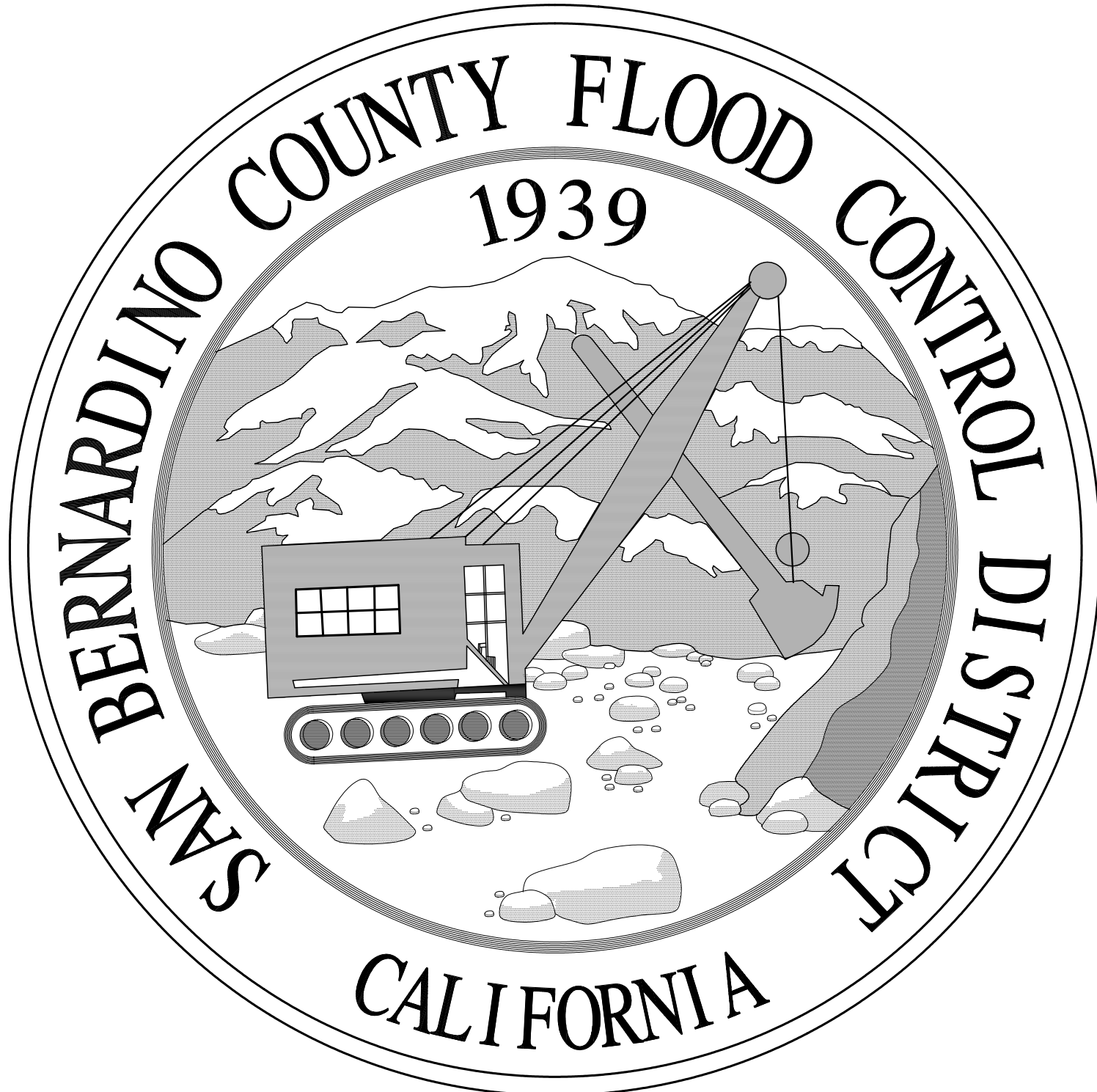


WARNING: ALL INDIVIDUALS INTERESTED IN BIDDING ON THIS PROJECT MUST OBTAIN THE FINAL PLANS AND SPECIFICATIONS FROM THE DEPARTMENT MANAGING THE PROJECT OR AS OTHERWISE STATED IN THE ADVERTISEMENT FOR BIDS FOR THE PROJECT. DO NOT USE THE PLANS AND SPECIFICATIONS POSTED ON THE CLERK OF THE BOARD'S WEBSITE FOR BIDDING ON THIS PROJECT.

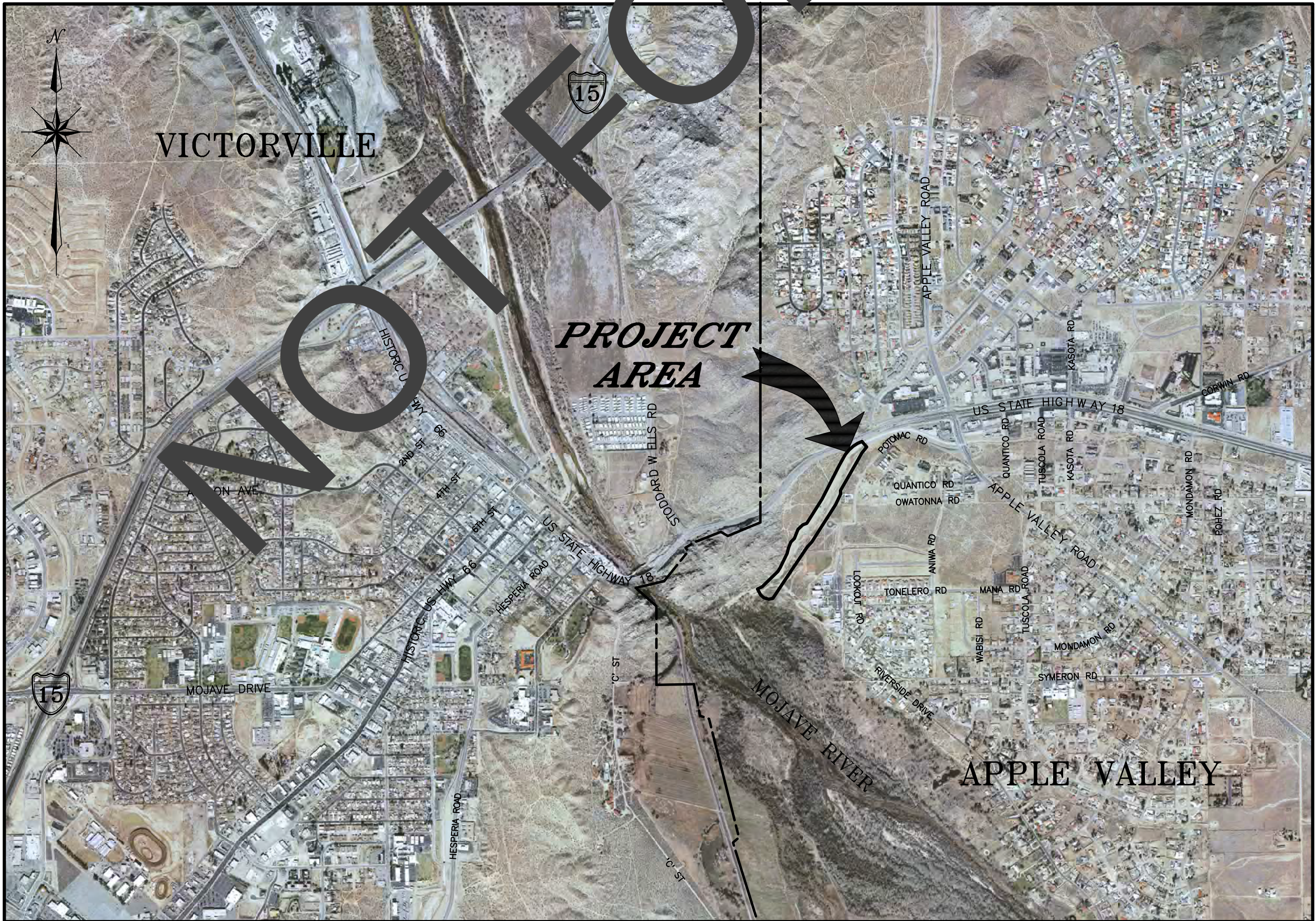
SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT

PLANS FOR CONSTRUCTION ON DESERT KNOLLS WASH PHASE III



WORK ORDER NO. F01854

LOCATED IN THE TOWN OF APPLE VALLEY
OF SAN BERNARDINO COUNTY



PROJECT LOCATION MAP

NOT TO SCALE

GENERAL NOTES:

- 1 ALL COORDINATES AND BEARING SHOWN ARE BASED ON GROUND COORDINATES
- 2 ALL DISTANCES SHOWN ON THESE DRAWINGS ARE GROUND DISTANCES
- 3 SEE "SPECIAL PROVISIONS" FOR ADDITIONAL CONSTRUCTION INFORMATION & DETAILS.
- 4 IN GENERAL, ALL MATERIALS & CONSTRUCTION METHODS SHALL CONFORM TO THE 2018 EDITION STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS" AND "STANDARD PLANS" UNLESS OTHERWISE SPECIFIED.
- 5 THESE PLANS DEPICT ALL ACTIVE UTILITIES KNOWN BY THE DISTRICT TO EXIST AT THIS TIME. LOCATIONS ARE APPROXIMATE & SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO ANY EXCAVATION. OPERATORS OF OVERHEAD UTILITIES SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST TWO WORKING DAYS PRIOR TO START OF CONSTRUCTION.
- 6 THE CONTRACTOR SHALL CALL "UNDERGROUND SERVICE ALERT", 1-800-227-2600 AT LEAST 48 HOURS IN ADVANCE OF ANY WORK WITHIN THE PROJECT AREA TO ALLOW UTILITY OPERATORS TO CHECK & MARK LOCATIONS OF EXISTING FACILITIES.

APPROVED BY:

BRENDON BIGGS, CHIEF FLOOD CONTROL ENGINEER, R.C.E. C57127

9/19/2023

DATE

NOEL CASTILLO, ASST. DIRECTOR OF PUBLIC WORKS, R.C.E. C78044

9/19/23

DATE

INDEX SHEET

1	COVER SHEET
2	INDEX, CONSTRUCTION NOTES, LEGEND OF MAP SYMBOLS, STANDARD PLANS & ABBREVIATIONS
3	GENERAL GRADING PLAN & PROFILE
4	SURVEY MAP/GEOMETRY CONTROL, STA 12+00.00 TO STA 26+10.00
5	SURVEY MAP/GEOMETRY CONTROL, STA 26+10.00 TO STA 39+29.14
6	PLAN, PROFILE & TYPICAL SECTION, STA 12+00.00 TO STA 22+00.00
7	PLAN, PROFILE & TYPICAL SECTION, STA 22+00.00 TO STA 31+00.00
8	PLAN, PROFILE & TYPICAL SECTION, STA 31+00.00 TO STA 39+29.14
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10	DETAILS – CABLE RAILING (REMOVABLE PROTECTIVE BARRIERS)
11	DETAILS – PARKWAY CROSSING
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13	SPECIAL DRAWING I (BOUNDARY FENCING, 6' CHAIN LINK FENCE)
14	SPECIAL DRAWING II (CHANNEL WALL FENCING, 6' CHAIN LINK FENCE)

CONSTRUCTION NOTES:

- 1 PROTECT-IN-PLACE
- 2 INSTALL 6.0' HIGH TEMPORARY CHAIN LINK FENCE WITH SIGHT BLOCK PER PLAN DURING CONSTRUCTION
- 3 REMOVE AND DISPOSE INTERFERING ABANDONED SEWER LINES, MANHOLES AND ITS APPURTENANCES PER PLAN
- 4 CONSTRUCT 1/4 TON CONCRETED ROCK CUT-OFF WALL, METHOD 'A' PLACEMENT, FULL GROUT PENETRATION PER PLAN AND DETAILS ON SHEET NO. 9
- 5 INSTALL 4.0' HIGH CABLE RAILING WITH STEEL POSTS AS REMOVABLE PROTECTION BARRIERS PER PLAN, SECTION AND DETAILS ON SHEET NO. 10
- 6 CONSTRUCT TRAPEZOIDAL CHANNEL UTILIZING NATURAL ROCK MATERIAL ON THE NORTH SIDESLOPE (1:1); 1/4 TON CONCRETED ROCK SLOPE PROTECTION (CRSP) ON SOUTH SIDESLOPE (2:1), 3.3' THICK, METHOD 'A' PLACEMENT, FULL GROUT PENETRATION; AND EARTH INVERT; PER PLAN (STA 13+40.00–STA 22+22.76), PROFILE, SECTION AND DETAILS ON SHEET NO. 9
- 7 INSTALL 6.0' HIGH CHAIN LINK CHANNEL FENCE PER PLAN AND S.B.C.F.C.D. SPECIAL DRAWING II, ON SHEET NO. 14
- 8 CONSTRUCT 30.0' WIDE DRIVEABLE CONCRETED ROCK ACCESS RAMP PER PLAN (STA 13+40.00 – STA 14+50.00), SURVEY MAP/GEOMETRY CONTROL ON SHEET NO. 4, AND DETAILS ON SHEET NO. 6
- 9 INSTALL 30.0' WIDE DOUBLE DRIVE PIPE GATE PER PLAN (STA 14+50.00) AND S.B.C.F.C.D. STD. DWG. S.P. 209
- 10 CONSTRUCT 30.0'–20.0' WIDE COMPACTED NATIVE ACCESS ROAD APPROACH TO ACCESS RAMP, PER PLAN (STA 14+50.00 – STA 15+50.00), SURVEY MAP/GEOMETRY CONTROL ON SHEET NO. 4
- 11 CONSTRUCT 20.0' WIDE COMPACTED NATIVE ACCESS ROAD, PER PLAN, SECTION, AND DETAILS ON SHEET NO. 9
- 12 CONSTRUCT 1 TON LOOSE ROCK SPLASH PAD, 8.0' THICK, METHOD 'A' PLACEMENT, PER PLAN, PROFILE, SECTION AND DETAILS ON SHEET NO. 9
- 13 CONSTRUCT 1/4 TON CONCRETED ROCK, GRADE CONTROL STRUCTURE, 3.3' THICK, METHOD 'A' PLACEMENT, FULL GROUT PENETRATION, PER PLAN, PROFILE, SECTION AND DETAILS ON SHEET NO. 9
- 14 CONSTRUCT TRAPEZOIDAL CHANNEL, 1/4 TON CONCRETED ROCK SLOPE PROTECTION (CRSP), SIDE SLOPES (2:1), 3.3' THICK, METHOD 'A' PLACEMENT, FULL GROUT PENETRATION; EARTH INVERT; PER PLAN, PROFILE, SECTION AND DETAILS ON SHEET NO. 9
- 15 CONSTRUCT MAINTENANCE TURN-AROUND AREA PER PLAN (STA 22+16.79 – STA 25+00.00), SURVEY MAP/GEOMETRY CONTROL ON SHEET NO. 4
- 16 CONSTRUCT 30.0'–20.0' WIDE COMPACTED NATIVE ACCESS ROAD APPROACH TO MAINTENANCE TURN-AROUND AREA, PER PLAN (STA 25+00.00 – STA 26+50.00), SURVEY MAP/GEOMETRY CONTROL ON SHEET NOS. 4 & 5
- 17 CONSTRUCT 20.0' WIDE DRIVEABLE CONCRETED ROCK ACCESS RAMP PER PLAN AND DETAILS ON SHEET NO. 6
- 18 INSTALL 20.0' WIDE DOUBLE DRIVE CHAIN LINK GATE PER PLAN AND S.B.C.F.C.D. SPECIAL DRAWING I, ON SHEET NO. 13
- 19 REMOVE AND DISPOSE OR REUSE SUITABLE CLASS ROCKS
- 20 BREAK, REMOVE AND DISPOSE EXISTING CONCRETE SLAB
- 21 CONSTRUCT 40.0 L.F., CAST-IN-PLACE 6-CELLS REINFORCED CONCRETE BOX (RCB) 10.0' SPAN X 5.0' RISE, PER PLAN, CALTRANS STD. DB1 & DB2 AND DETAILS ON SHEET NO. 11
- 22 CONSTRUCT CONCRETE CUT-OFF WALL, 8.0' DEEP PER PLAN, PROFILE AND DETAILS ON SHEET NO. 12
- 23 CONSTRUCT BOX CULVERT HEADWALL/PARAPET WALL PER PLAN, AND DETAILS ON SHEET NOS. 11 & 12
- 24 CONSTRUCT BOX CULVERT STRAIGHT WINGWALLS PER PLAN, CALTRANS STD. DB4 AND DETAILS ON SHEET NO. 11
- 25 PLACE COMPACTED NATIVE FILL ON TOP OF REINFORCED CONCRETE BOX (RCB) AND ITS SURROUNDING AND GRADE TO DRAIN PER PLAN, SURVEY MAP/GEOMETRY CONTROL ON SHEET NO. 5, AND DETAILS ON SHEET NO. 11
- 26 INSTALL MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (WOOD POST WITH WOOD BLOCK) ON BOTH SIDES OF PARKWAY CROSSING, (TOTAL 235 L.F.) PER PLAN AND CALTRANS STD. A77M1
- 27 INSTALL 26.0' WIDE DOUBLE DRIVE CHAIN LINK GATE PER PLAN AND S.B.C.F.C.D. SPECIAL DRAWING I, ON SHEET NO. 13
- 28 INSTALL 4.0' WIDE CHAIN LINK WALK GATE PER PLAN AND S.B.C.F.C.D. SPECIAL DRAWING I, ON SHEET NO. 13
- 29 CONSTRUCT BOX CULVERT WARPED WINGWALLS PER PLAN, CALTRANS STD. DB6A AND DETAILS ON SHEET NOS. 11 & 12
- 30 CONSTRUCT CONCRETE APRON WITH CUT-OFF WALL, 8.0' DEEP PER PLAN AND DETAILS ON SHEET NO. 12
- 31 INSTALL 6.0' HIGH CHAINLINK BOUNDARY FENCE PER PLAN AND S.B.C.F.C.D. SPECIAL DRAWING I, ON SHEET NO. 13
- 32 REMOVE AND DISPOSE DOUBLE DRIVE CHAIN LINK GATE
- 33 REMOVE AND DISPOSE EXISTING BOUNDARY CHAIN LINK FENCE PER PLAN
- 34 REMOVE AND DISPOSE EXISTING CORRUGATED STEEL PIPE (CSP)
- 35 BREAK, REMOVE AND DISPOSE OR REUSE SUITABLE CLASS CONCRETED ROCK SLOPE PROTECTION

LEGEND OF MAP SYMBOLS FOR GRADING PLANS

	CHANNEL CENTERLINE
	CHAIN LINK FENCE, EXISTING
	CHAIN LINK FENCE, PROPOSED
	CHAIN LINK DOUBLE DRIVE GATE
	DEAD MAN/DOWN GUY
	ELECTRICAL LINES
	EXISTING GROUND, IN PROFILE
	EXISTING MAJOR CONTOUR LINES
	EXISTING MINOR CONTOUR LINES
	LIMIT OF GRADING
	GUARD RAIL WITH WOOD POST AND BLOCK
	GUY WIRE
	MATCH LINE
	PIPE GATE
	POWER POLE
	PROPOSED MAJOR CONTOUR LINES
	PROPOSED MINOR CONTOUR LINES
	RIGHT OF WAY/PROPERTY LINES
	SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
	SEWER LINES
	SEWER MANHOLES
	STEEL POST WITH CABLE RAILING BARRIER
	TREE/BUSH
	WATER SURFACE/HYDRAULIC GRADE LINE, IN PROFILE
	1/4 TON CLASS CONCRETED ROCK
	1 TON CLASS LOOSE ROCK
	BACKFILL, 90% COMPACTED NATIVE
	EXCAVATION
	FILL, 90% COMPACTED NATIVE
	NATIVE EARTH
	STRUCTURAL BACKFILL, 95% COMPACTION

ABBREVIATIONS:

A	ARC LENGTH
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
APPROX (~)	APPROXIMATE
AVE	AVENUE
BC	BEGIN CURVE
BVC	BEGIN VERTICAL CURVE
CFS	CUBIC FEET PER SECOND
CHAN	CHANNEL
CL	CENTERLINE, CONTROL LINE
CONC	CONCRETE
CRSP	CONCRETED ROCK SLOPE PROTECTION
DDG (20')	DOUBLE DRIVE GATE (20' CLEAR OPENING)
DS	DOWNSTREAM
E	EAST, EASTING
EC	END CURVE
EL, ELEV	ELEVATION
E'LY	EASTERLY
EVC	END VERTICAL CURVE
EW	EAST WALL
EX, EXIST	EXISTING
FB	FREEBOARD
FG	FINISH GRADE
FL	FLOW LINE
FPS	FEET PER SECOND
FS	FINISH SURFACE
GB	GRADE BREAK
GP	METAL GUARD POST
GR	GRADE
H, HT	HEIGHT
HP	HIGH POINT
HGL	HYDRAULIC GRADE LINE
IE	INVERT ELEVATION
INV	INVERT
L	LENGTH
LAT	LATERAL
LF	LINEAR FEET
LOL	LAYOUT LINE
LONG	LONGITUDINAL
LP	LOW POINT
LT	LEFT OF (OFFSET FROM CENTERLINE)
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH, NORTHING
NE	NORTHEAST
NW	NORTHWEST
OC	ON CENTER
OG	ORIGINAL GRADE
PROP	PROPOSED
PIP	PROTECT IN PLACE
P/P	POWER POLE
Q	FLOW RATE
R	RADIUS
RT	RIGHT OF (OFFSET FROM CENTERLINE)
ROW, R/W	RIGHT OF WAY
RSP	ROCK SLOPE PROTECTION
S	SLOPE
SE	SOUTHEAST
SH	SHEET
SBCFCD	SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
SPEC	SPECIFICATION
SIM	SIMILAR
STA	STATION
SW	SOUTHWEST
T	TANGENT
TCE	TEMPORARY CONSTRUCTION EASEMENT
TRANS	TRANSITION
TW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
US	UPSTREAM
V	VELOCITY
VAR	VARIES
VPI	VERTICAL POINT OF INTERSECTION
W	WIDTH, WEST
W/	WITH
W'LY	WESTERLY
WS	WATER SURFACE
WW	WEST WALL

STANDARD PLANS

STD. NO.

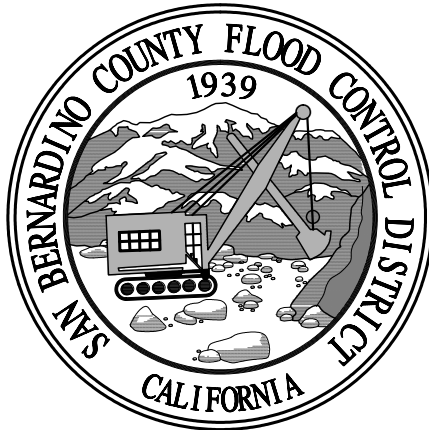
DESCRIPTION

CALTRANS

A77L1	MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (WOOD POST WITH WOOD BLOCK)
A77M1	MIDWEST GUARDRAIL SYSTEM STANDARD HARDWARE
A77N1	MIDWEST GUARDRAIL SYSTEM WOOD POST AND WOOD BLOCK DETAILS
A77N3	MIDWEST GUARDRAIL SYSTEM TYPICAL LINE POST EMBEDMENT AND HINGE POINT OFFSET DETAILS
DB1	CAST-IN-PLACE REINFORCED CONCRETE DOUBLE BOX CULVERT
DB2	CAST-IN-PLACE REINFORCED CONCRETE BOX CULVERT MISCELLANEOUS DETAILS
DB4	BOX CULVERT WINGWALLS
DB6A	BOX CULVERT WARPED WINGWALLS

S.B.C.F.C.D.

S.P. 209	PIPE GATE (HORIZONTAL OPENING)
SPEC. DWG. I	6.0' CHAIN LINK BOUNDARY FENCE & GATE
SPEC. DWG. II	6.0' CHAIN LINK CHANNEL FENCE & GATE



REVISIONS			
MARK	DATE	DESCRIPTION	BY:

SUBMITTED BY: <i>Eloy Ruvalcaba</i>		9/19/2023
ELOY RUVALCABA, P.E.		DATE
RECOMMENDED BY: <i>David Drake</i>		9/19/23
DAVID DRAKE, P.E.		DATE
APPROVED BY: <i>Mervat Mikhail</i>		09/19/2023
MERVAT MIKHAIL, P.E. DEPUTY DIRECTOR		DATE
PROJ. ENGR. ER	DESIGNED BY DJN	REV'D BY DD
DRAWN BY DJN		

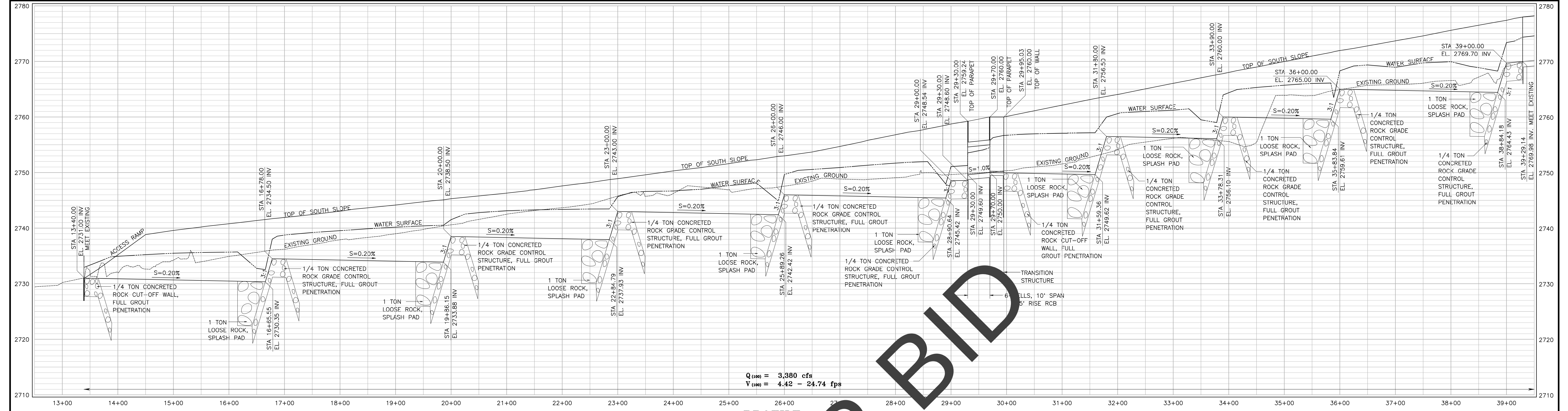
SAN BERNARDINO COUNTY
FLOOD CONTROL DISTRICT

APPLE VALLEY DRAINAGE SYSTEM

DESERT KNOLLS WASH

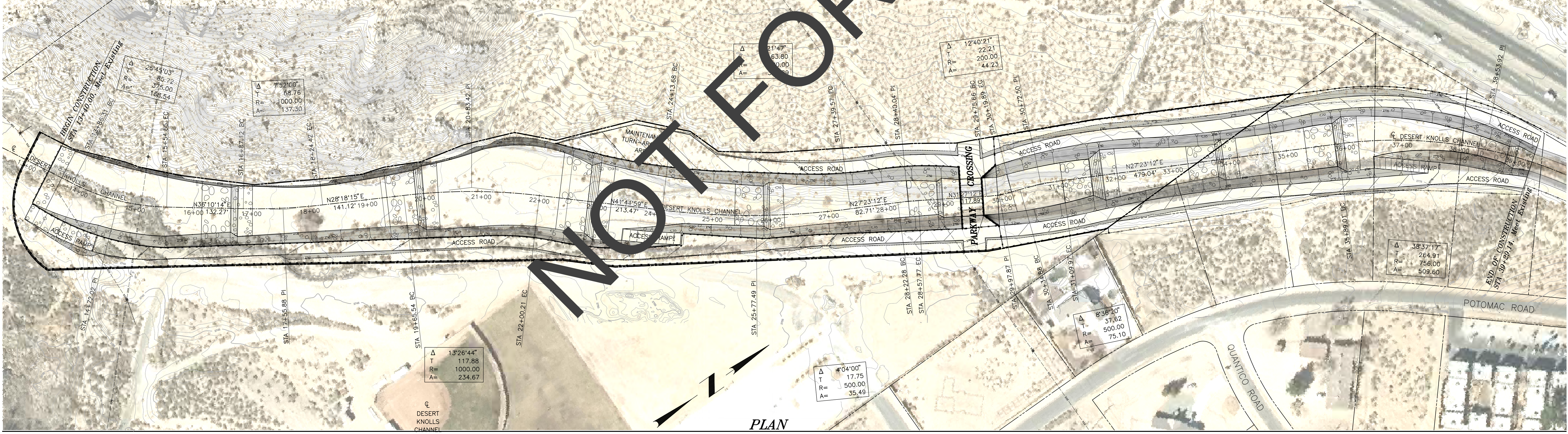
INDEX, CONSTRUCTION NOTES,
LEGEND OF MAP SYMBOLS,
STANDARD PLANS & ABBREVIATIONS

DATE	Sept. 2023
SCALE	AS SHOWN
FILE NO.	4-201-
SHEET NO.	2 of 14

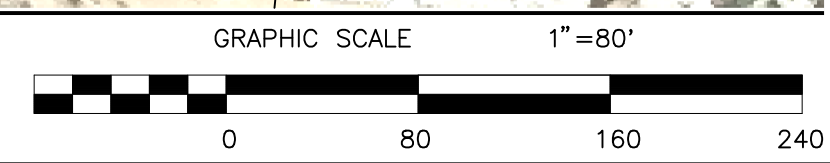


Q₍₁₀₀₎ = 3,380 cfs
V₍₁₀₀₎ = 4.42 - 24.74 fps

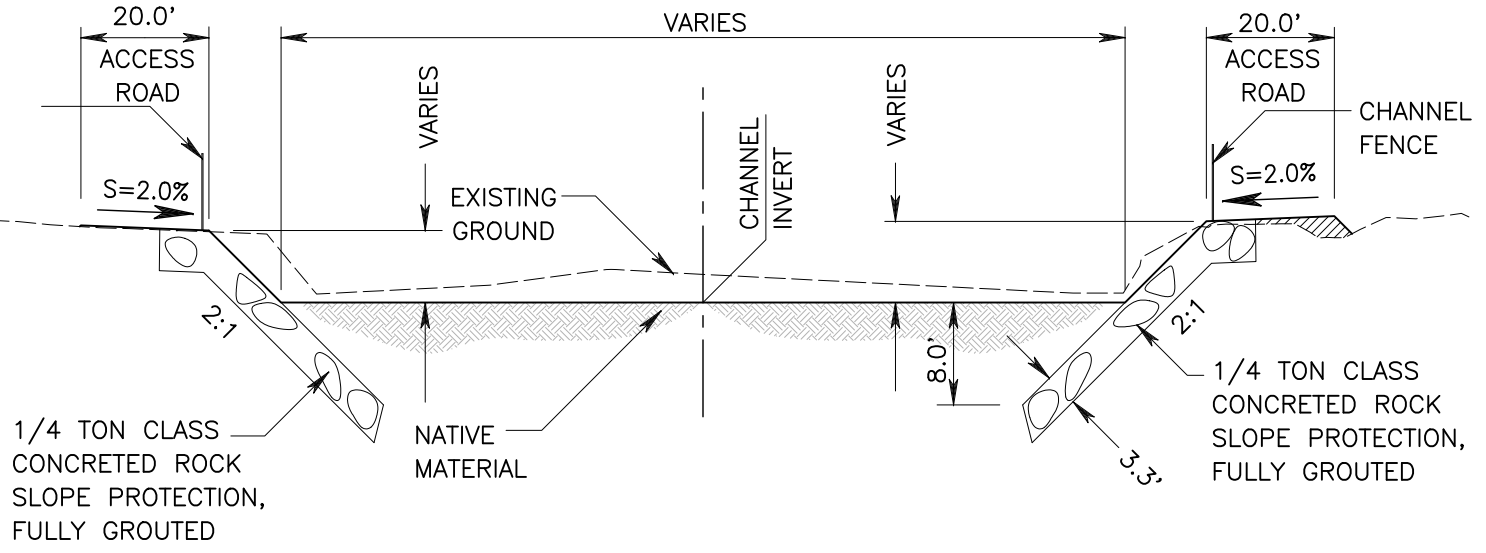
PROFILE
HORIZONTAL SCALE 1"=80'
VERTICAL SCALE 1"=8'

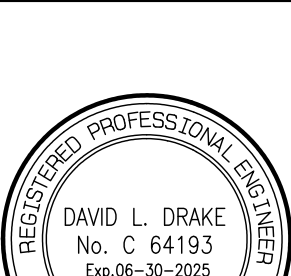
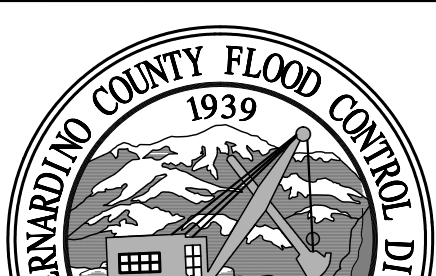


PLAN
SCALE 1"=80'



**TYPICAL CHANNEL SECTION
CONCRETED ROCK SLOPE
PROTECTION SIDE SLOPES**
NOT TO SCALE



		REVISIONS				SUBMITTED BY: <i>Eloy Ruvalcaba</i>		9/19/2023		SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT		DATE			
		MARK	DATE	DESCRIPTION	BY:	ELOY RUVALCABA, P.E.		DATE				Sept. 2023			
								RECOMMENDED BY: <i>David Drake</i>		9/19/23		APPLE VALLEY DRAINAGE SYSTEM		SCALE	
								DAVID DRAKE, P.E.		DATE		DESERT KNOLLS WASH		AS SHOWN	
								APPROVED BY: <i>Mervat Mikhail</i>		09/19/2023		GENERAL GRADING PLAN & PROFILE		FILE NO.	
								MERVAT MIKHAIL, P.E. DEPUTY DIRECTOR		DATE				4-201-	
								PROJ. ENGR.	DESIGNED BY	REV'D BY	DRAWN BY			SHEET NO.	
								ER	DJN	DD	DJN	3 of 14			