HYDROLOGY

E18/D25
FOUR PLANS

E 18/D 25

4 Plans

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

PLAN SHOT IN TWO SECTIONS.

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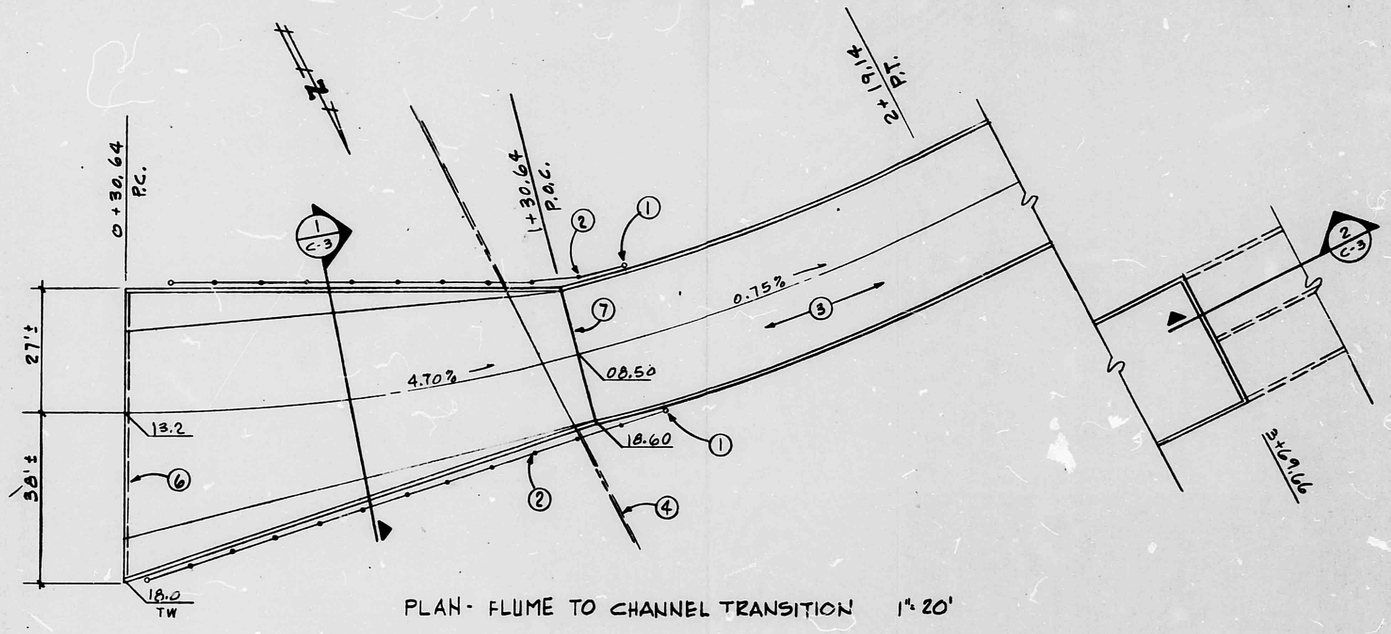
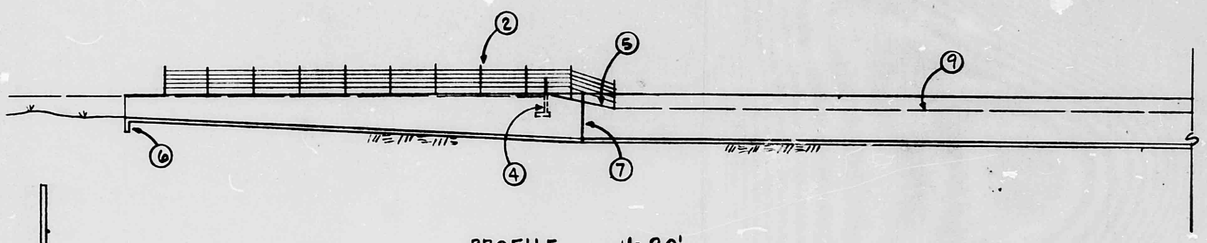
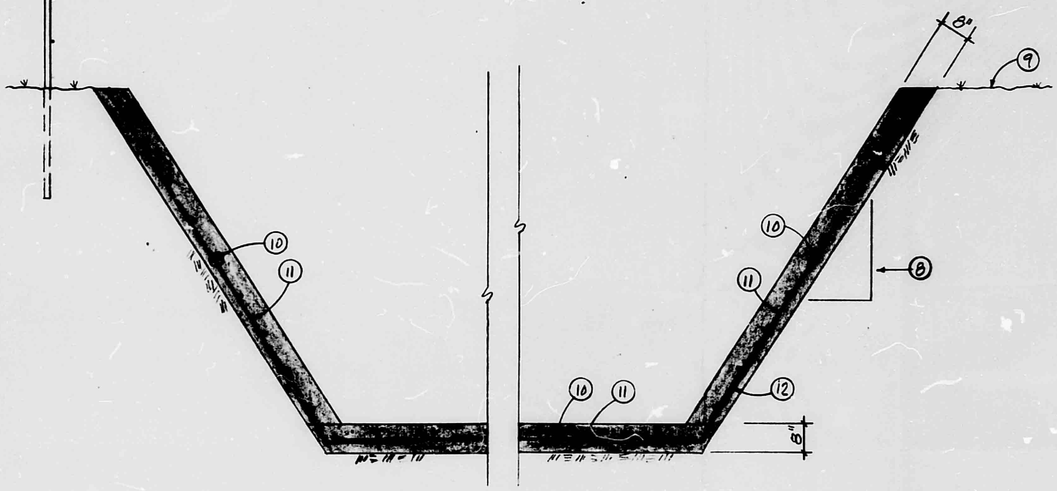


PLAN - FLUME TO CHANNEL TRANSITION 1" = 20'



PROFILE 1" = 20'



SECTION 1/C-3 1/2" = 1'-0"

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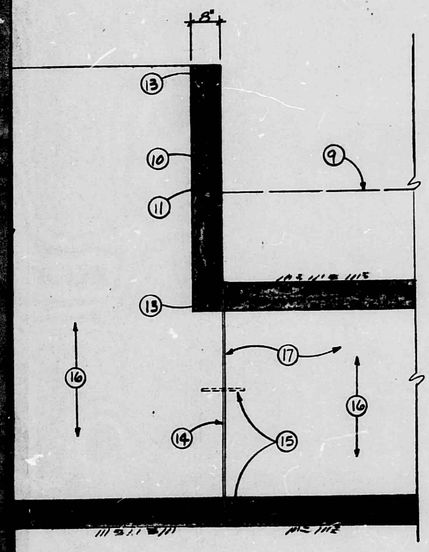

SECTION (2/C-3) 1½" = 1'-0"

NOTES:

1. END POST 3" DIAM. STEEL PIPE. 6' ABOVE GRADE & SET 3' INTO 18" Ø CONC. EMBEDMENT, TYP.
2. DRIVE TYPE STEEL FENCE POSTS WITH 5 STRANDS OF SMOOTH WIRE @ 1'-0" SPACING, TYP.
3. SEE SHEET C-1 FOR OPEN CHANNEL REINFORCING.
4. FUTURE RETAINING WALL, WITH 3' CHAIN LINK FENCE, ALONG PROPERTY LINE.
5. INTERIM FINISH GRADE UNTIL RETAINING WALL IS CONSTRUCTED.
6. 3' TURNED-DOWN CUT OFF WALL. REINFORCING STEEL SAME AS FLUME SECTION.
7. 1/2" EXPANSION JOINT. SEE SECTION 2, THIS SHEET.
8. SLOPE VARIES FROM 2:1 AT STA. 0 + 30.64 TO VERTICAL AT STA. 1 + 30.64.
9. FINISH GRADE.
10. #4 @ 12" O.C., LONG.
11. #5 @ 10" O.C.
12. #5 DOWEL @ 10" O.C. DOWEL UP 3'-0", TYPICAL.
13. 2 - #5 STRAIGHT.
14. 1/2" NONEXTRUDABLE EXPANSION MATERIAL.
15. 5/8" x 1'-0" DOWELS, GREASED ONE END, AT 12" O.C. TYPICAL; TOP, BOTTOM AND SIDE WALLS.
16. SEE SHEET C-1 FOR TYPICAL REINFORCING.
17. BEGIN CENTER WALL AT THIS POINT.

PROPOSED BEAR ARROYO RECHANNELIZATION

FOR

GEORGE RUTHERFORD PROPERTY

flatow moore bryan & associates
architects engineers planners albuquerque

date 11-29-78

by RTS

C-3

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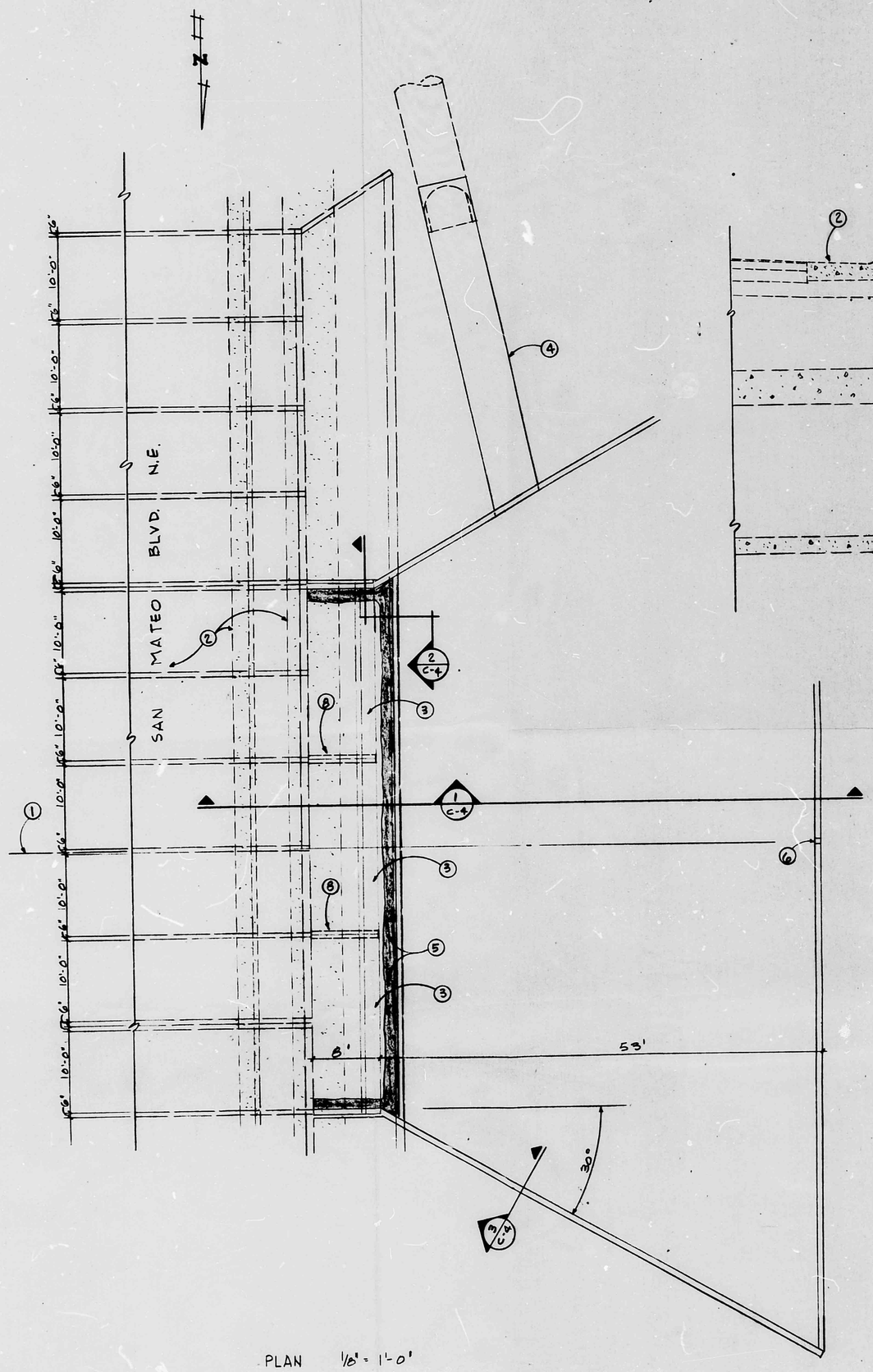

PLAN 1/8" = 1'-0"

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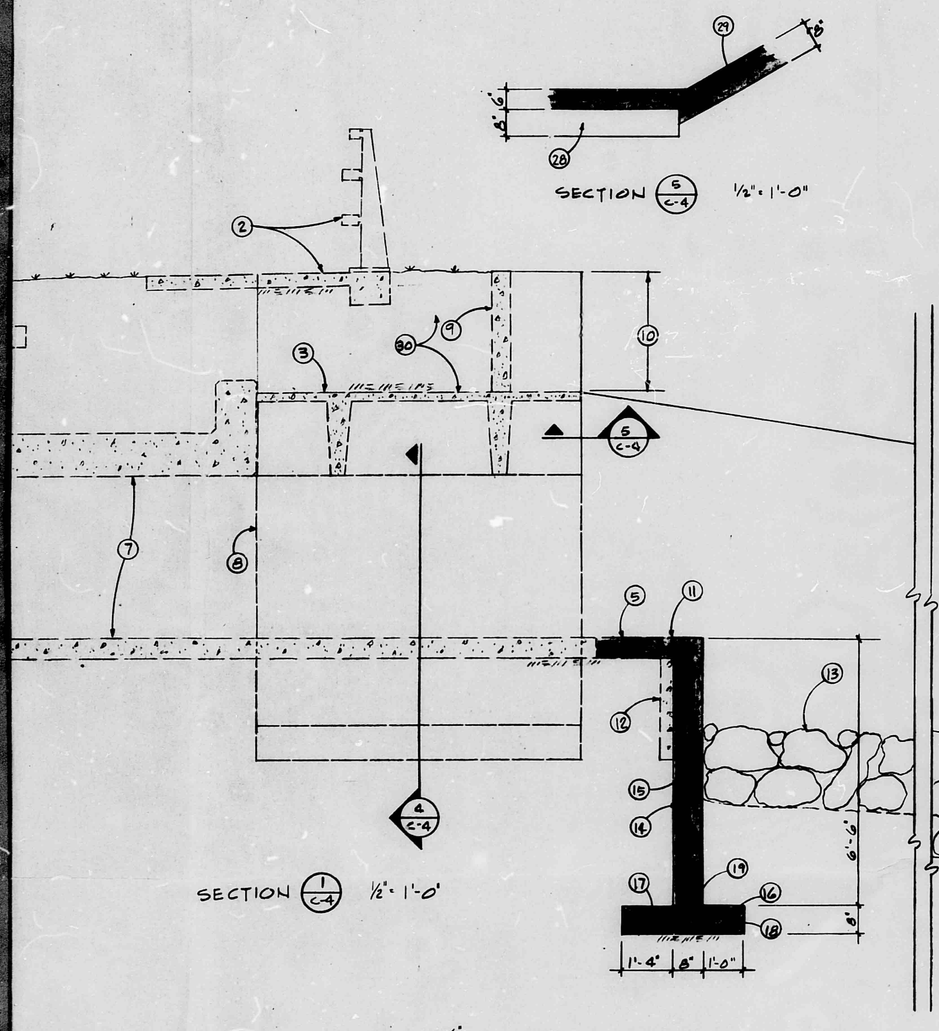
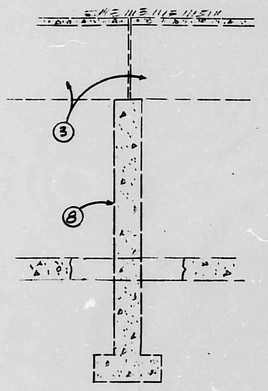
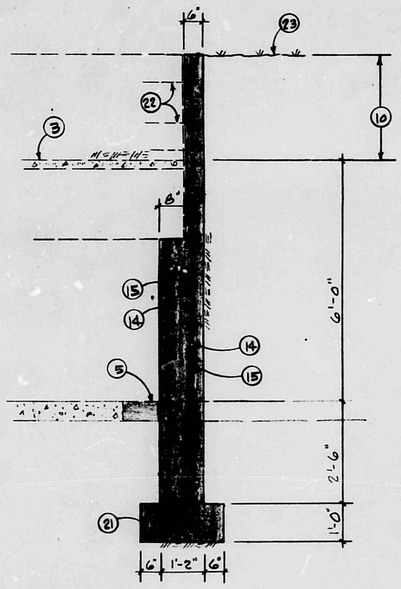


SECTION (5 / C-4) 1/2" = 1'-0"

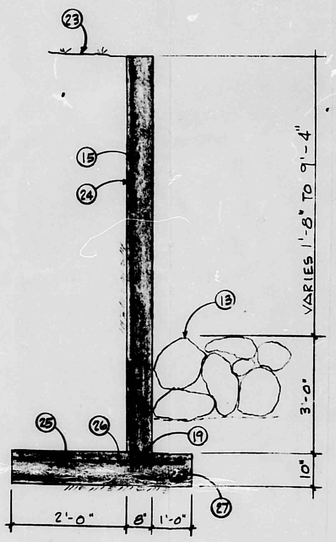
SECTION (1 / C-4) 1/2" = 1'-0"



SECTION (4 / C-4) 1/2" = 1'-0"



SECTION (2 / C-4) 1/2" = 1'-0"



SECTION (3 / C-4) 1/2" = 1'-0"

NOTES:

1. CENTERLINE OF UPSTREAM CULVERTS EXTENDED.
2. SEE CITY OF ALBUQUERQUE SPECIAL ASSESSMENT DISTRICT 192 PLANS FOR CURB, SIDEWALK, PAVEMENT, ETC.
3. 8DT24, BY OTHERS.
4. EXTEND EXISTING 60" RCP STORM SEWER THRU NEW WING WALL.
5. REMOVE AND REPLACE EXISTING APRON CONS'T. AS REQUIRED.
6. 6" x 6" BLOCK OUT IN END WALL.
7. EXISTING CONCRETE BOX CULVERT.
8. CENTER SUPPORT WALL BY OTHERS.
9. RETAINING WALL BY OTHERS.
10. THIS DIMENSION SET BY FINISH ELEVATION OF SIDEWALK AND/OR RETAINING WALL.
11. 1/2" EXPANSION JOINT.
12. REMOVE EXISTING CUT-OFF WALL BETWEEN NEW WING WALLS.
13. 2' DEEP, UNGROUTED RIPRAP CONSISTING OF BROKEN CURB & GUTTER OR OTHER CONCRETE SECTIONS WEIGHING NOT LESS THAN 400#.
14. #4 @ 12" O.C., VERTICAL & DOWELS.
15. #4 @ 12" O.C., HORIZONTAL.
16. 4 - #4 LONGITUDINAL, TOP.
17. #4 @ 24" O.C.
18. 2 - #4 LONG., BOTTOM.
19. 2 x 4 KEY JOINT, CONT.
20. EXISTING GRADE.
21. 2 - #5, CONT.
22. DOWEL OUT AS REQUIRED FOR RETAINING WALL. NOTE 9.
23. FINISH GRADE.
24. #5 @ 8" O.C. VERTICAL & DOWELS.
25. 5 - #5, LONG., TOP.
26. #5 @ 24" O.C.
27. 2 - #5 LONG., BOTTOM.
28. BLOCK OUT FOR TEE SEAT.
29. LAP STEEL WHERE END WALLS AND WING WALLS ABUT.
30. CONCRETE TEES TO BE DESIGNED FOR SUPERIMPOSED LOADS OF 80 PSF LIVE LOADS AND 300 PSF DEAD LOAD.

PROPOSED BEAR ARROYO RECHANNELIZATION

FOR

GEORGE RUTHERFORD PROPERTY

flatow moore bryan & associates

date

by

C-4

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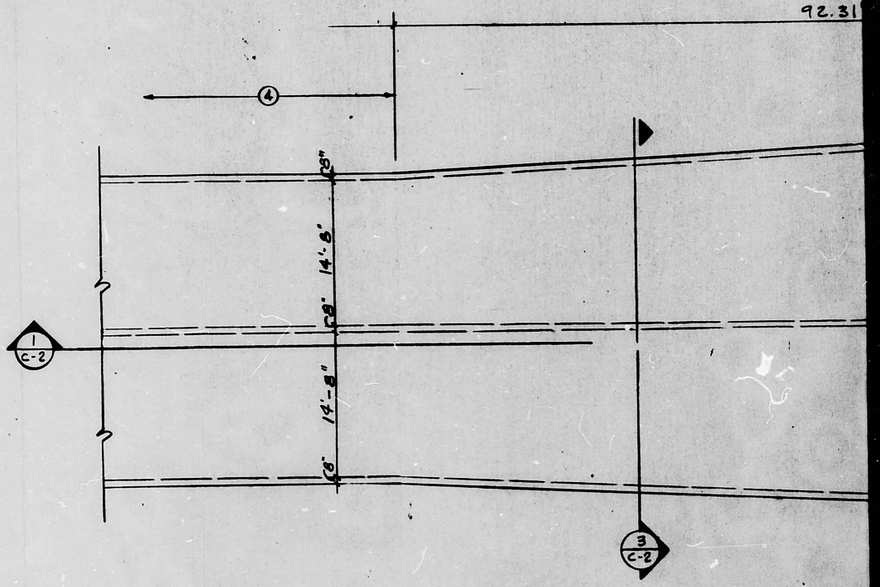
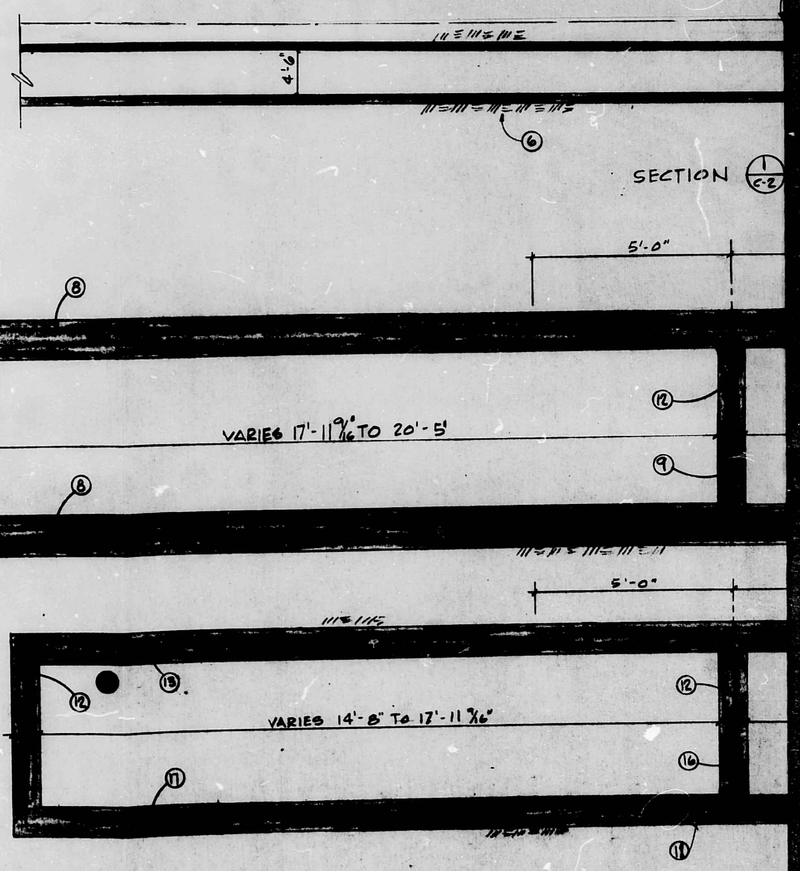
92.31



PLAN - TRANS



HYDROLOGY

2 of 2

E18/D25
FOUR PLANS

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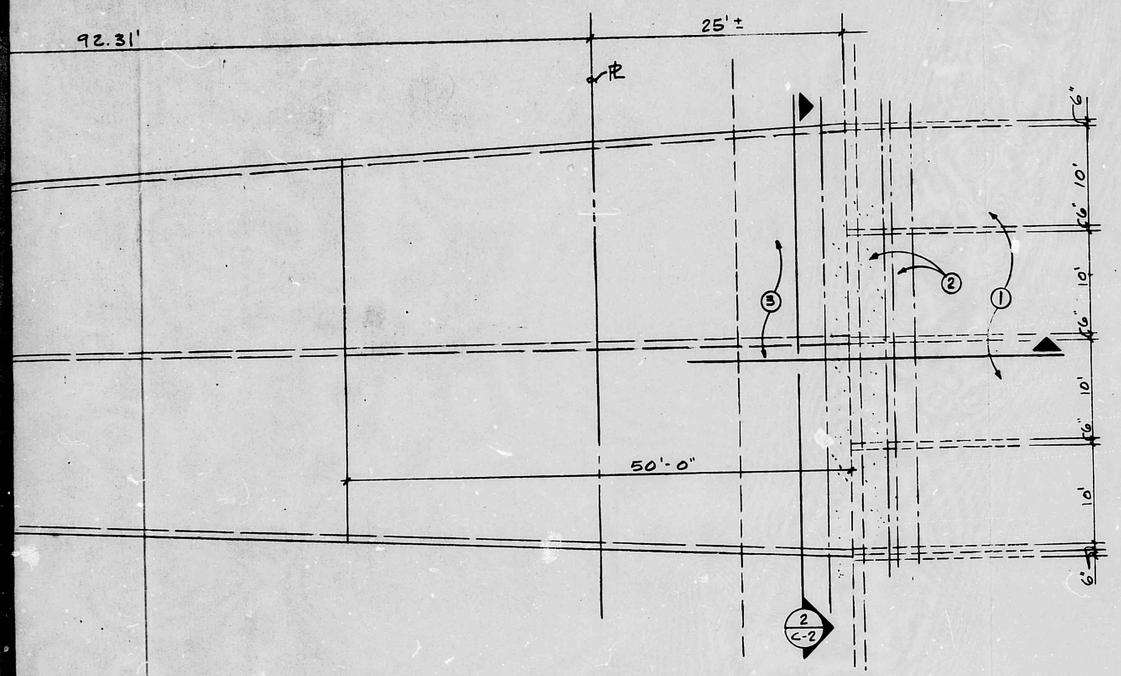
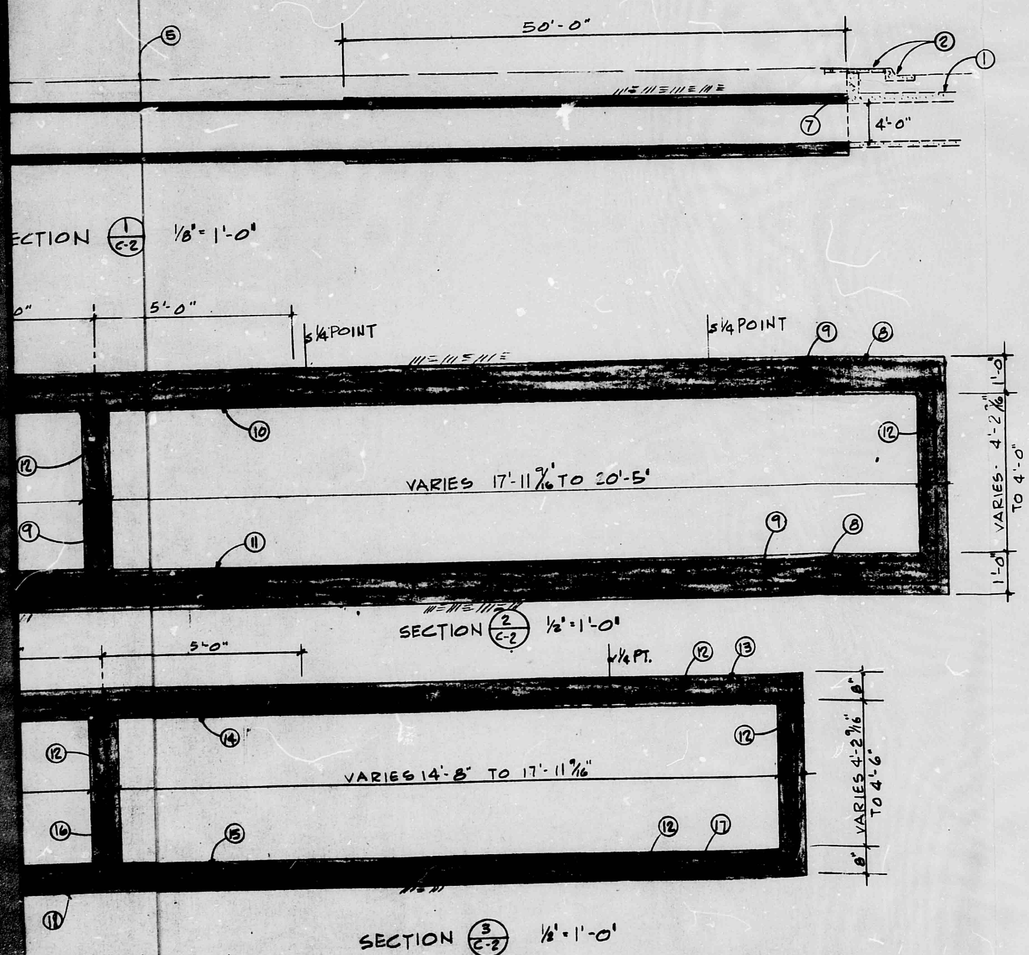


PLAN - TRANSITION CULVERT 1/8" = 1'-0"



SECTION (1/C-2) 1/8" = 1'-0"

SECTION (2/C-2) 1/2" = 1'-0"

SECTION (3/C-2) 1/2" = 1'-0"

NOTES:

1. EXISTING BOX CULVERTS.
2. PROPOSED NEW CURB & GUTTER AND SIDEWALK. SEE SPECIAL ASSESSMENT DISTRICT NO. 192 PLANS FROM CITY OF ALBUQUERQUE.
3. REMOVE EXISTING CONCRETE APRON AS REQUIRED FOR NEW CULVERT.
4. SEE SHEET C-1 FOR CONTINUATION OF BOX CULVERTS.
5. APPROX. FINISH GRADE.
6. UNDISTURBED EARTH OR COMPACTED SUBGRADE.
7. 1/2" EXPANSION JOINT ALL AROUND WHERE NEW BOX ABUTS EXISTING.
8. #6 @ 12" O.C. BENT, ALTERNATE.
9. #5 @ 12" O.C.
10. #6 @ 12" O.C. ALTERNATE, STRAIGHT, BOTTOM.
11. #6 @ 12" O.C. ALTERNATE, STRAIGHT, TOP.
12. #4 @ 12" O.C.
13. #5 @ 10" O.C. BENT, ALTERNATE.
14. #5 @ 10" O.C. ALTERNATE, STRAIGHT, BOTTOM.
15. #5 @ 10" O.C. STRAIGHT, TOP.
16. #4 @ 10" O.C.
17. #5 @ 10" O.C. Bottom Corner Steel
18. #5 @ 10" O.C. x 10'-0" Str. Bottom

PROPOSED BEAR ARROYO RECHANNELIZATION

FOR

GEORGE RUTHERFORD PROPERTY

flatow moore bryan & associates

date

by

C-2

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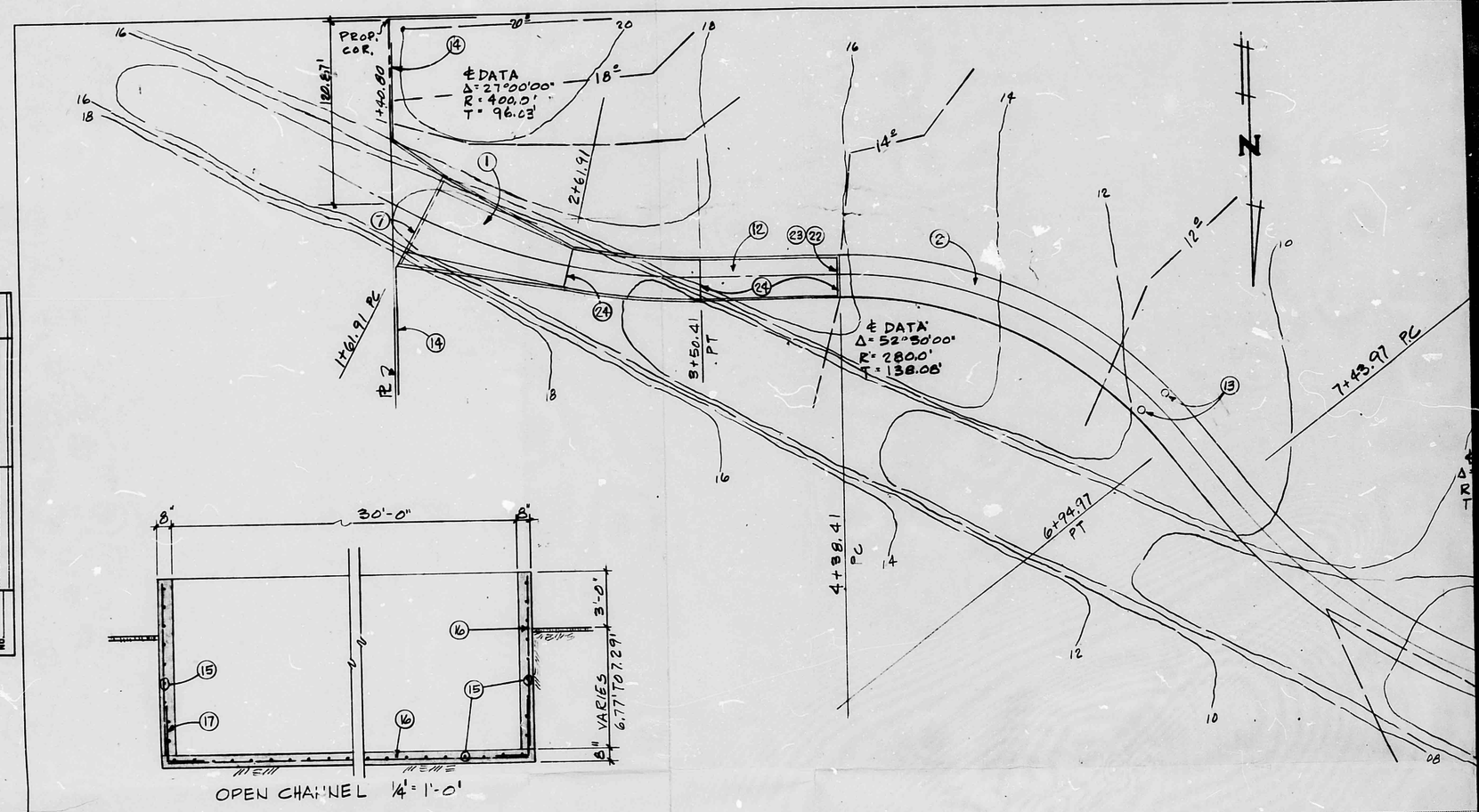
PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, NOTE BOOK, NO., BY, DATE

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, BM NOTED, STRUCTURE NOTATNS CHKD, NOTE BOOK, NO., BY, DATE



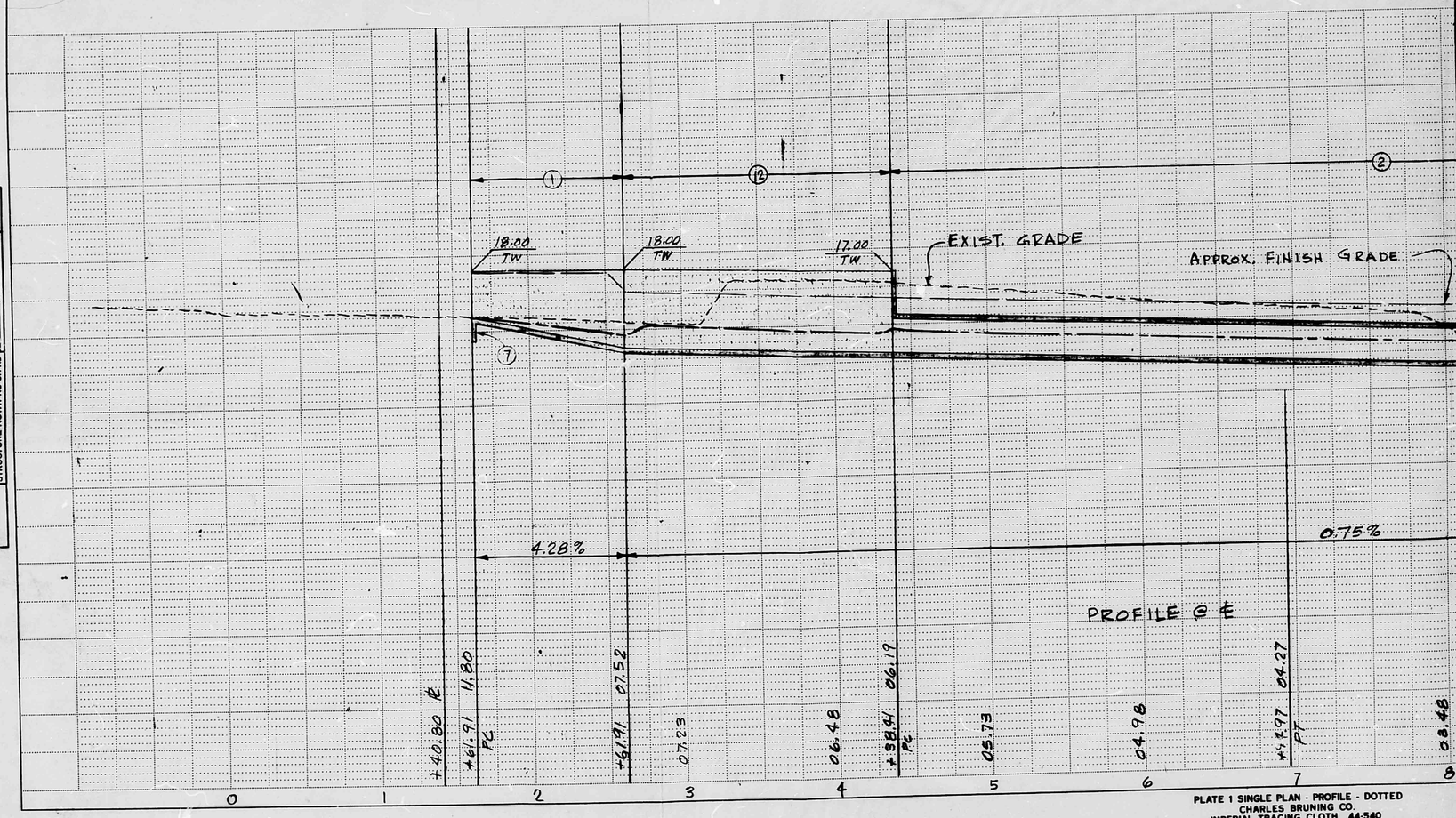


PLATE 1 SINGLE PLAN - PROFILE - DOTTED
CHARLES BRUNING CO.
IMPERIAL TRACING CLOTH 44-540

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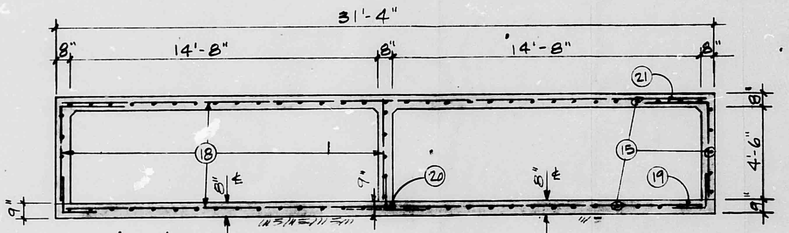
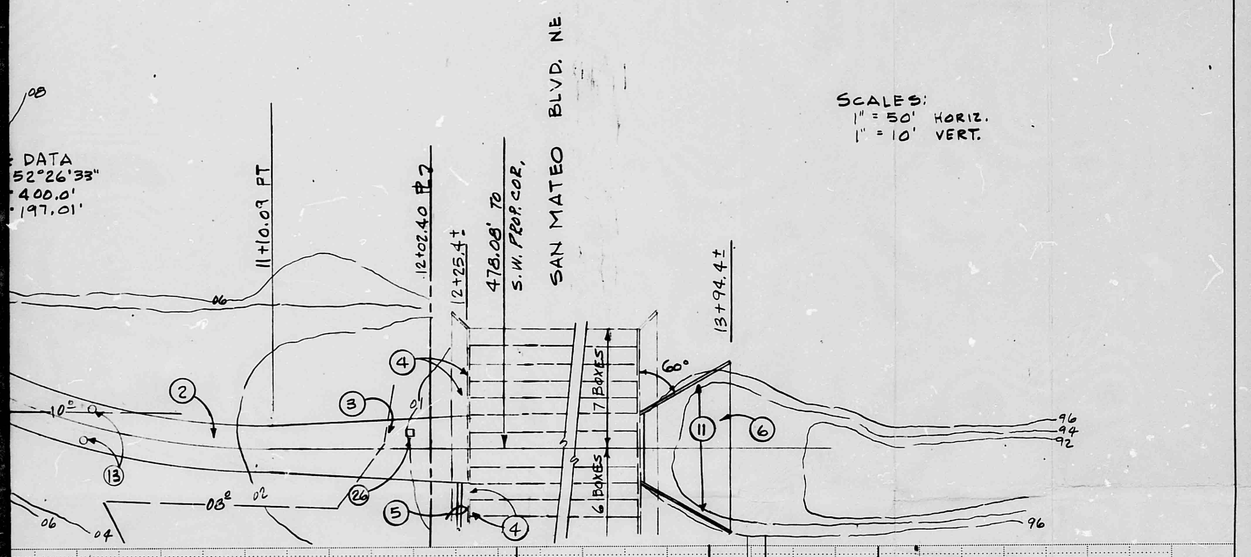
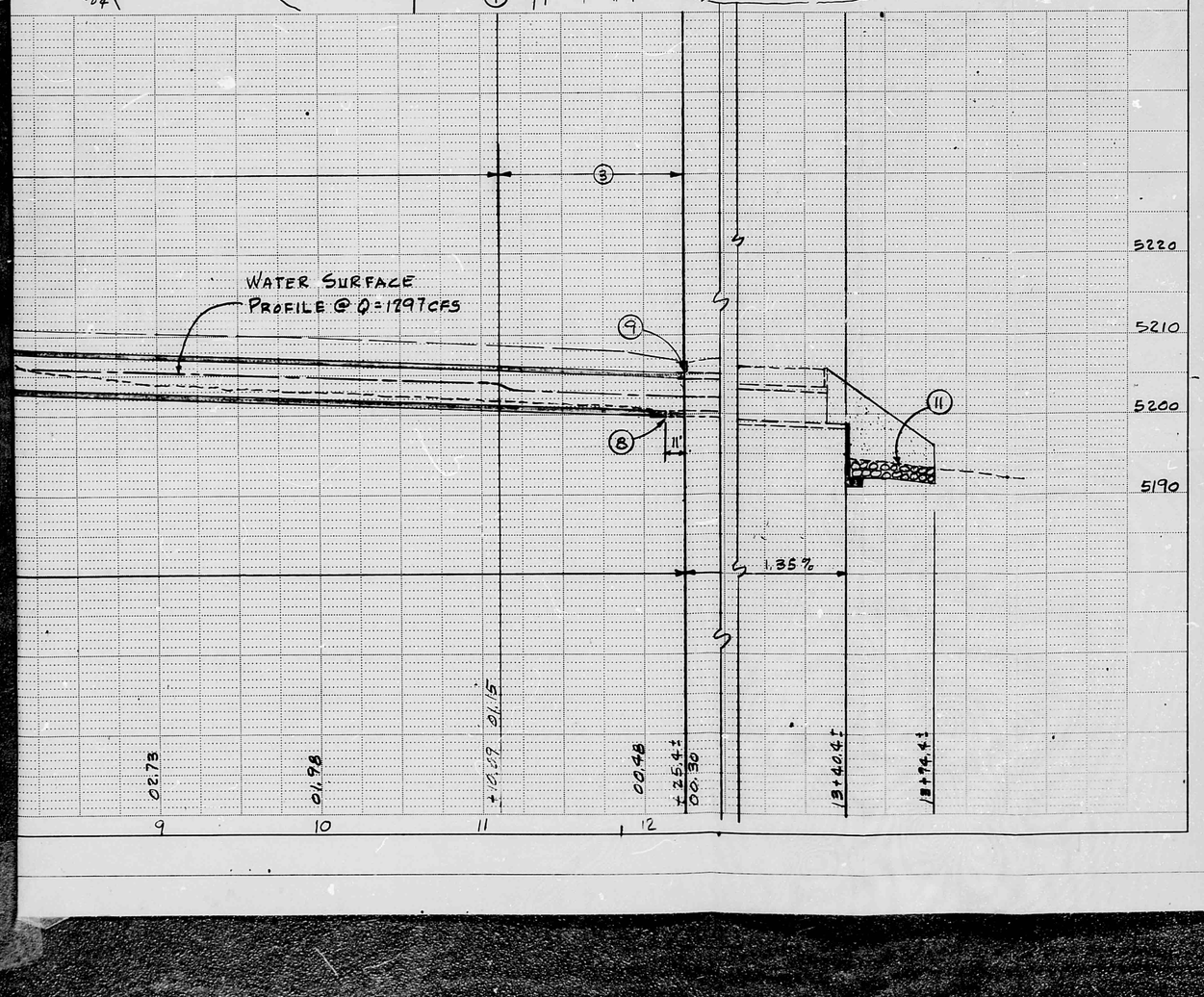


MULTIPLE-BOX CULVERT (REINF. SYMMETRICAL) 1/4" = 1'-0"



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



NOTES: SHEET C-3.

1. UPSTREAM ENTRY FLUME. MODIFY SECTION AS REQUIRED IF PROPOSED CONCRETE CHANNEL IS IN PLACE UPSTREAM.
2. MULTIPLE-BOX CULVERT. SEE DETAIL THIS SHEET.
3. BOX CULVERT TRANSITION TO MEET 4 OF EXISTING 4' X 10' BOX CULVERTS. SEE SHEET C-2.
4. BRICK SHUT 7 OF REMAINING BOX CULVERTS. ONE ON EITHER SIDE OF NEW BOX CULVERT FOR MODIFICATION TO AREA INLETS FOR LOCAL DRAINAGE. (FUTURE)
5. BLOCK OUT AND BRICK SHUT FOR FUTURE EXTENSION OF EXIST. 30" RCP STORM SEWER THRU SIDE OF BOX.
6. DOWNSTREAM VELOCITY SPOILER AND EROSION PROTECTION. SEE SHEET C-5.
7. 3' DEEP CUT-OFF WALL.
8. REMOVE EXISTING CONCRETE APRON.
9. STATE HIGHWAY DEPT. TYPE II CONNECTION. SEE DETAIL ON SHEET C-2.
10. DELETED.
11. 2' DEEP GROUTED RIPRAP BETWEEN WING WALLS.
12. OPEN CHANNEL SECTION. SEE DETAIL THIS SHEET.
13. 30" DIAM. MANHOLES TO GRADE @ 300' ON CENTER MAXIMUM.
14. RETAINING WALL WITH CHAIN LINK FENCE ALONG PROPERTY LINE. TO BE CONSTRUCTED WITH SITE GRADING. FUTURE.
15. #4 @ 12" O.C., LONG.
16. #5 @ 10" O.C.
17. #5 DOWEL @ 10" O.C. DOWEL UP 3'-0" TYPICAL.
18. #5 @ 15" O.C.
19. #5 DOWEL @ 15" O.C. DOWEL UP 1'-6", TYPICAL.
20. ALTERNATE BENDS OF DOWEL.
21. #5 DOWEL @ 15" O.C. DOWEL OUT 3'-0", TYPICAL.
22. 3" X 3" CHAMFER, EACH SIDE, AT BEGINNING OF CENTER WALL.
23. 10 x 10 - 10/10 WF SECURED OVER CULVERT OPENING.
24. EXPANSION JOINT. SEE SECTION 2 ON SHEET C-3.
25. CONSTRUCTION JOINTS TO BE FORMED WITH GALVANIZED METAL KEYED SECTIONS PREPUNCHED FOR DOWEL INSERTION. 100' O.C. MAX. SPACING.
26. BLOCK OUT 2'-0" SQUARE THRU TOP OF BOX CULVERT FOR AREA INLET FOR COOPERS STORE DRAINAGE. SEE T.T. BURNET PLANS FOR EXACT LOCATION.

DESIGN COMPUTATIONS FOR 100 YR. STORM.

Q_{100} = 1300 CFS. - GIVEN BY AMAFCA

Q MAXIMUM FOR CULVERTS FLOWING FULL:

$Q = 2\ (66.02) \times \frac{1.486}{0.013} \times 1.981 \times 0.0866 = 2590$ CFS

VELOCITY = 19.62 FPS

DEPTH OF FLOW FOR 100 YR. STORM = 2.8 FT.

$Q_{100} = 41.81 \times \frac{1.486}{0.013} \times 1.601 \times .0086 = 650$ CFS

VELOCITY = 15.55 FPS

HEADWATER DEPTH @ CHANNEL TO BOX TRANSITION = 8.0'

PRINTED
JAN 3 1 1979
F.M.B. & A. ARCHITECTS

GENERAL NOTE:

A. FUTURE BLDG. CONSTRUCTION SHALL BE SO LOCATED THAT OVERLAND FLOW AND/OR CULVERT OVERFLOW WILL BE DIRECTED TO THE EXISTING BOX CULVERTS ON SAN MATEO BLVD.

Max Flatow

APPROVED: [signature] DATE: Jan 17, 79
for DISTRICT ENGINEER, STATE HIGHWAY DEPARTMENT

APPROVED: Richard S Stoller DATE: 1/15/79
CITY ENGINEER, CITY OF ALBUQUERQUE, N.M.

APPROVED: Richard E Leonard DATE: J. 17 19
EXECUTIVE ENGINEER A.M.A.F.C.A.

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C-1 OF 5