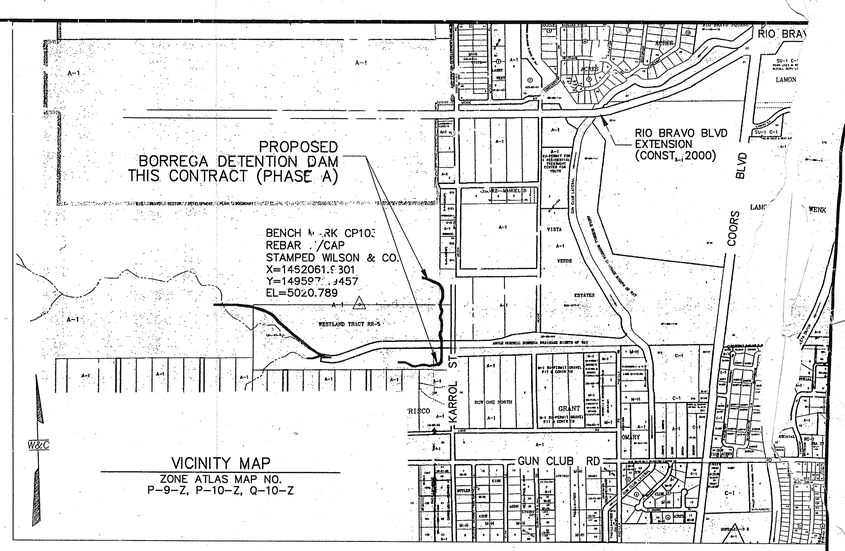
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

CONSTRUCTION PLANS FOR

BORREGA DETENTION DAM

AMAFCA



REFERENCE DOCUMENTS

Amole–Hubbell Drainage Management Plan, for AMAFCA by Leedshill–Herkenhoff, Inc., 1999.

Borrega Diversion Sediment Issues Floodplain Study for AMAFCA, for Bohannan–Huston Inc. by Resource Consultants, Inc. June 1992.

Design Analysis Report for Borrega Detention Dam and North Borrega Channel, for AMAFCA by Wilson & Company, March 2000.

FOR INFORMATION ONLY

INDEX

FOR INFORMATION ONLY

APPROVAL OF RECORD DRAWINGS
CHIEF CONSTRUCTION ENGINEER
DATE 5/19/00

RECORD DRAWING
DATE 2-20-01

2-20-01

RECORD DRAWINGS
THE DRAWING HAS BEEN REVISED TO REFLECT THE CONSTRUCTED FIELD CONDITIONS IN ACCORDANCE WITH INFORMATION AS PROVIDED BY WILSON AND COMPANY.

APPROVED FOR CONSTRUCTION

John P. Kelly 4-25-00

JOHN P. KELLY, P.E. DATE
EXECUTIVE ENGINEER
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

WCEA FILE NO. 99099

City Project No. 6922.91

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM
COVER SHEET

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348–4000

DATE APRIL 2000
FILE 99099
SHEET 1 OF 34

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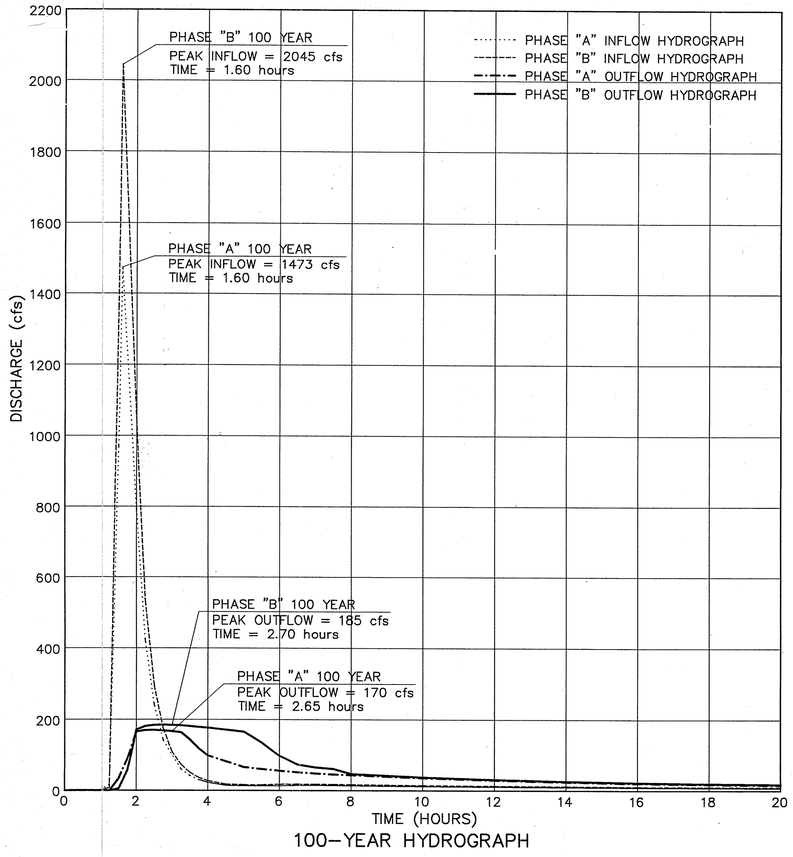
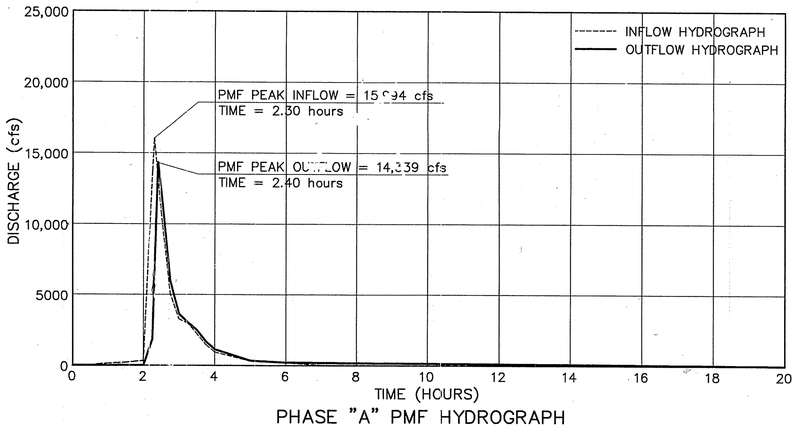
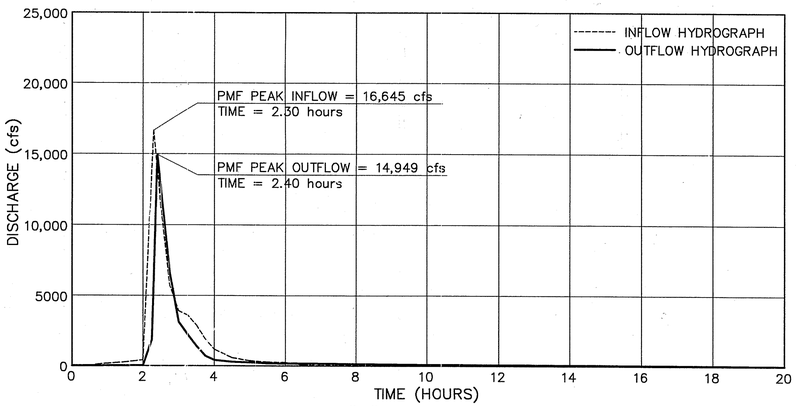


100-YEAR HYDROGRAPH



PHASE "A" PMF HYDROGRAPH



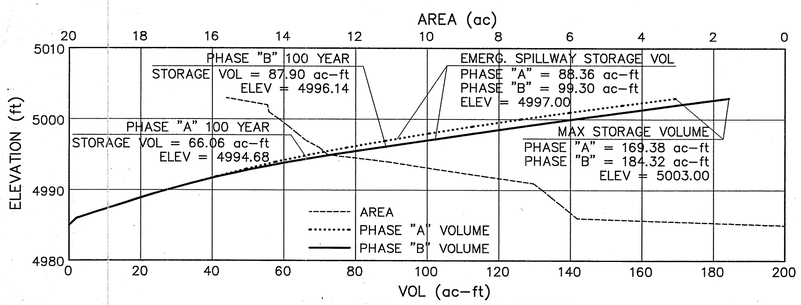
PHASE "B" PMF HYDROGRAPH

BORREGA DAM CHARACTERISTICS

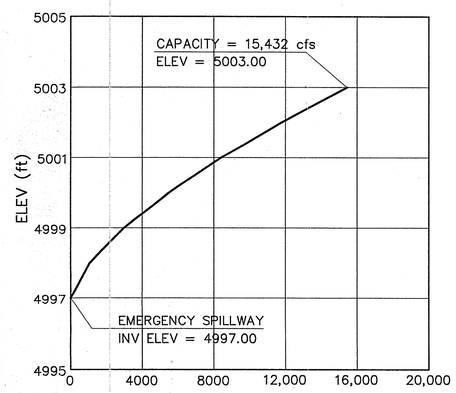
ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (ac-ft)		AREA (ac)
		PHASE "A"	PHASE "B"	
4984.7 = PRINCIPAL SPILLWAY INV	0	0	0	0
4985	0	0	0	0
4986	~~0.4~~ 3.0	2.02	2.02	5.31
4987	~~4~~ 16.0	7.94	7.94	6.04
4988	~~8~~ 25.0	14.10	14.10	6.28
4989	~~14~~ 32.0	20.51	20.51	6.54
4990	~~24~~ 49.0	27.17	27.17	6.78
4991	~~36~~ 62.0	34.08	34.08	7.03
4992	~~49~~ 73.0	41.36	41.78	8.39
4993	~~60~~ 97.0	49.21	50.84	9.75
4994	163	57.72	61.26	11.07
4995	174	67.03	73.20	12.78
4996	184	77.26	86.10	13.01
4997 = EMERG. SPILLWAY INV	191	88.36	99.30	13.38
4998	1252	100.23	112.80	13.63
4999	3176	112.77	126.55	13.88
5000	5667	125.94	140.56	14.14
5001	8620	139.90	154.85	14.42
5002	11,966	154.34	169.29	14.46
5003	15,667	169.38	184.32	15.61

BORREGA DAM PROPERTIES

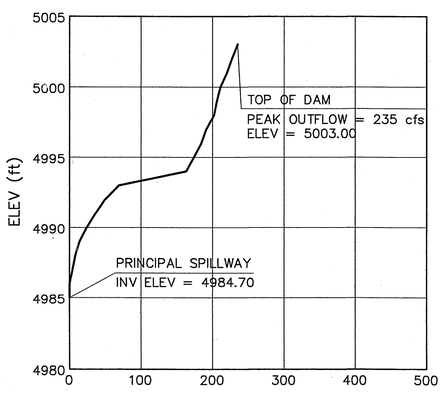
MAXIMUM GRADE ABOVE EXISTING GRADE AT CENTERLINE	13 FT
LENGTH	2300 FT
MAXIMUM WIDTH AT BASE	150 FT
CREST WIDTH	20 FT
SLOPE UPSTREAM FACE	3:1
SLOPE DOWNSTREAM FACE	VARIES 2.5:1 TO 6:1
ELEVATION AT TOP OF DAM	5003
FLOWLINE ELEVATION OF PRINCIPAL SPILLWAY OUTLET AT INTAKE	4984.70
ELEVATION OF EMERGENCY SPILLWAY CREST	4997
WIDTH OF EMERGENCY SPILLWAY PERPENDICULAR TO FLOW	350 FT
DISCHARGE CAPACITY OF EMERG. SPILLWAY AT TOP OF DAM ELEV 5003	15,432 cfs
OUTLET CONDUIT SIZE AND TYPE	47 1/2" ORIFICE PLATE ON 54" PCCP
OUTLET CONDUIT CAPACITY AT ELEVATION 4997	191 cfs
EVACUATION TIME FOR 100-YR EVENT (PHASE "A", Qout < 2 cfs)	57 hours
DRAINAGE AREA PHASE "A"/ PHASE "B"	1.246/ 1,748 sq. mi.
100-YEAR 24 HOUR DESIGN RAINFALL	2.66 inches
HAZARD CLASSIFICATION (NCRS DEFINITION)	HIGH
PMF 6 HOUR LOCAL STORM DESIGN RAINFALL	16.0 inches



AREA CAPACITY CURVE



EMERGENCY SPILLWAY DISCHARGE (cfs)



PRINCIPAL SPILLWAY DISCHARGE (cfs)

I HEREBY CERTIFY THAT THE ACCOMPANYING MAP(S) AND STATEMENTS HAVE BEEN EXAMINED BY ME AND APPROVED AS TO FORM AND CONTENT, AND WERE DULY ACCEPTED FOR FILING ON THE 28th DAY OF April , 2000.

for Bonifacio T. Lopez PE
THOMAS C. TURNEY, P.E. Chief Technical Division
NEW MEXICO STATE ENGINEER

I, JOHN P. KELLY, EXECUTIVE ENGINEER OF THE ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY, ALBUQUERQUE, NEW MEXICO, BEING FIRST DULY SWORN AUTHORITY UPON MY OATH, STATE I HAVE READ AND EXAMINED THE ACCOMPANYING MAP AND STATEMENTS (MAP AND STATEMENTS CONSISTING OF 34 SHEETS) AND KNOW THE CONTENTS THEREOF AND REPRESENTATIONS THEREON AND STATE THAT THE SAME ARE TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

John P Kelly
JOHN P. KELLY, P.E.
EXECUTIVE ENGINEER
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

SUBSCRIBED AND SWORN TO BEFORE ME THIS 25 DAY OF APRIL 2000

I, DANIEL S. AGUIRRE, BEING FIRST DULY SWORN UPON MY OATH, STATE THAT I AM THE REGISTERED PROFESSIONAL ENGINEER WHO MADE THE MAP(S) OF BORREGA DAM, THAT SUCH MAP(S) CONSISTING OF 34 SHEETS WERE PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY DIRECTION, AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DANIEL S. AGUIRRE, P.E.
NEW MEXICO REGISTERED PROFESSIONAL ENGINEER
LICENSE NO. 11995

SUBSCRIBED AND SWORN TO BEFORE ME THIS 25TH DAY OF April 2000

THE PLANS WERE DESIGNED AND ASSEMBLED BY WILSON & COMPANY (505)348-4000. CONTACT PERSON: DANIEL S. AGUIRRE, P.E.

OFFICIAL SEAL
Gaylene F. Espinoza
NOTARY PUBLIC
STATE OF NEW MEXICO
Commission Expires 7-20-01

NOTE:

BORREGA DAM PHASE "A" AND ONLY PHASE "A" SHALL BE CONSTRUCTED WITH THIS PROJECT.

RECORD DRAWING 2-20-01

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS
DESIGNED BY NM FEBRUARY 2000
DRAWN BY PJM FEBRUARY 2000
CHECKED BY DSA FEBRUARY 2000

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

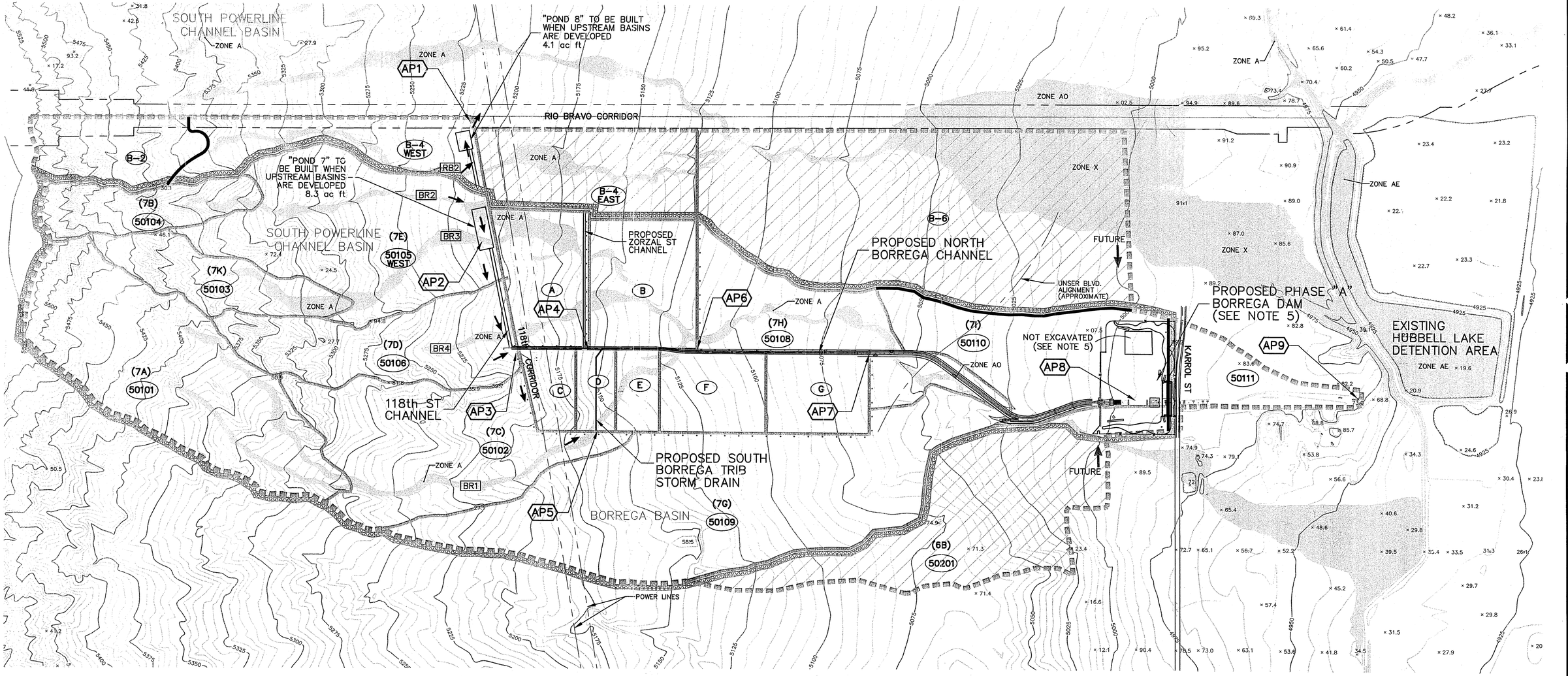
DAM FILING SHEET

DANIEL S. AGUIRRE 11995 REGISTERED PROFESSIONAL ENGINEER 4-25-00

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE MARCH 2000
FILE 99099
SHEET 2 OF 34

99099\A\SHEETS\DAM\M9990FIL.DWG\A-17-00\PJM



INTERIM CONDITIONS – PHASE "A" DAM:

1. ALL BASINS DISCHARGING TO THE DAM ARE ANALYZED AS DEVELOPED WITH NO BULKING.
2. BASINS 50103, 50104, & 50105 WEST ARE ANALYZED AS DEVELOPED WITH NO BULKING, AND ARE ROUTED THROUGH "POND 7" PER THE AMOLE–HUBBELL DMP (A–H DMP). DISCHARGE FROM "POND 7" IS ROUTED SOUTH TO THE CULVERT UNDER 118TH ST (AP3).
3. BASINS B–2 AND B–4 WEST ARE ANALYZED AS DEVELOPED WITH NO BULKING, ROUTED TO "POND 8" PER THE A–H DMP, THEN DISCHARGED THROUGH A CULVERT TO THE CHANNEL ON THE NORTH SIDE OF RIO BRAVO BLVD.
4. PONDS ALONG WEST SIDE OF 118TH ST PER THE A–H DMP.
   POND 7 IS TO BE LOCATED IN BASIN 50105 WEST.
   STORAGE VOLUME = 8.3 AC–FT.
   POND 8 IS TO BE LOCATED IN BASIN B–4 WEST.
   STORAGE VOLUME = 4.1 AC–FT.
5. THE BORREGA DAM IS TO BE BUILT IN 2 PHASES: PHASE "A" & PHASE "B". THE FIRST PHASE (NOT–FULLY EXCAVATED) IS CALLED "PHASE "A". WHEN BASINS B–4 EAST AND B–6 ARE DEVELOPED, THEY WILL BE DIVERTED TO THE BORREGA DAM. WHEN BASIN 50201 IS DEVELOPED, IT WILL BE DIVERTED TO THE BORREGA DAM. THE DAM WILL THEN BE FULLY EXCAVATED. THE FULLY EXCAVATED BORREGA DAM IS CALLED PHASE "B".

LEGEND

- 5070 — EXISTING INTERMEDIATE CONTOUR
- 5071 — EXISTING INDEX CONTOUR
- DRAINAGE STUDY AREA BOUNDARY
- BASIN BOUNDARY
- AREA DISCHARGING TO DAM
- PAAKWEREE DEVELOPMENT BOUNDARY
- E2 — ANALYSIS POINT
- BR1 — ARROYO CHANNEL NUMBER FROM FIGURE SH–4 AMOLE–HUBBELL DMP
- 50106 — BASIN ID
- FEMA FLOOD PLAIN
- BASINS TO BE DIVERTED TO THE DAM IN THE FUTURE. THE DAM WILL BE THEN BE FULLY EXCAVATED PER PHASE "B" DAM
- DIRECTION OF FLOW

ANALYSIS POINT SUMMARY

AP NO.	DESCRIPTION	INTERIM AHYMO HYD NO.	INTERIM DRAINAGE AREA (sq mi)	INTERIM Q100 24 hr (cfs)	INTERIM VOL100 24 hr (ac–ft)
1	Culvert to north under Rio Bravo Blvd @ 118th St.	RB_CULV	0.1086	43	7.9
2	Inflow to "Pond 7"	POND7.IN	0.2346	428	18.5
3	118th St Channel @ North Borrega Channel	106.20	0.3202	198	25.7
4	N. Borrega Chan @ Avestruz St	105E.1	0.3853	275	29.1
5	Intake of culvert @ South property line of Paakweree	S_CULV	0.2814	344	22.8
6	N. Borrega Chan @ Perdiz St	107.10	0.7599	728	59.9
7	N. Borrega Chan @ Pardal St	107.50	0.8287	854	65.7
8	Borrega Dam	110.20	1.2462	1473	99.1
9	Borrega Inlet to Hubbell Lake	BR_DMP1.HYD	1.2841	192	98.9

BASIN SUMMARY

BASIN	AREA (sq mi)	AREA (ac)	%A	%B	%C	%D	INTERIM Q100 24 hr (cfs)	INTERIM VOL100 24 hr (ac–ft)
B–2	0.0445	28.5	0	33	33	34	87	3.2
B–4 West	0.0641	41.0	0	33	33	34	126	4.7
50101	0.1540	98.6	0	38	20	42	271	12.0
50102	0.1277	81.7	0	28	23	49	272	10.9
50103	0.0540	34.5	0	48	17	35	102	3.8
50104	0.0393	25.2	0	53	15	32	72	2.7
50105West	0.1413	90.4	0	28	23	49	271	12.0
50106	0.0856	54.8	0	28	23	49	171	7.3
50108	0.0813	52.0	0	60	15	25	100	5.0
50109	0.2344	150.0	0	28	23	49	391	20.0
50110	0.1018	65.2	4	26	22	48	212	8.5
50111	0.0379	24.3	0	45	10	45	76	3.0
A	0.0513	32.8	0	40	55	5	85	2.5
B	0.0641	41.0	0	28	23	49	137	5.5
C	0.0138	8.8	0	30	42	28	27	0.9
D	0.0144	9.2	0	28	23	49	31	1.2
E	0.0144	9.2	0	28	23	49	31	1.2
F	0.0336	21.5	0	28	23	49	72	2.9
G	0.0352	22.5	0	28	23	49	75	3.0

RECORD DRAWING
DATE 2-20-01

GRAPHIC SCALE
500 0 250 500 1000 2000
(IN FEET)
1 inch = 500 ft.

6922.91

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

BASIN MAP INTERIM CONDITIONS – PHASE "A" DAM

4-25-00

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348–4000

DATE APRIL 2000
FILE 99099
SHEET 3 OF 34

99099\MASHEETS\DAM\M9990BB1.DWG\3-9-00\PJM

GENERAL NOTES:

1. NEW MEXICO STATE HIGHWAY DEPARTMENT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, EDITION OF 1994", AND SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS THERETO SHALL GOVERN CONSTRUCTION OF THIS PROJECT.

2. ELEVATIONS ARE SHOWN IN FEET ABOVE MEAN SEA LEVEL DATUM. VERTICAL DATUM NAVD 1988.

3. ALL STATIONING FOR THE ROADWAYS, EMBANKMENTS AND CHANNELS REFER TO THE MEASURED HORIZONTAL DISTANCE. LEFT AND RIGHT OF CENTERLINE ARE LOOKING IN THE DIRECTION OF INCREASING STATION.

4. WHERE WIRE FENCES IS SHOWN ALONG PROPERTY LINES, CONSTRUCT THE CENTERLINE OF THE FENCE POSTS SIX (6) INCHES TO THE INSIDE OF THE PROPERTY LINE.

5. WHEN COORDINATES ARE SHOWN, HEREIN (N,E) THEY REFER TO GROUND COORDINATES. COORDINATES ARE BASED ON TRUE GROUND DISTANCES AND STATE GRID BEARINGS FROM PROJECT BENCHMARKS CP103 AND CP105. SEE SHEET 25 FOR LOCATION.

6. ADDITIONAL CONSTRUCTION AT WIRE GATES AND WALK GAPS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CONSTRUCTION OF THE FENCE.

7. LIMITS OF WORK IS SHOWN ON THE PLANS. THE CONTRACTOR SHALL CONFINE HIS OPERATIONS TO WITHIN THE PROJECT RIGHT OF WAY. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY AGREEMENTS NECESSARY OR DAMAGE BY HIS OPERATION TO PUBLIC OR PRIVATE PROPERTY INCLUDING UTILITIES.

8. FILL MATERIALS FROM EXCAVATION OR BORROW WHICH REQUIRES MORE THAN ONE HANDLING PRIOR TO FINAL PLACEMENT, INCLUDING STOCKPILING AND BLENDING TO MEET GRADATION REQUIREMENTS OR STOCKPILING FOR LATER DISPOSAL, WILL BE CONSIDERED INCIDENTAL TO THE CONTACT UNIT PRICE FOR UNCLASSIFIED EXCAVATION. NO SEPARATE PAYMENT SHALL BE MADE FOR BLENDING OR MULTIPLE HANDLING AND FINAL PAYMENT SHALL BE MADE ON THE BASIS OF QUANTITIES REMOVED FROM ORIGINAL LOCATION.

9. ANY DISTURBED AREAS NOT INCLUDED ON THE PLANS SHALL BE TREATED WITH TYPE "A" SEEDING, AND NO MEASUREMENT OR PAYMENT WILL BE MADE THEREFORE.

10. WATERING, AS REQUIRED FOR CONSTRUCTION AND DUST CONTROL, SHALL BE CONSIDERED AN INCIDENTAL TO CONSTRUCTION AND NO MEASUREMENT OR PAYMENT SHALL BE MADE. CONSTRUCTION AREAS SHALL BE WATERED FOR DUST POLLUTION ABATEMENT AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND SUPPLYING WATER AS REQUIRED.

11. AUTHORITY OF THE STATE ENGINEER. THE NEW MEXICO STATE ENGINEER SHALL HAVE FULL AUTHORITY TO PERFORM INSPECTION DURING CONSTRUCTION. SEE SPECIAL CONDITIONS IN THE "SPECIFICATIONS AND CONTRACT DOCUMENTS". A REPRESENTATIVE OF THE STATE ENGINEER OFFICE SHALL BE PROVIDED A 72 HOUR NOTICE OPPORTUNITY TO PERFORM INSPECTION PRIOR TO BACK FILL OF KEY TRENCH AND PRINCIPAL SPILLWAY PIPE.

12. THE CONTRACTOR WILL BE RESPONSIBLE TO REPLACE AT HIS OWN EXPENSE ANY AND ALL PROPERTY CORNERS OR MONUMENTS DESTROYED IN THE PROCESS OF CONSTRUCTION. ALL PROPERTY CORNERS OR MONUMENTS MUST BE RESET BY A REGISTERED PROFESSIONAL SURVEYOR.

13. NO PAYMENT ABOVE THE COST OF EXCAVATION WILL BE MADE FOR PLACEMENT OF SURPLUS FILL AT DESIGNATED WASTE AREAS OR THE CONTRACTOR'S SELECTED DISPOSAL SITE.

14. PLACE STRIPINGS OVER EMBANKMENT SLOPES AND OTHER DISTURBED AREAS PRIOR TO SEEDING AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCIDENTAL TO THE COST OF THE CLEARING AND GRUBBING ITEM.

15. MINOR CHANGES IN ELEVATIONS AND SLOPES FOR EXCAVATION AND FILL MAY BE MADE TO SUIT FIELD CONDITIONS, AS APPROVED BY THE ENGINEER.

16. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. ALL UTILITY LOCATIONS SHOWN ARE APPROXIMATE.

17. AMAFCA SHALL SET TBM'S AND FLAG FOUND PROPERTY CORNERS AS REQUIRED TO ESTABLISH PROJECT CONTROL. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THESE MARKERS AND PROVIDE CONSTRUCTION STAKING REQUIRED FOR ESTABLISHING CORRECT LINE AND GRADES SHOWN ON THE PLANS. NO DIRECT PAYMENT WILL BE PROVIDED FOR THIS WORK AND IT WILL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.

18. BARRICADES AND TRAFFIC CONTROL SHALL BE ERECTED AND MAINTAINED BY THE CONTRACTOR. THE COST AND PAYMENT IS AN INCIDENTAL COST TO THE PROJECT, ALSO COSTS FOR CONSTRUCTION SIGNS SHALL BE AN INCIDENTAL COST TO THE PROJECT.

19. CLEARING AND GRUBBING MATERIAL MAY BE DISPOSED OF ON-SITE ONLY AT THE DIRECTION OF THE ENGINEER. REFERENCE NOTE 14 ABOVE.

20. ALL TRAFFIC CONTROL SIGNS TO COMPLY WITH THE LATEST EDITION OF M.U.T.C.D. SIGN LOCATIONS SUBJECT TO APPROVAL OF THE COUNTY TRAFFIC CONTROL MANAGER (848-1575) BOB BAKER.

21. CONTRACTOR SHALL BE REQUIRED TO OBTAIN NECESSARY PERMITS FROM BERNALILLO COUNTY PUBLIC WORKS DEPARTMENT FOR CONSTRUCTION OF ROADWAYS. CONTACT G.J. FOSTER AT 848-1523. CONTACT ROSE ARONS FOR EXCAVATION PERMITS AT 848-1574.

22. EXCESS EXCAVATION TO BE PLACED AS SHOWN ON PAGE EX-1 IN THE SPECIFICATIONS.

23. THE PHASE "A" GRADING (SEE SHEET 5 OF THESE PLANS) SHALL BE CONSTRUCTED WITH THIS PROJECT. THE PHASE "B" GRADING (SEE SHEET 6) AND ALL CONSTRUCTION ASSOCIATED WITH PHASE "B" SHALL BE COMPLETED IN THE FUTURE AT SUCH DATE THE OWNER OF THE PROPERTY NORTH AND NORTHWEST OF THE DAM HAS DEVELOPED HIS PROPERTY AND IS READY TO DISCHARGE HIS ALLOWED RUNOFF TO THE DAM PER THE "FIRST AMENDMENT TO AGREEMENT, BORREGA DETENTION DAM AND UPSTREAM BORREGA ARROYO CHANNEL," DATED 16 DECEMBER 1999.

24. QUANTITIES SHOWN HEREIN FOR THE VARIOUS BID ITEMS ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT SHALL BE BASED ON ACTUAL QUANTITIES AS CONSTRUCTED.

25. ALL SCARIFYING, EXCAVATION AND COMPACTION SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER AND IN ACCORDANCE WITH THE GEOTECHNICAL STUDY PREPARED BY AGRA, DATED 15 MARCH 2000.

26. THE CONTRACTOR SHALL INCLUDE IN HIS CONSTRUCTION SEQUENCE PROVISIONS WHICH WILL ALLOW FOR THE SAFE PASSAGE OF WATER FROM ARROYOS AND DITCHES THROUGH THE PROJECT SITE WITHOUT DAMAGE TO FACILITIES BEING CONSTRUCTED, COMPLETED FACILITIES, OR ADJACENT PRIVATE PROPERTY.

27. THE COST FOR REQUIRED CONSTRUCTION OF AIR QUALITY MITIGATION SHALL BE INCIDENTAL TO THE PROJECT COST.

28. ALL STORM WATER DISCHARGES FROM THE PROJECT SITE SHALL MEET THE REQUIREMENTS OF THE REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AS WELL AS APPLICABLE STATE AND LOCAL REGULATIONS.

29. PROJECT IS SUBJECT TO THE REQUIREMENTS OF COUNTY ORDINANCE NO. 96-3 AND 95-12. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ALL PERMITS NECESSARY. CONTRACTOR SHALL CALL 848-1500 FOR FURTHER INFORMATION.

30. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE COUNTY TRAFFIC CONTROL MANAGER AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF WORK. TRAFFIC CONTROL PLANS SHALL BE PREPARED IN ACCORDANCE WITH NOTED REQUIREMENTS AND BY CERTIFIED PERSONNEL AND MUST BE APPROVED PRIOR TO COMMENCEMENT OF WORK ON THE PROJECT. CALL 848-1504 FOR FURTHER INFORMATION.

31. A DAILY TRAFFIC CONTROL LOG SHALL BE MAINTAINED BY THE CONTRACTOR REFLECTING THE TYPES AND LOCATIONS OF ALL TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES, ETC. BEING USED ON THE PROJECT IN COMPLIANCE WITH THE APPROVED TRAFFIC CONTROL PLAN. THIS LOG SHALL BE SUBMITTED TO THE BERNALILLO COUNTY TRAFFIC CONTROL MANAGER UPON COMPLETION OF THE PROJECT CONSTRUCTION OR WHEN SO REQUESTED BY THE PROJECT OR THE BERNALILLO COUNTY TRAFFIC CONTROL MANAGER.

32. THE CONTRACTOR SHALL PROVIDE A WEEKLY CONSTRUCTION ACTIVITY SCHEDULE TO BERNALILLO COUNTY PUBLIC WORKS DIVISION ATTN: HOSS FOSTER.

33. THE CONTRACTOR SHALL FILE WEEKLY WRITTEN REPORT TO THE TRAFFIC CONTROL MANAGER DESCRIBING THE TRAFFIC CONTROL PLAN THAT WILL BE IN EFFECT FOR THE FOLLOWING WEEK.

34. SUBJECT TO THE APPROVED TRAFFIC CONTROL PLAN, AT LEAST ONE LANE SHALL BE OPEN TO TRAFFIC AT ALL TIMES. CONTRACTOR SHALL PROVIDE PROPER SIGNAGE AND FLAGMAN AND SHALL MAINTAIN THE TRAFFIC LANE IN SUCH A MANNER AS TO ASSURE PROPER SAFETY TO THE TRAVELING PUBLIC ON ALL AFFECTED ROADS. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL PRIVATE AND PUBLIC PROPERTY AT ALL TIMES, EXCEPT WHEN GRADING, EXCAVATION, AND BACKFILL OPERATIONS ARE BEING CONDUCTED IMMEDIATELY IN FRONT OF THE PROPERTY, IN WHICH CASE ACCESS WILL NOT BE DENIED FOR MORE THAN 4 HOURS WITHOUT APPROVAL BY THE COUNTY.

35. TRAFFIC LANES PROVIDED DURING CONSTRUCTION SHALL BE MAINTAINED, IN SUCH A CONDITION UNDER ALL WEATHER CONDITIONS, SO AS TO PERMIT THE REASONABLE PASSAGE OF PASSENGER VEHICLES, AND SHALL KEPT GRADED AND SMOOTH, AND WATERED SEVERAL TIMES DAILY TO CONTROL DUST.

SUMMARY OF QUANTITIES			PHASE "A"		KARROL ST.		TOTAL	
ITEM NO.	ITEM	UNIT	APPROX.	FINAL	APPROX.	FINAL	APPROX.	FINAL
1	MOBILIZATION	LS	1		0		1	100%
2	CONSTRUCTION STAKING	LS	1		0		1	100%
3	FIELD OFFICE	LS	1		0		1	100%
4	PROTECTION OF PROJECT FROM WATER DURING CONSTRUCTION	LS	1		0		1	100%
5	NPDES STORM WATER PERMITTANCE	LS	1		0		1	100%
6	SITE CLEARING AND GRUBBING	AC	28		0		28	28
7	REMOVAL OF MISCELLANEOUS DEBRIS AND RUBBLE	LS	1		0		1	100%
8	FOUNDATION TREATMENT	CY	20100		0		20100	12,900
9	UNCLASSIFIED EXCAVATION	CY	62798		0		62798	62,798
10	SOIL CEMENT	CY	5406		0		5406	4,998
11	CEMENT FOR SOIL CEMENT AND CEMENT TREATED SOIL	TON	1058		0		1058	1,027.9
12	8" SHOTCRETE, 4000 PSI	SY	530		0		530	800
13	LINEAR GRADING	LF	990		0		990	990
14	36" RCP, CLASS III C.I.P. INCLUDING TRENCHING AND BACKFILL	LF	465		0		465	465
15	54" RCP CLASS III C.I.P. INCLUDING TRENCHING AND BACKFILL	LF	57		0		57	57
16	66" RCP CLASS III C.I.P. INCLUDING TRENCHING AND BACKFILL	LF	306		0		306	271
17	72" RCP CLASS III RING CHAMBER C.I.P. INCLUDING TRENCHING AND BACKFILL	LF	32		0		32	32
18	72" x 66" RCP CLASS III REDUCER C.I.P. INCLUDING TRENCHING AND BACKFILL	EA	1		0		1	1
19	66" RCP PLUG	EA	1		0		1	1
20	54" PCCP C.I.P. INCLUDING TRENCHING AND BACKFILL	LF	176		0		176	176
21	8' DIAMETER MH - TYPE "C" 6' TO 10' DEEP W/ NEENAH R4370-24 GRATE	EA	1		0		1	1
22	8' DIAMETER MH - TYPE "C" 6' TO 10' DEEP W/ PILL BOX INLET	EA	1		0		1	1
23	4' DIAMETER TEE-TYPE MANHOLE W/ PILL BOX INLET	EA	1		0		1	1
24	STRUCTURAL CONCRETE, 4000 PSI	CY	152		0		152	192.55
25	RISER GRATE AND LADDER C.I.P.	LS	1		0		1	100%
26	WEATHERED GUARD RAIL W/ POSTS C.I.P.	LF	28		0		28	28
27	WEATHERED GUARD RAIL STAND, TERMINAL END SECTION	EA	4		0		4	4
28	DUMPED ROCK RIP RAP, TYPE "D" C.I.P.	CY	103		0		103	120
29	GRANULAR FILTER MATERIAL AND FILTER FABRIC	SY	193		0		193	213
30	SEEDING TYPE "A" C.I.P. (COMMON AREA) WITH STRAW MULCH	AC	7		0		7	7
31	SEEDING TYPE "B" C.I.P. (DAM POOL AREA) WITH STRAW MULCH	AC	15		0		15	10
32	SEEDING TYPE "C" C.I.P. (DAM SLOPES) WITH GRAVEL MULCH	AC	6		0		6	6.0
33	SMOOTH WIRE FENCE & WALK GAPS C.I.P.	LF	4137		0		4137	4,546
34	GATES, 14' WIDE	EA	4		0		4	4.0
35	ROADWAY SUBGRADE PREPARATION, 12" DEPTH	SY	0		3806		3806	7,526
36	6" CLASS II-B BASE COURSE	SY	5531		1626		7157	7,526
37	3" PMBP, TYPE I	SY	0		1626		1626	2,133
~~38~~	~~TACK COAT~~ DELETED ITEM	~~SY~~	~~0~~		~~1626~~		~~1626~~	
39	4" DOUBLE YELLOW CENTERLINE MARKINGS	LF	0		552		552	600
40	4" SINGLE WHITE SHOULDER MARKINGS	LF	0		1104		1104	1,200
41	MDI 5' x 5' C.I.P. INCLUDING CONCRETE COLLAR C.I.P.	EA	2		0		2	2
42	2" DIA. PIPE RAIL FENCE (9 GAUGE), 4' TALL, C.I.P.	LF	56		0		56	159.6
43	22" STEEL PIPE CASING, INCLUDING PLUGGING BOTH ENDS	LF	0		22		22	20
CONTRACT ADJUSTMENTS (change orders)								
1	PURCHASE OF SOIL CEMENT AGGREGATES							7,000
2	HAUL ROAD MAINTENANCE							7
3	ADDITIONAL UNCLASSIFIED EXCAVATION							87,493
4	INCENTIVE BONUS							9

RECORD DRAWING
DATE 2-20-01

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS
DESIGNED BY NM NOV 1999
DRAWN BY PJM NOV 1999
CHECKED BY DSA NOV 1999

6922.91

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

GENERAL NOTES & SUMMARY OF QUANTITIES

REGISTERED PROFESSIONAL ENGINEER 1995 4-25-00

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE APRIL 2000
FILE 99099
SHEET 4 OF 34

99099\MISHEETS\DAM\M99903GEN.DWG 4-25-00 PJM

ACCESS ROAD SEE SHEET 20
FENCE WALK GAP
14' WIDE GATE SEE DETAIL SHEET 26
15' MAINT ROAD
GRADE 210 LF V-DITCH SEE TYPICAL SECTION A-A THIS SHEET
S = 0.6%
R/W
BEGIN CONSTRUCTION SHOTCRETE CHANNEL CHUTE SEE SHEET 9
CONCRETE RUNDOWN SEE DETAIL SHEET 27
780 LF V-DITCH
S = 0.6%
GRADE 780 LF V-DI... SEE TYPICAL ...CTIO... THIS SHEET
BORREGA DIVERSION STORM DRAIN SEE SHEET 20
FENCE WALK GAP
14' WIDE GATE
EXISTING GABION DROP STRUCTURE SEE NOTE 1
FENCE WALK GAP
BENCH MARK CP105 SEE SHEET 25
CP 105
BD-5
B...LF 120 LF ...OIL CEMENT ACCESS RAMP SEE TYPICAL SECTION SHEET 23
STA 1+00, CL DAM ACCESS ROAD 14' WIDE GATE
REMOVE AND DISPOSE EXISTING SIGNS
REMOVE AND DISPOSE EXISTING SIGNS
HEADWALL & RIP RAP PAD SEE SHEET 22
SOIL CEMENT PLUNGE POOL SEE SHEET 9 FOR DETAILS
BUILD 170 LF 8" SOIL CEMENT ACCESS RAMP SEE TYPICAL SECTION SHEET 23
EXISTING GABION DROP STRUCTURE SEE NOTE 1
STA 22+50 END 5' DEEP FOUNDATION TREATMENT
STA 2+50 BEGIN 5' DEEP FOUNDATION TREATMENT
FIELD OFFICE CONTRACTOR'S YARD
STA 19+50 END 5' DEEP KEY TRENCH TREATMENT
EXISTING GABION DROP STRUCTURE SEE NOTE 1
8" x 100' x 100' SOIL CEMENT GRADE SLAB
RISER SEE SHEET 11
BUILD 50 LF 8" SOIL CEMENT ACCESS RAMP SEE TYPICAL SECTION SHEET 23
BUILD 65 LF 8" SOIL CEMENT ACCESS RAMP SEE TYPICAL SECTION SHEET 23
BUILD 70 LF 8" SOIL CEMENT ACCESS RAMP SEE TYPICAL SECTION SHEET 23
EXISTING GABION DROP STRUCTURE SEE NOTE 1
S = 1.00%
EMERGENCY SPILLWAY SEE SHEET 12
CL EMERGENCY SPILLWAY
BD-4
BD-3
BD-2
BD-1
GUARD RAIL SEE NOTE 2
GUARD RAIL SEE NOTE 2
FND. 1/2" REBAR
36" SD SEE SHEET 33
CP 106
CP 104 (WEST 5)
KARROL STREET SEE SHEET 24
PROPOSED 12" SAS TO BE BUILT BY OTHERS NOT THIS PROJECT
PRINCIPAL SPILLWAY OUTLET PIPE SEE SHEET 8
STA 7+00 BEGIN 5' DEEP KEY TRENCH TREATMENT
ACCESS ROAD SEE SHEET 23
12" SAS
6922.91

NOTES:

1. THE REMOVAL AND DISPOSAL OF EXISTING GABION DROP STRUCTURE RIP RAP TO BE COORDINATED WITH THE ENGINEER.
2. STA 12+36 & 16+50, CL DAM INSTALL 14 LF SINGLE WEATHERING METAL BARRIER (GUARD RAIL) W/ STANDARD TERMINAL END SECTIONS (2 PLACES) INSTALL PER SERIAL M-21-62.
3. REFERENCE SHEET 22 FOR DAM ACCESS ROAD GEOMETRY & PROJECT BENCHMARK INFORMATION.

LEGEND

- BORE HOLE LOCATION
- BD-2 FUTURE PERMANENT MONUMENT LOCATION (SET BY OTHERS)
- PROPERTY, ROW LINE
- ROAD
- FENCE

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

RECORD DRAWING
DATE 2-20-01

NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY	NM NOV 1999
		DRAWN BY	PJM NOV 1999
		CHECKED BY	DSA NOV 1999

V-DITCH DETAIL SECTION A-A
SCALE 1" = 5'

REFERENCE STS-203.2 SUBSECTION 203.35
REFERENCE STS-203.3 SUBSECTION 203.38
95%@ OPTIMUM MOISTURE + 2% FOUNDATION FOR 5' DEPTH TREATMENT
SEE NOTE: AUTHORITY OF STATE ENGINEER, SHEET 4, NOTE 11
TYPICAL EMBANKMENT SECTION
SCALE 1" = 10'

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

DAM LAYOUT - PHASE "A" GRADING

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE APRIL 2000
FILE 99099
SHEET 5 OF 34

99099\M\SHEETS\DAM\M9990G1.DWG\4-17-01\PJM

5103.93 CONCRETE COLLAR
INV = 4987.63

5104.25 CONRETE COLLAR
INV = 4987.90

INV = 4986.60

FL = 4986.56

BD-5

SEE NOTE 1

PT = 10+27.65

TOG = 4994.21
INV = 4984.96

TOG = 4987.95
INV = 4984.59

4999.34 GND
4997.07 SOIL CEMENT

BD-4

BD-3

BD-2

5102.98 SOIL CEMENT

4998.86 GND
4997.20 SOIL CEMENT

4999.12 GND
4997.05 SOIL CEMENT

5103.10 SOIL CEMENT

BD-1

12" SAS

TOG = 4987.84
INV = 4984.14

TOG = 4990.15
INV = 4985.65

INV = 4983.05

FL = 4981.49

6922.91

NOTES:

1. STORM DRAIN W/ ENERGY DISSIPATOR AT OUTLET TO BE DESIGNED AND BUILT BY OTHERS AT THE TIME OF PHASE "B" GRADING.

LEGEND

BD-5 ⊙ FUTURE PERMANENT MONUMENT LOCATION (SET BY OTHERS)

PROPERTY ROW LINE

ROAD

x FENCE

RECORD DRAWING
2-20-01

NO.	DATE	REVISIONS / REMARKS	BY

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY	NM NOV 1999
DRAWN BY	PJM NOV 1999
CHECKED BY	DSA NOV 1999

PERMANENT MONUMENT LOCATION TABLE

MONUMENT	STA	ELEV	X	Y	DATE
BD-1		5005.189	97343.4931	62182.7687	
BD-2		5002.478	97345.7724	61818.9247	
BD-3					
BD-4		5005.513	97300.7596	61255.9046	
BD-5		5004.398	96701.1407	62059.2375	

BORREGA DAM – PHASE "B" GRADING

FOR INFORMATION PURPOSE ONLY
FUTURE

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

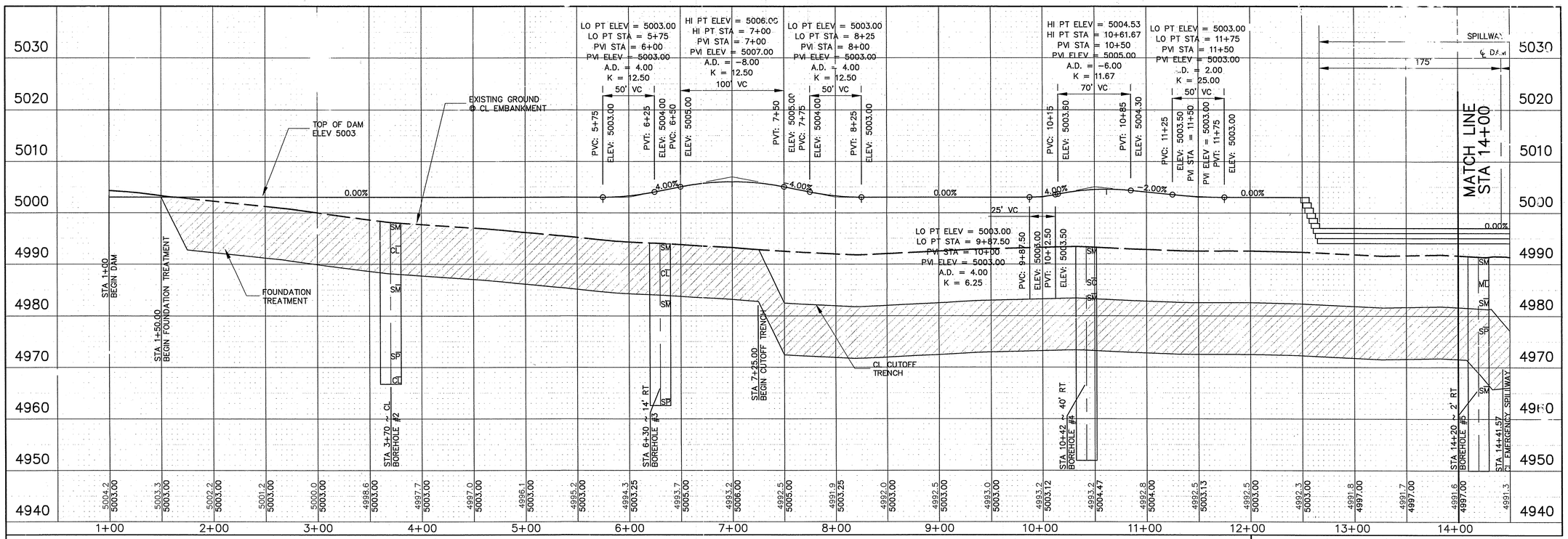
BORREGA DETENTION DAM

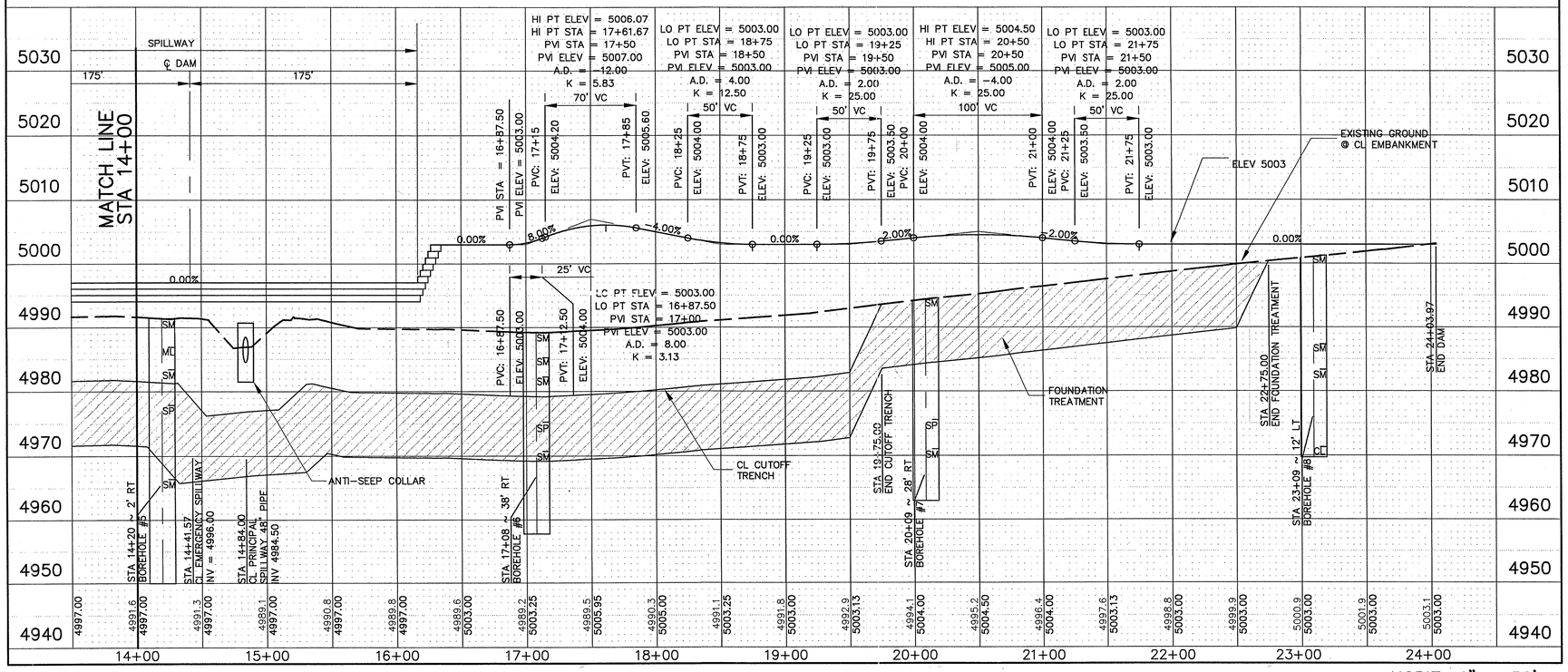
DAM LAYOUT – PHASE "B" GRADING

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE: APRIL 2000
FILE: 99099
SHEET: 6 OF 34

99099\WA SHEETS\DAM\M99900ZZ0WG\3-7-00\PJM





HORIZ: 1" = 50'
VERT: 1" = 10'

HORIZ: 1" = 50'
VERT: 1" = 10'

TYPICAL DAM CREST SECTION

STA 1+00 TO STA 12+45
STA 21+40 TO STA 25+00

NOTE:

1. FOR TYPICAL EMBANKMENT SECTION SEE SHEET 5.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY	NM
			NOV 1999
		DRAWN BY	PJM
			NOV 1999
		CHECKED BY	DSA
			NOV 1999

RECORD DRAWING
DATE 2-20-01

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

DAM CENTERLINE PROFILE

DATE MARCH 2000
FILE 99099
SHEET 7 OF 34

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

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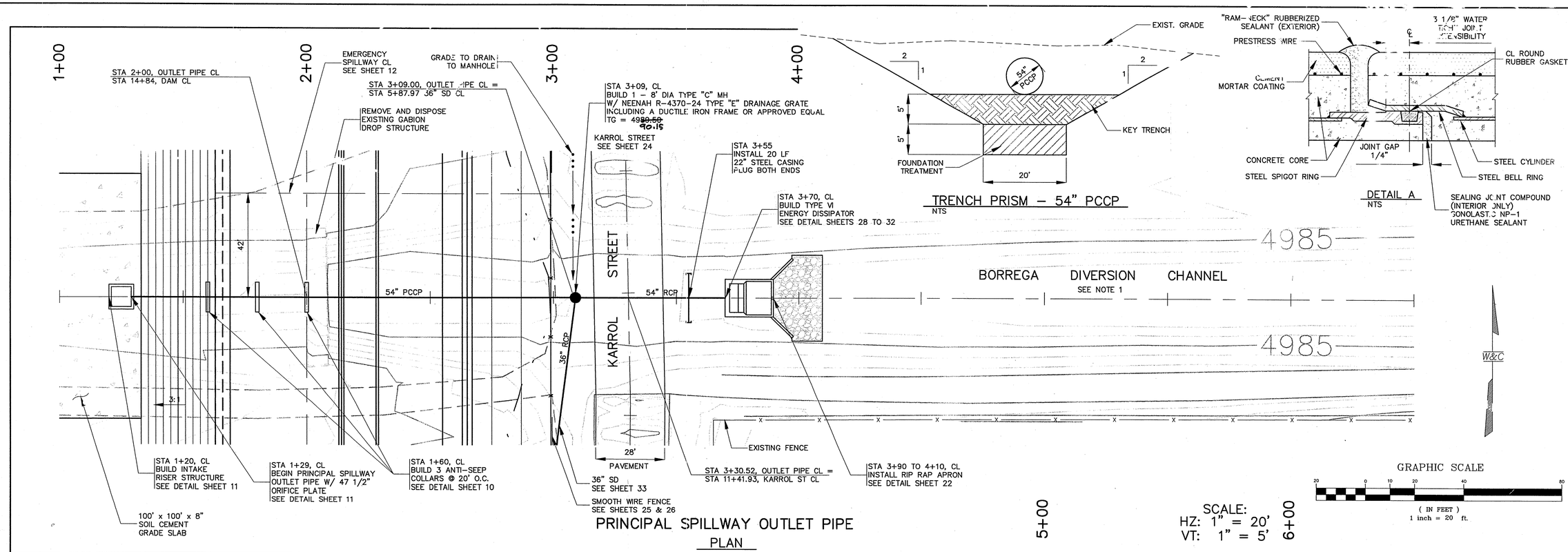
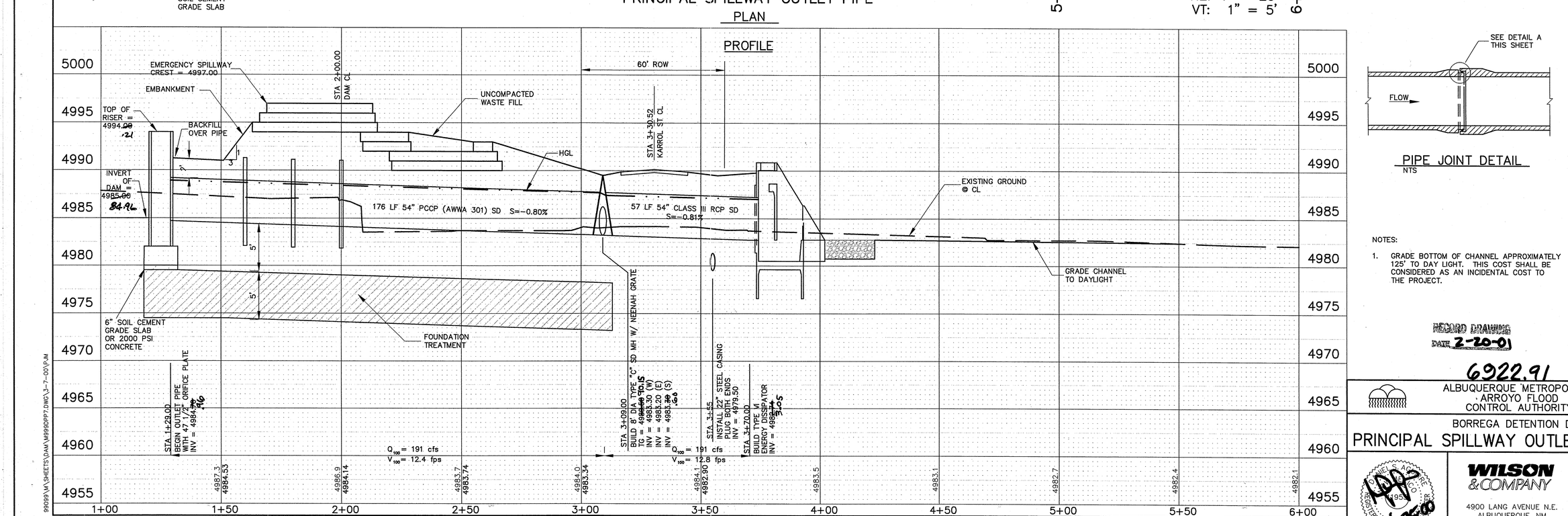


TRENCH PRISM – 54" PCCP
NTS

DETAIL A
NTS



PIPE JOINT DETAIL
NTS

NOTES:

1. GRADE BOTTOM OF CHANNEL APPROXIMATELY 125' TO DAY LIGHT. THIS COST SHALL BE CONSIDERED AS AN INCIDENTAL COST TO THE PROJECT.

RECORD DRAWING
DATE 2-20-01

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY NM	NOV 1999
		DRAWN BY PJM	NOV 1999
		CHECKED BY DSA	NOV 1999

AS-BUILT INFORMATION
CONTRACTOR CHAVA DATE 2-9-01
STAKED BY CHAVA DATE 2-9-01
INSPECTION'S AND SOUNDINGS BY WCEA DATE 2-1-01
FIELD VERIFICATION BY WCEA DATE 2-9-01
DRAWING CORRECTED BY WCEA DATE 2-9-01
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
CP103 (SEE SHEET 1 FOR LOCATION)
REBAR W/ ALUMINUM CAP
STAMPED WILSON & COMPANY
N = 1462061.9801
E = 1495972.9457
ELEVATION = 5020.789 FT

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

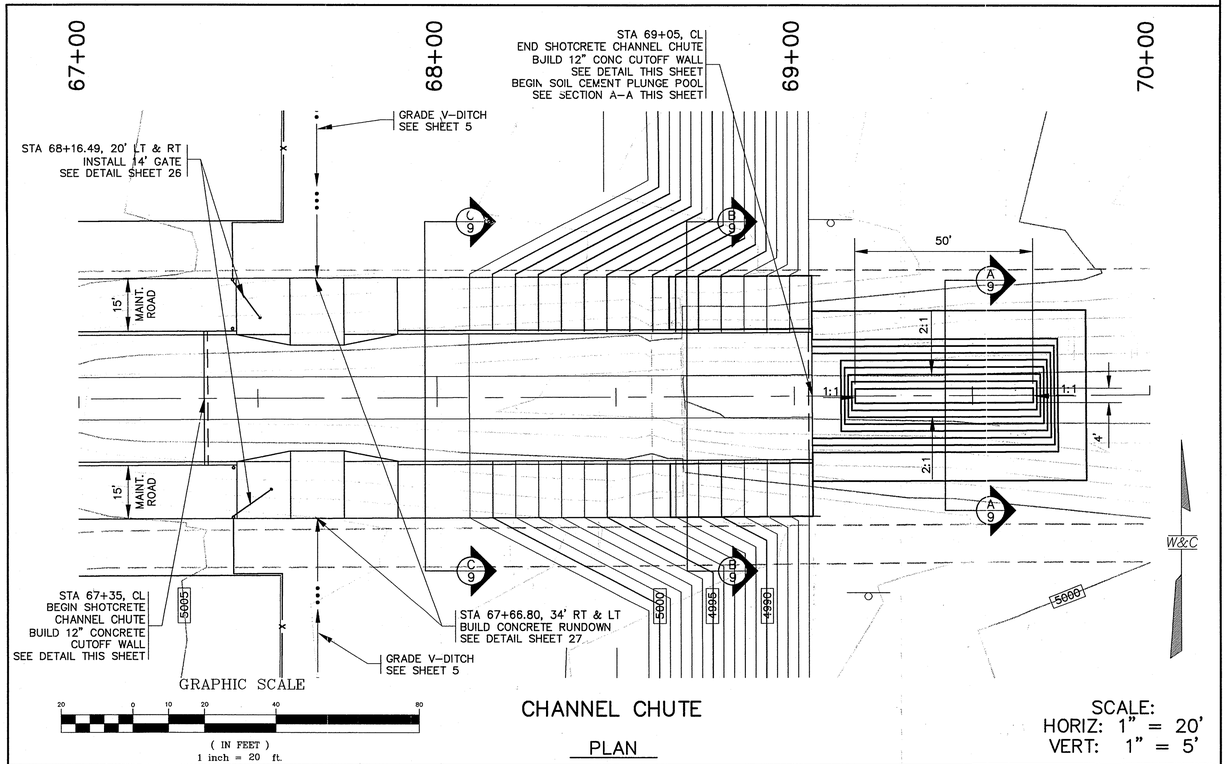
BORREGA DETENTION DAM

PRINCIPAL SPILLWAY OUTLET PIPE P & P

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE APRIL 2000
FILE 99099
SHEET 8 OF 34

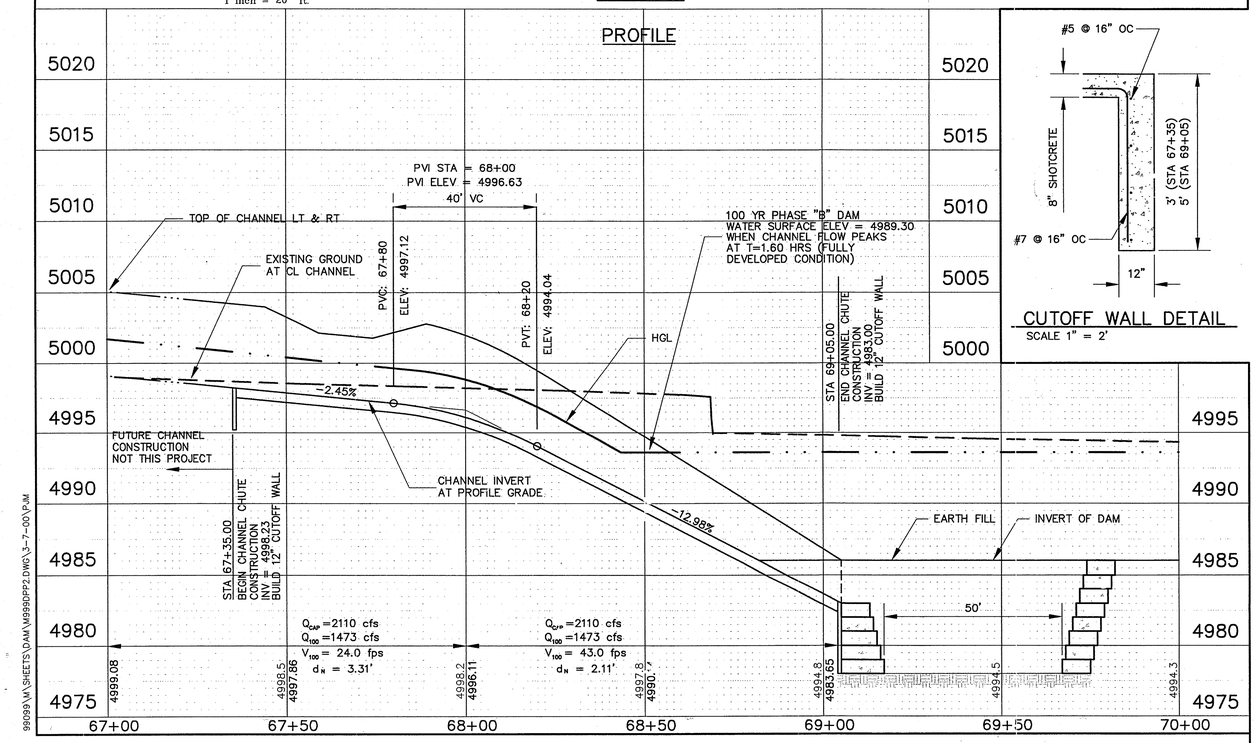
99099\M\SHEETS\DAM\M9990PP7.DWG\3-7-00\PJM



CHANNEL CHUTE

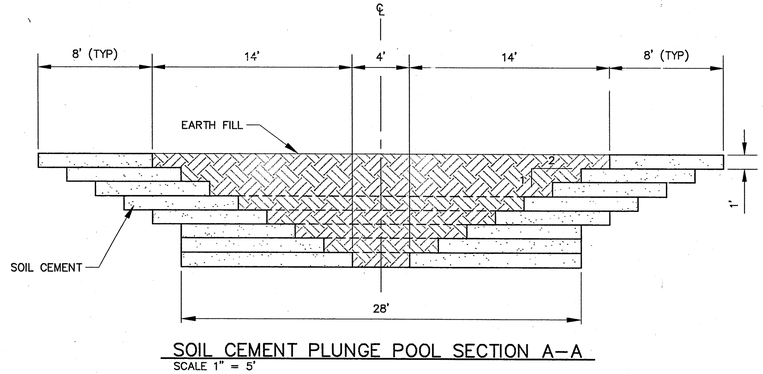
PLAN

SCALE:
HORIZ: 1" = 20'
VERT: 1" = 5'



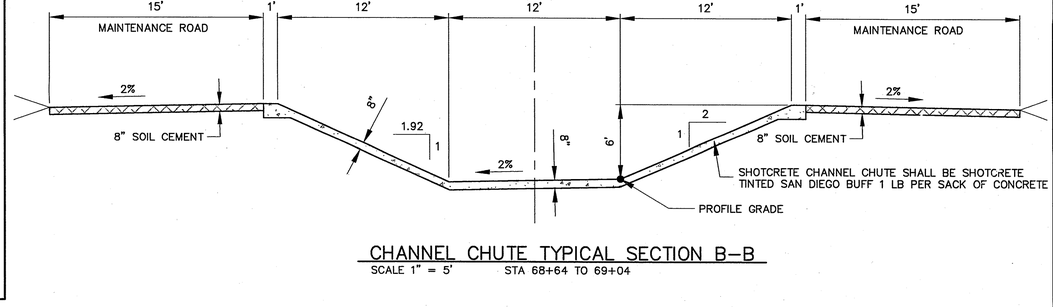
CUTOFF WALL DETAIL

SCALE 1" = 2'



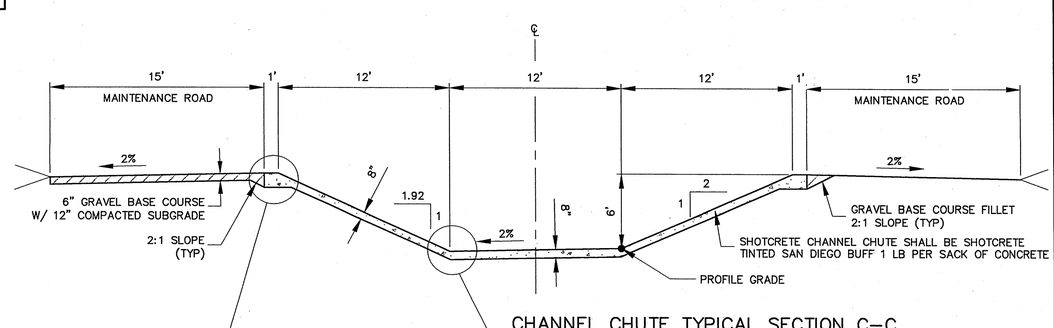
SOIL CEMENT PLUNGE POOL SECTION A–A

SCALE 1" = 5'



CHANNEL CHUTE TYPICAL SECTION B–B

SCALE 1" = 5' STA 68+64 TO 69+04



CHANNEL CHUTE TYPICAL SECTION C–C

SCALE 1" = 5' STA 67+35 TO 68+64

RECORD DRAWING
DATE 2-20-01

NOTE: EXPANSION/CONTRACTION AND CONSTRUCTION JOINTS SHALL COMPLY WITH SECTION 602 WHEN APPROVED BY THE ENGINEER. WHERE SAW–CUT JOINTS ARE PROVIDED, A JOINT SEALANT SHALL BE REQUIRED; SONALASTIC NP–1 OR APPROVED EQUAL.

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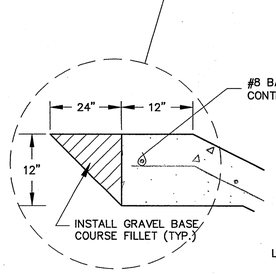
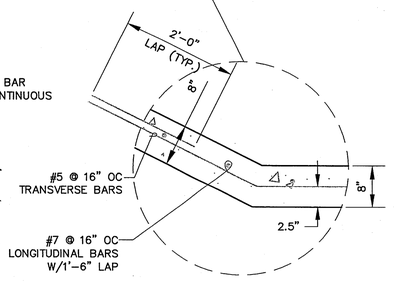


THICKENED EDGE DETAIL

NTS



CHANNEL INVERT–SIDE SLOPE INTERSECTION DETAIL

NTS

AS–BUILT INFORMATION
CONTRACTOR CHAVA DATE 2-9-01
WORK STAKED BY CHAVA DATE 2-9-01
INSPECTOR'S ACCEPTANCE BY WCEA DATE 2-9-01
FIELD VERIFICATION BY WCEA DATE 2-9-01
MARKUPS CORRECTED BY WCEA DATE 2-14-01
MICRO–FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
CP103 (SEE SHEET 1 FOR LOCATION)
REBAR W/ ALUMINUM CAP
STAMPED WILSON & COMPANY
N = 1462061.9801
E = 1495972.9457
ELEVATION = 5020.789 FT

SURVEY INFORMATION
FIELD NOTES

NO.	DATE	BY	REMARKS
			REVISIONS

WILSON & COMPANY, ENGINEERS & ARCHITECTS
DESIGNED BY NM NOV 1999
DRAWN BY PJM NOV 1999
CHECKED BY DSA

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

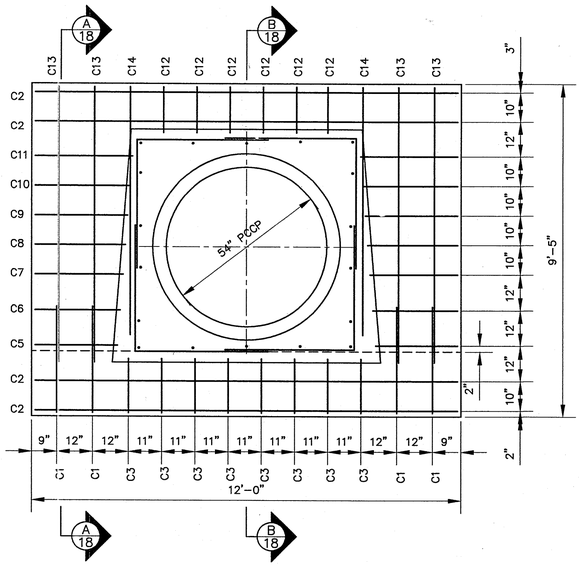
BORREGA DETENTION DAM

CHANNEL CHUTE – PLAN & PROFILE

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348–4000

DATE APRIL 2000
FILE 99099
SHEET 9 OF 34

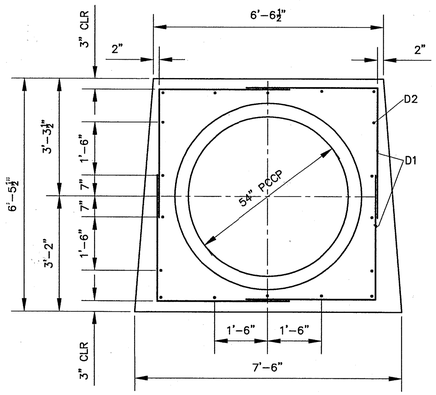
99099\VI\SHEETS\DAM\M9990P2.DWG\3-7-00\PJM



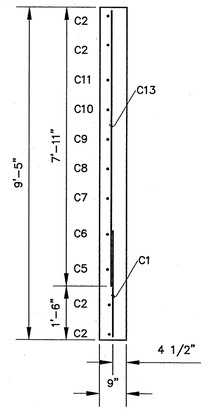
ANTI-SEEP COLLAR
1" = 2'

NOTES:

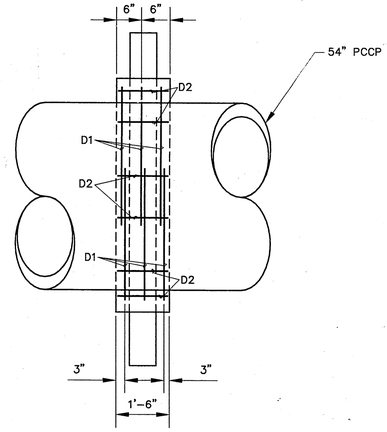
1. ANTI-SEEP COLLAR TO BE PAID PER CY UNDER BID ITEM STRUCTURAL CONCRETE.



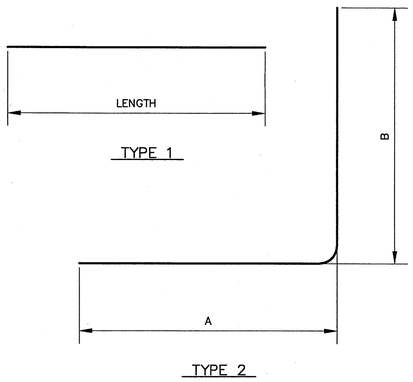
ANTI-SEEP COLLAR YOKE DETAIL
1" = 2'



SECTION A-A
1" = 2'



SECTION B-B
1" = 2'



ANTI-SEEP COLLAR BAR TYPES
NTS

REBAR PER COLLAR

ANTI-SEEP COLLAR						
NO. of BARS	LABEL	LENGTH	SIZE	TYPE	A	B
4	C1	2'-10"	#4	1	–	–
4	C2	11'-8"	#4	1	–	–
8	C3	1'-10"	#4	1	–	–
2	C4	7'-0"	#4	1	–	–
2	C5	2'-9"	#4	1	–	–
2	C6	2'-10"	#4	1	–	–
2	C7	2'-11"	#4	1	–	–
2	C8	3'-0"	#4	1	–	–
2	C9	3'-1"	#4	1	–	–
2	C10	3'-2"	#4	1	–	–
2	C11	3'-3"	#4	1	–	–
6	C12	1'-0"	#4	1	–	–
4	C13	7'-8"	#4	1	–	–
ANTI-SEEP COLLAR YOKE						
12	D1	7'-4"	#4	2	3'-8"	3'-8"
18	D2	1'-0"	#4	1	–	–

NOTE: 2" CLEARANCE MINIMUM BETWEEN REBAR AND CONCRETE FORMS

RECORD DRAWING
DATE 2-20-01

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NO.	DATE	REMARKS	BY
		REVISIONS	

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CHECKED BY DSA NOV 1999

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

ANTI-SEEP COLLAR DETAILS

WILSON & COMPANY
4900 LANG AVENUE N.E.
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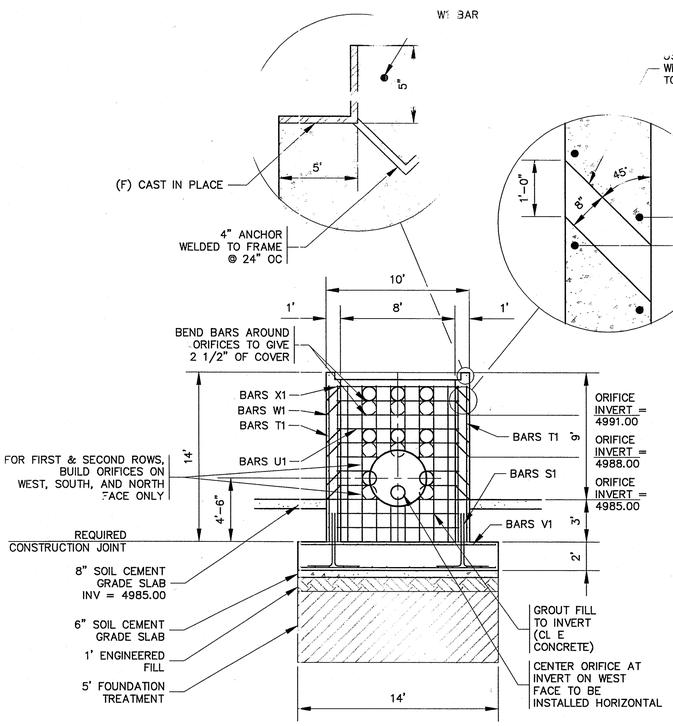
87109
(505) 348-4000

DATE MARCH 2000
FILE 99099
SHEET 10 OF 34

99099\M\SHEETS\DAM\M9990072.DWG\3-7-00\PJM



WEST ELEVATION
CROSS-SECTION A-A RISER DETAIL
1" = 5'

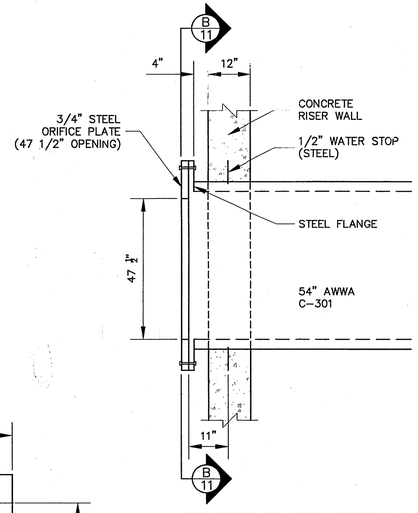
BAR W1 BAR X1

BAR T1

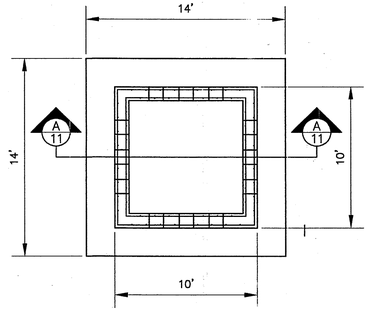
BAR S1 BAR U1

BAR V1

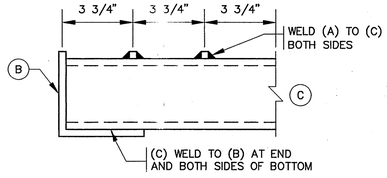
REBAR DETAILS
1" = 5'



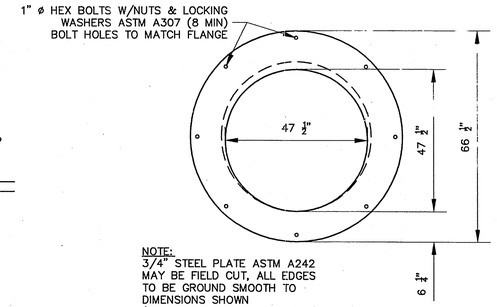
ORIFICE PLATE DETAIL
NTS



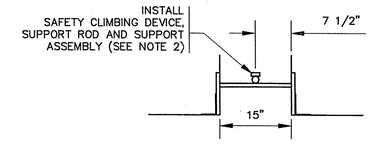
RISER PLAN VIEW
1" = 5'



SECTION C-C
NTS



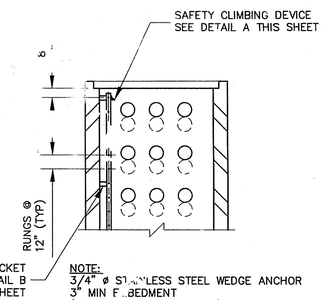
SECTION B-B
NTS



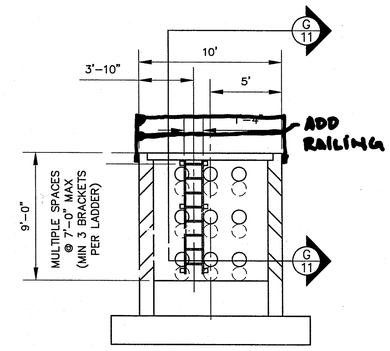
SAFETY LADDER NOTES:

1. SAFETY LADDER SHALL BE GALVANIZED A-36 STEEL AND SHALL MEET ALL REQUIREMENTS OF OSHA REGARDLESS OF DETAILS SHOWN
2. SAFETY CLIMBING DEVICE AND ASSEMBLY SHALL BE "SAF-T-CLIMB" FALL PREVENTION SYSTEM BY
   NORTH CONSUMER PRODUCTS
   2664B SATURN STREET
   BREA CALIFORNIA 92621
   (714) 524-1655
   ATTACHMENT DETAILS SHALL MEET OSHA REQUIREMENTS REGARDLESS OF DETAILS SHOWN

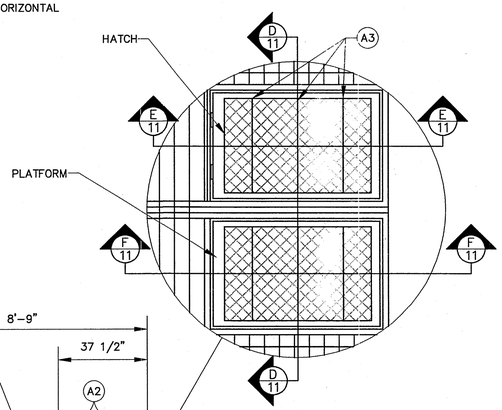
DETAIL "A"
SAFETY LADDER CLIMBING DEVICE
NTS



SECTION G-G
1" = 5'



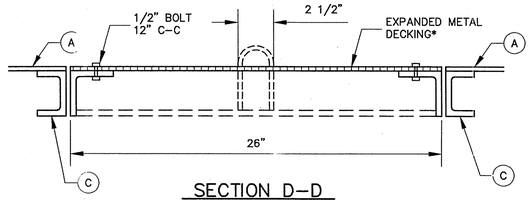
RISER LADDER ELEVATION
1" = 5'



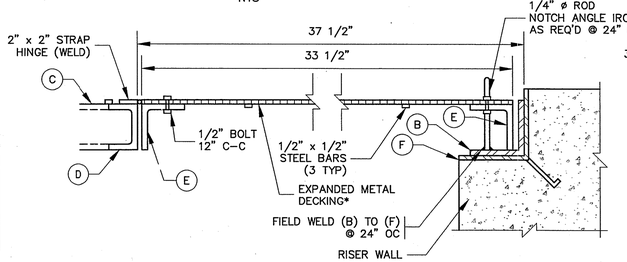
RISER GRATE-PLAN
NTS

KEY TABLE	
A	1/2" x 1/2" STEEL BARS
B	L 4" x 4" x 3/8" ANGLE IRON
C	C 3" x 6 CHANNEL
D	C 3" x 6 CHANNEL
E	L 3" x 3" x 3/8" ANGLE IRON
F	L 5" x 5" x 3/8" ANGLE IRON

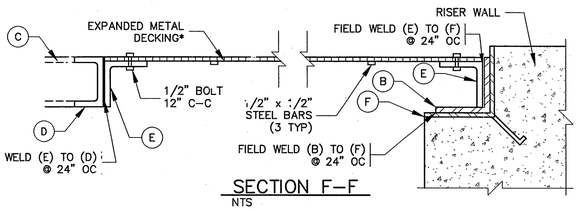
* EXPANDED METAL DECKING MIL-M-1719D TYPE 1 CLASS 1 NORMAL .92" x 2" OPENING 1.8#/SF (MIN) OVERALL THICKNESS .312"



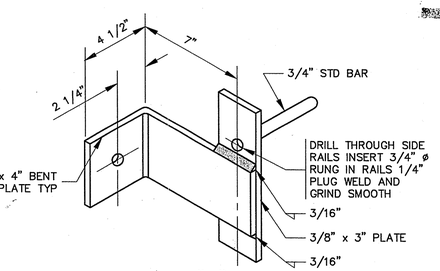
SECTION D-D
NTS



SECTION E-E
NTS



SECTION F-F
NTS



DETAIL "B"
LADDER BRACKET DETAIL
NTS

RECORD DRAWING
DATE 2-20-01

NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY	NM NOV 1999
		DRAWN BY	PJM NOV 1999
		CHECKED BY	XXX NOV 1999

6922.91

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

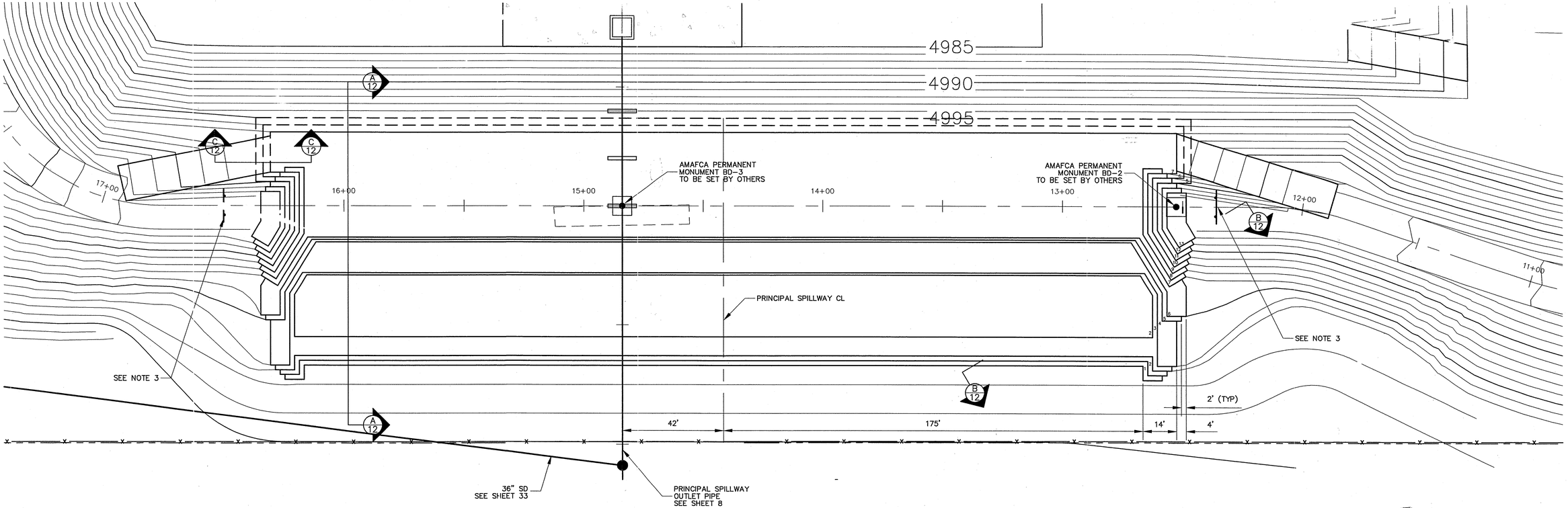
BORREGA DETENTION DAM

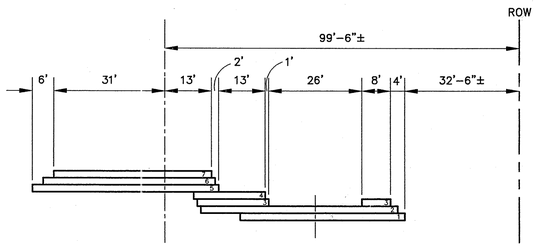
RISER DETAILS

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

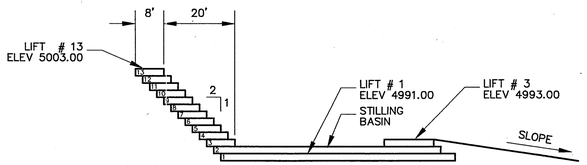
DATE MARCH 2000
FILE 99099
SHEET 11 OF 34

99099\M\SHEETS\DAM\M99DDT3.DWG,3-29-00,PJM

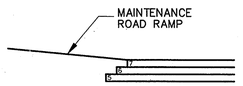




SECTION A–A
HORZ 1" = 20'
VERT 1" = 10'



SECTION B–B
HORZ 1" = 20'
VERT 1" = 10'



SECTION C–C
HORZ 1" = 20'
VERT 1" = 10'

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

NOTES

1. AFTER SOIL CEMENT HAS CURED AND BEEN INSPECTED, EXCESS EXCAVATION MATERIAL IS TO BE PLACED IN THE AREA INDICATED AS "UNCOMPACTED WASTE FILL" ON SHEET 8. NO COMPACTION IS REQUIRED. PAYMENT FOR THIS BACKFILL PLACEMENT SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS RELATED BID ITEMS.
2. ALL SOIL CEMENT LIFTS FOR THE EMERGENCY SPILLWAY SHALL HAVE A MINIMUM DEPTH OF 1.0' (MEASURED IN PLACE) UNLESS OTHERWISE SHOWN ON THE PLANS.
3. STA 12+36 & 16+50, CL DAM INSTALL 14 LF SINGLE RAIL WEATHERING METAL BARRIER (GUARD RAIL) WITH STANDARD TERMINAL END SECTIONS (2 PLACES). INSTALL PER SERIAL M-21-62.

RECORD DRAWING
DATE 2-20-01

6922.91

NO.	DATE	REVISIONS	BY
		REMARKS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY	NM
DRAWN BY	PJM
CHECKED BY	DSA
	NOV 1999
	NOV 1999
	NOV 1999

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

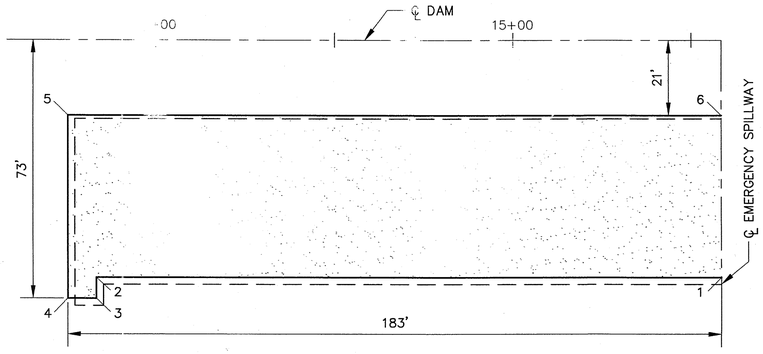
BORREGA DETENTION DAM

EMERGENCY SPILLWAY DETAILS

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

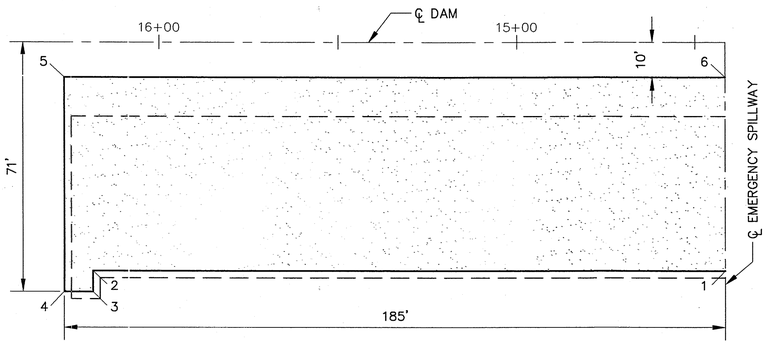
DATE MARCH 2000
FILE 99099
SHEET 12 OF 34

99099\M\SHEETS\DAM\M99DDT4.DWG\3-7-00\P.M



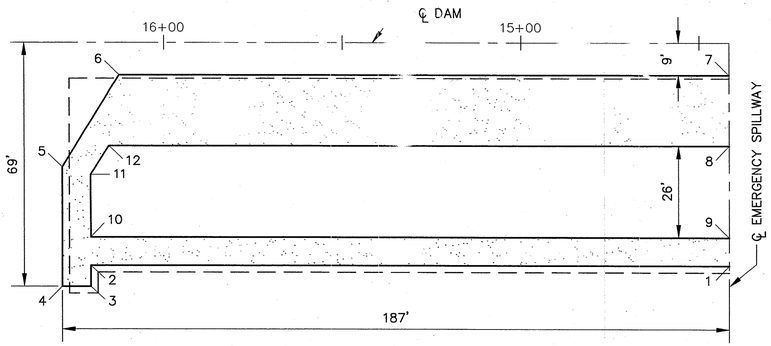
LIFT #1			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	14+41.57	67.00'	--
2	16+16.57	67.00'	--
3	16+16.57	73.00'	--
4	16+24.57	73.00'	--
5	16+24.57	24.00'	--
6	14+41.57	24.00'	--

LIFT #1
LIFT ELEV = 4991



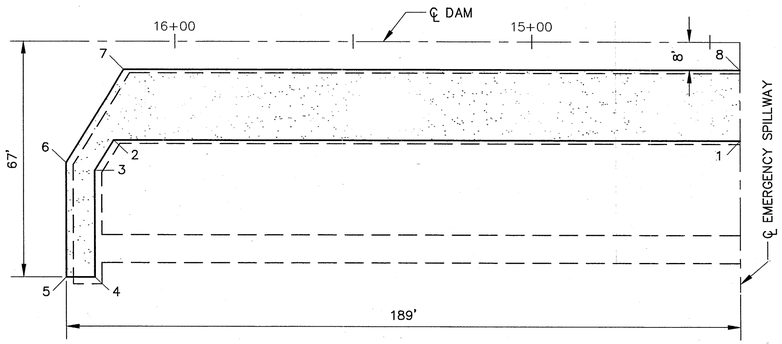
LIFT #2			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	14+41.57	65.00'	--
2	16+18.57	65.00'	--
3	16+18.57	71.00'	--
4	16+26.57	71.00'	--
5	16+26.57	10.00'	--
6	14+41.57	10.00'	--

LIFT #2
LIFT ELEV = 4992



LIFT #3			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	14+41.57	63.00'	--
2	16+20.57	63.00'	--
3	16+20.57	69.00'	--
4	16+28.57	69.00'	--
5	16+28.57	35.03'	--
6	16+12.65	9.00'	--
7	14+41.57	9.00'	--
8	14+41.57	29.00'	--
9	14+41.57	55.00'	--
10	16+20.57	55.00'	--
11	16+20.57	37.29'	--
12	16+15.50	29.00'	--

LIFT #3
LIFT ELEV = 4993



LIFT #4			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	14+41.57	28.00'	--
2	16+17.24	28.00'	--
3	16+22.57	36.72'	--
4	16+22.57	67.00'	--
5	16+30.57	67.00'	--
6	16+30.57	34.47'	--
7	16+14.38	8.00'	--
8	14+41.57	8.00'	--

LIFT #4
LIFT ELEV = 4994

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

RECORD DRAWING
DATE 2-20-01

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY	NM
DRAWN BY	PJM
CHECKED BY	DSA
	NOV 1999
	NOV 1999
	NOV 1999

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

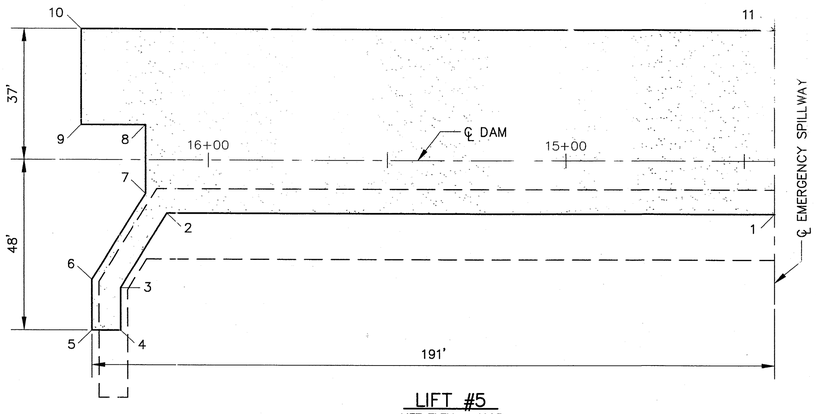
BORREGA DETENTION DAM

EMERGENCY SPILLWAY LIFTS 1-4

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

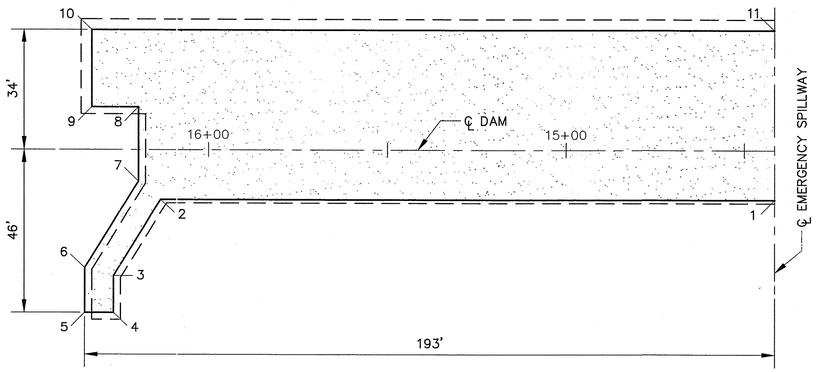
DATE MARCH 2000
FILE 99099
SHEET 13 OF 34

99099\M\SHEETS\DAM\M99900T5.DWG\3-7-00\PJM



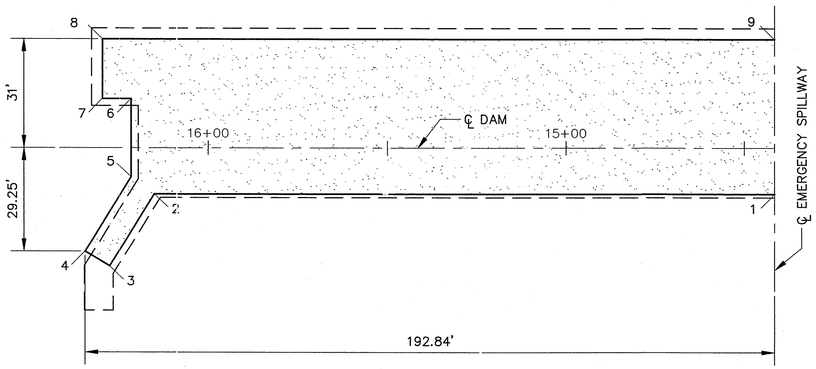
LIFT #5
LIFT ELEV = 4995

LIFT #5			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	14+41.57	15.00'	--
2	16+11.63	15.00'	--
3	16+24.57	36.16'	--
4	16+24.57	48.00'	--
5	16+32.57	48.00'	--
6	16+32.57	33.91'	--
7	14+17.57	9.37'	--
8	14+17.57	--	10.00'
9	14+35.57	--	10.00'
10	16+35.57	--	37.00'
11	14+41.57	--	37.00'



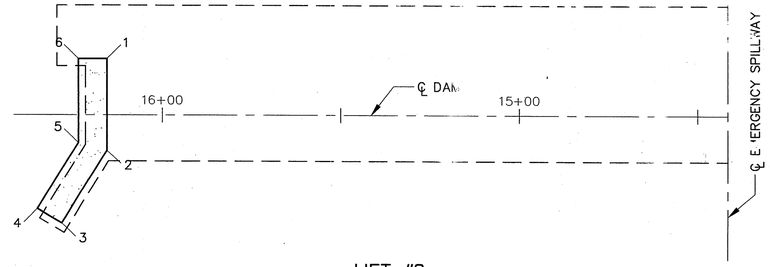
LIFT #6
LIFT ELEV = 4996

LIFT #6			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	14+41.57	14.00'	--
2	16+13.36	14.00'	--
3	16+26.57	35.60'	--
4	16+26.57	46.00'	--
5	16+34.57	46.00'	--
6	16+34.57	33.34'	--
7	16+19.57	8.81'	--
8	16+19.57	--	12.00'
9	16+32.57	--	13.00'
10	16+32.57	--	34.00'
11	14+41.57	--	34.00'



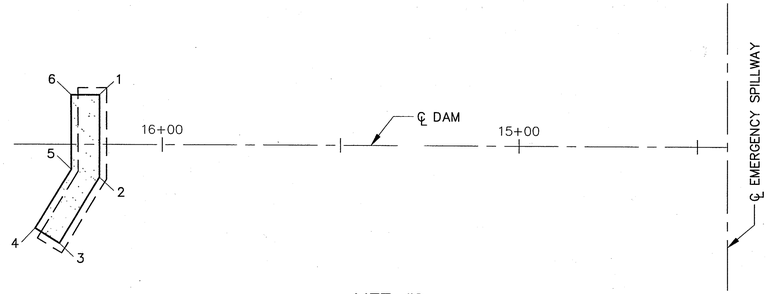
LIFT #7
LIFT ELEV = 4997

LIFT #7			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	14+41.57	13.00'	--
2	16+15.10	13.00'	--
3	16+27.58	33.42'	--
4	16+34.41	29.25'	--
5	16+21.57	8.25'	--
6	16+21.57	--	14.00'
7	16+29.57	--	14.00'
8	16+29.57	--	31.00'
9	14+41.57	--	31.00'



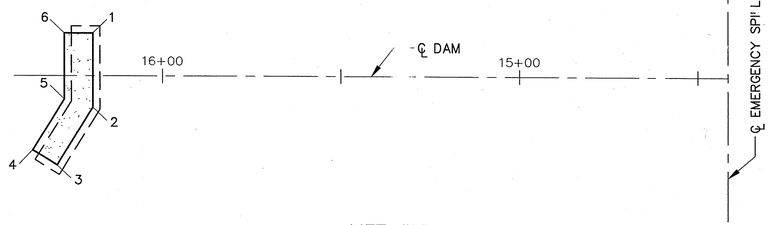
LIFT #8
LIFT ELEV = 4998

LIFT #8			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	14+15.57	--	16.00'
2	16+15.57	9.94'	--
3	16+28.24	30.67	--
4	16+35.07	26.50'	--
5	16+23.57	7.68'	--
6	16+23.57	--	16.00'



LIFT #9
LIFT ELEV = 4999

LIFT #9			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	16+17.57	--	14.00'
2	16+17.57	9.37'	--
3	16+28.24	27.92'	--
4	16+35.07	23.75'	--
5	16+25.57	7.12'	--
6	16+25.57	--	14.00'



LIFT #10
LIFT ELEV = 5000

LIFT #10			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	16+19.57	--	12.00'
2	16+19.57	8.81'	--
3	16+29.57	25.17'	--
4	16+36.04	21.00'	--
5	16+27.57	6.56'	--
6	16+27.57	--	12.00'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

RECORD DRAWING
DATE 2-20-01

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS
DESIGNED BY NM NOV 1999
DRAWN BY PJM NOV 1999
CHECKED BY DSA NOV 1999

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

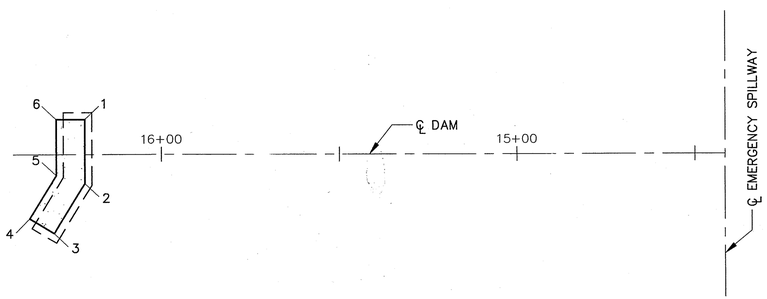
BORREGA DETENTION DAM

EMERGENCY SPILLWAY LIFTS 5–10

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

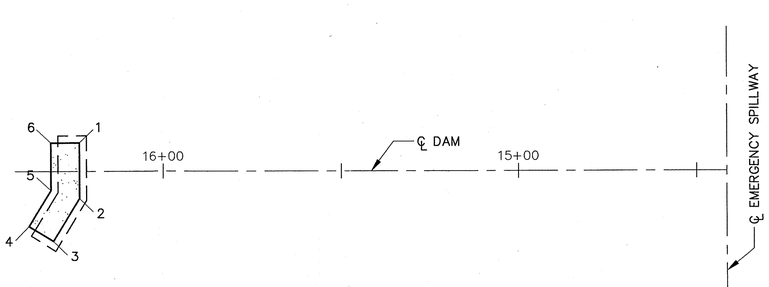
DATE MARCH 2000
FILE 99099
SHEET 14 OF 34

99099\M\SHEETS\DAM\M9990D16.DWG,3-7-00\PJM



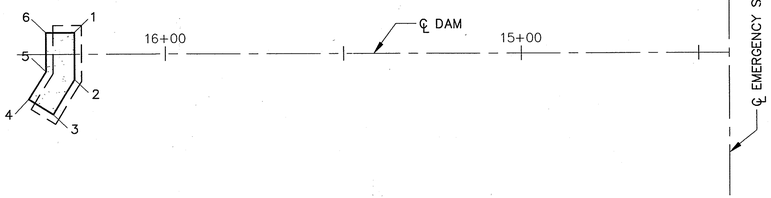
LIFT #11
LIFT ELEV = 5001

LIFT #11			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	16+21.57	--	10.00'
2	16+21.57	8.25'	--
3	16+30.23	22.42'	--
4	16+37.06	18.25'	--
5	16+29.57	6.00'	--
6	16+29.57	--	10.00'



LIFT #12
LIFT ELEV = 5002

LIFT #12			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	16+23.57	--	8.00'
2	16+23.57	7.68'	--
3	16+30.90	19.67'	--
4	16+37.72	15.50'	--
5	16+31.57	5.43'	--
6	16+31.57	--	8.00'



LIFT #13
LIFT ELEV = 5003

LIFT #13			
NO.	STATION	OFFSET DISTANCE	
		LEFT	RIGHT
1	16+25.57	--	6.00'
2	16+25.57	7.12'	--
3	16+31.56	16.92'	--
4	16+38.39	12.75'	--
5	16+33.57	4.87'	--
6	16+33.57	--	6.00'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

RECORD DRAWING
2-20-01

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY	NM
DRAWN BY	PJM
CHECKED BY	DSA
	NOV 1999
	NOV 1999
	NOV 1999

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

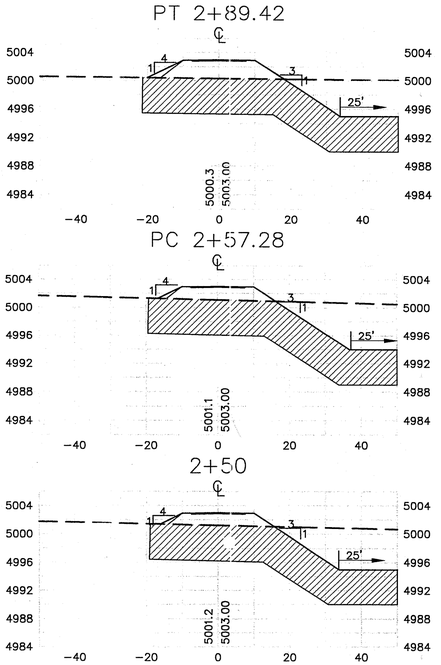
BORREGA DETENTION DAM

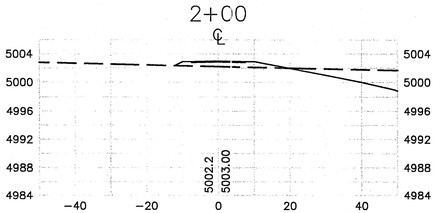
EMERGENCY SPILLWAY LIFTS 11–13

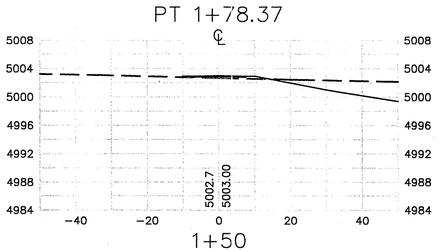
WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

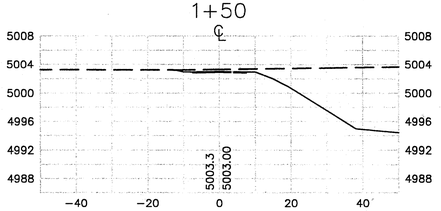
DATE MARCH 2000
FILE 99099
SHEET 15 OF 34

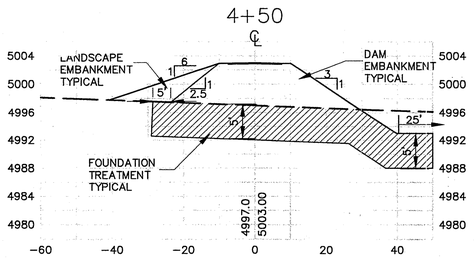
99099\VA\SHEETS\DAM\W99099T7.DWG 5-7-00 P.M.

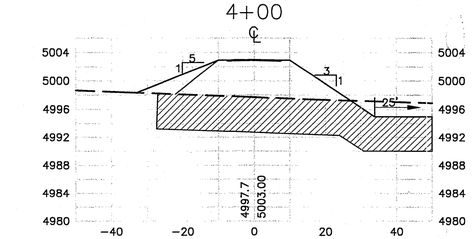


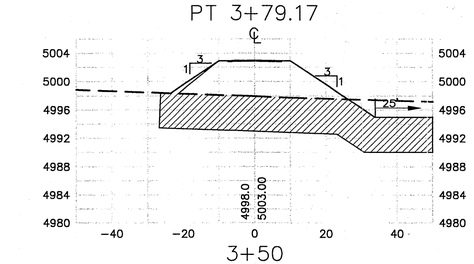


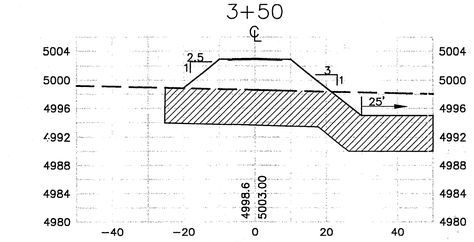


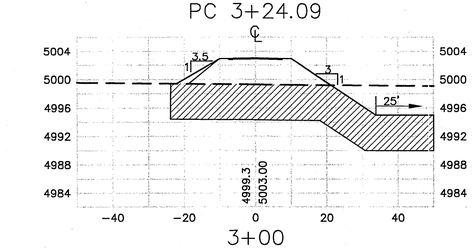


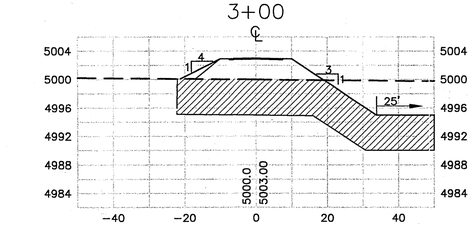


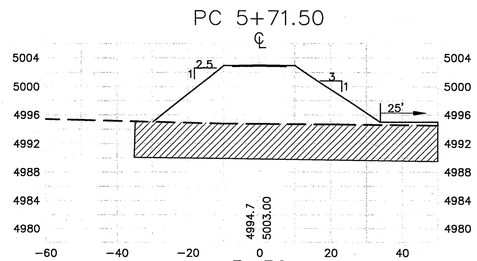


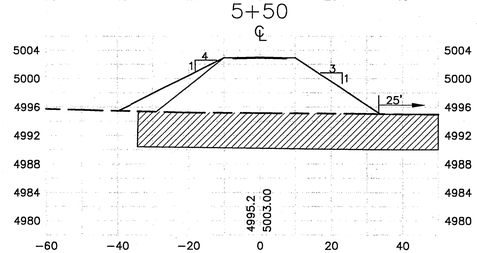


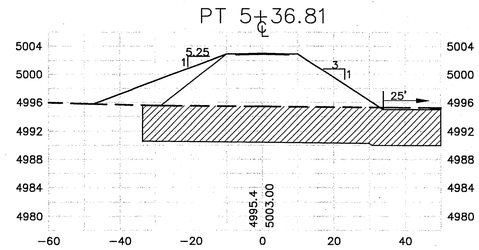


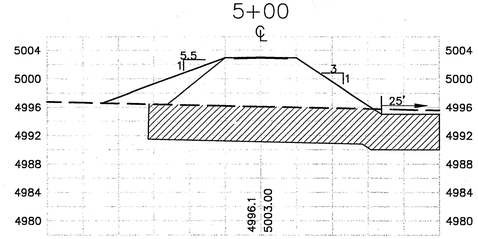


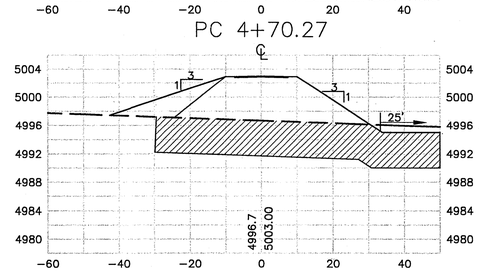


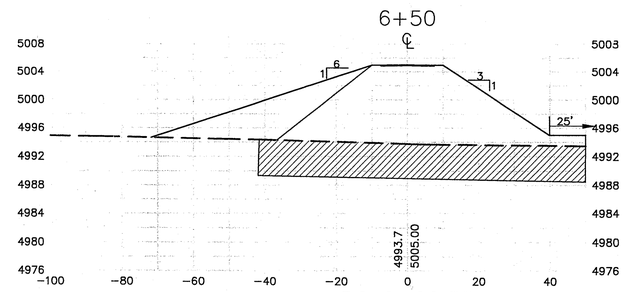


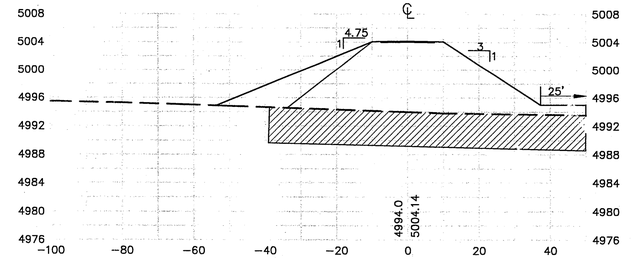


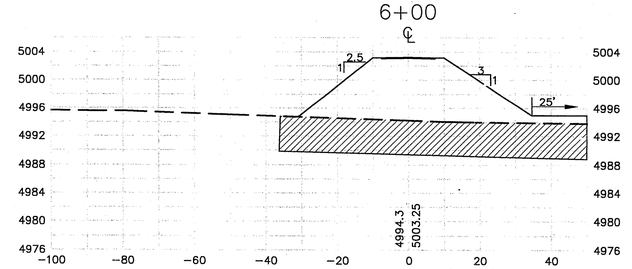


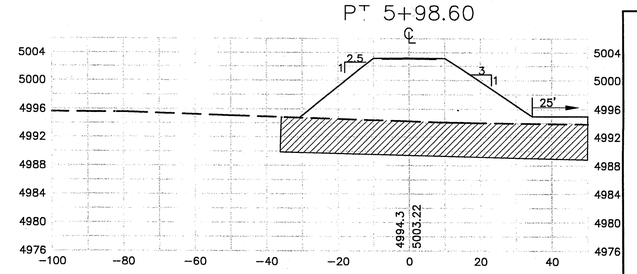












SCALE: HZ 1" = 20'
VT 1" = 10'

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY	NM NOV 1999
		DRAWN BY	PJM NOV 1999
		CHECKED BY	DSA NOV 1999

RECORD DRAWING
DATE 2-20-01

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

DAM SECTIONS STA 1+50 – 6+50

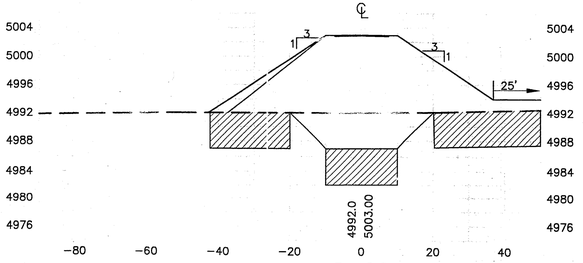
CHRISTOPHER A. GUIRE
NEW MEXICO
(10959)
REGISTERED PROFESSIONAL ENGINEER
12-5-00

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE MARCH 2000
FILE 99099
SHEET 16 OF 34

99099\M\SHEETS\DAM\W99DXST.DWG,3-7-00,PJM

8+50



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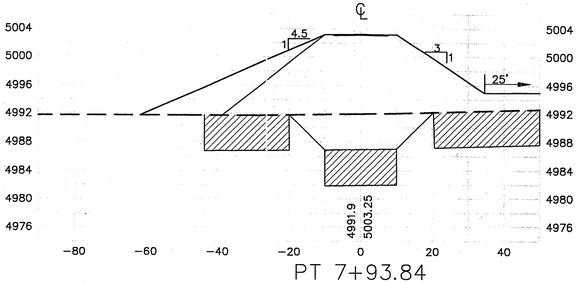
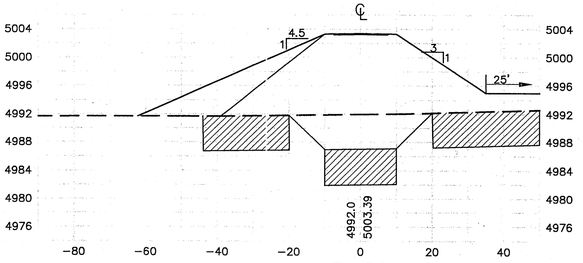


PT 7+93.84



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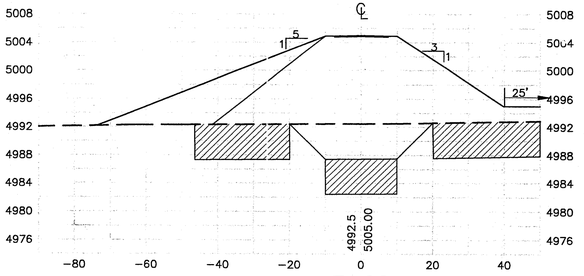

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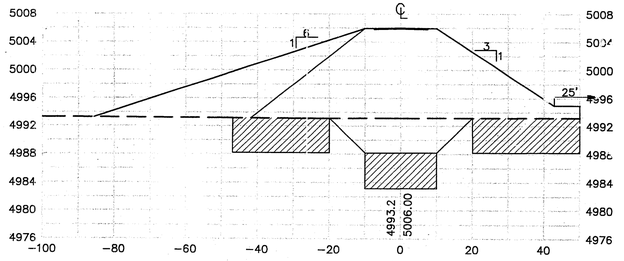
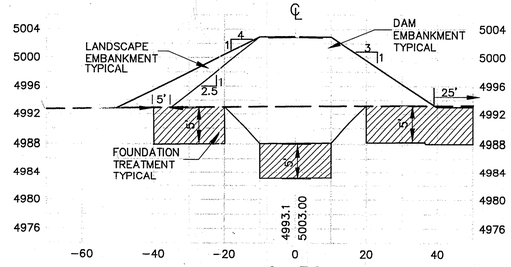


PC 9+76.70



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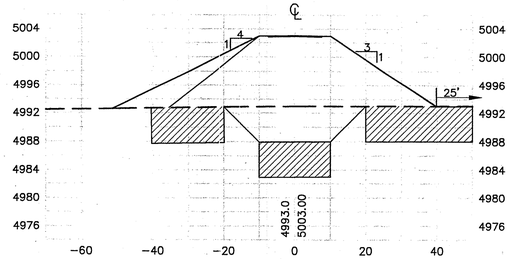
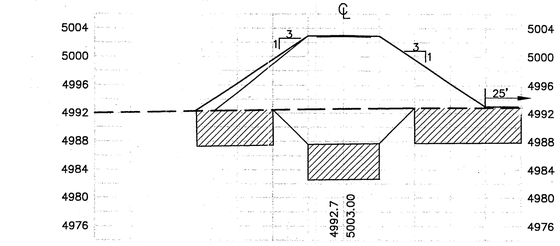


PT 9+14.68



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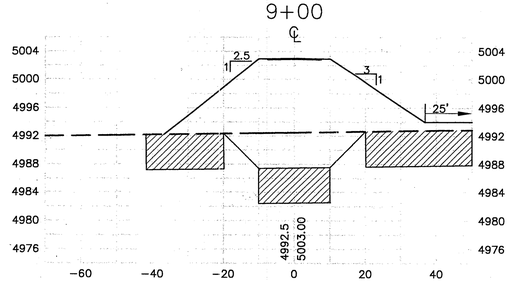

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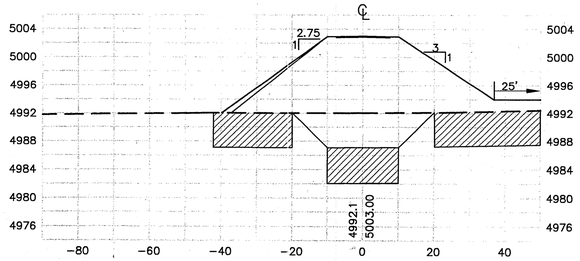

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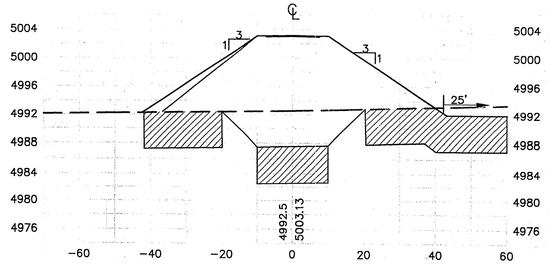
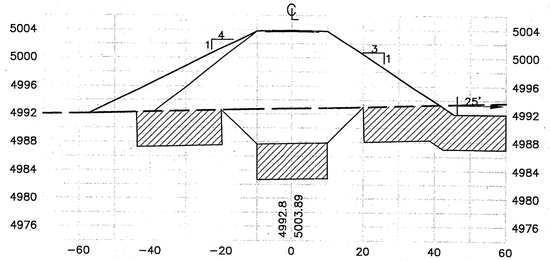
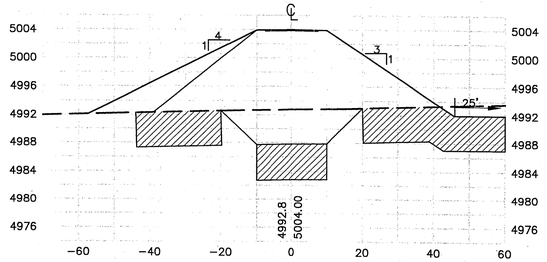


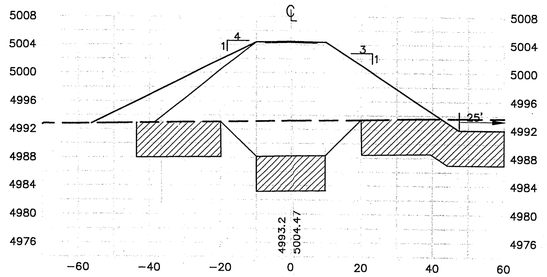
PT 11+05.40



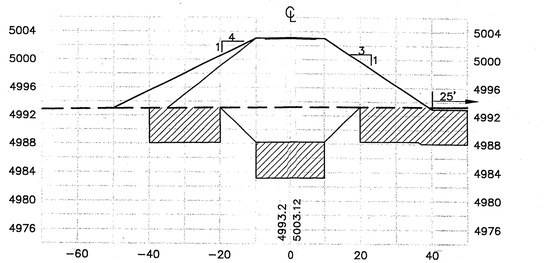
11+00



10+50



10+00



NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY	NM
		DRAWN BY	PJM
		CHECKED BY	DSA

NOV 1999
NOV 1999
NOV 1999

PRELIMINARY DRAWING
DATE 2-20-01

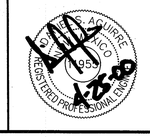
SCALE: HZ 1" = 20'
VT 1" = 10'

6922.91

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

DAM SECTIONS STA 7+00 – 11+50



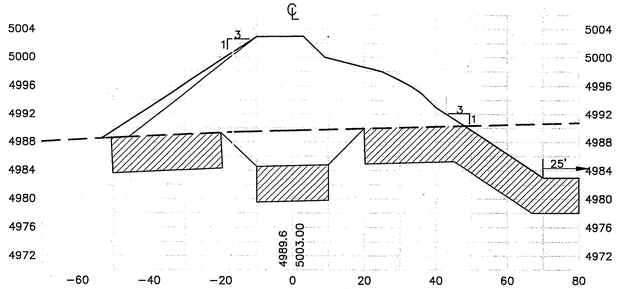
WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE MARCH 2000
FILE 99099
SHEET 17 OF 34

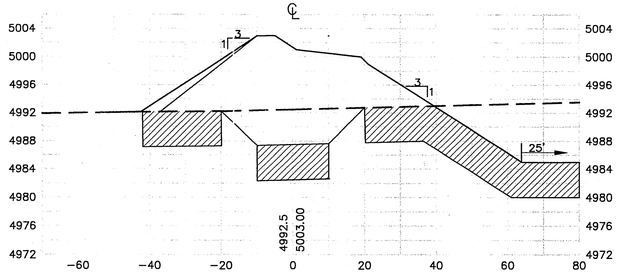
99099\XA\SHEETS\DAM\M9990XS2.DWG\3-7-00\PJM

NOTE: STA PT 12+12.80 TO STA PC 16+76.20
SEE SHEET 12 (EMERGENCY SPILLWAY)

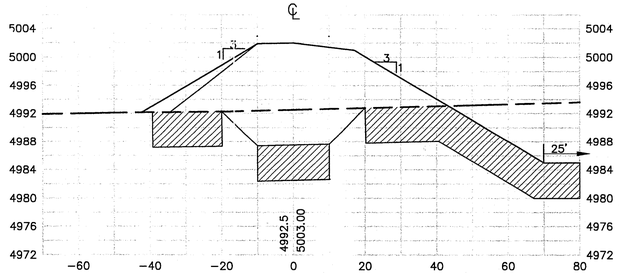
16+50



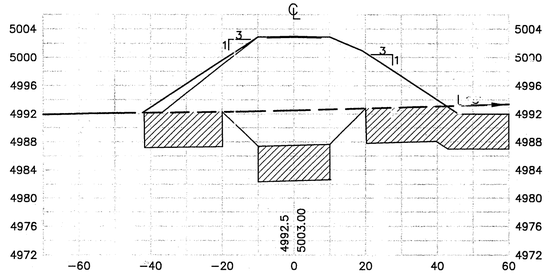
PT 12+12.80



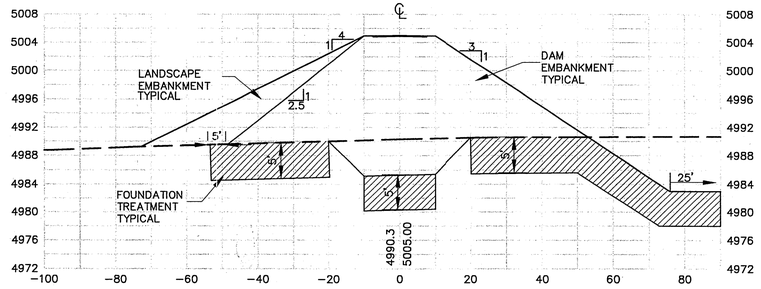
12+00



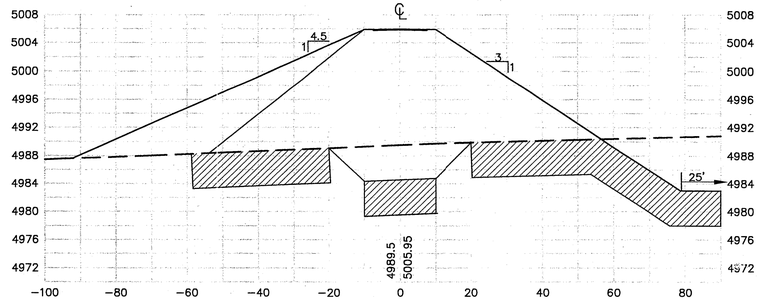
PC 11+80.62



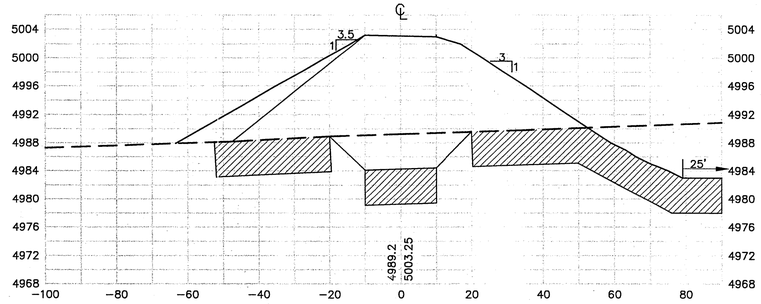
18+00



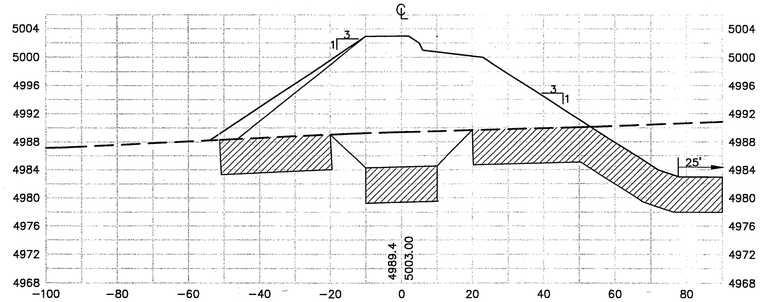
17+50



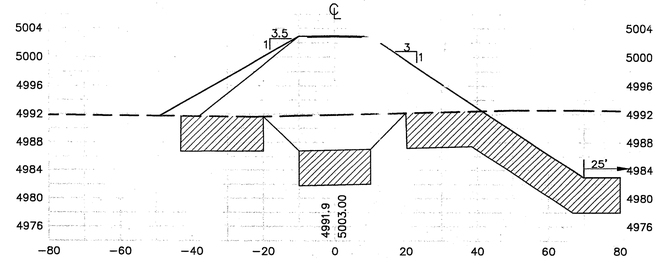
17+00



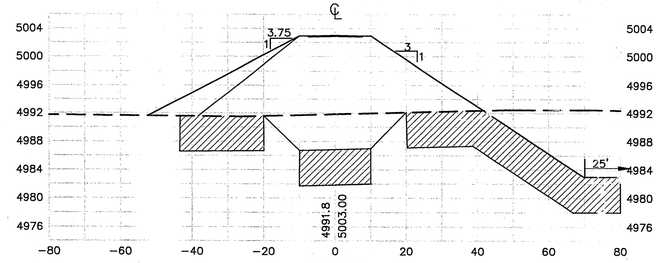
PC 16+76.20



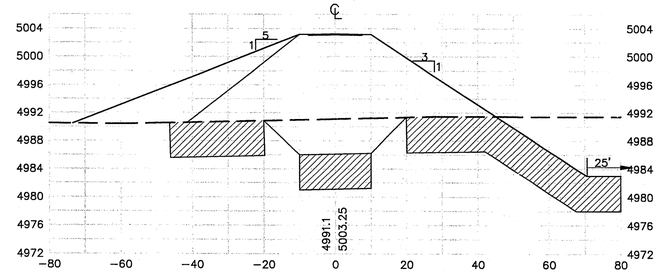
PC 19+06.



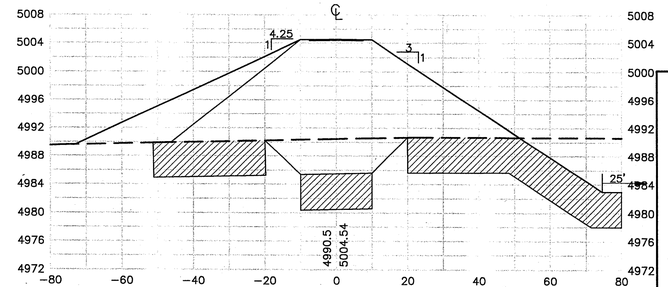
19+00



18+50



18+11.40



SCALE: HZ 1" = 20'
VT 1" = 10'

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY	NM NOV 1999
		DRAWN BY	PJM NOV 1999
		CHECKED BY	DSA NOV 1999

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

DAM SECTIONS STA 11+80.62 – 19+06.10

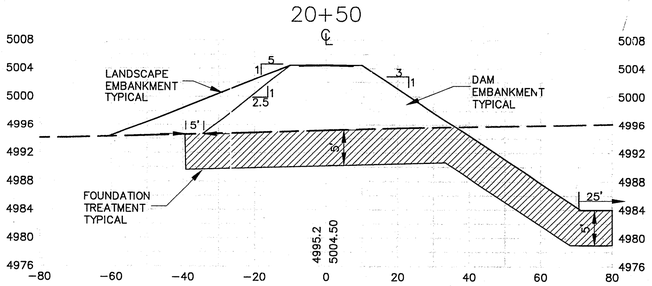
RECORD DRAWING
2-20-01

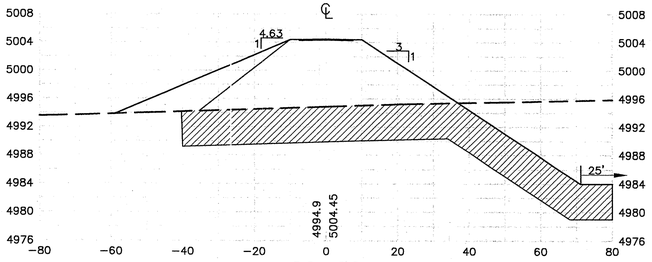
NEW MEXICO (11955) REGISTERED PROFESSIONAL ENGINEER
APPROVED 42500

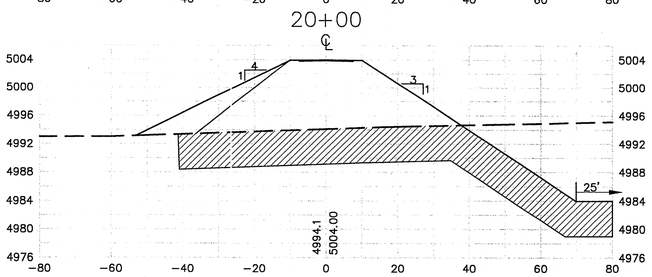
WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

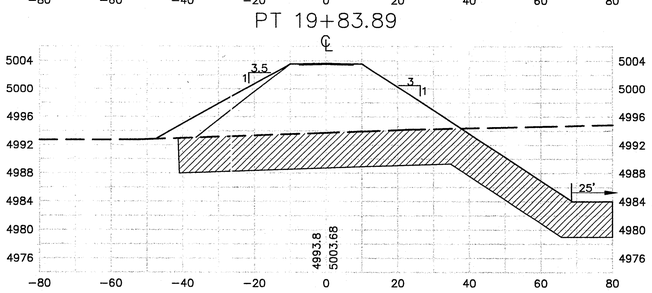
DATE MARCH 2000
FILE 99099
SHEET 18 OF 34

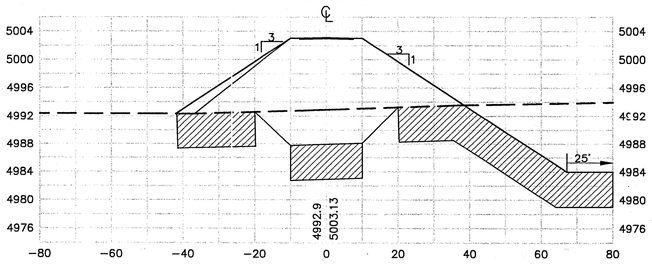
99099\VA\SHEETS\DAM\99990XSS.DWG\3-7-00\PJM

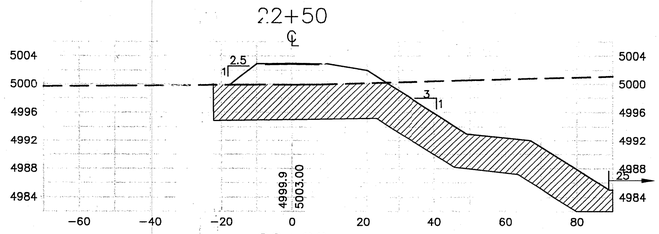


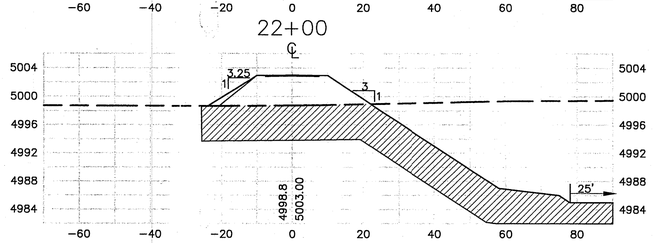


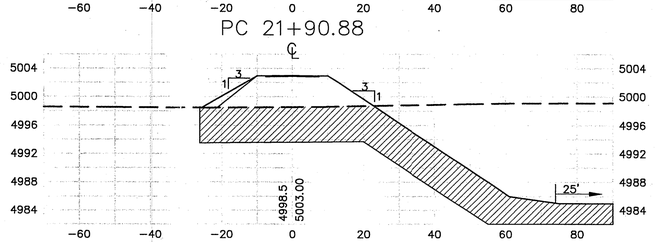


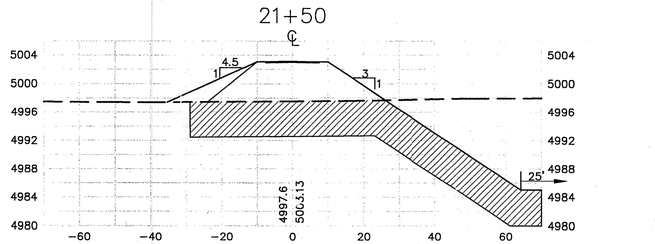


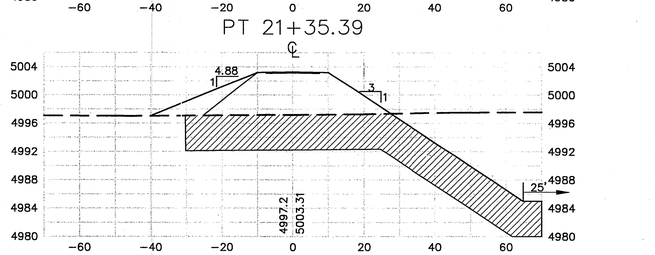


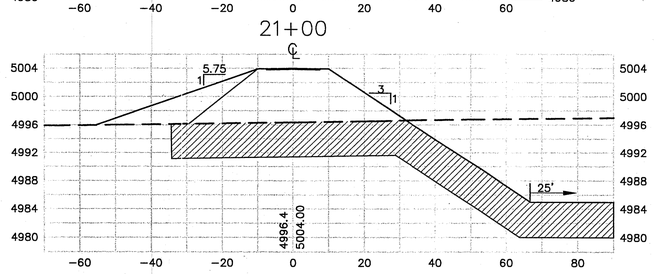


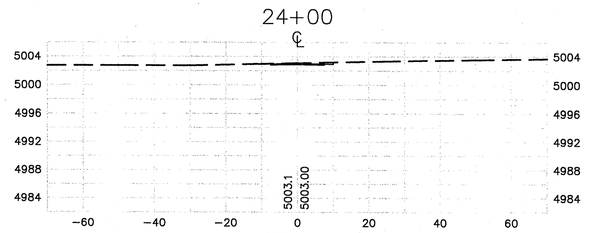


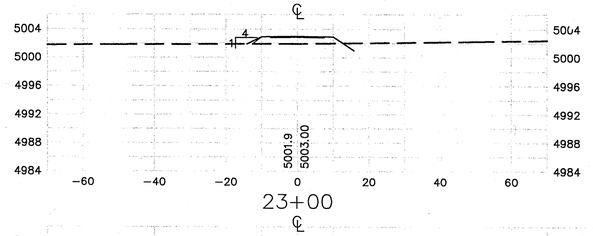


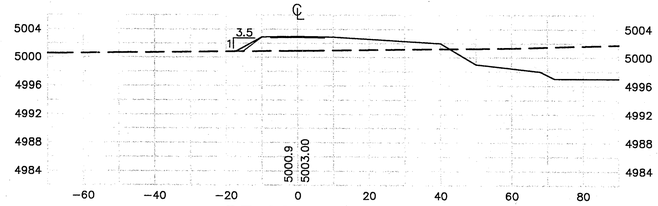


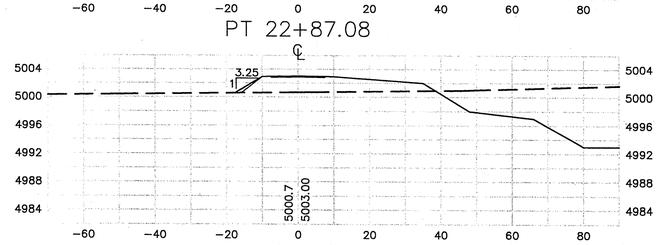












NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY NM NOV 1999

DRAWN BY PJM NOV 1999

CHECKED BY DSA NOV 1999

SCALE: HZ 1" = 20'
VT 1" = 10'

6922.91

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

DAM SECTIONS STA 19+50 – 24+00

RECORD DRAWING
DATE 2-20-01

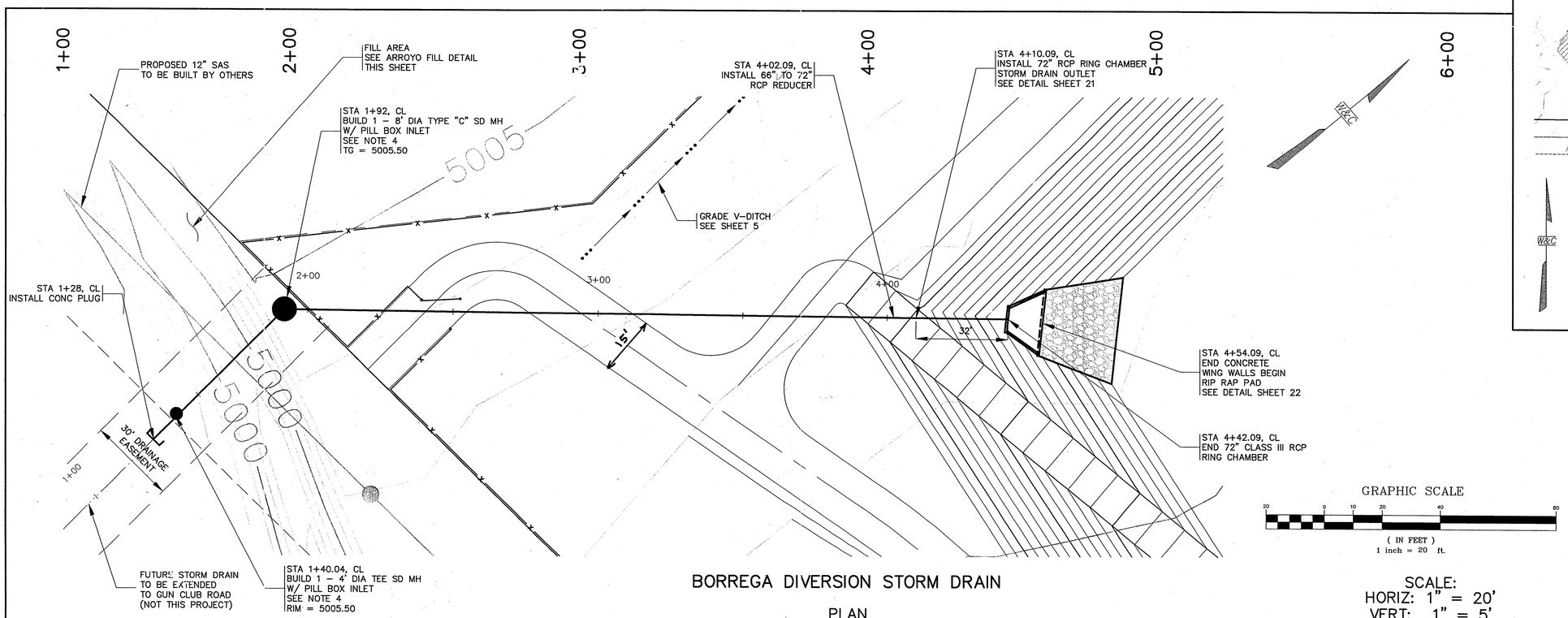
WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE MARCH 2000

FILE 99099

SHEET 19 OF 34

99099\A\SHEETS\DAM\W8960X54.DWG,3-7-00\P.M



BORREGA DIVERSION STORM DRAIN

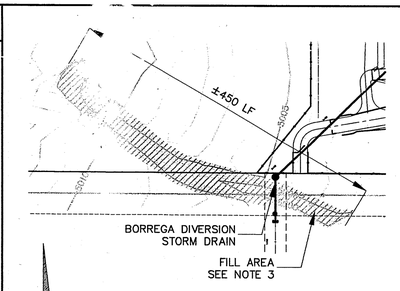
PLAN

GRAPHIC SCALE

20 0 10 20 40 80

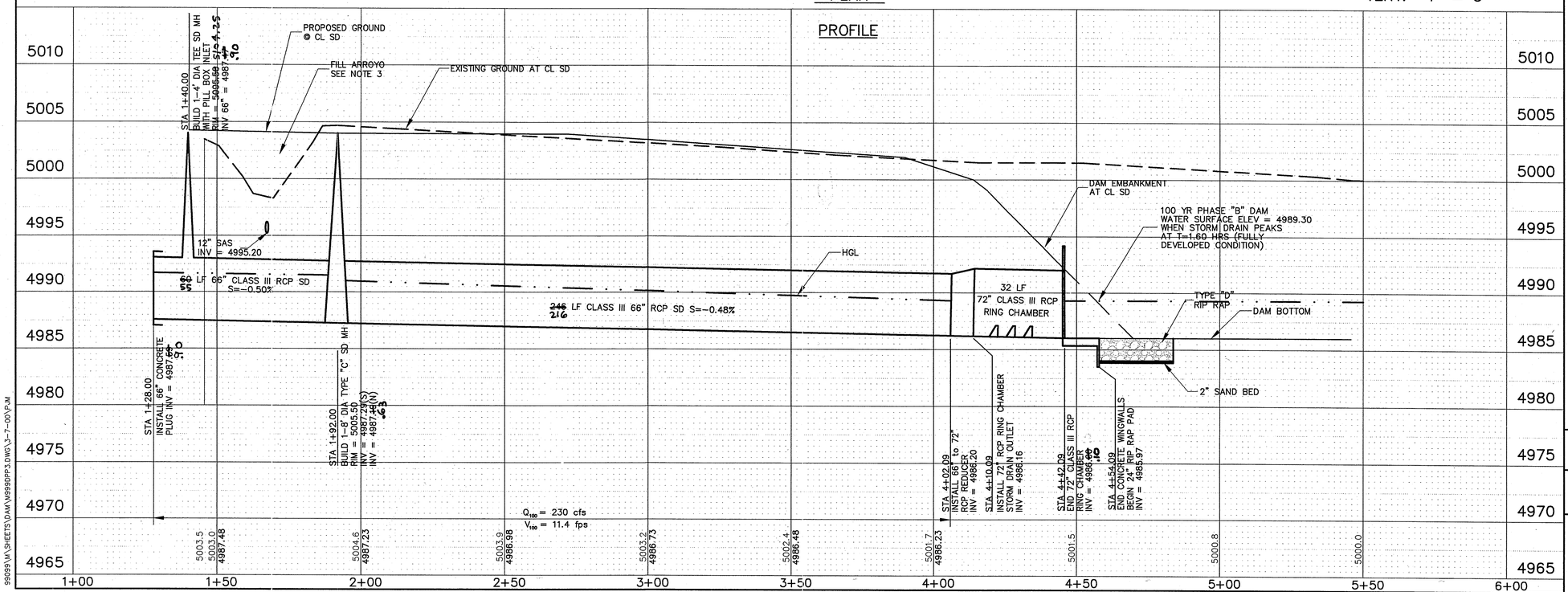
(IN FEET)
1 inch = 20 ft.

SCALE:
HORIZ: 1" = 20'
VERT: 1" = 5'



ARROYO FILL DETAIL
SCALE 1" = 100'

PROFILE



RECORD DRAWING
DATE 2-20-01

NOTES:

1. COST OF 66" SD CONCRETE PLUG TO BE PAID UNDER BID ITEM "66" RCP PLUG.
2. RING CHAMBER SEGMENT OF SD TO BE PAID UNDER BID ITEM "72" RCP".
3. FILL ARROYO WITH EXCESS DAM CUT. THIS COST SHALL BE CONSIDERED AN INCIDENTAL COST TO THE PROJECT. GRADE TO DRAIN INTO MANHOLE @ STA 1+92.
4. FOR PILL BOX INLET DETAIL SEE SHEET 21.

6922.91

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

BORREGA DIVERSION STORM DRAIN P & P

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE MARCH 2000
FILE 99099
SHEET 20 OF 34

AS-BUILT INFORMATION
CONTRACTOR CHAVA DATE 2-9-01
WORK INSPECTED BY WCEA DATE 2-9-01
INSPECTOR'S AS-BUILT NOTATIONS BY WCEA DATE 2-9-01
FIELD VERIFICATION BY WCEA DATE 2-9-01
AS-BUILTS CORRECTED BY WCEA DATE 2-9-01
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

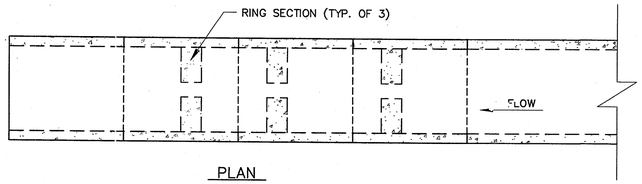
BENCH MARKS
CP103 (SEE SHEET 1 FOR LOCATION)
REBAR W/ ALUMINUM CAP
STAMPED WILSON & COMPANY
N = 1462061.9801
E = 1495972.9457
ELEVATION = 5020.789 FT

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

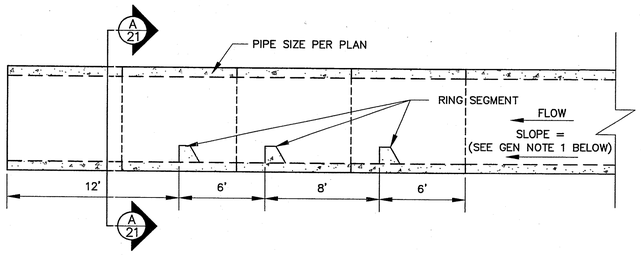
NO.	DATE	REMARKS	BY
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY NM	NOV 1999
		DRAWN BY PJM	NOV 1999
		CHECKED BY DSA	NOV 1999

REVISIONS

99099\M\SHEETS\DAM\W9990PP3.DWG,3-7-00\PJM

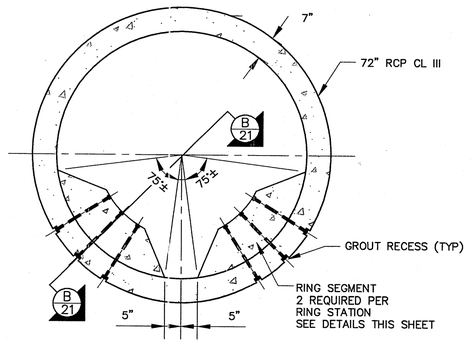


PLAN

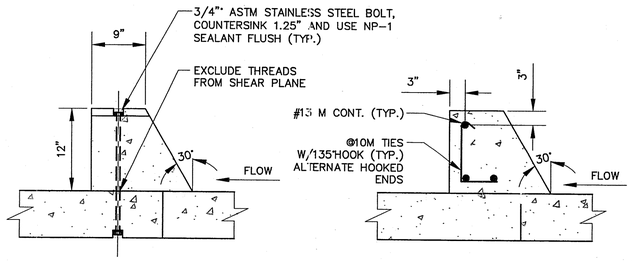


ELEVATION

RING CHAMBER STORM DRAIN OUTLET
SCALE: 1" = 5'

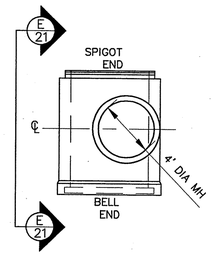


SECTION A–A

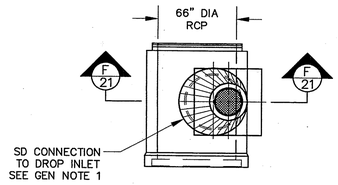


SECTION B–B

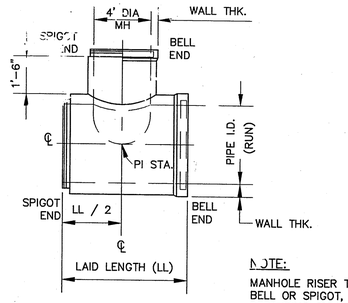
RING SEGMENT
NTS



SECTION C–C

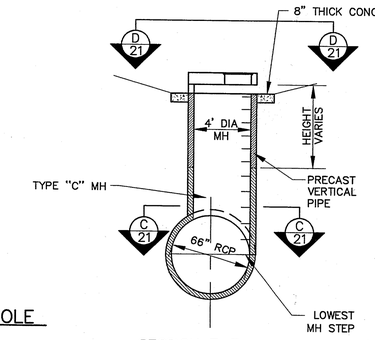


SECTION D–D



NOTE:
MANHOLE RISER TO BE BELL OR SPIGOT, DEPENDING ON JOB REQUIREMENTS.

ELEVATION E–E

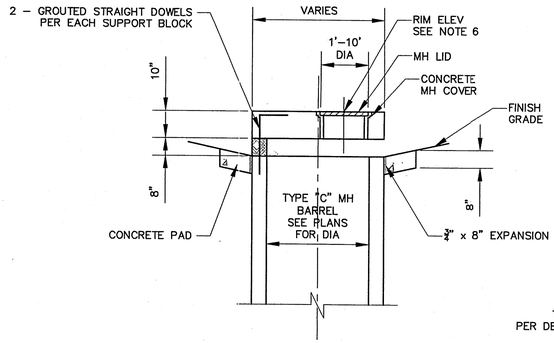


SECTION F–F

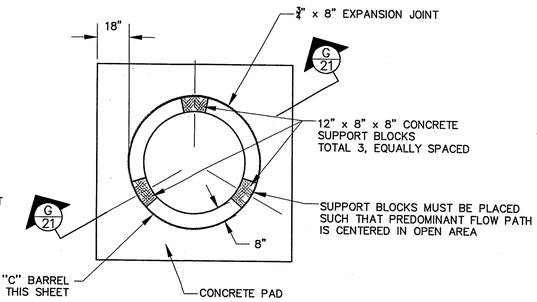
TEE PIPE MANHOLE
SCALE: 1" = 5'

NOTES:

1. THE OFFSET MANHOLE TEE ASSEMBLY SHALL CONSIST OF THE FOLLOWING:
   - A. PILL BOX INLET W/ MH COVER
   - B. GRADE RINGS
   - C. CONCENTRIC CONE
   - D. RISERS AS REQUIRED
   - E. OFFSET TEE
   - F. MANHOLE STEPS.
2. USE NON–SHRINK GROUT FOR JOINTS, FILLETS AND PIPE PENETRATIONS.
3. COMPACT ALL BACKFILL AROUND MANHOLE TO 95% OF MODIFIED PROCTOR. ASTM–D–1557



SECTION G–G



SLAB TOP INLET PLAN

PILL BOX INLET
NTS

GENERAL NOTES

1. SEE PLAN & PROFILE SHEETS FOR SD SLOPE, PIPE SIZE, AND INVERT ELEVATION.
2. CONCRETE FOR PRECAST RING SEGMENTS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI @ 28 DAYS.
3. CEMENT GROUT ALL RECESS AREAS PER SECTION S 23 OF THE NMSH & TD SPECIFICATION, 1994 EDITION.
4. ALL BOLTS SHALL BE STAINLESS STEEL ASTM A325 BOLTS.
5. BOLT THREADS SHALL BE EXCLUDED FROM SHEAR PLANE CONNECTION.
6. PILL BOX INLET MH RIM IS 18" ABOVE FINISH GRADE. USE CITY OF ALBUQUERQUE MANHOLE FRAME & COVER STD DWG 2110. CHANGE CITY OF ALBUQUERQUE TO BERNALILLO COUNTY AND INCLUDE STORM.

NO.	DATE	REMARKS
		REVISIONS
		BY
		WILSON & COMPANY, ENGINEERS & ARCHITECTS
		DESIGNED BY NM NOV 1999
		DRAWN BY PJM NOV 1999
		CHECKED BY DSA NOV 1999

RECORD DRAWINGS
2-20-01

6922.91

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

STORM DRAIN DETAILS

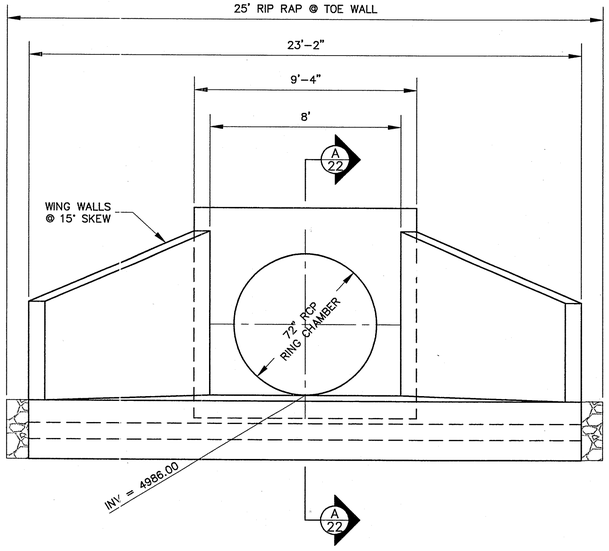
WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348–4000

DATE APRIL 2000

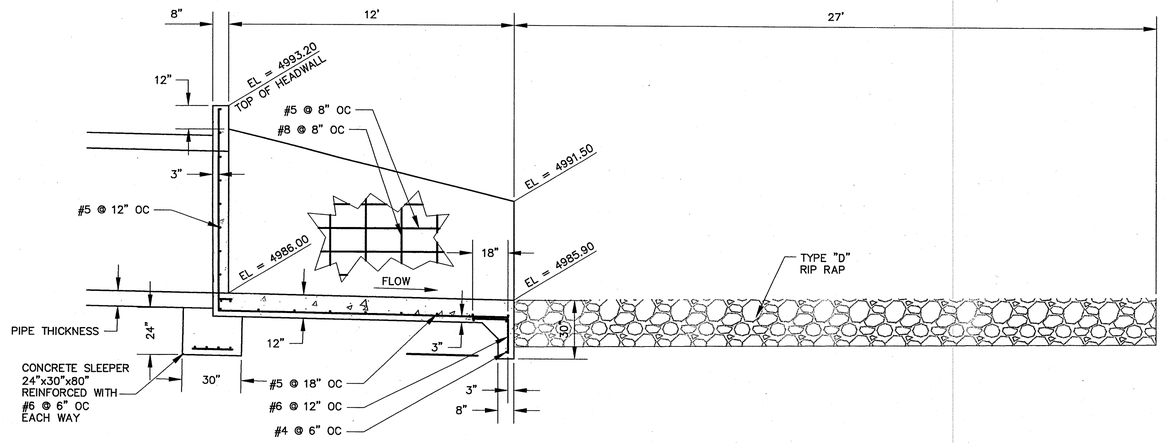
FILE 99099

SHEET 21 OF 34

99099\M\SHEETS\DRAM\M9990DTB.DWG\3-7-00\PJM



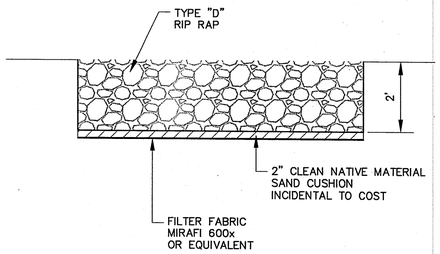
ELEVATION VIEW
SCALE 1" = 3'



SECTION A-A
SCALE 1" = 3'

NOTES:

1. FOR WING WALLS, REBAR TO BE PLACED @ 3" CLEARANCE FROM OUTSIDE WALL.
2. ALL EXPOSED EDGES ARE TO BE CHAMFERED @ 45°.
3. SEE SHEET 20 FOR BORREGA DIVERSION STORM DRAIN PLAN & PROFILE.



RIP RAP DETAIL
NTS

ISSUED FOR CONSTRUCTION DRAWING
DATE 2-20-01

6922.91

NO.	DATE	BY	REMARKS
			REVISIONS

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY	NM	NOV 1999
DRAWN BY	PJM	NOV 1999
CHECKED BY	DSA	NOV 1999

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

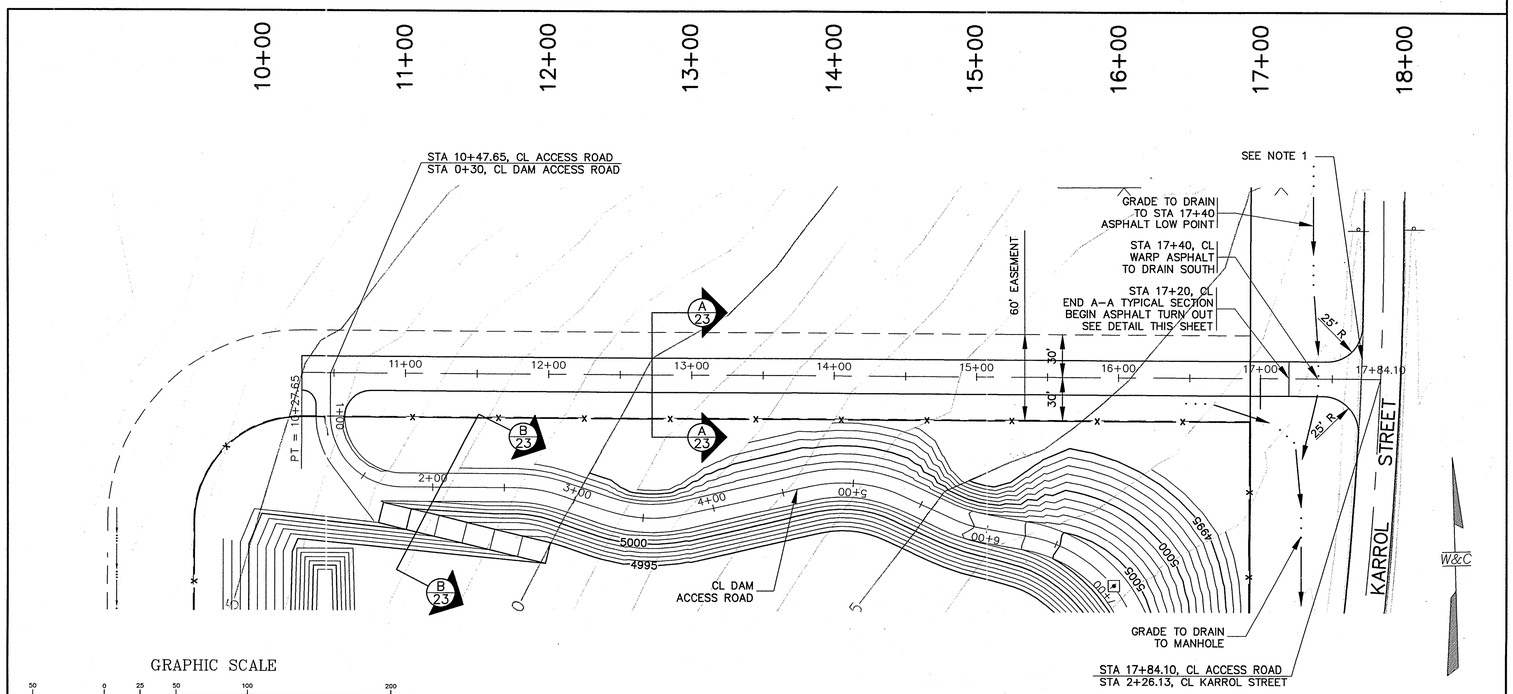
BORREGA DETENTION DAM

72" RCP HEADWALL & RIP RAP DETAILS

U.S. ARMY CORPS OF ENGINEERS
APPROVED
4-25-00

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE APRIL 2000
FILE 99099
SHEET 22 OF 34



GRAPHIC SCALE

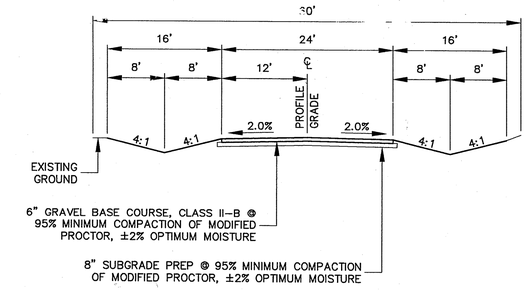
50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

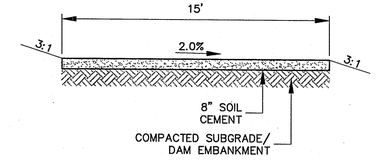
ACCESS ROAD

PLAN

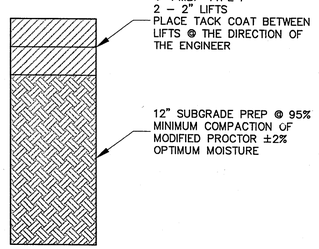
SCALE:
HORIZ: 1" = 50'
VERT: 1" = 5'



ACCESS ROAD TYPICAL SECTION A–A
SCALE 1" = 5' STA 10+27.65 TO STA 17+20



ACCESS RAMP TYPICAL SECTION B–B
SCALE 1" = 2'



ASPHALT SECTION @ TURNOUT
NTS

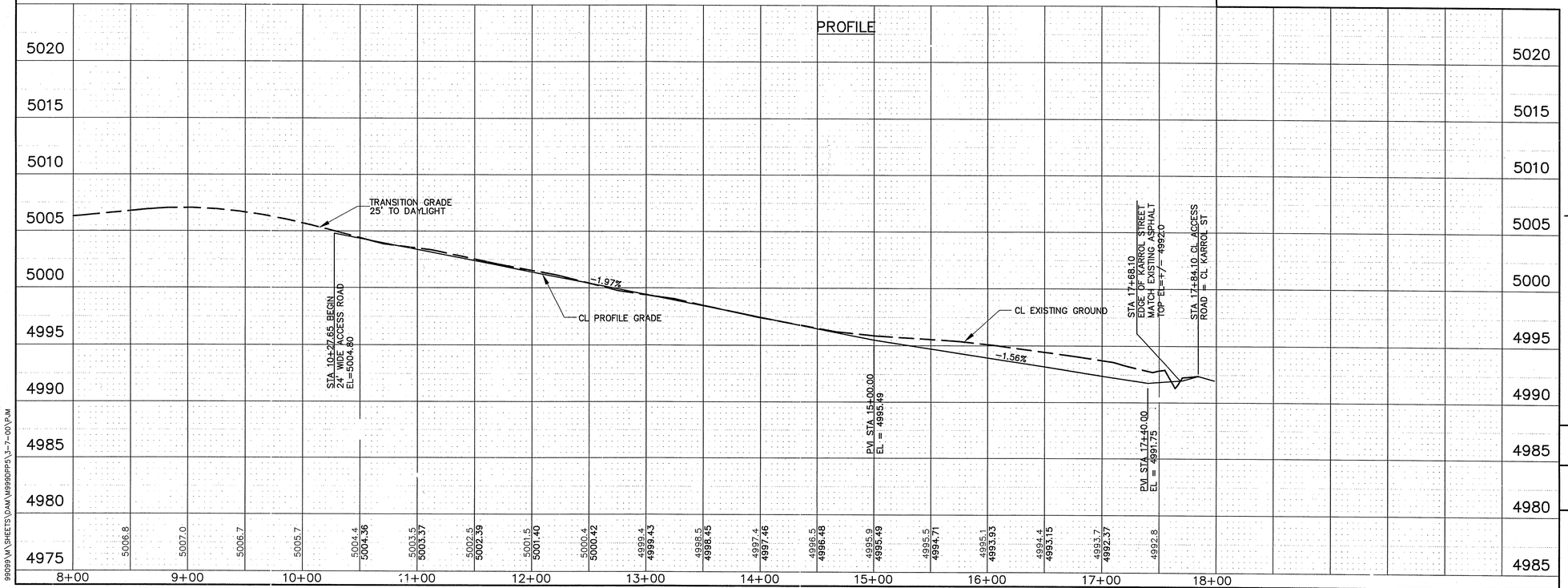
RECORD DRAWINGS
2-20-01

NOTES:

1. KARROL STREET EDGE OF EXISTING PAVEMENT: SAWCUT 12" INTO EXISTING PAVEMENT IN KARROL STREET LEAVING A NEAT STRAIGHT LINE PRIOR TO LAYING NEW ASPHALT EDGE TO BE TACK COATED.

6322.91

PROFILE



99099\M\SHEETS\DAM\M9980PP3_3-7-00\PJM

AS-BUILT INFORMATION	
CONTRACTOR	CHAVA
WORK STARTED BY	CHAVA DATE 2-9-00
INSPECTOR'S DRAWINGS BY	WCEA DATE 2-9-00
FIELD VERIFICATION BY	WCEA DATE
DRAWINGS CORRECTED BY	WCEA DATE
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

BENCH MARKS
CP103 (SEE SHEET 1 FOR LOCATION)
REBAR W/ ALUMINUM CAP
STAMPED WILSON & COMPANY
N = 1462061.9801
E = 1495972.9457
ELEVATION = 5020.789 FT

SURVEY INFORMATION		
FIELD NOTES		
NO.	BY	DATE

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY	NM	NOV 1999
DRAWN BY	PJM	NOV 1999
CHECKED BY	DSA	NOV 1999

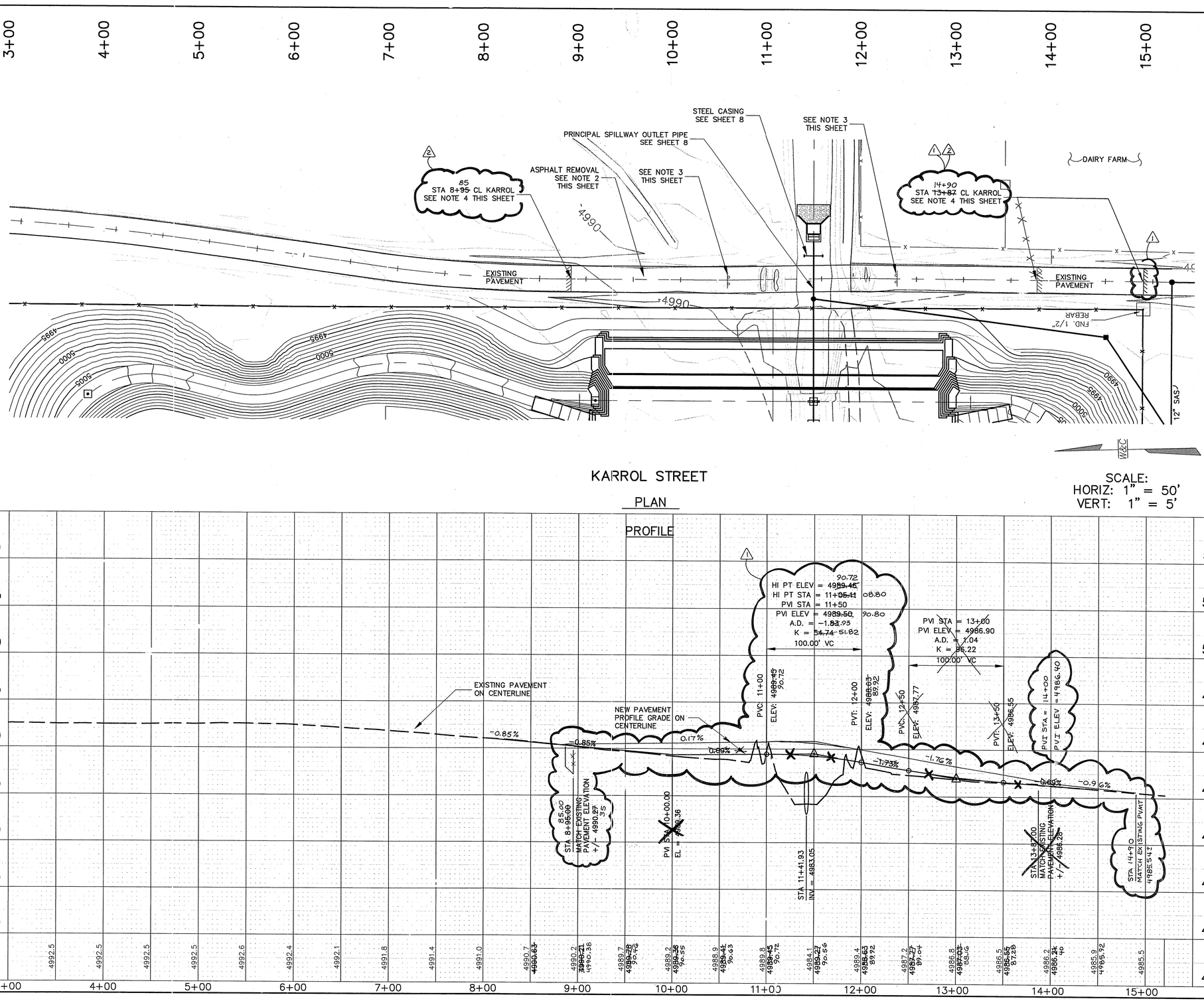
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

ACCESS ROAD – PLAN AND PROFILE

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE: MARCH 2000
FILE: 99099
SHEET 23 OF 34



KARROL STREET

PLAN

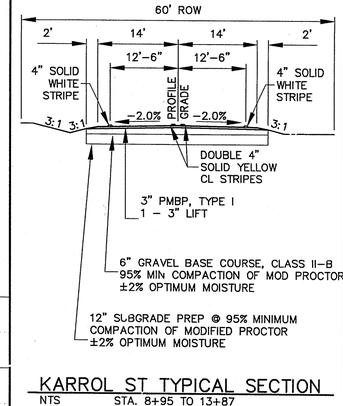
SCALE:
HORIZ: 1" = 50'
VERT: 1" = 5'

NOTES:

1. EXISTING ASPHALT PAVEMENT CUT SHALL BE CONSIDERED AN INCIDENTAL COST TO PAVEMENT CONSTRUCTION IN KARROL ST.
2. 400' x 28' ASPHALT PAVEMENT REMOVAL & REPLACEMENT PAYMENT SHALL BE PAID FOR UNDER ITEM 7, REMOVAL OF MISCELLANEOUS DEBRIS AND RUBBLE.
3. EXISTING BARRICADES TO BE REMOVED AND DISPOSED BY CONTRACTOR.
4. CUT NEW EXISTING PAVEMENT IN A NEAT STRAIGHT LINE PRIOR TO LAYING NEW ASPHALT PAVMENT. EXPOSED ASPHALT EDGE SHALL BE TACK COATED. NEW PAVEMENT TO MATCH EXISTING PAVEMENT ELEVATIONS.

CL COORDINATES OF KARROL STREET

STA	X	Y	DESCRIPTION
8+85	1497468.60	1461773.52	BEGIN PAVING
10+59.89	1497468.28	1461605.63	PI
11+83.75	1497470.72	1461474.79	PI
14+90	1497468.94	1461168.55	END PAVING



KARROL ST TYPICAL SECTION

NTS STA. 8+95 TO 13+87

RECORD DRAWING
DATE 2-20-01

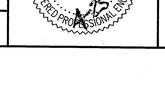
John P. Kelly 4-25-00
APPROVED FOR CONSTRUCTION
Kathy O'Grady 4-26-00
Bernalillo County Public Works Division

BERNALILLO COUNTY PUBLIC WORKS DATE

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

KARROL ST – PLAN AND PROFILE



WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE MARCH 2000
FILE 99099
SHEET 24 OF 34

AS-BUILT INFORMATION
CONTRACTOR CHAVA
WORKS BY CHAVA DATE 2-9-01
INSPECTOR'S FIELD CHANGES BY WCEA DATE 2-9-01
FIELD VERIFICATION BY WCEA DATE 2-9-01
DRAWINGS CORRECTED BY WCEA DATE 2-9-01
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
CP103 (SEE SHEET 1 FOR LOCATION)
REBAR W/ ALUMINUM CAP
STAMPED WILSON & COMPANY
N = 1462061.9801
E = 1495972.9457
ELEVATION = 5020.789 FT

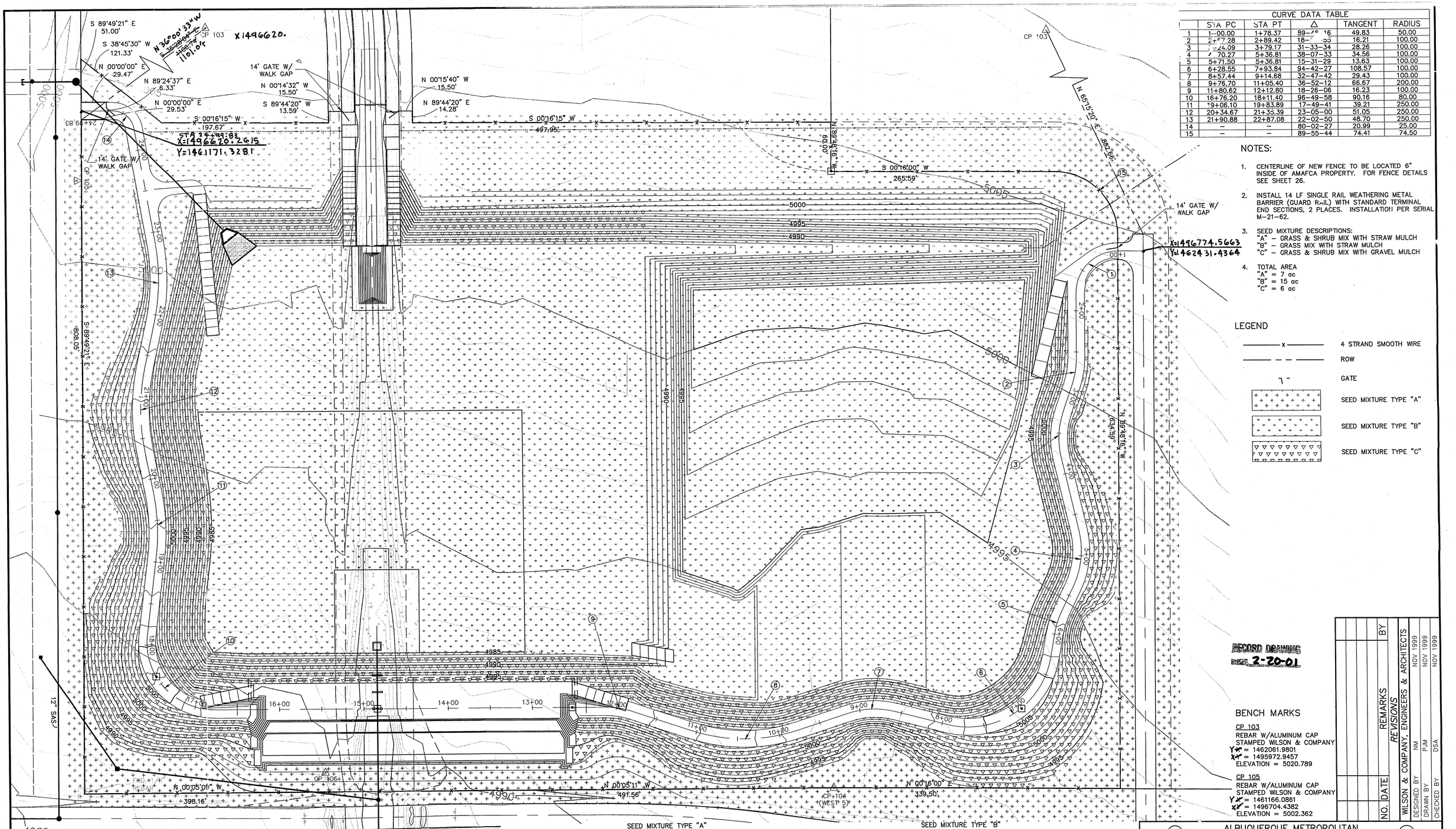
SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

NO.	DATE	REMARKS	BY
		REVISIONS	
1	11-15-00	RAISED ROAD & EXTENDED PAVED AREA	NM
2	11-15-00	HZ STATIONING CORRECTED (WAS 95E) 8'X 18")	NM

WILSON & COMPANY, ENGINEERS & ARCHITECTS
DESIGNED BY NM NOV 1999
DRAWN BY PJM NOV 1999
CHECKED BY DSA NOV 1999

99099\M\SHEETS\DAM\M9990PRF\4-25-00\P.AM

6922.91



CURVE DATA TABLE					
	STA PC	STA PT	Δ	TANGENT	RADIUS
1	1+00.00	1+78.37	89-[illegible]16	49.83	50.00
2	2+[illegible]28	2+89.42	18-[illegible]55	16.21	100.00
3	[illegible]24.09	3+79.17	31-33-34	28.26	100.00
4	[illegible]70.27	5+36.81	38-07-33	34.56	100.00
5	5+71.50	5+36.81	15-31-29	13.63	100.00
6	6+28.55	7+93.84	94-42-27	108.57	100.00
7	8+57.44	9+14.68	32-47-42	29.43	100.00
8	9+76.70	11+05.40	36-52-12	66.67	200.00
9	11+80.62	12+12.80	18-26-06	16.23	100.00
10	16+76.20	18+11.40	96-49-58	90.16	80.00
11	19+06.10	19+83.89	17-49-41	39.21	250.00
12	20+34.67	21+35.39	23-05-00	51.05	250.00
13	21+90.88	22+87.08	22-02-50	48.70	250.00
14	–	–	80-02-27	20.99	25.00
15	–	–	89-55-44	74.41	74.50

NOTES:

1. CENTERLINE OF NEW FENCE TO BE LOCATED 6" INSIDE OF AMAFCA PROPERTY. FOR FENCE DETAILS SEE SHEET 26.
2. INSTALL 14 LF SINGLE RAIL WEATHERING METAL BARRIER (GUARD RAIL) WITH STANDARD TERMINAL END SECTIONS, 2 PLACES. INSTALLATION PER SERIAL M-21-62.
3. SEED MIXTURE DESCRIPTIONS:
   "A" – GRASS & SHRUB MIX WITH STRAW MULCH
   "B" – GRASS MIX WITH STRAW MULCH
   "C" – GRASS & SHRUB MIX WITH GRAVEL MULCH
4. TOTAL AREA
   "A" = 7 ac
   "B" = 15 ac
   "C" = 6 ac

LEGEND

- 4 STRAND SMOOTH WIRE
- ROW
- GATE
- SEED MIXTURE TYPE "A"
- SEED MIXTURE TYPE "B"
- SEED MIXTURE TYPE "C"

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

SEED MIXTURE TYPE "A"
(GRASS & SHRUB MIXTURE)

Common Name/ Variety	Genus/Species	Lbs. PLS/acre
Blue grama "Hatchita"	Bouteloua gracilis	1.0
Sideoats grama "Niner"	Bouteloua curtipendula	3.0
Galleta (florets) "Viva"	Hilaria jamesii	3.0
Sand Dropseed	Sporobolus cryptandrus	1.0
Indian ricegrass "Paloma"	Oryzopsis hymenoides	4.0
Alkali Sacaton	Sporobolus airoides	1.0
GRASS MIX SUBTOTAL PLS/acre		13.0
Sand Sage	Artemesia filifolia	1.0
4-Wing Saltbush NM region	Atriplex canescens	0.5
Bush Penstemon	Penstemon ambiguus	0.5
Firewheel	Gallardia aristata	0.5
CLASS "A" SEEDING TOTAL PLS/acre		15.5

SEED MIXTURE TYPE "B"
(GRASS MIX)

Common Name/ Variety	Genus/Species	Lbs. PLS/acre
Blue grama "Hatchita"	Bouteloua gracilis	1.0
Sideoats grama "Niner"	Bouteloua curtipendula	3.0
Galleta (florets) "Viva"	Hilaria jamesii	3.0
Sand Dropseed	Sporobolus cryptandrus	1.0
Indian ricegrass "Paloma"	Oryzopsis hymenoides	4.0
Alkali Sacaton	Sporobolus airoides	1.0
CLASS "B" SEEDING (GRASS MIX) SUBTOTAL PLS/acre		13.0

SEED MIXTURE TYPE "C"
(GRASS & SHRUB MIX)

SAME AS TYPE "A", LESS STRAW MULCH.
SUBSTITUTE 2" GRAVEL MULCH FOR THE STRAW MULCH.

RECORD DRAWING
DATE 2-20-01

BENCH MARKS

CP 103
REBAR W/ALUMINUM CAP
STAMPED WILSON & COMPANY
Y = 1462061.9801
X = 1495972.9457
ELEVATION = 5020.789

CP 105
REBAR W/ALUMINUM CAP
STAMPED WILSON & COMPANY
Y = 1461166.0861
X = 1496704.4382
ELEVATION = 5002.362

NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY	NM NOV 1999
		DRAWN BY	PJM NOV 1999
		CHECKED BY	DSA NOV 1999

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

FENCING AND REVEGETATION PLAN

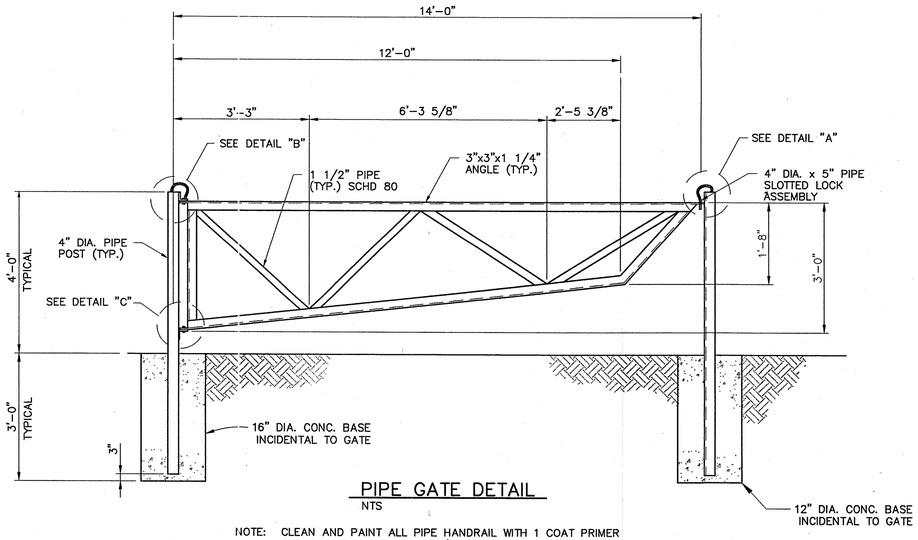
DANIEL S. AGUILERA
NEW MEXICO
11599
REGISTERED PROFESSIONAL ENGINEER

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE APRIL 2000
FILE 99099
SHEET 25 OF 34

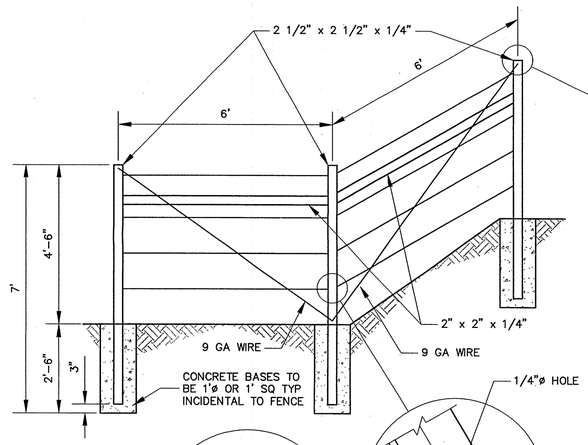
6922.91

99099\M\SHEETS\DAM\M99903.DWG\3-7-00\PJM

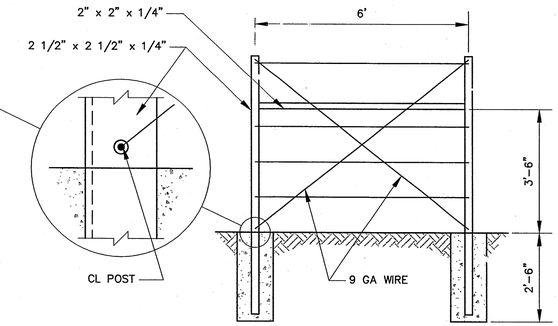


PIPE GATE DETAIL
NTS

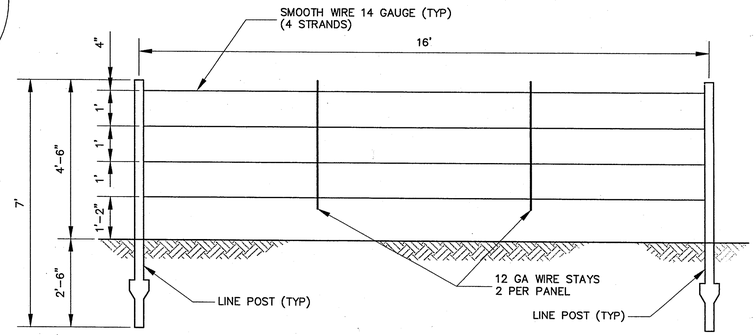
NOTE: CLEAN AND PAINT ALL PIPE HANDRAIL WITH 1 COAT PRIMER AND 2 COATS SAFETY BLUE (OR APPROVED EQUAL BY PROJECT ENGINEER). PAINT INCIDENTAL TO COST OF PIPE GATE.



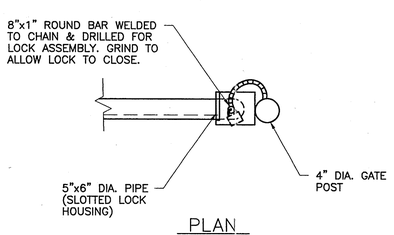
CORNER PANEL
NTS



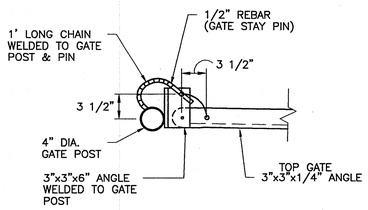
PULL PANEL
NTS



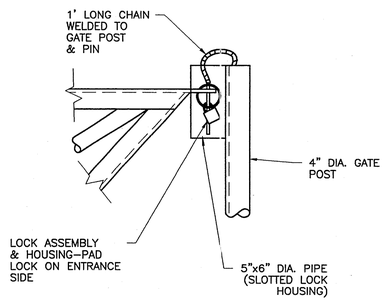
SMOOTH WIRE FENCE PANEL
NTS



PLAN

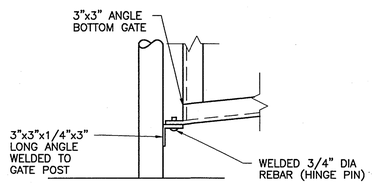


DETAIL B
NTS

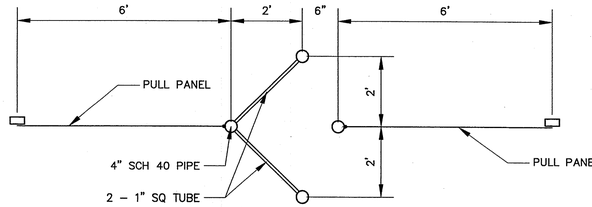


ELEVATION

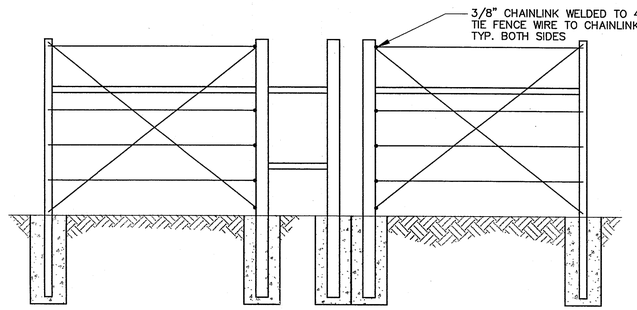
DETAIL A
NTS



DETAIL C
NTS



WALK GAP PLAN
NTS



WALK GAP ELEVATION
NTS

RECORD DRAWING
DATE 2-20-01

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS
DESIGNED BY NM NOV 1999
DRAWN BY PJM NOV 1999
CHECKED BY DSA NOV 1999

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

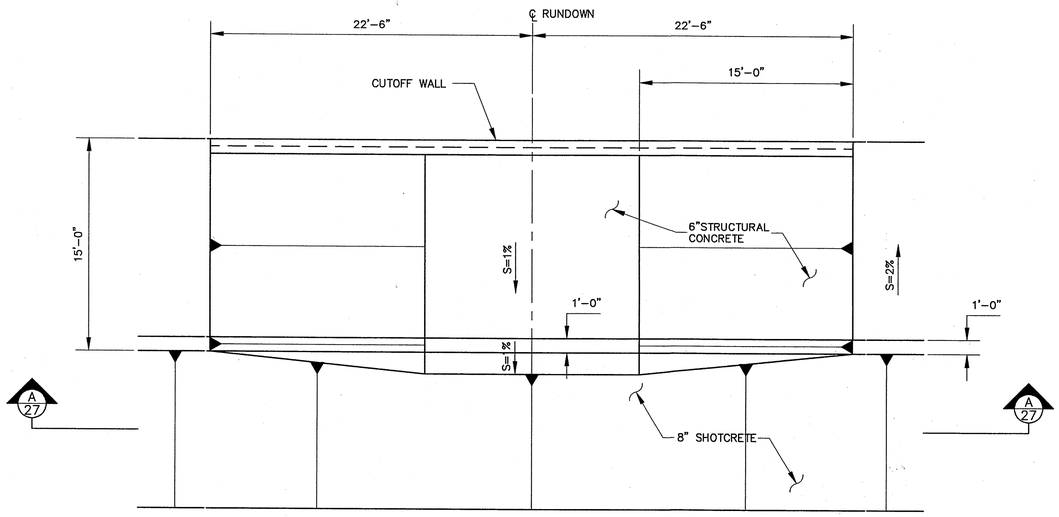
FENCE DETAILS

STATE OF NEW MEXICO — DAVID S. ACUIRRE — 11515 — REGISTERED PROFESSIONAL ENGINEER — 12-5-00

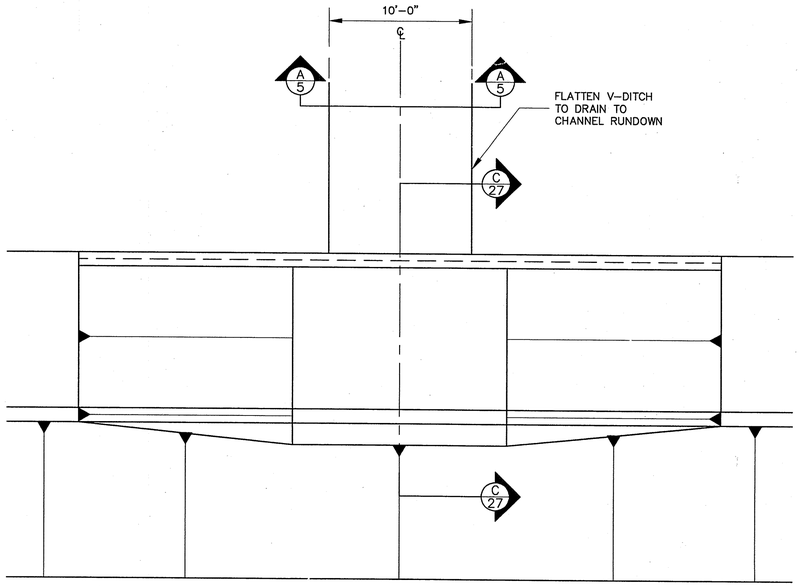
WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE APRIL 2000
FILE 99099
SHEET 26 OF 34

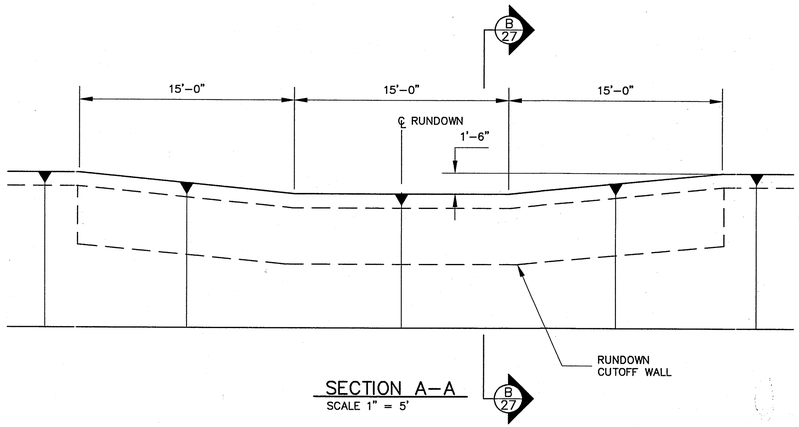
99099\M\SHEETS\DAM\W9990D19.DWG\3-7-00\P.M



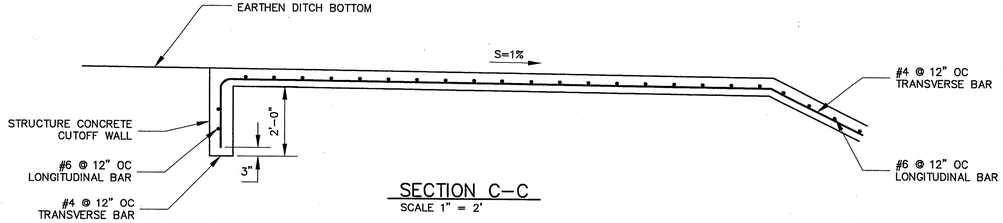
PLAN
SCALE 1" = 5'



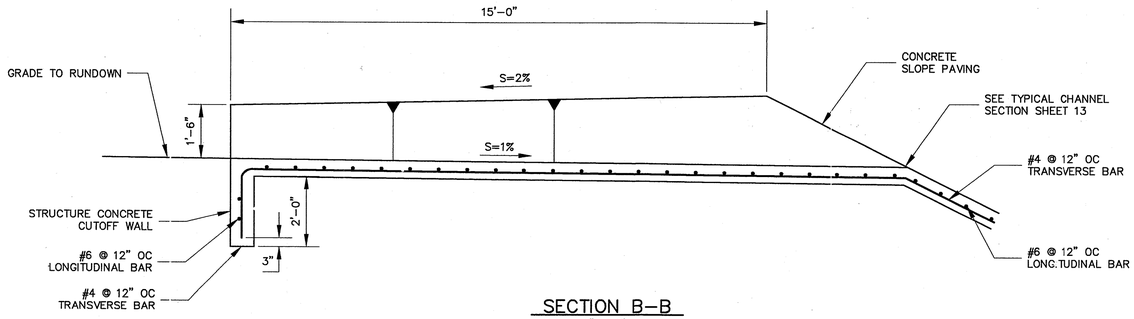
JUNCTION OF V–DITCH & CHANNEL RUNDOWN
SCALE 1" = 5'



SECTION A–A
SCALE 1" = 5'



SECTION C–C
SCALE 1" = 2'



SECTION B–B
SCALE 1" = 2'

TYPICAL TYPE 'B' CHANNEL RUNDOWN DETAILS
SCALE: VARIES

RECORD DRAWING
DATE 2-20-01

NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY	NM
		DRAWN BY	PJM
		CHECKED BY	DSA
		NOV 1999	
		NOV 1999	
		NOV 1999	

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ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

RUNDOWN AND CHANNEL DETAILS

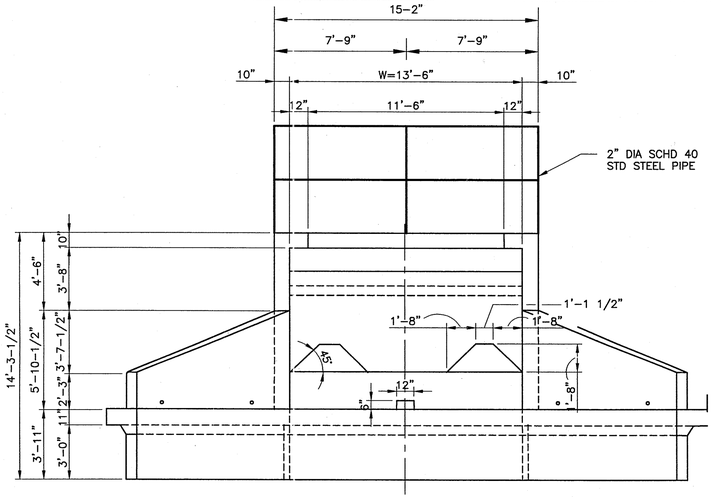
WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348–4000

DATE MARCH 2000

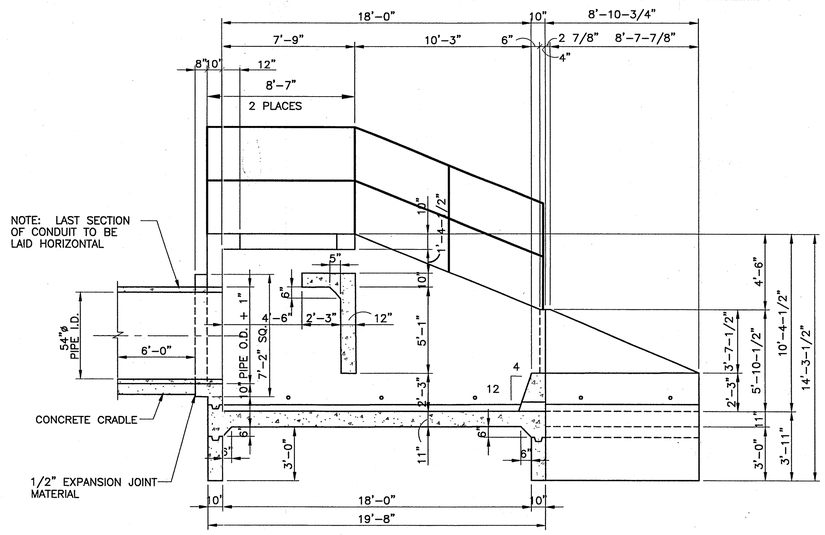
FILE 99099

SHEET 27 OF 34

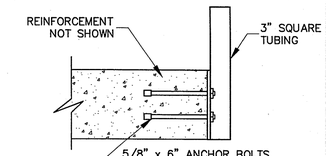
99099\M\SHEETS\DAM\M9990DT1.DWG\3-7-00\PJM

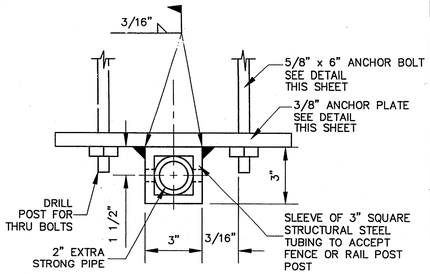


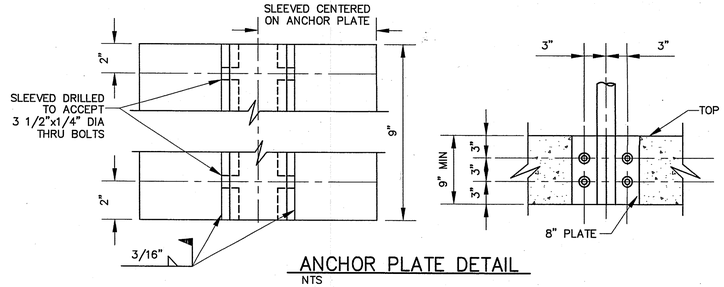
DOWNSTREAM ELEVATION
NTS



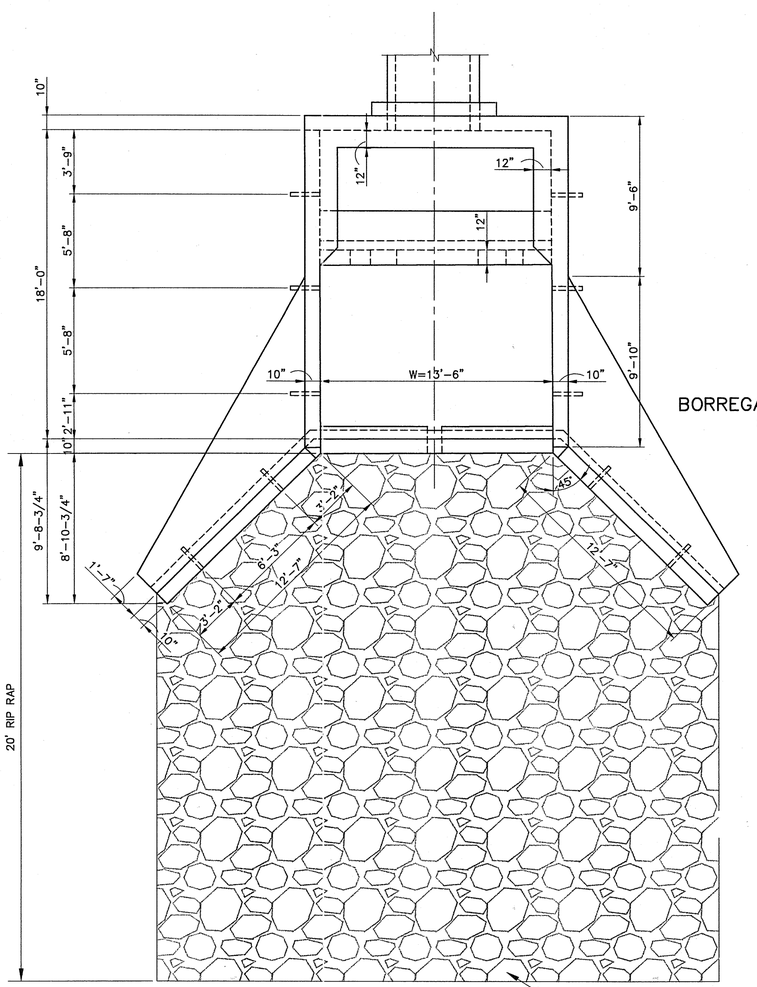
SECTION ON CENTERLINE
NTS



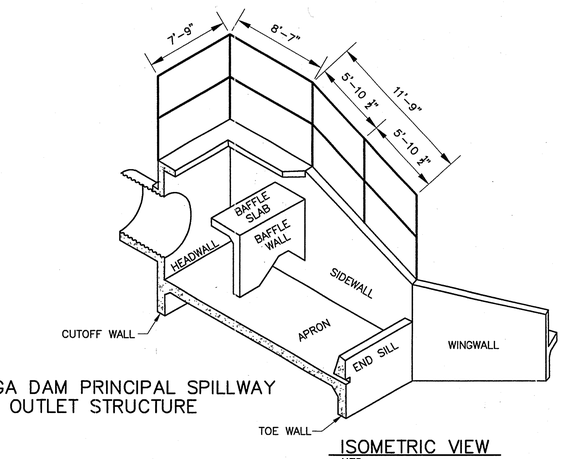




ANCHOR PLATE DETAIL
NTS

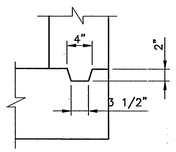


PLAN
SEE RIP RAP DETAIL
SHEET 22

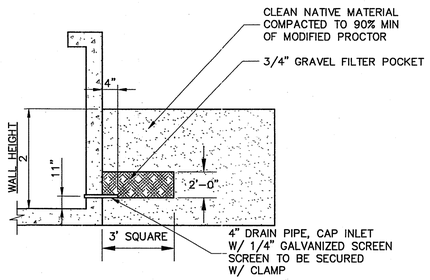


BORREGA DAM PRINCIPAL SPILLWAY
OUTLET STRUCTURE

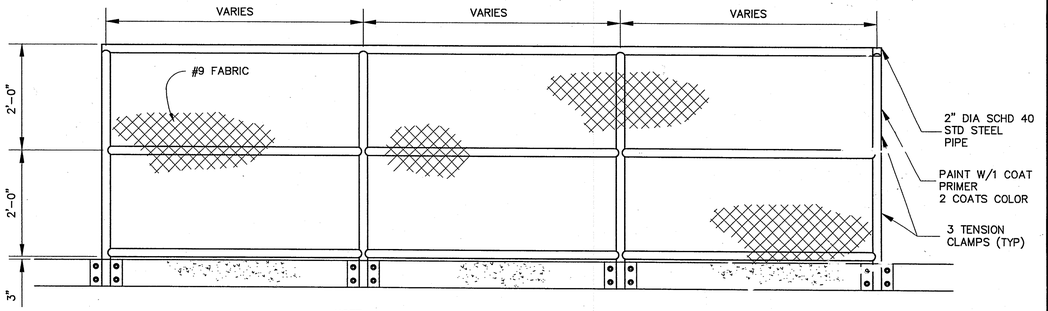
ISOMETRIC VIEW
NTS



CONSTRUCTION JOINT DETAIL
NTS



SECTION THROUGH DRAIN & FILTER
NTS



NOTE:
TACK WELD CHAIN LINK FABRIC AT 3 POINTS ALONG EACH FRAME MEMBER. PAINT AREA AROUND EACH WELD WITH GALVANIZED COATING.

TOP RAIL IS CONTINUOUS, CENTER AND BOTTOM RAILS AND POSTS ARE SADDLE CUT.

2" RAIL WITH CHAIN LINK FENCE AND DETAILS
NTS

GENERAL NOTES

WORKMANSHIP SHALL CONFORM TO THE BORREGA DETENTION DAM PROJECT SPECIFICATIONS.

CONCRETE FOR STRUCTURAL CAST-IN-PLACE CONCRETE SHALL BE 4000 PSI. CHAMFER ALL EXPOSED EDGES OF CONCRETE STRUCTURES 3/4 INCH UNLESS OTHERWISE NOTED ON THE DETAILS.

REINFORCING BARS SHALL CONFORM TO AASHTO SPECIFICATIONS M-31, GRADE 60 UNLESS NOTED OTHERWISE ON THE DETAILS. DIMENSIONS REFER TO THE CENTERLINE OF BARS UNLESS NOTED OTHERWISE.

FLOW DATA

Do = 54"

Q_{100} = 195 cfs

DESIGN DATA

DESIGN STRESSES:

RIENFORCED CONCRETE:
f'c = 4000 PSI AT 28 DAYS
fc = 1600 PSI
fs = 20,000 PSI GRADE 40

HORIZONTAL EARTH PRESSURE:

70 PCF EQUIVALENT FLUID PRESSURE PLUS
2 FOOT FOR SURCHARGE PRESSURE

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS
DESIGNED BY NM NOV 1999
DRAWN BY PJM NOV 1999
CHECKED BY DSA NOV 1999

RECORD DRAWING
2-20-01

6922.91

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

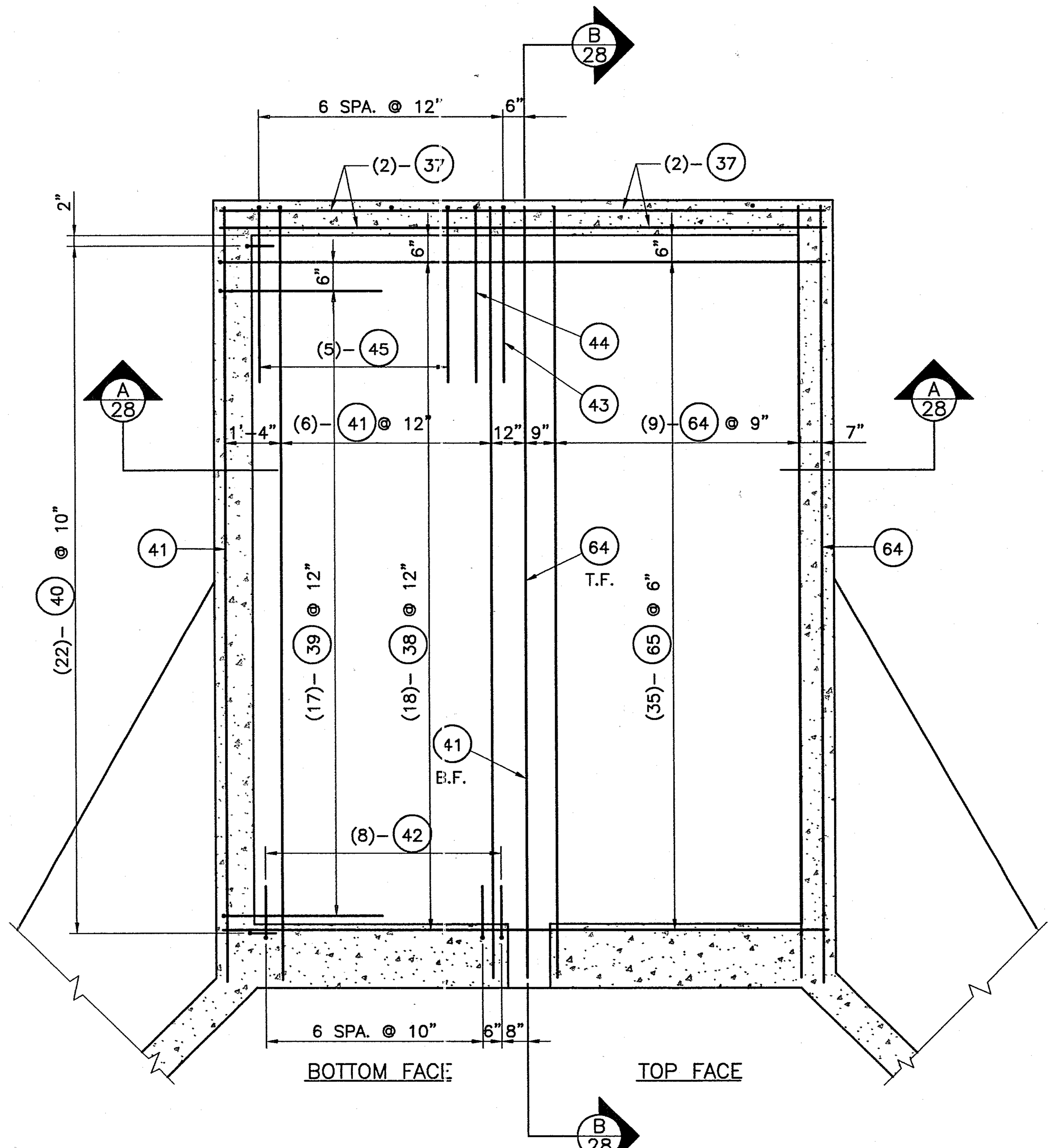
BORREGA DETENTION DAM

PRINCIPAL SPILLWAY OUTLET STRUCTURE

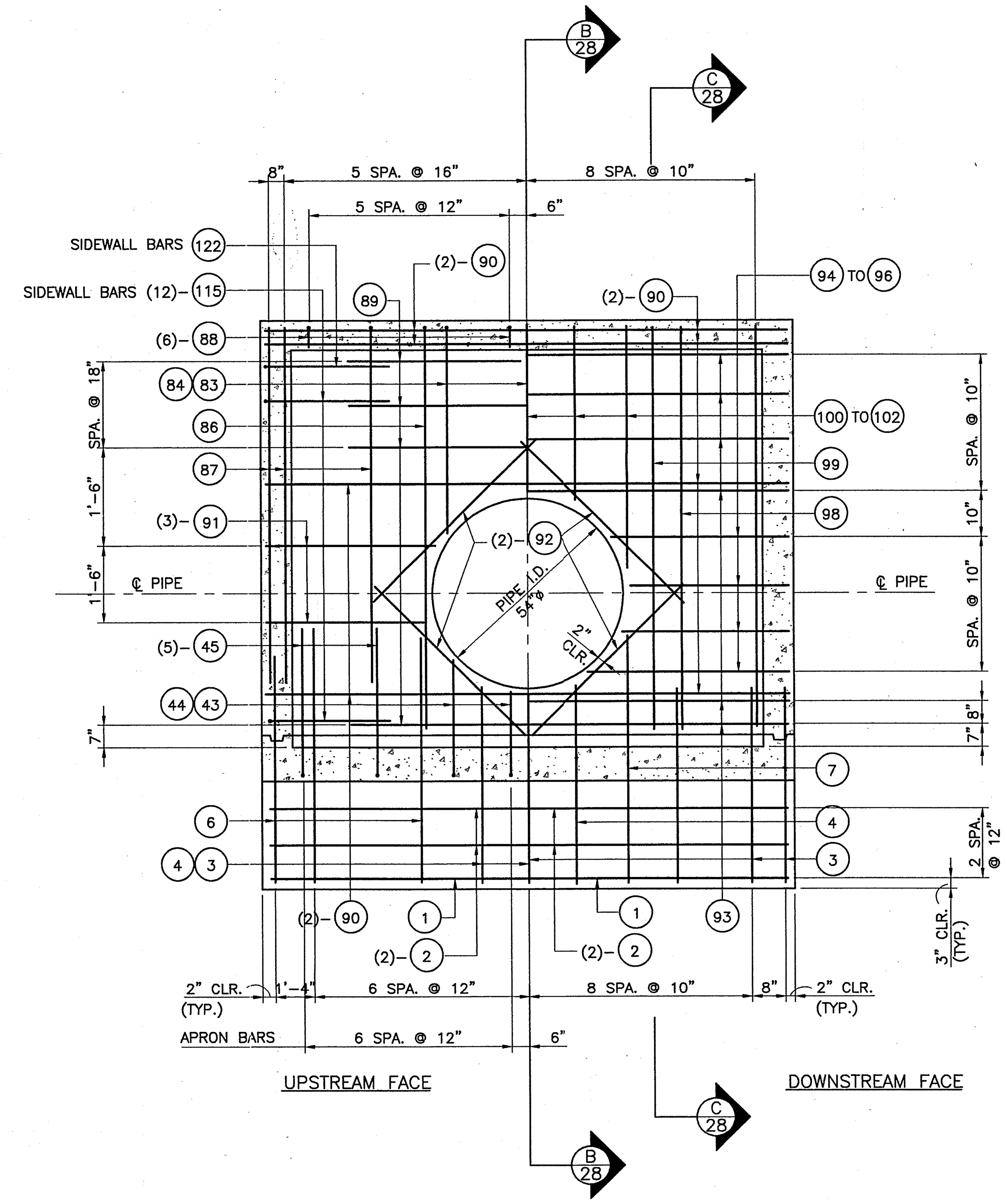
WILSON &COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE MARCH 2000
FILE 99099
SHEET 28 OF 34

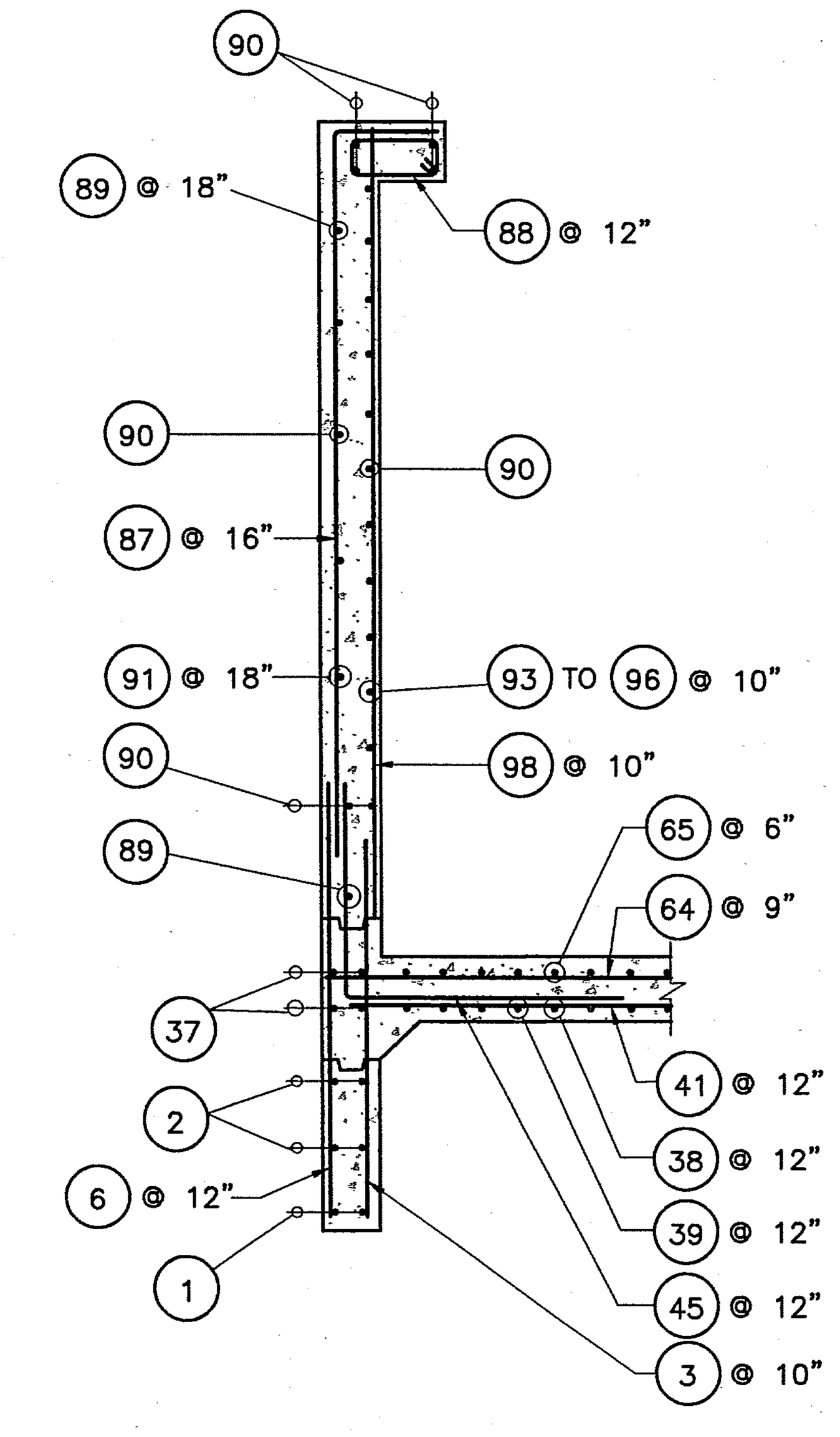
99099\M\SHEETS\DAM\M9990T0.DWG\3-22-00\PJM



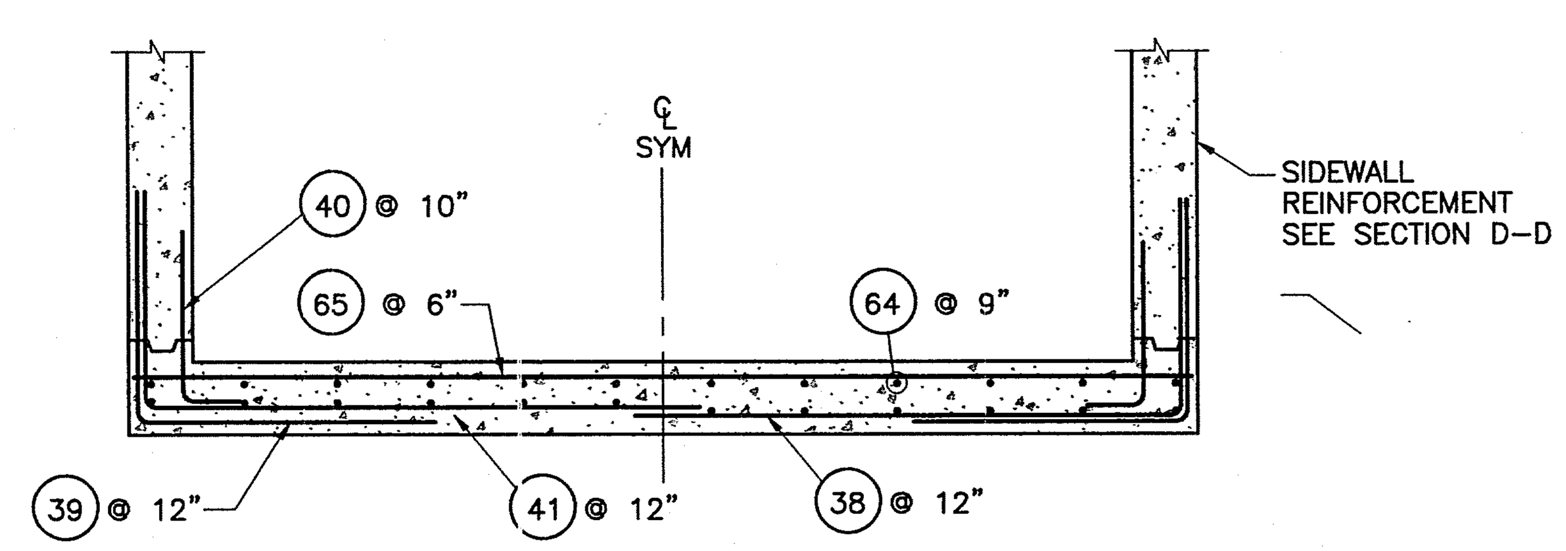
PLAN OF APRON
NTS



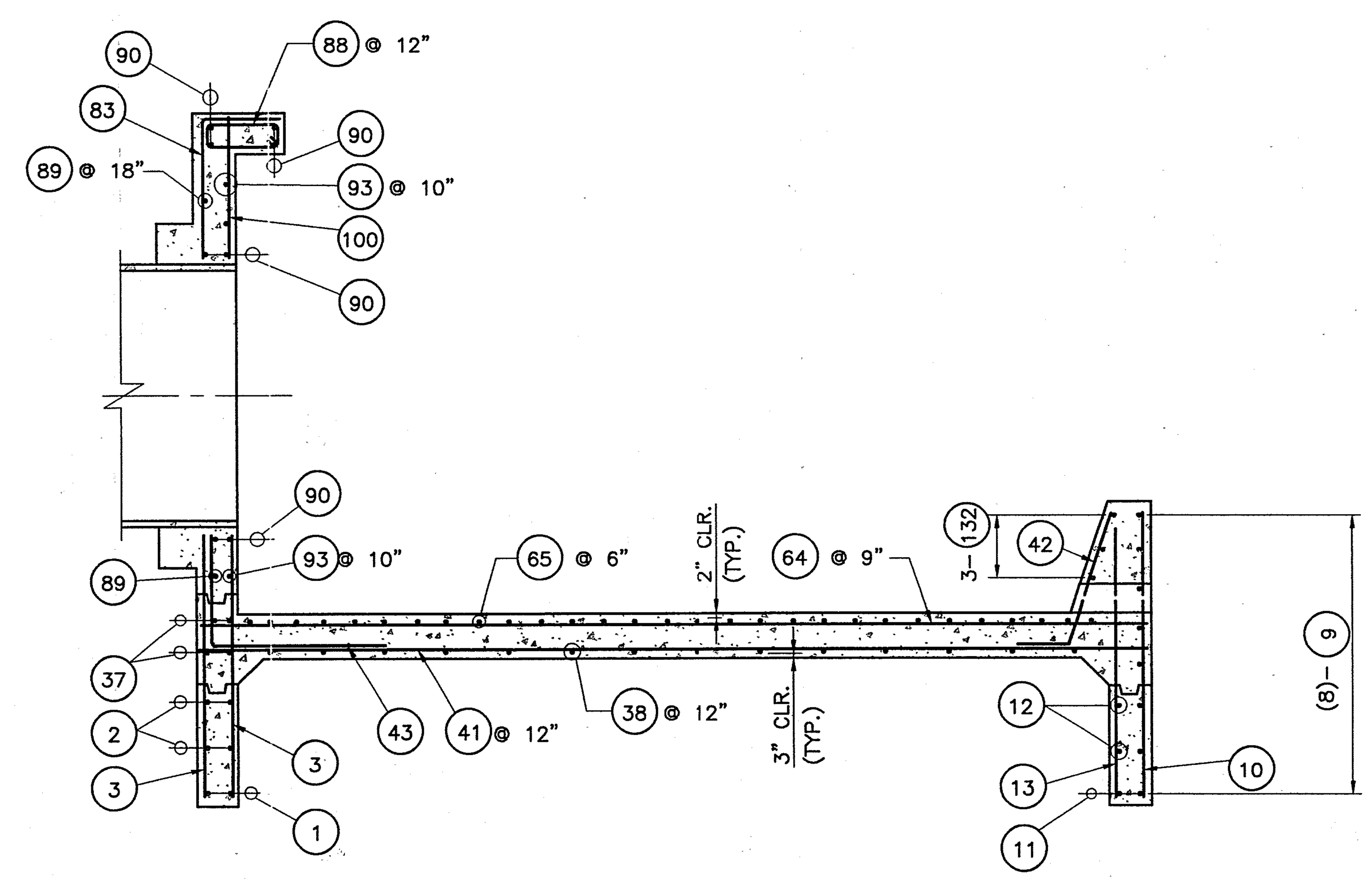
HEADWALL ELEVATION
NTS



SECTION C–C
NTS



SECTION A–A
NTS



SECTION B–B
NTS

RECORD DRAWING 2-20-01

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NO.	DATE	REMARKS	BY

REVISIONS

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY	NM	NOV 1999
DRAWN BY	PJM	NOV 1999
CHECKED BY	DSA	NOV 1999

ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

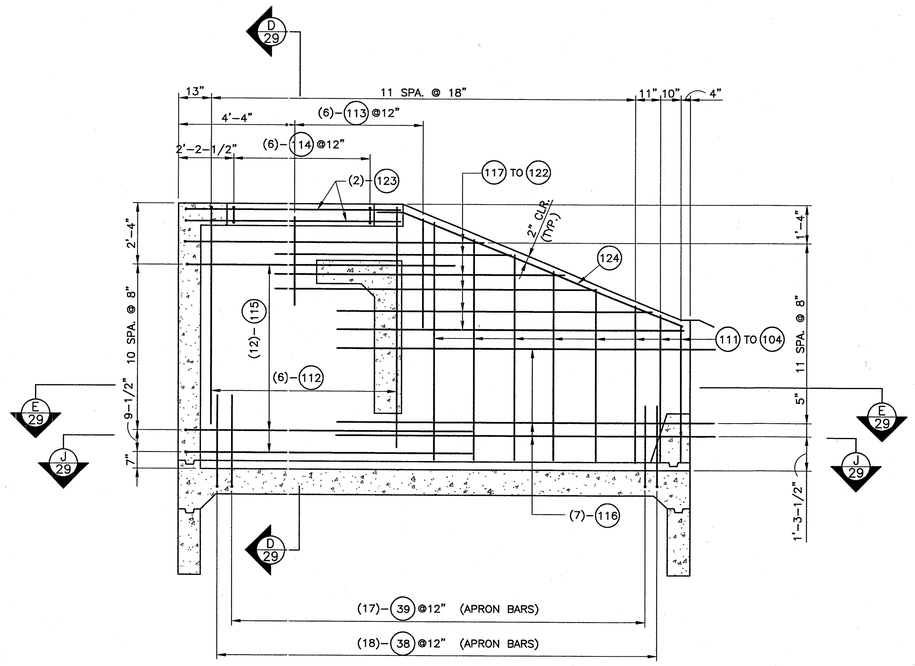
BORREGA DETENTION DAM

PRINCIPAL SPILLWAY OUTLET STRUCTURE

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

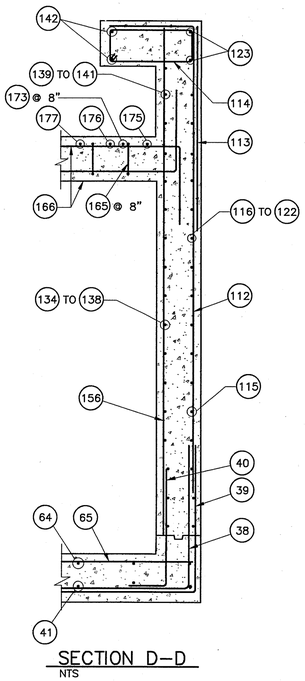
DATE: MARCH 2000
FILE: 99099
SHEET 29 OF 34

99099\M\SHEETS\DAM\M9990T11.DWG\3-22-00\PJM

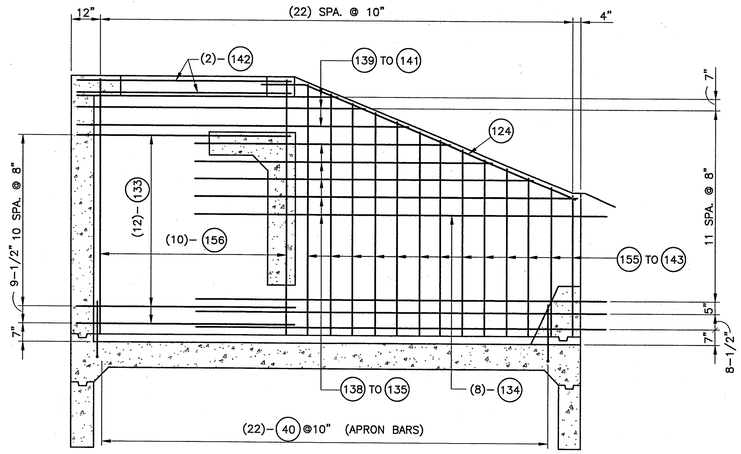


UNEXPOSED FACE

SIDEWALL ELEVATION
NTS

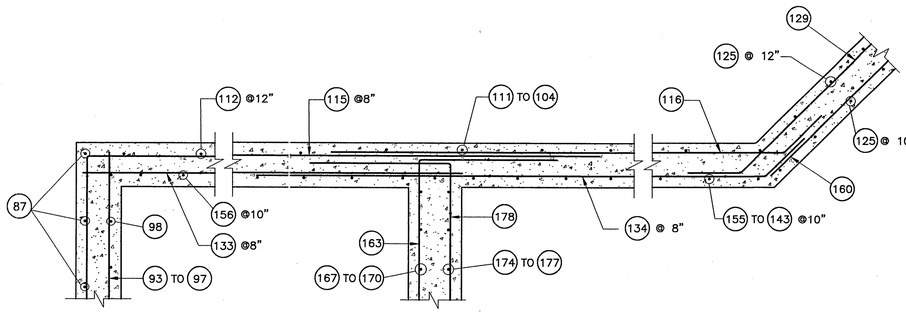


SECTION D-D
NTS

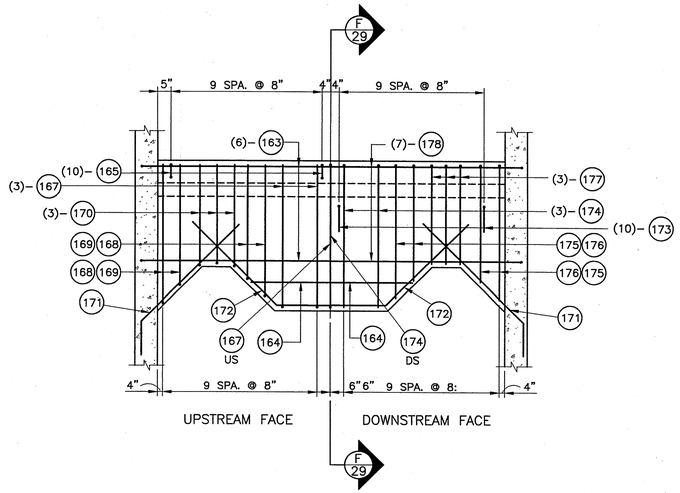


EXPOSED FACE

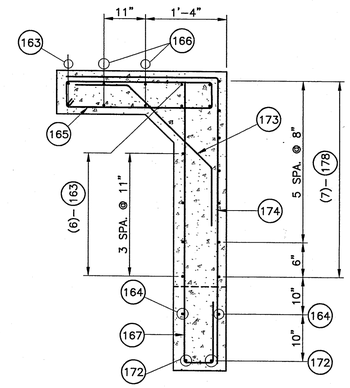
SIDEWALL ELEVATION
NTS



SECTION E-E
NTS



BAFFLE ELEVATION
NTS



SECTION F-F
NTS

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS

DESIGNED BY	NM
DRAWN BY	PJM
CHECKED BY	DSA
	NOV 1999
	NOV 1999
	NOV 1999

6922.91

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

PRINCIPAL SPILLWAY OUTLET STRUCTURE

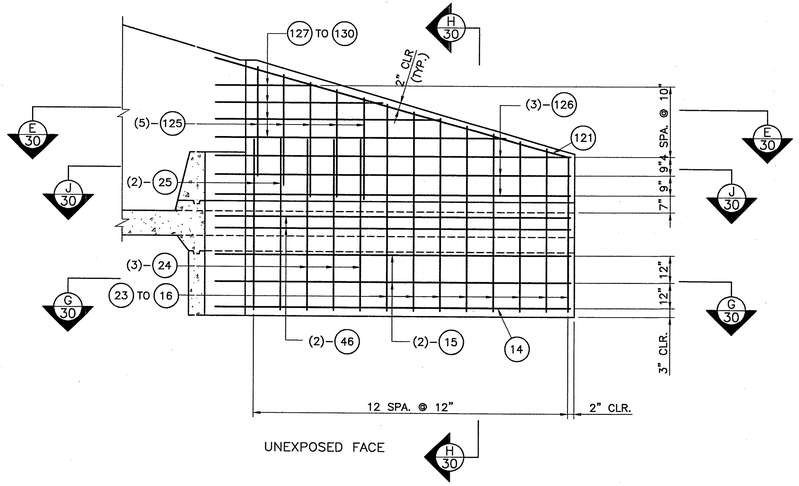
WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE: MARCH 2000
FILE: 99099
SHEET 30 OF 34

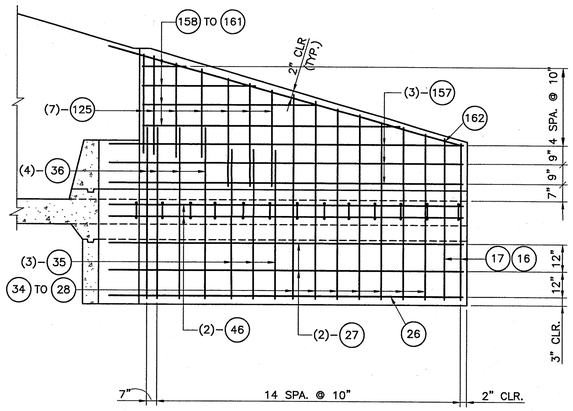
REVISED DRAWING
DATED 2-26-01

4-25-00

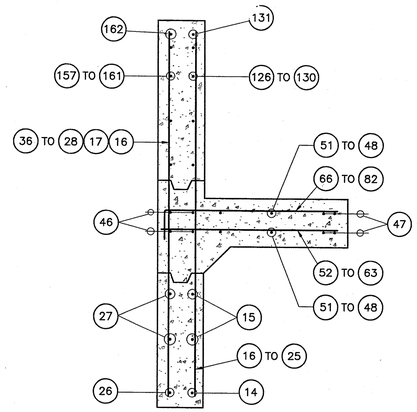
99099\A\SHEETS\DAM\M9990T12.DWG\3-22-00\PJM



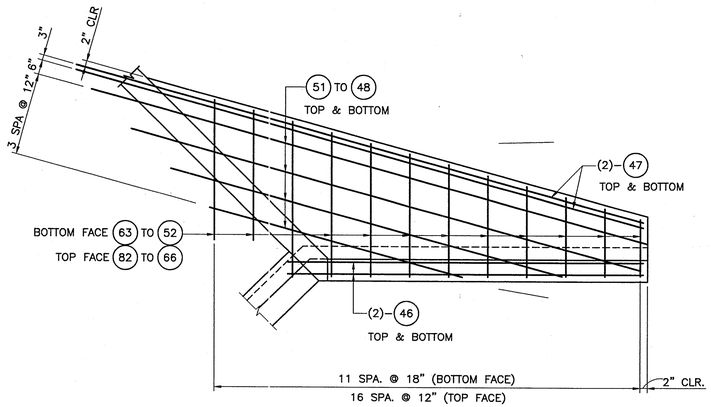
WINGWALL ELEVATION
NTS



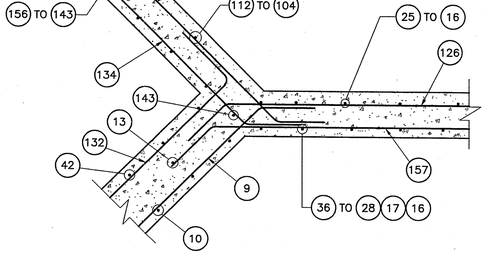
WINGWALL ELEVATION
NTS



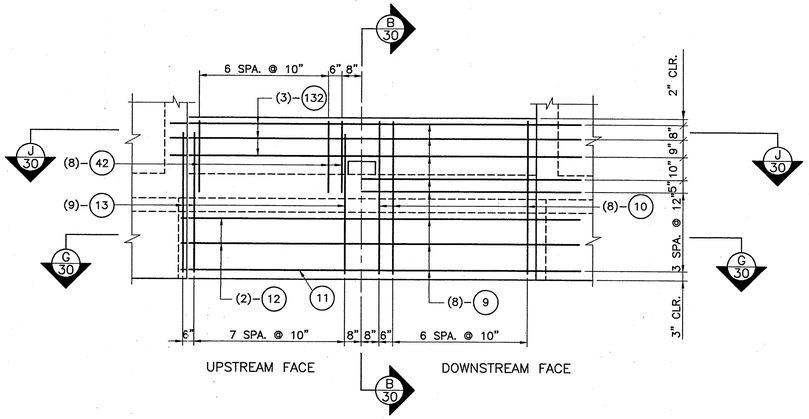
SECTION H–H
NTS



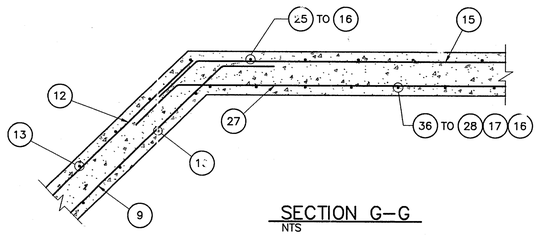
PLAN WINGWALL FOOTING
NTS



SECTION J–J
NTS



ELEVATION OF END SILL & TOE WALL
NTS



SECTION G–G
NTS

RECORD DRAWING
DATE 2-20-01

6922.91

NO.	DATE	REMARKS	BY
		REVISIONS	
		WILSON & COMPANY, ENGINEERS & ARCHITECTS	
		DESIGNED BY	NM NOV 1999
		DRAWN BY	PJM NOV 1999
		CHECKED BY	DSA NOV 1999

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

PRINCIPAL SPILLWAY OUTLET STRUCTURE

WILSON & COMPANY
4900 LANG AVENUE N.E.
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87109
(505) 348-4000

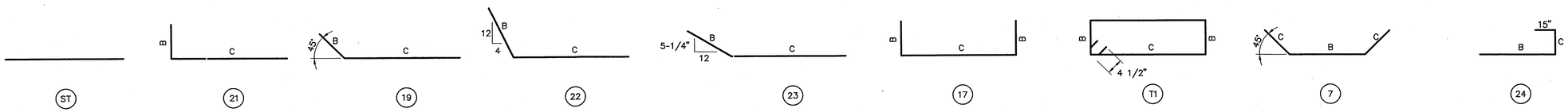
DATE MARCH 2000
FILE 99099
SHEET 31 OF 34

99099\M\SHEETS\DAM\M999DT13.DWG\3-22-00\PJM

LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH
Headwall	1	5	2	14'-10"	St			29'-8"
"	2	4	4	14'-10"	St			59'-4"
"	3	4	12	5'-3"	St			63'-0"
"	4	4	4	5'-5"	St			21'-8"
"	5	4	2	6'-0"	St			12'-0"
"	6	4	10	6'-8"	St			66'-8"
"	7	4	2	5'-9"	St			11'-6"
"	8	4	2	6'-8"	St			13'-4"
Endsill	9	5	8	17'-4"	7	14'-10"	1'-3"	138'-8"
"	10	5	16	5'-9"	St			92'-0"
"	11	5	1	14'-1"	St			14'-1"
"	12	4	2	14'-1"	St			28'-2"
"	13	4	18	5'-2"	St			93'-0"
Wingwall	14	5	2	13'-10"	19	1'-3"	12'-7"	27'-8"
"	15	4	4	13'-7"	19	1'-0"	12'-7"	54'-4"
"	16	5	4	5'-9"	St			23'-0"
"	17	4	4	6'-0"	St			24'-0"
"	18	4	2	6'-4"	St			12'-8"
"	19	4	2	6'-7"	St			13'-2"
"	20	4	2	6'-11"	St			13'-10"
"	21	4	2	7'-2"	St			14'-4"
"	22	4	2	7'-6"	St			15'-0"
"	23	4	2	7'-9"	St			15'-6"
"	24	5	6	5'-11"	St			35'-6"
"	25	5	4	6'-7"	St			26'-4"
"	26	5	2	14'-4"	St	1'-3"	13'-1"	28'-8"
"	27	4	4	14'-1"	19	1'-0"	13'-1"	56'-4"
"	28	4	2	6'-2"	St			12'-4"
"	29	4	2	6'-5"	St			12'-10"
"	30	4	2	6'-8"	St			13'-4"
"	31	4	2	6'-11"	St			13'-10"
"	32	4	2	7'-2"	St			14'-4"
"	33	4	2	7'-5"	St			14'-10"
"	34	4	2	7'-8"	St			15'-4"
"	35	4	6	5'-8"	St			34'-0"
"	36	4	8	6'-5"	St			51'-4"
Apron	37	5	4	14'-10"	St			59'-4"
"	38	5	36	11-9"	21	3'-8"	8'-1"	423'-0"
"	39	4	34	8'-3"	21	3'-8"	4'-7"	280'-6"
"	40	4	44	2'-8"	21	2'-0"	0'-8"	117'-4"
"	41	4	15	19'-4"	St			290'-0"
"	42	5	16	3'-9"	22	1'-0"	2'-9"	60'-0"
"	43	5	2	6'-5"	21	2'-3"	4'-2"	12'-10"
"	44	5	2	6'-9"	21	2'-7"	4'-2"	13'-6"
"	45	5	10	7'-10"	21	3'-8"	4'-2"	78'-4"
Wingwall	46	4	8	13'-7"	St			108'-8"
"	47	5	8	22'-4"	St			178'-8"
"	48	4	4	21'-3"	St			85'-0"
"	49	4	4	19'-10"	St			79'-4"
"	50	4	4	15'-10"	St			63'-4"
"	51	4	4	10'-6"	St			42'-0"
"	52	4	2	2'-1"	St			4'-2"
"	53	4	2	2'-6"	St			5'-0"
"	54	4	2	2'-11"	St			5'-10"
"	55	4	2	3'-4"	St			6'-8"
"	56	4	2	3'-9"	St			7'-6"
"	57	4	2	4'-2"	St			8'-4"
"	58	4	2	4'-7"	St			9'-2"
"	59	4	2	5'-0"	St			10'-0"

LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH
Wingwall	60	4	2	5'-5"	St			10'-10"
"	61	4	2	5'-10"	St			11'-8"
"	62	4	2	4'-9"	St			9'-6"
"	63	4	2	3'-8"	St			7'-4"
Apron	64	4	21	19'-4"	St			406'-0"
"	65	5	35	14'-10"	St			519'-2"
Wingwall	66	4	2	2'-9"	21	0'-8"	2'-1"	5'-6"
"	67	4	2	3'-0"	21	0'-8"	2'-4"	6'-0"
"	68	4	2	3'-3"	21	0'-8"	2'-7"	6'-6"
"	69	4	2	3'-7"	21	0'-8"	2'-11"	7'-2"
"	70	4	2	3'-10"	21	0'-8"	3'-2"	7'-8"
"	71	4	2	4'-1"	21	0'-8"	3'-5"	8'-2"
"	72	4	2	4'-5"	21	0'-8"	3'-9"	8'-10"
"	73	4	2	4'-8"	21	0'-8"	4'-0"	9'-4"
"	74	5	2	5'-1"	21	0'-10"	4'-3"	10'-2"
"	75	5	2	5'-5"	21	0'-10"	4'-7"	10'-10"
"	76	5	2	5'-8"	21	0'-10"	4'-10"	11'-4"
"	77	5	2	5'-11"	21	0'-10"	5'-1"	11'-10"
"	78	5	2	6'-3"	21	0'-10"	5'-5"	12'-6"
"	79	5	2	5'-8"	St			11'-4"
"	80	4	2	5'-6"	St			11'-0"
"	81	4	2	4'-8"	St			9'-4"
"	82	5	2	4'-0"	St			8'-0"
Headwall	83	4	1	4'-3"	21	1'-6"	2'-9"	4'-3"
"	84	4	2	4'-6"	21	1'-6"	3'-0"	9'-0"
"	85	4	2	6'-0"	21	1'-6"	4'-6"	12'-0"
"	86	5	2	11'-4"	21	9'-10"	1'-6"	22'-8"
"	87	4	8	9'-8"	21	1'-6"	8'-2"	77'-4"
"	88	4	12	4'-9"	T1	0'-3"	1'-6"	57'-0"
"	89	4	3	10'-6"	St			31'-6"
"	90	5	8	14'-10"	St			118'-8"
"	91	4	6	4'-6"	St			27'-0"
"	92	5	8	6'-6"	St			52'-0"
"	93	4	5	14'-10"	St			74'-2"
"	94	4	2	4'-6"	St			9'-0"
"	95	4	4	4'-7"	St			18'-4"
"	96	4	4	5'-0"	St			20'-0"
"	97	4	4	5'-11"	St			23'-8"
"	98	4	10	9'-10"	St			98'-4"
"	99	5	2	9'-10"	St			19'-8"
"	100	4	1	2'-9"	St			2'-9"
"	101	4	2	2'-10"	St			5'-8"
"	102	4	2	3'-3"	St			6'-6"
"	103	4	2	4'-1"	St			8'-2"
Sidewall	104	4	2	5'-4"	St			10'-8"
"	105	4	2	5'-8"	St			11'-4"
"	106	4	2	4'-7"	St			9'-2"
"	107	4	2	5'-3"	St			10'-6"
"	108	4	2	5'-10"	St			11'-8"
"	109	4	2	6'-6"	St			13'-0"
"	110	4	2	7'-2"	St			14'-4"
"	111	4	2	7'-9"	St			15'-6"
"	112	4	12	9'-11"	21	8'-5"	1'-6"	119'-0"
"	113	4	12	4'-0"	St			48'-0"
"	114	4	12	4'-9"	T1	0'-6"	1'-6"	57'-0"
"	115	5	24	13'-10"	21	3'-4"	10'-6"	332'-0"
"	116	4	14	15'-1"	19	1'-0"	14'-1"	211'-2"
"	117	4	2	13'-6"	St			27'-0"
"	118	4	2	11'-10"	St			23'-8"

LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH
Sidewall	119	4	2	12'-6"	St			25'-0"
"	120	4	2	10'-11"	St			21'-10"
"	121	4	2	9'-4"	St			18'-8"
"	122	4	2	14'-6"	21	3'-4"	11'-2"	29'-0"
"	123	5	4	9'-8"	21	1'-3"	8'-5"	38'-8"
"	124	5	4	13'-0"	23	1'-3"	11'-9"	52'-0"
Wingwall	125	4	24	4'-0"	St			96'-0"
"	126	4	6	13'-8"	19	1'-0"	12'-8"	82'-0"
"	127	4	2	10'-11"	19	1'-0"	9'-11"	21'-10"
"	128	4	2	8'-1"	19	1'-0"	7'-1"	16'-2"
"	129	4	2	5'-3"	19	1'-0"	4'-3"	10'-6"
"	130	4	2	2'-5"	19	1'-0"	1'-5"	4'-10"
"	131	5	2	14'-5"	19	1'-3"	13'-2"	28'-10"
Endsill	132	5	2	17'-2"	17	1'-3"	14'-8"	51'-6"
Sidewall	133	4	24	8'-5"	St			202'-0"
"	134	5	16	16'-0"	19	1'-3"	14'-9"	256'-0"
"	135	5	2	14'-8"	St			29'-4"
"	136	5	2	13'-0"	St			26'-0"
"	137	5	2	11'-5"	St			22'-10"
"	138	4	2	9'-11"	St			19'-10"
"	139	4	2	12'-9"	St			25'-6"
"	140	4	2	11'-2"	St			22'-4"
"	141	4	2	9'-9"	St			19'-6"
"	142	5	4	9'-3"	19	2'-1"	7'-2"	37'-0"
"	143	4	2	5'-4"	St			10'-8"
"	144	4	2	5'-8"	St			11'-4"
"	145	4	2	6'-0"	St			12'-0"
"	146	4	2	6'-5"	St			12'-10"
"	147	4	2	6'-9"	St			13'-6"
"	148	4	2	7'-1"	St			14'-2"
"	149	4	2	7'-5"	St			14'-10"
"	150	4	2	7'-9"	St			15'-6"
"	151	4	2	8'-2"	St			16'-4"
"	152	4	2	8'-6"	St			17'-0"
"	153	4	2	8'-10"	St			17'-8"
"	154	4	2	9'-2"	St			18'-4"
"	155	4	2	9'-6"	St			19'-0"
"	156	4	20	9'-10"	St			196'-8"
Wingwall	157	4	6	14'-1"	19	1'-0"	13'-1"	84'-6"
"	158	4	2	9'-7"	St			19'-2"
"	159	4	2	6'-9"	St			13'-6"
"	160	4	2	4'-0"	St			8'-0"
"	161	4	2	1'-2"	St			2'-4"
"	162	5	2	14'-0"	19	1'-3"	12'-9"	28'-0"
Baffle	163	5	8	20'-0"	17	2'-8"	14'-8"	160'-0"
"	164	5	2	6'-0"	St			12'-0"
"	165	4	20	7'-5"	T1	0'-6"	2'-10"	148'-4"
"	166	5	4	17'-8"	17	1'-6"	14'-8"	70'-8"
"	167	5	7	7'-3"	24	5'-6"	0'-6"	50'-9"
"	168	5	4	6'-11"	24	5'-2"	0'-6"	27'-8"
"	169	5	4	6'-3"	24	4'-6"	0'-6"	25'-0"
"	170	5	6	5'-7"	24	3'-10"	0'-6"	33'-6"
"	171	5	4	6'-7"	19	1'-3"	5'-4"	26'-4"
"	172	5	2	13'-2"	7	4'-4"	4'-5"	26'-4"
"	173	5	20	4'-8"	7	2'-2"	1'-3"	93'-4"
"	174	5	7	8'-5"	21	2'-10"	5'-7"	58'-11"
"	175	5	4	8'-1"	21	2'-10"	5'-3"	32'-4"
"	176	5	4	7'-5"	21	2'-10"	4'-7"	29'-8"
"	177	5	6	6'-9"	21	2'-10"	3'-11"	40'-6"
"	178	5	7	20'-0"	17	2'-8"	14'-8"	140'-0"



RECORD DRAWING
DATE 2-20-01

6922.91

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WILSON & COMPANY, ENGINEERS & ARCHITECTS
DESIGNED BY NM NOV 1999
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CHECKED BY DSA NOV 1999

ALBUQUERQUE METROPOLITAN
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

PRINCIPAL SPILLWAY OUTLET STRUCTURE

WILSON & COMPANY
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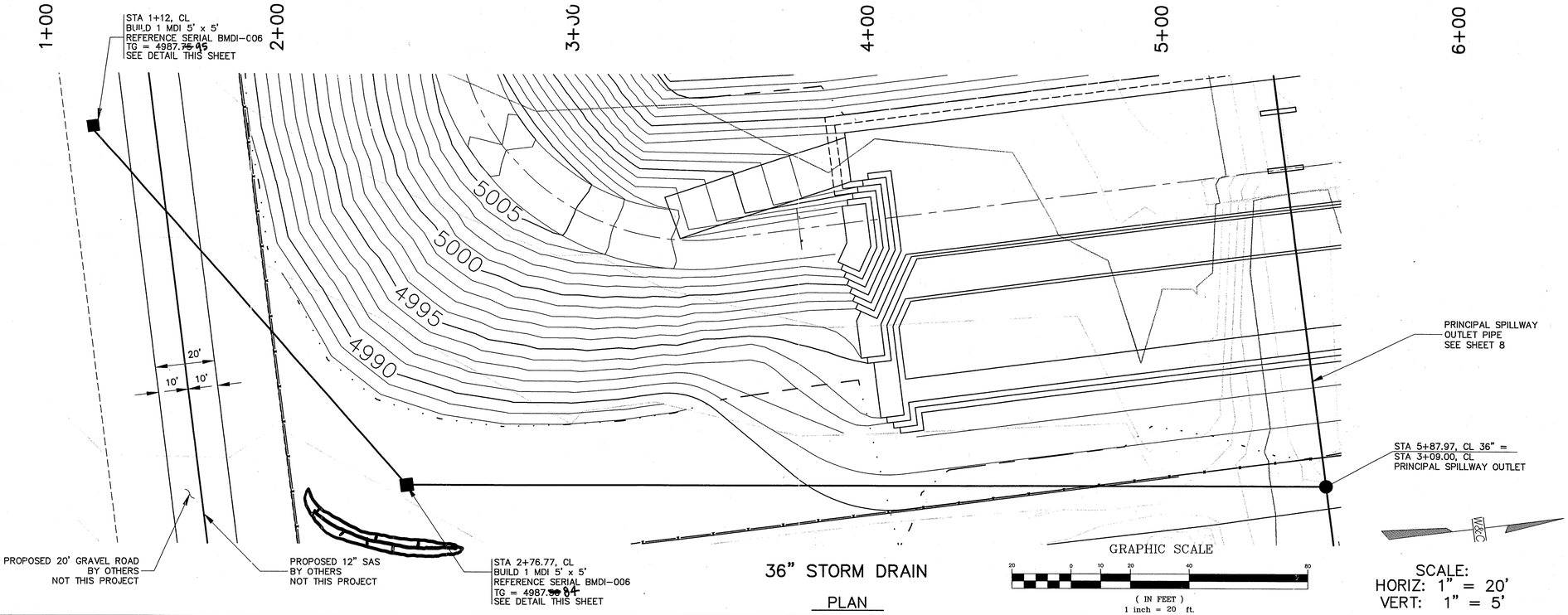
DATE MARCH 2000
FILE 99099
SHEET 32 OF 34

99099\MSHEETS\DAM\99990T14.DWG\3-22-00\PJM



36" STORM DRAIN

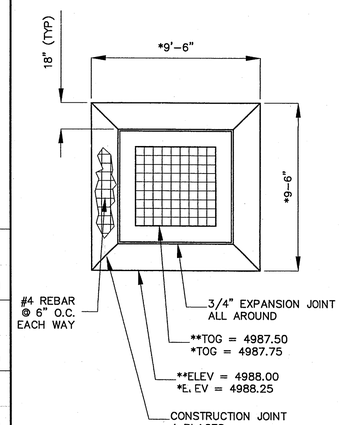
PLAN

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

SCALE:
HORIZ: 1" = 20'
VERT: 1" = 5'

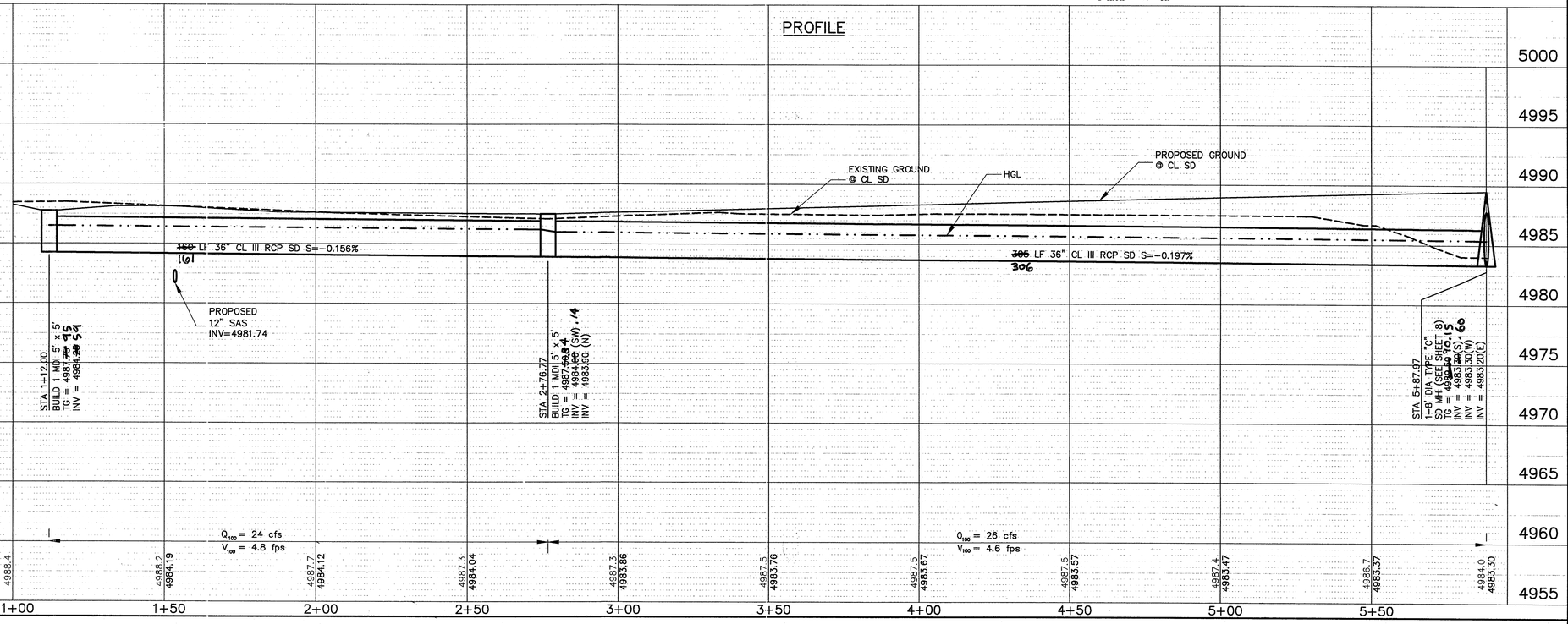


NOTE:

1. *STA 1+12 MDI 5' x 5'
2. **STA 2+76.77 MDI 5' x 5'
3. CONCRETE COLLAR TO BE CONSTRUCTED 6" THICK AND REINFORCED WITH #4 REBAR @ 6" CENTERS.

MDI STRUCTURE
NTS

PROFILE



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99099\M\SHEETS\DAM\W9990PP8.DWG\3-7-00\PJM

AS-BUILT INFORMATION	
CONTRACTOR	CHAVA
STAKED BY	CHAVA DATE 2-9-01
INSPECTOR'S ACCEPTANCE BY	WCEA DATE 2-9-01
FIELD VERIFICATION BY	WCEA DATE 2-9-01
PLANS CORRECTED BY	WCEA DATE 2-9-01
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

BENCH MARKS
CP103 (SEE SHEET 1 FOR LOCATION)
REBAR W/ ALUMINUM CAP
STAMPED WILSON & COMPANY
N = 1462061.9801
E = 1495972.9457
ELEVATION = 5020.789 FT

SURVEY INFORMATION		
FIELD NOTES		
NO.	BY	DATE

NO.	DATE	REMARKS	BY
		REVISIONS	

WILSON & COMPANY, ENGINEERS & ARCHITECTS

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DRAWN BY	PJM	NOV 1999
CHECKED BY	DSA	NOV 1999

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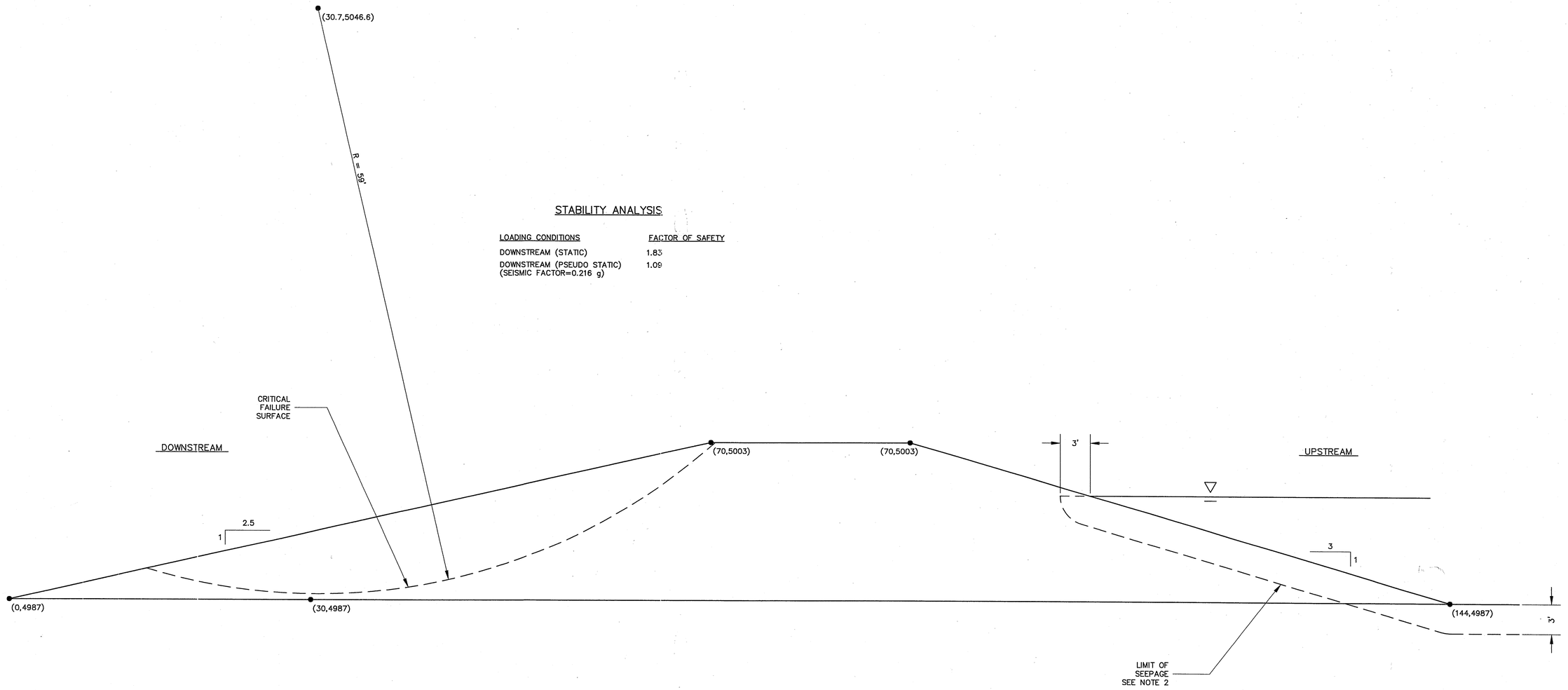
ARROYO FLOOD
CONTROL AUTHORITY

BORREGA DETENTION DAM

36" STORM DRAIN PLAN & PROFILE

WILSON & COMPANY
4900 LANG AVENUE N.E.
ALBUQUERQUE, NM
87109
(505) 348-4000

DATE: APRIL 2000
FILE: 99099
SHEET: 33 OF 34



STABILITY ANALYSIS

LOADING CONDITIONS	FACTOR OF SAFETY
DOWNSTREAM (STATIC)	1.83
DOWNSTREAM (PSEUDO STATIC) (SEISMIC FACTOR=0.216 g)	1.09

DAM SECTION FOR ANALYSIS

HORIZ SCALE 1" = 5'
VERT SCALE 1" = 5'

NOTES:

1. GEOTECHNICAL ENGINEER STUDY INCLUDING SLOPE STABILITY AND SEEPAGE ANALYSIS PERFORMED BY AGRA EARTH AND ENVIRONMENTAL, INC. ALBUQUERQUE, NM.
2. THE UNSATURATED WETTING FRONT SEEPAGE ANALYSIS INDICATES THAT THE WETTED FRONT WOULD PROBABLY ADVANCE ABOUT 3.0 FEET HORIZONTALLY AND VERTICALLY DURING A 6 DAY FULL RETENTION PERIOD.

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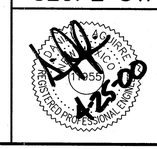
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY

BORREGA DETENTION DAM

SLOPE STABILITY & SEEPAGE ANALYSIS



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SHEET 34 OF 34

99099\M\SHEETS\DAM\M99907T6.DWG\3-22-00\PJM