



Natural Resources Conservation Service - New Mexico  
Santa Cruz Site 1 Dam and Debris Basin Rehabilitation  
Conceptual Design  
Rio Arriba County, New Mexico

---

ALTERNATIVES ANALYSIS DRAWINGS  
MARCH, 2018

---

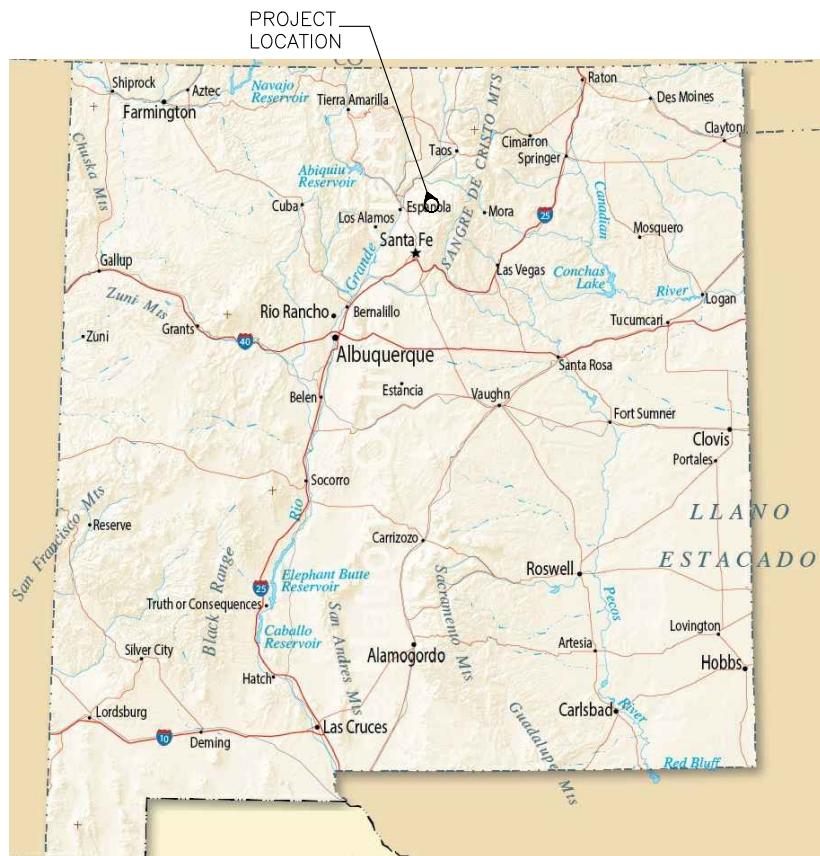
*CONCEPTUAL DESIGN SUBMITTAL*

# NATURAL RESOURCES CONSERVATION SERVICE

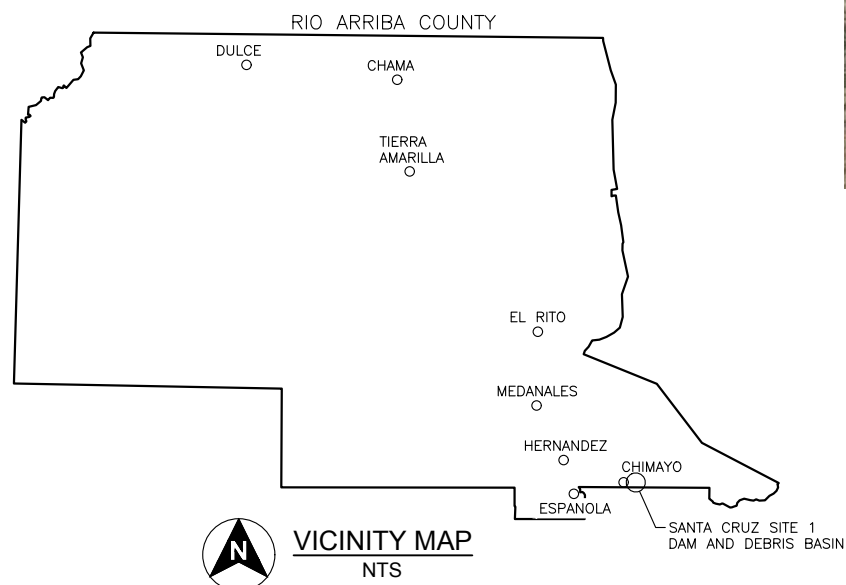
## SANTA CRUZ SITE 1 DAM AND DEBRIS BASIN REHABILITATION

### RIO ARRIBA COUNTY, NEW MEXICO

## CONCEPTUAL DESIGN



**LOCATION MAP**  
NTS



**VICINITY MAP**  
NTS



**PROJECT LIMITS**  
NTS  
36°00' N, 105°55' W

SHEET INDEX	
SHEET NO.	DESCRIPTION
GENERAL	
	COVER
G001	LOCATION MAP, VICINITY MAP, AND PROJECT LIMITS
G002	STANDARD ABBREVIATIONS
G003	STANDARD SYMBOLS
G004	EXISTING SITE PLAN
CIVIL	
C100	PROPOSED SITE PLAN
C101	PROPOSED EMBANKMENT PROFILE
C102	AUXILIARY SPILLWAY AND RETAINING DIKE SECTIONS AND DETAILS
C103	PRINCIPAL SPILLWAY INLET
C104	OUTLET PLAN AND SECTIONS
C105	ACCESS ROAD OPTION PLAN

**GENERAL NOTES:**

1. TERRAIN DATA UTILIZED IN THE DEVELOPMENT OF THESE CONCEPTUAL DRAWINGS IS LIDAR SURVEY 2015.
2. HORIZONTAL DATUM IS NAD 1983 STATEPLANE NEW MEXICO CENTRAL FIPS 3002 FEET. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).



REV	DATE	BY	DESCRIPTION
D	03/09/18	N. HORNBY	CONCEPT DESIGN SUBMITTAL
C	09/04/17	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
B	10/03/16	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
A	09/05/16	E. G. ROBISON	DRAFT CONCEPT DESIGN SUBMITTAL

WARNING	12
IF THIS BAR DOES NOT MEASURE 1" IS NOT TO SCALE.	

DATE:	03/09/18
CAD FILENAME:	G001.DWG
CONTRACT NUMBER:	
TASK ORDER NUMBER:	

DESIGNED BY:	N. HORNBY
DRAWN BY:	J. LAMON
CHECKED BY:	D. NELSON
SUBMITTED BY:	E. G. ROBISON

NATURAL RESOURCES CONSERVATION SERVICE  
6200 JEFFERSON NE  
ALBUQUERQUE, NM 87109

NEW MEXICO  
RIO ARRIBA COUNTY  
NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS BASIN REHABILITATION CONCEPT DESIGN  
LOCATION MAP, VICINITY MAP, AND PROJECT LIMITS

SHEET  
**G001**

A	B	C	D	E	F	G	H	
A/C A/E A AB ABC ABAN AC ACK ACP ACST AD ADDL ADH ADJ AF AFF AFG AGGR AI AIC ALIG ALUM ALT AM AMB ANC AP APRX APVD ARCH ASSY AT ATC ATM AUTO AUX AVE AVG AWG AWT  B/B BAL BBD BC  BD BE BF  BITUM BKG BL BLDG BLK BLKG BM BOC BOD BOG BOL BOP BOR BOT BOU BP BRG BRGP BRKT BS BTU BTW BTWLD BU BUR BW BYP  C TO C C&G C CAB CAP CAT CAV CB CCB COW CDF CE CER CF CFL CHFR CHBD CHD CHH CI CIP CIPB  CIRC CJ CKT CL CLG CLJ CLKG CLR CMH CMH CO COL COM COMB COMM COMP  1 CONC CONN CONST CONT COORD CORR CP CPLG CRL CSC	CSK CSS CT CTR CTRL CVT CU CW CY  d D DB DBA DBL DC DEG DEG C DEG F DEM DEP DEPT DET DI DIA DIAG DIFF DIM DISCH DIST DIV DL DMJ DMPF DN DO DP DPDT DR DS DT DUP DWG DWL DWR  E EA EC ECC ED EDB EE EF EFF EHH EIFS  EJ EL ELEC EMBD EMER EMH ENCL ENGR ENTR EQP, EP EQ EQUIP EQUIV ES  ESEW EST EW  EWC EWEF EWTB EXC EXH EXST EXP EXT  F&B F TO F FAB FB FBD FBG FBM FBO FCA FD FDC FDTN FDR FE FEC FES FEXT FF FG FIG FH FIN FJT FL FLEX FLG FLOR FLR FLS FNS FO FOB FOC FOF FOM FOS FOT FPT FR FRP FRYM FS	FT FG FUR FURN FUT FV FW FWD FWE FXTR  G  GA GAL GALV GB GC GD GEN GFCI GFMU GG GJ GL GLB GND GP GR GRTG GYSB GT GVL GWB GYP  H HBD HC  HC HDR HDW HEX HGR HH HID HM HORIZ HP HPC HPS HPT HR HS HSS HT HTG HV HVAC  I ID IE IF IH IMP IN INC INF INSTR INSUL INT INTR INV IPS IPT IRR IRR ISO  JB JCT JF JST JT  K KB KCMIL KD KO KSI  L LAD LAM LATL LB LCTB LDG LDR LE LF LG LH LIN LIQ LLH LLV LNU LOC LP LPS LR LT LTD LTG LTL LTNG	FEET, FOOT FOOTING, FITTING FURRED, FURRING FURNITURE, FURNISH FUTURE FACE VELOCITY FIELD WELD, FIRE WALL FORWARD FURNISHED WITH EQUIPMENT FIXTURE  GRILLE, GROUND, GENERAL (DWG DISCIPLINE) GAGE (METAL THICKNESS) GALLON GALVANIZED GRAB BAR, GRADE BREAK GROOVED COUPLING GUARD GENERAL GROUND FAULT CIRCUIT INTERRUPTER GROUND FACE MASONRY UNIT GUTTER GRADE GROOVED JOINT GLASS GLASS BLOCK GROUND GUY POLE GRADE GRATING GYPSUM SHEATHING BOARD GREASE TRAP GRAVEL GYPSUM WALLBOARD GYPSUM HARDBOARD  HIGH HOSE BIB HARDBOARD HANDICAPPED, HOLLOW CORE, HORIZONTAL CURVE HORIZONTAL CENTERLINE HEADER HARDWARE HEXAGONAL HANGER HANDHOLE HIGH INTENSITY DISCHARGE HOLLOW METAL HORIZONTAL HIGH POINT, HORSEPOWER HORIZONTAL POINT OF CURVATURE HIGH PRESSURE SODIUM HORIZONTAL POINT OF TANGENCY HOSE REEL, HOUR HEADED STUD, HIGH STRENGTH HOLLOW STRUCTURAL SHAPE HEIGHT HEATING HIGH VOLTAGE HEATING, VENTILATION & AIR CONDITIONING HARDWOOD HIGH WATER LEVEL HYDRAULIC HERTZ, CYCLES PER SECOND  INSTRUMENTATION (DWG DISCIPLINE) INSIDE DIAMETER, INTERIOR DIMENSION INVERT ELEVATION INSIDE FACE INTAKE HOOD IMPACT INCH INCLUDE, INCANDESCENT INFLEUNT INSTRUMENTATION INSULATION INTERIOR, INTERSECTION INTERMEDIATE, INTERIOR INVERT IRON PIPE SIZE INTERNAL PIPE THREAD INSIDE RADIUS IRRIGATION ISOMETRIC  JUNCTION BOX JUNCTION JOINT FILLER JOIST JOINT  KIP KNEE BRACE THOUSAND CIRCULAR MILS KNOCK DOWN KNOCK OUT KIPS PER SQUARE INCH  ANGLE, LENGTH, LAVATORY LADDER LAMINATE LATERAL LAG BOLT, POUND LIQUID CHALK AND TACK BOARD LANDING LEADER LIFTING EYE LINEAR FOOT LONG LEFT HAND LINEAR LIQUID LONG LEG HORIZONTAL LONG LEG VERTICAL LIQUID MARKER LECTURE UNIT LONGITUDINAL LOCATION LOW POINT LOW PRESSURE SODIUM LONG RADIUS LEFT LIMITED LIGHTING LINTEL LIGHTNING	LV LVR LW LWC LWL  M MA MACH MAINT MAN MATL MAX MB MBR MC  MCB MCJ MDMJ MECH MED MFR MH MIN MIR MISC MJ MLO MMB MO MOD MON MPT MRGWB  MS MSL MT MU MULL MV MW  N NA NAT NC NEG NF NIC NO NOM NPS NPT NS NTS NWL  O TO O OA OC OCPD OD OED OF OG OH OHP OPNG OPP OPT OR ORD ORIG OVFL OVHG OZ  P PA PAR PB PBD PC PCC PCF PCT PE PED PEN PERF PERM PERP PF PFMU PH PI PKG PL PLAS PLAT PLBG PLF PNEU POL POS PP PRC PREF PREFAB PRELIM PREP PRES PRI PROP PROT PS PSF PSI PSIA PSIG PST PT PTN PVC PWMT PWD PWJ PZ	LOW VOLTAGE LOUVER LIGHTWEIGHT LIGHTWEIGHT CONCRETE LOW WATER LEVEL  MECHANICAL (DWG DISCIPLINE) REMOVE AND SALVAGE MACHINED MAINTENANCE MANUAL MATERIAL MAXIMUM MACHINE BOLT MEMBER MECHANICAL CONTRACTOR, MECHANICAL COUPLING METAL CORNER BEAD MASONRY CONTROL JOINT MODIFIED DOUBLE MECHANICAL JOINT MECHANICAL MEDIUM MANUFACTURER MANHOLE, METAL HALIDE MINIMUM MIRROR MISCELLANEOUS MECHANICAL JOINT MAIN LUGS ONLY MEMBRANE MASONRY OPENING MODULAR, MODIFY MONUMENT MALLEABLE THREAD MOISTURE RESISTANT GYPSUM WALLBOARD MOP SINK MEAN SEA LEVEL MOUNT MASONRY UNIT MULLION RIGHT MEDIUM VOLTAGE MONITORING WELL  NORTH, NEUTRAL NOT APPLICABLE NATURAL NORMALLY CLOSED NEGATIVE NEAR FACE, NON-FUSED NOT IN CONTRACT NORMALLY OPEN, NUMBER NOMINAL NOMINAL PIPE SIZE NATIONAL PIPE THREAD NEAR SIDE NOT TO SCALE NORMAL WATER LEVEL  OUT-TO-OUT OUTSIDE AIR, OVERALL ON CENTER OVER CURRENT PROTECTION DEVICE SILENCE OPEN END DUCT OUTSIDE FACE, OFFICE FURNISHING ORIGINAL GROUND OVERHEAD OVERHEAD POWER OPENING OPPOSITE OPTIONAL OUTSIDE RADIUS OVERFLOW ROOF DRAIN ORIGINAL OVERFLOW OVERHANG OUNCE  PAINT, PROCESS (DWG DISCIPLINE) PUBLIC ADDRESS PARALLEL PARAPET PANIC BAR, PULL BOX PARTICLE BOARD POINT OF CURVE, PIECE, PRECAST POINT OF COMPOUND CURVATURE POUNDS PER CUBIC FOOT PERCENT PLAIN END PEDESTAL PENETRATION PERFORATED PERMANENT PERPENDICULAR POWER FACTOR PREFACED MASONRY UNIT PHASE POINT OF INTERSECTION PACKAGE PLATE, PROPERTY LINE PLASTER PLATFORM PLUMBING POUNDS PER LINEAR FOOT PNEUMATIC POLISH POSITIVE, POSITION POLYPROPYLENE, POWER POLE POINT OF REVERSE CURVATURE PREFINISHED PREFABRICATED PRELIMINARY PREPARE PRESSURE PRIMARY PROPERTY PROTECTION PIPE SUPPORT POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH ABSOLUTE POUNDS PER SQUARE INCH GAGE PRESTRESSED POINT, POINT OF TANGENCY PARTITION POLYVINYL CHLORIDE PLYWOOD PLYWOOD WEB JOIST PIEZOMETER	Q QT QTR QTY QUAL  R&R R&S R RA RB RCPT RD REC RECD RECT RED REF REINF REM REQD RESIL RET REV RF RFL RGL RGS RGS-PVC RH  RL RLFA RND RNG RO ROW RPM RSP RT RVT RY  S  SA SAMU SAN SB SC SCH SCHEM SCN SE SEC SECT SEP SF SG SH SHT SHTG SIL SIM SLO SLTD SLV SMLS SOG SP SPE SPT SPLY SPST SPT SQ SR SS SST ST STA STD STIF STIRRUP STL STOR STR SUB SUC SUSP SY SYM SYMM SYN SYS  T&B T&G T TAN TBM TCE TEF TEMP THD THK THRESH THRU TKBD TOB  TOC TOD TOP TOG TOL TOM TOP TOPO TOS TOW TP  TPD TPG TR TRANS	RATE OF FLOW QUARRY TILE QUARTER QUANTITY QUALITY  REMOVE AND REPLACE REMOVE AND SALVAGE RADIUS, REGISTER, RISER RETURN AIR RESILIENT BASE, ROCK BERM RELIEF RECESS RECEIVED RECTANGULAR REDUCER REFERENCE REINFORCING REMOVE REQUIRED RESILIENT RETAINING, RETURN REVISION, REVERSE RESILIENT FLOORING ROOFING REFLECTED, REFLECTOR ROUGH RIGID GALVANIZED STEEL PVC COATED RGS RELIEF HOOD, RIGHT HAND, RELATIVE HUMIDITY REQUIRED LAP RELIEF AIR ROUND RUNNING ROUGH OPENING RIGHT OF WAY REVOLUTIONS PER MINUTE RAILROAD ROCK SLOPE PROTECTION RIGHT RESILIENT VINYL TILE READY  SOUTH, SINK, STRUCTURAL (DWG DISCIPLINE) SUPPLY AIR SOUND ABSORBING MASONRY UNIT SANITARY SPASH BLOCK SOLID CORE SCHEDULE SCHEMATIC SCREEN STEEL/ALUMINUM EDGE SECONDARY, SECONDS SEPARATE SQUARE FOOT SHEET GLASS, SEALANT GROOVE SHOWER SHEET SHEATHING SIMILAR SLOTTED SLID SLV SEAMLESS SLAB ON GRADE SOUNDPROOF, STANDPIPE SPACING SPECIFICATION SUPPORT SINGLE POLE SINGLE THROW SET POINT SQUARE SHORT RADIUS SERVICE SINK STAINLESS STEEL STREET STATION STANDARD STIFFENER STIRRUP STEEL STORAGE STRUCTURAL, STRAIGHT SUBSTITUTE SUCTION SUSPENDED SQUARE YARD SYMBOL SYMMETRICAL SYNTHETIC SYSTEM  TOP AND BOTTOM TONGUE AND GROOVE TOILET, TREAD TOILET ACCESSORY, TEMPERED AIR TANGENT TEMPORARY BENCHMARK TEMPORARY CONSTRUCTION EASEMENT TROWELED EPOXY FLOORING TEMPORARY, TEMPERATURE THREAD THICK THRESHOLD THROUGH TACK BOARD TOP OF BOLT, TOP OF BANK, TOP OF BEAM TOP OF CURB, TOP OF CONCRETE TOP OF DUCT TOP OF FOOTING TOP OF GRATING TOLERANCE, TOP OF LEDGER TOP OF MASONRY TOP OF PLATE TOPOGRAPHY TOP OF WALL, TOP OF STEEL TOP OF WALL TOILET PARTITION, TELEPHONE POLE, TOE PLATE, TRAP PRIMER TOILET PAPER DISPENSER TRANSITION	TRD TYP  U UG ULT UNFN UNO UTIL  V VA VAC VAR  VB  VC VCT  VEL VENT VERT VF VIN VS VOL VPC VPI VPT VTR WVC  W/ W/O W WB WC WD WF WG WH WL WLD WM WP WTHP WS WST WT WWF  XP XS XXS XSECT  YH YS  GENERAL NOTES:  1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF DRAWINGS.  2. LISTING OF ABBREVIATIONS DOES NOT IMPLY ALL ABBREVIATIONS ARE USED IN THE DRAWINGS.  3. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF THE WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MEAN INCLUDED OR INCLUDING; "REINF" MAY MEAN EITHER REINFORCE OR REINFORCING.  4. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.  PROJECT SPECIFIC ABBREVIATIONS:  NRCS NATURAL RESOURCES CONSERVATION SERVICE NM NEW MEXICO



DESIGNED BY: N. HORNBY	CAD FILENAME: _0002.DWG	DATE: 03/09/18	CONTRACT NUMBER: 000417	CONCEPT DESIGN SUBMITTAL
DRAWN BY: J. LAMON	CHECKED BY: D. NELSON	IF THIS BAR DOES NOT MEASURE 1" IS NOT TO SCALE	CONTRACT NUMBER: 000518	CONCEPT DESIGN SUBMITTAL
DESIGNED BY: N. HORNBY	CAD FILENAME: _0002.DWG	DATE: 03/09/18	CONTRACT NUMBER: 000518	CONCEPT DESIGN SUBMITTAL
DRAWN BY: J. LAMON	CHECKED BY: D. NELSON	IF THIS BAR DOES NOT MEASURE 1" IS NOT TO SCALE	CONTRACT NUMBER: 000518	CONCEPT DESIGN SUBMITTAL

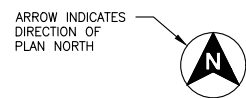
DESIGNED BY: N. HORNBY	CAD FILENAME: _0002.DWG	DATE: 03/09/18	CONTRACT NUMBER: 000417	CONCEPT DESIGN SUBMITTAL
DRAWN BY: J. LAMON	CHECKED BY: D. NELSON	IF THIS BAR DOES NOT MEASURE 1" IS NOT TO SCALE	CONTRACT NUMBER: 000518	CONCEPT DESIGN SUBMITTAL

DESIGNED BY: N. HORNBY	CAD FILENAME: _0002.DWG	DATE: 03/09/18	CONTRACT NUMBER: 000417	CONCEPT DESIGN SUBMITTAL
DRAWN BY: J. LAMON	CHECKED BY: D. NELSON	IF THIS BAR DOES NOT MEASURE 1" IS NOT TO SCALE	CONTRACT NUMBER: 000518	CONCEPT DESIGN SUBMITTAL

DESIGNED BY: N. HORNBY	CAD FILENAME: _0002.DWG	DATE: 03/09/18	CONTRACT NUMBER: 000417	CONCEPT DESIGN SUBMITTAL
DRAWN BY: J. LAMON	CHECKED BY: D. NELSON	IF THIS BAR DOES NOT MEASURE 1" IS NOT TO SCALE	CONTRACT NUMBER: 000518	CONCEPT DESIGN SUBMITTAL

NEW MEXICO  
RIO ARriba COUNTY  
NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS BASIN REHABILITATION CONCEPT DESIGN  
STANDARD ABBREVIATIONS  
SHEET  
G002

SHEET SYMBOLS

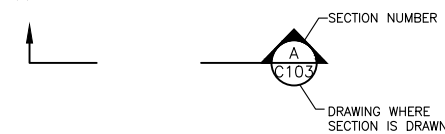


PLAN

SCALE: 1/2" = 1'-0"

SECTION IDENTIFICATION

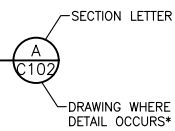
(1) SECTION CUT ON DRAWING C102:



(2) ON DRAWING C103 THIS SECTION IS IDENTIFIED AS:

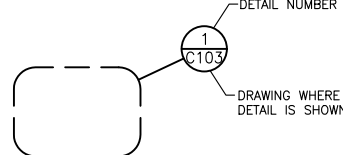
SECTION VIEW

SCALE: 1/2" = 1'-0"



DETAIL IDENTIFICATION

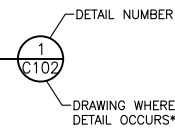
(1) DETAIL CALL-OUT ON DRAWING C102:



(2) ON DRAWING C103 THIS SECTION IS IDENTIFIED AS:

DETAIL

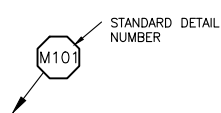
SCALE: 1/2" = 1'-0"



\*NOTE: IF PLAN AND SECTION (OR DETAIL CALL-OUT AND DETAIL) ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACED BY A LINE.

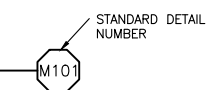
STANDARD DETAIL IDENTIFICATION

(1) DETAIL CALL-OUT ON PLAN OR SECTION:



(2) ON DETAIL DRAWINGS, IDENTIFIED AS:

DETAIL



SITE PLAN LINE TYPES

— X — X —	FENCE LINE
— P — P —	OVERHEAD POWER
— 455 —	MAJOR CONTOUR
— 456 —	MINOR CONTOUR
— ··· —	EDGE OF WATERLINE
— TOE —	TOE OF SLOPE
— TOB —	TOP OF BANK
— SS — SS —	SANITARY SEWER
— SD — SD —	STORM DRAIN
— EP — EP —	EDGE OF PAVEMENT
— EG — EG —	EDGE OF GRAVEL
— W —	WATTLE
— SF — SF —	SILT FENCE
— CF — CF —	CONSTRUCTION FENCE
— GAS —	GAS LINE
— OHP —	OVERHEAD POWER

SITE PLAN SYMBOLS

	CONIFER TREE: FIR, SPRUCE, LARCH OR PINE, 8" DIAMETER OR LARGER.
	DECIDUOUS TREE: COTTONWOOD, HAWTHORN, ASPEN, 8" DIAMETER OR LARGER.
●	MANHOLE
	STORM DRAIN INLET STRUCTURE
● FH	FIRE HYDRANT
● YH-X	YARD HYDRANT
—>	POLE ANCHOR
○	POWER POLE
	LIGHT POLE
— —	SIGN

HATCH SYMBOLS

	ROCK, TYPE AS NOTED (PLAN/SECTION)
	BED ROCK
	EXISTING GRADE (SECTION)
	NEW SOIL (SECTION)
	CONCRETE (SECTION/PLAN)
	SAND, GROUT (PLAN/SECTION)
	STEEL (SECTION)
	GRATING (PLAN)
	MASONRY (PLAN)
	WOOD, SIZE/TYPE AS NOTED (PLAN)
	WOOD, SIZE/TYPE AS NOTED (SECTION)
	RIP RAP (PLAN/SECTION)
	RIGID INSULATION (SECTION)
	ASPHALT CONCRETE PAVEMENT SURFACE (PLAN/SECTION)
	GRASS (PLAN)
	BATT INSULATION (SECTION)

GENERAL NOTES:

1. NOT ALL SYMBOLS ARE NECESSARILY USED ON THE SHEETS THAT FOLLOW. THIS IS A STANDARD DRAWING SHOWING COMMON SYMBOLS ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH DRAWING FOR USAGE.



REV	DATE	BY	DESCRIPTION
A	08/05/16	E. G. ROBISON	DRAFT CONCEPT SUBMITTAL
B	10/05/16	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
C	08/04/17	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
D	03/02/18	N. HORNSBY	CONCEPT DESIGN SUBMITTAL

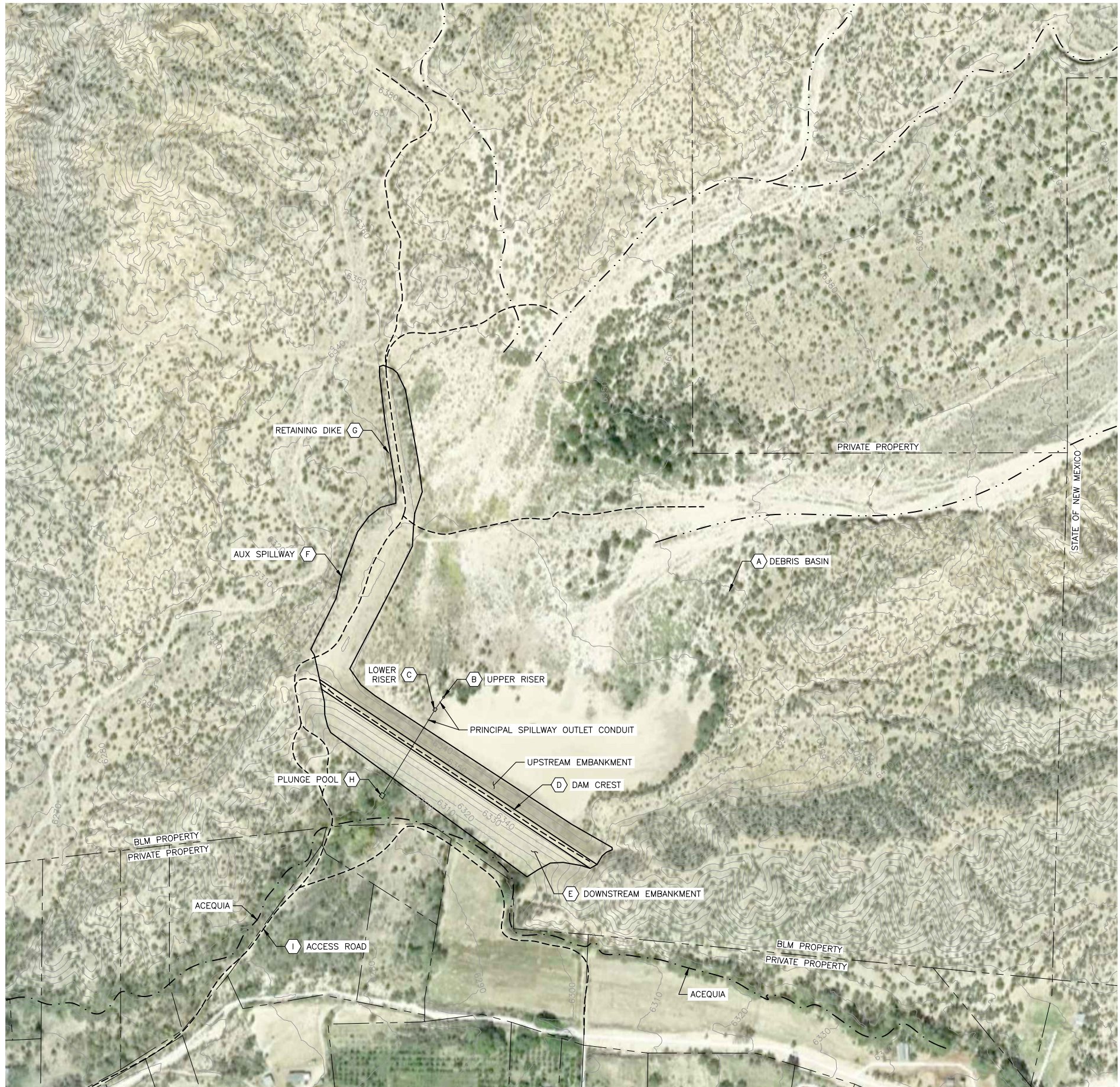
WARNING  
IF THIS BAR DOES NOT MEASURE 1" NOT TO SCALE.

DATE:	03/02/18
CAD FILENAME:	G003.DWG
CONTRACT NUMBER:	
TASK ORDER NUMBER:	

DESIGNED BY:	N. HORNSBY
DRAWN BY:	J. LAMON
CHECKED BY:	D. NELSON
SUBMITTED BY:	E. G. ROBISON

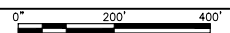
NATURAL RESOURCES CONSERVATION SERVICE  
6200 JEFFERSON NE  
ALBUQUERQUE, NM 87109

NEW MEXICO  
RIO ARriba COUNTY  
NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS BASIN REHABILITATION CONCEPT DESIGN  
STANDARD SYMBOLS



**EXISTING SITE PLAN**

SCALE: 1" = 200'



**SHEET NOTES:**

- TOPOGRAPHY DEVELOPED FROM 2015 LIDAR DATA PROVIDED BY SANTA FE COUNTY.
- CONTOURS SHOWN AT 10' INTERVALS.

**SHEET KEY NOTES:**

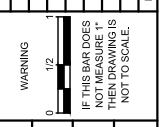
- A SANTA CRUZ SITE 1 DEBRIS BASIN: DEBRIS BASIN SEDIMENT ACCUMULATION TO AN APPROX ELEVATION OF 6333.6'.
- B UPPER PRINCIPAL SPILLWAY RISER.
- C LOWER PRINCIPAL SPILLWAY RISER.
- D DAM CREST: SOME MINOR EROSION AND SETTLEMENT HAS OCCURRED OVER TIME AND THE CREST IS NOT CURRENTLY LEVEL. THE CREST WIDTH DOES NOT CURRENTLY MEET NM STATE STANDARDS FOR A DAM OF THIS HEIGHT.
- E DOWNSTREAM EMBANKMENT: EROSION IS OCCURRING ON THE DOWNSTREAM FACE OF THE EMBANKMENT. EROSION CHANNELS WITH DEPTHS >12" NEAR THE LEFT AND RIGHT ABUTMENTS.
- F AUXILIARY SPILLWAY: SIGNIFICANT EROSION HAS BEEN OBSERVED ON BOTH THE UPSTREAM AND DOWNSTREAM SLOPES OF THE SPILLWAY. EROSION CHANNELS GREATER THAN 12" IN DEPTH ARE PRESENT ON THE UPSTREAM SLOPE AND GREATER THAN 8' IN DEPTH ON THE DOWNSTREAM SLOPE.
- G RETAINING DIKE: LARGE WOODY VEGETATION AND MINOR EROSION IS PRESENT ON BOTH THE UPSTREAM AND DOWNSTREAM FACES OF THE DIKE. THE DIKE DOES NOT CURRENTLY MEET NM STATE STANDARDS FOR A WATER IMPOUNDING STRUCTURE.
- H PLUNGE POOL: THE PLUNGE POOL IS NOT CURRENTLY PROTECTED FROM EROSION. A SCOUR POOL HAS FORMED NEAR THE TOE OF THE DAM.
- I ACCESS ROAD: THE EXIST ACCESS ROAD HAS BEEN WASHED OUT IN AREAS AND IS VERY STEEP IN OTHERS AREAS.

**LEGEND:**

- ACCESS ROAD
- . - . - . EPHEMERAL WASH
- PROPERTY BOUNDARY
- - - - - ACEQUIA



REV	DATE	BY	DESCRIPTION
D	03/09/18	N. HORNSBY	CONCEPT DESIGN SUBMITTAL
C	08/04/17	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
B	10/03/16	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
A	08/05/16	E. G. ROBISON	DRAFT CONCEPT DESIGN SUBMITTAL

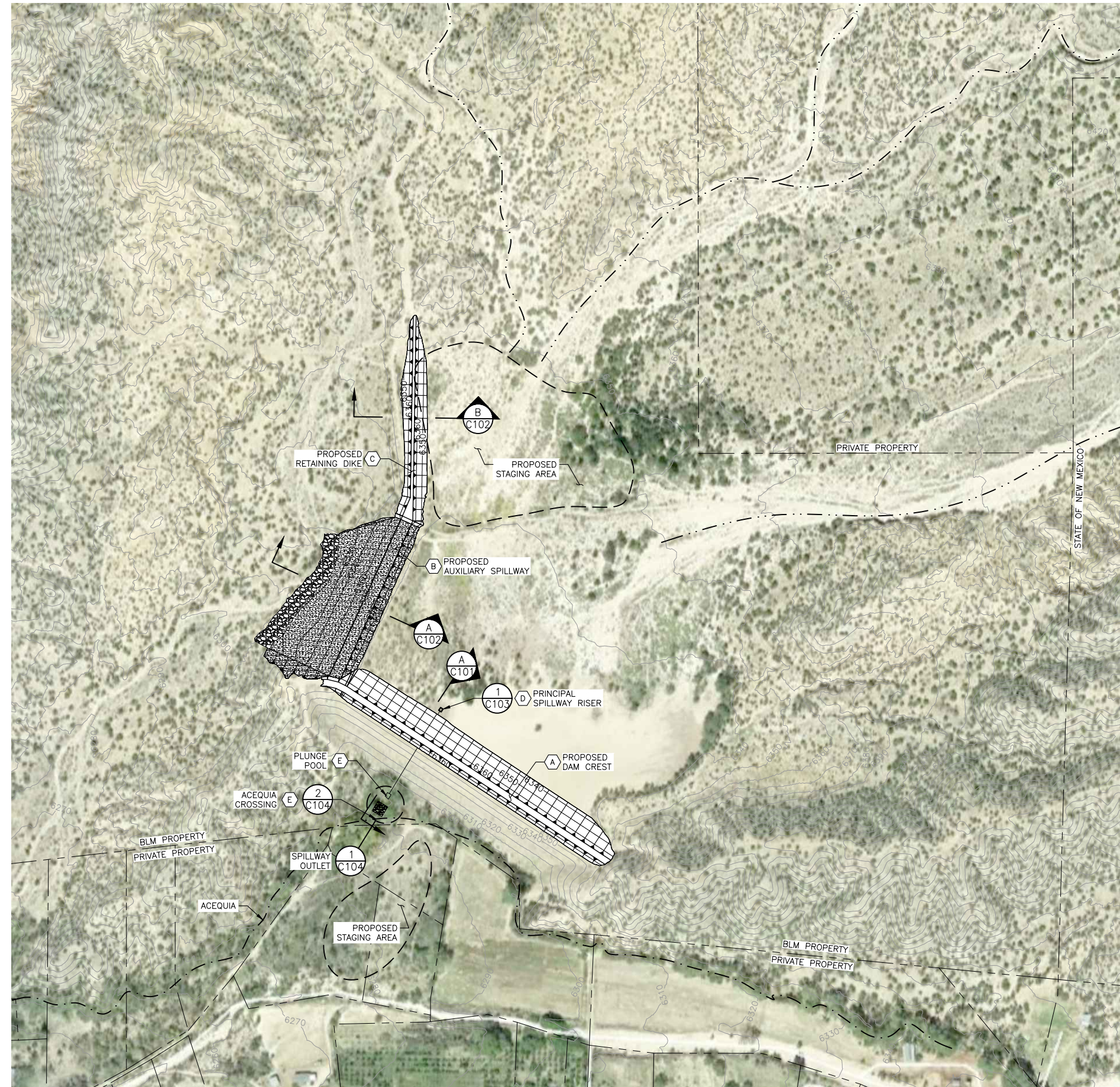


DATE:	03/09/18
CAD FILENAME:	-G004.DWG
CONTRACT NUMBER:	
TASK ORDER NUMBER:	

DESIGNED BY:	N. HORNSBY
DRAWN BY:	J. LAMON
CHECKED BY:	D. NELSON
SUBMITTED BY:	E. G. ROBISON

NATURAL RESOURCES CONSERVATION SERVICE  
6200 JEFFERSON NE  
ALBUQUERQUE, NM 87109

NEW MEXICO  
RIO ARriba COUNTY  
NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS  
BASIN REHABILITATION CONCEPT DESIGN  
EXISTING SITE PLAN



**PROPOSED SITE PLAN**  
 SCALE: 1" = 200'

- SHEET NOTES:**
- TOPOGRAPHY DEVELOPED FROM 2015 LIDAR DATA PROVIDED BY SANTA FE COUNTY.
  - CONTOURS SHOWN AT 10' INTERVALS.
  - PROPOSED ACCESS ROAD ALIGNMENT SHOWN ON SHEET C105.

- SHEET KEY NOTES:**
- RAISE DAM CREST TO EL 6365.0'. MATCH 2:1 DOWNSTREAM SLOPE. CREATE NEW 3:1 UPSTREAM SLOPE. CREST WIDTH TO BE 23.7'. UPSTREAM AND DOWNSTREAM SLOPES TO INCLUDE ROCK BLANKET FOR EROSION PROTECTIONS.
  - RAISE AUXILIARY SPILLWAY TO EL 6360.7'. CONTROL SECTION TO BE 40'. SPILLWAY WIDTH TO BE 600'. ARMOR CONTROL SECTION WITH CONC. CONC TO EXTEND DOWN THE OUTLET TO EL 6333.6'. RIPRAP REMAINING OUTLET SLOPE DOWN TO THE ADJACENT WASH.
  - DEMO EXIST RETAINING DIKE AND RECONSTRUCT IN NEW ALIGNMENT MEETING NM DAM SAFETY REQUIREMENTS. UPSTREAM AND DOWNSTREAM TO INCLUDE ROCK BLANKET FOR EROSION CONTROL.
  - DEMO EXIST UPPER AND LOWER RISERS. REPLACE WITH SINGLE NEW RISER AND TRASH RACK.
  - INSTALL RIPRAP PLUNGE POOL AND ACEQUIA CROSSING.

- LEGEND:**
- EPHEMERAL WASH
  - PROPERTY BOUNDARY
  - ACEQUIA
  - STAGING AREA



REV	DATE	BY	DESCRIPTION
D	03/09/18	N. HORNSBY	CONCEPT DESIGN SUBMITTAL
C	08/04/17	E. G. ROBBISON	CONCEPT DESIGN SUBMITTAL
B	10/03/16	E. G. ROBBISON	CONCEPT DESIGN SUBMITTAL
A	08/05/16	E. G. ROBBISON	DRAFT CONCEPT DESIGN SUBMITTAL

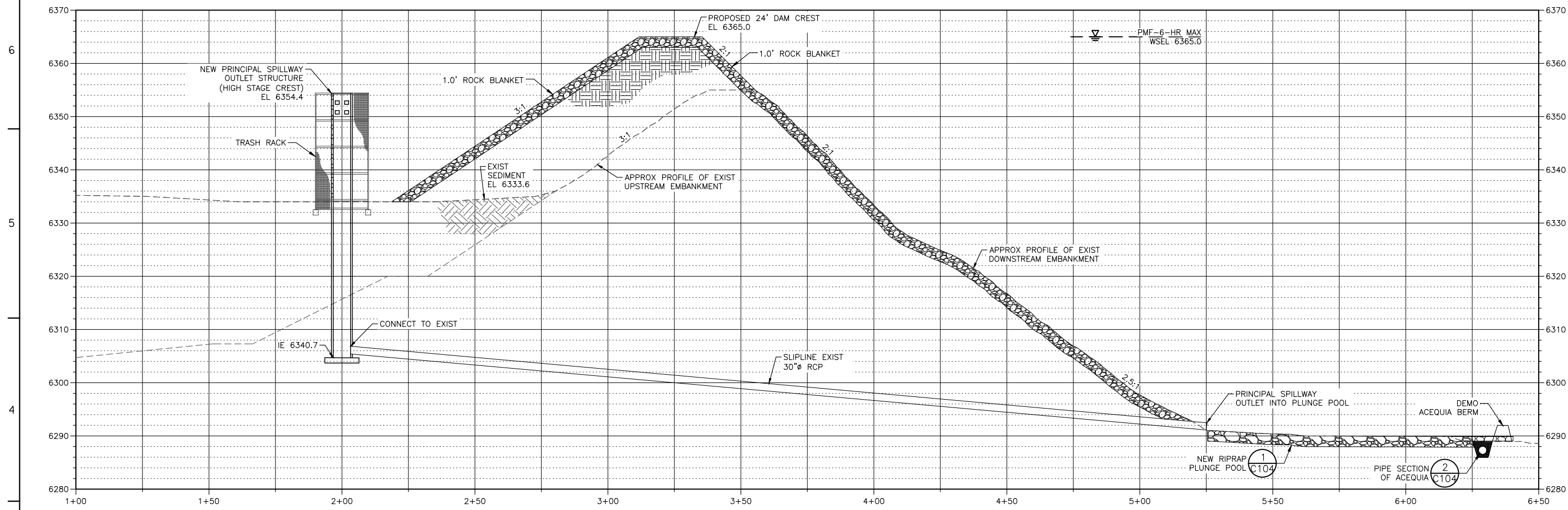
WARNING: IF THIS BAR DOES NOT MEASURE 1" IS NOT TO SCALE.

DATE:	03/09/18
CAD FILENAME:	C100.DWG
CONTRACT NUMBER:	
TASK ORDER NUMBER:	

DESIGNED BY:	N. HORNSBY
DRAWN BY:	J. LAMON
CHECKED BY:	D. NELSON
SUBMITTED BY:	E. G. ROBBISON

NATURAL RESOURCES CONSERVATION SERVICE  
 6200 JEFFERSON NE  
 ALBUQUERQUE, NM 87109

NEW MEXICO  
 RIO ARriba COUNTY  
 NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS BASIN REHABILITATION CONCEPT DESIGN  
 PROPOSED SITE PLAN



**PROPOSED EMBANKMENT SECTION**  
 SCALE: HORIZ 1" = 20'  
 VERT 1" = 10'

PROPOSED PROJECT DESIGN CRITERIA (NAVD 88)			
CRITERIA	VALUE	CRITERIA	VALUE
<b>HYDROLOGY</b>		<b>PRINCIPAL SPILLWAY</b>	
PMF-6-HOUR INFLOW DESIGN FLOOD	28,376.7 CFS	HIGH STAGE CREST EL.	6354.4'
100-YR 24-HR INFLOW	2,811.6 CFS	MAX DISCHARGE AT AUXILIARY SPILLWAY CREST	125 CFS
<b>AUXILIARY SPILLWAY</b>		<b>RESERVOIR</b>	
AUXILIARY SPILLWAY INVERT ELEVATION	6360.7'	DAM CREST ELEVATION	6365.0'
AUXILIARY SPILLWAY BASE WIDTH	600'	STORAGE CAPACITY AT AUXILIARY SPILLWAY <sup>1</sup>	341.8 AC-FT
AUXILIARY SPILLWAY SIDE SLOPES (H:V)	3:1	STORAGE CAPACITY AT EMBANKMENT DAM CREST <sup>1</sup>	603.4 AC-FT
		PMF-6-HOUR MAX POOL EL <sup>1</sup>	6,365.0 CFS

<sup>1</sup> CAPACITIES ASSUME FULL SEDIMENT POOL.



REV	DATE	BY	DESCRIPTION
D	03/09/18	N. HORNSBY	CONCEPT DESIGN SUBMITTAL
C	08/04/17	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
B	10/03/16	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
A	08/05/16	E. G. ROBISON	DRAFT CONCEPT DESIGN SUBMITTAL

WARNING  
 IF THIS BAR DOES NOT MEASURE 1" NOT TO SCALE.

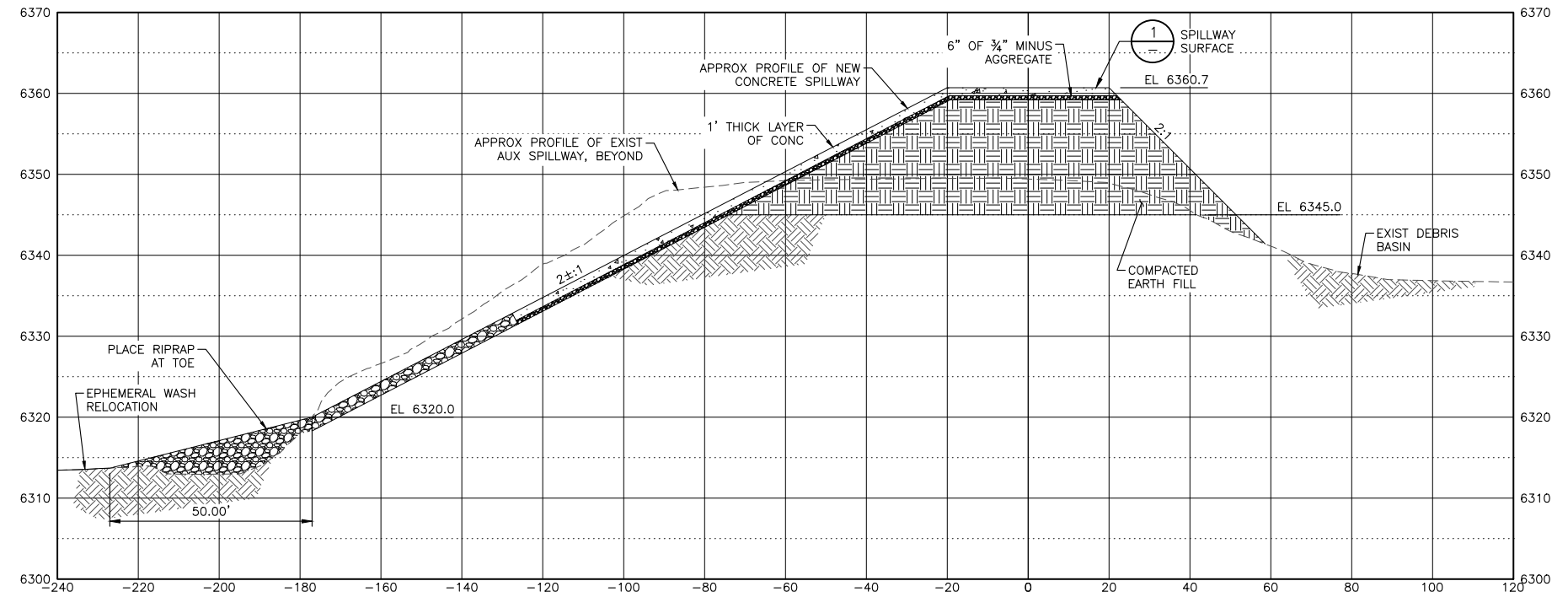
DATE: 03/09/18	CAD FILE NAME: C101.DWG	CONTRACT NUMBER:	TASK ORDER NUMBER:
DESIGNED BY: N. HORNSBY	DRAWN BY: J. LAMRICH	CHECKED BY: D. NELSON	SUBMITTED BY: E. G. ROBISON

NATURAL RESOURCES CONSERVATION SERVICE  
 6200 JEFFERSON NE  
 ALBUQUERQUE, NM 87109

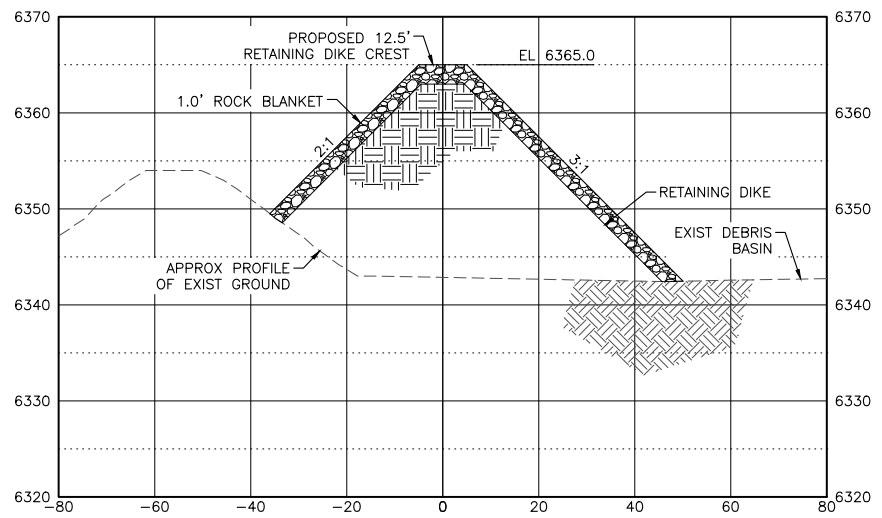
**McMILLEN JACOBS ASSOCIATES**

NEW MEXICO  
 RIO ARriba COUNTY  
 NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS BASIN REHABILITATION CONCEPT DESIGN  
**PROPOSED EMBANKMENT PROFILE**

SHEET NOTES:  
 1. NO FILL SHALL BE PLACED AGAINST VERTICAL FACES HIGHER THAN 3 FEET.



**PROPOSED AUXILIARY SPILLWAY SECTION**  
 SCALE: HORIZ 1" = 20'  
 VERT 1" = 10'



**RETAINING DIKE SECTION**  
 SCALE: HORIZ 1" = 20'  
 VERT 1" = 10'



REV	DATE	BY	DESCRIPTION
A	08/05/16	E. G. ROBISON	DRAFT CONCEPT SUBMITTAL
B	10/03/16	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
C	09/04/17	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
D	03/02/18	N. HORNBSY	CONCEPT DESIGN SUBMITTAL

WARNING  
 IF THIS BAR DOES NOT MEASURE 1" IS NOT TO SCALE.

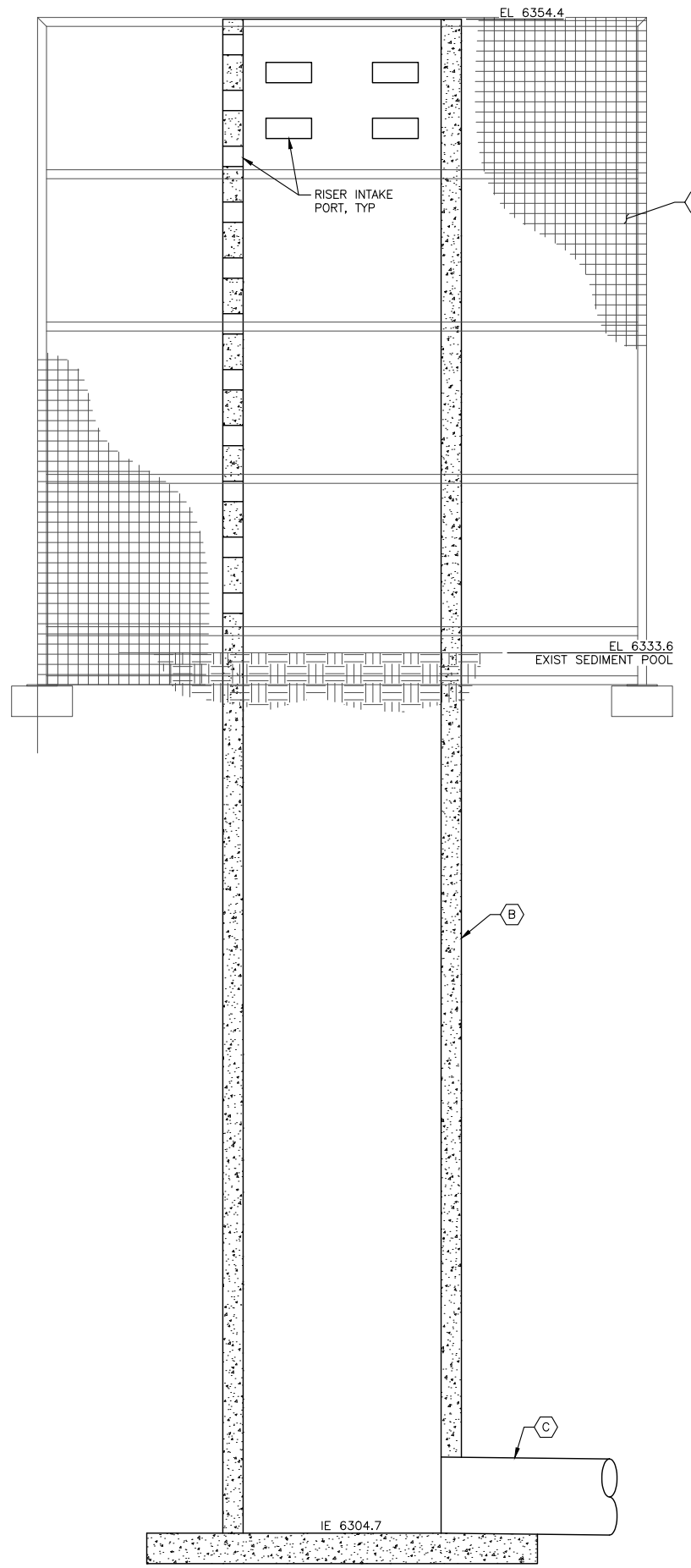
DATE: 03/02/18  
 CAD FILENAME:  
 CONTRACT NUMBER:  
 TASK ORDER NUMBER:

DESIGNED BY: N. HORNBSY  
 DRAWN BY: J. LARSON  
 CHECKED BY: D. NELSON  
 SUBMITTED BY: E. G. ROBISON

NATURAL RESOURCES CONSERVATION SERVICE  
 6200 JEFFERSON NE  
 ALBUQUERQUE, NM 87109

NEW MEXICO  
 RIO ARriba COUNTY  
 NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS BASIN REHABILITATION CONCEPT DESIGN  
 AUXILIARY SPILLWAY AND RETAINING DIKE SECTIONS AND DETAILS





SHEET KEY NOTES:

- A TRASH RACK CONSISTS OF 4"x4"x8' GALV STEEL MESH ALL SIDES.
- B PRINCIPAL SPILLWAY RISER TO BE CONSTRUCTED OF PRE-CAST CONC AND IN ACCORDANCE WITH NRCS SPECIFICATIONS.
- C EXIST 30" RCP TO CONNECT TO NEW PS RISER AND BE SLIPLINED FOR EXTENDED LIFE.



REV	DATE	BY	DESCRIPTION
D	03/02/18	N. HORNSBY	CONCEPT DESIGN SUBMITTAL
C	09/04/17	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
B	10/03/16	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
A	09/05/16	E. G. ROBISON	DRAFT CONCEPT DESIGN SUBMITTAL

WARNING  
 1/2"  
 0 1 2  
 IF THIS BAR DOES NOT MEASURE 1/2" IN THIS VIEW, IT IS NOT TO SCALE.

DATE: 03/02/18  
 CAD FILENAME:  
 CONTRACT NUMBER:  
 TASK ORDER NUMBER:

DESIGNED BY: N. HORNSBY  
 DRAWN BY: J. LARSON  
 CHECKED BY: D. NELSON  
 SUBMITTED BY: E. G. ROBISON

NATURAL RESOURCES CONSERVATION SERVICE  
 6200 JEFFERSON NE  
 ALBUQUERQUE, NM 87109

RIO ARriba COUNTY  
 NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS BASIN REHABILITATION CONCEPT DESIGN  
 PRINCIPAL SPILLWAY INLET

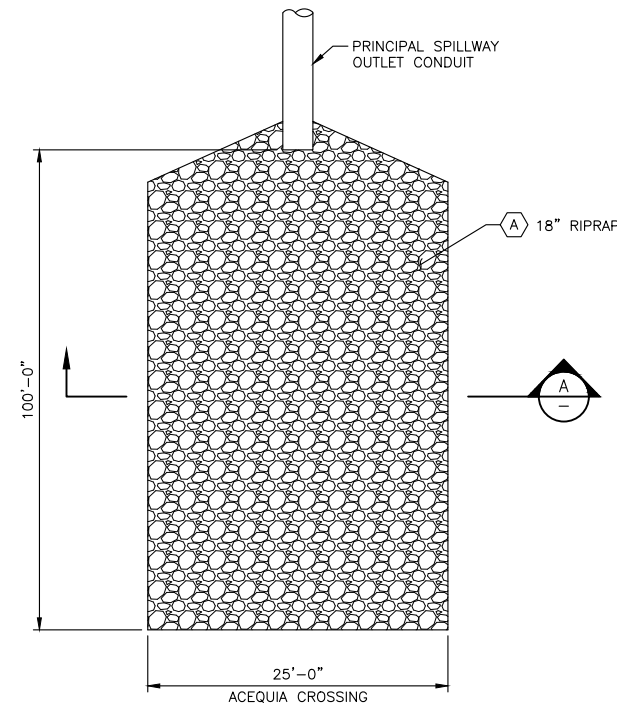
PRINCIPAL SPILLWAY RISER AND TRASH RACK DETAIL  
 SCALE: 3/8" = 1'-0"  
 1  
 C100

**SHEET NOTES:**

1. ACEQUIA CROSSING PLAN TO BE COORDINATED WITH ACEQUIA GROUP REGARDING AESTHETICS.

**SHEET KEY NOTES:**

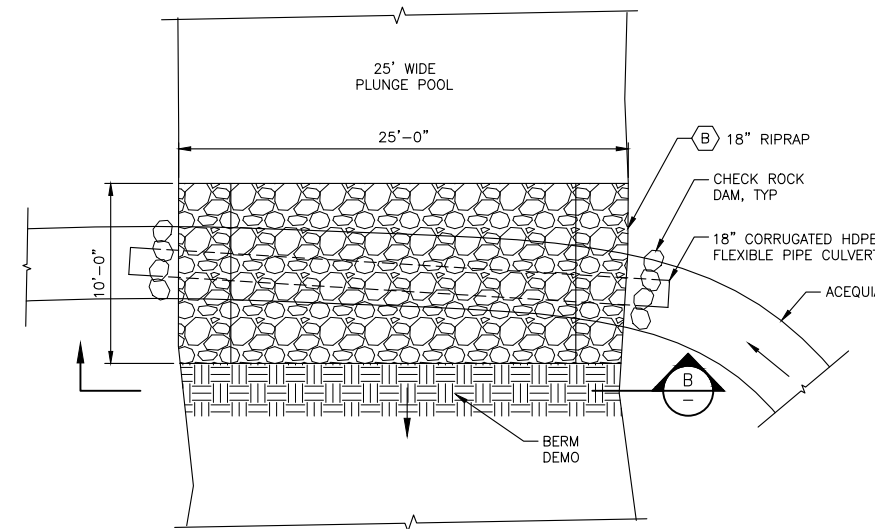
- A DIG OUT CHANNEL 3' AND REPLACE WITH 18" RIPRAP.
- B DIG OUT ACEQUIA 4' AND REPLACE WITH 18" ROCK TOPPED WITH 3" MINUS GRAVEL 30" DEEP. 18" SOIL WITH 18" CULVERT EMBEDDED.



**PLUNGE POOL DETAIL**

SCALE: NTS

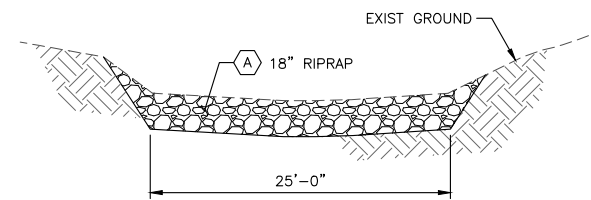
1  
C100



**ACEQUIA CROSSING PLAN**

SCALE: 3/16" = 1'-0"

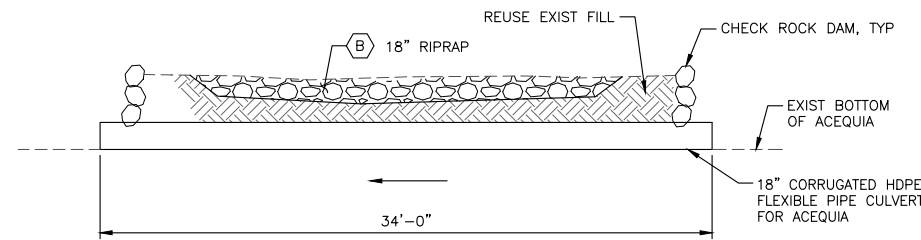
2  
C100



**SECTION**

SCALE: 1/8" = 1'-0"

A  
-



**SECTION**

SCALE: 3/16" = 1'-0"

B  
-



REV	DATE	BY	DESCRIPTION
A	08/05/16	E. G. ROBISON	DRAFT CONCEPT SUBMITTAL
B	10/03/16	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
C	09/04/17	E. G. ROBISON	CONCEPT DESIGN SUBMITTAL
D	03/02/18	N. HORNBSY	CONCEPT DESIGN SUBMITTAL

WARNING  
IF THIS BAR DOES NOT MEASURE 1" IS NOT TO SCALE.

DATE: 03/02/18	DESIGNED BY: N. HORNBSY	CONTRACT NUMBER: D. NELSON
CAD FILENAME:	DRAWN BY: J. LAMON	TASK ORDER NUMBER: E. G. ROBISON

NATURAL RESOURCES CONSERVATION SERVICE  
6200 JEFFERSON NE  
ALBUQUERQUE, NM 87109

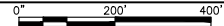
**McMILLEN JACOBS**  
ASSOCIATES

NEW MEXICO  
RIO ARriba COUNTY  
NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS  
BASIN REHABILITATION CONCEPT DESIGN  
OUTLET PLAN AND  
SECTIONS



**ACCESS ROAD PLAN**

SCALE: 1" = 200'



**SHEET NOTES:**

1. GRAVEL ROAD TO BE CONSTRUCTED PER NRCS AND STATE OF NEW MEXICO SPECS WITH 14' TRAVEL WIDTH.
2. TOPOGRAPHY DEVELOPED FROM 2015 LIDAR DATA PROVIDED BY SANTA FE COUNTY.
3. CONTOURS SHOWN EVERY 10'.
4. ACEQUIA CROSSING TO BE COORDINATED WITH ACEQUIA GROUP REGARDING AESTHETICS.
5. ACCESS ROAD NOT TO EXCEED 10% GRADE.

**LEGEND:**

- ACCESS ROAD
- . - . - EPHEMERAL WASH
- PROPERTY BOUNDARY



REV	DATE	BY	DESCRIPTION
D	03/09/18	N. HORNBSY	CONCEPT DESIGN SUBMITTAL
C	08/04/17	E. G. ROBINSON	CONCEPT DESIGN SUBMITTAL
B	10/03/16	E. G. ROBINSON	CONCEPT DESIGN SUBMITTAL
A	08/05/16	E. G. ROBINSON	DRAFT CONCEPT DESIGN SUBMITTAL

WARNING  
 0 1/2  
 IF THIS BAR DOES NOT MEASURE 1/2" IS NOT TO SCALE.

DATE: 03/09/18  
 CAD FILENAME: C105.DWG  
 CONTRACT NUMBER:  
 TASK ORDER NUMBER:

DESIGNED BY: N. HORNBSY  
 DRAWN BY: J. LAMON  
 CHECKED BY: D. NELSON  
 SUBMITTED BY: E. G. ROBINSON

NATURAL RESOURCES CONSERVATION SERVICE  
 6200 JEFFERSON NE  
 ALBUQUERQUE, NM 87109

NEW MEXICO  
 RIO ARriba COUNTY  
 NRCS - SANTA CRUZ SITE 1 DAM AND DEBRIS  
 BASIN REHABILITATION CONCEPT DESIGN  
 ACCESS ROAD OPTION PLAN

SHEET  
**C105**

**ENGINEER'S CERTIFICATION**

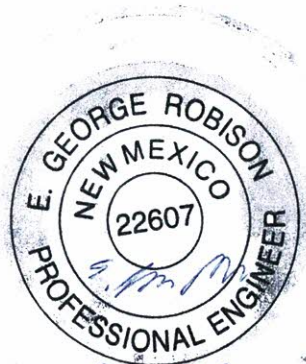
I, E. George Robison, hereby certify that I am a professional engineer licensed in the state of New Mexico and that the conceptual design dated March 2018 for the Santa Cruz Watershed – Site 1 Dam Rehabilitation project was prepared under my supervision. Any modifications to the conceptual design dated March 2018 should be supervised by a professional engineer licensed in the state of New Mexico.

Engineer's Name: E. George Robison

Engineer's Signature: *E. George Robison*

Date: 9/19/19

License Number: 22607



9/19/19  
Expires 12/31/19