February 9, 1998, dredging 32,242 cubic yards and disposing material into the opposite disposal area creating some 20.7 acres.

Utilizing the Capt. Bufford Berry (8 cy bucket dredge) the construction of the front dike of DA No. 1 commenced on Feb. 6th and DA-1 diking (front and rear) was completed on Feb. 10th. The Katrina began dredging Natal Channel on Feb. 12th, dredging the 190 foot bottom width to E1-10.0 NGVD. Natal Channel was originally planned with a branch channel north of Teal Island. However, the LDNR directed re alignment of channel to miss adjacent private property ownership which eliminated the Teal Island Branch. After reviewing the survey data that showed there was no deeper water (-3.0 Feet) for Natal Channel to empty into the Engineer recommended to the Owner that a 45° branch channel be constructed with a 150' bottom at station 70+00 and extending in a southeasterly direction for 1500 feet into the open Vermillion Bay. This branch would give the channel two openings to increase its discharge width to 300 feet wide to double the channel outlet flow into the bay.

The field change was acceptable to the Owner and FC-2 was promulgated and delivered to Contractor on March 10, 1998. The Contractor completed dredging Natal Channel and Branch A channel on March 29, 1998, dredging some 645,436 cubic yards of material and creating four disposal areas totaling 257 acres of new marshland from previous bay bottoms. The Contractor was able to dredge continuously since the diking of the 3 disposal areas was completed in advance and dike maintenance was constantly performed during placement of material. As mentioned in the GENERAL section of this report the two unanticipated events of encountering shells and bird nesting did not significantly hinder dredging progress since two dredges were being operated during this portion of the construction. The Field Changes are listed in Appendix A at the rear of this report.

Following the high river season monitor surveys showed that Natal Channel had partially silted in at its entrance to East Pass between station 12+00 and 21+00 with the shallowest point on the bottom at -5.0 NGVD. After analyzing the shoaling pattern it was observed that an excessive amount of water from East Pass was entering Natal Channel via the trench cut in East pass to build the front dike along Disposal Area One and, as a result of the short circuiting of flow the main entrance was shoaling along the south bank of the channel. After review of survey data the Engineer recommended that the entrance be re-dredged to a -8.0 bottom and a 170 foot wide bottom and that training dikes be constructed on both banks that extend from station 12+00. On the north bank extend dike back to the dike of Disposal Area No. 1 physically closing off the trench entrance into Natal Channel. On the south place a similar dike. This would require dredging an additional 23,250 cubic yards of material, which would not extend the total yardage past the bid quantity. This work was not considered as a field change to the plans since no channel re-alignment was required. The Owner agreed to this shoal re-dredging; and, the Contractor was issued a letter with instructions on how to dredge the shoaled area on August 31, 1998. This added yardage was included in the Natal Channel Bid Item 500. The Contractor completed dredging the shoal with the Capt. Berry on September 5, 1998. At the end of the construction contract in early October a bottom probe survey was made that showed the bottom to be still at -8.0 to -10.0 NGVD. The shoal Dredging letter is included in Appendix A: Field Changes for convenience of report placement.

The three diked disposal areas created by Natal channel dredging experienced immediate luxuriant vegetation growth while the two undiked (lower elevation) disposal areas did not have quick growth. In the marshland areas the flora consisted primarily of wild millet, delta duck potato, three corner square grass, and potamogetor, all indiginious species to this area. Willows were concentrated along the top of the front dikes in the higher elevations.

BIG ISLAND MINING CONSTRUCTION DETAILS

The Contractor began dredging Channel A on March 29, 1998 with the North Carolina dredge. Using the dike trench channel for DA-1, the North Carolina started dredging at station 41+25, dredging the left side of the cut for 160' bottom. The Channel A, being 450 feet wide had to be dredged with three cuts to obtain the full width. On March 30th the Katrina commenced dredging at station. 7+00. Field surveys verified that the existing Atchafalaya River bottom was below the flaired entrance channel of Channel A between the beginning of work station -2+89 and 7+28. This non-dredging reach of Channel A primarily resulted in an under-run of some 600,000 cubic yards to the bid quanity for Channel A. RRCC continued dredging the reach of Channel A opposite Disposal Area No. 1 (station.7+00 to station.85+00), during April 1998.

On May 21, 1998 the North Carolina Dredge left the jobsite, leaving the Katrina to dredge remaining BIM channels. Contractor completed "before" surveys on Channel D in early April and upon reviewing same it was discovered that there was a new channel which was developing between the planned Channel D and Shell Island (mainland) that had a bottom depth averaging at -5.0 NGVD.

The Engineer recommended to the Owner that Channel D be re-aligned to follow the thalweg of the developing channel which would be more hydraulicly efficient. In addition, the construction of DA No. 3 in 5 feet of water was recommended to be deleted since it would be difficult to build (required 8' high dike) with the in-situ material. The Owners accepted the recommendation and Engineer prepared a drawing showing the revised alignment of Channel D to start at intersection with Channel A at station.67+20 instead of station.91+77. An advanced copy of drawing was given to Contractor who was awaiting decision to commence work on building the dike along DA 4/5. Following completion of dike along Channel D, the Katrina commenced dredging re-aligned Channel D on May 25th. The 4000 feet long by 200 foot bottom width Channel D was completed on June 3, 1998. The Katrina completed placement of dredged material into DA-1 on May 20, 1998 and began placing material into DA-5. The official FC-3 was sent to RRCC on June 24, 1998 to confirm oral instructions given on Channel D, DA-3. Contractor continued dredging Channel A and constructing DA-5 (channel A) disposal dike and reached station 86+00 of Channel A and station 108+00 of DA-5 front dike (channel A) at the end of May 1998. The Contractor on May 31, 1998 had dredged a total of 1,043,950 cubic yards including Channel D, on the BIM project since March 29th when dredging began on BIM. DA-1 was completed on May 25th.

In June the Contractor continued to work on Channel A, disposing material into DA-5 along Channel A side while constructing front dikes along Channel B opposite DA-5 and Channel A opposite DA-6. On June 30th the Contractor completed Channel A to station 111+00 having dredged a total of 1,542,000 cubic yards on Channel A.

During July, Contractor completed dredging the full width of Channel A to station 157+30. Contractor encountered heavy shell concentrations around station 138+00 and again at station

148+00 which was placed in DA-5 in piles about 300 feet from the front dike. The bucket dredge constructed the front dike of DA-8 along Channel B.

LDNR held a project dedication ceremony on July 1, 1998 at the Atchafalaya Delta Headquarters which is on Catfish Pass, about 2 miles from the end of the BIM project. Senator Breaux and officials from all the agencies involved with the CWPPRA program were present, along with the press officials were briefed on the project and visited the DA-5 site to observe the new marshland being created. Following the site visit a ceremony was held in the Morgan City Civic Center. See Appendix B for Ceremony.

On July 11, 1998 the Contractor completed initial diking of DA-6 and began discharging into DA-6. During July the Contractor completed the Before Dredging Surveys for the remainder of Channel A, Channel B, Channel E and Channel C. In reviewing the projected yardage available and comparing this to amount of yardage in the contract as bid, there was still a large predicated under-run in actual yardage to be dredged. This deficiency would have resulted in not achieving the project goals to create the projected acres of new marshlands. In discussing this finding with the Team Owners the Engineer recommended the following changes to the project to recapture the disposal acreage in DA-6, DA-8 and DA-9.

1. Channel A: Change the bottom widths as follows:
   a. Widen bottom from 300' to 375' between station.145+00 and 180+00.
   b. Bottom stays at 250' between station.180+00 and 200+00.
   c. Shift 125' bottom Channel A to south side of channel baseline between station.200+00 and 206+00± (end of work).

2. Channel B: Widen bottom width from 125' to 160'.

3. Channel C: Widen bottom width from 100' to 125'.

4. Channel E: Widen bottom width from 100' to 125' and end work at station.41+50, to the +3.0NGVD contour line of Big Island.

5. Add a new Channel F with a bottom width of 160', starting at Channel A station.180+00 and extending on 45° to the north west for a distance of 2200 linear feet to tie-in with the existing pipeline canal.

The Owners orally approved changes 1 thru 4. By letter of August 10, 1998 the Owner's agreed to the proposed recommended changes for Channel F provided that the existing Coastal Use Permit be revised to show Channel F, since it is a new channel. The Contractor was given an advanced drawing by the Engineer and was orally directed to implement the above changes (except for Channel F) to maintain construction progress. A revised permit application for Channel F was subsequently submitted to the Corps and LDNR permit section by the local NMFS office, utilizing revised permit drawings prepared by BCG.

Contractor started dredging Channel B on July 31st. At the end of July the Contractor had dredged 2,123,193 cubic yards of material from Channel A. The dredging of Channel A was done with two cuts. Half of the Channel was deposited into DA-5 and half deposited into DA-6.

During August 1998 the Contractor continued dredging Channels B discharging into DA-6 then DA-5, constructing the front dike along Channel A for DA-8 and DA-9. Channel B was completed to station. 55+24 on August 8, 1998. Contractor returned to dredging Channel A right half (along DA-8) then left half between stations 157+00 and 200+00 completing the full cut of Channel A at station 200+00 on August 24th. Contractor then continued dredging Channel A to 206+00 completing Channel A on August 25th. The Contractor commenced dredging Channel C on August 26th depositing into DA-9. Heavy shells were encountered between station 1+50 and 7+00. Concurrently, the bucket dredge mobilized in Natal Channel and began dredging the shoaled entrance on August 28th and completed work on September 5th.

On August 6th representatives from LDNR and LDWF established five permanent benchmarks on the project. Two were established on the ASD project and three were established on the BIM project. After installing the benchmarks RRCC established the "xyz" of each benchmark to NAD 27 Datum. BCG formalized a drawing and benchmark descriptions and delivered same to LDNR on September 4, 1998. The Benchmarks are described in Appendix C of this report.

On August 29th, the Katrina stopped dredging Channel C at station 16+15 and relocated to Channel E, discharging into DA-6 because of insufficient land discharge line. At the end of August the Contractor had dredged 2,472,279 cubic yards of material from Channel A.

Contractor demobilized from the job site on September 1, 1998 due to advancing Tropical Storm "Earl". On September 3rd Contractor returned to site and began dredging in Channel E at station 14+00 and disposing into DA-6. Also, the bucket dredge returned to complete dredging the Natal Channel shoals. However, dredging was difficult for the bucket dredge due to excessive tidal currents filling in dredged excavations. The dredge had to over dredge to -12.0 feet to achieve -8.0 net section. The Natal dredging was completed on September 5, 1998. There was no apparent damages to the completed work from Tropical Storm "Earl". The bucked dredge then moved to Channel F and dredged the front dike of DA-B.

On September 6th the Katrina began discharging into DA-9 at station 17+00 of Channel E. At station 35+00 disposal was switched back to DA-6 until completion of both the left and right thirds of the turning basin. The Katrina dredged the middle third of the turning basin while disposing into DA-9, completing Channel E on September 17th. On September 11th the Corps of Engineers approved the C.U.P. revision to dredge Channel F; and, BCG issued formal Field Change No. 4 September 14th to the Contractor: This field also officially compiled all of the previous revisions to change Channels A,B,C, and E that were issued earlier. For a description of the FC-4 refer to Appendix A. The Contractor began dredging Channel F on September 18th, disposing material into DA-8. Channel F was dredged to a bottom width of 160', and was completed to station 21+36 on September 23rd. The Contractor then moved to station 16+00 of

Channel C and began dredging. Contractor disposed material from Channel C into DA-9 and completed dredging to station 23+00 on September 25th.

During an earlier inspection of site (8-27-98) on Channel A the Engineer noticed about a 100' plug was left between where the Contractor completed Channel A @ station 206+00 and the deeper water within the existing pipeline. The Engineer directed the Contractor to return to Channel A and remove the "plug" at end of cut. In referring to plans they instruct Contractor to dredge to the centerline of the existing canal. The Contractor, following completion of Channel C, remobilized to end of Channel A and dredged out plug to station 207+13. All required channel dredging for the BIM project was completed on September 25, 1998. Contractor immediately demobilized the dredge plant due to the approaching Hurricane George.

Following the passage of George a final punch list was made, the only items of work that remained was to clean up site and remove dredge lines, and the construction of dike breaches. Also, the staking of temporary channel markers (2" pvc pipes) to identify the bank of Channel B where it intersects Channel A. The LDWF requested that the channel point be marked to keep boaters from running aground by turning too soon along DA-8. RRCC said that it would take them about two weeks to complete the dike breaches. In addition, some of the final surveys for BIM needed to be taken and delivered.

On October 13th a final inspection was made. There were still some uncut dike breaches along the front dikes of DA-5, DA-6 and DA-8. Also, the point of Channel A-B was not staked adequately. Contractor agreed with our findings and completed the dikes and channel markers by our next inspection on October 27th. All dike breaches and staking had been accomplished. The BIM Before and After Surveys of channels and disposal areas were delivered to the Engineer on November 17, 1998 thereby completing the construction contract requirements.

During the course of construction one accident occurred that resulted in an injury. The accident occurred on the job quarterboat, in the galley; at 5:30 am on the morning of April 8th. An off duty worker while exiting the galley slipped and fell on the outside deck of the quarterboat. The employee broke lower left leg and was taken to a Morgan City hospital for treatment.

CONCLUSIONS

The BIM/ASD projects were successfully constructed (within time and under budget) and the project's expectations have, we feel, been achieved. After Survey show the channels were dredged to the depths and widths called for in the plans and specifications. Also, the disposal areas achieved the acreage requirements and configurations expected for this project. BCG presents the following conclusions and discussions of what occurred on this project that could be of benefit for future coastal freshwater diversion projects.

Project Scoping

The CWPPRA projects define a project scope and estimates project costs and benefits. These projects are then either engineered in-house or awarded to an outside consultant. The LDNR should maintain a total scope flexibility and should have an in-house project pier review by an objective noted team of experts from the agencies impacted before awarding, to review such things as:

a. Environmentally compatible with surrounding areas; i.e. will this project complement or detract the contiguous area.
b. Environmental Impact upon the surrounding areas: i.e. will materials used in the project be compatible with the area.
c. Constructability of the project within current construction equipment constraints: i.e. to reflect material, dredging, flotation, disposal height and cost limitations.

The initial LDNR scope of the BIM project was not the best solution to achieve the desired goals of diversion channels and marshland creation. For example, the location of the Big Island Channel, as originally conceived was on the island itself. Hydrologically, this would have been inefficient due to location on inside of riverbend. Also, it would have been very disruptive of LDWF's activities as well as the environment on the island

Project Engineering

The Engineer should be allowed to value engineer the initial project scope to assure that the scope allows for the most expeditious construction methods to be utilized that will provide cost effective and environmentally sound results. Review milestones should be established, say at the 25%, 50% and 90% design progress, to assure the Owners Team that the project is being designed to their expectations.

Project Permitting

The permit application process for the ASD/BIM project was, BCG feels, rather complicated in that the permit applications were made by NMFS and handled by the local office. This required additional coordination with other agencies and LDNR by the Engineer to keep all parties informed. Request consideration by LDNR that the Engineer be assigned the LDNR Agent for the CUP Permit and have the Engineer do the actual permit application for LDNR. Also, LDNR should consider being the permit owner since this agency is responsible for project administration. LDNR would then act as the clearing house for all project milestones and would keep all other impacted agencies informed of project progress. Engineer would then report to only LDNR on project progress.

Construction

The Construction activities that, BCG feels, were a positive and contributed to the overall success

of the project are the following:

1. Weekly site trips to inspect progress, and discuss any problems early on to allow for early resolution.
2. Daily Inspection reporting that kept Engineer and Owner informed of work progress.
3. Active Team participation by LDNR, LDWF and NMFS, RRCC and BCG in the weekly on-site meetings. A real consensus on how to best resolve problems was achieved.
4. Plans engineered to reflect construction equipment and methods capability.
5. Contractor cooperation.
6. Construction of lobe islands (front dikes) with a bucket dredge rather than marsh hoe machines.

There were some things that occurred during construction that, BCG feels, could be improved upon on future projects.

1. The project planning period was protracted over one year due to awaiting the promulgating of a land use agreement between LDNR and LDWF. Also, the Corps delayed the approval of the initial permit application. On future projects consideration should be given to identifying the land use requirements prior to award of an engineering project. Similarly, concept project scoping should be reviewed by the CWPPRA representatives of the Corp and other agencies involved to, possibly, eliminate the delays encountered during the Permit acquisition phase planning of this project.

2. The project disposal area boundaries that BCG designed could be closer to the channels at channel intersections and channels flaired on the acute inside angle of channel intersections. This would have eliminated the broad point bank created at Channel B and A of BIM. It was considered to dredge out this flair after completing dredging on BIM. However, due to Hurricane Georges the Contractor didn't have time to dredge before evacuating the site.

3. Navigation Channel Aids were not a part of the BIM/ASD project. However, the LDWF requested some channel delinators or markers be installed to guide boaters at some channel intersections which was done by Contractor with concurrence from Owners. The question of liability for navigation aids should be considered on future projects. Whether navigation aids should be included and who should be liable for them and responsible for their maintenance, should be determined by LDNR.

4. The addition of Channel F to the project required that the existing Coastal Use Permit be revised. Although everything worked out on this project, any extended

delay in receipt of the revised permit could have prevented the work from occurring. On future projects, including optional work areas (such as Channel F) on the initial permit should be considered. This would eliminate the subsequent revisions to permit to be made, if optional work was requested during construction. This was done on disposal areas, but not on channels.

5. On future projects requiring an on site office and extensive travel time, BCG will include the requirement of a separate inspector office, and an all weather crewboat with HVAC. The sharing an office with the Contractor results in crowded conditions and does not provide private meeting space for Inspector and Engineer. Also, the crewboat during summer months needs to have an air condition cabin in Louisiana.

6. The project area had existing active gas lines that impacted the project solution. The 8 inch Cypress Gas Line prevented the full extension of BIM Channel A and branch Channels B & F to exit in deeper water. Fortunately, there was an existing abandoned pipeline canal that had 3 to 4 feet of depth which we emptied into. On the ASD side the lengths of both Natal Channel and Castille Pass was limited by the 20 inch gas line running across Atchafalaya Bay. This line prevented Natal Channel from reaching deeper water to empty into. Natal went to 100 feet of the line and empties into only about 2 feet of water which will impact the efficiency of delta development at this location. Consideration on future projects would be to relocate in-situ utilities in a project area to make them lower so new channels could be constructed across them.

Report Summary

BCG feels the construction of Atchafalaya Sediment Delivery and Big Island Mining projects has achieved the goals and expectations of the assigned project by the Louisiana Department of Natural Resources and the National Marine Fisheries Service by creating a new west delta lobe behind Big Island that will serve as the initial vehicle to allow annual overflows from the Atchafalaya River to continue to naturally build marshlands in Atchafalaya Bay utilizing the channels and lands created under this project. The re-opening of Natal Channel and Castille Pass in the emerging east delta will convey silt laden river water to fill in the back bay areas and create new marshlands, naturally. In addition, the Louisiana Department of Wildlife and Fisheries through the singular efforts of Mr. Greg Linscombe insured that much of the newly-constructed marshlands were constructed with low elevations to allow for proper wetland vegetation to grow in the new marshlands. The success of the BIM/ASD projects was primarily due to the diligence displayed by the team members; the Owners who decided the project scope and provided the funding, the Engineer in planning and designing an environmently sound constructable project, and providing competent, oversight for construction of said project, and the Contractor who endeavored to provide

construction dredging methods to achieve the desired goals of the project while staying within budgetary and time constraints.

The submittal of this report satisfies the requirments of our contract with LDNR for the planning design and construction management of the Atchafalaya Sediment Delivery and Big Island Mining Projects.

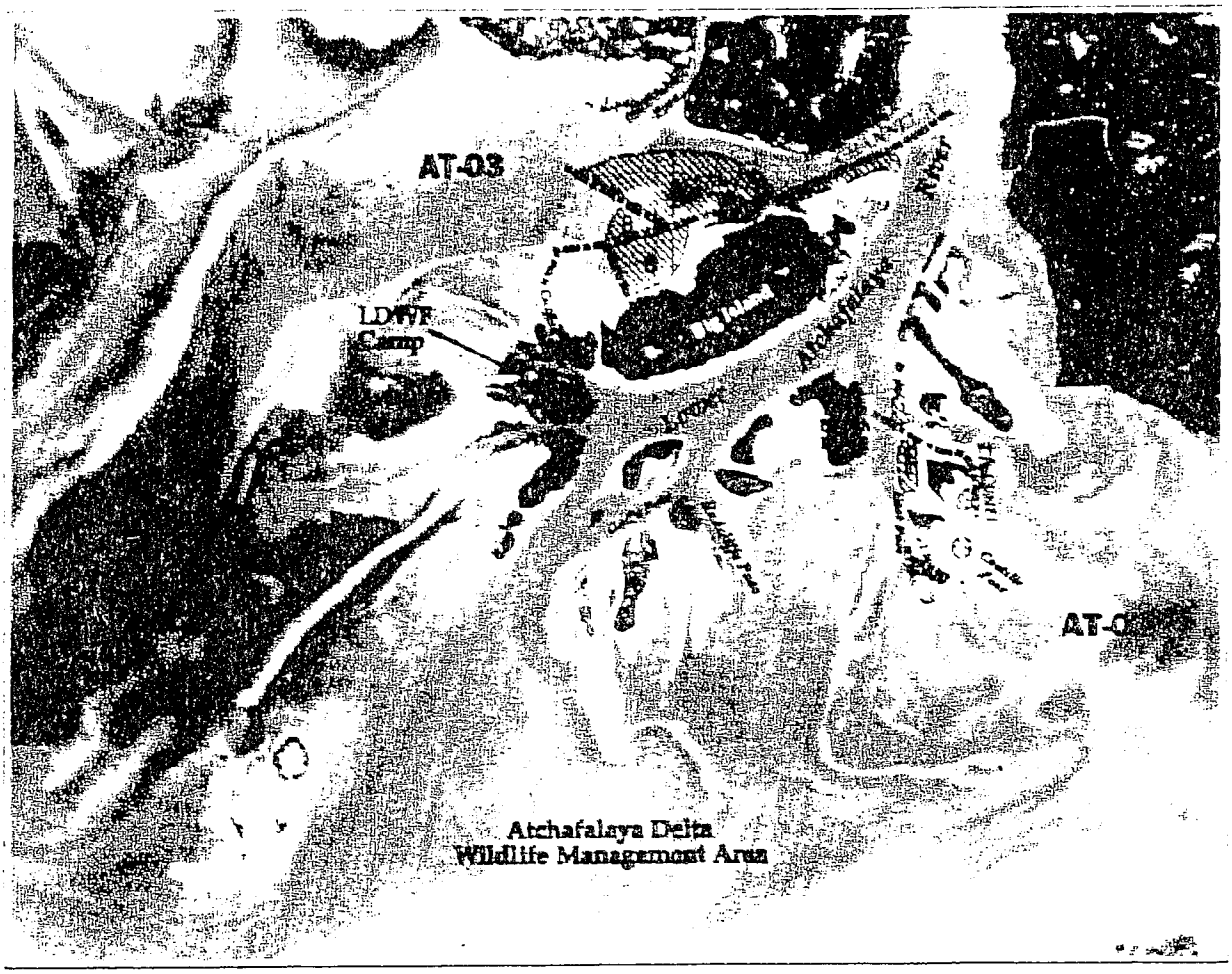
Emmett J. (Ike) Mayer, Jr., P.E.
Project Manager

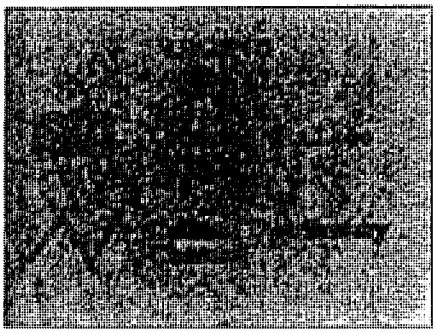
BROWN CUNNINGHAM & GANNUCH, INC.
9181Interline Ave.
Baton Rouge, LA 70809

Telephone: 225-924-3116

PHOTOGRAPHS

Atchafalaya Sediment Delivery: Project AT-02
Big Island Mining: Project AT-03





USGS

BIG AND

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

Brown Cunningham Gannuch

BIM-VEGETATION ON DA-5

APPENDIX A

PROJECT FIELD CHANGES

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

March 3, 1998

Mr. Chris Rayer
River Road Construction, Inc.
P.O. Box 1406
Mandeville, LA 70470

RE: BIM/ASD
Field Change No. 1

Dear Mr. Rayer:

This confirms my field instructions to you to dredge the Castille Pass channel to a reduced bottom width of 125 feet wide with 1V:3H side slopes in lieu of the planned 190 foot bottom. Based upon pre dredging survey channel readings, the existing Castille Pass is maintaining itself on average at a -5.0' NGVD and an approximate bottom of 120' to 150'. The volume of dredging required to restore the channel to a -10.0 NGVD for some 2100 feet is estimated at some 35 to 40 thousand cubic yards. Also, initial dredging is to not cross the existing 20 inch gas line. Therefore, it was recommended to perform a 125' bottom cut to -10.00 between stations 0+00 and 20+00.

If you have any questions and/or concerns, please advise.

Sincerely yours,

BROWN CUNNINGHAM GANNUCH, INC.

Emmett J. Mayer, Jr., P.E.
Construction Engineer Manager

cc: V. Cook
R. Gannuch

9181 Interline Avenue • Suite 100 • Baton Rouge, LA 70809 • 504-924-3116 • FAX: 504-924-9130

BCG Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

March 10, 1998

Mr. Chris Rayer
River Road Construction, Inc.
P.O. Box 1406
Mandeville, LA 70470

RE: BIM/ASD Project Field Change No. 2
Revision to Natal Channel Alignment Between Sta. 70+00 and End.
BCG Project 30594-1.

Dear Mr. Rayer:

As the Engineer of Record and in accordance with the project specifications we are forwarding Field Change No. 2 to you for implementation into the project. This change calls for extending and revising the bottom width of Natal Channel from station 74+00 to the new end station 88+00. Also, adding Branch A channel at station 70+00 with a deflection angle of 45° and extending for 1500 feet in an effort to reach deeper bay bottoms. The new channel bottom width between Sta 74+00 and end, and the Branch A channel between Sta 0+00A and end is reduced to a 150 foot bottom at a design depth of -10.00 NGVD. The channel side slopes remain at IV:3H. In addition, there is a flair end transition on both channels as shown on the enclosed Field Change No. 2 drawing dated March 10, 1998. This change in cross section and channel extension is estimated to require the total dredging in Natal Channel of approximately 657,000 cubic yards; and is to be constructed at the unit bid price of $1.50 per cubic yard. This change results in no changes to the contract unit prices and stays within the estimated bid quantity item no. 510 of the contract.

Please implement this field change immediately. If you have any concerns or questions, please advise.

Sincerely yours,

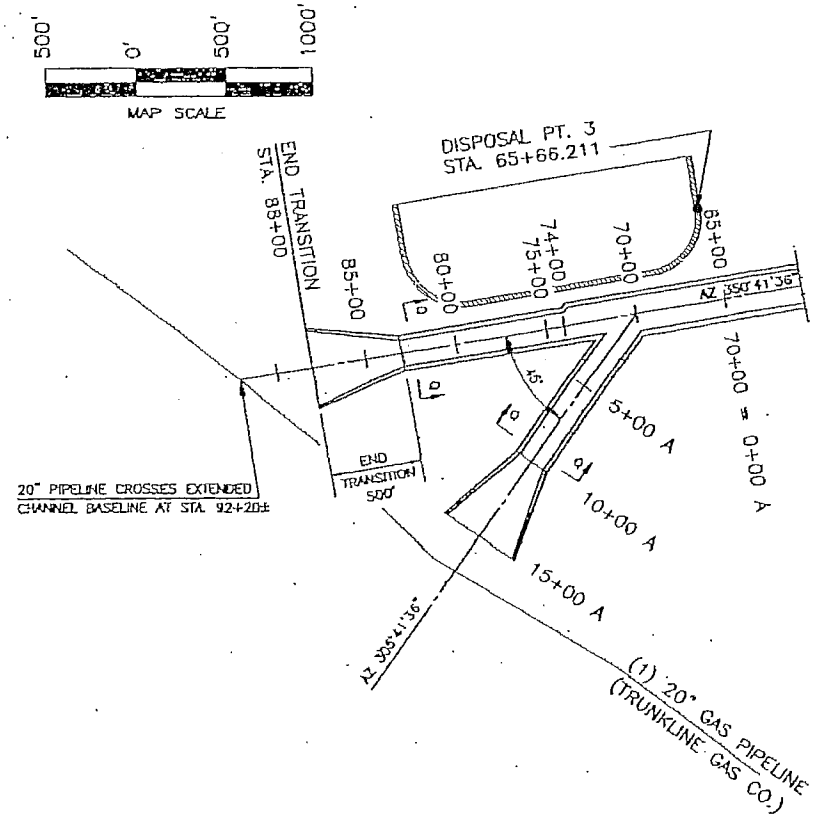
BROWN CUNNINGHAM GANNUCH, INC.

Emmett J. Mayer, Jr. P.E.
Construction Manager

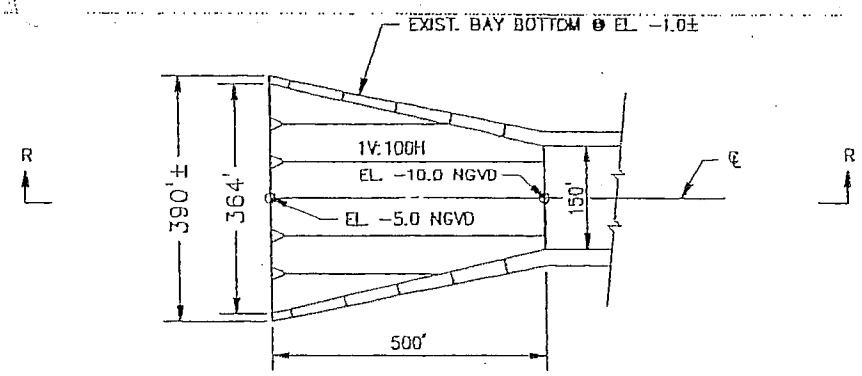
(see pg. 2 for encl. and cc)

Encl: 8 1/2" x 11" Drawing

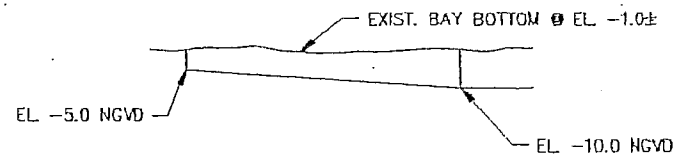
cc: V. Cook @ LDNR
R. Rubseman @ NMFS
E. Zobrist @ NMFS
G. Linscombe @ LDWF
G. Duszynski @ LDNR
K. Vaughan @ LDNR
H. Juneau @ DNR



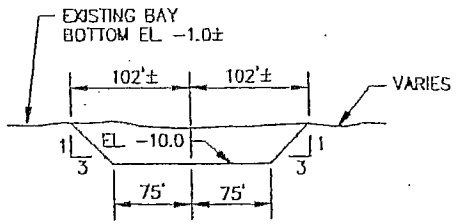
PARTIAL PLAN
REVISION TO NATAL CHANNEL
(FIELD CHANGE NO. 2)



END TRANSITION
BOTH CHANNEL BRANCHES
(NTS)



SECTION R–R
(NTS)



SECTION Q–Q
STATION 74+00 TO 83+00 NATAL CHANNEL
STATION 0+00 A TO 10+00 A
(NTS)

4 REVISION NO. 4 TO PLAN DRAWING NO. 8
ADD BRANCH CHANNEL A

FIELD CHANGE NO. 2

BROWN, CUNNINGHAM AND GANNUCH

ATCHAFALAYA SEDIMENT DELIVERY
FIELD REVISION TO NATAL CHANNEL
FROM STA. 70+00 TO END

DATE:
3/9/98
SHEET:
1 OF 1

ACAD FILE: FIELDCHG2.DWG

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

June 24, 1998

Mr. Chris Rayer
River/Road Construction, Inc.
P.O. Box 1406
Mandeville, LA 70470-1406

RE: BIM/ASD Project Field Change No. 3
Revise Channel D Alignment,
Delete Disposal Area No. 3
And Revise Disposal Area No. 4/5

Dear Mr. Rayer:

This letter confirms oral instructions previously given to River Road on Field Change 3. As the Engineer of record and in accordance with the project specifications we are directing you to implement Field Change No. 3, as follows:

1. Realigning the originally configured Channel D of the construction plans, to begin work at Channel A c/l station 67+20 and construct a 200' bottom to Elev. -10.0 NGVD. The new Channel D extends along a centerline as azimuth of 97° 21' 53" for 4000 feet, ending work at Channel D (c/l station 40+00).

2. Delete Disposal Area No. 3 from the project in its entirety.

3. Modify Disposal Area 4/5 to be contiguous to the new Channel D alignment, all as shown on "Field Change Drawing No. 3", dated June 1998 (copy attached).

4. My letter dated April 19, 1998, entitled "Field Change No. 3" is to be voided since Channel D is realigned rather than extended. This present letter which describes required Field Change No. 3 superceeds my letter of April 19, 1998. The reason for realigning Channel D results from review of contractor's Before Dredging Surveys for the original D and Disposal Area No. 3. This survey shows an existing shallow natural channel that has developed having an average depth to -4.0 NGVD along the alignment of the new Channel D, described in paragraph 1 above. Following this in-situ channel affords a better hydraulic solution, since otherwise, there would be two channels side by side. Also, DA No. 3 has to be deleted since there is insufficient space between the new Channel D and the main land to construct DA No. 3.

5. Disposal Area 4/5 is revised and expanded along its perimeter to be contiguous to the new Channel D alignment, the optional back dike alignment for DA No. 4/5 has been shifted to follow the -1.0 NGVD contour elevation of the bay bottom. Some field deviation from alignment shown may be required to stay in shallow water (-1.0 NGVD).

The project estimated changes of quantities that result from Field Change No. 3 are as follows:

	Item	Original	Revised	Change
1.	Channel D:	101,000 cy	174,345 cy	+73,345
2.	DA No. 3:	+82.6 ac	0.0	-82.6 ac
3.	DA No. 4:	+92.68 ac	+91.1 ac	-1.6 ac
4.	DA No. 5:	260 ac	219 ac	-41.0 ac

The increase in dredge quantities for revised Channel D of 73,345 cy is less than the predicted underrun of 326,000 cy for BIM based upon contractor's Before Dredging Surveys. This Field Change No. 3 stays within contract "as bid" price and requires no contract changes to the original contract between DNR and River Road Construction Company. All other requirements of the original contract are still in force except the foregoing instructions for implementing Field Change No. 3.

If you have any questions or concerns, please contact me at 504-924-3116.

Sincerely yours,

BROWN, CUNNINGHAM & GANNUCH, INC.

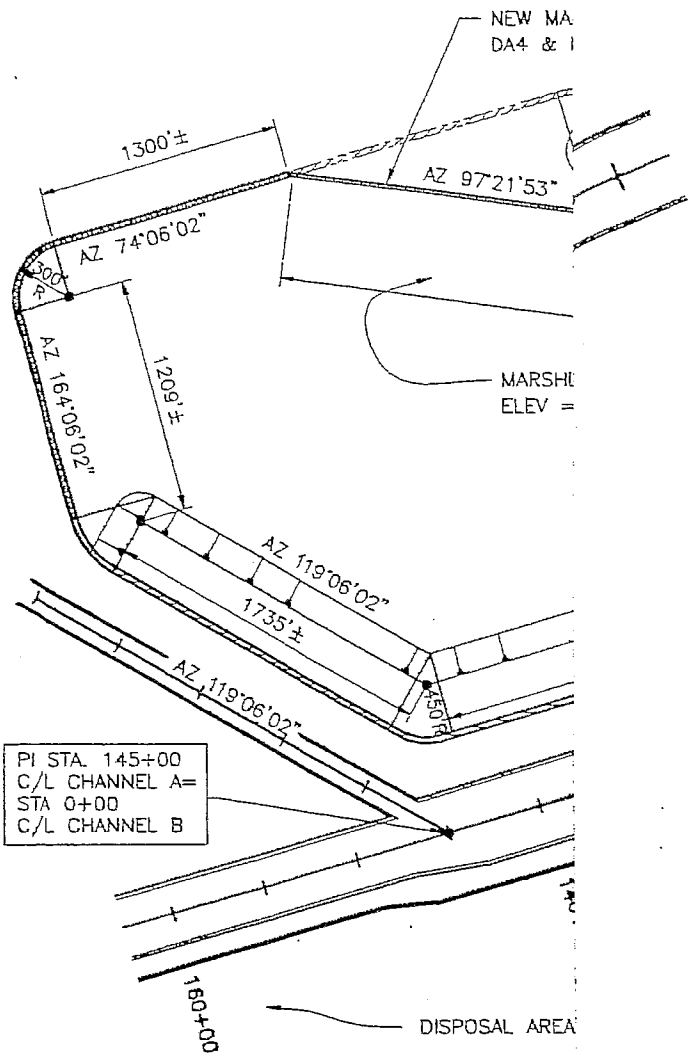
Emmett J. Mayer Jr., P.E.

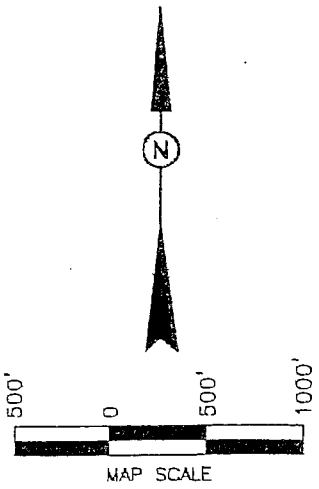
EJM/jgs

encls: DWG Field Change No. 3

cc: V.Cook
R.Gannuch

n/fieldchange3



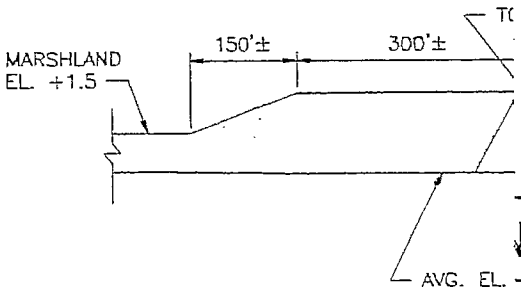


CURVE ① DATA

P.I. STA. 100+13.91
Δ = 7°14'47.6" RT.
D = 0°04'10"
T = 5215.93'
L = 10417.95'
R = 82370.80'
P.C. STA. 47+97.98
P.T. STA. 152+15.93

NOTES:

1. DELETE DISPOSAL AREA NO. 3 (AREA = 3,596,600 SQ. FT.)
2. REVISED DISPOSAL AREA 4 AND 5 AREA:
   LOBE ISLAND = 3,968,200 SQ. FT.
   MARSHLAND = 9,590,800 SQ. FT.
3. ALL ELEVATIONS IN NGVD
4. ALL INSTRUCTIONS ON ORIGINAL PLANS REMAIN IN EFFECT EXCEPT WHERE MODIFIED ON FIELD CHANGE NO. 3.
5. ALTERNATE CHANNEL D VOLUME ESTIMATED TO BE 175,000 C.Y.



IGHAM AND GANNUCH

CHANGE NO. 3

ANNEL D AND REVISONS

, DA-4 AND DA-5

EJM	DRAWN: CDH	SHEET: 1 OF 1

:ASD\PERMITSN\FIELDCHG3.DWG

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

August 31, 1998

Mr. Chris Rayer
River/Road Construction, Inc.
P.O. Box 1406
Mandeville, LA .70470-1406

Re: BIM/ASD: Removing shoaling from entrance to Natal Channel

Dear Chris:

This letter confirms our oral agreement on removing the shoal at the entrance to Natal Channel. Use the bucket dredge (Capt. Berry) to dredge between c/l stations 12+00 to 21+00 to create a channel with a 170 bottom width at -8.0 NGVD with a box side cut to achieve a 1V on 3H side slope. Deposit the dredged material on both sides of the new cut. Concentrate placing dredge material to plug the existing trench in front of Disposal Area No. 1 to shut off cross flow into Natal Channel. Also, construct a short groin dike on the Disposal Area No. 2 side extending from the bank line paralleling the channel cut. and extending out not further than c/l station 12+00. Based upon Before Dredging surveys and a design template of -8.0' the estimated volume is expected to be 23250± cubic yards.

Please take After Dredging surveys as soon as possible for verification. If you have any questions regarding above instructions, please call.

Sincerely yours,

Brown, Cunningham & Gannuch, Inc.

Emmett J. (Ike) Mayer, Jr., P.E.

cc: V.Cook
E.Zobrist
G. Linscombe
R. Gannuch

9181 Interline Avenue • Suite 100 • Baton Rouge, LA 70809 • 504-924-3116 • FAX: 504-924-9130

September 14, 1998

Van Cook
LDNR - Coastal Restoration
625 N. Fourth Street
Baton Rouge, LA 70804

Re: BIM/ASD: Request for Field Change No. 4

Dear Mr. Cook:

On September 11, 1998 the Corps issued approval of our request to add Channel "F" to project. Enclosed, please find BCG's letter to River/Road conveying instructions to revise widths to Channels A, B, C, & E. Also, add a new Channel F to the project in order to maximize the creation of marshlands for the project. These changes, if implemented, will result in an approximate underrun of BIM/ASD project of some $247,450.00. Upon reviewing actual field "Before Dredging" surveys there will be a sizable underrun of cubic yardage on the project as originally configured. Also, this will result in an underrun of marshland acreage.

We propose that the existing channels have their bottom widths slightly widened to achieve the project intent to create new marshland acreage. In addition, we recommend that a new Channel F be added to the project to enhance the potential for future sediment deposition to the western end of the project, i.e. another outlet to the northwest emptying into the open bay.

Implementing the recommended changes as outlined in the Field Change No. 4 will result in an underrun to the project of some $247,450.00. By previous letter of August 10, 1998 both you and Mr. Zobrist (NMFS) approved the above changes as field changes provided the COE issued permit approval.

We request your concurrence to release this Field Change No. 4 to River/Road for implementation since we have Corps approval on "F".

If you have any questions, please call me.

Sincerely yours,

BROWN, CUNNINGHAM & GANNUCH, INC.

Emmett J. Mayer, Jr., P.E.

Brown Cunningham Cannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

September 14, 1998

Mr. Chris Rayer
River/Road Construction, Inc.
P.O. Box 1406
Mandeville, LA 70470

Re: BIM/ASD Project Field Change No. 4
Revised Channel Widths For "A", "B", "C", and "E" and add Channel F.

Dear Mr. Rayer:

This letter shall confirm our discussions on completing the Big Island Mining project based upon the actual "Before Dredging Surveys", recently completed. In an effort to achieve the original design intent of this project and to maximize creation of marshlands acres we direct you to revise the following channels:

1. Channel A:
   Widen the bottom width from 300' to 375' between stations 145+00 and 180+00. Channel A widths stay the same between sta. 180+00 and end of job; as 250' bottom between sta. 180+00 and 200+00, and 125' bottom between sta. 200+00 and 206+00. However, between 200+00 and 206±00± Channel A is shifted to the south side of Channel A baseline.

2. Channel B:
   Widen Channel B from a 125' bottom to a 160' bottom. Dredge Channel per dimensions shown on cross section.

3. Channel C:
   Widen Channel C from a 100' bottom to a 125' bottom.

4. Channel E:
   Widen Channel E from 100' bottom to a 125' bottom and end channel at sta. 41+50± to the +3.0 NGVD contour along alignment shown.

In addition, add new Channel F starting at station 180+00 of Channel A and extending on an azimuth of 119° 06' 02" to station 22+00± to intersect with the existing pipeline canal. Channel F shall have a bottom width of 160 feet to -10.0 NGVD. Also, extend the Disposal Area No. 8 dike along new Channel F with the bucket dredge to station 20+00 of Channel F. Contractor shall conduct a magnetometer survey prior to doing work along Channel F to insure that no pipelines exist.

An attached set of 5 drawings describes the directed field changes for Field Change No. 4.

The estimated revised values to complete the project are estimated as shown on attached Table A. In comparing the estimated final cost to the as bid cost an estimated underrun of $247,450.00± could be achieved:

As Bid:	$7,496,801.00
Est. Final:	$7,249,349.00
Underrun	$ 247,451.00

The actual final quantities will vary slightly based upon after dredging surveys. However, this Field Change No. 4 results in the total project costs to not exceed the "as bid" total project costs and requires no changes to the original contract between DNR and River/Road Construction Company. All other requirements of the original contract are still in force except the changes authorized by Field Change No. 4 as well as Field Changes 1 thru 3, previously issued.

If you have any questions or concerns, please contact me at 225-924-3116.

Sincerely yours,

BROWN, CUNNINGHAM & GANNUCH, INC.

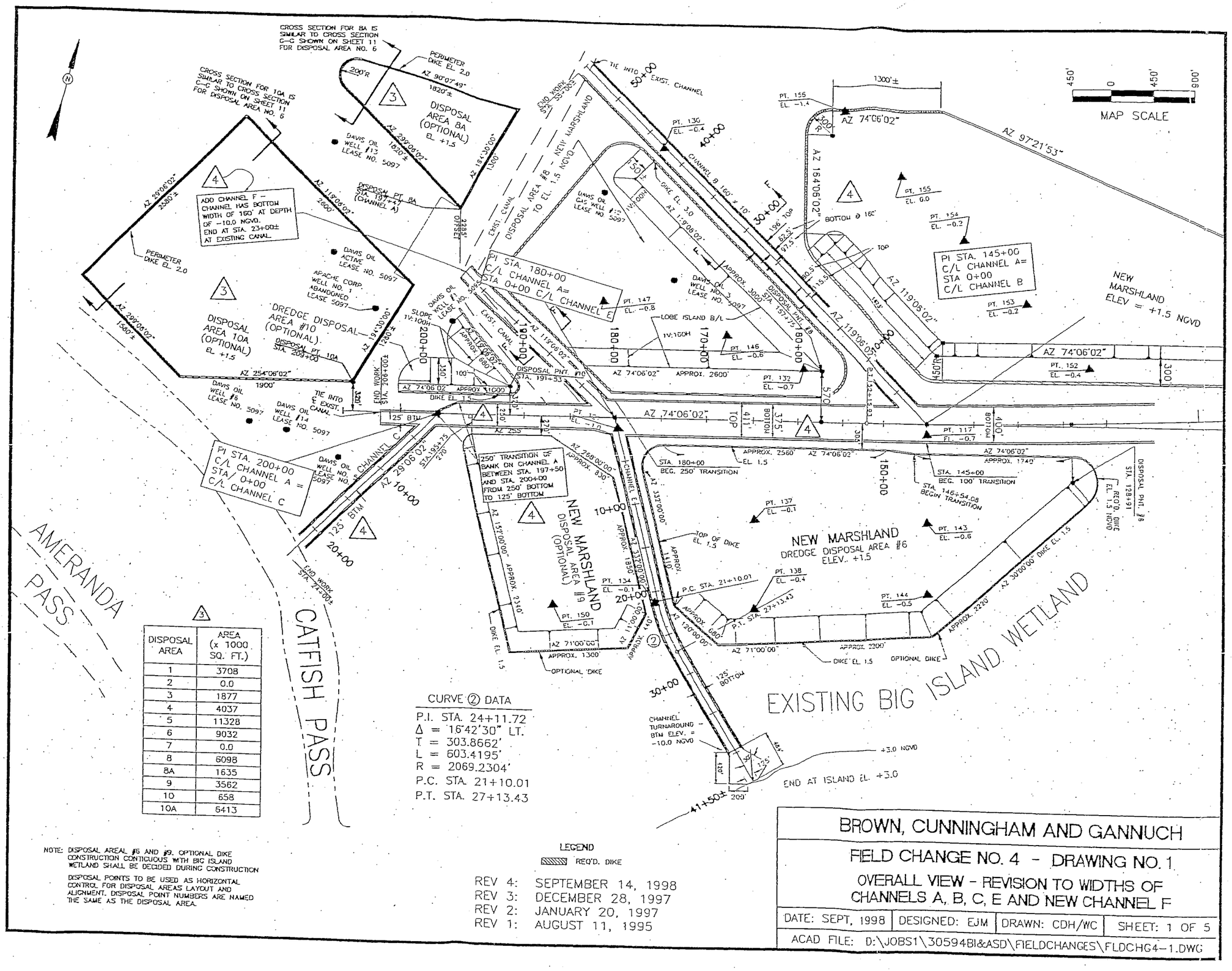
Emmett J. Mayer, Jr., P.E.

cc: V.Cook@LDNR
E.Zobrist @ NMFS
R. Gannuch @ BCG
R. Ruebsamen@NMFS

encls: Drawings (five):Field Change No. 4
Table: Field Change No. 4

TABLE A
BIG ISLAND MINING/ ATCHAFALAYA SEDIMENT DELIVERY
FIELD CHANGE NO. 4 (REVISED ESTIMATED COSTS)
SEPTEMBER 14, 1998

Bid Item - Description	Revised Quantity	Unit	Unit Cost	Bid Totals
100-Mobilization	1.00	ls	274.404.00	274,404.00
200-Big Island Surveys	1.00	ls	250.000.00	250.000.00
300-Big Island Channels				
Channel A (bottom varies)	2.515,646.00	cy	1.68	4,226,285.28
Channel B (160' btm.)	313,197.00	cy	1.50	469,795.50
Channel C (125' btm.)	99,706.00	cy	1.50	149.559.00
Channel D (160' btm.)	174,343.00	cy	1.50	261,514.50
Channel E (125' btm.)	183,000.00	cy	1.50	274,500.00
Channel F (160' btm.)	110,800.00	cy	1.50	166,200.00
400 - Atchafalaya Surveys	1.00	ls	150,000.00	150,000.00
500 - Atchafalaya Dredging				
Natal Channel	636,364.00	cy	1.50	954,546.00
Castille Pass	32,242.00	cy	2.25	72,544.50
600 - Change Locations	0.00	ea	2,500.00	0.00
700 - Flowlines	0.00	ea	40,000.00	0.00
			Total	7,249,348.78



DISPOSAL AREA	AREA (x 1000 SQ. FT.)
1	3708
2	0.0
3	1877
4	4037
5	11328
6	9032
7	0.0
8	6098
8A	1635
9	3562
10	658
10A	6413

NOTE: DISPOSAL AREAS #6 AND #9. OPTIONAL DIKE CONSTRUCTION CONTIGUOUS WITH BIG ISLAND WETLAND SHALL BE DECIDED DURING CONSTRUCTION

DISPOSAL POINTS TO BE USED AS HORIZONTAL CONTROL FOR DISPOSAL AREAS LAYOUT AND ALIGNMENT. DISPOSAL POINT NUMBERS ARE NAMED THE SAME AS THE DISPOSAL AREA.

CURVE ② DATA

P.I. STA. 24+11.72
Δ = 16°42'30" LT.
T = 303.8662'
L = 603.4195'
R = 2069.2304'
P.C. STA. 21+10.01
P.T. STA. 27+13.43

LEGEND

REQ'D. DIKE

REV 4: SEPTEMBER 14, 1998
REV 3: DECEMBER 28, 1997
REV 2: JANUARY 20, 1997
REV 1: AUGUST 11, 1995

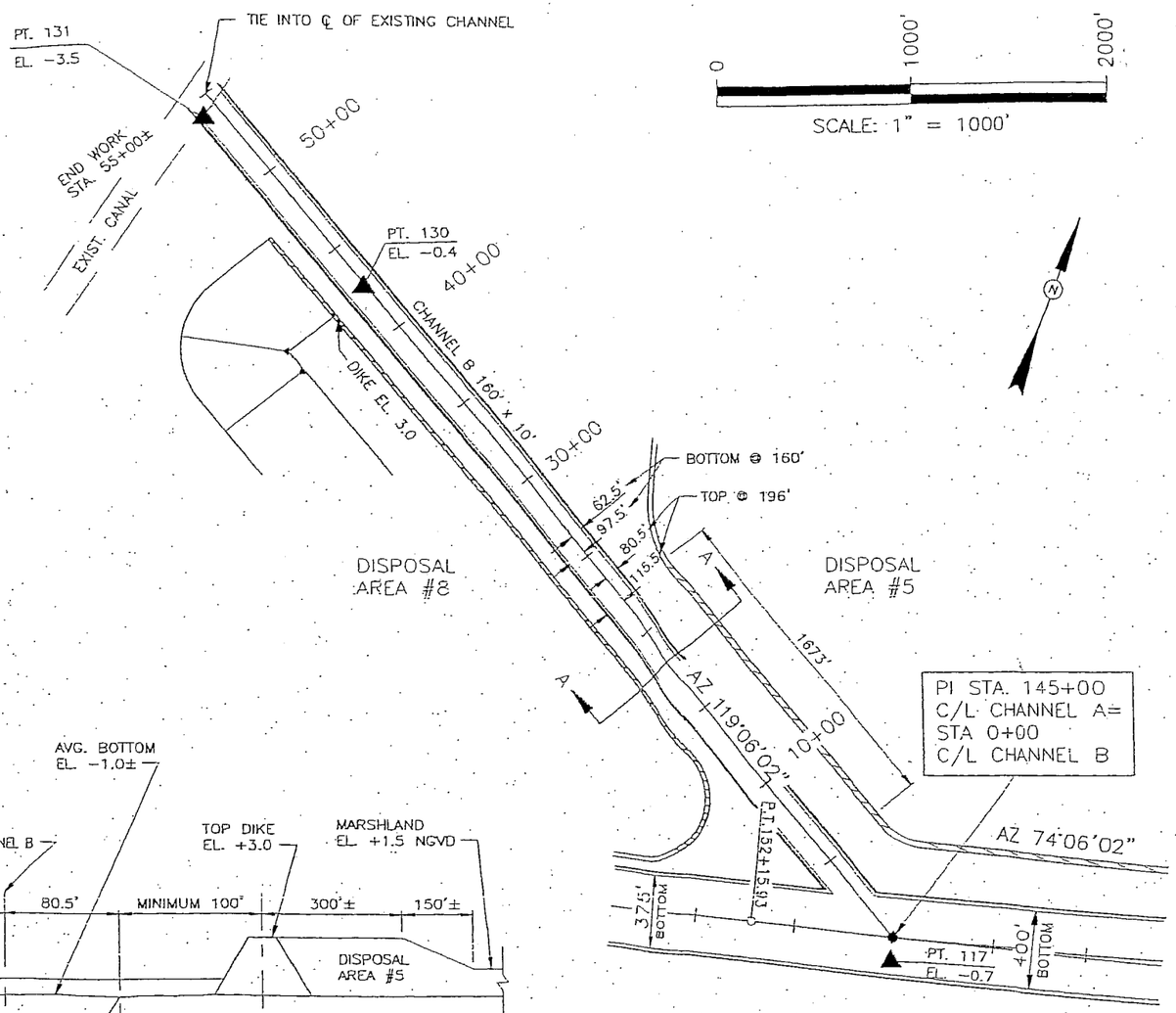
BROWN, CUNNINGHAM AND GANNUCH

FIELD CHANGE NO. 4 - DRAWING NO. 1

OVERALL VIEW - REVISION TO WIDTHS OF CHANNELS A, B, C, E AND NEW CHANNEL F

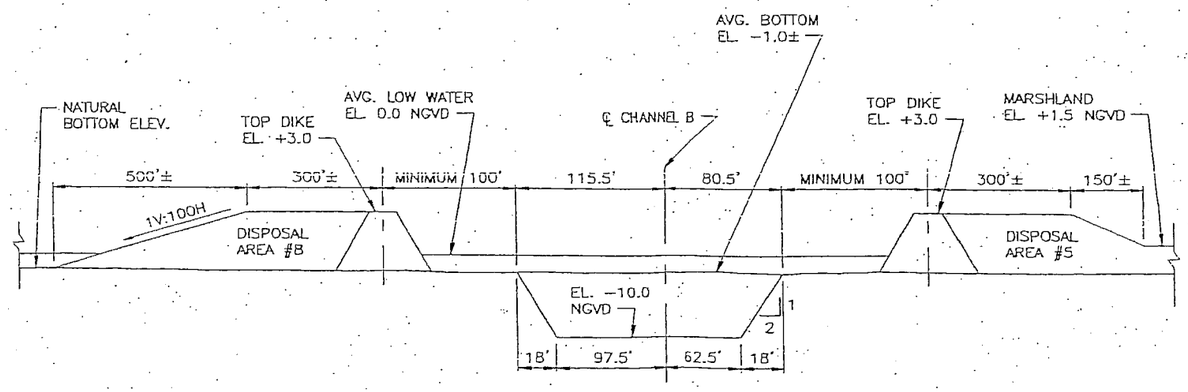
DATE: SEPT, 1998	DESIGNED: EJM	DRAWN: CDH/WC	SHEET: 1 OF 5

ACAD FILE: D:\JOBS1\30594BI&ASD\FIELDCHANGES\FLDCHG4-1.DWG



PARTIAL PLAN CHANNEL B

SCALE: 1" = 1000'



SECTION A-A CHANNEL B

NTS

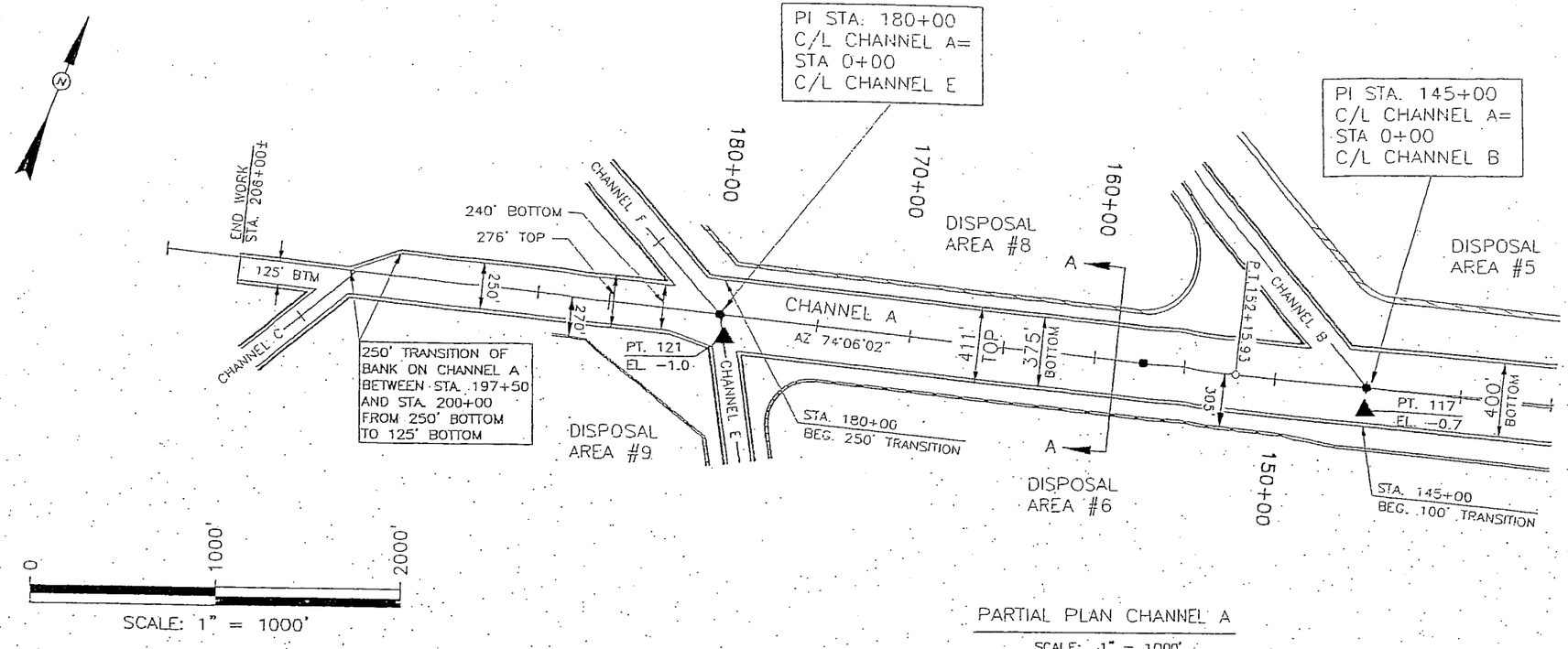
BROWN, CUNNINGHAM AND GANNUCH

FIELD CHANGE NO. 4 - DRAWING NO. 2

REVISION TO WIDTH OF CHANNEL B

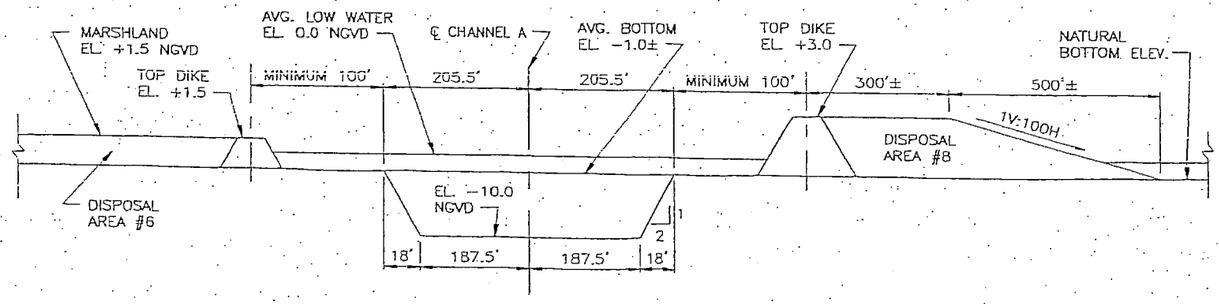
DATE: JUNE, 1998	DESIGNED: EJM	DRAWN: CDH/WC	SHEET: 2 OF 5

ACAD FILE: D:\JOBS1\30594BI&ASD\FIELDCHANGES\FLDCHG4-2.DWG



PARTIAL PLAN CHANNEL A

SCALE: 1" = 1,000'



SECTION A-A CHANNEL A

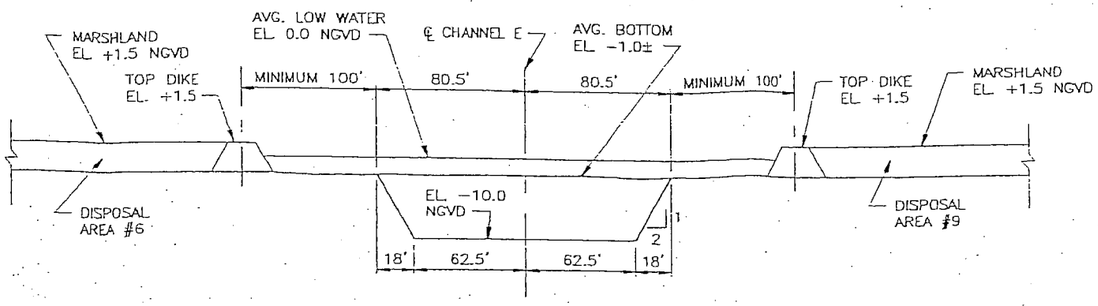
NTS

BROWN, CUNNINGHAM AND GANNUCI

FIELD CHANGE NO. 4 - DRAWING NO. 3

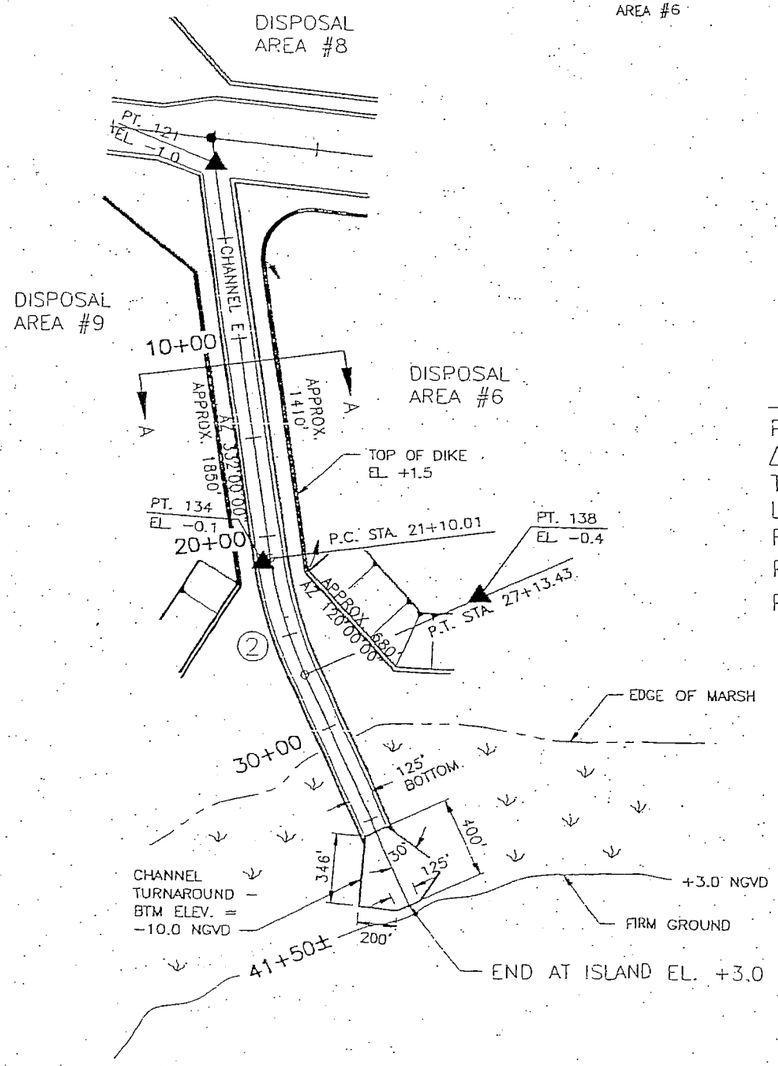
REVISION TO WIDTH OF CHANNEL A
- STA. 145+00 TO STA. 206+00

DATE: JUNE, 1998	DESIGNED: EJM	DRAWN: CDH/WC	SHEET:
ACAD FILE: D:\JOBS1\30594B1&ASD\FIELDCHANGES\FLDCHG4			



SECTION A–A CHANNEL E

NTS

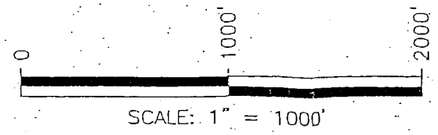


PARTIAL PLAN CHANNEL E

SCALE: 1" = 1000'

CURVE ② DATA

P.I. STA. 24+11.72
Δ = 16°42'30" LT.
T = 303.8662'
L = 603.4195'
R = 2069.2304'
P.C. STA. 21+10.01
P.T. STA. 27+13.43



SCALE: 1" = 1000'

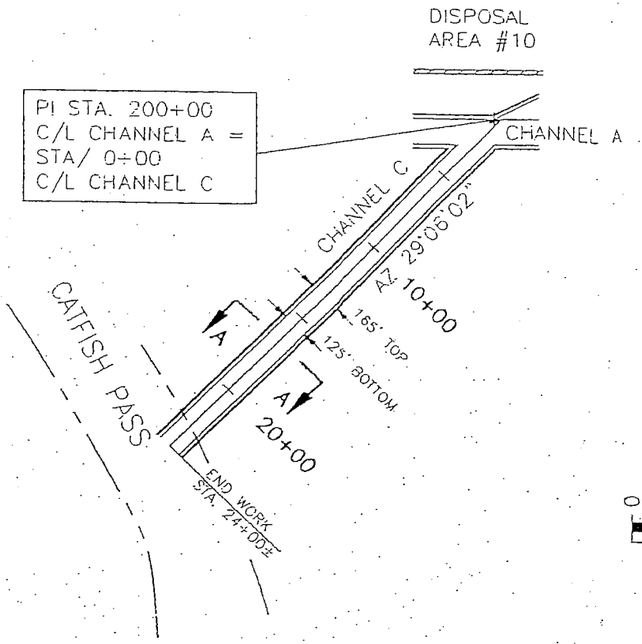
BROWN, CUNNINGHAM AND GANNUCH

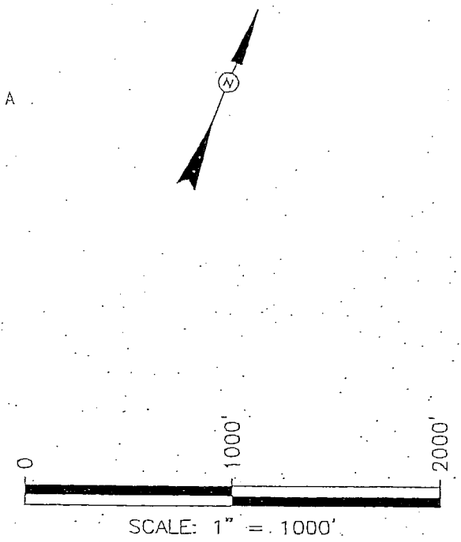
FIELD CHANGE NO. 4 - DRAWING NO. 4

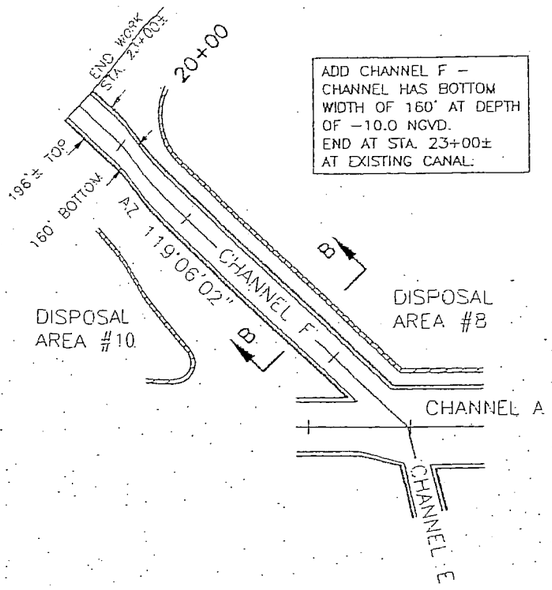
REVISION TO WIDTH
OF CHANNEL E

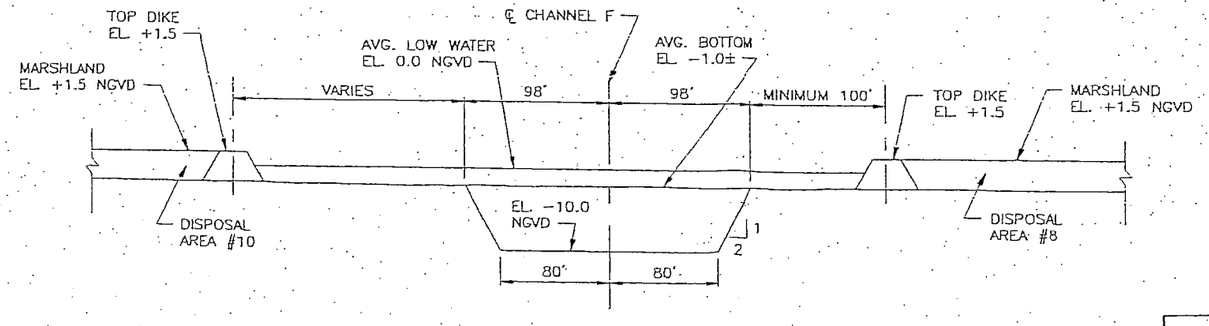
DATE: JUNE, 1998	DESIGNED: EJM	DRAWN: CDH/WC	SHEET: 4 OF 5

ACAD FILE: D:\JOBS1\30594BI&ASD\FIELDCHANGES\FLDCHG4-4.DWG



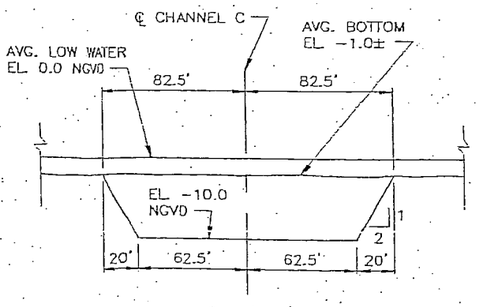






SECTION B–B CHANNEL F

NTS



SECTION A–A CHANNEL C

NTS

BROWN, CUNNINGHAM AND GANNUCH

FIELD CHANGE NO. 4 - DRAWING NO. 5

NEW CHANNEL F AND REVISION TO WIDTH OF CHANNEL C

DATE: JUNE, 1998	DESIGNED: EJM	DRAWN: CDH/WC	SHEET: 5 OF 5

ACAD FILE: D:\JOBS1\30594SI&ASD\FIELDCHANGES\FLDCHG4-5.DWG

APPENDIX B

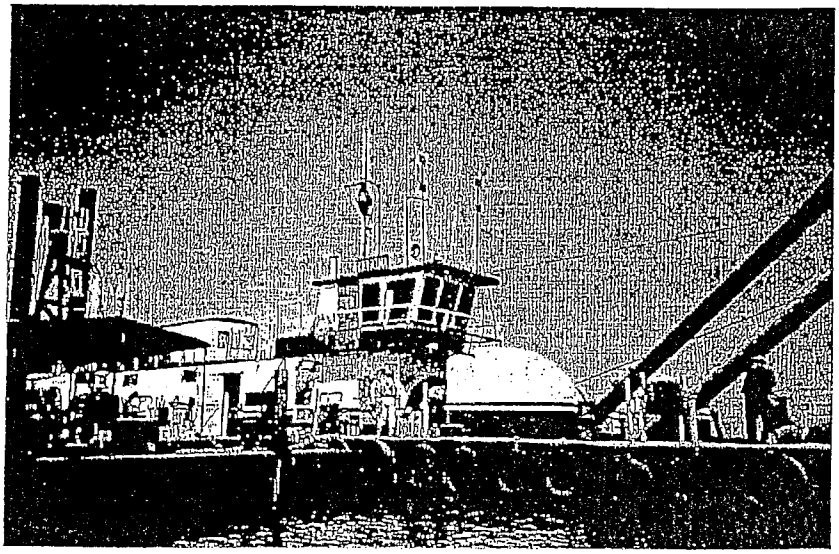
PROJECT DEDICATION CEREMONY

JULY 1, 1998

Marsh lobe under construction at Big Island.

Atchafalaya Sediment Delivery and Big Island Mining CWPPRA Act Restoration Project Site Visit and Over-flight

July 1, 1998



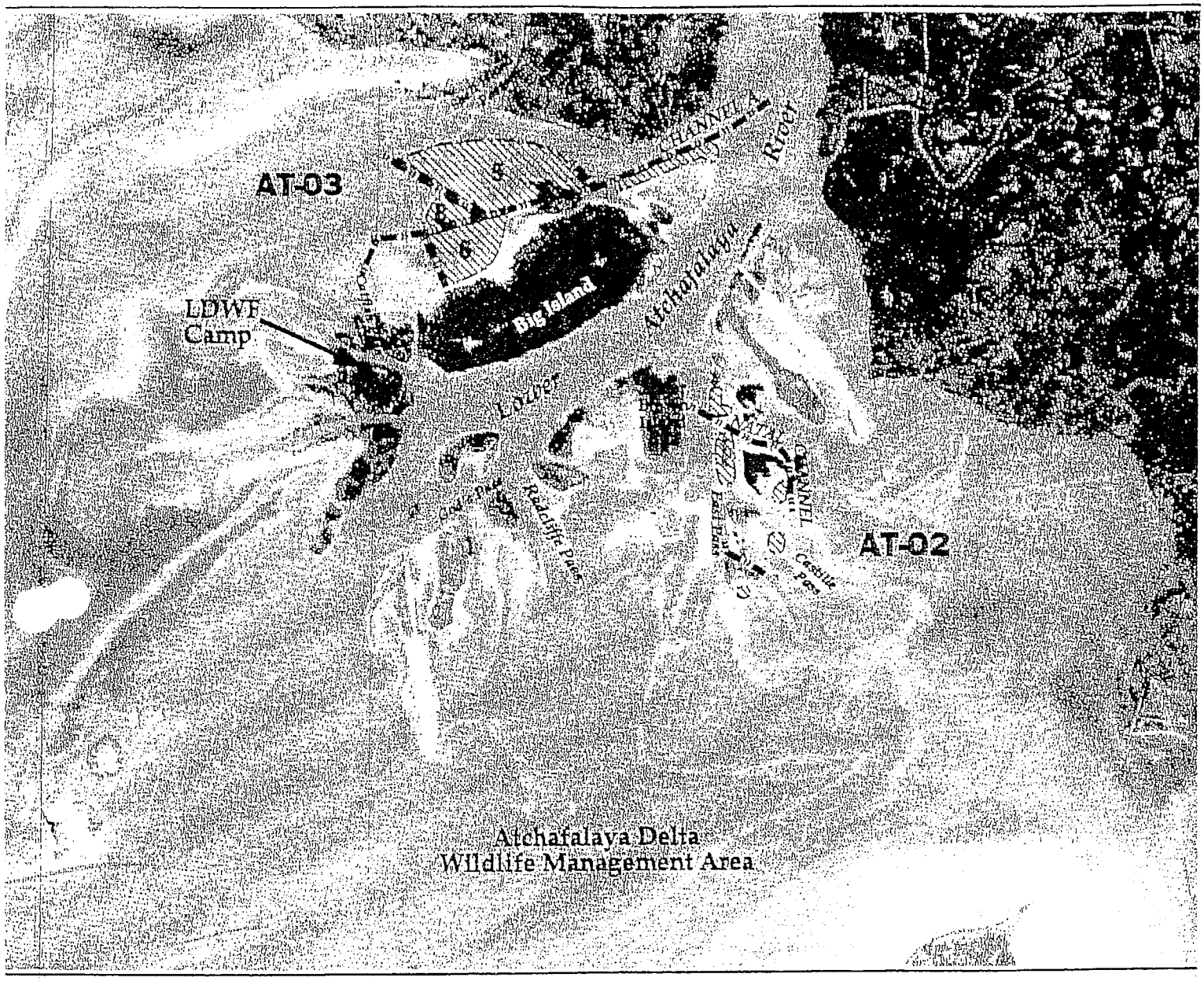
The *Katrina* cutterhead dredge on site.

Proposed Project Tour Helicopter Schedule for July 1, 1998

TBA	**BlackHawk Helicopter Departs New Orleans District of Corps of Engineers**
7:30 a.m.	Depart Morgan City Municipal Auditorium by van to helicopter landing/take-off site
7:40 a.m.	Safety briefing by National Guard and S76 helicopter pilot Pre-flight briefing/overview of site tour and flight plan (by Erik Z.)
8:00 a.m.	Depart Morgan City
8:40 a.m.	Arrive Atchafalaya Delta Wildlife Management Area Camp - Welcome (by LDWF personnel) GREG LANDRY - Project Overview (by Van Cook, DNR) - Construction Overview (by Chris Rayer)
	Load air boats
9:10 a.m.	Project site tour by air boat - existing wetlands/northwest Big Island - Created delta lobes/Disposal areas 6, 5, & 8 (Engineering overview by Ike Mayer)
9:55 a.m.	Return to Camp
10:10 a.m.	Depart Delta
10:30 a.m.	Arrive Morgan City Return from helicopter landing site to Morgan City Municipal Center by vans
11:00 a.m.	Ceremony at Morgan City Municipal Center

F:\USERS\Ceremony\AT243\VIPSCHED.WPD

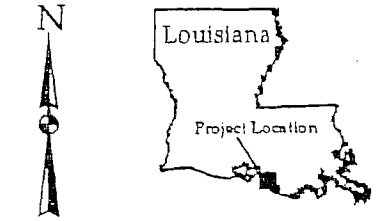
Atchafalaya Sediment Delivery: Project AT-02
Big Island Mining: Project AT-03



LEGEND

Created Delta Lobe

Created Distributary Channel



1:90000

4000 0 4000 8000 Feet

Data Source:

United States Geological Survey
National Wetlands Research Center
Coastal Restoration Project Office

LA Dept. of Natural Resources
Coastal Restoration Division and
GIS Lab

Date: June 22, 1998
Map I.D.: 98-4-300

USGS
science for a changing world

Dedication of "Breaux Act" Wetlands Restoration Projects

Atchafalaya Sediment Delivery & Big Island Mining

Morgan City Municipal Auditorium
Wednesday, July 1, 1998
11:00 AM

PROGRAM

Welcome & Introductions	The Honorable John Breaux U.S. Senator Master of Ceremonies
	Recognition of Dignitaries, U.S. & State Legislators and Local Officials
Remarks	Rolland A. Schmitten, Director National Marine Fisheries Service
	Colonel William L. Conner, U.S. Army Corps of Engineers Chairman, Louisiana Coastal Wetlands Conservation and Restoration Task Force
	Jack C. Caldwell, Secretary Louisiana Department of Natural Resources
	James H. Jenkins Jr., Secretary Louisiana Department of Wildlife & Fisheries
	The Honorable Dudley A. "Butch" Gautreaux Louisiana House of Representatives
	The Honorable Jack D. Smith Louisiana House of Representatives
	Timothy Matte, Mayor City of Morgan City
Closing Remarks	Len Bahr Governor's Executive Assistant for Coastal Activities

Brown Cunningham Cannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

September 4, 1998

Van Cook
LDNR - Coastal Restoration
625 N. Fourth Street
Baton Rouge, LA 70804

Re: Benchmarks on BIM/ASD

Van:

Enclosed here are Benchmarks as established by DNR and Wild Life and Fisheries Personnel. These are forwarded for your information and records.

Sincerely,

Emmett J. Mayer, Jr., P.E.

cc: E.Zobrist
H.Juneau
G.Linscombe

9181 Interline Avenue • Suite 100 • Baton Rouge, LA 70809 • 504-924-3116 • FAX: 504-924-9130

BIM/ASD BENCHMARK DESCRIPTION
(SHEET 2 OF 2)

1. The marks were established using 9/16" diameter stainless steel rods, connected together with threaded adapters, all of manufacture by Berntsen International, Inc., P.O. Box 8670, Madison, Wisconsin 53708-8670. The Louisiana Department of Wildlife and Fisheries supplied all benchmark components from their stock of an earlier purchase from the Berntsen Company. The specific nomenclature for the rods and connecting hardware is "MODEL H-I, HDR, SS ROTATING ROD MONUMENTS (U.S. Patent No. 4,087,945).

Benchmarks were physically established by manual driving using a 2 1/2"diameter post driver and tightening successive rods with a stilson wrench, while employing the driving head, furnished by Berntsen, to protect each 4' length of rod from blows of the driver. Rods were connected per supplied instructions and driven to "refusal", and the completed assembly was marked and protected by use of a 4 foot length of Schedule 40, 6" diameter PVC Pipe of white color, that was partially buried in the ground to an extent that PVC pipe, with cap, extended approximately 1 foot above the tip of each respective benchmark brass cap.

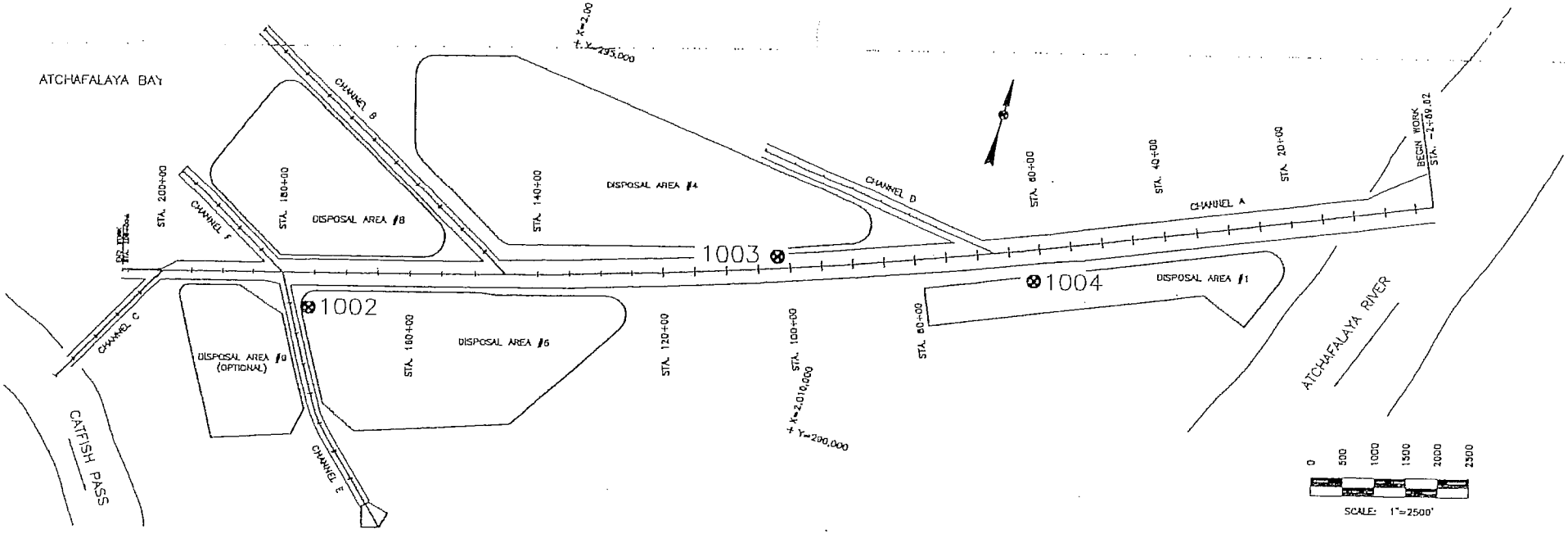
2. **Benchmark AUCOIN**, located on left descending side of the Big Island Channel, approximately 160 feet (estimated) SW of the water surface gage and piling used for the Big Island Channel construction project, approximately 38' south or "landward" from water's edge on crown of dike of Spoil Disposal Area #1, opposite Channel Station 61+43± with offset of 491'± left (estimated). Total Rod length used was 36 feet, or 9, 4' joints. Rod was left protruding above ground approximately 1 foot.

3. **Benchmark JUNEAU**, located on right or north descending bank of Big Island Channel, approximately 100 feet east of a grove of willow trees currently existing on southern edge of Spoil Disposal #4 as modified, and approximately 30 feet north or "landward" from water's edge in crown of channelward dike of Area #4, opposite Channel Station 101+86± with offset of 190'± right (estimated). Total Rod length used was 32 feet, or 8, 4' joints. Rod was left protruding above ground approximately 1 foot.

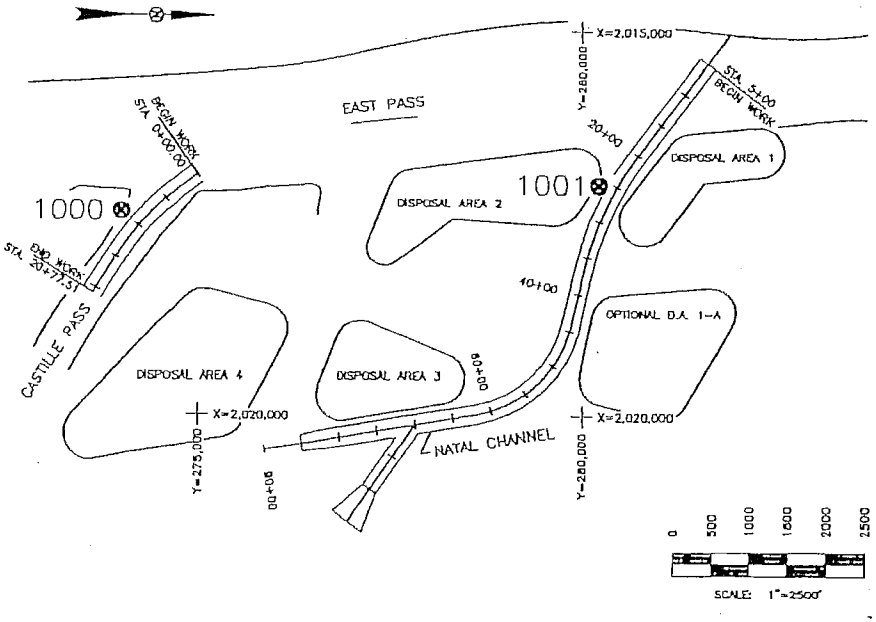
4. **Benchmark MARCANTEL**, located on left descending or south side of Big Island Channel Station 175+91± with offset of 555'± left (estimated) from Big Island Channel Centerline, where ground surface this day of installation was about 1.8' Elevation. Total Rod length is 32 feet, or 8, 4' joints. Rod was left protruding approximately 24" above existing ground surface of that day. Dike of Spoil Area in this area makes a turn to the south and is immediately east of the entrance to the new access channel that goes south to Big Island.

5. **Benchmark MOUTON**, located on eastside of Natal Channel, in crown of channelward dike of Spoil Disposal Area #2 of Natal Channel, opposite Water Surface gage and piling that was set in Natal Channel during construction period, approximately 20 feet landward of water's edge, opposite approximate Channel Station 25+97± with offset of 217'± right (estimated). Total Rod length is 20 feet, or 5, 4' joints. Rod was left protruding approximately 1 foot above existing ground of that day of installation.

6. **Benchmark COOK-LINSCOMBE**, is located in the existing natural marsh of Ibis Island on the right descending or east bank of Castille Pass Channel, approximately 35 feet landward of water's edge of that day when water surface was +1.2', opposite estimated Channel Station 10+01± with offset of 300'± right. Total Rod length of 28 feet, or 7, 4' joints, were used to establish this benchmark. Tip of top of rod was left protruding approximately 25 inches above the ground.



BIG ISLAND MINING (XAT-7)



ATCHAFALAYA SEDIMENT DELIVERY (PAT-2)

ATCHAFALAYA SEDIMENT DELIVERY BENCHMARKS

NUMBER	BENCHMARK NAME	DATE INSTALLED	COORDINATES: NAD 1927 DATUM			REMARKS
			X	Y	VERTICAL	
1000	COOK & UNSCOMBE	8-6-98	2017353.342	274029.922	3.392	(1) (6)
1001	MOUTON	8-6-98	2017000.133	280220.500	4.697	(1) (5)

BIG ISLAND MINING BENCHMARKS

NUMBER	BENCHMARK NAME	DATE INSTALLED	COORDINATES: NAD 1927 DATUM			REMARKS
			X	Y	VERTICAL	
1002	MARCANTEL	8-6-98	2002133.204	289737.924	4.127	(1) (4)
1003	JUNEAU	8-6-98	2009012.660	292630.659	5.418	(1) (3)
1004	AUCOIN	8-6-98	2013039.862	293433.249	4.042	(1) (2)

BENCHMARKS ON BIM AND ASD

INSTALLED BY: LDNR (H. JUNEAU)

ELEVATIONS ESTABLISHED BY: RIVER ROAD CONST. CO.

Brown Cunningham Gannuch
ENGINEERS - ARCHITECTS - CONSULTANTS

DATE: SEPTEMBER, 1998	DESIGN: E.J.M.	DRAWN: CDH	SHEET NO. 1 OF 2
ACAD FILE: DEEPMARKER.DWG			

APPENDIX D

BEFORE AND AFTER SURVEYS

SECTION ONE - ASD

SECTION TWO - BIM

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

October 15, 1998

Mr. Van Cook
LaDNR - Coastal Restoration
625 N. Fourth Street
Baton Rouge, LA 70804

RE: Atchafalaya Sediment Delivery (PAT-2)
CWPPRA Project - Project Construction Surveys

Dear Mr. Cook:

We herewith transmit the following survey information as a requirement to our engineering agreement with LaDNR on the subject project:

1. Total of 6 full size drawings describing the channel and disposal areas for Castille Pass dredging project. These surveys were performed by River/Road Construction Co. and witnessed by BCG inspectors.

2. Total of 44 full size drawings describing the channel and four disposal areas for Natal Channel dredging project. These surveys were performed by River/Road Construction Co. and witnessed by BCG inspectors.

In addition we are transmitting a total of 27 electronic diskettes that contain all survey plotted information produced on this project. The diskettes are basically compiled in three formats as follows:

1. .DWG files: Actual drawings of before/after dredging surveys performed. Can be used to reprint drawings described above.

2. .DXF files: Actual scaled survey plots used to prepare the .DWG files.

3. .XYZ files: The listing of all survey points shown on the drawings. Each print shows a northing, easting and NGVD elevation.

This completes the survey requirement deliverable for the Atchafalaya Sediment Delivery Project. If you have any questions/concerns please feel free to call us @ (225) 924-3116.

9181 Interline Avenue • Suite 100 • Baton Rouge, LA 70809 • 504-924-3116 • FAX: 504-924-9130

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

Sincerely yours,

BROWN, CUNNINGHAM AND GANNUCH, INC.

Emmett J.(Ike) Mayer, Jr., P.E.

cc: R. Gannuch, BCG
M. Fugler, DNR

EJM/cdh

9181 Interline Avenue • Suite 100 • Baton Rouge, LA 70809 • 504-924-3116 • FAX: 504-924-9130

CLOSING REPORT
APPENDIX A - TABLE A
ATCHAFALAYA SEDIMENT DELIVERY
DREDGING OF CASTILLE PASS
CONSTRUCTION SURVEYS

Diskette No.	Diskette Title	File Name	Date	Remarks
1	Castille Pass	caschadp.dwg	3-3-98	After dredging channel survey plan dwg. btn sta 0+00 to 21+08
1	Castille Pass	caschadp.dwg	3-3-98	Before dredging channel survey plan btn sta 0+00 and 21+08
1	Castille Pass	casxsshl.dwg	2-6-98	Channel cross sections sta 0+00 to 9x00 showing before, design and after section
1	Castille Pass	casxsshz.dwg	2-6-98	Channel cross sections sta 10+00 to 16+08 showing before, design and after section surveys
1	Castille Pass	casxssh3.dwg	2-28-98	Channel cross sections sta 17+00 to 21+08 showing before, design and after cross sections
2	Castille Pass	casdspaf.dwg	2-28-98	Castille disposal area showing before and after dredging surveys
2	Castille Pass	casdspaf.dxf	2-28-98	Survey lines supporting the dwg file
2	Castille Pass	casdspaf.txt	2-28-98	Point elevation survey point listing
3	Castille Pass	casdabd.xyz	2-23-98	Castille disposal area point x,y,z listings for before dredging
3	Castille Pass	caspsad2.xyz	2-23-98	Castille disposal area point x,y,z listings for after dredging
4	Castille Pass	casdabd.asc	2-6-98	Castille pass disposal area layout x,y,z points
4	Castille Pass	casdabd.raw	1-31-98	Castille pass disposal area control point layout
4	Castille Pass	caspasbd.asc	2-6-98	Castille pass after survey points of channel (unmodified)x,y,z and date and time
4	Castille Pass	chancl.dat	2-6-98	Castille Pass channel centerline layout shifted 75' from original drawings to better field fit channel
4	Castille Pass	survey.dat	2-6-98	Castille Pass channel after dredging survey points with bottom elevation and depth
4	Castille Pass	tide.dat	2-6-98	Tide data for Castille Pass before dredging survey
5	Castille Pass	caspasad.dat	2-23-98	Castille Pass after dredging of channel listing x,y,z depth and time and date

5	Castille Pass	caspasad.xyz	2-20-98	After dredging survey points of channel x,y,z and date
5	Castille Pass	caspadbd.dat	2-23-98	Castille Pass before dredging of channel survey point records x,y,z sounding and date
5	Castille Pass	caspsads.dat	2-23-98	Channel Data points after dredging surveys x,y,z and soundings and date

CLOSING REPORT
TABLE B
ATCHAFALAYA SEDIMENT DELIVERY
DREDGING OF NATAL CHANNEL
CONSTRUCTION SURVEYS
DISPOSAL AREAS 1 THUR 4

6	Natal Channel	natdspiafter.txt	3-3-98	Disposal area one point listing x,y,z and elevations after dredging
6	Natal Channel DA-1 A.D.	natdal.dwg	3-3-98	Natal disposal area 1 drawing boundries w/before and after dredging surveys
6	Natal Channel	n.dalxsaf.dxf	3-3-98	Natal disposal area 1 after dredging cross section
7	Natal channel	naatalda1.txt	3-3-98	Text of survey points for disposal area 1 showing x,y,z and date with comments
7	Natal Channel DA-1 B.D.	natdal.dwg	3-21-98	Disposal area boundry drawing with before dredging surveys. Showing actual shifting of DA-1 in field to better fit existing contours for front diking
7	Natal Channel	natada1.dxf	3-3-98	Disposal area one showing before survey cross sections
8	Natal Channel DA-2B.D.	natda2bd.dwg	3-21-98	Disposal area two boundry drawing with revised DA-2 position in field showing before dredging survey
8	Natal Channel DA-2 B.D.	natda2bf.dxf	3-24-98	Disposal area 2 before dredging cross sections
8	Natal Channel DA-2B.D.	natda2bf.txt	3-23-98	Text listing of survey points for disposal area 2 before dredging
9	Natal Channel			After dredging DA-2 (missing at
9	DA-2 A.D.			this time)
9				
10	Natal Channel DA-3 B.D.	natda3bf.123	3-23-98	Disposal area 3 survey point listings before dredging x,y,z
10	Natal Channel DA-3 B.D.	natda3bf.dwg	3-24-98	Disposal area 3 boundry with before dredging surveys shown. Note drawing title says DA-1 which is in error should be DA-3
7	Natal Channel DA-3 B.D.	natda3bf.dxf	3-23-98	Natal disposal area 3 before dredging cross sections

11	Natal Channel DA-3 A.D.	natdwp3after.txt	4-30-98	Survey point listing DA-3 disposal area
11		natda3af.dwg	4-30-98	A.D. drawing
11		natda3af.dxf	4-30-98	Before/After survey plot
12	Natal Channel xyz files	natda1bd.xyz	2-24-98	Disposal area 1-control point listings Boundry before dredging
12	Natal Channel xyz files	natda2bd.xyz	2-24-98	Disposal area 2-control point listings Boundry before dredging
12	Natal Channel xyz files	natda2bd.xyz	2-24-98	Disposal area 2-control point listings Baseline before dredging
13	Natal Channel DA-4 B.D.	nataldisp.area4bf	3-24-98	Disposal area 4 control point listings Before dredging survey
13	Natal Channel DA-4 B.D.	natda4bf.dwg	3-24-98	Disposal area 4 Drawing showing boundary and before dredging survey
13	Natal Channel DA-4 B.D.	natda4bf.dxf	3-24-98	Disposal area 4-Before dredging cross sections
14	Natal Channel DA-4 A.D.	natalda4af.txt	4-24-98	Listing of points for disposal area 4 showing x,y,z with date
14	Natal Channel DA-4 A.D.	natda4af.dwg	4-24-98	Disposal area 4 drawing showing after and before dredging surveys super imposed
14	Natal Channel DA-4 A.D.	natda4af.dxf	4-24-98	Final survey cross sections on disposal area 4
15	Natal Channel Before Dredging Cross Section	Bdxs1418.dwg thru Bd6265.dwg		Natal Channel before dredging cross section drawings between station 14+00 thru 65+00.
16	Natal Channel before dredging cross sections.	Bdxsh1.dxf		Station 5+00 to 8+00 before dredging cross sections survey.
16	Natal Channel before dredging cross sections	Bdxsh.dxf		Station 6+00 to 30+00 before dredging cross sections survey.
16	Natal Channel before dredging cross sections	Bdxsh10.dxf		Station 45+00 to 49+00 before dredging cross sections survey.
16	Natal Channel before dredging cross sections	Bdxsh11.dxf Bdxsh12.dxf		Station 50+00 to 54+00. Station 55+00 to 58+00.
16	Natal Channel before dredging cross sections	Bdxsh13.dxf		
16	Natal Channel before dredging	Bdxsh18.dxf		Station 81+00 to 88+00.

	cross sections			
17	Natal Channels Cross Sections before dredging also plan view	Bdxsh6688.dwg	2/11/98	Station 66+00 to 88+00 drawings of before dredging cross sections.
17	"	Bdxs9.13.dxf	2/11/98	Station 9+00 to 13+00.
17	"	nBd3058p.dwg	2/11/98	Plan view of Natal Channel cross sections between station 30+00 and 58+00.
17	"	nBd5-30p.dwg	2/11/98	Plan views of Natal Channels Cross Sections between Stations 5+00 and 30+00.
18	Natal Channel Survey Points before dredging	NATEL.*	4/21/98	Listing of survey paints for before dredging cross sections between stations 1+00 and 93+00.
19	Natal Channel A plan of channel	NATCHABF.dwg	3/17/98	Natal Channel A plan drawing showing before dredging cross sections between Station A0+00 and A15+00
19	"	NATCHABF.dxf	3/17/98	Cross section survey station center line and station A0+00 to A15+00.
19	"	NATALC.~1.123	3/17/98	Survey point listing of Natal Channel A before dredging.
20	Natal Channel after Dredging Cross Sections	Bdxssh7.dxf		Station 31+00 to 35+00.
20	"	Bdxssh8.dxf		Station 36+00 to 39+00.
20		Bdxssh9.dxf		Station 40+00 to 44+00.
20	"	Bdsssh93.dxf		Plan of after dredging cross sections Station 5+00 to 88+00.
21	Natal Channel after Dredging Cross Sections Drawings	N55 thru 54.dwg		After dredging cross section drawings showing before dredging, design template, and after dredging surveys from station 10+00 to 54+00.
22	Natal Channel after Dredging Cross Sections Drawings	N55 thru 88.dwg		After dredging cross sections drawings Station 55+00 to 88+00.
23	Natal Channel after Dredging Cross Section Survey Plots		5/19/98	After dredging cross section surveys showing plots of before dredging and after dredging readings.
	"	Revsh1.dxf		Station 75+00 to 78+00.
23	"	Revsh2.dxf		Station 79+00 to 82+00.
23	"	Revsh3.dxf		Station 83+00 to 88+00.

23	"	Revsh5.dxf		Station 25+00 to 27+00.
23	"	Revsh6.dxf		Station 28+00 to 30+00.
23	"	Revsh7.dxf		Station 31+00 to 34+00.
23	"	Revsh8.dxf		Station 35+00 to 37+24.
23	"	Revsh9.dxf		Station 38+00 to 42+00.
24	Natal Channel after Dredging Cross Section		5/19/98	After dredging cross sections surveys showing before dredging, design template, and after dredging readings.
24	"	sh1.dxf		Station 10+00 to 13+00.
24	"	sh2.dxf		Station 14+00 to 17+00.
24	"	sh3.dxf		Station 18+00 to 21+00.
24	"	sh4.dxf		Station 22+00 to 24+00.
24	"	sh10.dxf		Station 42+00 to 45+00.
24	"	sh11.dxf		Station 46+00 to 49+00.
24	"	sh12.dxf		Station 50+00 to 54+00.
24	"	sh13.dxf		Station 55+00 to 57+00.
24	"	sh14.dxf		Station 58+00 to 60+00.
24	"	sh15.dxf		Station 60+00 to 62+00.
24	"	sh16.dxf		Station 63+00 to 65+00.
24	"	sh17.dxf		Station 66+00 to 70+00.
24	"	sh18.dxf		Station 71+00 to 74+00.
25	Natal Channel after Dredging Survey Point Listing.	NATALAD.xyz		After dredging survey point listing for surveys shown on disks 23 and 24. Point show xyz coordinate.
26	Redredging Entrance to Natal Channel Plan Drawing Station 12+00 to 21+00.	BBADPlan.dwg	9/9/98	Plan drawing of entrance to Natal Channel between Station 12+00 and 21+00 existing bottom condition on 9/1/98.
26	"	SX12-15.dwg		Resurvey cross sections of natal Channel entrance showing existing bottom and after dredging surveys, design bottom for redredging is -8.0 NGVD.
26	"	SX16-19.dwg		Same for station 16+00 to 19+00.
26	"	SX20-21.dwg		Same for Station 20+00 to 21+00.
26	Redredging Entrance to Natal Channel Cross Section Surveys		9/9/98	Cross Section Survey plots;
	"	Bdadsh1.dxf		Station 12+00 to 15+00.
26	"	Bdadsh2.dxf		Station 16+00 to 19+00.
26	"	Bdadsh3.dxf		Station 20+00 to 21+00.

26		NAT-9-9.dxf		Plan plot after dredging surveys between Station 12+00 and 21+00.
27	Redredging Entrance to Natal Channel Survey Point Listing	NAT-9-9.xyz	9/11/98	Survey point listing of after dredging of redredging to Entrance to Natal Channel showing northing, easting and elevation between station 12+00 and 21+00.

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

December 22, 1998

Mr. Van Cook
Louisiana Department of Natural Resources
Coastal Management Division
P.O. Box 94396
Baton Rouge, LA 70804-9396

Re: Final Surveys - Atchafalaya Sediment Delivery Electronic Disks

Dear Mr. Cook:

Reference is made to my letter of October 15, 1998 transmitting final surveys on the subject project. Subsequently, we spoke with Mr. Matthew Mahler who informed us that some of the diskettes transmitted were unable to be opened. We met with Ron Lawton of River/Road and we herewith transmit the following two diskettes containing the original missing information.

Information contained on Disk A & B dated 12/21/98 is as follows:

Disk A:

casdispaf.txt:	Replaces original disk 2-casdspaf.txt
natdsplafter.txt:	Replaces original disk 6-natdsplafter.txt
natda2bf.wp4.txt:	Replaces original disk 8-nata2bf.txt
natdsp3after.txt:	Replaces original disk 11-natdwp3after.txt
nataldisparea4af.txt:	Replaces original disk 14-natalda4af.txt
natalch t.o.c.txt:	Replaces original disk 17-natalcha t.o.c.txt
natalcha tmp.txt:	Replaces original disk 17-natalcha tmp.txt
natcha bf.dxf:	Replaces original disk 19- natcha bf.dxf

Disk B: DA-2-AD

natda2af.dwg:	Replaces original disk 9-da-2ad
natda2af.dxf:	Replaces original disk 9-da-2ad

This should complete the requirement on survey deliverables for the Atchafalaya Sediment Delivery project. If you experience any problems, please give us a call.

Sincerely yours,

BROWN CUNNINGHAM & GANNUCH, INC.

Emmett J. Mayer, Jr., P.E.

cc: R.Gannuch

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

February 4, 1999

Mr. Van Cook
LaDNR - Coastal Restoration
625 N. Fourth Street
Baton Rouge, LA 70804

RE: Big Island Mining (XAT-7) Atchafalaya Sediment Delivery
(PAT-2) CWPPRA Project - Project Construction Surveys

Dear Mr. Cook:

We herewith transmit the following Big Island Mining survey information as a requirement to our engineering agreement with LaDNR on the subject project:

1. Total of 135 full size drawings describing the channels and disposal areas for the Big Island Mining project. These surveys were performed by River/Road Construction Co. and witnessed by BCG inspectors.
2. Also included area total of 4 full size drawings describing the re-dredging of the shoaled entrance to Natal Channel. These surveys were performed by River/Road Construction Co. and witnessed by BCG inspectors.

In addition we are transmitting a total of 133 electronic diskettes that contain all survey plotted information produced on the Big Island Mining Project.. The diskettes are basically compiled in the formats as follows:

1. .DWG files: Actual drawings of before/after dredging surveys performed. Can be used to reprint drawings described above.

2. .DXF files: Actual scaled survey plots used to prepare the .DWG files.

3. Data files: The listing of all survey points shown on the drawings, these files use the following extensions: .dat, .x y z, .prn, .bak, .wk4, .asc, .ad, and .sum.

The after dredging plan view of Channel "A" Sta. 140+00 to Sta. 180+00 is not included with this submittal. An electronic copy of this drawing is being furnished by River Road Construction Company and will be forwarded as an addendum when it is received.

This completes the survey requirement deliverable for the Big Island Mining Project. If you have any questions/concerns, please feel free to call us @ (225) 924-3116.

Sincerely yours,

BROWN, CUNNINGHAM AND GANNUCH, INC.

Emmett J. Mayer

Emmett J. (Ike) Mayer, Jr., P.E.

EJM/jgs

cc: R. Gannuch, BCG

DATA DISK INDEX

No.	Diskett Title	File Name	Date	Remarks
1	BIM Channel "A" A.D. Dwg files 7+00 to 12+00 21+00 to 43+00	BA1021AS.dwg	5-6-98	Big Island Channel A A.D. Xsection
1	BIM Channel "A" A.D. Dwg files 7+00 to 12+00 21+00 to 43+00	BA214AP.dwg	5-6-98	Big Island Channel A A.D. Plan View 21+00 to 46+00
1	BIM Channel "A" A.D. Dwg files 7+00 to 12+00 21+00 to 43+00	BA2225AS.dwg	5-6-98	Big Island Channel A A.D. Xsection 22+00 to 25+00
1	BIM Channel "A" A.D. DXF Files 7+00 to 12+00 21+00 to 43+00	BA2629AS.dwg	5-6-98	Big Island Channel A A.D. Xsection 26+00 to 29+00
1	BIM Channel "A" A.D. DXF Files 7+00 to 12+00 21+00 to 43+00	BA3033AS.dwg	5-6-98	Big Island Channel A A.D. Xsection 30+00 to 33+00
1	BIM Channel "A" A.D. DXF Files 7+00 to 12+00 21+00 to 43+00	BA7-12AP.dwg	5-6-98	Big Island Channel A Plan View A.D. 7+00 to 13+00
2	BIM Channel "A" 13+00-20+00 A.D.	BA1316AS.dwg	4-16-98	Big Island Channel A A.D. Cross section 13+00-16+00
2	BIM Channel "A" 13+00-20+00 A.D.	BA1320AP.dwg	4-16-98	Big Island Channel A Plan view 13+00-16+00
2	BIM Channel "A" 13+00-20+00 A.D.	BA1720AS.dwg	4-16-98	Big Island Channel A A.D. Cross section 17+00-20+00
3	BIM Channel "A" AD Dwg Files 7+00 to 12+00 +21+00 to 43+00	BA3437AS.dwg	5-6-98	Big Island Channel A A.D. Xsection 34+00 to 37+00
3	BIM Channel "A" AD Dwg Files 7+00 to 12+00 +21+00 to 43+00	BA3841AS.dwg	5-6-98	Big Island Channel A A.D. Xsection 38+00 to 41+00

	BIM Channel "A" AD Dwg Files 7+00 to 12+00 +21+00 to 43+00	BA4245AS.dwg	5-6-98	Big Island Channel A A.D. Xsection 42+00 to 45+00
3	BIM Channel "A" AD Dwg Files 7+00 to 12+00 +21+00 to 43+00	BA7-9AS.dwg	5-6-98	Big Island Channel A AD Xsection 7+00 to 9+00
4	BIM Channel "A" A.D. sta 42+00-63+00	Bi4263ap.dwg	5-11-98	Big Island Channel A A.D. Plan View 42+00-63+00
4	BIM Channel "A" A.D. sta 42+00-63+00	SECDWG1.dwg	5-11-98	Big Island Channel A A.D. Cross section 42+00-45+00
4	BIM Channel "A" A.D. sta 42+00-63+00	SECDWG2.dwg	5-10-98	Big Island Channel A A.D. Cross section 46+00-48+00
4	BIM Channel "A" A.D. sta 42+00-63+00	SECDWG3.dwg	5-11-98	Big Island Channel A A.D. Cross section 49+00-52+00
4	BIM Channel "A" A.D. sta 42+00-63+00	SECDWG4.dwg	5-10-98	Big Island Channel A A.D. Cross section 52+98-55+00
4	BIM Channel "A" A.D. sta 42+00-63+00	SECDWG5.dwg	5-10-98	Big Island Channel A A.D. Cross section 56+00-58+00
	BIM Channel "A" A.D. sta 42+00-63+00	SECDWG6.dwg	5-10-98	Big Island Channel A A.D. Cross section 58+00-61+00
4	BIM Channel "A" A.D. sta 42+00-63+00	SECDWG7.dwg	5-10-98	Big Island Channel A A.D. Cross section 62+00-63+00
5	BIM Channel "A" A.D. 64+00-87+00	Xsec1.dwg	6-10-98	Big Island Channel A A.D. Cross Section 64+00-66+00
5	BIM Channel "A" A.D. 64+00-87+00	Xsec2.dwg	6-10-98	Big Island Channel A A.D. Cross Section 67+00-69+00
5	BIM Channel "A" A.D. 64+00-87+00	Xsec3.dwg	6-10-98	Big Island Channel A A.D. Cross Section 70+00-72+00
5	BIM Channel "A" A.D. 64+00-87+00	Xsec4.dwg	6-10-98	Big Island Channel A A.D. Cross Section 73+00-75+00
5	BIM Channel "A" A.D. 64+00-87+00	Xsec5.dwg	6-10-98	Big Island Channel A A.D. Cross Section 76+00-79+00
5	BIM Channel "A" A.D. 64+00-87+00	Xsec6.dwg	6-10-98	Big Island Channel A A.D. Cross Section 80+00-83+00
5	BIM Channel "A" A.D. 64+00-87+00	Xsec7.dwg	6-10-98	Big Island Channel A A.D. Cross Section 84+00-86+00

	BIM Channel "A" A.D. 64+00-87+00	Plan.dwg	6-11-98	Big Island Channel A A.D. Plan View 64+00-87+00
6	BIM Channel "A" A.D. 64+00-87+00	Plan.dxf	6-11-98	Big Island Channel A A.D. Plan View 64+00 - 87+00
6	BIM Channel "A" A.D. 64+00-87+00	Xsec8.dwg	6-10-98	Big Island Channel A A.D. Cross Section 87+00
7	BIM Survey "A" A.D. Survey 88+00-104+00	88104p.dwg	7-7-98	Big Island Channel "A" A.D. Plan View 88+00-117+00
7	BIM Survey "A" A.D. Survey 88+00-104+00	Xsec101104.dwg	7-6-98	Big Island Channel "A" Cross-Section 102+00-104+00
7	BIM Survey "A" A.D. Survey 88+00-104+00	Xsec8891.dwg	7-6-98	Big Island Channel "A" Cross-Section 88+00-91+00
7	BIM Survey "A" A.D. Survey 88+00-104+00	Xsec9295.dwg	7-6-98	Big Island Channel "A" Cross-Section 92+00-95+00
7	BIM Survey "A" A.D. Survey 88+00-104+00	Xsec9698.dwg	7-6-98	Big Island Channel "A" Cross-Section 96+00-98+00
7	BIM Survey "A" A.D. Survey 88+00-104+00	Xsec99101.dwg	7-6-98	Big Island Channel "A" Cross-Section 99+00-101+00
8	BIM Channel "A" A.D. Survey 105+00-117+00	88117.dwg	7-7-98	Big Island Channel A A.D. Plan View 88+00-117+00
8	BIM Channel "A" A.D. Survey 105+00-117+00	Toe.dat	7-7-98	Cross-section co-ordinates and asimuth
8	BIM Channel "A" A.D. Survey 105+00-117+00	Xsec105107.dwg	7-6-98	Big Island Channel A A.D. Cross-Section 105+00-107+00
8	BIM Channel "A" A.D. Survey 105+00-117+00	Xsec108110.dwg	7-6-98	Big Island Channel A A.D. Cross-Section 108+00-110+00
8	BIM Channel "A" A.D. Survey 105+00-117+00	Xsec111113.dwg	7-6-98	Big Island Channel A A.D. Cross-Section 111+00-113+00

	BIM Channel "A" A.D. Survey 105+00-117+00	Xsec112114.dwg	7-6-98	Big Island Channel A A.D. Cross-Section 114+00-116+00
8	BIM Channel "A" A.D. Survey 105+00-117+00	Xsec117.dwg	7-6-98	Big Island Channel A A.D. Cross-Section-117+00
9	BIM Channel "A" A.D. Survey 118+00 to 139+00	118-121.dwg	7-19-98	Big Island Channel A A.D. Cross section 118+00-121+00
9	BIM Channel "A" A.D. Survey 118+00 to 139+00	122-124.dwg	7-19-98	Big Island Channel A A.D. Cross section 122+00-124+00
9	BIM Channel "A" A.D. Survey 118+00 to 139+00	125-128.dwg	7-19-98	Big Island Channel A A.D. Cross section 125+00-128+00
9	BIM Channel "A" A.D. Survey 118+00 to 139+00	129-132.dwg	7-19-98	Big Island Channel A A.D. Cross section 129+00-132+00
9	BIM Channel "A" A.D. Survey 118+00 to 139+00	133-136.dwg	7-19-98	Big Island Channel A A.D. Cross section 133+00-136+00
	BIM Channel "A" A.D. Survey 118+00 to 139+00	137-139.dwg	7-19-98	Big Island Channel A A.D. Cross section 137+00-139+00
9	BIM Channel "A" A.D. Survey 118+00 to 139+00	Plan.dwg	7-19-98	Big Island Channel A A.D. Cross section Plan View 118+00-139+00
10	BIM Channel "A" 140+00-180+00 A.D. Surveys	140-143.dwg	8-30-98	Big Island Channel A A.D. Cross section 140+00-143+00
10	BIM Channel "A" 140+00-180+00 A.D. Surveys	144-147.dwg	8-30-98	Big Island Channel A A.D. Cross section 144+00-147+00
10	BIM Channel "A" 140+00-180+00 A.D. Surveys	148-151.dwg	8-30-98	Big Island Channel A A.D. Cross section 148+00-151+00
10	BIM Channel "A" 140+00-180+00 A.D. Surveys	152-154.dwg	8-31-98	Big Island Channel A A.D. Cross section 152+00-154+00

	BIM Channel "A" 140+00-180+00 A.D. Surveys	155-158.dwg	8-31-98	Big Island Channel A A.D. Cross section 155+00-158+00
10	BIM Channel "A" 140+00-180+00 A.D. Surveys	159-162.dwg	8-31-98	Big Island Channel A A.D. Cross section 159+00-162+00
11	BIM Channel "A" A.D. Surveys 140-180 dwg.	163-166.dwg	8-31-98	Big Island Channel A A.D. Cross section 163+00-166+00
11	BIM Channel "A" A.D. Surveys 140-180 dwg.	167-170.dwg	8-31-98	Big Island Channel A A.D. Cross section 167+00-170+00
11	BIM Channel "A" A.D. Surveys 140-180 dwg	171-174.dwg	8-31-98	Big Island Channel A A.D. Cross section 171+00-174+00
11	BIM Channel "A" A.D. Surveys 140-180 dwg.	175-178.dwg	8-31-98	Big Island Channel A A.D. Cross section 175+00-178+00
11	BIM Channel "A" A.D. Surveys. 140-180 dwg	179-180.dwg	8-31-98	Big Island Channel A A.D. Cross section 179+00-180+00
12	BIM Channel "A" A.D. Survey 180+00-206+00	180-183.dwg	9-18-98	Big Island Channel "A" A.D. Cross section 180+00-183+00
12	BIM Channel "A" A.D. Survey 180+00-206+00	184-187.dwg	9-18-98	Big Island Channel "A" A.D. Cross section 184+00-187+00
12	BIM Channel "A" A.D. Survey 180+00-206+00	188-191.dwg	9-18-98	Big Island Channel "A" A.D. Cross section 188+00-191+00
12	BIM Channel "A" A.D. Survey 180+00-206+00	192-195.dwg	9-18-98	Big Island Channel "A" A.D. Cross section 192+00-195+00
12	BIM Channel "A" A.D. Survey 180+00-206+00	196-199.dwg	9-18-98	Big Island Channel "A" A.D. Cross section 196+00-199+00
12	BIM Channel "A" A.D. Survey 180+00-206+00	200-203.dwg	9-18-98	Big Island Channel "A" A.D. Cross section 200+00-203+00

	BIM Channel "A" A.D. Survey 180+00-206+00	180206cl.xyz	9-24-98	x,y,z co-ordinates no point numbers
13	BIM Channel "A" A.D. Survey 180+00-206+00	204-206.dwg	9-20-98	Big Island Channel "A" A.D. Cross section 204+00-206+00
13	BIM Channel "A" A.D. Survey 180+00-206+00	Plan.dwg	9-21-98	Big Island Channel "A" A.D. Plan view 180+00-206+00
13	BIM Channel "A" A.D. Survey 180+00-206+00	Sta.dat	9-24-98	Cross section line co-ordinates, azmuth and distance
14	BIM Channel "A" A.D. Survey	202207ad.dxf	10-6-98	A.D. cross section plan view station 206+00, 206+75, 207+00
14	BIM Channel "A" A.D. Survey	202207ad.xyz	10-6-98	A.D. x,y,z co-ordinates no point number
14	BIM Channel "A" A.D. Survey	206207.dwg	10-6-98	A.D. cross section of station 206+00, 206+75, 207+00
14	BIM Channel "A" A.D. Survey	207Plan.dwg	10-6-98	A.D. cross section plan view station 206+00, 206+75, 207+00
	BIM Channel "A" A.D. Survey	Channel.prn	10-6-98	A.D. cross section plan view station 206+00, 206+75, 207+00
14	BIM Channel "A" A.D. Survey	Sta.dat	10-6-98	A.D. Survey Channel Toe and center line Templet co-ordinates
14	BIM Channel "A" A.D. Survey	Survey.dat	10-6-98	Survey data file
14	BIM Channel "A" A.D. Survey	Xsecsh1.dxf	10-6-98	A.D. cross section plan view station 206+00, 206+75, 207+00
15	BIM Channel "A" A.D. DXF Files 7+00 - 12+00 21+00 to 43+00	ADXSSH.1.dxf	5-6-98	Big Island Channel "A" A.D. Xsection 7+00 to 9+00
15	BIM Channel "A" A.D. DXF Files 7+00 - 12+00 21+00 to 43+00	ADXSSH.2.dxf	5-6-98	Big Island Channel "A" A.D. Xsection 10+00 to 12+00 and 21+00

	BIM Channel "A" A.D. DXF Files 7+00 - 12+00 21+00 to 43+00	BICHAAD2.dxf	5-6-98	A.D. Plan View 21+00 to 48+00
15	BIM Channel "A" A.D. Survey x,y,z file	BICHAAD2.xyz	5-6-98	Point File x,y,z no pt. numbers
16	BIM Channel "A" A.D. 13+00-20+00	13-20sh1.dxf	4-16-98	Cross Section 20+00-23+00
16	BIM Channel "A" A.D. 13+00-20+00	13-20sh2.dxf	4-16-98	Cross Section 24+00-27+00
16	BIM Channel "A" A.D. 13+00-20+00	Bichaad.dxf	4-15-98	Plan view cross sections 13+00-20+00
17	BIM Channel "A" A.D. DXF Files 7+00 to 12+00 21+00 to 43+00	ADXSSH4.dxf	5-6-98	Big Island Channel A A.D. Xsection 26+00 to 29+00
17	BIM Channel "A" A.D. DXF Files 7+00 to 12+00 21+00 to 43+00	ADXSSH5.dxf	5-6-98	Big Island Channel A A.D. Xsection 30+00 to 33+00
17	BIM Channel "A" A.D. DXF Files 7+00 to 12+00 21+00 to 43+00	ADXSSH6.dxf	5-6-98	Big Island Channel A A.D. Xsection 34+00 to 37+00
17	BIM Channel "A" A.D. DXF Files 7+00 to 12+00 21+00 to 43+00	ADXSSH7.dxf	5-6-98	Big Island Channel A A.D. Xsection 38+00 to 41+00
17	BIM Channel "A" A.D. DXF Files 7+00 to 12+00 21+00 to 43+00	ADXSSH8.dxf	5-6-98	Big Island Channel A A.D. Xsection 42+00 to 45+00
18	BIM Channel "A" A.D. 42+00-63+00	Ad0510.dxf	5-11-98	Plan view cross secton 42+00-63+00
18	BIM Channel "A" A.D. 42+00-63+00	Xsecsh1.dxf	5-10-98	Cross section 42+00-45+00

17	BIM Channel "A" A.D. 42+00-63+0	Xsecsh2.dxf	5-10-98	Cross section 46+00-48+00
18	BIM Channel "A" A.D. 42+00-63+0	Xsecsh3.dxf	5-10-98	Cross section 49+00-52+00
18	BIM Channel "A" A.D. 42+00-63+0	Xsecsh4.dxf	5-10-98	Cross section 52+98-55+00
18	BIM Channel "A" A.D. 42+00-63+0	Xsecsh5.dxf	5-10-98	Cross section 56+00-58+00
19	BIM Channel "A" A.D. sta 42+00-63+00	Xsecsh6.dxf	5-10-98	Cross section 58+00-61+00
19	BIM Channel "A" A.D. sta 42+00-63+00	Xsecsh7.dxf	5-10-98	Cross section 62+00-63+00
20	BIM Channel "A" A.D. 64+00-87+00	Xsecsh1.dxf	6-10-98	A.D. Cross Section 64+00-66+00
20	BIM Channel "A" A.D. 64+00-87+00	Xsecsh2.dxf	6-10-98	A.D. Cross Section 67+00-69+00
20	BIM Channel "A" A.D. 64+00-87+00	Xsecsh3.dxf	6-10-98	A.D. Cross Section 70+00-72+00
	BIM Channel "A" A.D. 64+00-87+00	Xsecsh4.dxf	6-10-98	A.D. Cross Section 73+00-75+00
20	BIM Channel "A" A.D. 64+00-87+00	Xsecsh5.dxf	6-10-98	A.D. Cross Section 76+00-79+00
20	BIM Channel "A" A.D. 64+00-87+00	Xsecsh6.dxf	6-10-98	A.D. Cross Section 80+00-83+00
20	BIM Channel "A" A.D. 64+00-87+00	Xsecsh7.dxf	6-10-98	A.D. Cross Section 84+00-86+00
20	BIM Channel "A" A.D. 64+00-87+00	Xsecsh8.dxf	6-10-98	A.D. Cross Section 87+00
21	BIM Channel "A" A.D. Survey 88+00-104+00	Sub88108.dxf	7-7-98	Big Island Channel "A" Plan View 88+00-104+20
21	BIM Channel "A" A.D. Survey 88+00-104+00	Sub88108.xyz	7-7-98	x,y,z co-ordinate No point numbers
21	BIM Channel "A" A.D. Survey 88+00-104+00	Toe.dat	7-7-98	Cross Section line co-ordinates distance azmuths

	BIM Channel "A" A.D. Survey 88+00-104+00	Xsecsh1.dxf	7-6-98	Big Island Channel "A" A.D. Cross Section 88+00-91+00
21	BIM Channel "A" A.D. Survey 88+00-104+00	Xsecsh2.dxf	7-6-98	Big Island Channel "A" Cross Section 92+00-95+20
21	BIM Channel "A" A.D. Survey 88+00-104+00	Xsech3.dxf	7-6-98	Big Island Channel "A" Cross Section 96+00-98+00
21	BIM Channel "A" A.D. Survey 88+00-104+00	Xsech4.dxf	7-6-98	Big Island Channel "A" Cross Section 99+00-101+00
21	BIM Channel "A" A.D. Survey 88+00-104+00	Xsecsh5.dxf	7-6-98	Big Island Channel "A" Cross Section 102+00-104+00
22	BIM Channel "A" A.D. Survey 105+00 to 117+00	Sub105117.dxf	7-7-98	Plan View of Cross-Section 105+00 to117+00
22	BIM Channel "A" A.D. Survey 105+00 to 117+00	Sub105117.xyz	7-7-98	x,y,z Co-ordinates no point number
22	BIM Channel "A" A.D. Survey 105+00 to 117+00	Xsecshl.dxf	7-6-98	Big Island Channel "A" A.D. Cross-Section 105+00-107+00
22	BIM Channel "A" A.D. Survey 105+00 to 117+00	Xsecsh2.dxf	7-6-98	Big Island Channel "A" A.D. Cross-Section 108+00-110+00
22	BIM Channel "A" A.D. Survey 105+00 to 117+00	Xsecsh3.dxf	7-6-98	Big Island Channel "A" A.D. Cross-Section 111+00-113+00
22	BIM Channel "A" A.D. Survey 105+00 to 117+00	Xsecsh4.dxf	7-6-98	Big Island Channel "A" A.D. Cross-Section 114+00-116+00
22	BIM Channel "A" A.D. Survey 105+00 to 117+00	Xsecsh5.dxf	7-6-98	Big Island Channel "A" A.D. Cross-Section 117+00
23	BIM Channel "A" A.D. Survey 118+00-139+00	118139ad.dxf	7-19-98	Xsection Plan View 118+00-139+00

2?	BIM Channel "A" A.D. Survey 118+00-139+00	Xsecsh1.dxf	7-19-98	Xsection 118+00-121+00
23	BIM Channel "A" A.D. Survey 118+00-139+00	Xsecsh2.dxf	7-19-98	Xsection 122+00-124+00
23	BIM Channel "A" A.D. Survey 118+00-139+00	Xsecsh3.dxf	7-19-98	Xsection 125+00-128+00
23	BIM Channel "A" A.D. Survey 118+00-139+00	Xsecsh4.dxf	7-19-98	Xsection 129+00-132+00
23	BIM Channel "A" A.D. Survey 118+00-139+00	Xsecsh5.dxf	7-19-98	Xsection 133+00-136+00
23	BIM Channel "A" A.D. Survey 118+00-139+00	Xsecsh6.dxf	7-19-98	Xsection 137+00-139+00
24	BIM Channel "A" A.D. 140+00-180+00	Subsh1.dxf	8-30-98	Cross section 140+00-143+00
?	BIM Channel "A" A.D. 140+00-180+00	Subsh2.dxf	8-30-98	Cross section 144+00-147+00
24	BIM Channel "A" A.D. 140+00-180+00	Subsh3.dxf	8-30-98	Cross section 148+00-151+00
24	BIM Channel "A" A.D. 140+00-180+00	Subsh4.dxf	8-30-98	Cross section 152+00-154+00
24	BIM Channel "A" A.D. 140+00-180+00	Subsh5.dxf	8-30-98	Cross section 155+00-158+00
24	BIM Channel "A" A.D. 140+00-180+00	Subsh10.dxf	8-30-98	Cross section 175+00-178+00
24	BIM Channel "A" A.D. 140+00-180+00	Subsh11.dxf	8-30-98	Cross section 179+00-180+00
25	BIM Channel "A" A.D. 140+00-180+00	Subsh6.dxf	8-30-98	Cross section 159+00-162+00
25	BIM Channel "A" A.D. 140+00-180+00	Subsh7.dxf	8-30-98	Cross section 163+00-164+00
25	BIM Channel "A" A.D. 140+00-180+00	Subsh8.dxf	8-30-98	Cross section 167+00-170+00

	BIM Channel "A" A.D. 140+00-180+00	Subsh9.dxf	8-30-98	Cross section 171+00-174+00
26	BIM Channel "A" A.D. Survey	Xsecsh1.dxf	9-20-98	Cross section 180+00-183+00
26	BIM Channel "A" A.D. Survey	Xsecsh2.dxf	9-20-98	Cross section 184+00-187+00
26	BIM Channel "A" A.D. Survey	Xsecsh3.dxf	9-20-98	Cross section 188+00-191+00
26	BIM Channel "A" A.D. Survey	Xsecsh4.dxf	9-20-98	Cross section 192+00-195+00
26	BIM Channel "A" A.D. Survey	Xsecsh5.dxf	9-20-98	Cross section 196+00-199+00
26	BIM Channel "A" A.D. Survey	Xsecsh6.dxf	9-20-98	Cross section 200+00-203+00
27	BIM Channel "A" A.D. Survey	180206ad.dxf	9-20-98	Plan view cross section sta 180+00 206+00
27	BIM Channel "A" A.D. Survey	180206ad.xyz	9-24-98	x,y,z co-ordinates, no point numbers
	BIM Channel "A" A.D. Survey	Channel.prn	9-24-98	Templet co-ordinates
27	BIM Channel "A" A.D. Survey	PLANCLAD.dxf	9-19-98	Plan view centerline 180+00-206+00
27	BIM Channel "A" A.D. Survey	Xsecsh7.dxf	9-20-98	Cross section 204+00-206+00
28	BIM Disk 1 Channel "A" B.D. Surveys	CHANA1PLAN.dwg	3-19-98	BIM Channel "A" Plan view -3+00 to 20+00
28	BIM Disk 1 Channel "A" B.D. Surveys	XSECH1.dwg	3-15-98	W Pass Channel "A" Cross Section 3+00 to 1+00
28	BIM Disk 1 Channel "A" B.D. Surveys	XSECH2.dwg	3-15-98	W Pass Channel "A" Cross Section 2+00 to 6+00
28	BIM Disk 1 Channel "A" B.D. Surveys	XSECH3.dwg	3-15-98	W Pass Channel "A" Cross Section 7+00 to 10+00

	BIM Disk 1 Channel "A" B.D. Surveys	XSECH4.dwg	3-15-98	W Pass Channel "A" Cross Section 10+00 to 20+00
28	BIM Disk 1 Channel "A" B.D. Surveys	Bimcha.wp4.txt	11-23-98	BIM Channel "A" Template Co-ordinate
29	BIM Disk 2 Channel "A" B.D. Surveys	Tem 20-30.wp4.txt	11-23-98	Big Island Channel "A" Template Co-ordinates
29	BIM Disk 2 Channel "A" B.D. Surveys	BIM 2230p.dwg	3-19-98	Big Island Channel "A" Plan View 20+00 to 30+00
29	BIM Disk 2 Channel "A" B.D. Surveys	Bix 2230a.dwg	3-19-98	Big Island Channel "A" Cross Section 22+00 to 36+00
29	BIM Disk 2 Channel "A" B.D. Surveys	Bix 2230a.dwg	3-19-98	Big Island Channel "A" Cross Section 27+00 to 30+00
29	BIM Disk 2 Channel "A" B.D. Surveys	Chanalb.dxf	3-26-98	Big Island Channel "A" Elevation Shots sta 22+00 to 30+00
	BIM Disk 2 Channel "A" B.D. Surveys	Xsectshl.dxf	3-26-98	Big Island Channel "A" Cross Section 22+00 to 26+00
29	BIM Disk 2 Channel "A" B.D. Surveys	Xsectsh2.dxf	3-26-98	Big Island Channel "A" Cross Section 27+00 to 30+00
30	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	Xsbdsh1.dwg	3-30-98	BIM Channel "A" BD Cross Sections sta 35+00 to 39+00
30	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	Xsbdsh2.dwg	3-30-98	BIM Channel "A" BD Cross Sections sta 40+00 to 44+00
30	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	Xsbdsh3.dwg	3-29-98	BIM Channel "A" BD Cross Sections sta 45+00 to 49+00
30	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	Xsbdsh4.dwg	3-29-98	BIM Channel A BD Cross Sections sta 50+00 to 54+00

	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	BA31-58p.dwg	10-23-98	Big Island Channel "A" Plan View 30+00 to 57+98
31	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	BAX31-34.dwg	3-30-98	Big Island Channel "A" BD Cross Sections sta 31+00 to 34+00
31	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	Xsbdsh5.dwg	3-29-98	BIM Channel "A" BD Cross Section sta 55+00 to 57+98
31	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	Bax31sh1.dwg	3-30-98	BIM Channel "A" BD Cross Section Sta 31+00 to 34+00
31	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	Ba31-58p.bak	3-30-98	Back Up File
31	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	BIMTEM.wk4	11-20-98	Channel Template Bottom Co-ordinates
31	BIM Channel "A" Sta 30+00 to 58+00 B.D. Surveys	BIMTEM.Coo.tt	3-31-98	Channel Template Bottom Co-ordinates
	BIM Channel "A" BD Survey 58+00 to 92+00	BA5892.52.dwg	4-15-98	Big Island Channel A B.D. Cross Sections sta 68+00 to 76+00
32	BIM Channel "A" BD Survey	BA5892.53.dwg	4-15-98	Big Island Channel A B.D. Cross Sections sta 78+00 to 87+00
32	BIM Channel "A" BD Survey	BA5892.54dwg	4-15-98	Big Island Channel A B.D. Cross Section sta 88+00 to 92+00
32	BIM Channel "A" BD Survey	B1A5875P.dwg	4-15-98	Big Island Channel A B.D. Plan View sta 58+00 to 75+00
32	BIM Channel "A" BD Survey	B1A5892S.dwg	4-15-98	Big Island Channel A X Section sta 58+00 to 67+00
32	BIM Channel "A" BD Survey	B1A7592P.dwg	4-15-98	Big Island Channel A B.D. Plan View sta 76+00 to 92+00
33	BIM Channel "A" B.D. Surveys 93+00 to 120+00	A93120BP.dwg	5-18-98	Big Island Channel A B.D. Plan View 93+00 to 120+00
33	BIM Channel "A" B.D. Surveys 93+00 to 120+00	A9397BDX.dwg	5-18-98	Big Island Channel A B.D. Xsection 93+00 to 97+00

	BIM Channel "A" B.D. Surveys 93+00 to 120+00	A98101BDX.dwg	5-18-98	Big Island Channel A B.D. Xsection 98+00 to 101+00
33	BIM Channel "A" B.D. Surveys 93+00 to 120+00	A102BDX.dwg	5-18-98	Big Island Channel A B.D. Xsection 102+00 to 104+00
33	BIM Channel "A" B.D. Surveys 93+00 to 120+00	A105BDX.dwg	5-18-98	Big Island Channel A B.D. Xsection 105+00 to 108+00
33	BIM Channel "A" B.D. Surveys 93+00 to 120+00	A109BDX.dwg	5-18-98	Big Island Channel A B.D. Xsection 109+00 to 112+00
33	BIM Channel "A" B.D. Surveys 93+00 to 120+00	BA113BDX.dwg	5-18-98	Big Island Channel A B.D. Xsection 113+00 to 116+00
33	BIM Channel "A" B.D. Surveys 93+00 to 120+00	BA117BDX.dwg	5-18-98	Big Island Channel A B.D. Xsection 117+00 to 120+00
34	BIM Channel "A" B.D. Xsection 120+00 to 152+16	XSEC1.dwg	5-23-98	Big Island Channel A B.D. X-section 120+00 - 123+00
	BIM Channel "A" B.D. Xsection 120+00 to 152+16	XSEC2.dwg	5-23-98	Big Island Channel A B.D. X-section 124+00 - 128+00
34	BIM Channel "A" B.D. Xsection 120+00 to 152+16	XSEC3.dwg	5-23-98	Big Island Channel A B.D. X-section 129+00 - 133+00
34	BIM Channel "A" B.D. Xsection 120+00 to 152+16	XSEC4.dwg	5-23-98	Big Island Channel A B.D. X-section 134+00 - 138+00
34	BIM Channel "A" B.D. Xsection 120+00 to 152+16	XSEC5.dwg	5-23-98	Big Island Channel A B.D. X-section 139+00 - 143+00
34	BIM Channel "A" B.D. Xsection 120+00 to 152+16	XSEC6.dwg	5-23-98	Big Island Channel A B.D. X-section 143+18 - 147+00
34	BIM Channel "A" B.D. Xsection 120+00 to 152+16	XSEC7.dwg	5-23-98	Big Island Channel A B.D. X-section 147+18 - 151+00
34	BIM Channel "A" B.D. Xsection 120+00 to 152+16	XSEC8.dwg	5-23-98	Big Island Channel A B.D. X-section 152+00 - 152+16

35	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec1.dwg	5-20-98	Big Island Channel A B.D. X-section Cross Section 152+16 - 157+00
35	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec2.dwg	5-20-98	Big Island Channel A B.D. X-section Cross Section 158+00 - 163+00
35	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec3.dwg	5-20-98	Big Island Channel A B.D. X-section Cross Section 164+00 - 169+00
35	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec4.dwg	5-20-98	Big Island Channel A B.D. X-section Cross Section 170+00 - 175+00
35	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec5.dwg	5-20-98	Big Island Channel A B.D. X-section Cross Section 176+00 - 181+00
36	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec6.dwg	5-20-98	Big Island Channel A B.D. X-section 182+00 - 187+00
36	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec7.dwg	5-20-98	Big Island Channel A B.D. X-section 188+00 - 193+00
	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec8.dwg	5-20-98	Big Island Channel A B.D. X-section 194+00 - 196+00
36	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec9.dwg	5-20-98	Big Island Channel A B.D. X-section 200+00 - 205+00
36	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsec10.dwg	5-20-98	Big Island Channel A B.D. X-section 206+00
37	BIM Channel "A" B.D. Survey 143+00 - 180+00 375' Bottom	143-147.dwg	7-18-98	Big Island Channel A B.D. X-sec 90+00 - 180+00 Cross-Section 143+00 - 147+00
37	BIM Channel "A" B.D. Survey 143+00 - 180+00 375' Bottom	148-152.dwg	7-18-98	Big Island Channel A B.D.X-sec 90+00 - 180+00 Cross-Section 148+00 - 152+00

	BIM Channel "A" B.D. Survey 143+00 - 180+00 375' Bottom	152-156.dwg	7-18-98	Big Island Channel A B.D.X-sec 90+00 - 180+00 Cross-Section 152+16 - 156+00
37	BIM Channel "A" B.D. Survey 143+00 - 180+00 375' Bottom	157-161.dwg	7-18-98	Big Island Channel A B.D.X-sec 90+00 - 180+00 Cross-Section 157+00 - 161+00
37	BIM Channel "A" B.D. Survey 143+00 - 180+00 375' Bottom	162-166.dwg	7-18-98	Big Island Channel A B.D.X-sec 90+00 - 180+00 Cross-Section 162+00 - 166+00
37	BIM Channel "A" B.D. Survey 143+00 - 180+00 375' Bottom	167-171.dwg	7-18-98	Big Island Channel A B.D.X-sec 90+00 - 180+00 Cross-Section 167+00 - 171+00
38	BIM Channel "A" B.D. Survey 143+00 - 180+00 375' Bottom	172-176.dwg	7-18-98	Big Island Channel A B.D. X-sec 90+00-180+00 172+00-176+00
38	BIM Channel "A" B.D. Survey 143+00 - 180+00 375' Bottom	177-180.dwg	7-18-98	Big Island Channel A B.D. X-sec 90+00-180+00 177+00-180+00
38	BIM Channel "A" B.D. Survey 143+00 - 180+00 375' Bottom	Plan.dwg	7-19-98	Big Island Channel A Plan View 143+00 to 180+00
39	BIM Channel "A"	90180BD.xyz	7-19-98	x,y,z without point no.
40	BIM Channel "A" B.D. Survey Revised Widths, 180+00-206+00	180-184.dwg	7-17-98	Big Island Channel A B.D. X-section 180+00-184+00 (Labeled incorrectly as A.D. Surveys)
40	BIM Channel "A" B.D. Survey Revised Widths, 180+00-206+00	185-190.dwg	7-17-98	Big Island Channel A B.D. X-section 185+00-190+00 (Labeled incorrectly as A.D. Surveys)

40	BIM Channel "A" B.D. Survey Revised Widths, 180+00-206+00	191-196.dwg	7-17-98	Big Island Channel A B.D. X-section 191+00-196+00 (Labeled incorrectly as A.D. Surveys)
40	BIM Channel "A" B.D. Survey Revised Widths, 180+00-206+00	197-201.dwg	7-17-98	Big Island Channel A B.D. X-section 197+00-201+00 (Labeled incorrectly as A.D. Surveys)
40	BIM Channel A B.D. Survey Revised Widths, 180+00-206+00	202-206.dwg	7-17-98	Big Island Channel "A" B.D. X-section 202+00-206+05
40	BIM Channel A B.D. Survey Revised Widths, 180+00-206+00	Channel.prn	7-20-98	Channel Templet x,y
40	BIM Channel A B.D. Survey Revised Widths, 180+00-206+00	Plan.dwg	7-20-98	Big Island Channel A B.D. X-section Plan View 180+00-184+00
40	BIM Channel A B.D. Survey Revised Widths, 180+00-206+00	Toe.dat	7-20-98	Station Line Co-ordinater
41	BIM Channel "A" B.D. Survey 143+00 to 180+00	Xsecsh1.dxf	7-18-98	Big Island Channel A B.D. X-section 143+00 -147+00
41	BIM Channel "A" B.D. Survey 143+00 to 180+00	Xsecsh2.dxf	7-18-98	Big Island Channel A B.D. X-section 148+00 -152+00
41	BIM Channel "A" B.D. Survey 143+00 to 180+00	Xsecsh3.dxf	7-18-98	Big Island Channel A B.D. X-section 152+16 -156+00
41	BIM Channel "A" B.D. Survey 143+00 to 180+00	Xsecsh4.dxf	7-18-98	Big Island Channel A B.D. X-section 157+00 -161+00
41	BIM Channel "A" B.D. Survey 143+00 to 180+00	Xsecsh5.dxf	7-18-98	Big Island Channel A B.D. X-section 162+00 -166+00
41	BIM Channel "A" B.D. Survey 143+00 to 180+00	Xsecsh6.dxf	7-18-98	Big Island Channel A B.D. X-section 167+00 -171+00
42	BIM Channel "A" B.D. Survey 143+00-180+00	90180bd.dxf	7-19-98	Plan View of Cross Sections 90+00-180+00

	BIM Channel "A" B.D. Survey 143+00 to 180+00	Toe375.dat	7-19-98	Toe of Channel Co-Ordinator length and azimuth
42	BIM Channel "A" B.D. Survey 143+00 to 180+00	Xsecsh7.dxf	7-19-98	Big Island Channel A B.D. X-section 172+00 -176+00
42	BIM Channel "A" B.D. Survey 143+00 to 180+00	Xsecsh8.dxf	7-19-98	Big Island Channel A B.D. X-section 177+00-180+00
43	BIM Channel "A" B.D. Survey 180+00-207+00 Various Widths	Xsecsh1.dxf	7-17-98	Big Island Channel A B.D. X-section 180+00 to 184+00
43	BIM Channel "A" B.D. Survey 180+00-207+00 Various Widths	Xsecsh2.dxf	7-17-98	Big Island Channel A B.D. X-section 185+00 to 190+00
43	BIM Channel "A" B.D. Survey 180+00-207+00 Various Widths	Xsecsh3.dxf	7-17-98	Big Island Channel A B.D. X-section 191+00 to 196+00
43	BIM Channel "A" B.D. Survey 180+00-207+00 Various Widths	Xsecsh4.dxf	7-17-98	Big Island Channel A B.D. X-section 197+00 to 201+00
43	BIM Channel "A" B.D. Survey 180+00-207+00 Various Widths	Xsecsh5.dxf	7-17-98	Big Island Channel A B.D. X-section 202+00 to 206+05
44	BIM Channel "A" B.D. Survey 180+00-207+00 Revised Widths	108206bd.dxf	7-20-98	Plan View Sta 180+00-206+00
44	BIM Channel "A" B.D. Survey 180+00-207+00 Revised Widths	108206bd.xyz	7-20-98	x,y,z Co-ordinates no point no.

	BIM Channel "A" Before Dredge 58+00 to 92+00	58-92shl.dxf	4-15-98	BIM Channel "A" B.D. Cross Section sta 58+00 to 67+00
45	BIM Channel "A" Before Dredge 58+00 to 92+00	58-92sh2.dxf	4-15-98	BIM Channel "A" B.D. Cross Section sta 68+00 to 77+00
45	BIM Channel "A" Before Dredge 58+00 to 92+00	58-92sh3.dxf	4-15-98	BIM Channel "A" B.D. Cross Section sta 78+00 to 87+00
45	BIM Channel "A" Before Dredge 58+00 to 92+00	58-92sh4.dxf	4-15-98	BIM Channel "A" B.D. Cross Section sta 88+00 to 92+00
45	BIM Channel "A" Before Dredge 58+00 to 92+00	CHANA2.dxf	4-15-98	BIM Channel A Plan View sta 57+98 to 75+00
46	BIM Channel "A" Sta 30+00 to 58+00 B.D. Survey	BA31-58p.dxf	3-30-98	BIM Channel A Plan View Section sta 3+00 to 58+00
46	BIM Channel "A" Sta 30+00 to 58+00 B.D. Survey	Xsbdsh1.dxf	3-29-98	BIM Channel A BD Cross Section sta 35+00 to 39+00
46	BIM Channel "A" Sta 30+00 to 58+00 B.D. Survey	Xsbdsh2.dxf	3-29-98	BIM Channel A BD Cross Section sta 40+00 to 44+00
46	BIM Channel "A" Sta 30+00 to 58+00 B.D. Survey	Xsbdh4.dxf	3-29-98	BIM Channel A BD Cross Section sta 50+00 to 54+00
46	BIM Channel "A" Sta 30+00 to 58+00 B.D. Survey	Xsbdshs.dxf	3-29-98	BIM Channel A BD Cross Section sta 55+00 to 57+98
47	BIM Channel "A" B.D. 93+00 to 120+00 dxf files	CHAGPSF.dxf	5-18-98	B.D. Plan View elevations sta 93+00 - 120+00
47	BIM Channel "A" B.D. 93+00 to 120+00 dxf files	SH1.dxf	5-18-98	B.D. Cross Section 93+00 - 97+00
47	BIM Channel "A" B.D. 93+00 to 120+00 dxf files	SH2.dxf	5-18-98	B.D. Cross Section 94+00 - 101+00

	BIM Channel "A" B.D. 93+00 to 120+00 dxf files	SH3.dxf	5-18-98	B.D. Cross Section 102+00 - 104+00
47	BIM Channel "A" B.D. 93+00 to 120+00 dxf files	SH4.dxf	5-18-98	B.D. Cross Section 105+00 - 108+00
47	BIM Channel "A" B.D. 93+00 to 120+00 dxf files	SH5.dxf	5-18-98	B.D. Cross Section 109+00 - 112+00
47	BIM Channel "A" B.D. 93+00 to 120+00 dxf files	SH6.dxf	5-18-98	B.D. Cross Section 113+00 - 116+00
47	BIM Channel "A" B.D. 93+00 to 120+00 dxf files	SH7.dxf	5-18-98	B.D. Cross Section 117+00 - 120+00
48	BIM Channel A B.D. X-sec 120+00 to 152+16	Xsecsh1.dxf	5-23-98	Big Island Channel "A" B.D. X-section 120+00 - 123+00
48	BIM Channel A B.D. X-sec 120+00 to 152+16	Xsecsh2.dxf	5-23-98	Big Island Channel "A" B.D. X-section 124+00 - 128+00
	BIM Channel A B.D. X-sec 120+00 to 152+16	Xsecsh3.dxf	5-23-98	Big Island Channel "A" B.D. X-section 129+00 - 133+00
48	BIM Channel A B.D. X-sec 120+00 to 152+16	Xsecsh4.dxf	5-23-98	Big Island Channel "A" B.D. X-section 134+00 - 138+00
48	BIM Channel A B.D. X-sec 120+00 to 152+16	Xsecsh5.dxf	5-23-98	Big Island Channel "A" B.D. X-section 139+00 - 143+00
48	BIM Channel A B.D. X-sec 120+00 to 152+16	Xsecsh6.dxf	5-23-98	Big Island Channel "A" B.D. X-section 143+00 - 147+00
48	BIM Channel A B.D. X-sec 120+00 to 152+16	Xsecsh7.dxf	5-23-98	Big Island Channel "A" B.D. X-section 147+00 - 151+00
48	BIM Channel A B.D. X-sec 120+00 to 152+16	Xsecsh8.dxf	5-23-98	Big Island Channel "A" B.D. X-section 152+00 - 152+16

	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsecsh1.dxf	5-20-98	Big Island Channel A 152+16 - 157+00
49	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsecsh2.dxf	5-20-98	Big Island Channel A 158+16 - 163+00
49	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsecsh3.dxf	5-20-98	Big Island Channel A 164+16 - 169+00
49	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsecsh4.dxf	5-20-98	Big Island Channel A 170+00 - 175+00
49	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Xsecsh5.dxf	5-20-98	Big Island Channel A 176+16 - 181+00
50	BIM Channel "A" B.D. X-sec 152+16 to 206+00	Xsectx6.dxf	5-20-98	Big Island Channel A 182+00 - 187+00
50	BIM Channel "A" B.D. X-sec 152+16 to 206+00	Xsectx7.dxf	5-20-98	Big Island Channel A 188+00 - 193+00
50	BIM Channel "A" B.D. X-sec 152+16 to 206+00	Xsectx8.dxf	5-20-98	Big Island Channel A 194+00 - 196+00
50	BIM Channel "A" B.D. X-sec 152+16 to 206+00	Xsectx9.dxf	5-20-98	Big Island Channel A 197+00-201+00
50	BIM Channel "A" B.D. X-sec 152+16 to 206+00	Xsectx10.dxf	5-20-98	Big Island Channel A 202+00-206+05

51	BIM Channel "A" B.D. Surveys	Bimch-a t.o.c.58-92.wk.4	11-20-98	Table of Contents for Survey point Tabulation Sta 52+00-92+00
51	BIM Channel "A" B.D. Surveys	Bimchatmp 58-92.wk.4	11-20-98	Big Island Channel "A" Template Tabulation Sta 58+00 to 92+00
51	BIM Channel "A" BD Surveys	CHANA2A.DXF	4-15-98	Big Island Channel A Plan View sta 76+00 to 92+00

	BIM Channel "A" B.D. Plan View 120+00 - 152+16	Chana3.dxf	5-25-98	Plan View of Channel A Sta 120+00 to 152+16
52	BIM Channel "A" B.D. Plan View 120+00 - 152+16	Chana3.xyz	5-25-98	Point file, no point #
52	BIM Channel "A" B.D. Plan View 120+00 - 152+16	Channel.prn	5-25-98	Point file, no point #
52	BIM Channel "A" B.D. Plan View 120+00 - 152+16	Lines.dat	5-25-98	Centerline Profile
52	BIM Channel "A" B.D. Plan View 120+00 - 152+16	plan.dwg	5-25-98	Plan view of Channel A 120+00 - 152+16
53	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Chana4.dxf	5-19-98	Cross Section Plan View of Channel "A" Sta. 178+00-206+00
53	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Chana4b.dxf	5-20-98	Plan view of Channel "A"
53	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Plan1.dwg	5-20-98	Plan view Channel "A" 152+00 to 177+00
53	BIM Channel "A" B.D. X-sec 152+16 - 206+00	Plan1.dwg	5-20-98	Planview Channel "A" 178+00 to 206+00
54	BIM Channel "A" B.D. X-section	Chana4.xyz	5-21-98	x,y,z no point numbers
54	BIM Channel "A" B.D. X-section	Channel.prn	5-25-98	Channel A 152+16 - 206+00 Cross Section line co-ordinate
54	BIM Channel "A" B.D. X-section	Lines.xyz	5-25-98	Station and Co-ordinate X-section lines
55	BIM Channel "A" A.D. Survey 13+00-20+00	13-20.ad	4-17-98	Point data for survey

	BIM Channel A A.D. Survey x,y,z file	BICHAAD2.xyz	5-6-98	Point File x,y,z no pt. numbers
57	BIM Channel "A" A.D. 64+00 - 97+00	Sub64-87.xyz	6-12-98	x,y,z co-ordinates no. pt. numbers
57	BIM Channel "A" A.D. 64+00-97+00	Toe.dat	6-12-98	Cross section line co-ordinates azimuth, distance
58	BIM Channel "A" A.D. Survey 118-+00-139+00	118139ad.xyz	7-19-98	x,y,z co-ordinates no point numbers
58	BIM Channel "A" A.D. Survey 118+00-139+00	Toe.dat	7-19-98	Cross section line co-ordinates, azimuth, distances
59	Big Island-3+00-58+00 Channel A x,y,z file A.D. Survey	Bimcha.xyz	4-9-98	x,y,z co-ordinates with date and time
60	BIM Channel "A" A.D. Survey 140+00 -180+00	140180ad.xyz	9-3-98	x,y,z co-ordinates with date and time
61	Big Island A.D. A.D. Survey 42+00 to 63+00 xyz	Ad42-63.xyz	1-23-99	x,y,z co-ordinates no point numbers
62	BIM Channel "A" Pt. Tabulation File B.D. Survey 58+00 - 72+00	CH-a	4-15-98	Data collected 3-19-98 sta 58+00 to 72+00
63	BIM Channel "A" Pt. Tabulation B.D. Survey 73+00 - 92+00	CHANA.TXT	4-15-98	Data collected on 3-19-98 sta 73+00 to 92+00

	BIM Channel "A" B.D. 93+00 to 120+00 xyz files	CHAGPSF.xyz	5-19-98	x,y,z no point numbers
65	Big Island-3+00-58+00 Channel A x,y,z file B.D. Survey	Bimcha.xyz	4-9-98	x,y,z co-ordinates with date and time
66	BIM Channel "B" B.D. Survey 160' Channel	XSEC1.dwg	6-14-98	Big Island Channel B B.D. Xsection 0+00-5+00
66	BIM Channel "B" B.D. Survey 160' Channel	XSEC2.dwg	6-14-98	Big Island Channel B B.D. Xsection 6+00-11+00
66	BIM Channel "B" B.D. Survey 160' Channel	XSEC3.dwg	6-14-98	Big Island Channel B B.D. Xsection 12+00-17+00
66	BIM Channel "B" B.D. Survey 160' Channel	XSEC4.dwg	6-14-98	Big Island Channel B B.D. Xsection 18+00-23+00
66	BIM Channel "B" B.D. Survey 160' Channel	XSEC5.dwg	6-14-98	Big Island Channel B B.D. Xsection 24+00-29+00
66	BIM Channel "B" B.D. Survey 160' Channel	XSEC6.dwg	6-14-98	Big Island Channel B B.D. Xsection 30+00-35+00
66	BIM Channel "B" B.D. Survey 160' Channel	XSEC7.dwg	6-14-98	Big Island Channel B B.D. Xsection 36+00-41+00
66	BIM Channel "B" B.D. Survey 160' Channel	XSEC10.dwg	6-14-98	Big Island Channel B B.D. Xsection 54+00-55+00
67	BIM Channel "B" B.D. Survey 160' Channel	Plan.dwg	6-15-98	Plan View of Cross section 0+00-27+00 No title on drawing
67	BIM Channel "B" B.D. Survey 160' Channel	Plan 2.dwg	6-15-98	Big Island Channel "B" B.D. Xsection Plan view 28+00-55+00
67	BIM Channel "B" B.D. Survey 160' Channel	XSEC10.dwg	6-15-98	Big Island Channel "B" B.D. Xsection Plan view 54+00-55+00
67	BIM Channel "B" B.D. Survey 160' Channel	XSEC8.dwg	6-15-98	Big Island Channel "B" B.D. Xsection Plan view 42+00-47+00
67	BIM Channel "B" B.D. Survey 160' Channel	XSEC9.dwg	6-15-98	Big Island Channel "B" B.D. Xsection Plan view 48+00-53+00
68	BIM Channel "B" B.D. Survey	Xsecsh1.dxf	6-14-98	Channel "B" Cross section 0+00-5+00

	BIM Channel "B" B.D. Survey	Xsecsh2.dxf	6-14-98	Channel "B" Cross section 6+00-11+00
68	BIM Channel "B" B.D. Survey	Xsecsh3.dxf	6-14-98	Channel "B" Cross section 12+00-17+00
68	BIM Channel "B" B.D. Survey	Xsecsh4.dxf	6-14-98	Channel "B" Cross section 18+00-23+00
68	BIM Channel "B" B.D. Survey	Xsecsh5.dxf	6-14-98	Channel "B" Cross section 24+00-29+00
68	BIM Channel "B" B.D. Survey	Xsecsh6.dxf	6-14-98	Channel "B" Cross section 30+00-35+00
68	BIM Channel "B" B.D. Survey	Xsecsh7.dxf	6-14-98	Channel "B" Cross section 36+00-41+00
68	BIM Channel "B" B.D. Survey	Xsecsh8.dxf	6-14-98	Channel "B" Cross section 42+00-47+00
69	BIM Channel "B" B.D. Survey	Chanb160.dxf	6-15-98	Plan View Cross Section 0+00-55+00
69	BIM Channel "B" B.D. Survey	Chanb160.xyz	6-9-98	x,y,z co-ordinates no point numbers
69	BIM Channel "B" B.D. Survey	Earth.Sum	6-15-98	Summary of Volume Computation
	BIM Channel "B" B.D. Survey	Toe.dat	6-15-98	Template co-ordinates
69	BIM Channel "B" B.D. Survey	Xsecsh10.dxf	6-14-98	Big Island Channel "B" B.D. Cross Section 54+00-55+00
69	BIM Channel "B" B.D. Survey	Xsecsh9.dxf	6-14-98	Big Island Channel "B" B.D. Cross Section 48+00-53+00
70	BIM Channel "B" A.D. Survey	Xsec0-3.dwg	8-17-98	Cross section 0+00-3+00
70	BIM Channel "B" A.D. Survey	Xsec4-7.dwg	8-17-98	Cross section 4+00-7+00
70	BIM Channel "B" A.D. Survey	Xsec8-11.dwg	8-17-98	Cross section 8+00-11+00
70	BIM Channel "B" A.D. Survey	Xsec12-15.dwg	8-17-98	Cross section 12+00-15+00
70	BIM Channel "B" A.D. Survey	Xsec16-19.dwg	8-17-98	Cross section 16+00-19+00
70	BIM Channel "B" A.D. Survey	Xsec20-23.dwg	8-17-98	Cross section 20+00-23+00
70	BIM Channel "B" A.D. Survey	Xsec24-27.dwg	8-17-98	Cross section 24+00-27+00

	BIM Channel "B" A.D. Survey	Xsec28-31.dwg	8-17-98	Cross section 28+00-31+00
71	BIM Channel "B" A.D. Survey	Plan1.dwg	9-7-98	Cross Section Plan View Channel "B" Sta. 0+00-27+00
71	BIM Channel "B" A.D. Survey	Plan2.dwg	8-18-98	Cross Section Plan View Channel "B" Sta. 28+00-55+00
71	BIM Channel "B" A.D. Survey	Xsec32-35.dwg	8-17-98	Cross section 32+00-35+00
71	BIM Channel "B" A.D. Survey	Xsec36-38.dwg	8-17-98	Cross section 36+00-38+00
71	BIM Channel "B" A.D. Survey	Xsec39-42.dwg	8-17-98	Cross section 39+00-42+00
71	BIM Channel "B" A.D. Survey	Xsec43-46.dwg	8-17-98	Cannot open error message
71	BIM Channel "B" A.D. Survey	Xsec47-50.dwg	8-17-98	Cross section 47+00-50+00
71	BIM Channel "B" A.D. Survey	Xsec50.dwg	8-17-98	Cross section 55+00
	BIM Channel "B" A.D. Survey	Xsecsh1.dxf	8-17-98	Cross section 0+00-3+00
72	BIM Channel "B" A.D. Survey	Xsecsh2.dxf	8-17-98	Cross section 4+00-7+00
72	BIM Channel "B" A.D. Survey	Xsecsh3.dxf	8-17-98	Cross section 8+00-11+00
72	BIM Channel "B" A.D. Survey	Xsecs4.dxf	8-17-98	Cross section 12+00-15+00
72	BIM Channel "B" A.D. Survey	Xsecsh5.dxf	8-17-98	Cross section 16+00-19+00
72	BIM Channel "B" A.D. Survey	Xsecsh6.dxf	8-17-98	Cross section 20+00-23+00
72	BIM Channel "B" A.D. Survey	Xsecsh7.dxf	8-17-98	Cross section 24+00-27+00
72	BIM Channel "B" A.D. Survey	Xsecsh8.dxf	8-17-98	Cross section 28+00-31+00
72	BIM Channel "B" A.D. Survey	Xsecsh9.dxf	8-17-98	Cross section 32+00-35+00

	BIM Channel "B" A.D. Survey	Chanbad.dxf	8-17-98	Cross Section Plan view 0+00-55+00
73	BIM Channel "B" A.D. Survey	Xsecsh10.dxf	8-17-98	Cross section 36+00-38+00
73	BIM Channel "B" A.D. Survey	Xsecsh11.dxf	8-17-98	Cross section 39+00-42+00
73	BIM Channel "B" A.D. Survey	Xsecsh12.dxf	8-17-98	Cross section 43+00-46+00
73	BIM Channel "B" A.D. Survey	Xsecsh13.dxf	8-17-98	Cross section 47+00-50+00
73	BIM Channel "B" A.D. Survey	Xsecsh14.dxf	8-17-98	Cross section 51+00-54+00
73	BIM Channel "B" A.D. Survey	Xsecsh15.dxf	8-17-98	Cross section 55+00
74	BIM Channel "B" A.D. Survey	Chanbad.xyz	8-18-98	x,y,z co-ordinates no. pt. numbers
74	BIM Channel "B" A.D. Survey	pil.dat	8-14-98	file is just list of zeroes
74	BIM Channel "B" A.D. Survey	Toe.dat	8-18-98	Cross section line co-ordinates azmuth and distance
75	BIM Channel "B" Revised	Chanbr.dxf	5-28-98	File will not open incomplete dxf input
75	BIM Channel "B" Revised	Chb09xbf.dwg	5-28-98	Big Island Channel B B.D. Xsection 0+00-9+00
75	BIM Channel "B" Revised	Chnbpbd1.dwg	5-28-98	Big Island Channel B Plan view 0+00-27+00
75	BIM Channel "B" Revised	Chnbpbd2.dwg	5-28-98	Big Island Channel B Plan view 28+00-55+00
76	BIM Channel "B" Revised	bb1017xbd.dwg	5-28-98	Big Island Channel B B.D. Xsect 10+00-19+00
76	BIM Channel "B" Revised	bb2029xbd.dwg	5-28-98	Big Island Channel B B.D. Xsect 20+00-29+00
76	BIM Channel "B" Revised	bb3039xbd.dwg	5-28-98	Big Island Channel B B.D. Xsect 30+00-39+00
76	BIM Channel "B" Revised	bb4049xbd.dwg	5-28-98	Big Island Channel B B.D. Xsect 40+00-49+00

7	BIM Channel "B" Revised	bb5055xbd.dwg	5-28-98	Big Island Channel B B.D. Xsect 50+00-55+00
76	BIM Channel "B" Revised	Chanbpbd.dwg	5-28-98	Cross section Plan view 0+00-55+00
77	BIM Channel "B" Revised	bdsh1.dxf	5-28-98	Cross section 0+00-9+00
77	BIM Channel "B" Revised	bdsh2.dxf	5-28-98	Cross section 10+00-19+00
77	BIM Channel "B" Revised	bdsh3.dxf	5-28-98	Cross section 20+00-29+00
77	BIM Channel "B" Revised	bdsh4.dxf	5-28-98	Cross section 30+00-39+00
77	BIM Channel "B" Revised	bdsh5.dxf	5-28-98	Cross section 40+00-49+00
77	BIM Channel "B" Revised	bdsh6.dxf	5-28-98	Cross section 50+00-55+00
78	BIM Channel "B" Revised B.D. Surveys	Chanbr.xyz	5-31-98	x,y,z co-ordinates, date, time
79	BIM Channel "B" Revision B.D. Survey	Chan.dat	6-9-98	Cross section line co-ordinates, azimuth and distance
79	BIM Channel "B" Revision B.D. Survey	Xsec10.dwg	6-5-98	Big Island Channel B B.D. Cross section 45+00-49+00
79	BIM Channel "B" Revision B.D. Survey	Xsec11.dwg	6-5-98	Big Island Channel B B.D. Cross section 50+00-54+00
79	BIM Channel "B" Revision B.D. Survey	Xsec12.dwg	6-5-98	Big Island Channel B B.D. Cross section 55+00
80	BIM Channel "B" Revision B.D. Survey	Xsec1.dwg	6-5-98	Big Island Channel B Cross section 0+00-4+00
80	BIM Channel "B" Revision B.D. Survey	Xsec2.dwg	6-5-98	Big Island Channel B Cross section 5+00-9+00
80	BIM Channel "B" Revision B.D. Survey	Xsec3.dwg	6-5-98	Can not open file
80	BIM Channel "B" Revision B.D. Survey	Xsec4.dwg	6-5-98	Big Island Channel B Cross section 15+00-19+00

	BIM Channel "B" Revision B.D. Survey	Xsec5.dwg	6-5-98	Big Island Channel B Cross section 20+00-24+00
80	BIM Channel "B" Revision B.D. Survey	Xsec6.dwg	6-5-98	Big Island Channel B Cross section 25+00-29+00
80	BIM Channel "B" Revision B.D. Survey	Xsec7.dwg	6-5-98	Big Island Channel B Cross section 30+00-34+00
80	BIM Channel "B" Revision B.D. Survey	Xsec8.dwg	6-5-98	Big Island Channel B Cross section 35+00-39+00
80	BIM Channel "B" Revision B.D. Survey	Xsec9.dwg	6-5-98	Big Island Channel B Cross section 40+00-44+00
81	BIM Channel "B" Revision B.D. Survey	Xsecsh1.dxf	6-5-98	Cross section 0+00-1+00
81	BIM Channel "B" Revision B.D. Survey	Xsecsh2.dxf	6-5-98	Cross section 5+00-9+00
81	BIM Channel "B" Revision B.D. Survey	Xsecsh3.dxf	6-5-98	Cross section 10+00-14+00
81	BIM Channel "B" Revision B.D. Survey	Xsecsh4.dxf	6-5-98	Cross section 15+00-19+00
81	BIM Channel "B" Revision B.D. Survey	Xsecsh5.dxf	6-5-98	Cross section 20+00-24+00
	BIM Channel "B" Revision B.D. Survey	Xsecsh6.dxf	6-5-98	Cross section 25+00-29+00
81	BIM Channel "B" Revision B.D. Survey	Xsecsh7.dxf	6-5-98	Cross section 30+00-34+00
81	BIM Channel "B" Revision B.D. Survey	Xsecsh8.dxf	6-5-98	Cross section 35+00-39+00
81	BIM Channel "B" Revision B.D. Survey	Xsecsh9.dxf	6-5-98	Cross section 40+00-44+00
81	BIM Channel "B" Revision B.D. Survey	Xsecsh10.dxf	6-5-98	Cross section 45+00-49+00
82	BIM Channel "B" Revision B.D. Survey	Xsecsh11.dxf	6-5-98	Cross section 50+00-54+00
82	BIM Channel "B" Revision B.D. Survey	Xsecsh12.dxf	6-5-98	Cross section 55+00
83	BIM Channel "B" Revision B.D. Survey	Chanb.dxf	6-6-98	Cross section Plan view 0+00-55+00
83	BIM Channel "B" Revision B.D. Survey	Chanb200.xyz	6-9-98	x,y,z co-ordinates no point numbers

	BIM Channel "B" Revision B.D. Survey	Plan1.dwg	6-8-98	Big Island Channel B Plan view 0+00-27+00
83	BIM Channel "B" Revision B.D. Survey	Plan2.dwg	6-8-98	Big Island Channel B Plan view 27+00-55+00
84	BIM Channel "C" A.D. Survey	0-11.dwg	9-25-98	Big Island Channel C A.D. Cross section 0+00-11+00
84	BIM Channel "C" A.D. Survey	12-20.dwg	9-25-98	Big Island Channel C A.D. Cross section 12+00-20+00
84	BIM Channel "C" A.D. Survey	21-23.dwg	9-25-98	Big Island Channel C A.D. Cross section 21+00-23+00
84	BIM Channel "C" A.D. Survey	Chancad.xyz	9-26-98	x,y,z co-ordinates no point numbers
84	BIM Channel "C" A.D. Survey	Plan.dwg	9-25-98	Big Island Channel C A.D. Cross section Plan View 0+00-23+00
85	BIM Channel "C" A.D. Survey	Chancad.dxf	9-25-98	Big Island Channel C Cross section Plan view 0+00-23+00
85	BIM Channel "C" A.D. Survey	Channel.prn	9-25-98	x,y co-ordinates channel templet
85	BIM Channel "C" A.D. Survey	Secsh1.dxf	9-25-98	Cross sections 0+00-11+00
85	BIM Channel "C" A.D. Survey	Secsh2.dxf	9-25-98	Cross sections 12+00-20+00
85	BIM Channel "C" A.D. Survey	Secsh3.dxf	9-25-98	Cross sections 21+00-23+00
85	BIM Channel "C" A.D. Survey	Sta.dat	9-26-98	Cross sections line co-ordinates azimuths and distance
86	BIM Channel "C" B.D. Survey	000-900.dwg	7-18-98	Big Island Channel "C" B.D. Cross section 0+00-9+00
86	BIM Channel "C" B.D. Survey	10-19.dwg	7-18-98	Big Island Channel "C" B.D. Cross section 10+00-19+00
86	BIM Channel "C" B.D. Survey	20-24.dwg	7-18-98	Big Island Channel "C" B.D. Cross section 20+00-24+00
86	BIM Channel "C" B.D. Survey	Chancbd.dxf	7-16-98	Plan view cross section 0+00-24+00
86	BIM Channel "C" B.D. Survey	Chancbd.xyz	7-18-98	x,y,z co-ordinates no point numbers

	BIM Channel "C" B.D. Survey	Plan.dwg	7-17-98	Big Island Channel "C" Cross section Plan view 0+00-23+00
86	BIM Channel "C" B.D. Survey	Xsecsh1.dxf	7-18-98	Cross section 0+00-9+00
86	BIM Channel "C" B.D. Survey	Xsecsh2.dxf	7-18-98	Cross section 10+00-19+00
86	BIM Channel "C" B.D. Survey	Xsecsh3.dxf	7-18-98	Cross section 20+00-24+00
87	BIM Channel "D" A.D. Survey	Xsec1.dwg	6-12-98	Big Island Channel D A.D. Xsection 0+00-2+00
87	BIM Channel "D" A.D. Survey	Xsec2.dwg	6-12-98	Big Island Channel D A.D. Xsection 3+00-6+00
87	BIM Channel "D" A.D. Survey	Xsec3.dwg	6-12-98	Big Island Channel D A.D. Xsection 7+00-10+00
87	BIM Channel "D" A.D. Survey	Xsec4.dwg	6-12-98	Big Island Channel D A.D. Xsection 11+00-14+00
87	BIM Channel "D" A.D. Survey	Xsec5.dwg	6-12-98	Big Island Channel D A.D. Xsection 15+00-18+00
87	BIM Channel "D" A.D. Survey	Xsec6.dwg	6-12-98	Big Island Channel D A.D. Xsection 19+00-22+00
	BIM Channel "D" A.D. Survey	Xsec7.dwg	6-12-98	Big Island Channel D A.D. Xsection 23+00-26+00
87	BIM Channel "D" A.D. Survey	Xsec8.dwg	6-12-98	Big Island Channel D A.D. Xsection 27+00-30+00
88	BIM Channel "D" A.D. Survey	ChandAD.xyz	6-12-98	x,y,z co-ordinates no point number
88	BIM Channel "D" A.D. Survey	Lines.dat	6-12-98	Cross section line co-ordinates
88	BIM Channel "D" A.D. Survey	Plan.dwg	6-12-98	Error Drawing File is not valid
88	BIM Channel "D" A.D. Survey	TOE.dat	6-12-98	Cross section line co-ordinates azmuthes and distances
88	BIM Channel "D" A.D. Survey	Xsecsh10.dwg	6-12-98	Big Island Channel "D" A.D. Xsection 35+00-38+00
88	BIM Channel "D" A.D. Survey	Xsecsh11.dwg	6-12-98	Big Island Channel "D" A.D. Xsection 39+00-40+00
88	BIM Channel "D" A.D. Survey	Xsecsh9.dwg	6-12-98	Big Island Channel "D" A.D. Xsection 31+00-34+00

	BIM Channel "D" A.D. Survey	Xsecsh1.dxf	6-12-98	Cross-Section 0+00-2+00
89	BIM Channel "D" A.D. Survey	Xsecsh2.dxf	6-12-98	Cross-Section 3+00-6+00
89	BIM Channel "D" A.D. Survey	Xsecsh3.dxf	6-12-98	Cross-Section 7+00-10+00
89	BIM Channel "D" A.D. Survey	Xsecsh4.dxf	6-12-98	Cross-Section 11+00-14+00
89	BIM Channel "D" A.D. Survey	Xsecsh5.dxf	6-12-98	Cross-Section 15+00-18+00
89	BIM Channel "D" A.D. Survey	Xsecsh6.dxf	6-12-98	Cross-Section 19+00-22+00
89	BIM Channel "D" A.D. Survey	Xsecsh7.dxf	6-12-98	Cross-Section 23+00-26+00
89	BIM Channel "D" A.D. Survey	Xsecsh8.dxf	6-12-98	Cross-Section 27+00-30+00
89	BIM Channel "D" A.D. Survey	Xsecsh9.dxf	6-12-98	Cross-Section 31+00-34+00
90	BIM Channel "D" A.D. Survey	Xsecsh10.dxf	6-12-98	Cross -Section 35+00-38+00
	BIM Channel "D" A.D. Survey	Xsecsh11.dxf	6-12-98	Cross-Section 38+00-40+00
90	BIM Channel "D" A.D. Survey	Chandrr.dxf	6-12-98	Cross -Section Plan view 0+00-40+00
91	BIM Channel "D" B.D. Survey	BDSEC1.dwg	5-17-98	Big Island Channel "D" B.D. Xsection Cross Section
91	BIM Channel "D" B.D. Survey	BDSEC2.dwg	5-17-98	Big Island Channel "D" B.D. Xsection Cross Section 9+00-18+00
91	BIM Channel "D" B.D. Survey	BDSEC3.dwg	5-17-98	Big Island Channel "D" B.D. Xsection Cross Section 19+00-28+00
91	BIM Channel "D" B.D. Survey	BDSEC5.dwg	5-17-98	Big Island Channel "D" B.D. Xsection Cross Section 39+00-48+00
91	BIM Channel "D" B.D. Survey	BDSEC6.dwg	5-17-98	Big Island Channel "D" B.D. Xsection Cross Section 49+00-50+89
91A	BIM Channel "D" B.D. Survey	Chandr.dxf.	5-17-98	Plan view of cross section 0+00-50+89
91A	BIM Channel "D" B.D. Survey	Plan1.dwg	5-18-98	Plan view of cross section 0+00-26+00

	BIM Channel "D" B.D. Survey	Plan2.dwg	5-18-98	Plan view of cross section 27+00-50+89
92	BIM Channel "D" B.D. Survey	BDSEC4.dwg	5-17-98	Big Island Channel D B.D. Xsection 29+00-38+00
92	BIM Channel "D" B.D. Survey	Bdsecsh1.dxf	5-17-98	Big Island Channel D B.D. Xsection Cross Section 0+00-8+00
92	BIM Channel "D" B.D. Survey	Bdsecsh2.dxf	5-17-98	Big Island Channel D B.D. Xsection Cross Section 9+00-18+00
92	BIM Channel "D" B.D. Survey	Bdsecsh3.dxf	5-17-98	Big Island Channel D B.D. Xsection Cross Section 19+00-28+00
92	BIM Channel "D" B.D. Survey	Bdsecsh4.dxf	5-17-98	Big Island Channel D B.D. Xsection Cross Section 29+00-38+00
92	BIM Channel "D" B.D. Survey	Bdsecsh5.dxf	5-17-98	Big Island Channel D B.D. Xsection Cross Section 39+00-48+00
92	BIM Channel "D" B.D. Survey	Bdsecsh6.dxf	5-17-98	Big Island Channel D B.D. Xsection Cross Section 49+00-50+89
93	BIM Channel "D" B.D. Survey	Chandr.xyz	5-18-98	x,y,z co-ordinates no pt. numbers
94	BIM Channel "E" A.D. Survey Cross Section	0-3.dwg	10-6-98	Big Island Channel "E" A.D. Xsection 0+00-3+00
94	BIM Channel "E" A.D. Survey Cross Section	4-9.dwg	10-6-98	Big Island Channel "E" A.D. Xsection 4+00-9+00
94	BIM Channel "E" A.D. Survey Cross Section	10-20.dwg	10-6-98	Big Island Channel "E" A.D. Xsection 10+00-20+00
94	BIM Channel "E" A.D. Survey Cross Section	21-27+14.dwg	10-6-98	Big Island Channel "E" A.D. Xsection 21+00-27+14
94	BIM Channel "E" A.D. Survey Cross Section	28-35.dwg	10-6-98	Big Island Channel "E" A.D. Xsection 28+00-35+00
94	BIM Channel "E" A.D. Survey Cross Section	36-38.dwg	10-6-98	Big Island Channel "E" A.D. Xsection 36+00-38+00

95	BIM Channel "E" A.D. Survey	39-41.dwg	10-6-98	Big Island Channel "E" A.D. Xsection 39+00-41+00
95	BIM Channel "E" A.D. Survey	41-50.dwg	10-6-98	Big Island Channel "E" A.D. Xsection 41+00-50+00
95	BIM Channel "E" A.D. Survey	Chanead.xyz	10-6-98	Big Island Channel "E" A.D. Xsection x,y,z cor-ordinates no point numbers
95	BIM Channel "E" A.D. Survey	Channel.prn	10-7-98	Big Island Channel "E" A.D. Xsection Channel Templet co-ordinates
95	BIM Channel "E" A.D. Survey	Plan.dwg	10-6-98	Big Island Channel "E" A.D. Xsection Plan View 0+00-41+50
95	BIM Channel "E" A.D. Survey	Sta.dat	10-6-98	Big Island Channel "E" A.D. Xsection Line no. to station no. equality
96	BIM Channel "E" A.D. Survey	Xsecsh1.dxf	10-6-98	Big Island Channel "E" A.D. A.D. Xsection 0+00-3+00
96	BIM Channel "E" A.D. Survey	Xsecsh2.dxf	10-6-98	Big Island Channel "E" A.D. A.D. Xsection 4+00-9+00
96	BIM Channel "E" A.D. Survey	Xsecsh3.dxf	10-6-98	Big Island Channel "E" A.D. A.D. Xsection 10+00-20+00
96	BIM Channel "E" A.D. Survey	Xsecsh4.dxf	10-6-98	Big Island Channel "E" A.D. A.D. Xsection 21+00-27+14
	BIM Channel "E" A.D. Survey	Xsecsh5.dxf	10-6-98	Big Island Channel "E" A.D. A.D. Xsection 28+00-35+00
96	BIM Channel "E" A.D. Survey	Xsecsh6.dxf	10-6-98	Big Island Channel "E" A.D. A.D. Xsection 36+00-38+00
97	BIM Channel "E" A.D. Survey	Chanead.dxf	10-6-98	A.D. Survey Channel "E" Cross Section Plan View
97	BIM Channel "E" A.D. Survey	Xsecsh7.dxf	10-6-98	Big Island Channel "E" A.D. Cross Section 39+00-41+00
97	BIM Channel "E" A.D. Survey	Xsecsh8.dxf	10-6-98	Big Island Channel "E" A.D. Cross Section 41+50
98	BIM Channel "E" B.D. Survey	0-11.dwg	9-5-98	Big Island Channel "E" B.D. Xsection 0+00-11+00
98	BIM Channel "E" B.D. Survey	12-23.dwg	9-5-98	Big Island Channel "E" B.D. Xsection 12+00-23+00
98	BIM Channel "E" B.D. Survey	24-34.dwg	9-5-98	Big Island Channel "E" B.D. Xsection 24+00-34+00

c	BIM Channel "E" B.D. Survey	35-3750.dwg	9-5-98	Big Island Channel "E" B.D. Xsection 35+00-37+50
98	BIM Channel "E" B.D. Survey	38-4050.dwg	9-5-98	Big Island Channel "E" B.D. Xsection 38+00-40+50
98	BIM Channel "E" B.D. Survey	41-4150.dwg	9-5-98	Big Island Channel "E" B.D. Xsection 41+00-41+50
98	BIM Channel "E" B.D. Survey	Plan1.dwg	9-6-98	Big Island Channel "E" B.D. Xsection Plan View 0+00-41+50
99	BIM Channel "E" B.D. Survey	Chanebdr.dxf	9-6-98	Cross-section plan view 0+00-41+50
99	BIM Channel "E" B.D. Survey	Xsecsh1.dxf	9-5-98	Cross-section 5+00-11+00
99	BIM Channel "E" B.D. Survey	Xsecsh2.dxf	9-5-98	Cross-section 12+00-23+00
99	BIM Channel "E" B.D. Survey	Xsecsh3.dxf	9-5-98	Cross-section 24+00-34+00
99	BIM Channel "E" B.D. Survey	Xsecsh4.dxf	9-5-98	Cross-section 35+00-37+50
99	BIM Channel "E" B.D. Survey	Xsecsh5.dxf	9-5-98	Cross-section 38+00-40+51
	BIM Channel "E" B.D. Survey	Xsecsh6.dxf	9-5-98	Cross-section 41+00-41+50
100	BIM Channel "E" B.D. Survey	Chanebdr.xyz	9-7-98	x,y,z co-ordinates no point number
100	BIM Channel "E" B.D. Survey	Channel.prn	9-7-98	Co-ordinates for Channe templet
100	BIM Channel "E" B.D. Survey	Station.dat	9-7-98	Cross section line co-ordinates azmuthes and distance
101	BIM Channel "F" A.D. Survey	0-3.dwg	9-24-98	Big Island Channel F A.D. Xsection 0+00-3+00
101	BIM Channel "F" A.D. Survey	4-7.dwg	9-24-98	Big Island Channel F A.D. Xsection 4+00-7+00
101	BIM Channel "F" A.D. Survey	8-11.dwg	9-24-98	Big Island Channel F A.D. Xsection 8+00-11+00
101	BIM Channel "F" A.D. Survey	12-15.dwg	9-24-98	Big Island Channel F A.D. Xsection 12+00-15+00

	BIM Channel "F" A.D. Survey	16-19.dwg	9-24-98	Big Island Channel F A.D. Xsection 16+00-19+00
101	BIM Channel "F" A.D. Survey	20-21.dwg	9-24-98	Big Island Channel F A.D. Xsection 20+00-21+00
101	BIM Channel "F" A.D. Survey	Plan.dwg	9-24-98	Big Island Channel F A.D. Xsection Plan view 0+00-21+00
102	BIM Channel "F" A.D. Survey	Chanfad.dxf	9-24-98	Cross Section Plan View 0+00-21+00
102	BIM Channel "F" A.D. Survey	Xsecsh1.dxf	9-24-98	Cross Section 0+00-3+00
102	BIM Channel "F" A.D. Survey	Xsecsh2.dxf	9-24-98	Cross Section 4+00-7+00
102	BIM Channel "F" A.D. Survey	Xsecsh3.dxf	9-24-98	Cross Section 8+00-11+00
102	BIM Channel "F" A.D. Survey	Xsecsh4.dxf	9-24-98	Cross Section 12+00-15+00
102	BIM Channel "F" A.D. Survey	Xsecsh5.dxf	9-24-98	Cross Section 16+00-19+00
102	BIM Channel "F" A.D. Survey	Xsecsh6.dxf	9-24-98	Cross Section 20+00-21+00
103	BIM Channel "F" A.D. Survey	Chanfad.xyz	9-24-98	x,y,z co-ordinates no point number
103	BIM Channel "F" A.D. Survey	Channel.prn	9-24-98	Channel Co-ordinates for Templet
103	BIM Channel "F" A.D. Survey	STA.dat	9-24-98	Cross section line co-ordinates, azmuth distance
104	BIM Channel "F" B.D. Survey	0-4.dwg	8-7-98	Big Island Channel "F" B.D. Xsection 0+00-4+00
104	BIM Channel "F" B.D. Survey	5-9.dwg	8-7-98	Big Island Channel "F" B.D. Xsection 5+00-9+00
104	BIM Channel "F" B.D. Survey	10-14.dwg	8-7-98	Big Island Channel "F" B.D. Xsection 10+00-14+00
104	BIM Channel "F" B.D. Survey	15-19.dwg	8-7-98	Big Island Channel "F" B.D. Xsection 15+00-19+00
104	BIM Channel "F" B.D. Survey	20-24.dwg	8-7-98	Big Island Channel "F" B.D. Xsection 20+00-24+00

10[illegible]	BIM Channel "F" B.D. Survey	Plan.dwg	8-7-98	Big Island Channel "F" B.D. Xsection Plan View 0+00-24+00
105	BIM Channel "F" B.D. Survey	Chafbd.dxf	8-7-98	Cross section Plan view 0+00-24+00
105	BIM Channel "F" B.D. Survey	Xsecsh1.dxf	8-7-98	Cross section 0+00-4+00
105	BIM Channel "F" B.D. Survey	Xsecsh2.dxf	8-7-98	Cross section 5+00-9+00
105	BIM Channel "F" B.D. Survey	Xsecsh3.dxf	8-7-98	Cross section 10+00-14+00
105	BIM Channel "F" B.D. Survey	Xsecsh4.dxf	8-7-98	Cross section 15+00-19+00
105	BIM Channel "F" B.D. Survey	Xsecsh5.dxf	8-7-98	Cross section 20+00-24+00
106	BIM Channel "F" B.D. Survey	Chanfbd.xyz	8-7-98	x,y,z coo-ordinates no. point numbers
106	BIM Channel "F" B.D. Survey	Survey.dat	8-7-98	Channel co-ordinates for raw data
1[illegible]	BIM Channel "F" B.D. Survey	Toe.dat	8-7-98	Cross section lines co-ordinates, azmuth distance
107	BIM Disposal 1 DXF & DWG B.D. Survey	BIDA1GPS.dxf	5-31-98	B.D. Plan View D.A. #1
107	BIM Disposal 1 DXF & DWG B.D. Survey	BIMDA1A.dxf	5-30-98	B.D. Plan View D.A. #1 25+00 to 55+00
107	BIM Disposal 1 DXF & DWG B.D. Survey	BIMDA1A.dxf	5-30-98	B.D. Plan View D.A. #1 25+00 to 55+00
107	BIM Disposal 1 DXF & DWG B.D. Survey	BIMDA1BF.dwg	5-31-98	Big Island Disposal 1 Plan View 22+00 to 80+00
108	BIM Disposal 1 x,y,z Files	B1DA1GPS.xyz	5-31-98	Point File
108	BIM Disposal 1	B1DA1A.xyz	5-31-98	Point File
108	BIM Disposal 1 B.D. Survey	BIMDA1B.xyz	5-31-98	Point File

	BIM Disposal 3	BIMCHDBF.dwg	4-29-98	B.D. Plan View D.A. #3 Field change done to move location of DA-3 and Channel D
110	BIM Disposal 5	BIMDA5.dwg	5-31-98	Big Island Disposal #5 Plan View
111	BIM Disposal 5 DXF	BIMDA3BF.dxf	6-1-98	D.A. 5 Plan View -4+00 to 5+00
111	BIM Disposal 5 DXF	BIMD5P5.dxf	6-1-98	D.A. 5 Plan View 95+00 to 160+00
112	BIM Disposal 5 x,y,z	BIMDA3BF.xyz	6-1-98	x,y,z, date, time No point numbers
112	BIM Disposal 5 x,y,z	BIMD5P5.xyz	6-1-98	x,y,z, date, time No point numbers
113	BIM Disposal 5	BIMDSP5B.xyz	6-1-98	B.D. x,y,z, date, time No point numbers
114	BIM Disposal 6 DWG & DXF	BIDA6PL2.dxf	6-23-98	Profile of Disposal Area #6
	BIM Disposal 6 DWG & DXF	BIMDA6.dwg	6-24-98	Big Island Disposal Area #6 Plan View
114	BIM Disposal 6 DWG & DXF	CH40A6.dxf	6-23-98	Big Island Disposal Area #6 Xsection sta 155+00, 160+00, 165+00, 170+00, 175+00 and 180+00
114	BIM Disposal 6 DWG & DXF	CHANA3D.dxf	6-23-98	Big Island Disposal Area #6 Xsection 130+00, 135+00, 140+00, 145+00 and 150+00
115	BIM Disposal Area 6 x,y,z	BIDA6PL2.xyz	6-24-98	Point file x,y,z date, time no pt. numbers Word Pad
115	BIM Disposal Area 6 x,y,z	BIDA6PL2.xyz	6-24-98	Point file x,y,z date, time no pt. numbers Word Pad
115	BIM Disposal Area 6 x,y,z	CHANA30.xyz	6-24-98	Point file x,y,z date, time no pt. numbers Word Pad
116	BIM Disposal #8 B.D.	DA8BD.dxf	6-21-98	Plan View Disposal Area #8
116	BIM Disposal #8 B.D.	DA8BD.xyz	6-21-98	B.D. x,y,z no point numbers Word Pad

	BIM Disposal #8 B.D.	DIKE.dat	6-21-98	Point file Word Pad
116	BIM Disposal #8 B.D.	D598.dwg	6-20-98	Big Island Channel A Disposal #8 B.F. Plan View
116	BIM Disposal #8 B.D.	PIL:dat	6-15-98	Station x,y, file does not make any sense
117	DIM Disposl #8 x,y,z	DA8BD.xyz	6-21-98	B.D. x,y,z no pt. numbers Word Pad
118	BIM Disposal Area #9 Dwg,Dxf,xyz,asc	DA9BDX5.asc	7-13-98	Point File D.A.-9 pt. mo. x,y,z
118	BIM Disposal Area #9 Dwg,Dxf,xyz,asc	DA9BOND.dxf	7-13-98	misc. points D.A.9
118	BIM Disposal Area #9 Dwg,Dxf,xyz,asc	DSP9BD.dwg	7-14-98	Big Island Channel "A" Disposal No. 9
118	BIM Disposal Area #9 Dwg,Dxf,xyz,asc	DSP9BD.dxf	7-13-98	Cross Section D.A. 9
118	BIM Disposal Area #9 Dwg,Dxf,xyz,asc	DSP9BD.xyz	7-15-98	Point File D.A. 9 x,y,z no point numbers
118	BIM Disposal Area #9 Dwg,Dxf,xyz,asc	DSP9NLN.dxf	7-15-98	Misc. Points D.A.9
119	BIM Disposal Area No. 1 A.D. Survey	DSP1AD.dwg	11-18-98	As-built Survey D.A. No. 1 B.D. and A.D. Elevations
120	BIM Disposal Area No. 1 A.D. Survey	Dsplad.dxf	11-18-98	A.D. Elevations
121	BIM Disposal Area No. 1 A.D. Survey	Dsplad.asc	11-22-98	Point No., x,y,z

	BIM Disposal Area No. 1 A.D. Survey	Dsplad.xyz	11-22-98	x,y,z no point numbers
121	BIM Disposal Area No. 1 A.D. Survey	Survey.dat	11-22-98	Survey data
122	BIM Disposal Area No. 5 A.D. Survey	DSP5AD.zip	1-19-98	This is a zip file of As-built Survey D.A. No. 5 B.D. and A.D. Elevations
123	BIM Disposal Area No. 5 A.D. Survey	Dsp5ad.dxf	11-19-98	A.D. Elevations
124	BIM Disposal Area No. 5 A.D. Survey	5adlns.asc	11-19-98	Point No., x,y,z
124	BIM Disposal Area No. 5 A.D. Survey	Dsp5ad.xyz	11-22-98	x,y,z, no point number
124	BIM Disposal Area No. 5 A.D. Survey	Survey.data	11-22-98	Survey Data
125	BIM Disposal Area No.6 A.D. Survey	DSP6AD.dwg	11-19-98	As-Built Survey D.A. No. 6 B.D. and A.D. Elevations
126	BIM Disposal Area No. 6 A.D. Survey	6adcl.dxf	11-18-98	A.D. Elevation of Center line
126	BIM Disposal Area No. 6 A.D. Survey	6adlns.dxf	11-19-98	A.D. Elevation of D.A.
127	BIM Disposal Area No. 6 A.D. Survey	6adcl.asc	11-19-98	Point number, x,y,z
127	BIM Disposal Area No. 6 A.D. Survey	6adln.asc	11-19-98	Point number, x,y,z
127	BIM Disposal Area No. 6 A.D. Survey	6adlns.xyz	11-19-98	x,y,z no point numbers
127	BIM Disposal Area No. 6 A.D. Survey	Dsp6ad.asc	11-19-98	Point name, x,y,z
127	BIM Disposal Area No. 6 A.D. Survey	Dsp6ad.xyz	11-19-98	x,y,z no point numbers
127	BIM Disposal Area No. 6 A.D. Survey	Linecl.txt	11-19-98	Center line end co-ordinates

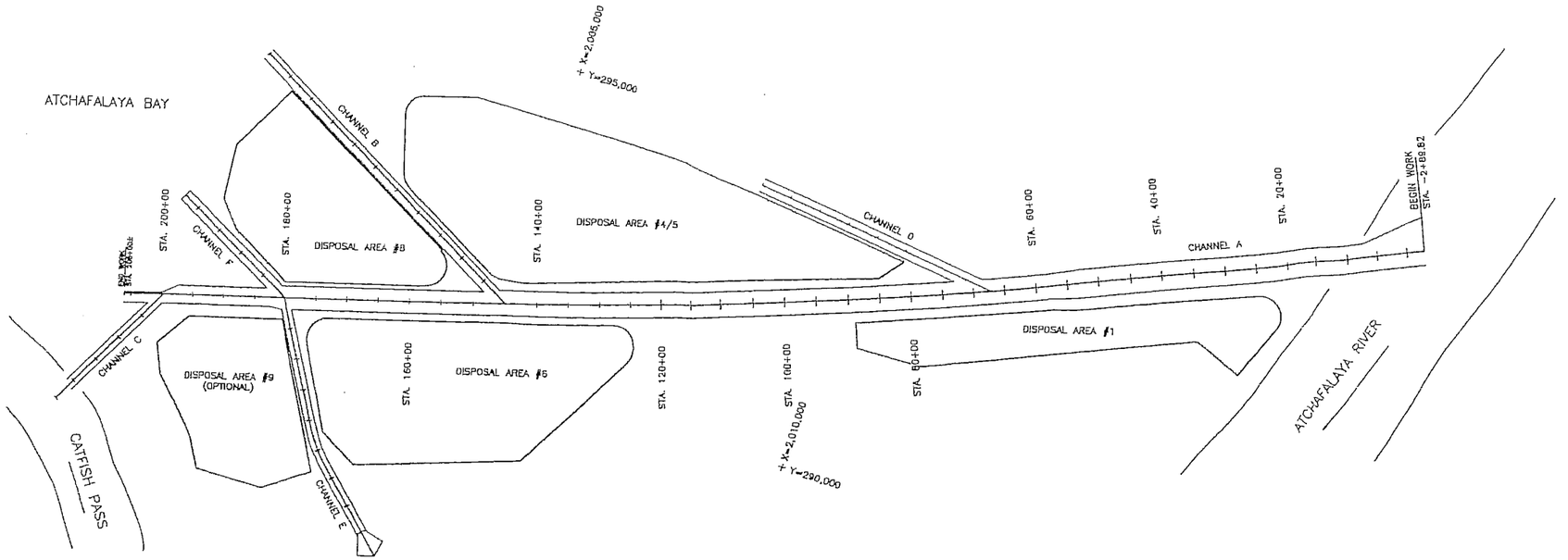
	BIM Disposal Area No. 6 A.D. Survey	Linelns.txt	11-19-98	Cross section line end co-ordinates
127	BIM Disposal Area No. 6 A.D. Survey	Survcl.dat	11-19-98	Survey data
127	BIM Disposal Area No. 6 A.D. Survey	Survlns.dat	11-19-98	Survey data
128	BIM Disposal Area No. 8 A.D. Survey	DA8AD.dwg	11-17-98	As-Built Survey D.A. No. 8 B.D. and A.D. Elevations
129	BIM Disposal Area No. 8 A.D. Survey	Dsp8ad.dxf	10-14-98	A.D. Elevations
130	BIM Disposal Area No. 8 A.D. Survey	Dsp8ad.asc	10-14-98	Point No. x,y,z
130	BIM Disposal Area No. 8 A.D. Survey	Dsp8ad.xyz	11-22-98	x,y,z, no point numbers
130	BIM Disposal Area No. 8 A.D. Survey	Dsp8ad2.asc	10-14-98	Point No. x,y,z
	BIM Disposal Area No. 8 A.D. Survey	Line.txt	11-22-98	Cross section line co-ordinates
130	BIM Disposal Area No. 8 A.D. Survey	Line.txt	11-22-98	Cross section line co-ordinates
130	BIM Disposal Area No. 8 A.D. Survey	Survey.dat	11-22-98	Survey data
131	BIM Disposal Area No. 9 A.D. Survey	Dsp9ad.dwg	11-18-98	As-Built Survey D.A. No. 9 B.D. and A.D. Elevations
132	BIM Disposal Area No. 9 A.D. Survey	Dsp9ad.dxf	10-24-98	A.D. Elevations
133	BIM Disposal Area No. 9 A.D. Survey	Da9ad.asc	10-24-98	Point No. x,y,z
133	BIM Disposal Area No. 9 A.D. Survey	Dsp9ad.xyz	11-22-98	x,y,z no point numbers

	BIM Disposal Area No. 9 A.D. Survey	Line.txt	11-22-98	cross sections line co-ordinates
133	BIM Disposal Area No. 9 A.D. Survey	Survey.dat	11-22-98	Survey data

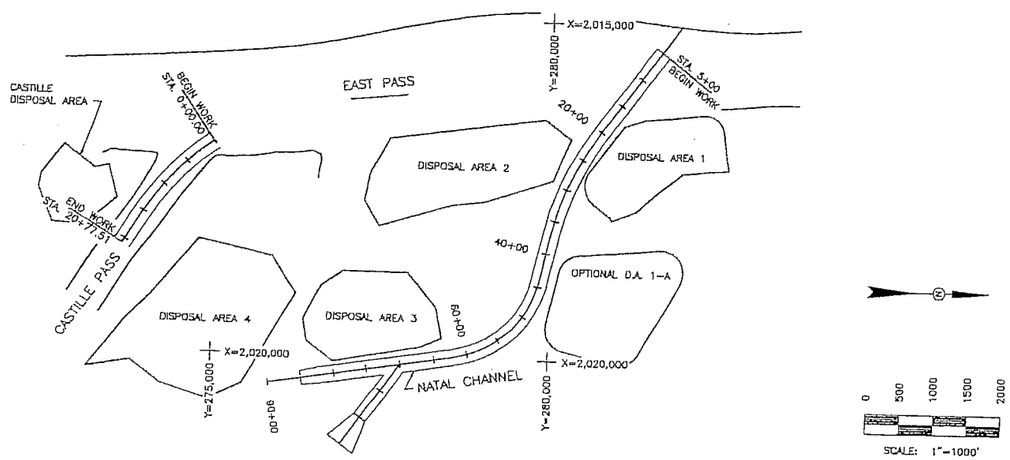
APPENDIX E

AS-BUILT DRAWINGS

SECTION ONE - ASD



BIG ISLAND MINING (XAT-7)



ATCHAFALAYA SEDIMENT DELIVERY, (PAT-2)

INDEX PLAN BIM AND ASD PROJECTS
AS-BUILT CONFIGURATIONS

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

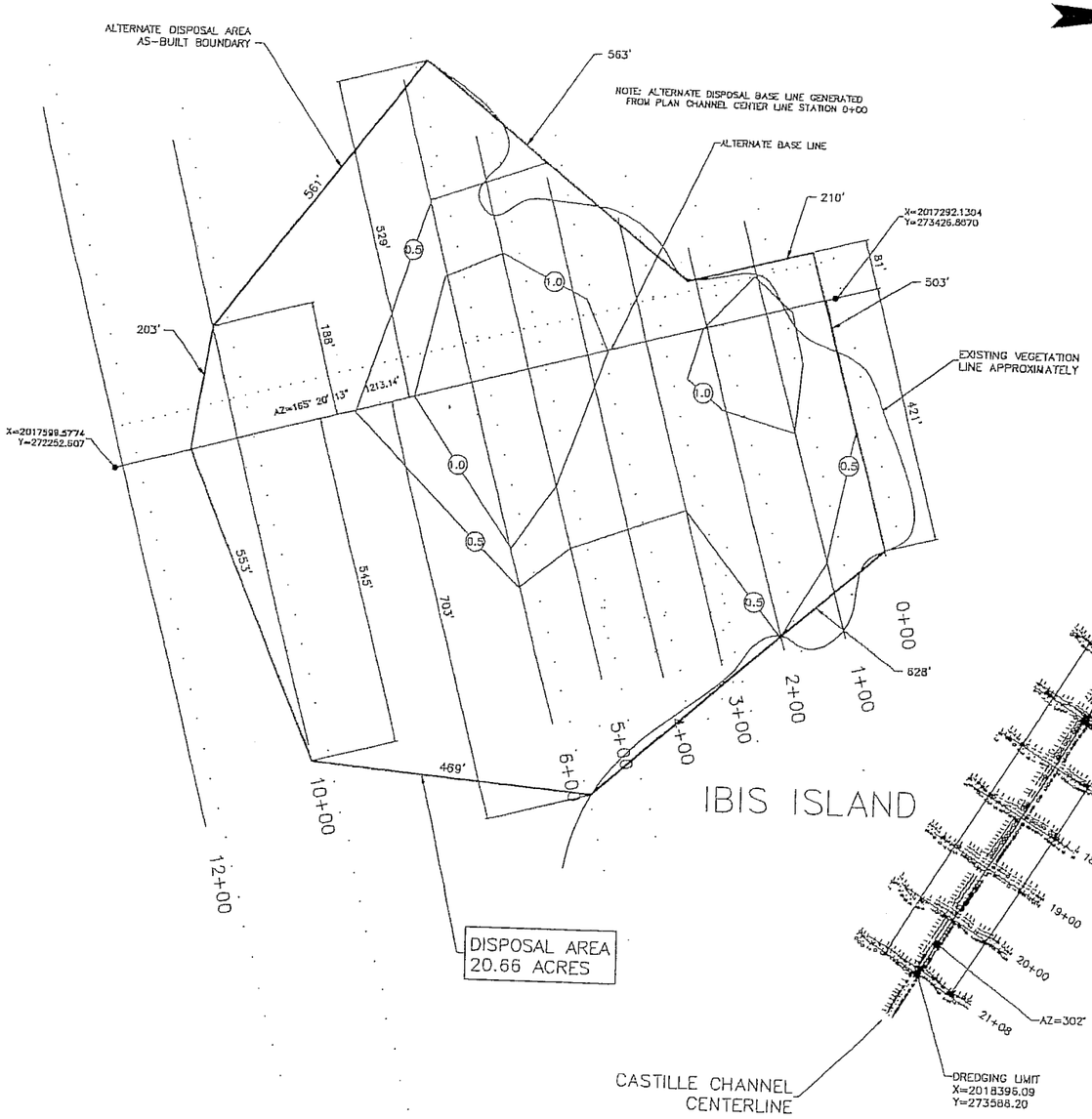
BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: DEC, 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 1 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\INDEXPLAN.DWG Last edited: FEBRUARY 03, 1999 @ 10:50 a.m.



CURVE DATA
Δ=23° 30' 00"
D=1° 27' 40"
L=1609.41'
T=816.20'
R=3921.15'

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. *BEFORE DREDGING SURVEYS IN ITALICS.*
3. AFTER DREDGING SURVEYS IN BLOCK.
4. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

ACREAGE BETWEEN ELEVATIONS

ABOVE 1.0	2.91 ACRES
0.5 TO 1.0	5.10 ACRES
0.0 TO 0.5	11.65 ACRES

ISSUE	DESCRIPTION	BY	CHK	DATE

CASTILLE PASS & DISPOSAL AREA AS-BUILT CONFIGURATION

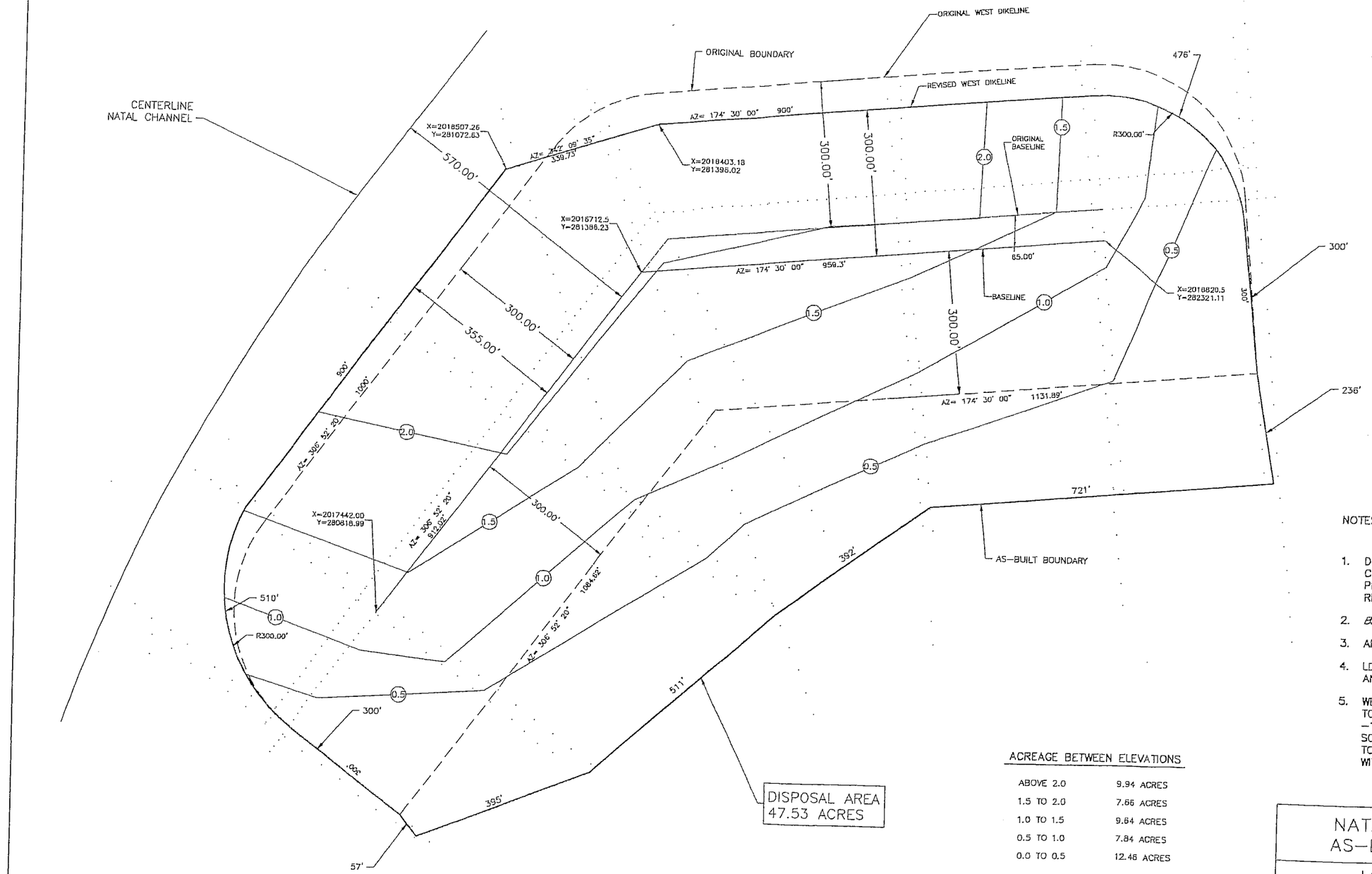
LOUISIANA DEPARTMENT OF NATURAL RESOURCES

BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

DATE: DEC, 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 2 OF 32

File: D:\JOBS1\30594B~1\CURRENT\ASBUILTS\ASDC1.DWG Last edited: FEBRUARY 03, 1999 @ 09:35 a.m.



ACREAGE BETWEEN ELEVATIONS

ABOVE 2.0	9.94 ACRES
1.5 TO 2.0	7.66 ACRES
1.0 TO 1.5	9.64 ACRES
0.5 TO 1.0	7.84 ACRES
0.0 TO 0.5	12.46 ACRES

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. *BEFORE DREDGING SURVEYS IN ITALICS.*
3. AFTER DREDGING SURVEYS IN BLOCK.
4. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.
5. WEST DIKELINE AND B.L. WERE MOVED 65 TOWARD THE EAST TO APPROXIMATELY −1.0' ELEV. DUE TO DEEPER WATER. THE SOUTHWEST DIKELINE WAS MOVED 50' TOWARD THE NORTHEAST TO PLACE DIKE WITHIN REACH OF BUCKET DREDGE.

NATAL DISPOSAL AREA 1
AS-BUILT CONFIGURATION

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: DEC, 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 3 OF

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\ASDN1.DWG Last edited: FEBRUARY 03, 1999 @ 11:00 a.m.

N

0 50 100 150 200

SCALE: 1" = 100'

DISPOSAL AREA
70.07 ACRES

AS-BUILT BOUNDARY

ORIGINAL BOUNDARY

R=300.00

AZ= 171° 52' 20" 2151.82'

X=2016809.08
Y=279977.02

3.0

2.5

1.5

1.0

2.0

AZ= 171° 52' 20"
2151.82'

X=2017113.31
Y=277848.81

0.5

525.00'

R=4340.75

X=2017189.07
Y=279707.00

AZ= 119° 03' 11"
600.00'

X=2017389.80
Y=278391.19

AZ= 188° 28' 50" 1300'

AZ= 291° 52' 20" 783.23'

X=2017762.65
Y=277458.02

R=300.00

AZ= 144° 20' 45" 1004.80'

R=200.00

434'

CENTERLINE
NATAL CHANNEL

ACREAGE BETWEEN ELEVATIONS

ABOVE 3.0	3.96 ACRES
2.5 TO 3.0	16.80 ACRES
2.0 TO 2.5	11.68 ACRES
1.5 TO 2.0	4.64 ACRES
1.0 TO 1.5	8.78 ACRES
0.5 TO 1.0	7.79 ACRES
0.0 TO 0.5	16.42 ACRES

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. *BEFORE DREDGING SURVEYS IN ITALICS.*
3. AFTER DREDGING SURVEYS IN BLOCK.
4. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

NOTE: REVISED NATAL DISPOSAL AREA 2
B. C. G. REVISION NO. 3
DATED DEC. 28, 1997

ISSUE	DESCRIPTION	BY	CHK	DATE

NATAL DISPOSAL AREA 2
AS-BUILT CONFIGURATION

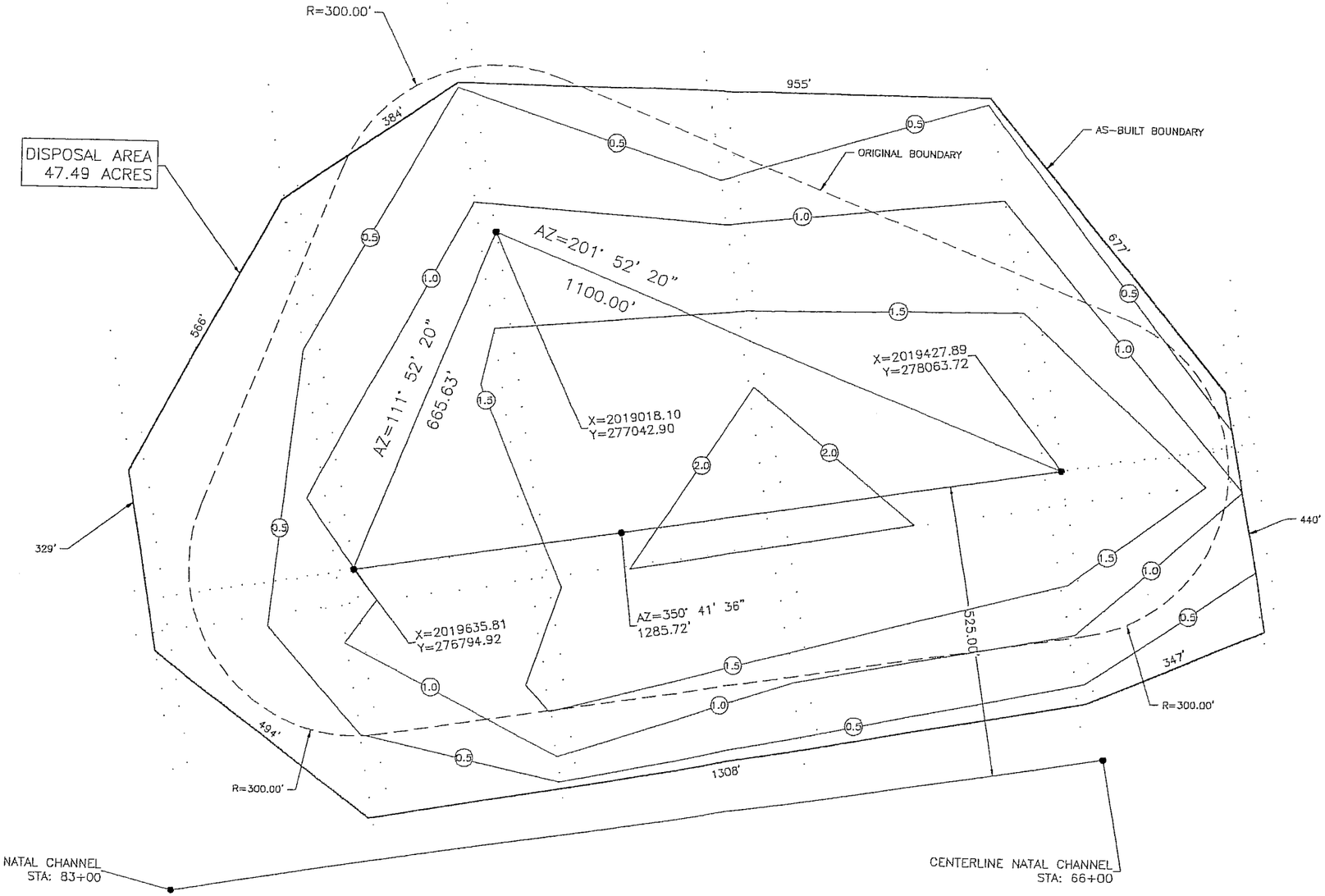
LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

DATE: DEC, 1998	DESIGN: E.J.M.	DRAWN: CDH	DWG. NO. 4 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\ASDN2.DWG Last edited: FEBRUARY 03, 1999 @ 11:02 a.m.



N

0 50 100 150 200

SCALE: 1" = 100'

ACREAGE BETWEEN ELEVATIONS

ABOVE 2.0	1.74 ACRES
1.5 TO 2.0	13.07 ACRES
1.0 TO 1.5	12.27 ACRES
0.5 TO 1.0	10.57 ACRES
0.0 TO 0.5	9.85 ACRES

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. *BEFORE DREDGING SURVEYS IN ITALICS.*
3. AFTER DREDGING SURVEYS IN BLOCK.
4. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

NATAL DISPOSAL AREA 3 AS-BUILT CONFIGURATION

LOUISIANA DEPARTMENT OF NATURAL RESOURCES

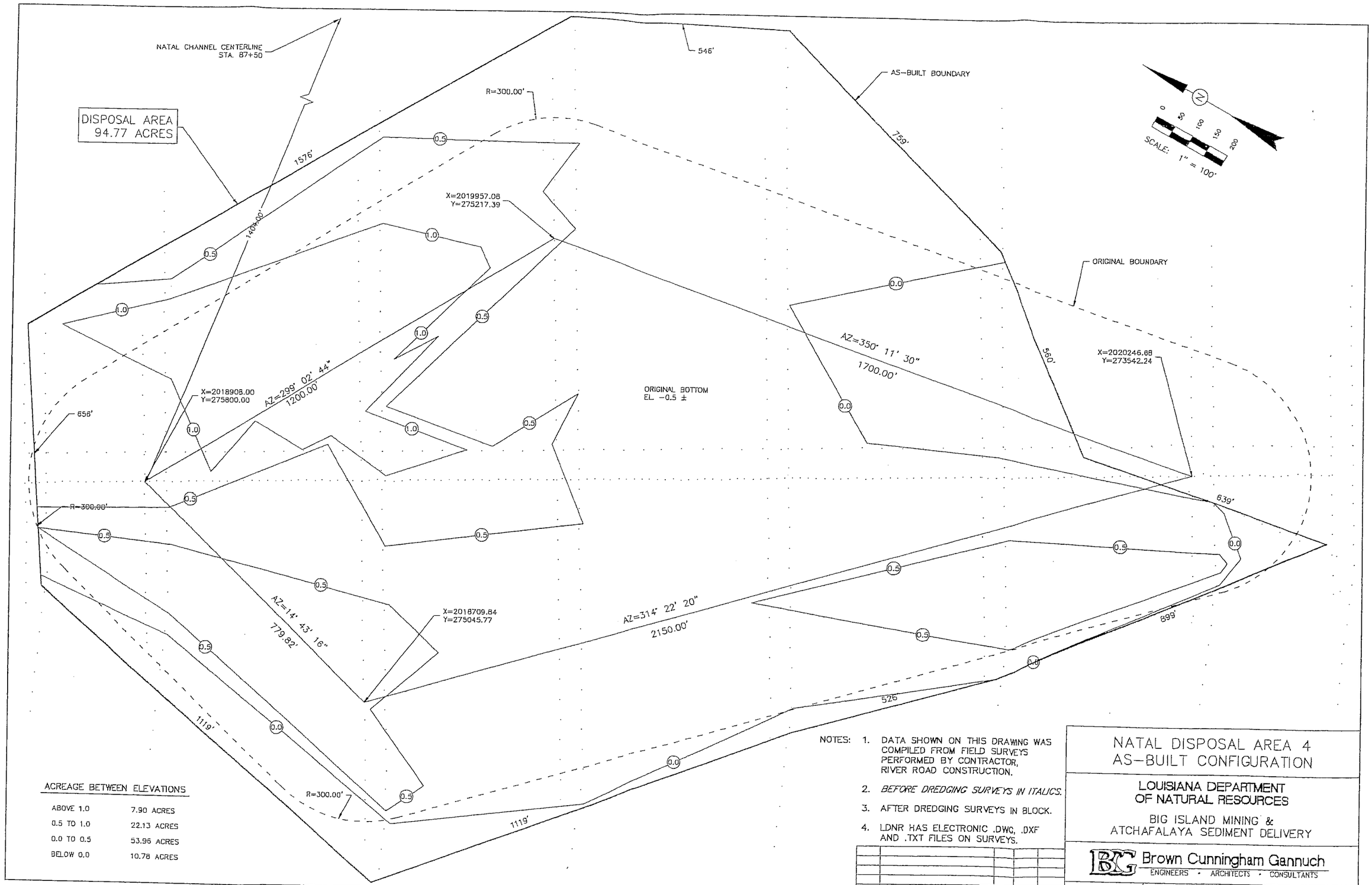
BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: DEC. 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 5 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\ASDN3.DWG Last edited: FEBRUARY 03, 1999 @ 11:05 a.m.



ACREAGE BETWEEN ELEVATIONS

ABOVE 1.0	7.90 ACRES
0.5 TO 1.0	22.13 ACRES
0.0 TO 0.5	53.96 ACRES
BELOW 0.0	10.78 ACRES

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. *BEFORE DREDGING SURVEYS IN ITALICS.*
3. AFTER DREDGING SURVEYS IN BLOCK.
4. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

ISSUE	DESCRIPTION	BY	CHK	DATE

NATAL DISPOSAL AREA 4 AS-BUILT CONFIGURATION

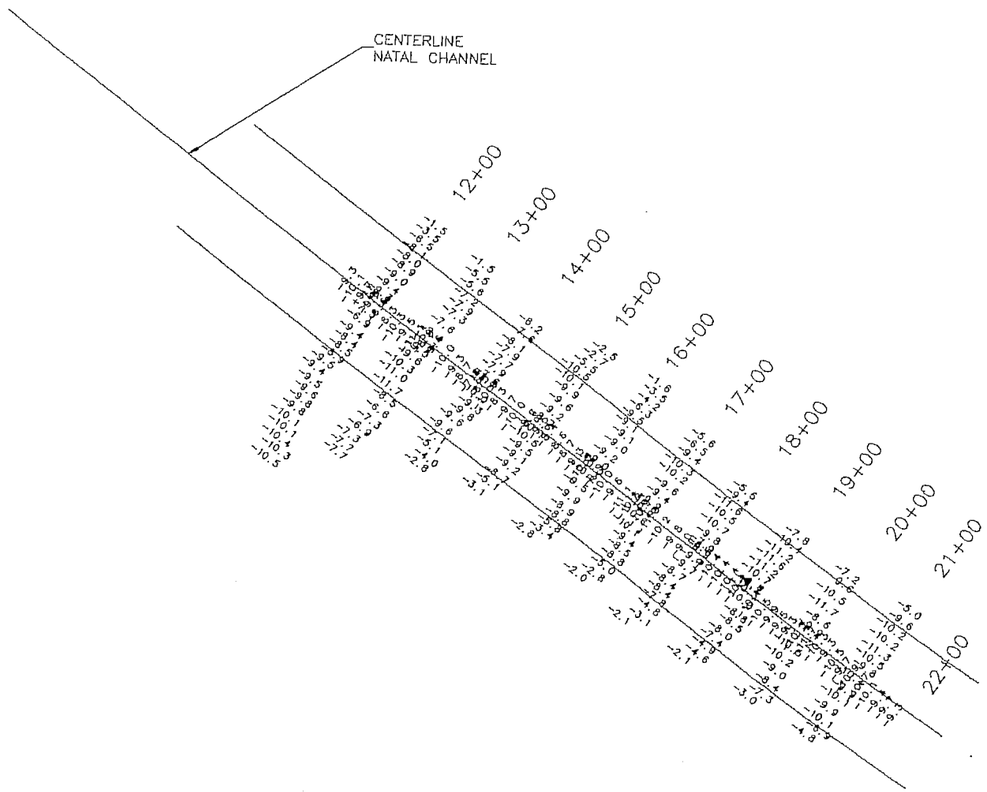
LOUISIANA DEPARTMENT OF NATURAL RESOURCES

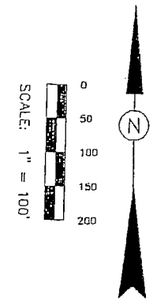
BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

DATE: DEC, 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 6 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\ASDN4.DWG Last edited: FEBRUARY 03, 1999 @ 2:29 p.m.





NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.
3. LDNR HAS FULL SIZE DRAWINGS SHOWING PLAN AND AFTER DREDGING CROSS SECTIONS.

NATAL CHANNEL 12+00 TO 21+00 REDREDGE SHOALED ENTRANCE

LOUISIANA DEPARTMENT OF NATURAL RESOURCES

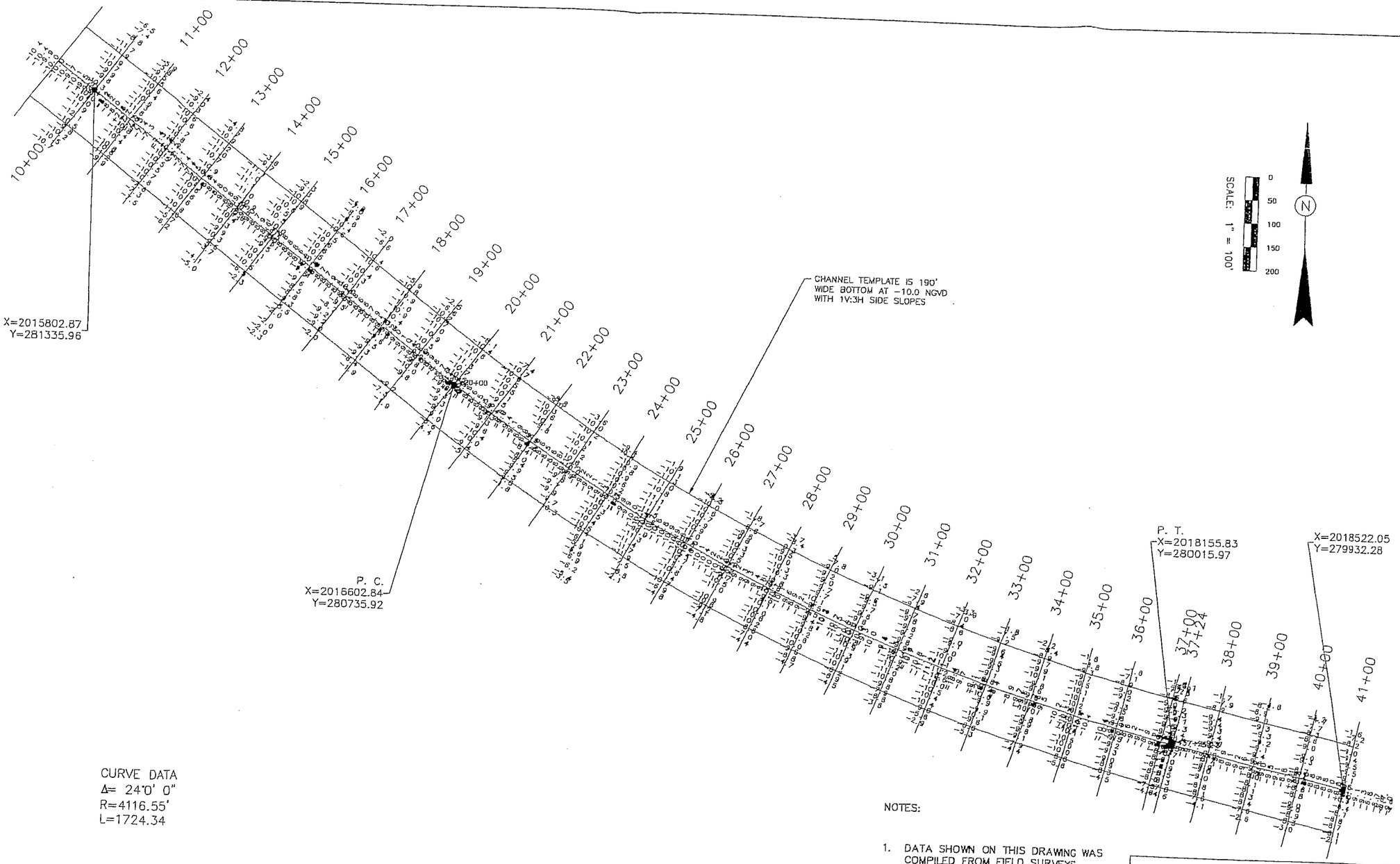
BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: DEC, 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 7 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\ASDN5.DWG Last edited: FEBRUARY 03, 1999 @ 2:32 p.m.



CURVE DATA
Δ= 24°0' 0"
R=4116.55'
L=1724.34

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.
3. LDNR HAS FULL SIZE DRAWINGS SHOWING PLAN AND AFTER DREDGING CROSS SECTIONS.

ISSUE	DESCRIPTION	BY	CHK	DATE

NATAL CHANNEL 10+00 TO 41+00 AS-BUILT CONFIGURATION

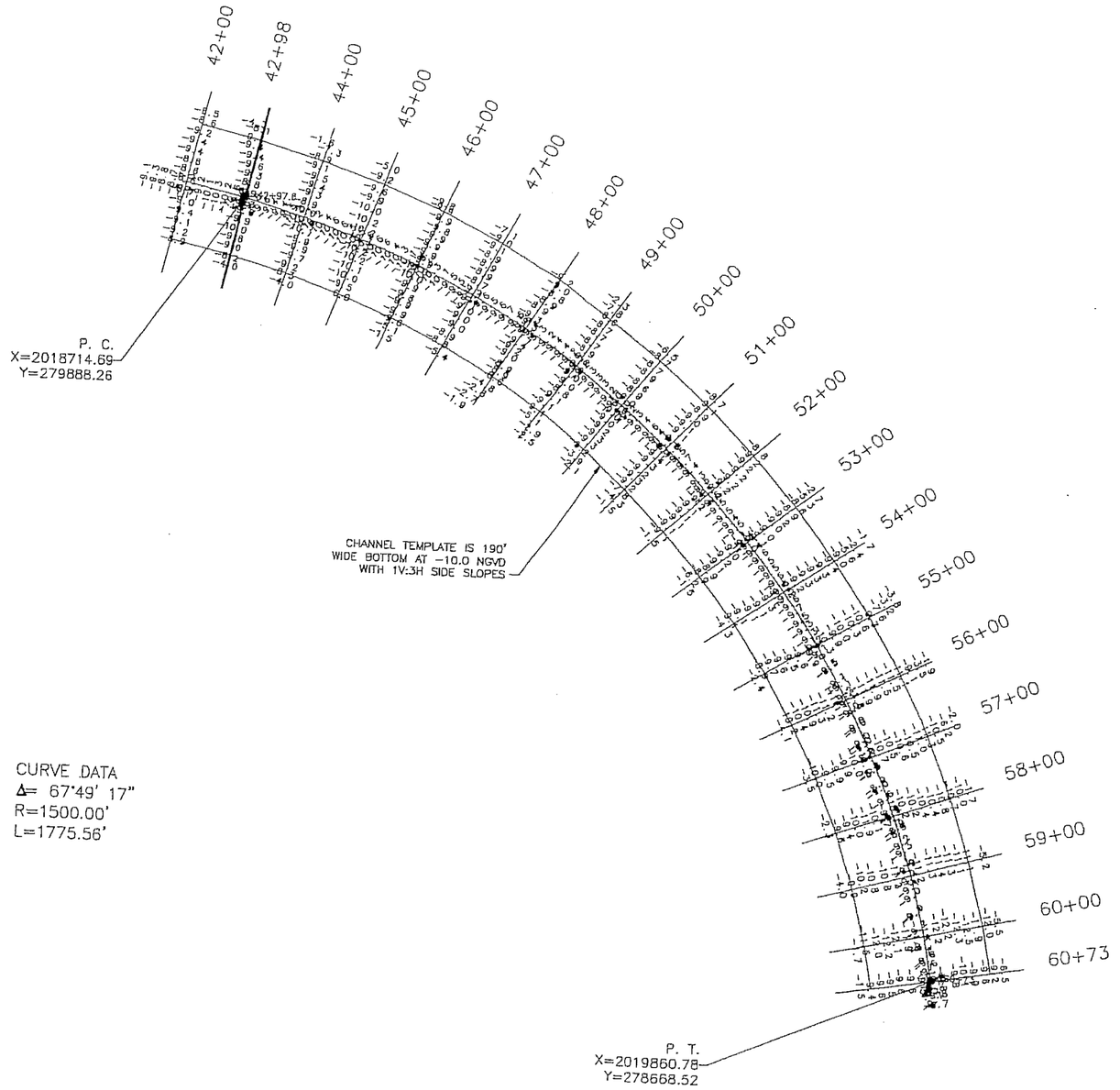
LOUISIANA DEPARTMENT OF NATURAL RESOURCES

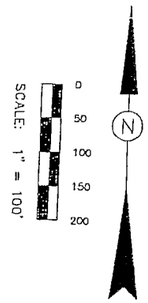
BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

DATE: DEC, 1998	DESIGN: E.J.M.	DRAWN: CDH	DWG. NO. 8 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\ASDN6.DWG Last edited: FEBRUARY 03, 1999 @ 2:34 p.m.





CURVE DATA
Δ= 67°49' 17"
R=1500.00'
L=1775.56'

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.
3. LDNR HAS FULL SIZE DRAWINGS SHOWING PLAN AND AFTER DREDGING CROSS SECTIONS.

NATAL CHANNEL 42+00 TO 60+73 AS-BUILT CONFIGURATION

LOUISIANA DEPARTMENT OF NATURAL RESOURCES

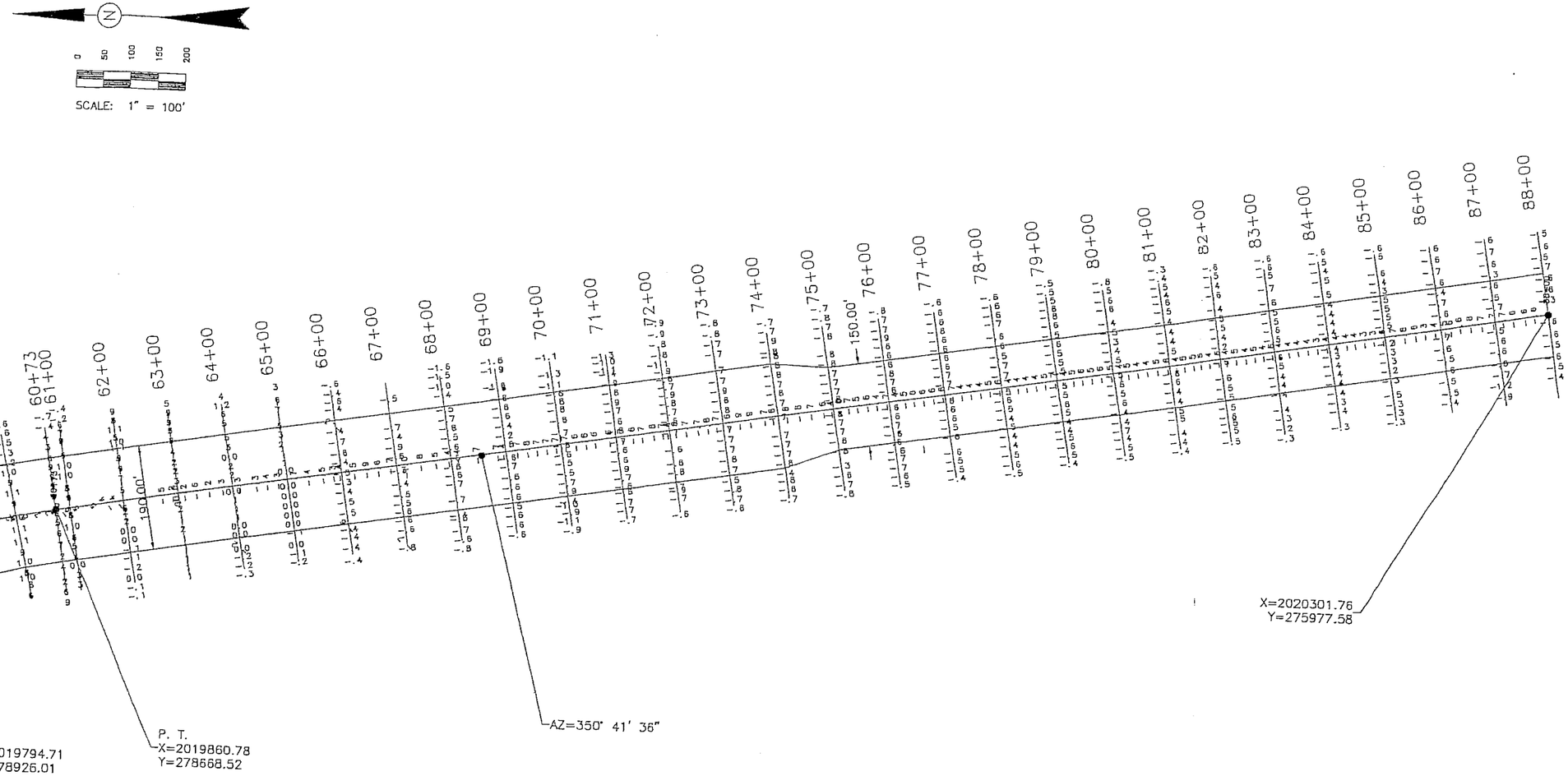
BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: DEC, 1998	DESIGN: E.J.M.	DRAWN: CDH	DWG. NO. 9 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\ASDN7.DWG Last edited: FEBRUARY 03, 1999 @ 2:46 p.m.



NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.
3. LDNR HAS FULL SIZE DRAWINGS SHOWING PLAN AND AFTER DREDGING CROSS SECTIONS.

ISSUE	DESCRIPTION	BY	CHK	DATE

NATAL CHANNEL 58+00 TO 88+00 BEFORE DREDGING CONFIGURATION

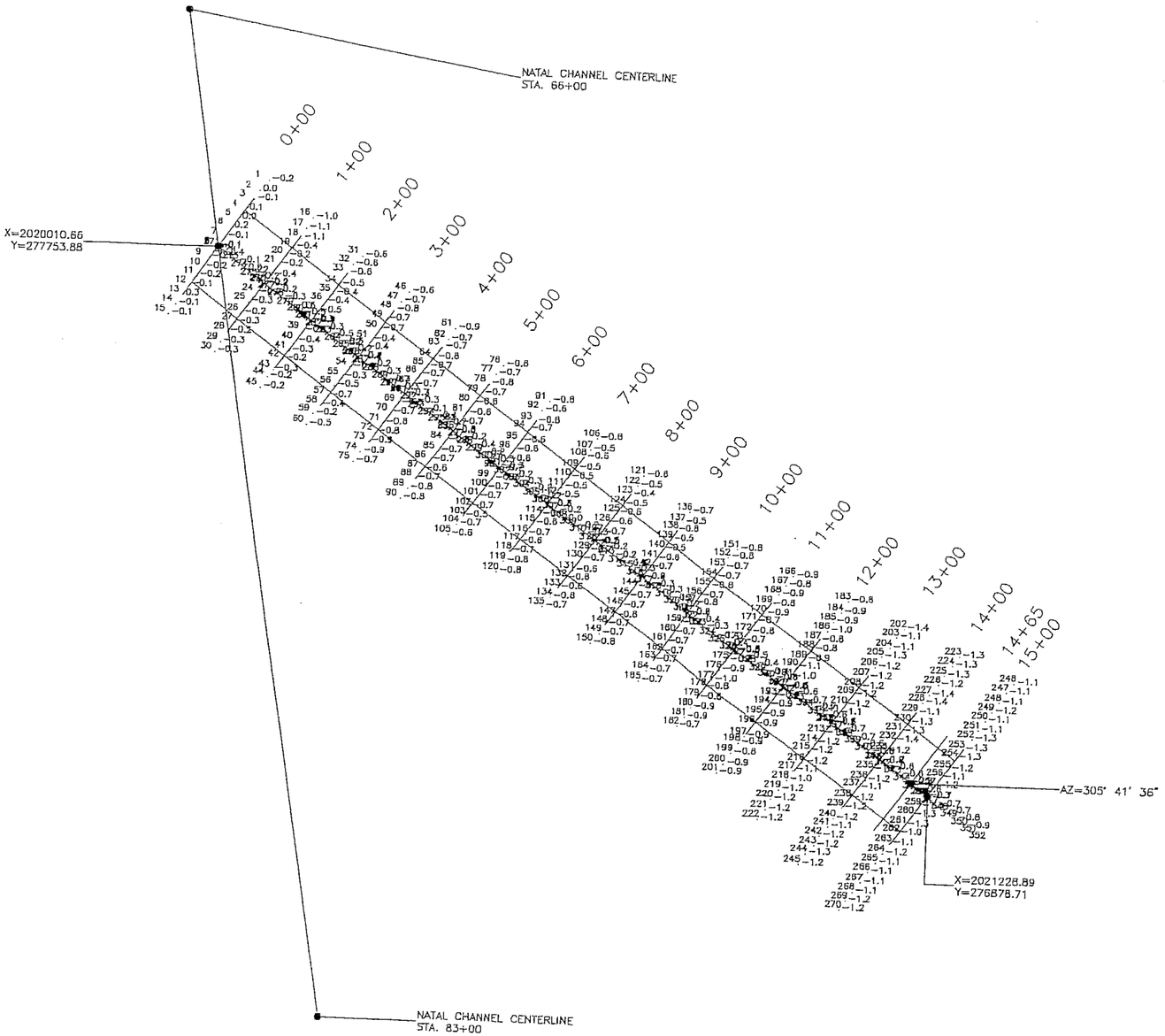
LOUISIANA DEPARTMENT OF NATURAL RESOURCES

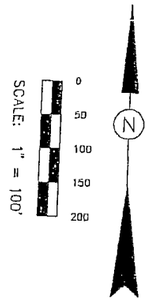
BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

DATE: DEC, 1998	DESIGN: E.J.M.	DRAWN: CDH	DWG. NO. 10 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\ASDN8.DWG Last edited: FEBRUARY 03, 1999 @ 2:54 p.m.





NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.
3. LDNR HAS FULL SIZE DRAWINGS SHOWING PLAN AND AFTER DREDGING CROSS SECTIONS.

NATAL CHANNEL A BEFORE DREDGING CONFIGURATION

LOUISIANA DEPARTMENT OF NATURAL RESOURCES

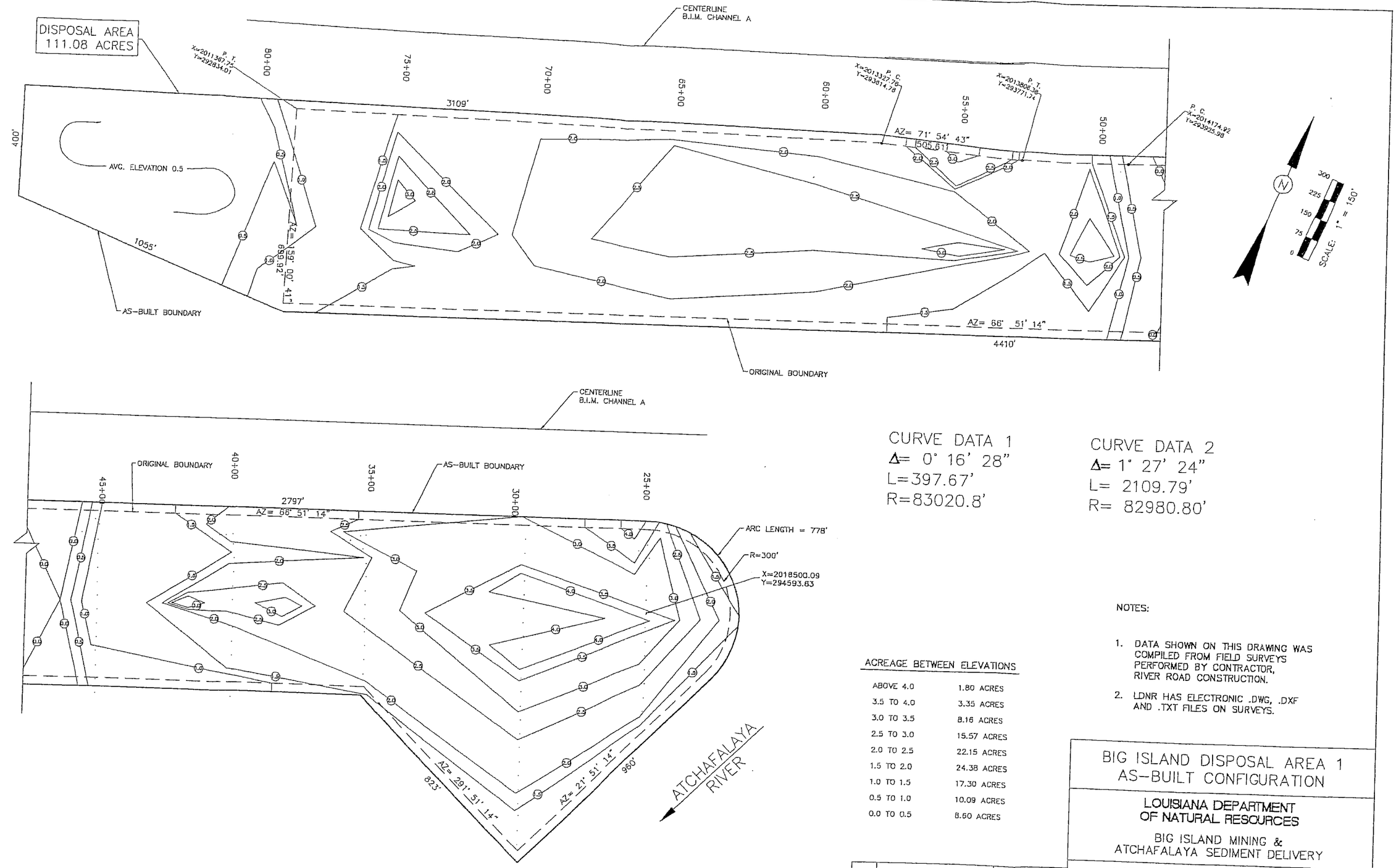
BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: DEC, 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 11 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\ASDN9.DWG Last edited: FEBRUARY 03, 1999 @ 2:58 p.m.



CURVE DATA 1
Δ= 0° 16' 28"
L=397.67'
R=83020.8'

CURVE DATA 2
Δ= 1° 27' 24"
L= 2109.79'
R= 82980.80'

ACREAGE BETWEEN ELEVATIONS

ABOVE 4.0	1.80 ACRES
3.5 TO 4.0	3.35 ACRES
3.0 TO 3.5	8.16 ACRES
2.5 TO 3.0	15.57 ACRES
2.0 TO 2.5	22.15 ACRES
1.5 TO 2.0	24.38 ACRES
1.0 TO 1.5	17.30 ACRES
0.5 TO 1.0	10.09 ACRES
0.0 TO 0.5	8.60 ACRES

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

ISSUE	DESCRIPTION	BY	CHK	DATE

BIG ISLAND DISPOSAL AREA 1
AS-BUILT CONFIGURATION

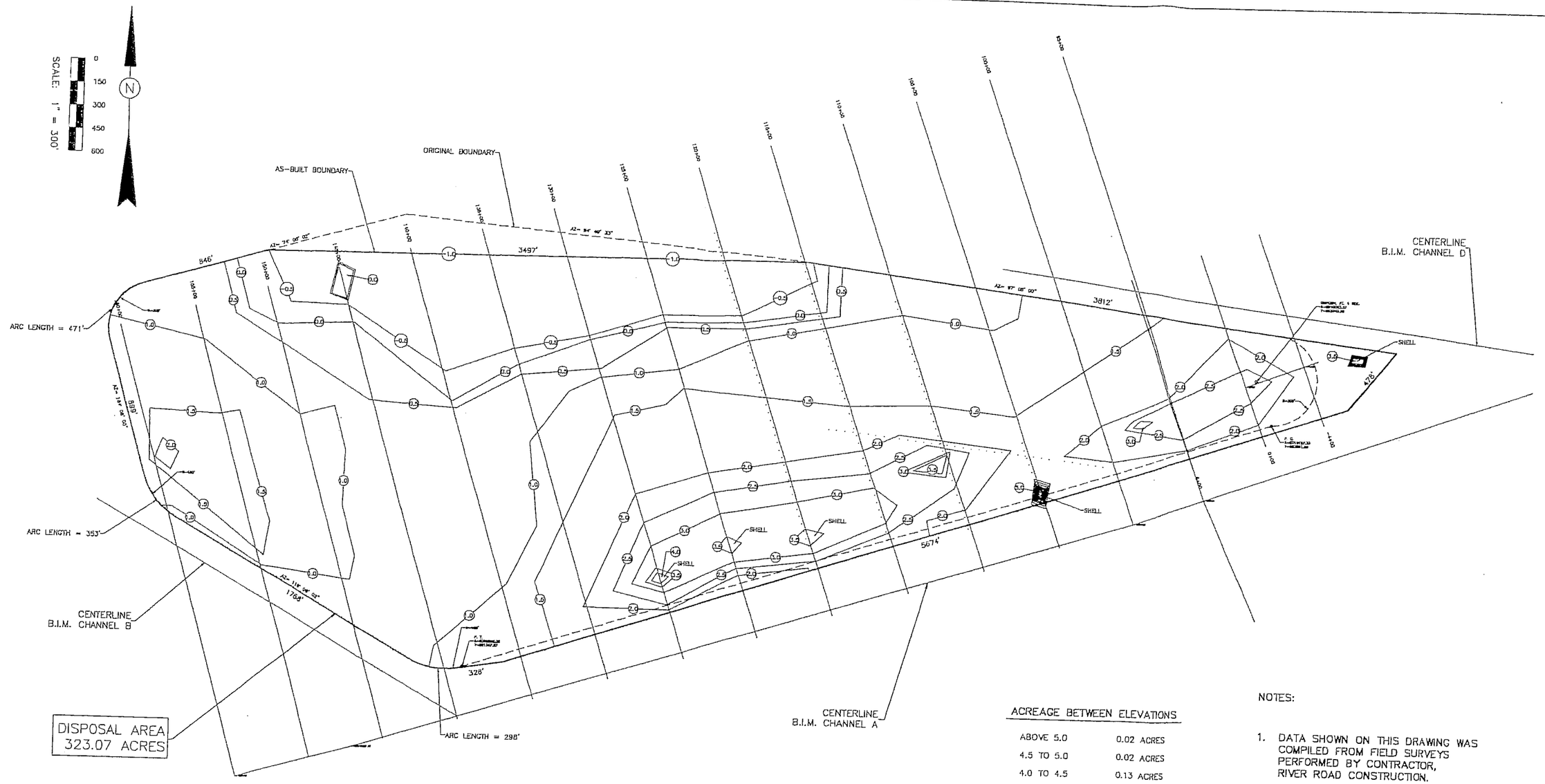
LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

DATE: DEC, 1998	DESIGN: E.J.M.	DRAWN: CDH	DWG. NO. 12 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\BIM1.DWG Last edited: FEBRUARY 03, 1999 @ 3:08 p.m.



CURVE DATA
Δ= 3° 48' 36"
R= 81750.80'
L=5436.26'

ACREAGE BETWEEN ELEVATIONS

ABOVE 5.0	0.02 ACRES
4.5 TO 5.0	0.02 ACRES
4.0 TO 4.5	0.13 ACRES
3.5 TO 4.0	1.01 ACRES
3.0 TO 3.5	11.40 ACRES
2.5 TO 3.0	15.84 ACRES
2.0 TO 2.5	21.78 ACRES
1.5 TO 2.0	70.35 ACRES
1.0 TO 1.5	74.93 ACRES
0.5 TO 1.0	68.25 ACRES
0.0 TO 0.5	13.58 ACRES
−0.5 TO 0.0	10.67 ACRES
−1.0 TO −0.5	35.12 ACRES

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

ISSUE	DESCRIPTION	BY	CHK	DATE

BIG ISLAND DISPOSAL AREA 4/5 AS-BUILT CONFIGURATION

LOUISIANA DEPARTMENT OF NATURAL RESOURCES

BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

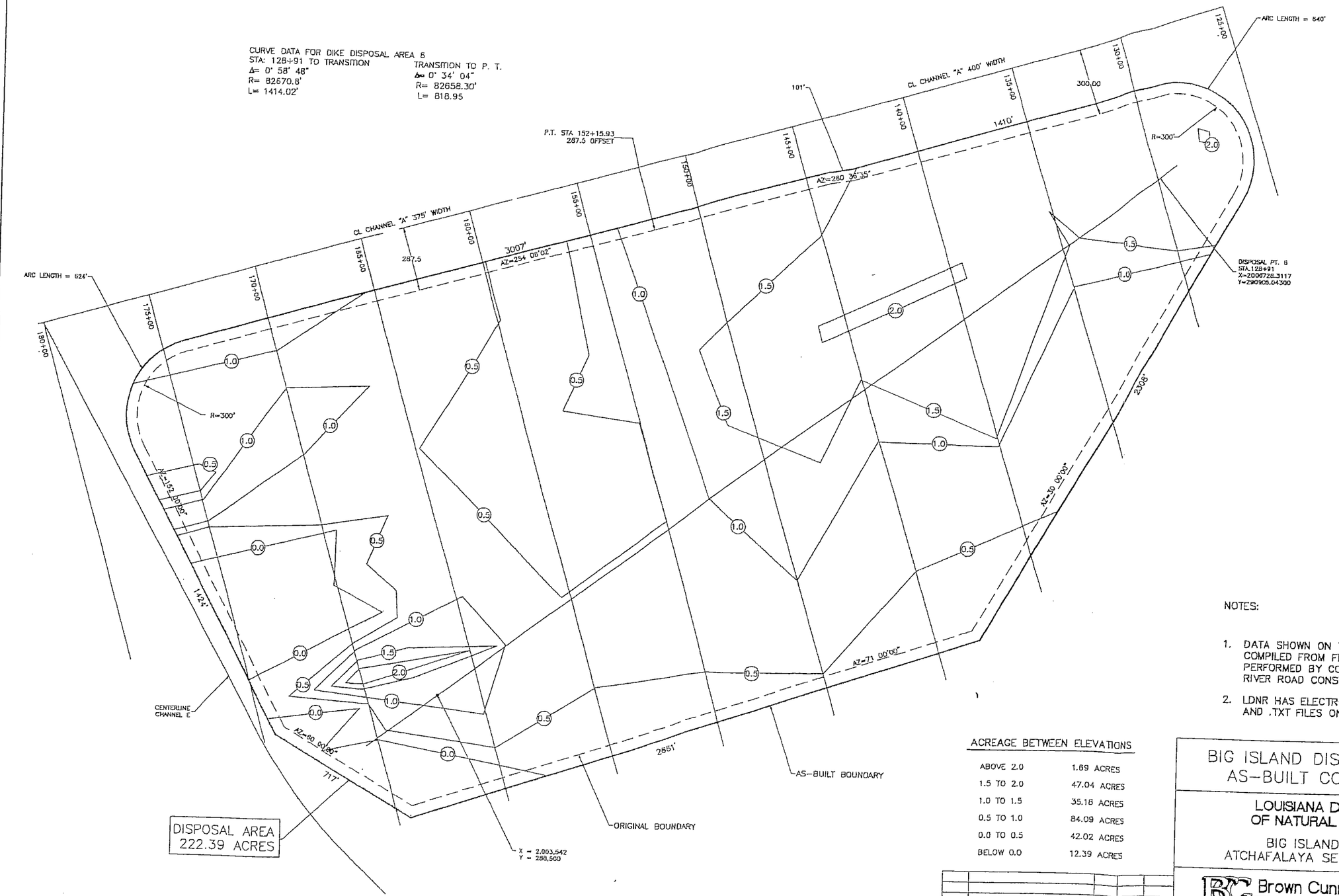
Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

DATE: DEC, 1998	DESIGN: E.J.M.	DRAWN: CDH	DWG. NO. 13 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\BIM4-5.DWG Last edited: FEBRUARY 03, 1999 @ 3:11 p.m.

CURVE DATA FOR DIKE DISPOSAL AREA 6
STA: 128+91 TO TRANSITION
Δ= 0° 58' 48"
R= 82670.8'
L= 1414.02'

TRANSITION TO P. T.
Δ= 0° 34' 04"
R= 82658.30'
L= 818.95



SCALE: 1" = 200'

0 100 200 300 400

N

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

ACREAGE BETWEEN ELEVATIONS

ABOVE 2.0	1.69 ACRES
1.5 TO 2.0	47.04 ACRES
1.0 TO 1.5	35.16 ACRES
0.5 TO 1.0	84.09 ACRES
0.0 TO 0.5	42.02 ACRES
BELOW 0.0	12.39 ACRES

BIG ISLAND DISPOSAL AREA 6 AS-BUILT CONFIGURATION

LOUISIANA DEPARTMENT OF NATURAL RESOURCES

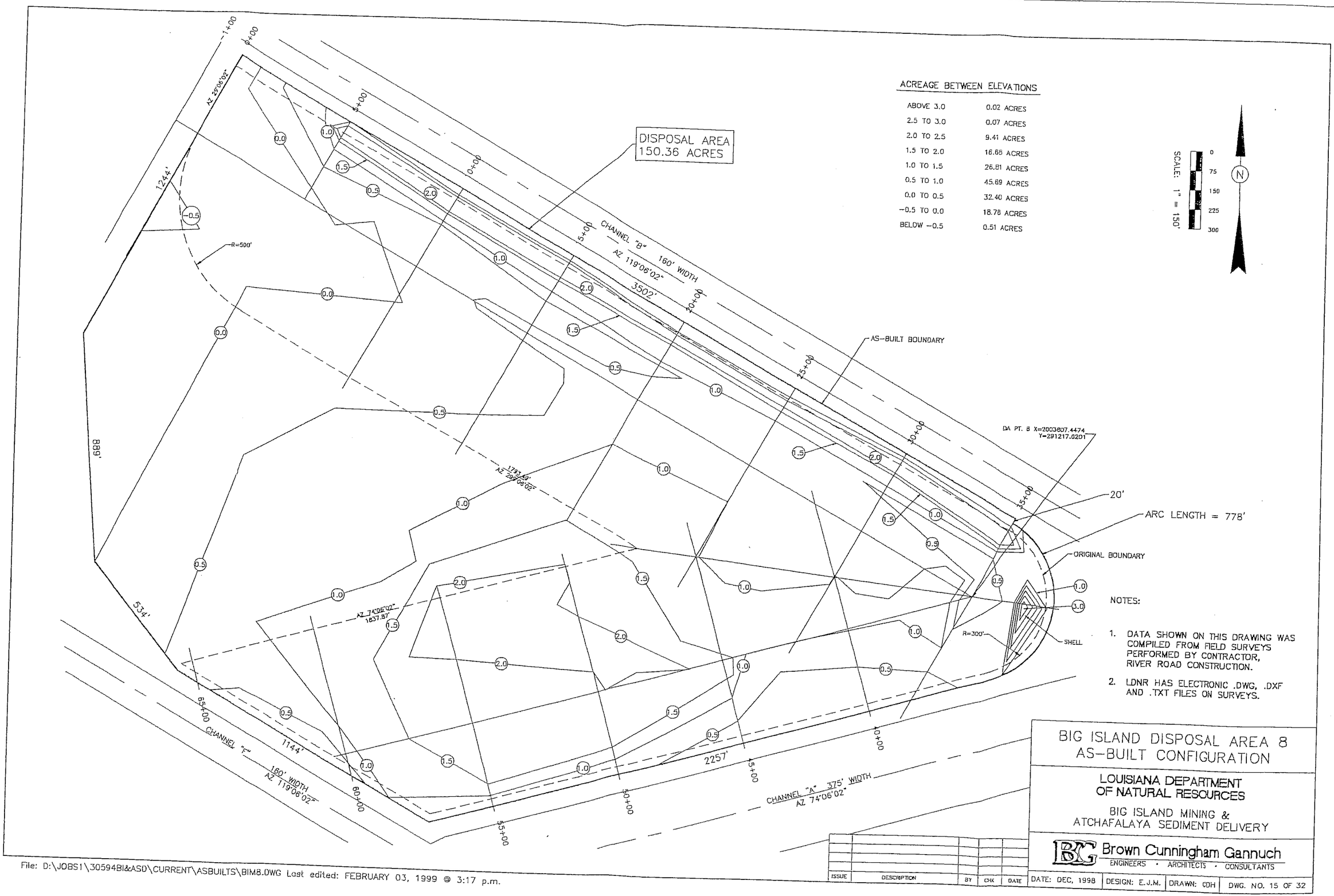
BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: DEC, 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 14 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\BIM6.DWG Last edited: FEBRUARY 03, 1999 @ 3:15 p.m.



ACREAGE BETWEEN ELEVATIONS

ABOVE 3.0	0.02 ACRES
2.5 TO 3.0	0.07 ACRES
2.0 TO 2.5	9.41 ACRES
1.5 TO 2.0	16.66 ACRES
1.0 TO 1.5	26.81 ACRES
0.5 TO 1.0	45.69 ACRES
0.0 TO 0.5	32.40 ACRES
-0.5 TO 0.0	18.78 ACRES
BELOW -0.5	0.51 ACRES

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

BIG ISLAND DISPOSAL AREA 8
AS-BUILT CONFIGURATION

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

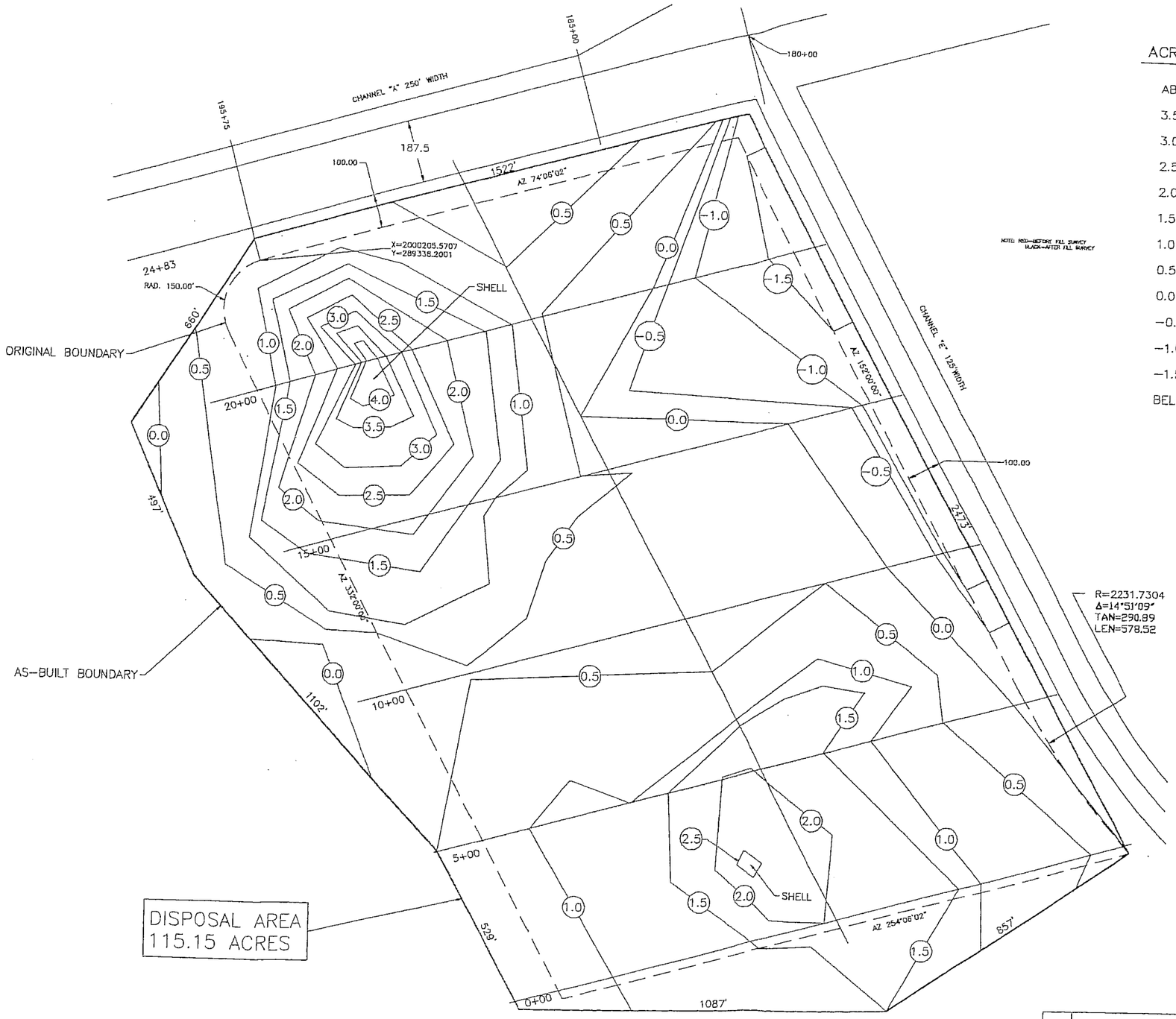
BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: DEC, 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 15 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\BIM8.DWG Last edited: FEBRUARY 03, 1999 @ 3:17 p.m.



ACREAGE BETWEEN ELEVATIONS

ABOVE 4.0	0.29 ACRES
3.5 TO 4.0	0.62 ACRES
3.0 TO 3.5	1.43 ACRES
2.5 TO 3.0	1.80 ACRES
2.0 TO 2.5	5.66 ACRES
1.5 TO 2.0	11.94 ACRES
1.0 TO 1.5	15.56 ACRES
0.5 TO 1.0	30.85 ACRES
0.0 TO 0.5	29.79 ACRES
−0.5 TO 0.0	7.30 ACRES
−1.0 TO −0.5	4.19 ACRES
−1.5 TO −1.0	4.38 ACRES
BELOW −1.5	1.34 ACRES

SCALE: 1" = 200'

0 100 200 300 400

N

NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

BIG ISLAND DISPOSAL AREA 9 AS-BUILT CONFIGURATION

LOUISIANA DEPARTMENT OF NATURAL RESOURCES

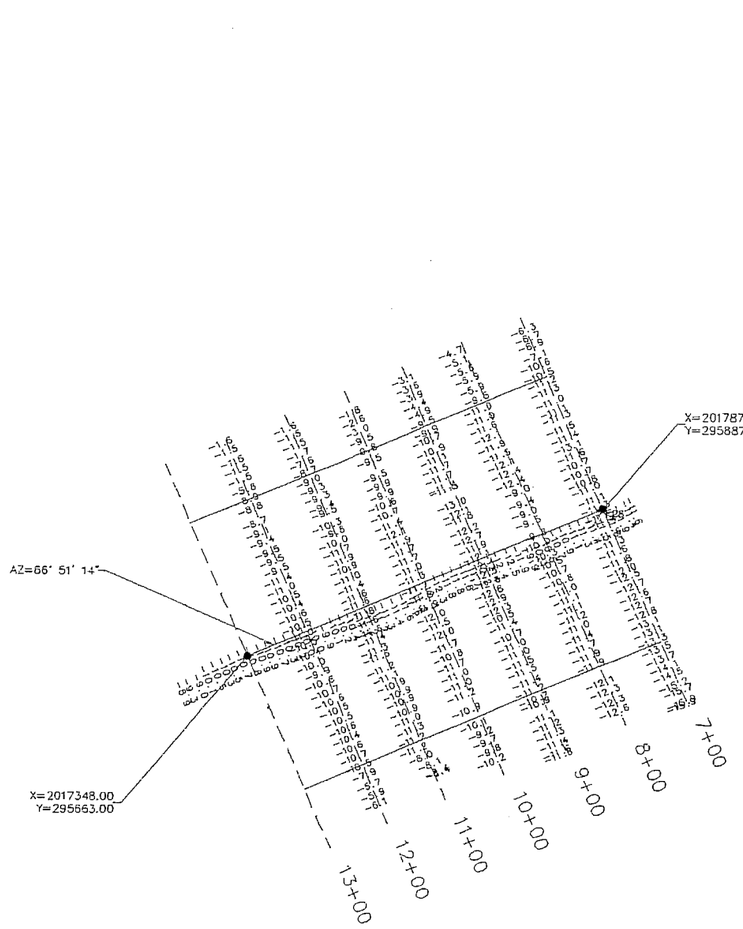
BIG ISLAND MINING & ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: DEC, 1998 | DESIGN: E.J.M. | DRAWN: CDH | DWG. NO. 16 OF 32

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\BIM9.DWG Last edited: FEBRUARY 03, 1999 @ 3:22 p.m.

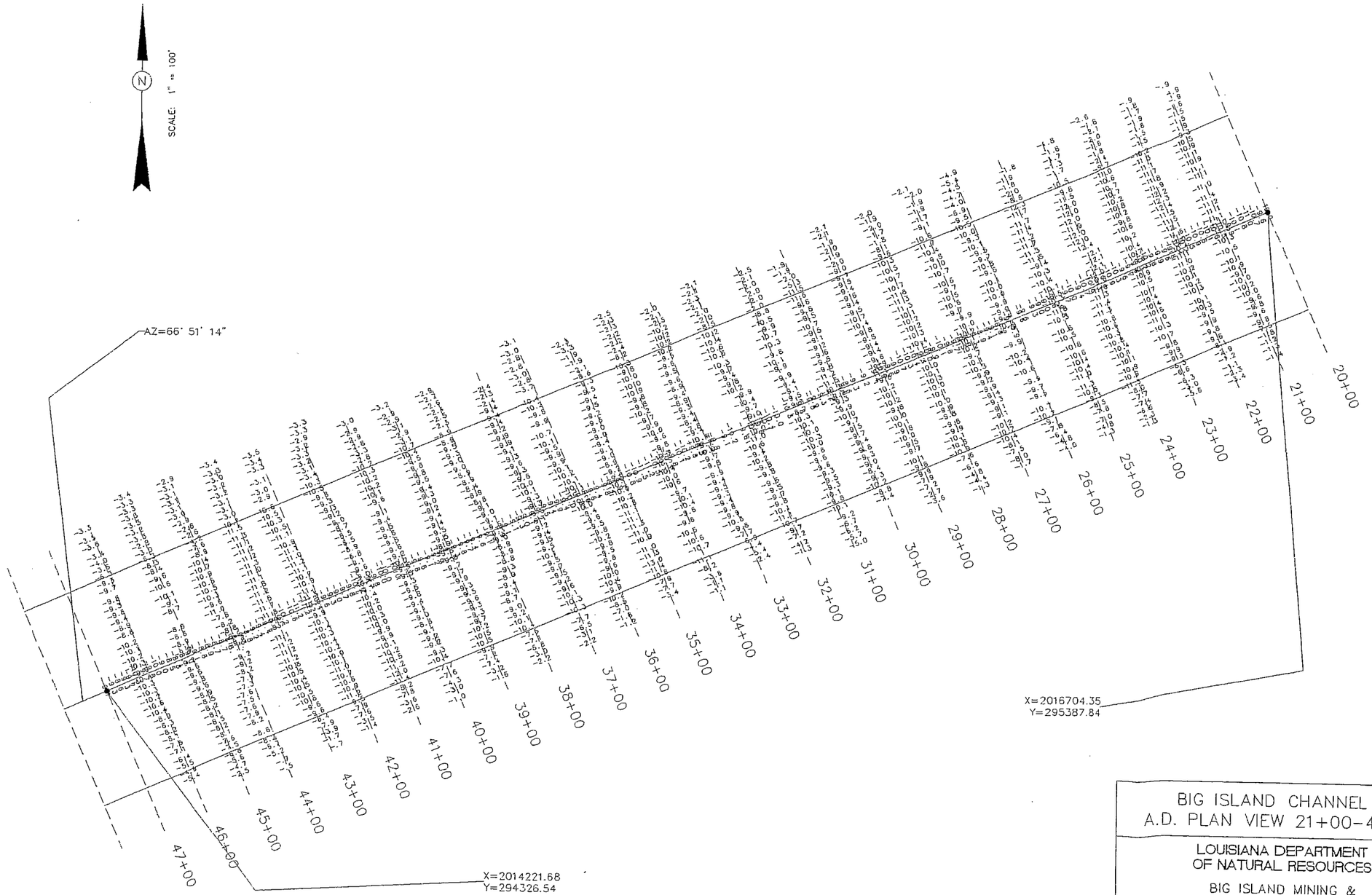


BIG ISLAND CHANNEL A
A.D. PLAN VIEW 7+00–12+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

BG Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

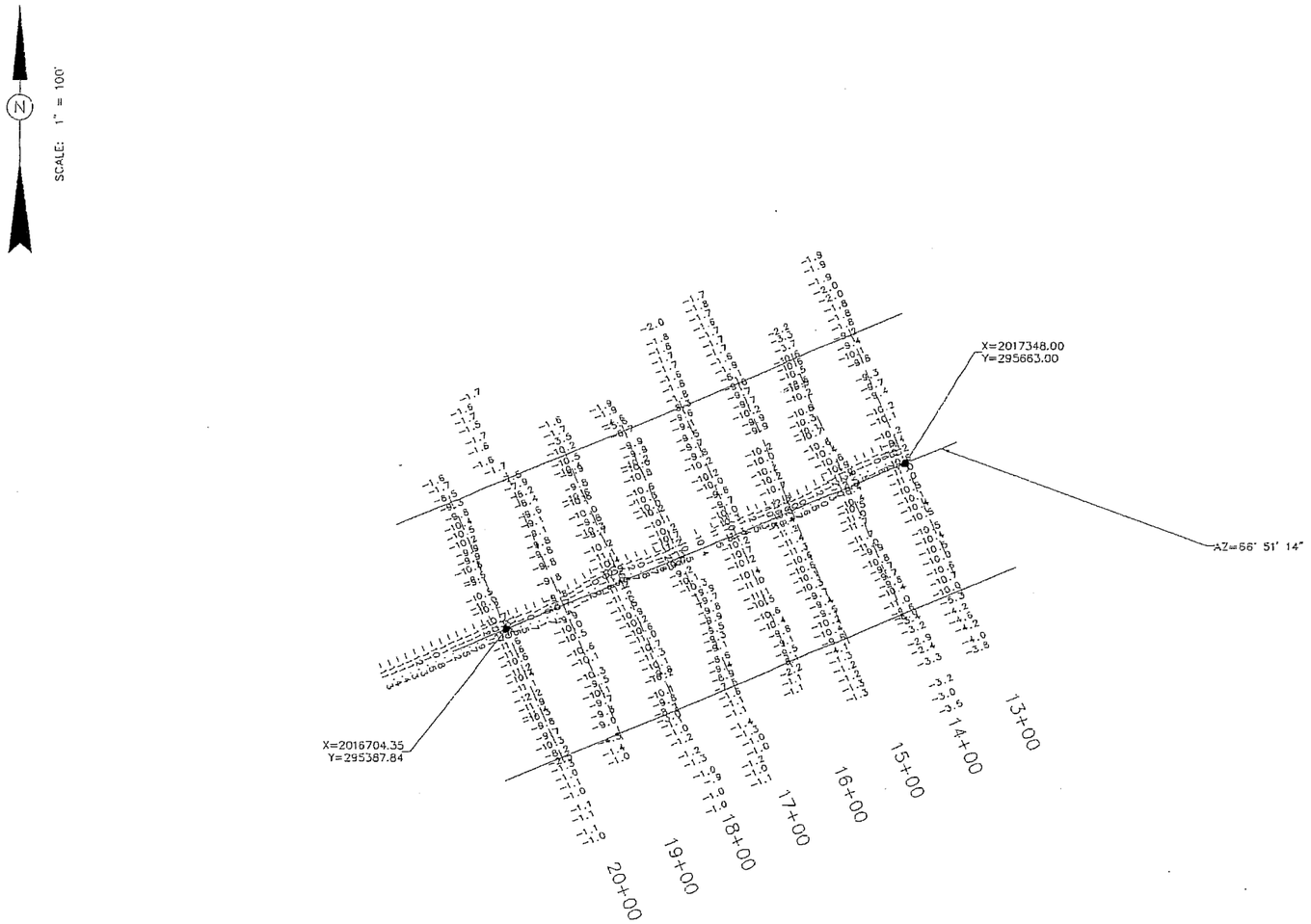


BIG ISLAND CHANNEL A
A.D. PLAN VIEW 21+00-46+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Ganpuch



BIG ISLAND CHANNEL A
A.D. PLAN VIEW 13+00–20+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

DATE: APRIL 1998	DESIGN: E.J.M.	DRAWN: CDH	DWG. NO. 1 OF 1		

N

SCALE: 1" = 100'

AZ=65° 51' 14"

x=2014773.39
y=294562.38

41+00
42+00
43+00
44+00
45+00
46+00
47+00
47+98
49+00
50+00
51+00
52+00
52+98
54+00
55+00
56+00
57+00
57+98
59+00
60+00
61+00
62+00
63+00
64+00

x=2012652.49
y=293672.67

BIG ISLAND CHANNEL A
A.D. PLAN VIEW 42+00-63+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch

SCALE: 1" = 100'

CURVE 1 DATA
DELTA=7° 14' 47.6"
T=5215.93
L=10417.95
R=82370.8

X=2012653.0965
Y=293672.9235

X=2010508.9825
Y=292839.8942

64+00
65+00
66+00
67+00
68+00
69+00
70+00
71+00
72+00
73+00
74+00
75+00
76+00
77+00
78+00
79+00
80+00
81+00
82+00
83+00
84+00
85+00
86+00
87+00

BIG ISLAND CHANNEL A
A.D. PLAN VIEW 64+00-87+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

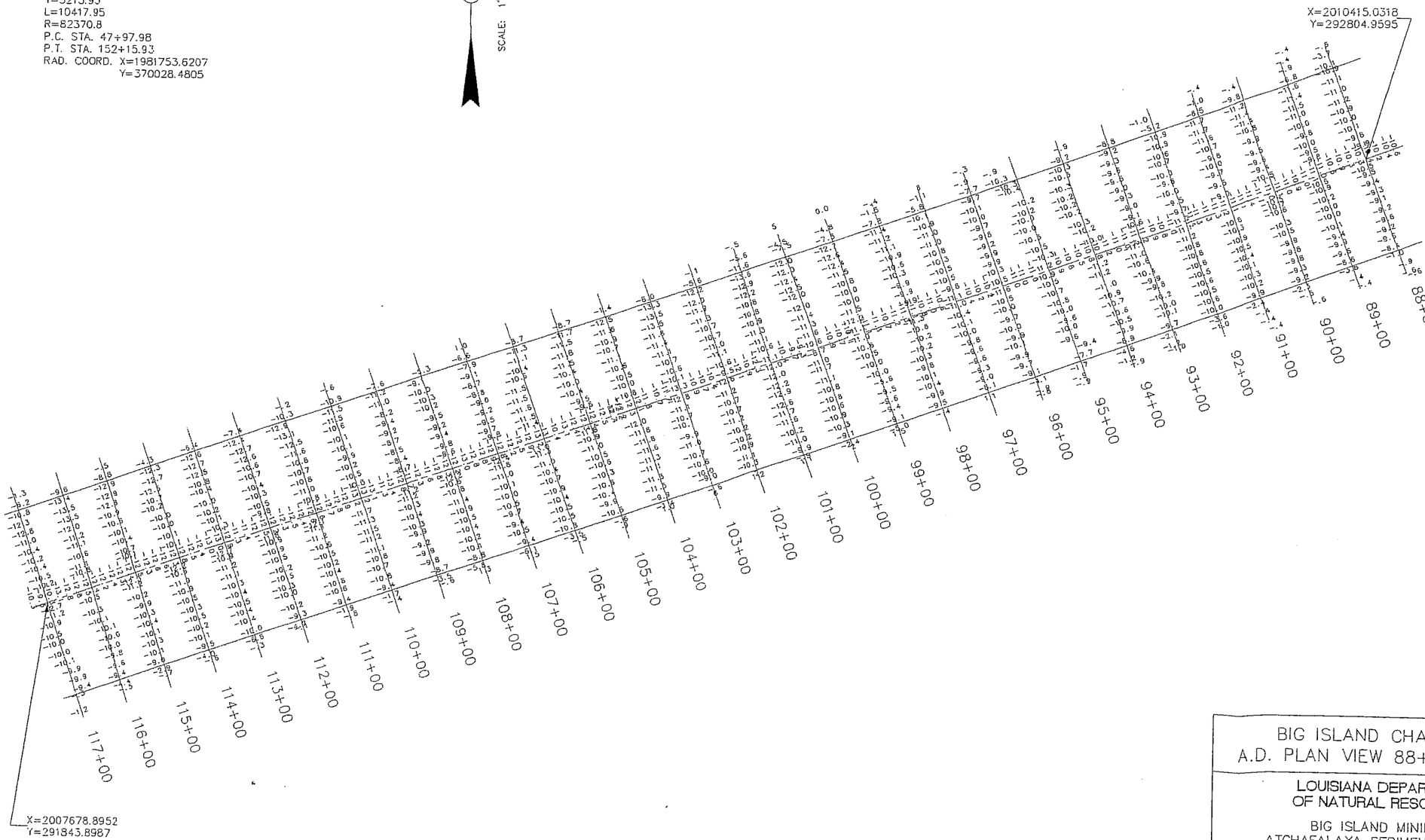
BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch

DELTA=7°14'47.6"
T=5215.93
L=10417.95
R=82370.8
P.C. STA. 47+97.98
P.T. STA. 152+15.93
RAD. COORD. X=1981753.6207
Y=370028.4805

N

SCALE: 1" = 100'



BIG ISLAND CHANNEL A
A.D. PLAN VIEW 88+00-117+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch

CURVE DATA
DELTA=7°14'47.6"
T=5215.93
L=10417.95
R=82370.8
P.C. STA. 47+97.98
P.T. STA. 152+15.93

N

SCALE: 1" = 100'

X=2007583.9376
Y=291812.4757

X=2005581.7735
Y=291179.4614

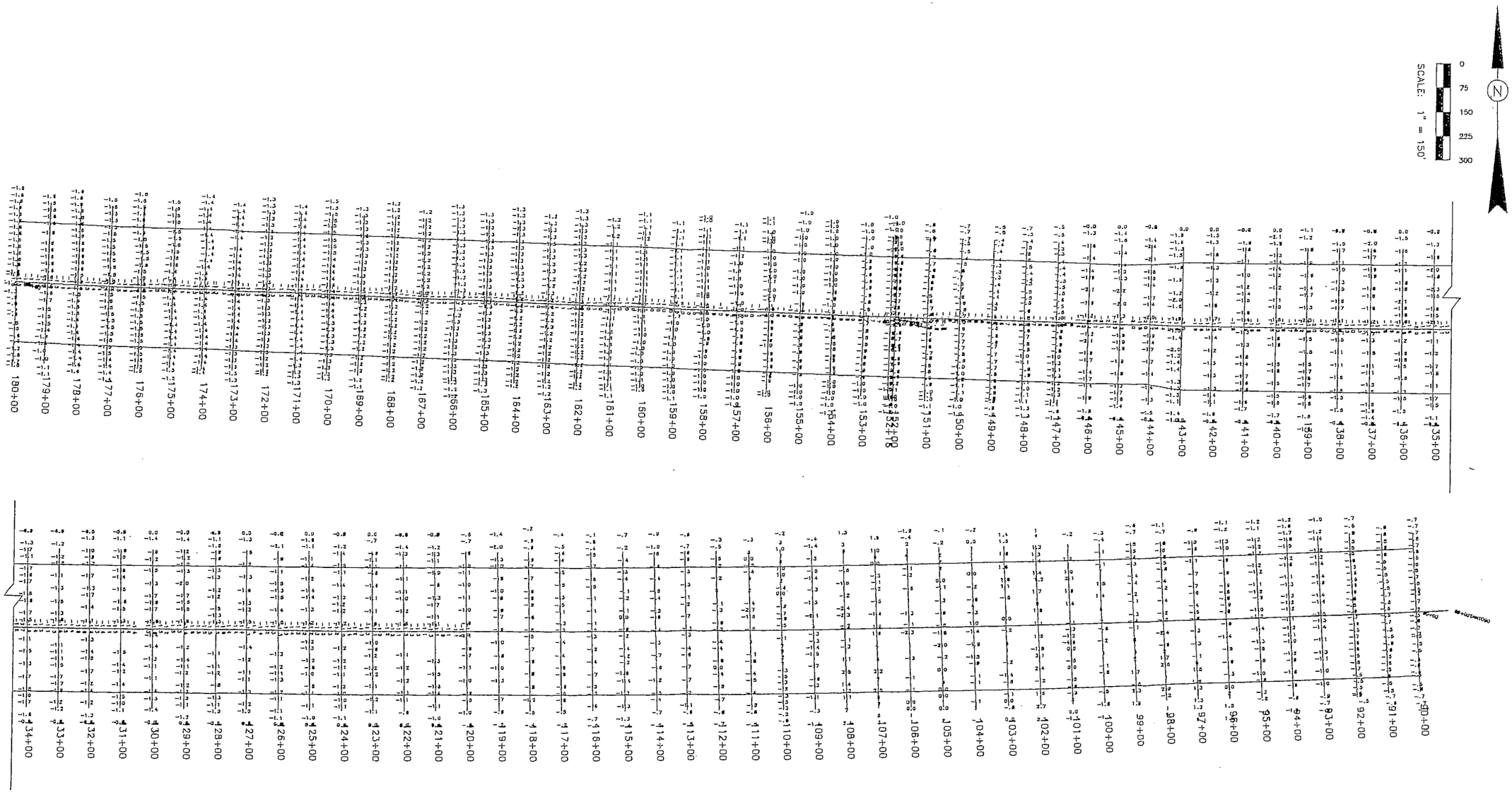
118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00

BIG ISLAND CHANNEL A
A.D. PLAN VIEW 118+00-139+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS



NOTES:

1. DATA SHOWN ON THIS DRAWING WAS COMPILED FROM FIELD SURVEYS PERFORMED BY CONTRACTOR, RIVER ROAD CONSTRUCTION.
2. LDNR HAS ELECTRONIC .DWG, .DXF AND .TXT FILES ON SURVEYS.

ISSUE	DESCRIPTION	BY	CHK	DATE

BIG ISLAND CHANNEL A
B.D. PLAN VIEW 90+00 TO 180+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

DATE: DEC, 1998	DESIGN: E.J.M.	DRAWN: CDH	DWG. NO. 1 OF 1

File: D:\JOBS1\30594BI&ASD\CURRENT\ASBUILTS\BIMCHA.DWG Last edited: FEBRUARY 04, 1999 @ 11:21 a.m.

N

SCALE: 1" = 100'

ORIGINAL CHANNEL "A" CENTER LINE

TRANSITION 375' TO 250'

AZ 66°58'32"

X=2001641.5568
Y=290046.1726

AZ 74°06'02"

TRANSITION 250' TO 125'

AZ 60°03'51.5"

AZ 74°06'02"

X=1999141.0225
Y=289333.9029

X=1999175.2662
Y=289213.6849

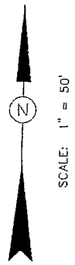
180+00 181+00 182+00 183+00 184+00 185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00 197+00 198+00 199+00 200+00 201+00 202+00 202+50 203+00 204+00 205+00 206+00

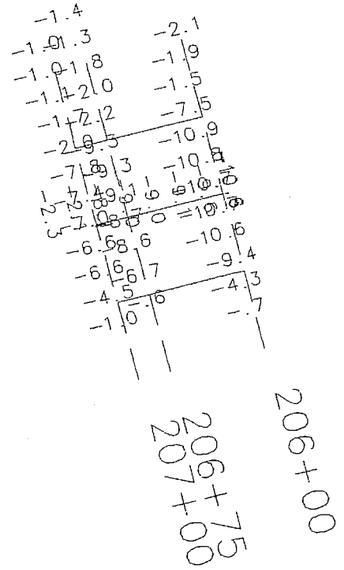
BIG ISLAND CHANNEL A
A.D. PLAN VIEW 180+00-206+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS



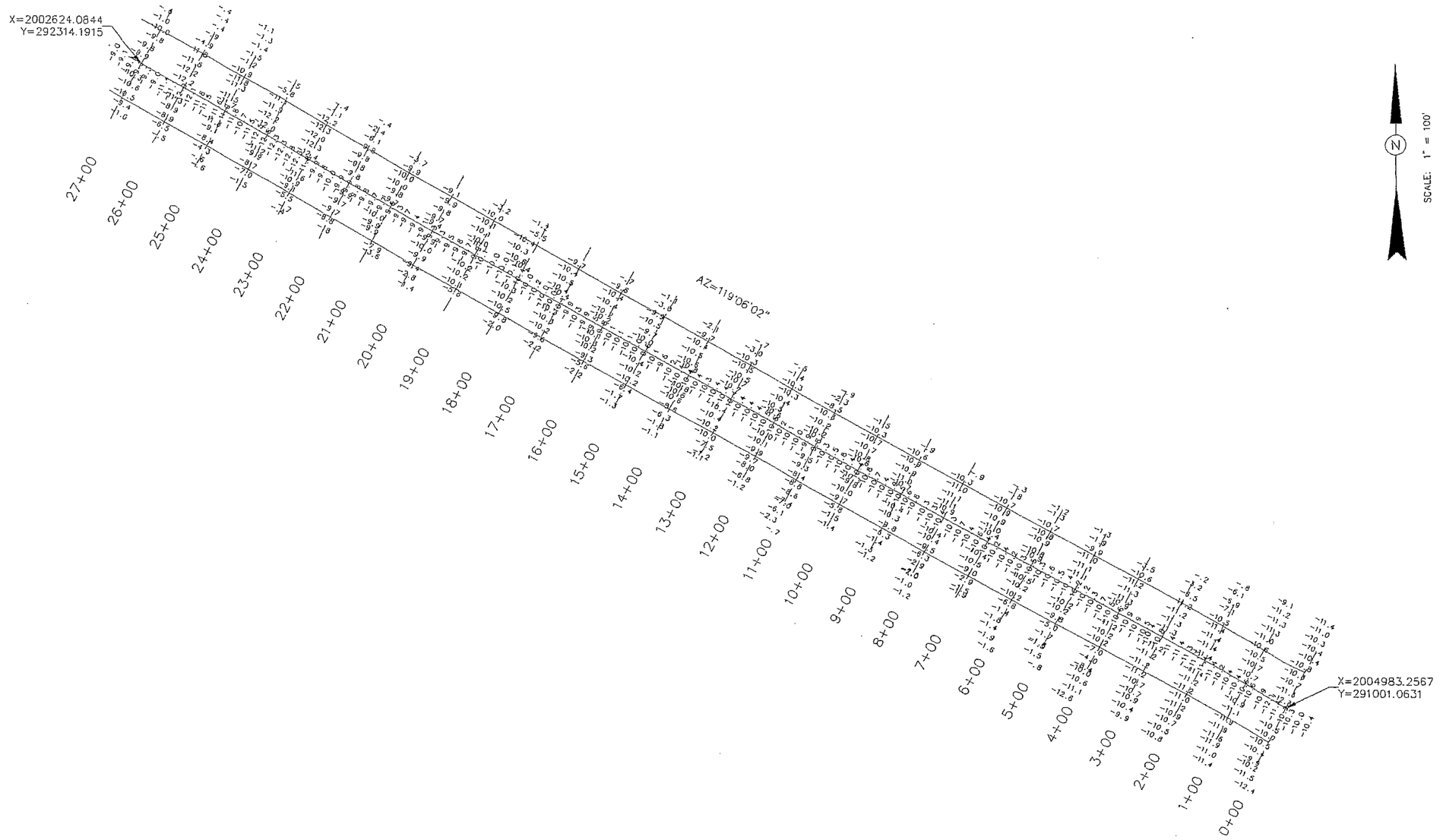


BIG ISLAND CHANNEL A
A.D. PLAN VIEW 206+00–207+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch



N

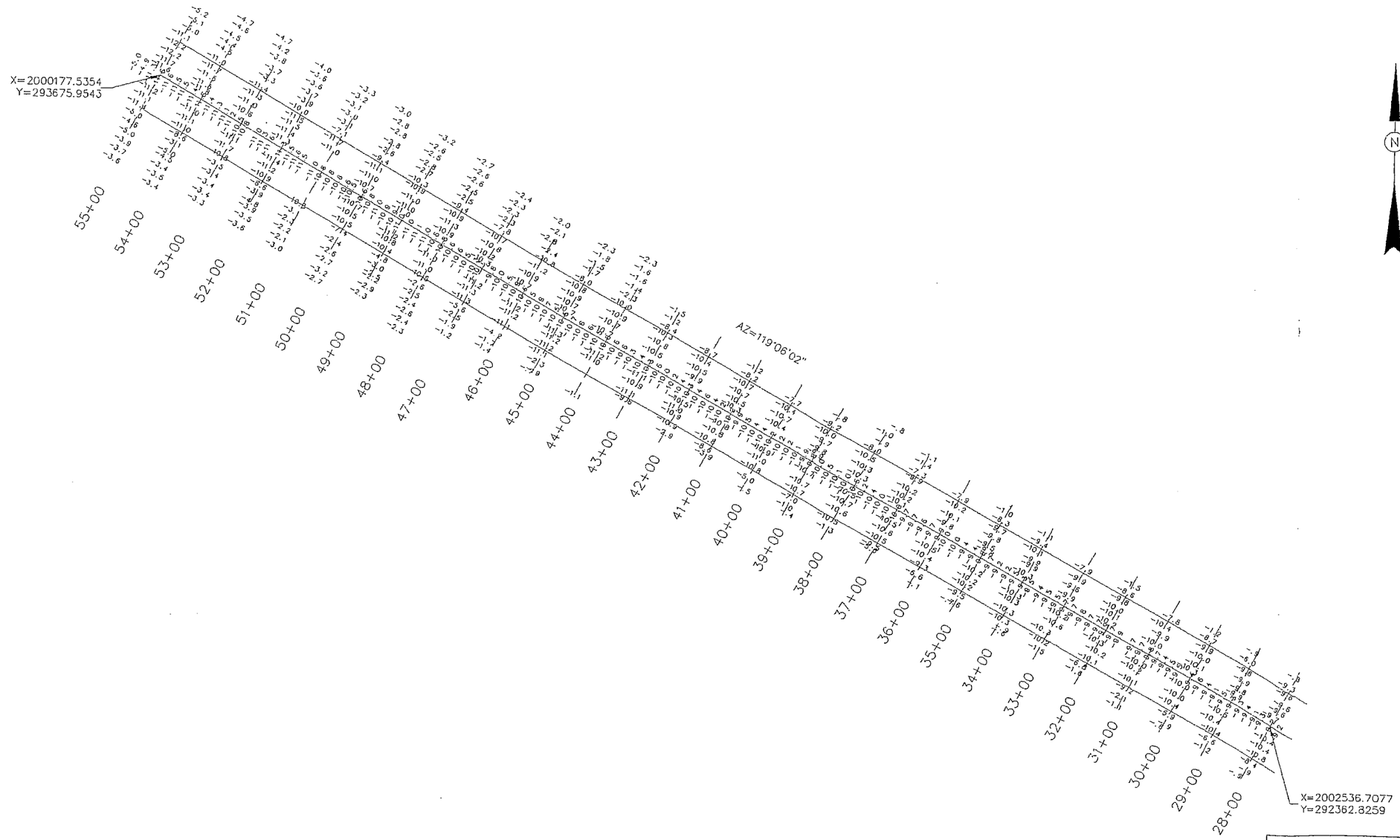
SCALE: 1" = 100'

BIG ISLAND CHANNEL B
A.D. PLAN VIEW 0+00–27+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch

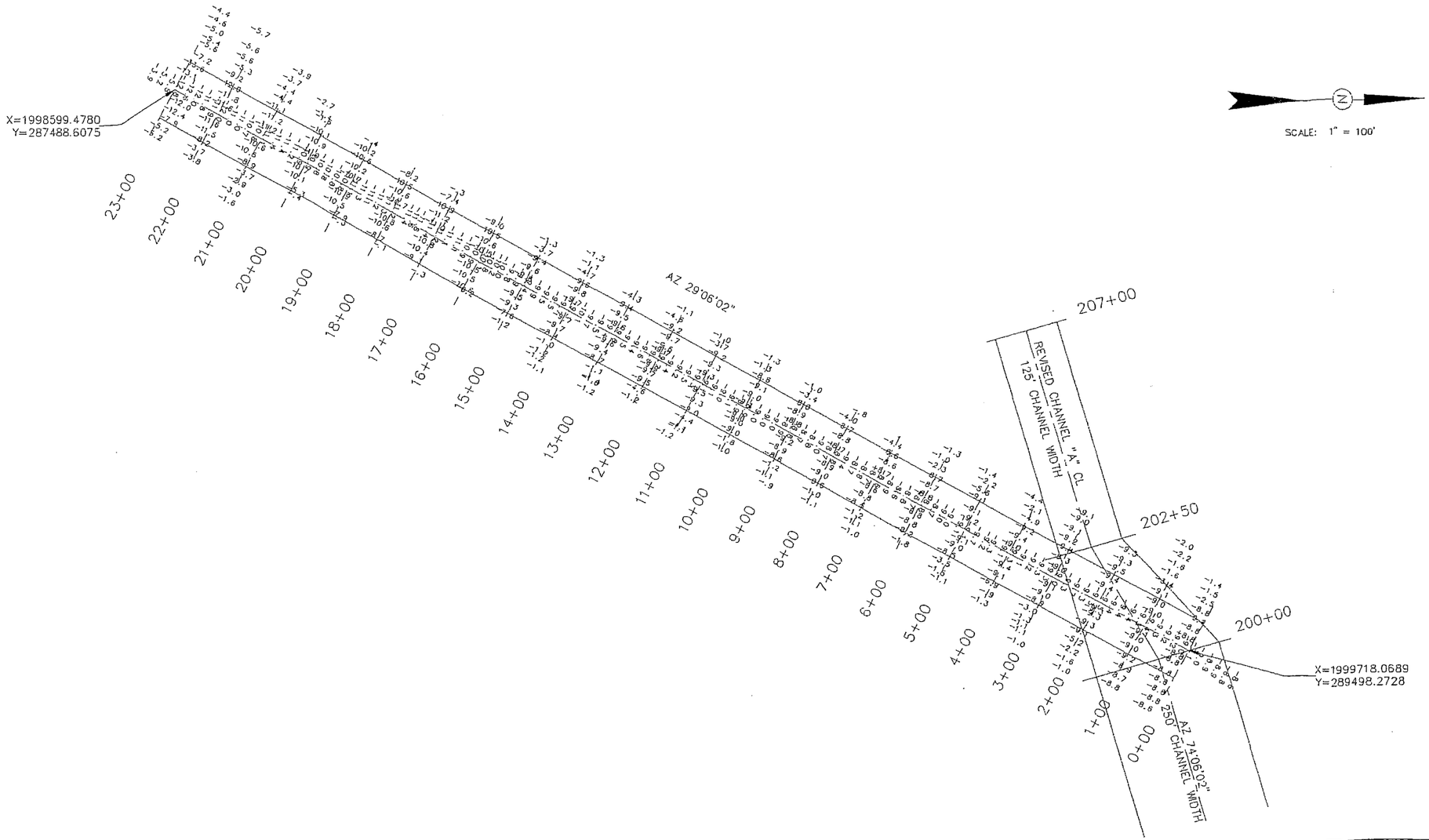


BIG ISLAND CHANNEL B
A.D. PLAN VIEW 27+00-55+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch



N

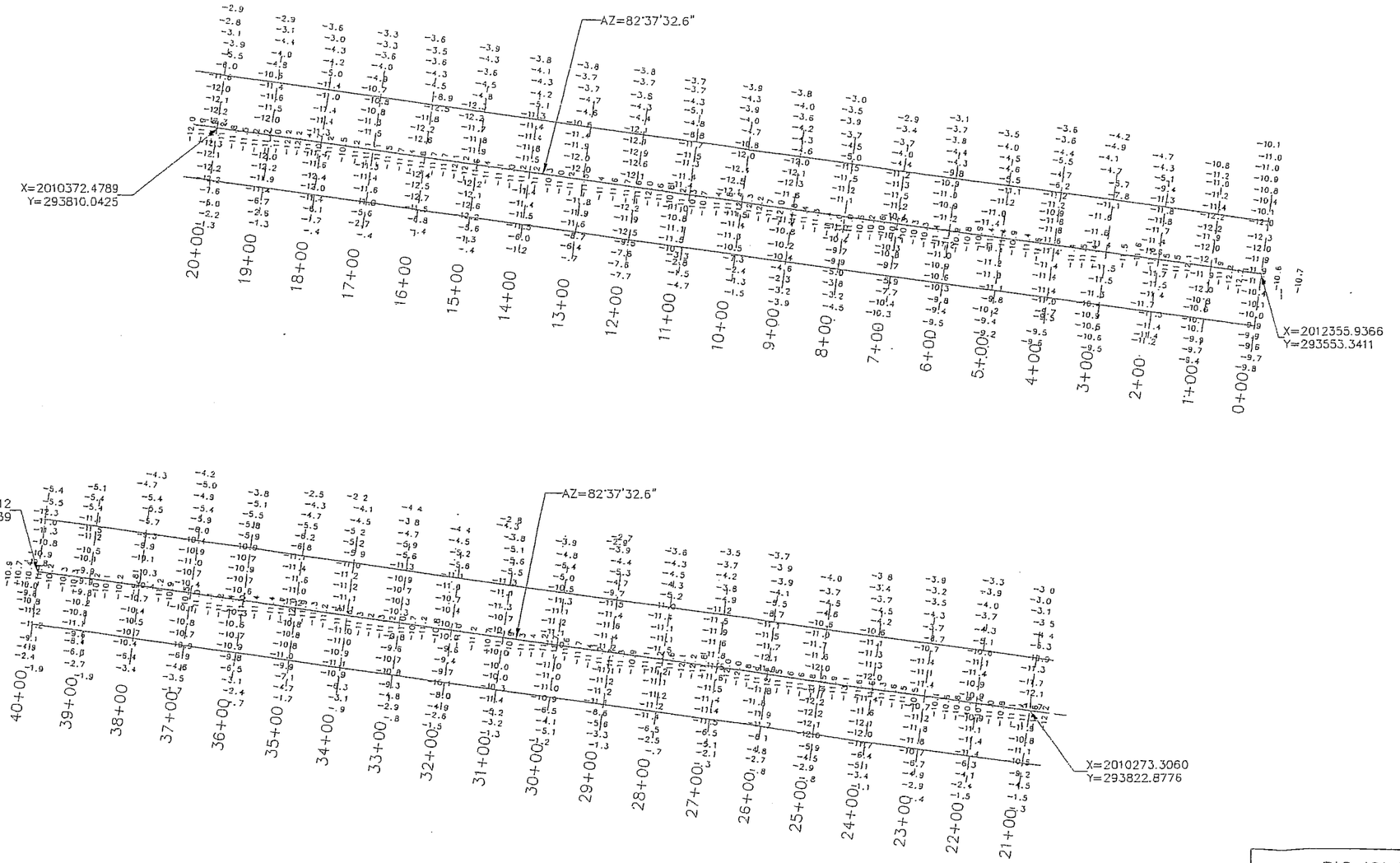
SCALE: 1" = 100'

BIG ISLAND CHANNEL C
A.D. PLAN VIEW 0+00–23+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch

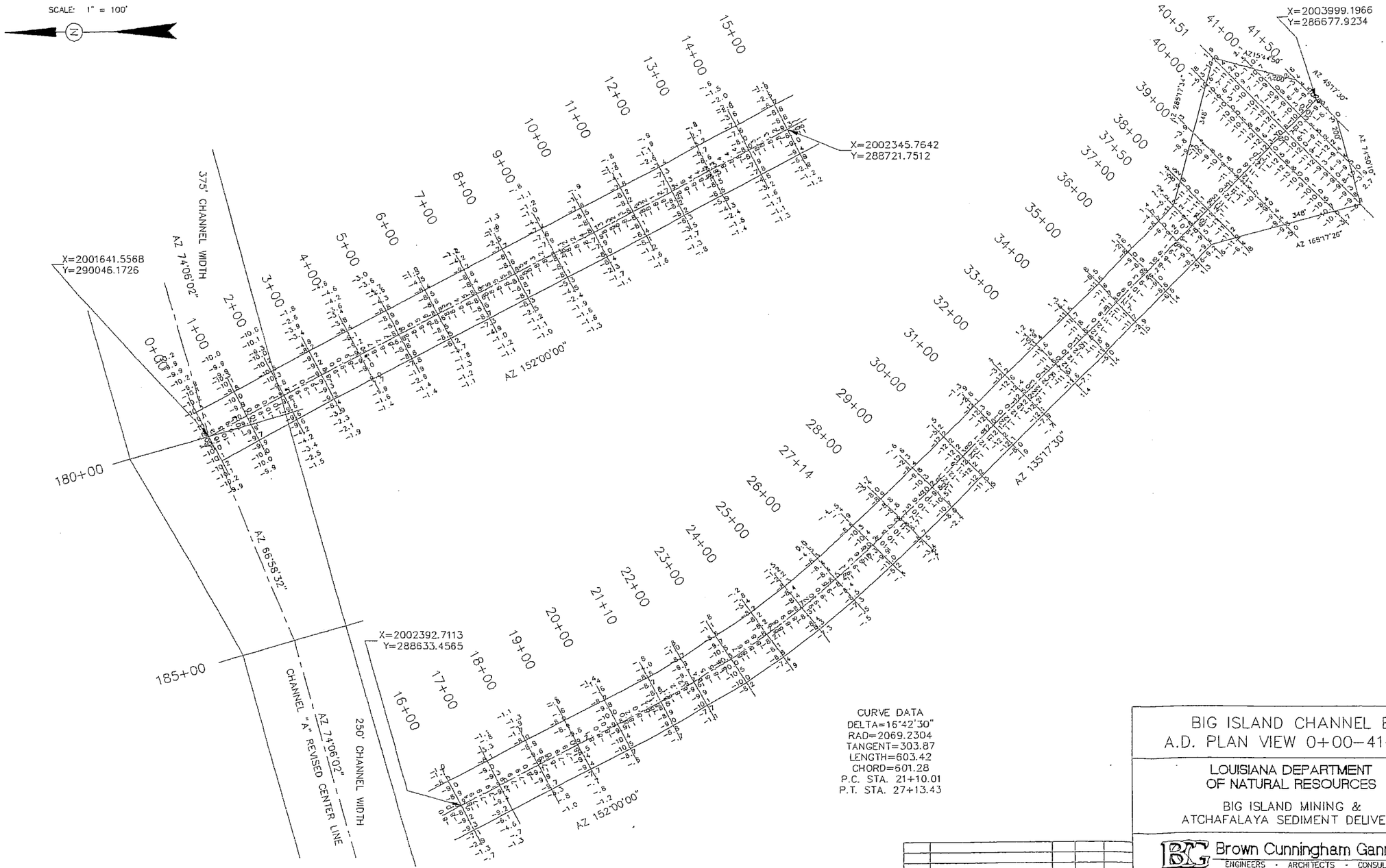


BIG ISLAND CHANNEL D
A.D. PLAN VIEW 0+00–40+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS



CURVE DATA
DELTA=16°42'30"
RAD=2069.2304
TANGENT=303.87
LENGTH=603.42
CHORD=601.28
P.C. STA. 21+10.01
P.T. STA. 27+13.43

BIG ISLAND CHANNEL E
A.D. PLAN VIEW 0+00–41+50

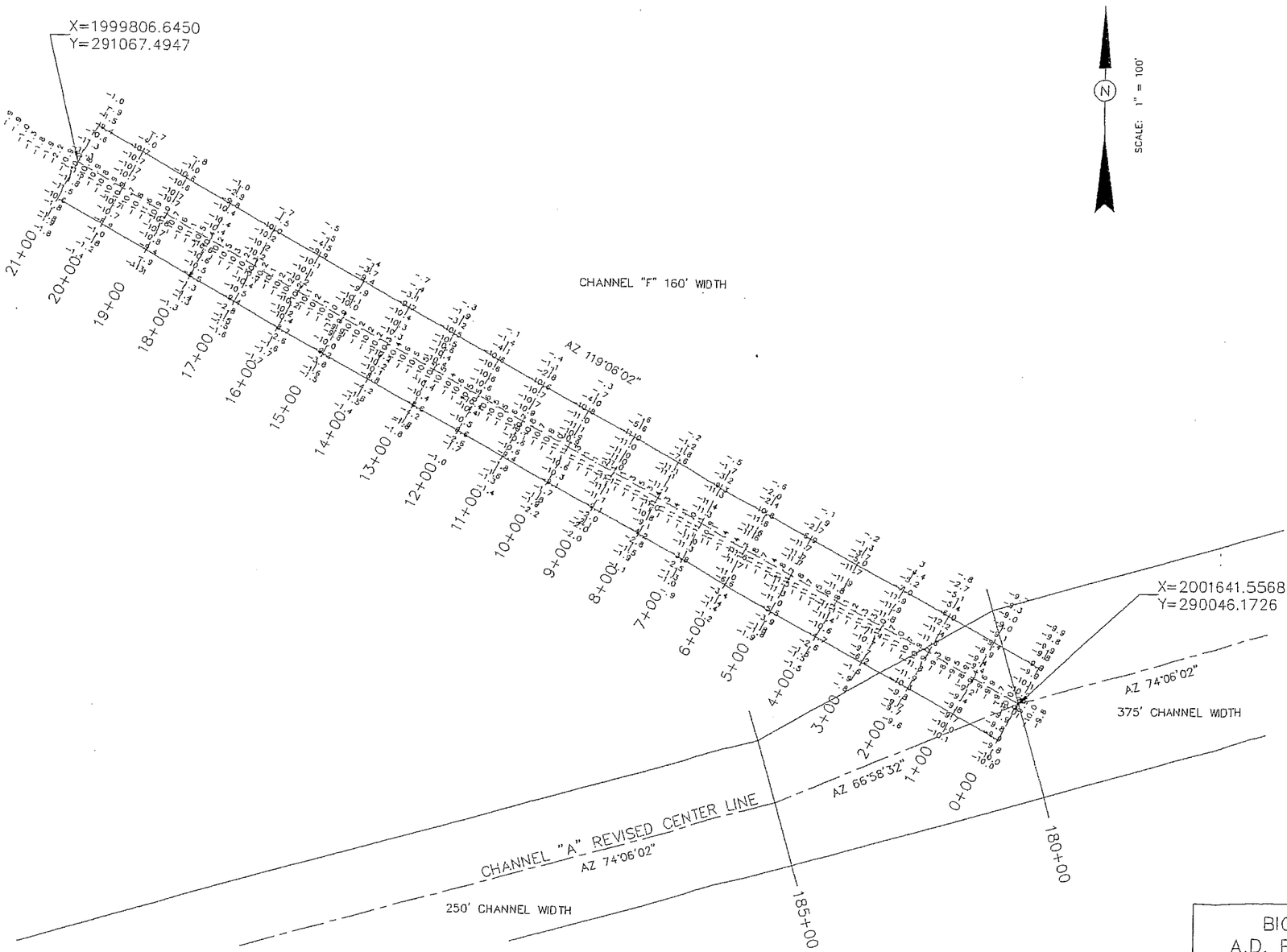
LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

ISSUE	DESCRIPTION	BY	CHK	DATE

DATE: OCT., 1998	DESIGN: E.J.M.	DRAWN: CDH	DWG. NO. 1 OF 1



BIG ISLAND CHANNEL F
A.D. PLAN VIEW 0+00–21+00

LOUISIANA DEPARTMENT
OF NATURAL RESOURCES

BIG ISLAND MINING &
ATCHAFALAYA SEDIMENT DELIVERY

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS