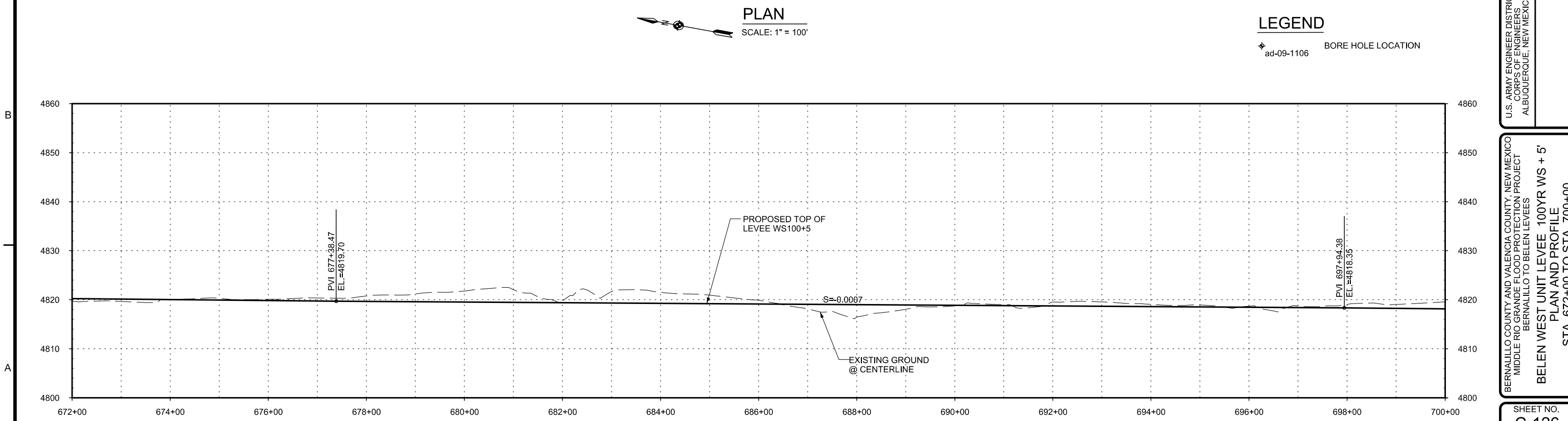


PLAN

SCALE: 1" = 100'

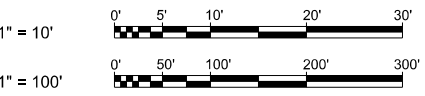
LEGEND

ad-09-1106 BORE HOLE LOCATION



PROFILE

SCALE: HORIZ: 1"=100'  
VERT: 1"=10'



Mark	Description	Date	Appr.

File Name: r01bnew-126.dgn	Plot Date: AUGUST 2015
Plot Scale: 100:1	SOL/CONTRACT NO.: PROJECT NO.

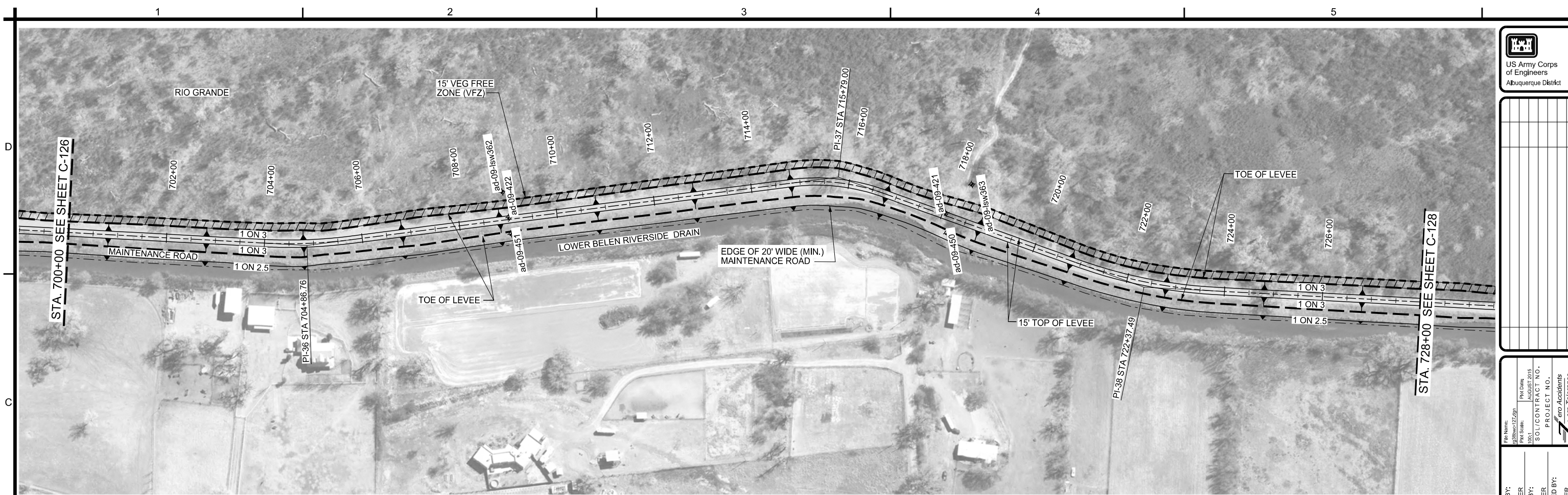
DESIGN BY: SEE COVER	
DRAWN BY: SEE COVER	
REVIEWED BY: SEE COVER	

U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 672+00 TO STA. 700+00

SHEET NO. C-126
32 OF 51
SEQUENCE NO. 98

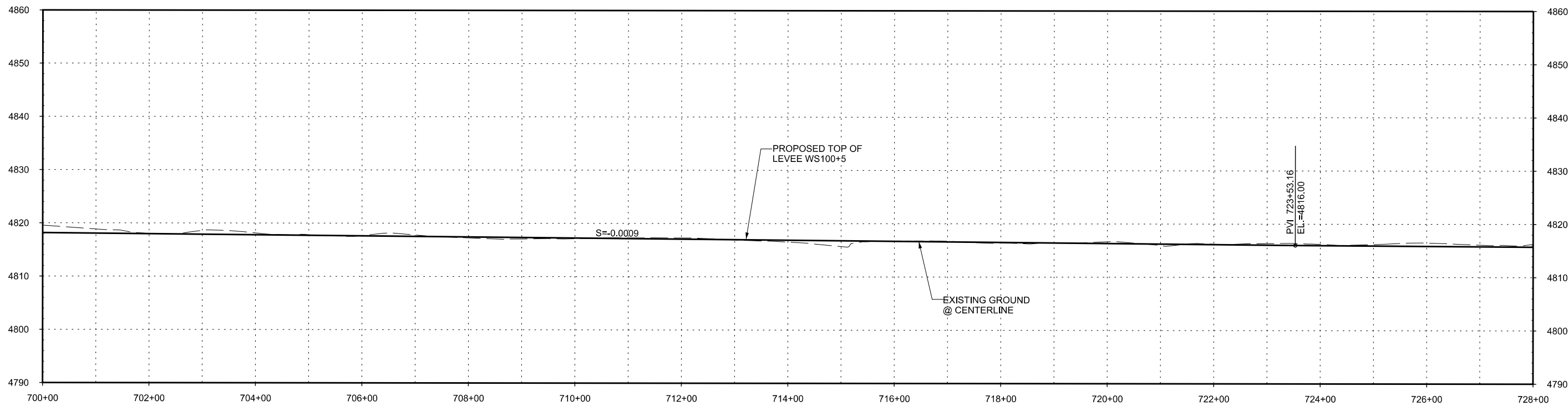




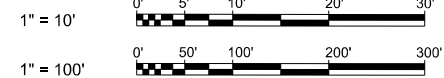
**PLAN**  
SCALE: 1" = 100'

**LEGEND**

◆ ad-09-1106 BORE HOLE LOCATION



**PROFILE**  
SCALE: HORIZ: 1"=100'  
VERT: 1"=10'



Mark	Description	Date	Appr.

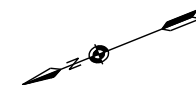
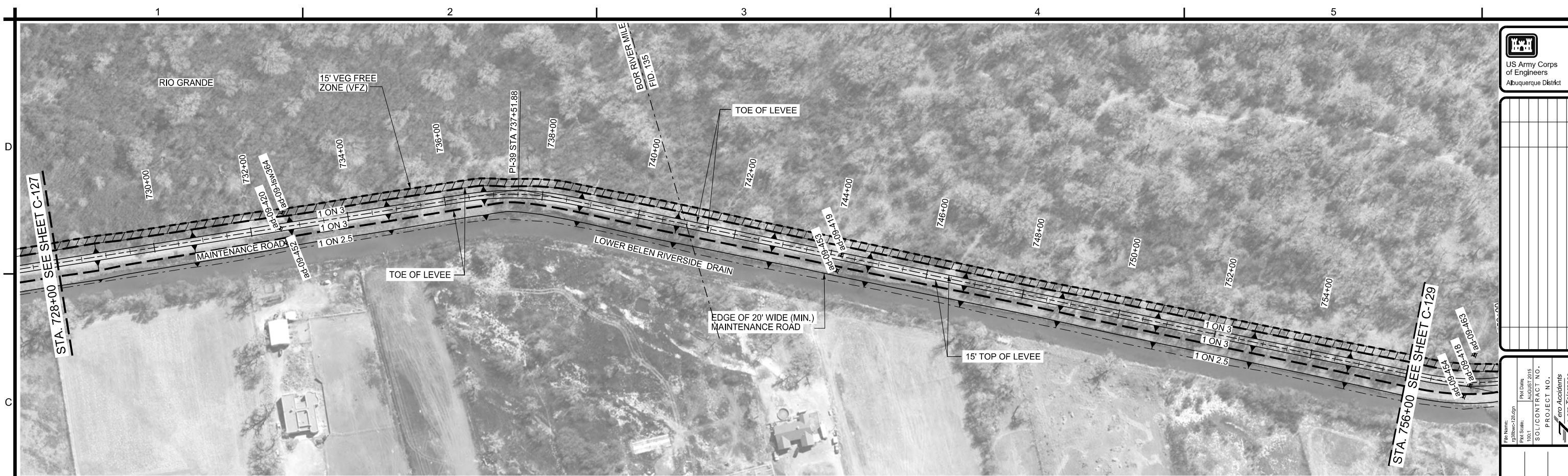
File Name: B:\Bernalillo\27.dgn	Proj Date: AUGUST 2015
Proj Scale: 100:1	SOL/CONTRACT NO.: PROJECT NO.

DESIGN BY:	SEE COVER
SEE COVER	
DRAWN BY:	SEE COVER
SEE COVER	
REVIEWED BY:	SEE COVER
SEE COVER	

U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

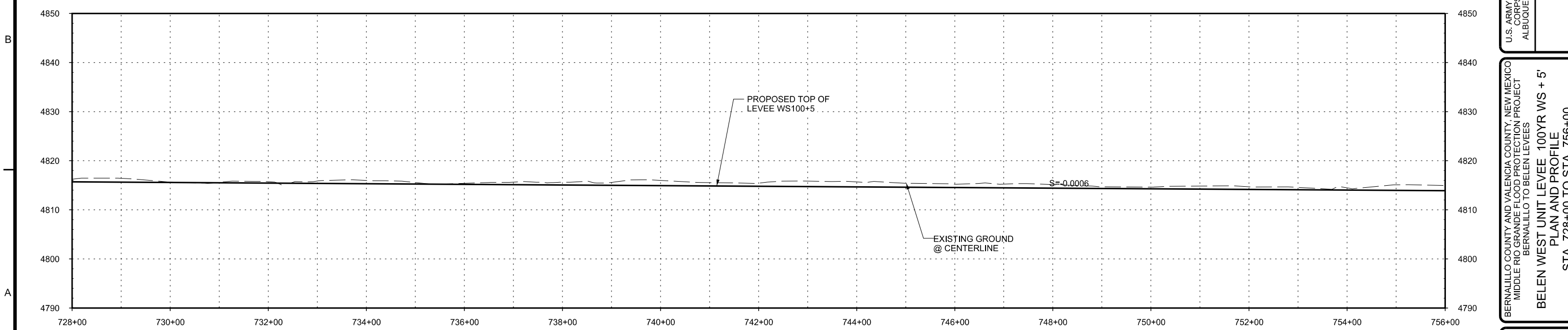
BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 700+00 TO STA. 728+00



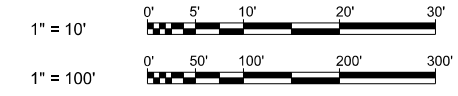


**PLAN**  
SCALE: 1" = 100'

**LEGEND**  
◆ ad-09-1106 BORE HOLE LOCATION



**PROFILE**  
SCALE: HORIZ: 1"=100'  
VERT: 1"=10'



US Army Corps  
of Engineers  
Albuquerque District

Mark	Description	Date	Appr.

File Name: c:\b\new\128.dgn  
Plot Date: AUGUST 2015  
Plot Scale: 100:1  
SOL/CONTRACT NO.:  
PROJECT NO.:  
ero Accidents  
ero Tolerance

DESIGN BY:  
SEE COVER  
DRAWN BY:  
SEE COVER  
REVIEWED BY:  
SEE COVER

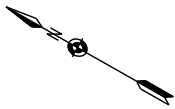
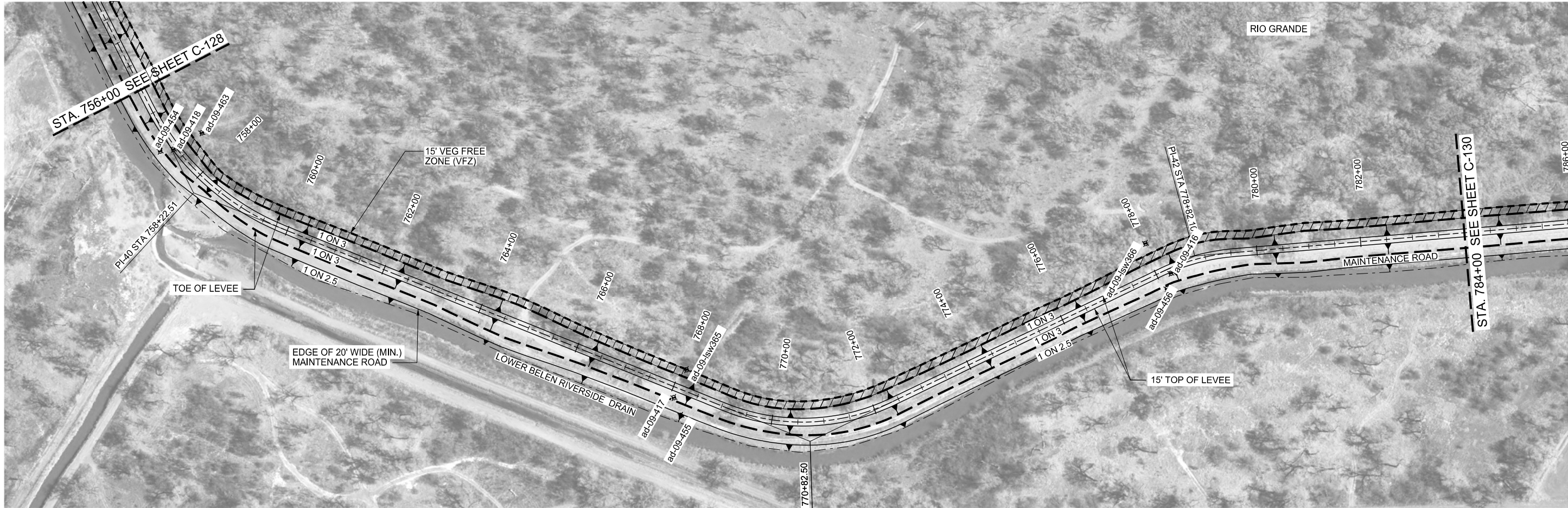
U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 728+00 TO STA. 756+00

SHEET NO.  
**C-128**  
34 OF 51

SEQUENCE NO.  
**100**

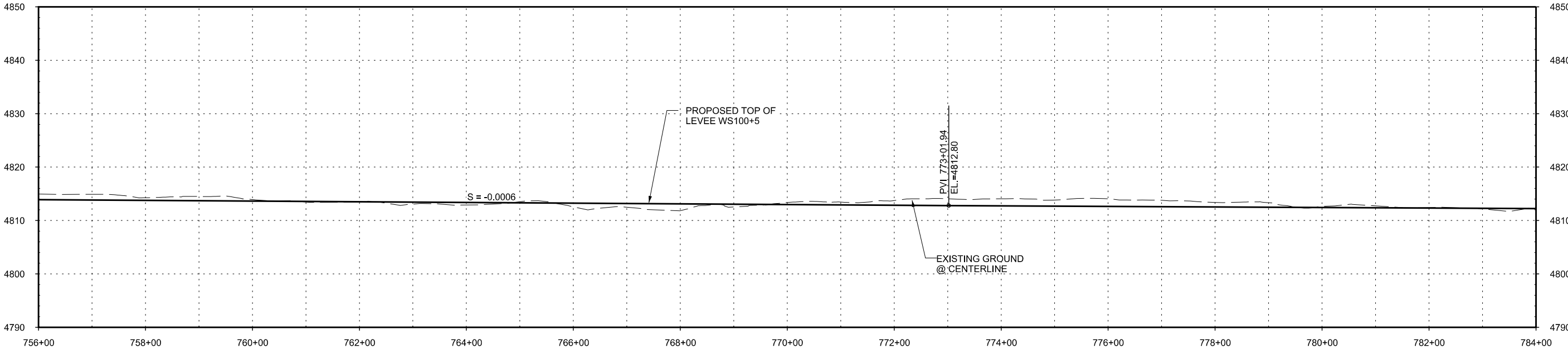




PLAN  
SCALE: 1" = 100'

LEGEND

ad-09-1106 BORE HOLE LOCATION

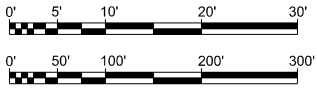


PROFILE

SCALE: HORIZ: 1"=100'  
VERT: 1"=10'

1" = 10'

1" = 100'



Mark	Description	Date	Appr.

File Name: c:\browns\209.dgn	Proj Date: AUGUST 2015
Proj Scale: 100:1	SOL/CONTRACT NO.: PROJECT NO.

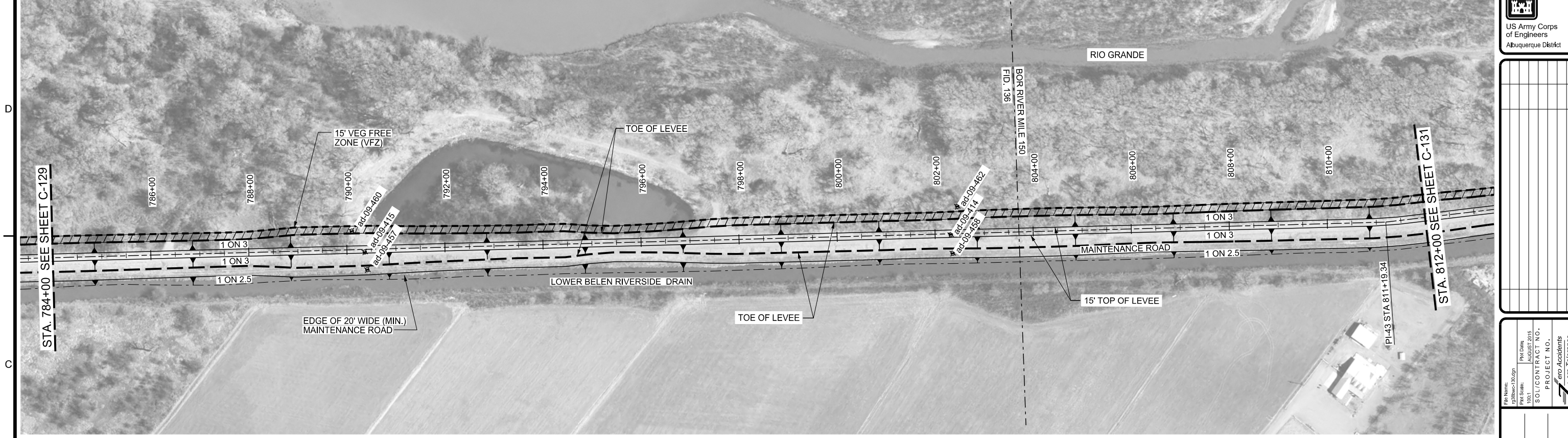
DESIGN BY:	SEE COVER
DRAWN BY:	SEE COVER
REVIEWED BY:	SEE COVER

U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 756+00 TO STA. 784+00

SHEET NO.  
**C-129**  
35 OF 51  
SEQUENCE NO.  
**101**

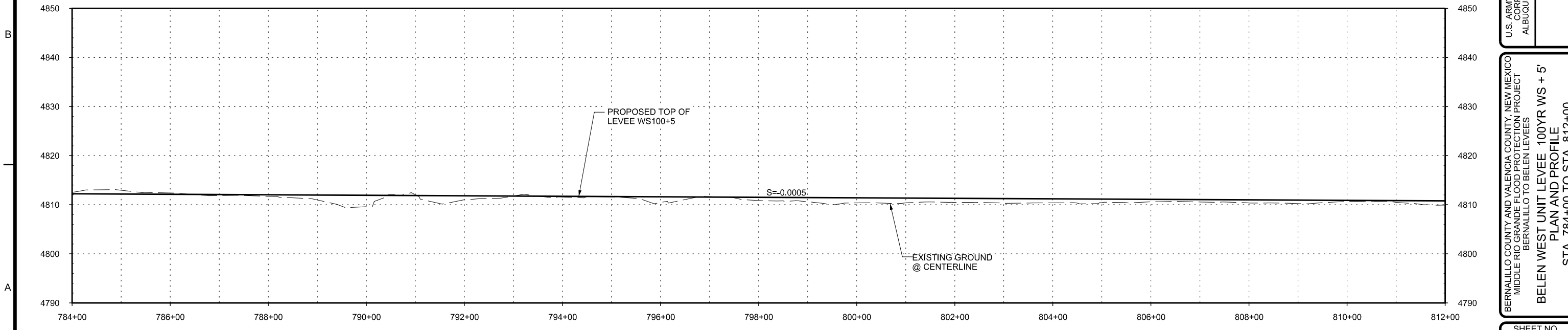




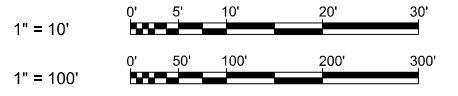
PLAN  
SCALE: 1" = 100'

LEGEND

ad-09-1106 BORE HOLE LOCATION



PROFILE  
SCALE: HORIZ: 1"=100'  
VERT: 1"=10'



US Army Corps  
of Engineers  
Albuquerque District

Mark	Description	Date	Appr.

File Name: ad-09-1106.dgn  
Plot Date: AUGUST 2015  
Plot Scale: 100:1  
SOL/CONTRACT NO.:  
PROJECT NO.:  
ero Accidents  
ero Tolerance

DESIGN BY:  
SEE COVER  
DRAWN BY:  
SEE COVER  
REVIEWED BY:  
SEE COVER

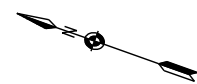
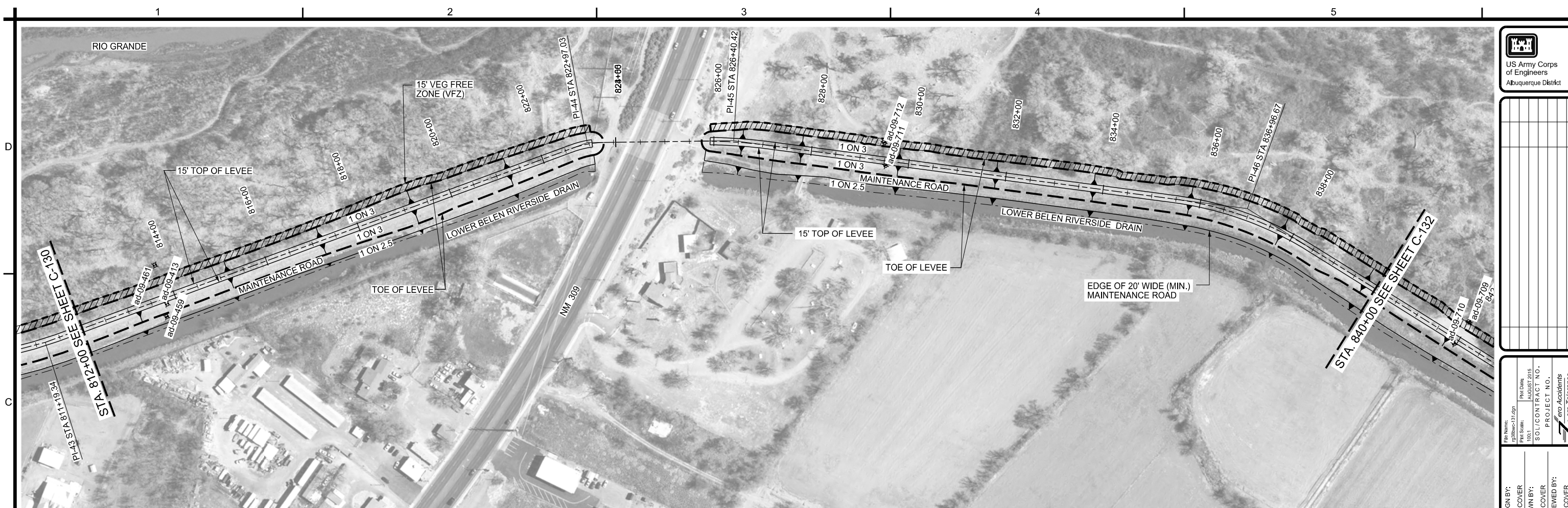
U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 784+00 TO STA. 812+00

SHEET NO.  
C-130  
36 OF 51

SEQUENCE NO.  
102

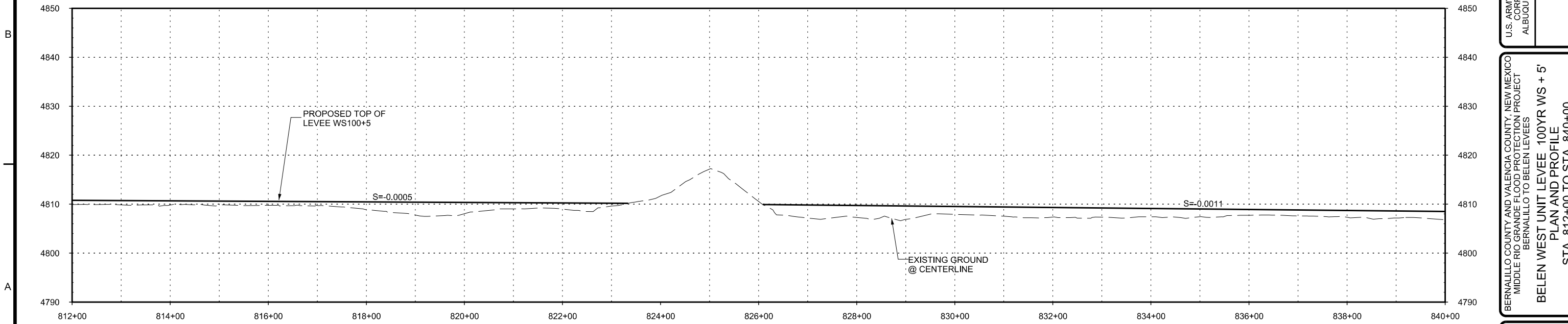




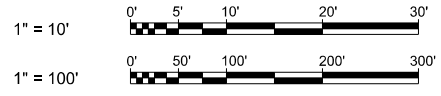
PLAN  
SCALE: 1" = 100'

LEGEND

ad-09-1106 BORE HOLE LOCATION



PROFILE  
SCALE: HORIZ: 1"=100'  
VERT: 1"=10'



US Army Corps  
of Engineers  
Albuquerque District

Mark	Description	Date	Appr.

File Name: r08bnew-131.dgn  
Plot Date: AUGUST 2015  
Plot Scale: 100:1  
SOL/CONTRACT NO.:  
PROJECT NO.:  
ero Accidents  
ero Tolerance

DESIGN BY:  
SEE COVER  
DRAWN BY:  
SEE COVER  
REVIEWED BY:  
SEE COVER

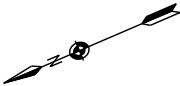
U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 812+00 TO STA. 840+00

SHEET NO.  
C-131  
37 OF 51

SEQUENCE NO.  
103

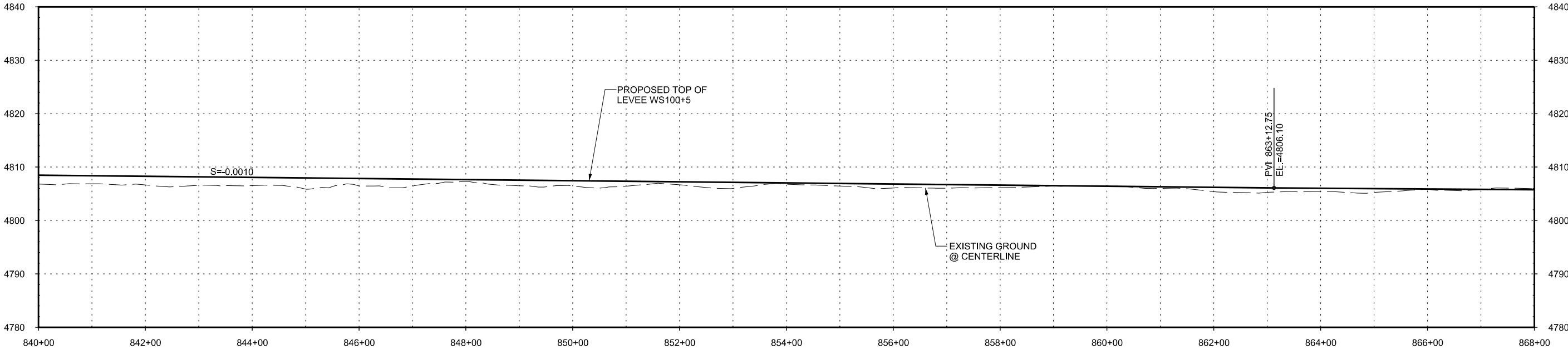




PLAN  
SCALE: 1" = 100'

LEGEND

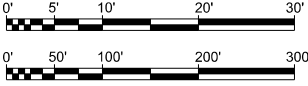
ad-09-1106 BORE HOLE LOCATION



PROFILE

SCALE: HORIZ: 1"=100'  
VERT: 1"=10'

1" = 10'  
1" = 100'



Mark	Description	Date	Appr.

File Name: c:\b\w\c-132.dgn	Plot Date: AUGUST 2015
Plot Scale: 100:1	SOL/CONTRACT NO.: PROJECT NO.

DESIGN BY:	SEE COVER
DRAWN BY:	SEE COVER
REVIEWED BY:	SEE COVER

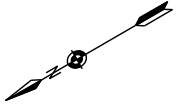
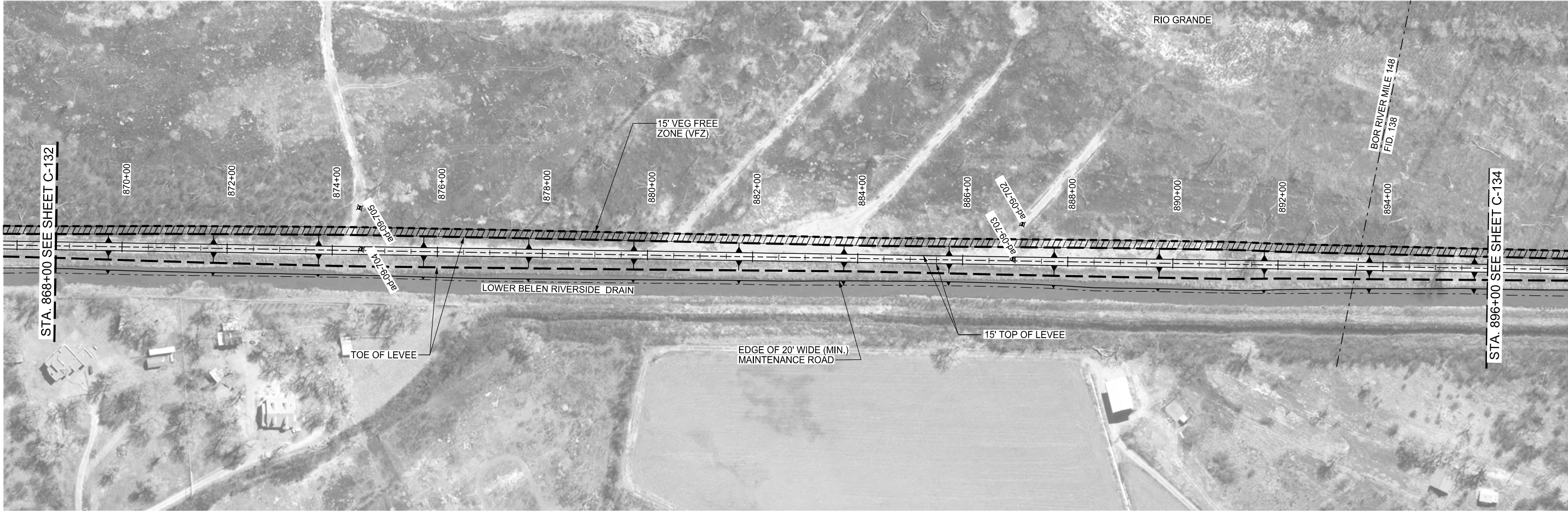
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ALBUQUERQUE, NEW MEXICO	
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BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 840+00 TO STA. 868+00

SHEET NO.  
C-132  
38 OF 51

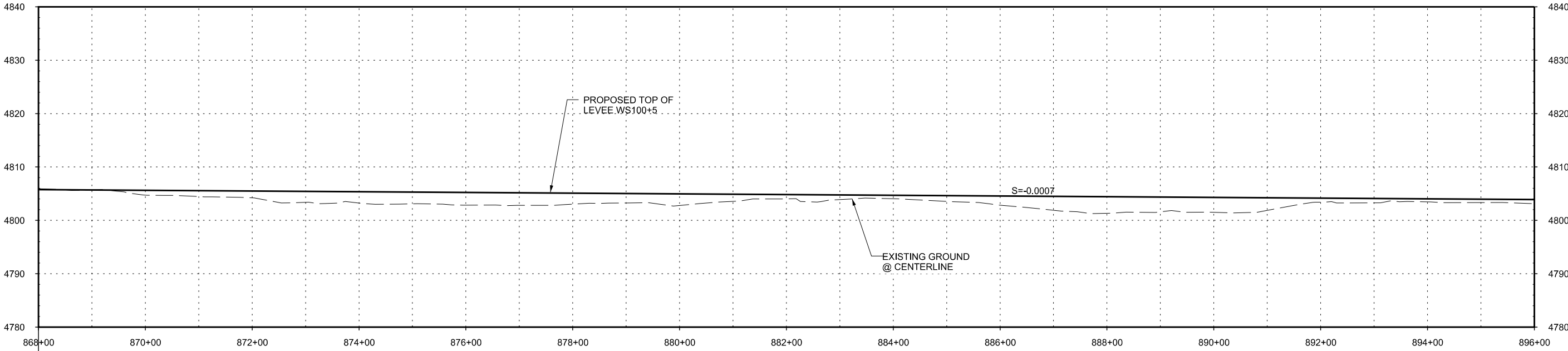
SEQUENCE NO.  
104



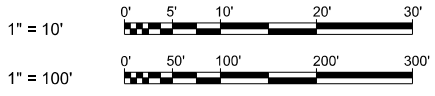


**PLAN**  
SCALE: 1" = 100'

**LEGEND**  
◆ ad-09-1106 BORE HOLE LOCATION



**PROFILE**  
SCALE: HORIZ: 1"=100'  
VERT: 1"=10'



Mark	Description	Date	Appr.

File Name: c:\brower\133.dgn	Plot Date: AUGUST 2015
Plot Scale: 100:1	SOL/CONTRACT NO. PROJECT NO.
ero Accidents ero Tolerance	

DESIGN BY: SEE COVER	DRAWN BY: SEE COVER	REVIEWED BY: SEE COVER
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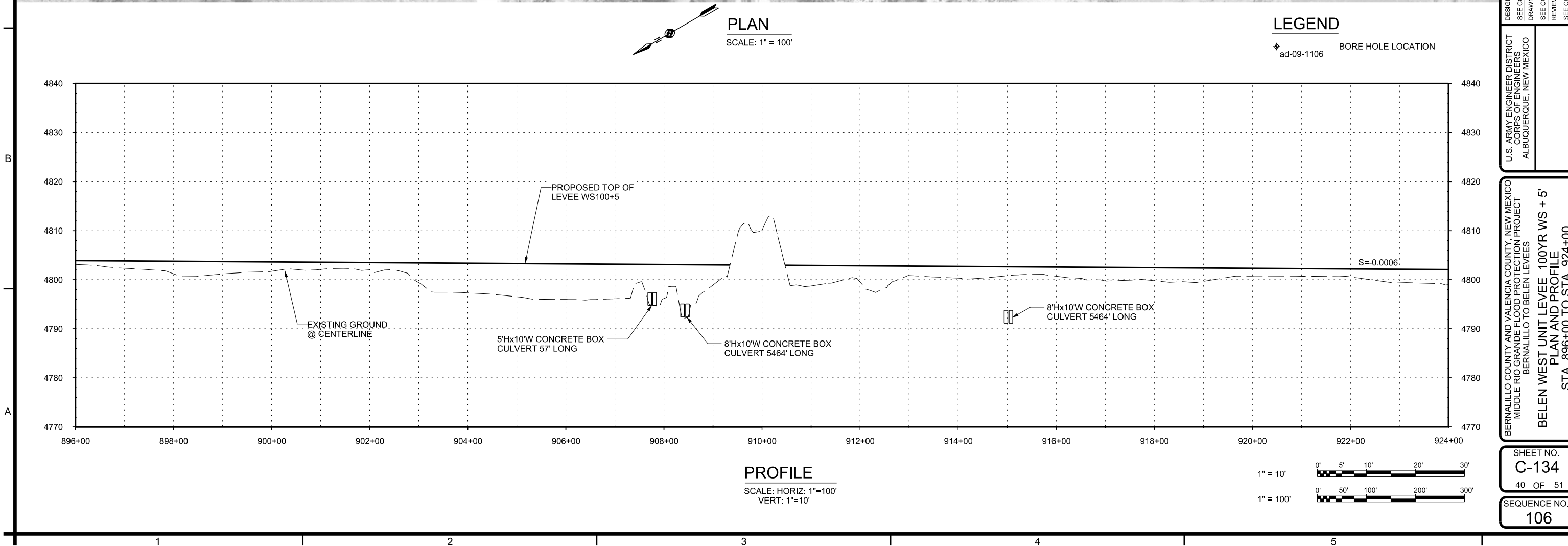
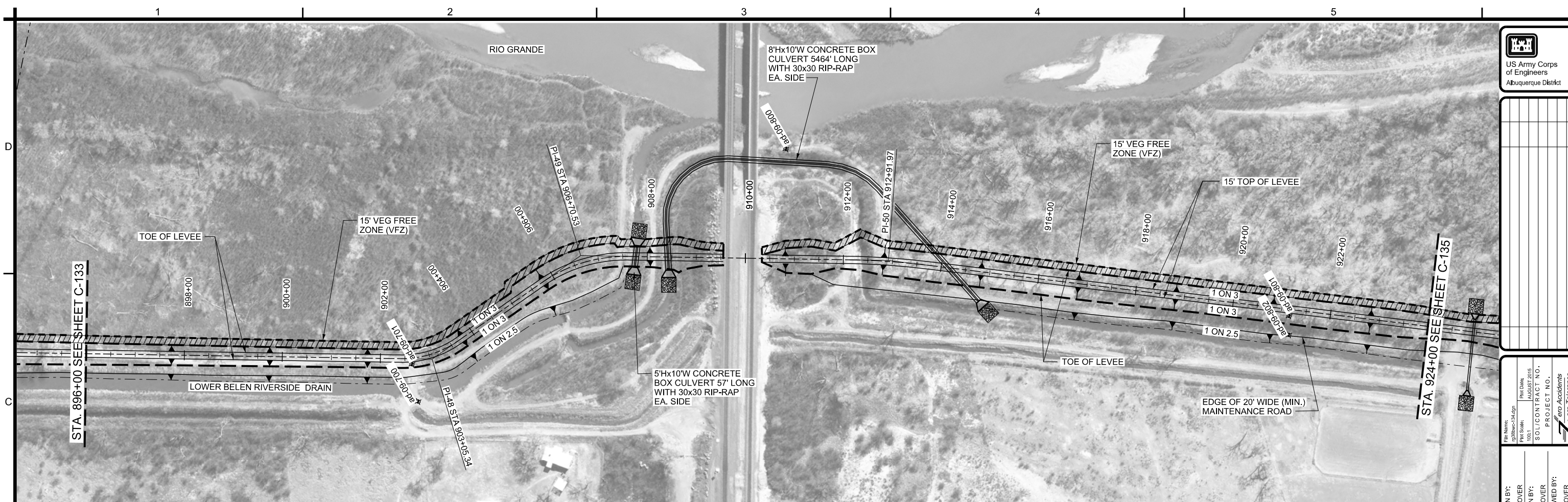
U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 868+00 TO STA. 896+00

SHEET NO.  
**C-133**  
39 OF 51

SEQUENCE NO.  
**105**





US Army Corps of Engineers  
Albuquerque District

Mark	Date	Appr.

File Name: rblbwe-134.dgn  
 Plot Scale: 100:1  
 Plot Date: AUGUST 2015  
 SOL/CONTRACT NO.:  
 PROJECT NO.:  
 ero Accidents  
 ero Tolerance

DESIGN BY:  
SEE COVER

DRAWN BY:  
SEE COVER

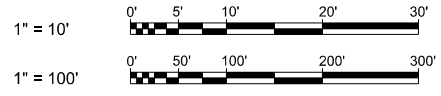
REVIEWED BY:  
SEE COVER

U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 896+00 TO STA. 924+00

SHEET NO.  
**C-134**  
40 OF 51

SEQUENCE NO.  
**106**





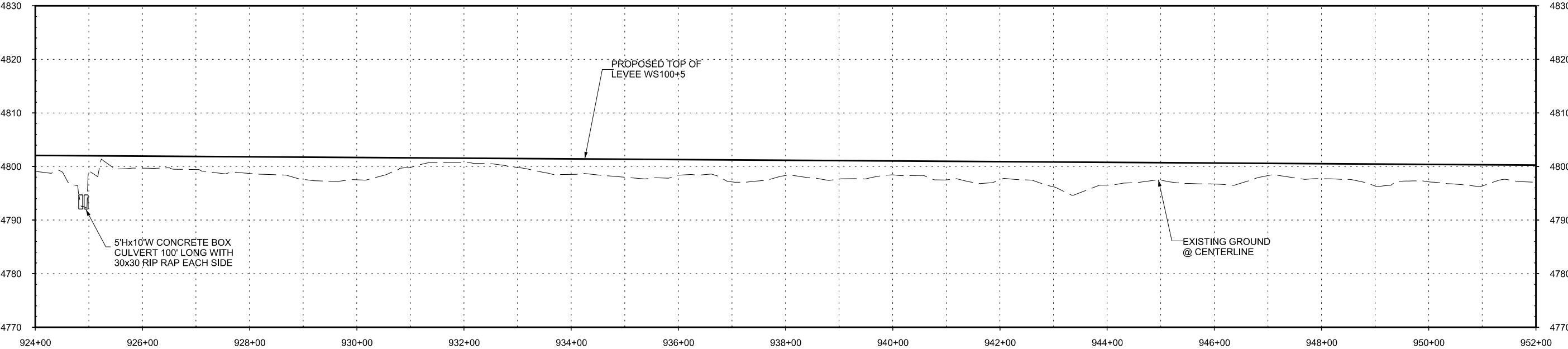


PLAN

SCALE: 1" = 100'

LEGEND

ad-09-1106 BORE HOLE LOCATION

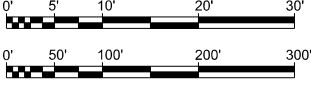


PROFILE

SCALE: HORIZ: 1"=100'  
VERT: 1"=10'

1" = 10'

1" = 100'



Mark	Description	Date	Appr.

File Name: ad-09-1106.dgn	Plot Date: AUGUST 2015
Plot Scale: 100:1	SOL/CONTRACT NO.: PROJECT NO.
	ero Accidents
	ero Tolerance

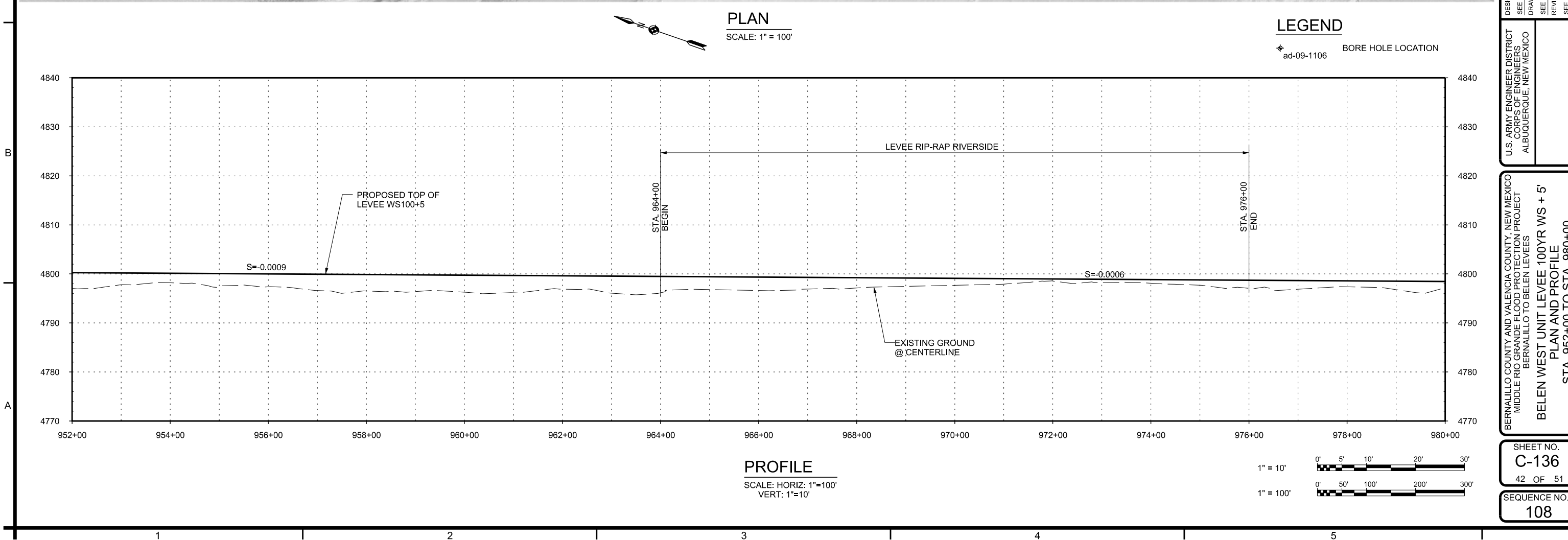
DESIGN BY: SEE COVER	REVIEWED BY: SEE COVER
DRAWN BY: SEE COVER	

U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 924+00 TO STA. 952+00

SHEET NO.  
**C-135**  
41 OF 51  
SEQUENCE NO.  
**107**





US Army Corps of Engineers  
Albuquerque District

Mark	Description	Date	Appr.

File Name: rd\Bene-136.dgn  
 Plot Scale: 100:1  
 Plot Date: AUGUST 2015

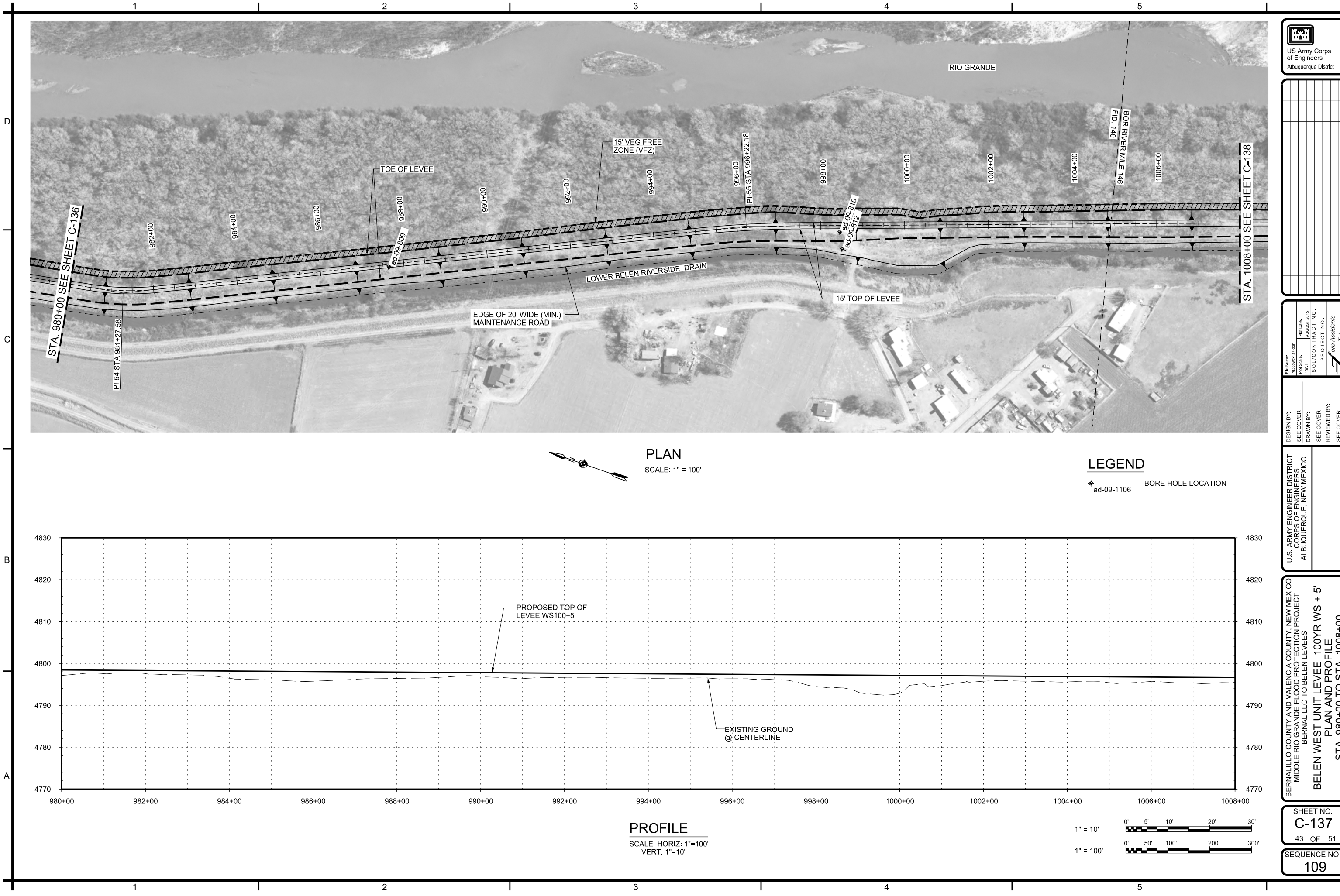
SOL/CONTRACT NO.:  
 PROJECT NO.:  
 Project Accidents  
 Project Tolerance

DESIGN BY: SEE COVER	U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ALBUQUERQUE, NEW MEXICO
DRAWN BY: SEE COVER	
REVIEWED BY: SEE COVER	

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
 MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
 BERNALILLO TO BELEN LEVEES  
 BELEN WEST UNIT LEVEE 100YR WS + 5'  
 PLAN AND PROFILE  
 STA. 952+00 TO STA. 980+00

SHEET NO. <b>C-136</b>
42 OF 51
SEQUENCE NO. <b>108</b>





US Army Corps  
of Engineers  
Albuquerque District

Mark	Description	Date	Appr.

File Name: ad-bw-137.dgn  
Plot Scale: 100:1  
Proj Date: AUGUST 2015  
SOL/CONTRACT NO.:  
PROJECT NO.:  
ero Accidents  
ero Tolerance

DESIGN BY:  
SEE COVER  
DRAWN BY:  
SEE COVER  
REVIEWED BY:  
SEE COVER

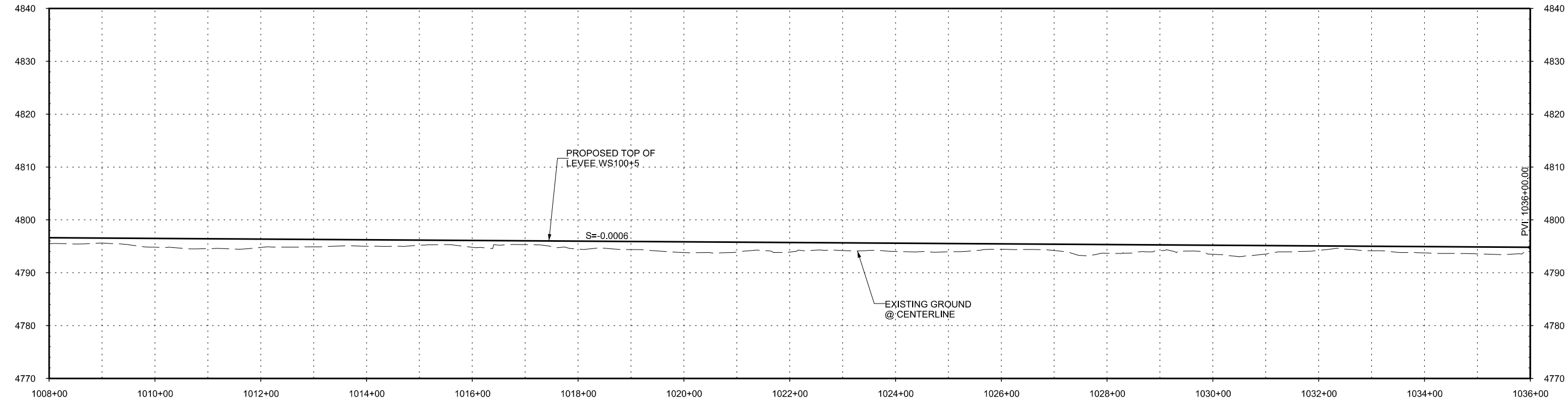
U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 980+00 TO STA. 1008+00

SHEET NO.  
**C-137**  
43 OF 51

SEQUENCE NO.  
**109**





Mark	Description	Date	Appr.

File Name: c:\brower\138.dgn	Plot Date: AUGUST 2015
Plot Scale: 100:1	SOL/CONTRACT NO.: PROJECT NO.

DESIGN BY: SEE COVER	REVIEWED BY: SEE COVER
DRAWN BY: SEE COVER	

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ALBUQUERQUE, NEW MEXICO	

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT BERNALILLO TO BELEN LEVEES BELEN WEST UNIT LEVEE 100YR WS + 5' PLAN AND PROFILE STA. 1008+00 TO STA. 1036+00





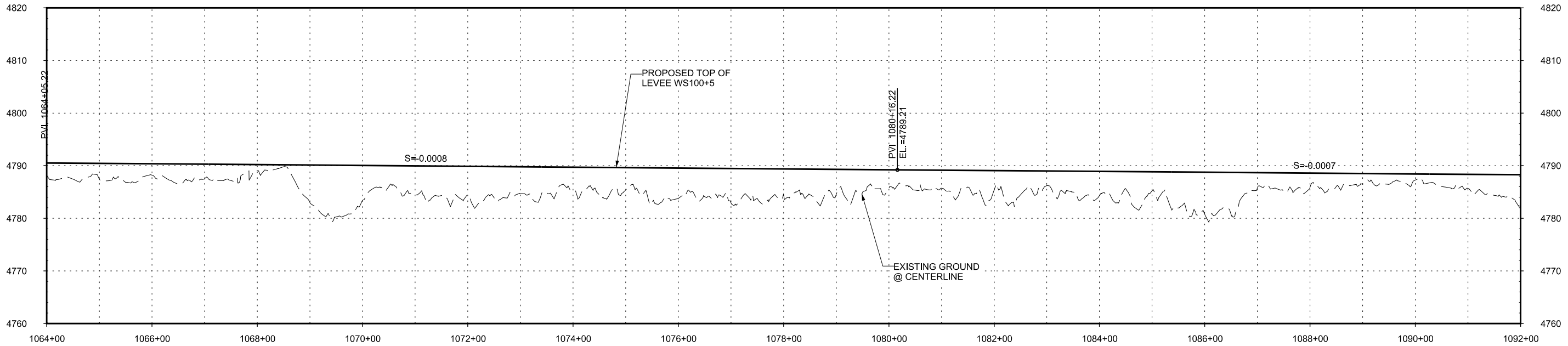




**PLAN**  
SCALE: 1" = 100'

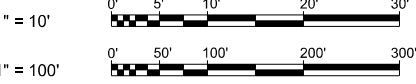
**LEGEND**

ad-09-1106 BORE HOLE LOCATION



**PROFILE**

SCALE: HORIZ: 1"=100'  
VERT: 1"=10'



Mark	Description	Date	Appr.

File Name: c:\b\w\10-09-10	Proj Date: AUGUST 2015
Proj Scale: 100:1	SOL/CONTRACT NO.:
	PROJECT NO.:
	ero Accidents
	ero Tolerance

DESIGN BY:	SEE COVER
DRAWN BY:	SEE COVER
REVIEWED BY:	SEE COVER

U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES  
BELEN WEST UNIT LEVEE 100YR WS + 5'  
PLAN AND PROFILE  
STA. 1064+00 TO STA. 1092+00



























## SPLICE LENGTHS FOR REINFORCEMENT IN NORMAL WEIGHT CONCRETE<sup>1</sup>

Per ACI 318-08

REINFORCING YIELD STRENGTH: 60 ksi  
CONCRETE COMPRESSIVE STRENGTH: 3000 psi

BAR SIZE	AREA  (in <sup>2</sup> )	DIA.  (in)	MIN. CENTER TO CENTER BAR SPACING <sup>4</sup>		Bottom Bars			Top Bars <sup>5</sup>		
			NO. BAR DIA.		MINIMUM EMBEDMENT LENGTH	CLASS "A" SPLICE LENGTH <sup>2</sup>	CLASS "B" SPLICE LENGTH <sup>3</sup>	MINIMUM EMBEDMENT LENGTH	CLASS "A" SPLICE LENGTH <sup>2</sup>	CLASS "B" SPLICE LENGTH <sup>3</sup>
#3	0.11	3/8	2	0 TO 3/4	24.65	25	33	32.04	33	42
			3	3/4 TO 1 1/8	16.43	17	22	21.36	22	28
			4	1 1/8 TO 1 1/2	12.32	13	17	16.02	17	21
			5	1 1/2 AND ABOVE	12.00	12	16	12.82	13	17
#4	0.20	1/2	2	0 TO 1	32.86	33	43	42.72	43	56
			3	1 TO 1 1/2	21.91	22	29	28.48	29	38
			4	1 1/2 TO 2 1/2	16.43	17	22	21.36	22	28
			5	2 1/2 AND ABOVE	13.15	14	18	17.09	18	23
#5	0.31	5/8	2	0 TO 1 1/4	41.08	42	54	53.40	54	70
			3	1 1/4 TO 1 7/8	27.39	28	36	35.60	36	47
			4	1 7/8 TO 3 1/8	20.54	21	27	26.70	27	35
			5	3 1/8 AND ABOVE	16.43	17	22	21.36	22	28
#6	0.44	3/4	2	0 TO 1 1/2	49.30	50	65	64.08	65	84
			3	1 1/2 TO 2 1/4	32.86	33	43	42.72	43	56
			4	2 1/4 TO 3 3/4	24.65	25	33	32.04	33	42
			5	3 3/4 AND ABOVE	19.72	20	26	25.63	26	34
#7	0.60	7/8	2	0 TO 1 3/4	71.89	72	94	93.46	94	122
			3	1 3/4 TO 2 5/8	47.93	48	63	62.30	63	81
			4	2 5/8 TO 4 3/8	35.94	36	47	46.73	47	61
			5	4 3/8 AND ABOVE	28.76	29	38	37.38	38	49
#8	0.79	1	2	0 TO 2	82.16	83	107	106.81	107	139
			3	2 TO 3	54.77	55	72	71.20	72	93
			4	3 TO 5	41.08	42	54	53.40	54	70
			5	5 AND ABOVE	32.86	33	43	42.72	43	56
#9	1.00	1.13	2	0.00 TO 2.26	92.67	93	121	120.48	121	157
			3	2.26 TO 3.38	61.78	62	81	80.32	81	105
			4	3.38 TO 5.64	46.34	47	61	60.24	61	79
			5	5.64 AND ABOVE	37.07	38	49	48.19	49	63
#10	1.27	1.27	2	0.00 TO 2.54	104.34	105	136	135.64	136	177
			3	2.54 TO 3.81	69.56	70	91	90.43	91	118
			4	3.81 TO 6.35	52.17	53	68	67.82	68	89
			5	6.35 AND ABOVE	41.74	42	55	54.26	55	71
#11	1.56	1.41	2	0.00 TO 2.82	115.84	116	151	150.60	151	196
			3	2.82 TO 4.23	77.23	78	101	100.40	101	131
			4	4.23 TO 7.05	57.92	58	76	75.30	76	98
			5	7.05 AND ABOVE	46.34	47	61	60.24	61	79

### TABLE 'A' NOTES

1. TABLE A PRESENTS LENGTHS OF TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPICE LENGTHS BASED ON ACI 318-08, SECTION 12.2.2.
2. CLASS A LAP LENGTHS APPLY WHEN BAR LAPS ARE STAGGERED TO LAP HALF THE BARS AT THE SAME LOCATION OR WHEN BARS ARE LAPPED AT A LOCATION WHERE THE REINFORCEMENT AREA PROVIDED IS AT LEAST TWICE THAT REQUIRED.
3. CLASS B LAP LENGTHS APPLY WHEN ALL BARS ARE SPICED AT A LOCATION OF MAXIMUM STRESS IN THE BARS.
4. MIN. CONC. COVER MEASURED FROM THE BAR CENTER SHALL BE AT LEAST 1/2 THE MIN. CENTER TO CENTER BAR SPACING.
5. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF CONCRETE IS CAST BELOW THE REINFORCEMENT.
6. MULTIPLY LENGTHS SHOWN BY 0.87 FOR 4000 psi CONCRETE.
7. MULTIPLY LENGTHS SHOWN BY 1.3 FOR LIGHTWEIGHT AGGREGATE CONCRETE.
8. MULTIPLY LENGTHS SHOWN BY 1.5 (1.3 FOR TOP BARS) FOR EPOXY COATED BARS W/ COVER LESS THAN 3d OR CLEAR SPACING LESS THAN 6d. ALL OTHER EPOXY COATED BARS SHALL BE MULTIPLIED BY 1.2.

## A TABLE A

S-101.

## GENERAL STRUCTURAL NOTES

1. ALL EXPOSED CONCRETE FORMED SURFACES SHALL BE CLASS "B" FINISH EXCEPT AS OTHERWISE NOTED. CLASS "B" FINISH SHALL EXTEND AT LEAST 1'-0" BELOW FINISH GRADE OR BACKFILL. LOWER UNEXPOSED FORMED SURFACES MAY BE CLASS "D" FINISH.
2. INTERIOR FORMED SURFACES OF CONCRETE STRUCTURES AND CONDUITS SHALL BE CLASS "C" FINISH EXCEPT AS NOTED ON THE DRAWINGS.
3. A WOOD FLOAT FINISH IS REQUIRED FOR ALL UNFORMED SURFACES EXCEPT AS NOTED OTHERWISE. TOP OF ALL WALLS SHALL HAVE A STEEL TROWEL FINISH.
4. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" UNLESS NOTED OTHERWISE.
5. REINFORCEMENT LAPS, EMBEDMENT, AND HOOK-LENGTHS SHALL CONFORM TO REINFORCEMENT TABLE A THIS PLATE . THE LARGEST BAR OF THE SPLICE WILL CONTROL THE LENGTH OF THE LAP.
6. MINIMUM CLEAR COVER FOR REINFORCEMENT SHALL CONFORM TO ACI 318-08, UNLESS NOTED OTHERWISE.
7. CONCRETE FOR THE INTAKE STRUCTURE, GATEWELL STRUCTURE, CAST-IN-PLACE CONDUIT, CAST IN PLACE PRESSURE MANHOLES, CAST IN PLACE BOX CULVERTS AND TRANSITION SECTIONS SHALL HAVE A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. ALL OTHER CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED.
8. REINFORCING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60.
9. STRUCTURAL PIPE SHALL BE ASTM A53 TYPE S, GRADE B. ALL HANDRAIL PIPE SHALL BE GALVANIZED. ALL OTHER STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE ASTM A36
10. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS CODE.
11. ALL ANCHOR BOLTS SHALL BE ASTM A307 UNLESS NOTED OTHERWISE. ALL ANCHOR BOLTS SHALL BE GALVANIZED.
12. REINFORCING FOR INLET AND SPILLWAY STRUCTURES SHALL BE LAPPED IN A STAGGERED PATTERN IN THE LONGITUDINAL DIRECTION WITH NOT MORE THAN TWO-THIRDS OF THIS REINFORCING TERMINATING IN THE SAME VERTICAL PLANE.
13. STRUCTURES SUBJECTED TO VEHICULAR LOADS ARE DESIGNED FOR AASHTO HS20-44 LOADS
14. SOIL PARAMETERS USED IN THE DESIGN OF THE CONCRETE STRUCTURES ARE:

MATERIAL WEIGHTS:

BACKFILL MOIST.....TBD PCF

BACKFILL SATURATED.....TBD PCF

IN-SITU MOIST.....TBD PCF

IN-SITU SATURATED.....TBD PCF

CONCRETE.....TBD PCF

WATER.....TBD PCF

## EARTH PRESSURES:

BACKFILL MATERIALS:

Kr (COEFFICIENT AT REST).....TDB

Ka (COEFFICIENT ACTIVE PRESSURE).....TBD

Kp (COEFFICIENT PASSIVE PRESSURE).....TBD

IN-SITU MATERIALS:

Kr (COEFFICIENT AT REST).....TBD

Ka (COEFFICIENT ACTIVE PRESSURE).....TBD

Kp (COEFFICIENT PASSIVE PRESSURE).....TBD

ANGLE OF INTERNAL FRICTION BACKFILL.....TBD DEGREES

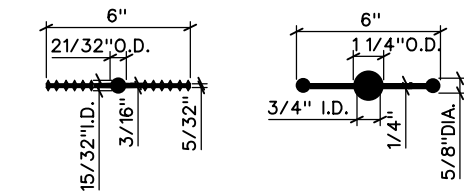
ANGLE OF INTERNAL FRICTION IN-SITU.....TBD DEGREES

f, SLIDING COEFF. OF CONCRETE ON SOIL.....TBD

ALLOWABLE SOIL BEARING PRESSURE

IN-SITU.....TBD KSF

COMPACTED FILL.....TBD KSF



POLYVINYL  
CHLORIDE (PVC)

RUBBER

B WATERSTOP DETAIL

S-101

NOT TO SCALE


## PRECAST CONDUIT GENERAL NOTES

1. CONCRETE FOR THE PRECAST CONCRETE PIPE (RCP) CONDUIT SHALL HAVE A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
2. PRECAST CONDUIT SHALL BE DESIGNED FOR THE SOIL COVER CONDITIONS SHOWN ON THE PLANS AND PROFILE PLATES.
3. ALL RCP SHALL CONFORM TO ASTM C76 UNLESS NOTED OTHERWISE.
4. CONCRETE FOR THE PRECAST CONCRETE BOX CULVERTS (CBC) SHALL HAVE A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.



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Albuquerque District

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File Name: RG38S-101.DGN		Plot Date: AUGUST 2015
Plot Scale: 98:1	SOL/CONTRACT NO. PROJECT NO.	
		

DESIGN BY:	
R.ZARAGOZA	
DRAWN BY:	
J. J. ROLL	
REVIEWED BY:	
NAME	

U.S. ARMY ENGINEER DISTRICT  
CORPS OF ENGINEERS  
ALBUQUERQUE, NEW MEXICO

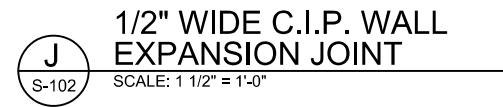
BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES

GENERAL STRUCTURAL  
NOTES AND TABLES

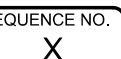
SHEET NO.  
**S-101**  
1 OF X

SEQUENCE NO.  
X





1. 2-COMPONENT POLYURETHANE SEALANT.
2. POLYURETHANE JOINT FILLER.
3. REFER TO APPLICABLE PLAN FOR STRUCTURE MEMBER TYPE (i.e., WALL, SLAB, OR TRAPEZOIDAL SLAB).
4. INTERIOR FACE OF CONCRETE.
5. REINFORCEMENT SHALL NOT EXTEND THROUGH JOINT, UNLESS NOTED OTHERWISE, TERMINATE REINFORCEMENT 2" FROM VERTICAL FACE OF CONCRETE.
6. HORIZ JOINT.
7. 3/4" CHAMFER @ EXPOSED SURFACES.
8. LAP MAY BE ON EITHER SIDE OF JOINT, DEPENDING ON DIRECTION OF PLACEMENT.
9. CONT 2 X 4 KEY.





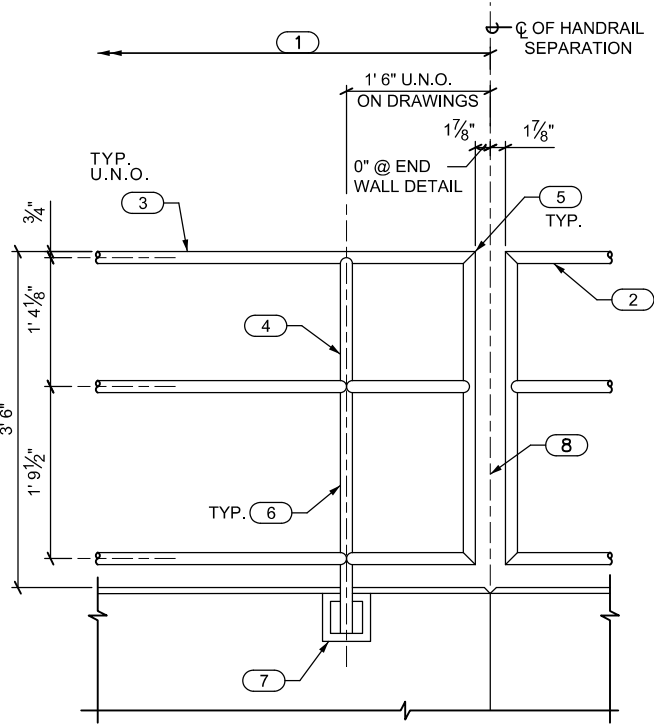
OVERALL SCHEDULE			
STA.	EVENT	REFERENCE	REMARKS
STA. 0+00	POINT OF BEGINING	SHEET S0	COMMENT
STA. 1+00	NEXT	SHEET S1	COMMENT
STA. 2+00	NEXT	SHEET S2	COMMENT
STA. 3+00	NEXT	SHEET S3	COMMENT
STA. 4+00	NEXT	SHEET S4	COMMENT
STA. 5+00	NEXT	SHEET S5	COMMENT
STA. 6+00	NEXT	SHEET S6	COMMENT

KEYED NOTES

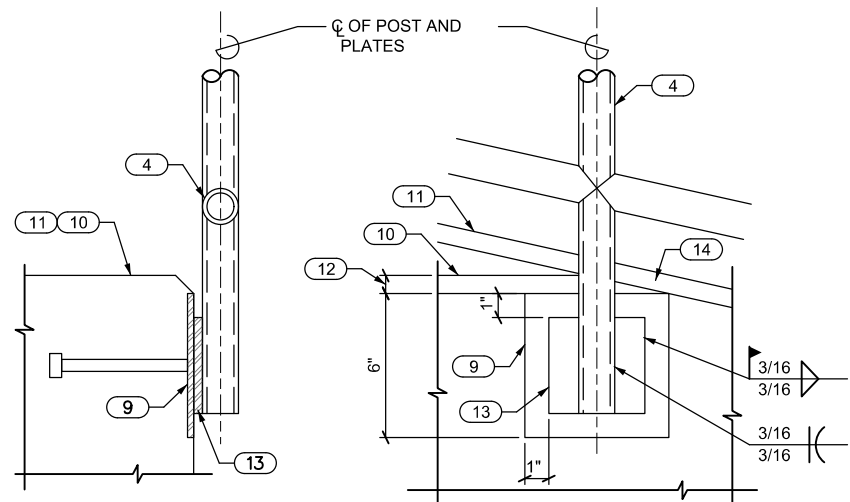
- THIS PORTION OF THE DETAIL APPLIES AT END WALLS.
- OMIT @ END WALL DETAIL.
- 1 1/2" DIA. STANDARD PIPE, GALVANIZED.
- 1 1/2" DIA. X-STRONG PIPE, GALVANIZED.
- MITER AND GRIND SMOOTH.
- WELD JOINTS AND GRIND ALL WELDS SMOOTH. PAINT ALL JOINTS TO MATCH PIPE FINISH WITH ZINC RICH PAINT.
- POST ANCHOR - SEE DETAIL B/S-103.
- WALL CONTRACTION OR EXPANSION JOINT, AT END OF WALL OR CORNER OF WALL.
- PL1/4" X 6" X 0'-6", GALVANIZED W/(2)-1/2" DIA. X 6" HEADED STUDS 4" APART.
- TOP OF WALL (FLAT).
- TOP OF WALL (SLOPED).
- 3/4" @ FLAT WALL. 2 1/2" @ SLOPED WALL.
- PL3/8" X 4" X 0'-4", GALVANIZED. WELD TO (4) IN THE SHOP, PRIOR TO GALVANIZING. WELD TO (9) IN THE FIELD.
- CHAMFER.

HANDRAIL NOTES

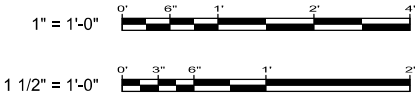
- HANDRAILS SHOWN IN THE DRAWING ELEVATIONS SHALL BE FABRICATED AS INDICATED. FOR TYPICAL HANDRAIL SEPARATION SEE **A/S-103**, AND FOR POST ANCHORAGE SEE **B/S-103** DETAILS. UNLESS OTHERWISE NOTED.
- POST SPACING SHALL BE AS INDICATED OR 8'-0" O.C. MAX.
- THE CONTRACTOR SHALL COORDINATE WITH THE HANDRAIL FABRICATOR AS REQUIRED TO ENSURE THAT THE EMBEDDED PLATES IN THE WALLS OCCUR AT THE HANDRAIL POST LOCATIONS. REFER TO DETAIL **B/S-103**.
- OVERALL OUTSIDE LENGTH OF HANDRAIL SECTION SHALL NOT EXCEED 40'-0" IN LENGTH. 40'-0" SECTIONS SHALL HAVE A MINIMUM OF (4)- HANDRAIL POSTS EQUALLY SPACED BETWEEN THE FIRST AND LAST HANDRAIL POSTS.



**A** TYPICAL HANDRAIL SPLICE/  
END/CORNER DETAIL  
S-103 SCALE: 1" = 1'-0"



**B** TYPICAL POST ANCHOR DETAILS  
S-103 SCALE: 3" = 1'-0"



US Army Corps  
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Albuquerque District

File Name: RGS/S-103.dgn	Plot Date: AUGUST 2015	Plot Scale: 9x1	SOL/CONTRACT NO.: PROJECT NO.	ero Accidents ero Tolerance
DESIGN BY: R. ZARAGOZA	DRAWN BY: J. ROLL	REVIEWED BY: NAME	FACILITIES DESIGN SECTION	

BERNALILLO COUNTY AND VALENCIA COUNTY, NEW MEXICO  
MIDDLE RIO GRANDE FLOOD PROTECTION PROJECT  
BERNALILLO TO BELEN LEVEES

OVERALL SCHEDULE AND  
MISCELLANEOUS DETAILS

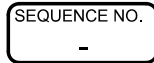
SHEET NO.  
**S-103**  
3 OF 7

SEQUENCE NO.  
**X**

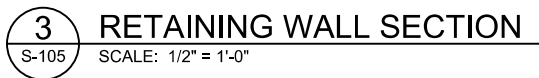
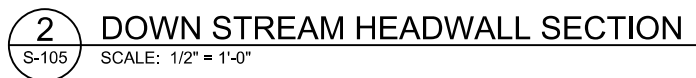




1. FABRICATED WIDE GATE SHALL BE A SELF-CONTAINED, FULLY SEALED (ALL SIDES), PAINTED STEEL (A36) GATE (QSR-15Y) BY WATERMAN INDUSTRIES, INC. OR APPROVED EQUAL.
2. THE CONTRACTOR SHALL SUBMIT CALCULATIONS PREPARED AND SEALED BY A NM LICENSED P.E. FOR GATE AND APPURTENANCES.
3. THE GATE FABRICATOR IS RESPONSIBLE FOR THE GATE ANCHORAGE TO THE C.I.P. HEADWALL AND ALL GATE FRAMING, RAILS, LIFTS (DUAL-RATIO GEARED) AND SEALS.
4. THE GATE SHALL COVER 10' WIDE X 5' HIGH OPENING, SHALL FULLY OPEN AND SHALL BE DESIGNED FOR 15 FT. OF POTENTIAL PRESSURE HEAD DOWNSTREAM.

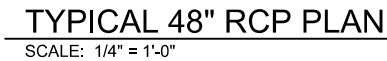




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1/2" = 1'-0"

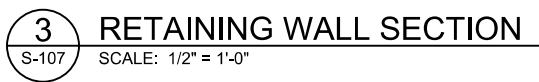




1. FABRICATED SLIDE GATE SHALL BE A SELF-CONTAINED, FULLY SEALED (ALL SIDES), PAINTED STEEL (A36) GATE (QSR-15Y) BY WATERMAN INDUSTRIES, INC. OR APPROVED EQUAL.
2. THE CONTRACTOR SHALL SUBMIT CALCULATIONS PREPARED AND SEALED BY A NM LICENSED P.E. FOR GATE AND APPURTENANCES.
3. THE GATE FABRICATOR IS RESPONSIBLE FOR THE GATE ANCHORAGE TO THE C.I.P. HEADWALL AND ALL GATE FRAMING, RAILS, LIFTS (DUAL-RATIO GEARED) AND SEALS.
4. THE GATE SHALL COVER 48" DIAMETER OPENING, SHALL FULLY OPEN AND SHALL BE DESIGNED FOR 15 FT. OF POTENTIAL PRESSURE HEAD DOWNSTREAM.





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LAP SPLICES CLASS - B	
BAR	LENGTH (IN)
4	18
5	22
6	26
7	43
8	54

