

PRE-FINAL CONCEPTUAL DESIGNS

MADRID, NEW MEXICO

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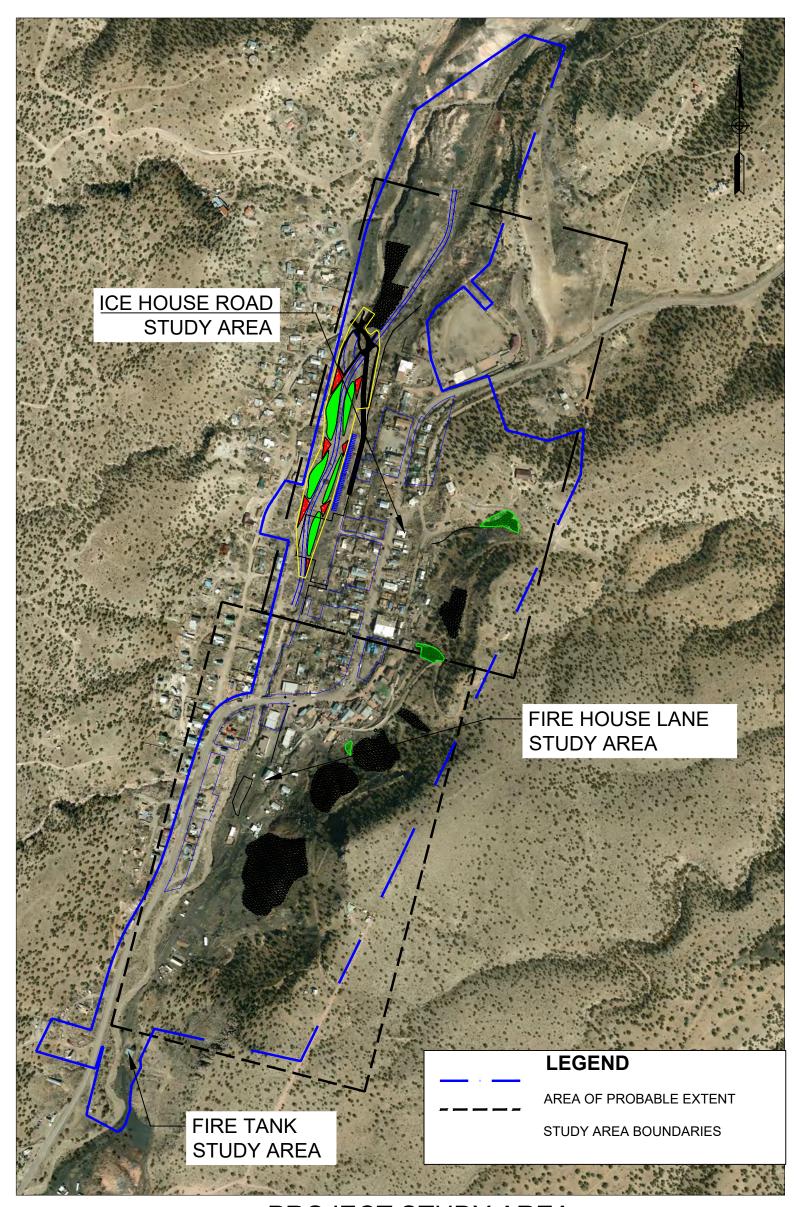
PROJECT NOTES

THE DRAWINGS PRESENTED HERE-IN DESCRIBE ALTERNATIVE CONCEPTS TO CONTROL DRAINAGE AND EROSION WITHIN THE MADRID, NEW MEXICO AREA. ADDITIONALLY, EVALUATION OF ALTERNATIVES TO IMPROVE THE FIRE PROTECTION TANK SYSTEM ARE INCLUDED.

ALTERNATIVE 1 CONCEPTS FOCUS ON STANDARD DRAINAGE CONTROL SYSTEMS THAT INCORPORATE DETENTION PONDS, BELOW GRADE STORM DRAINS, CATCH BASIN INLETS AND DRAINAGE CHANNELS TO ROUTE STORMWATER TO MADRID ARROYO..

ALTERNATIVE 2 CONCEPTS FOCUS ON LOW IMPACT DEVELOPMENT DRAINAGE CONTROLS THAT UTILIZE THE EXISTING TERRAIN AND SITE FEATURES TO CONTROL SEDIMENT, POND WATER AND ROUTE STORMWATER TO MADRID ARROYO.

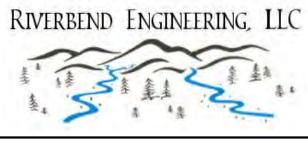
FIRE TANK IMPROVEMENTS INCLUDE ALTERNATIVES THAT CONSIDER STABILIZATION OF THE EXISTING FIRE STORAGE TANK SYSTEM FROM EROSION DAMAGE, CONSTRUCTION OF NEW INFRASTRUCTURE INCLUDING A TANK AND DISTRIBUTION PIPING



PROJECT STUDY AREA NOT TO SCALE



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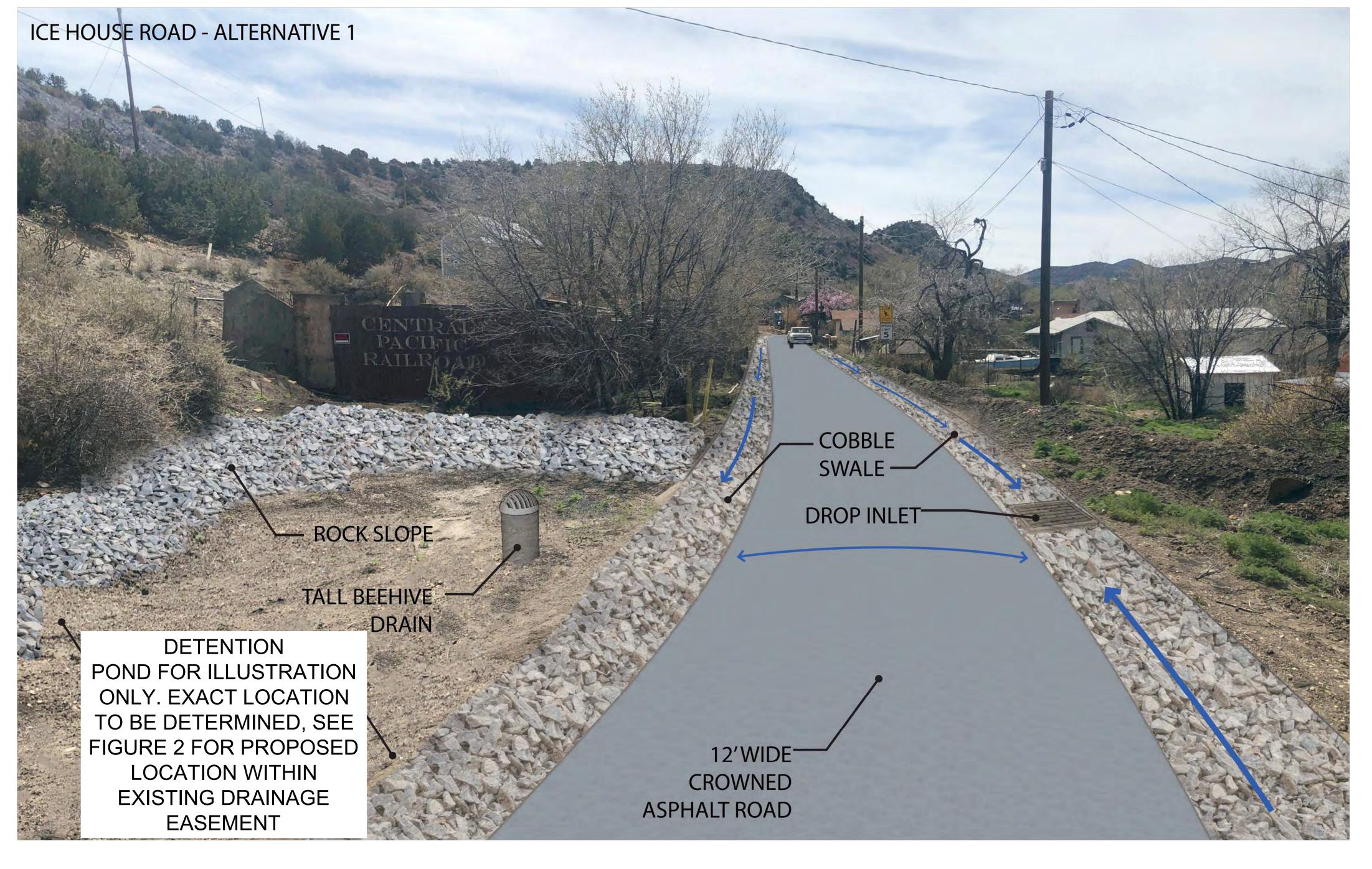




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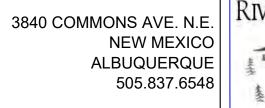


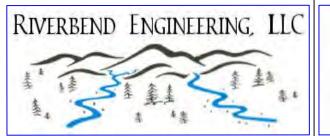
MADRID STORMWATER & EROSION CONTROL PROJECT ICE HOUSE ROAD PLAN - ALTERNATIVE 1
PRE-FINAL CONCEPTUAL DESIGN







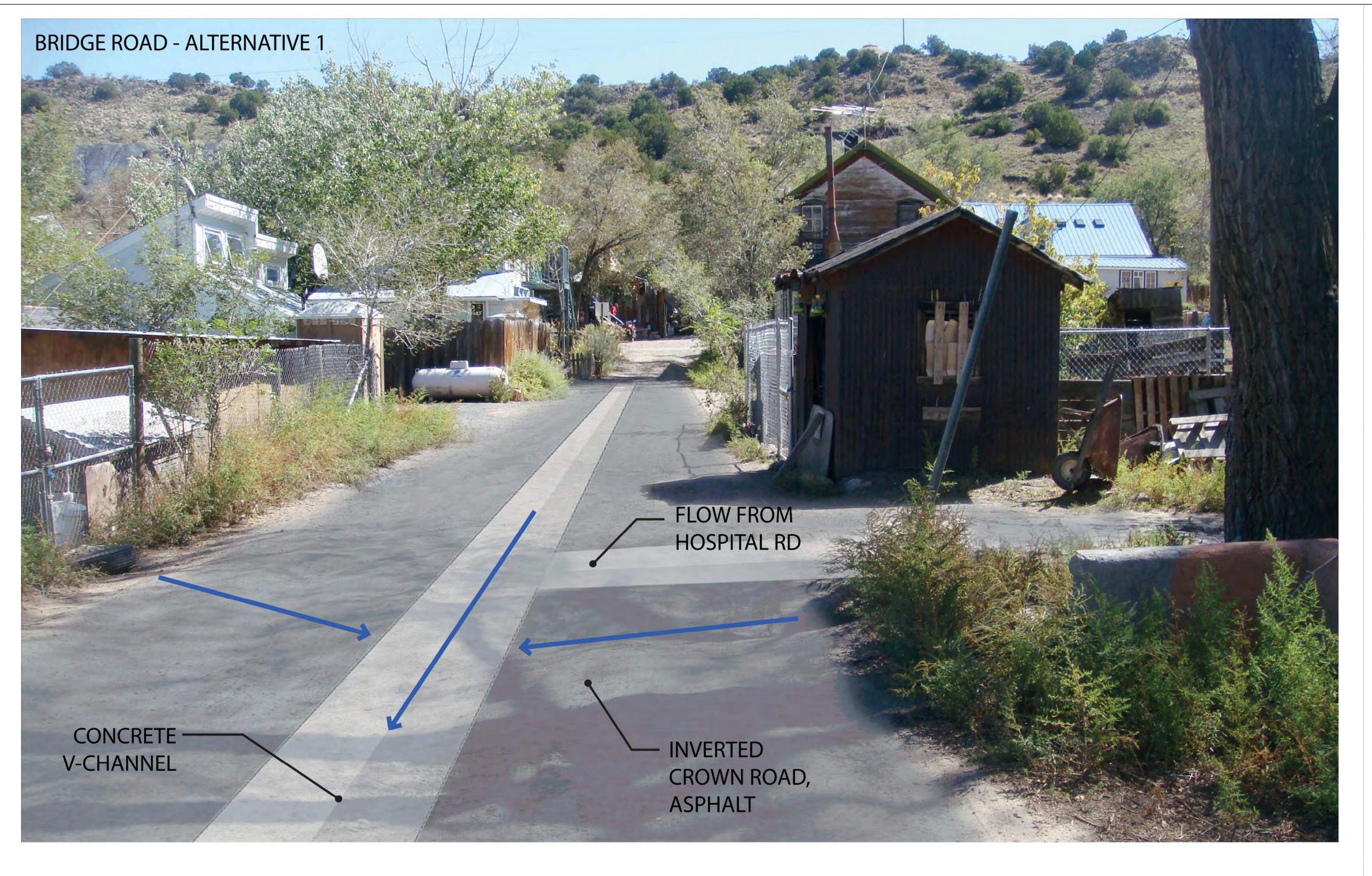




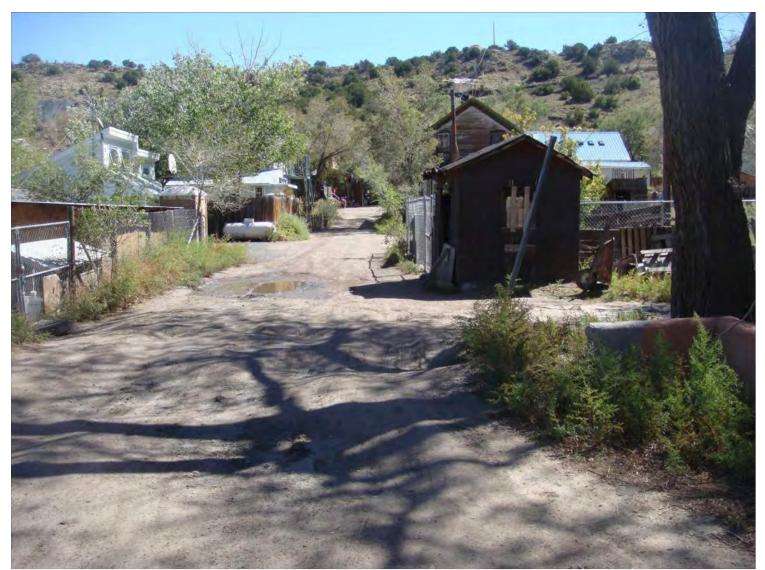




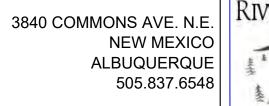


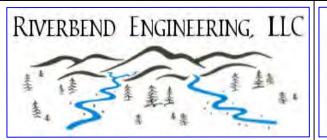










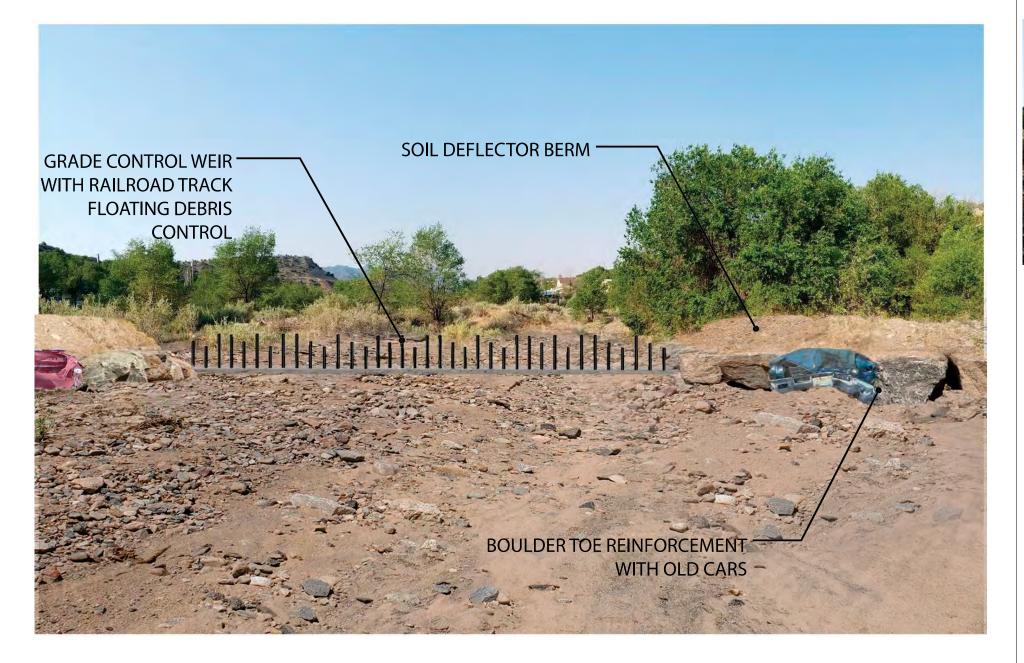








MADRID ARROYO AT NEW GRADE CONTROL STRUCTURE - ALTERNATIVE 1



BEFORE PHOTO:











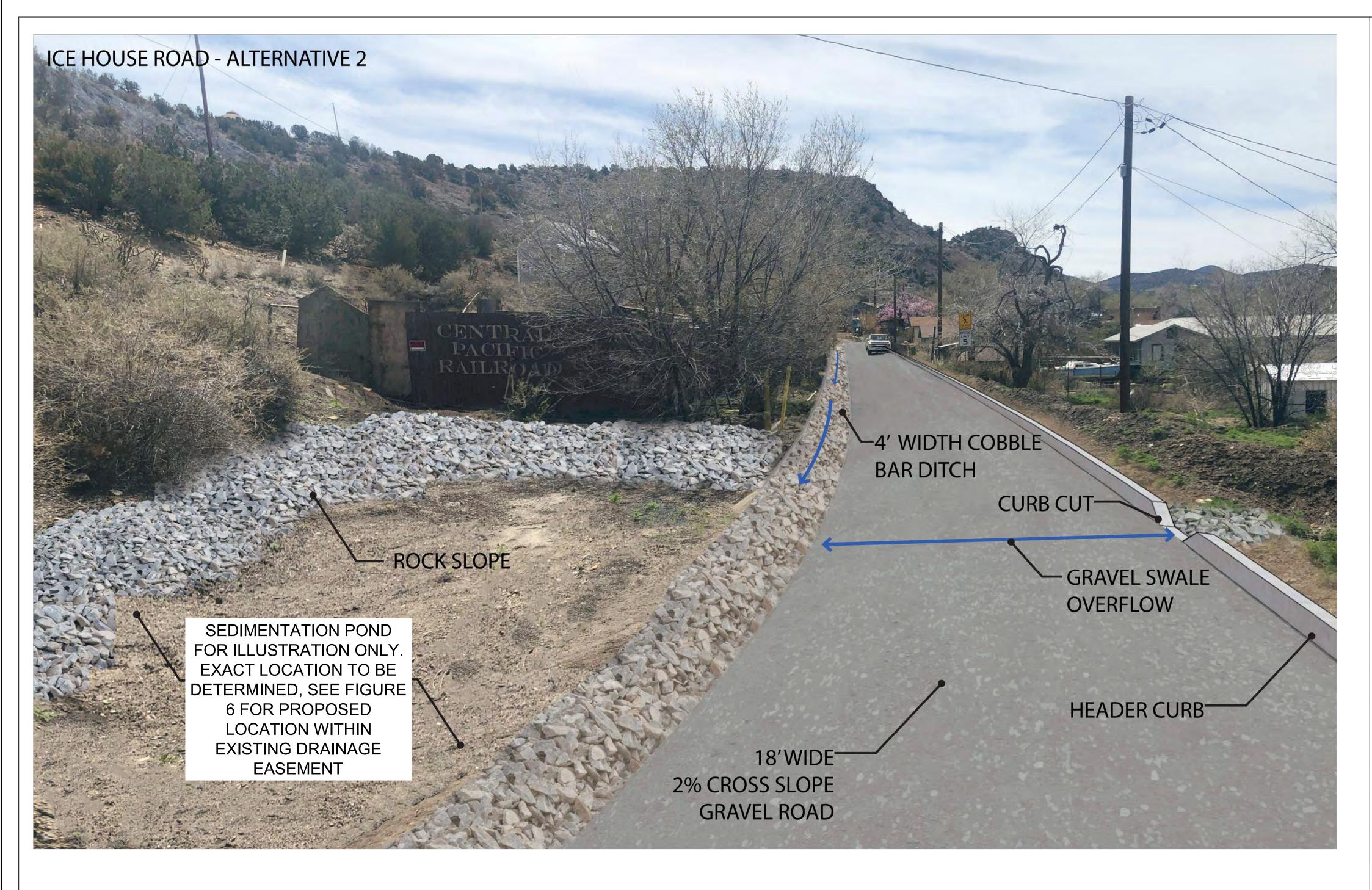






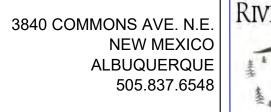












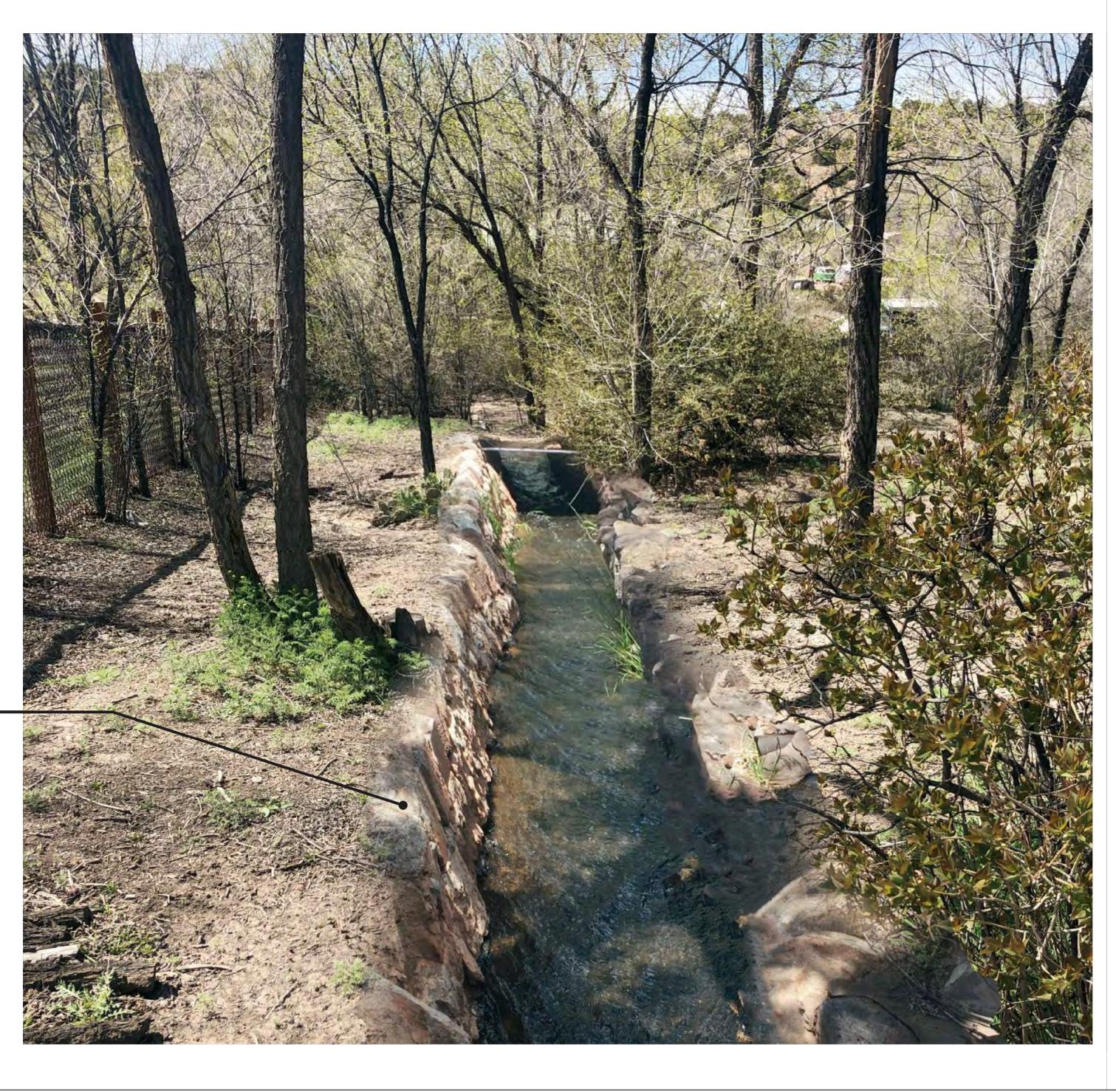




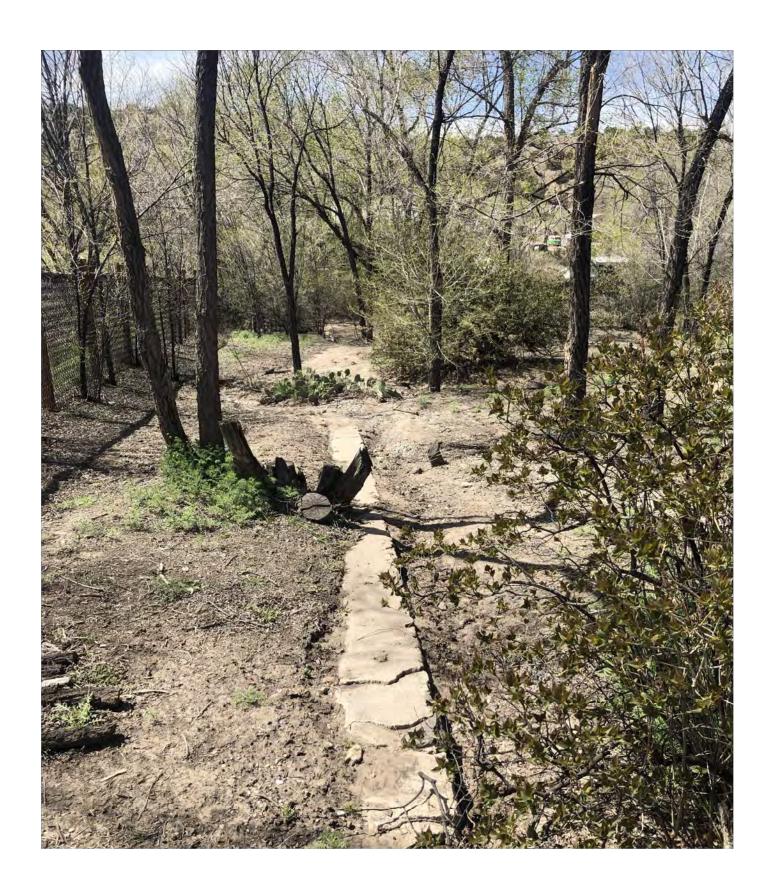




SURFACE DRAINAGE WEST OF NM-14 **ALTERNATIVE 2**

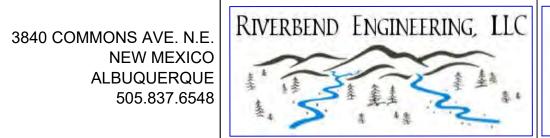


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ROCK LINED DRAINAGE CHANNEL TO MATCH LOCAL GEOLOGY





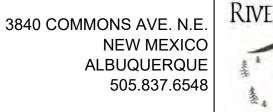


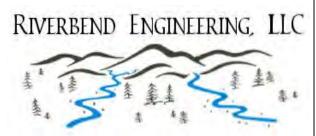








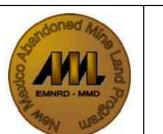






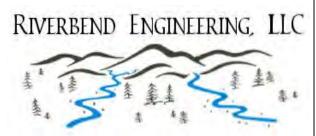






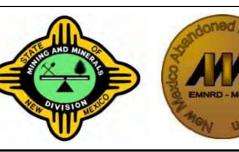
MADRID STORMWATER & EROSION CONTROL PROJECT FIRE HOUSE LANE PLAN - ALTERNATIVE 1 PRE-FINAL CONCEPTUAL DESIGN

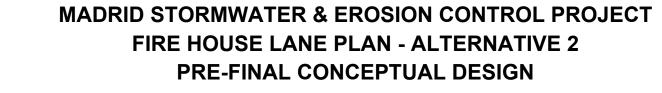








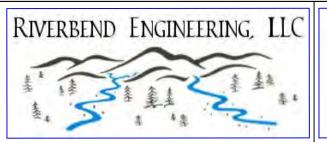












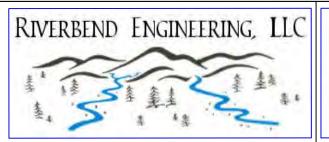






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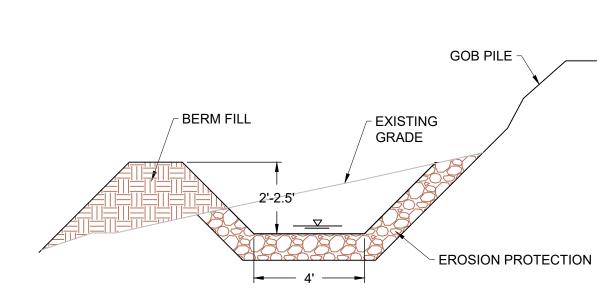




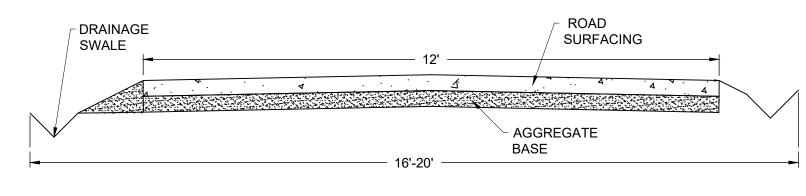




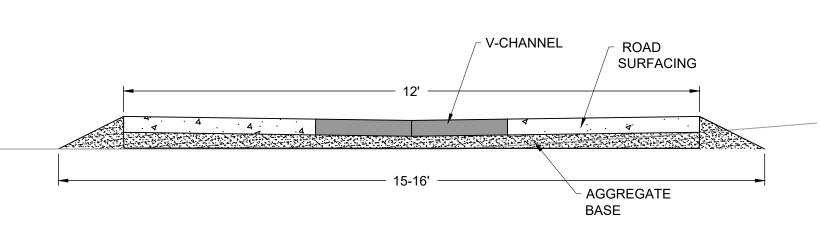




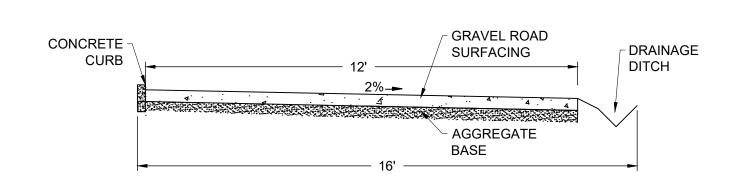
ROCK LINED DIVERSION DITCH



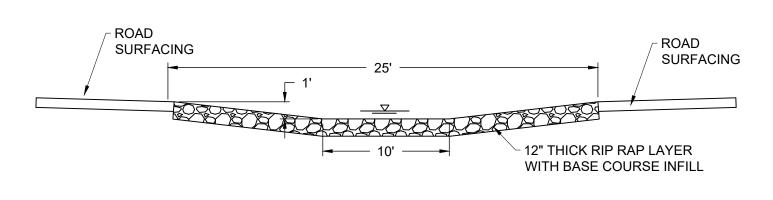
ICE HOUSE ROAD - STANDARD CROWN



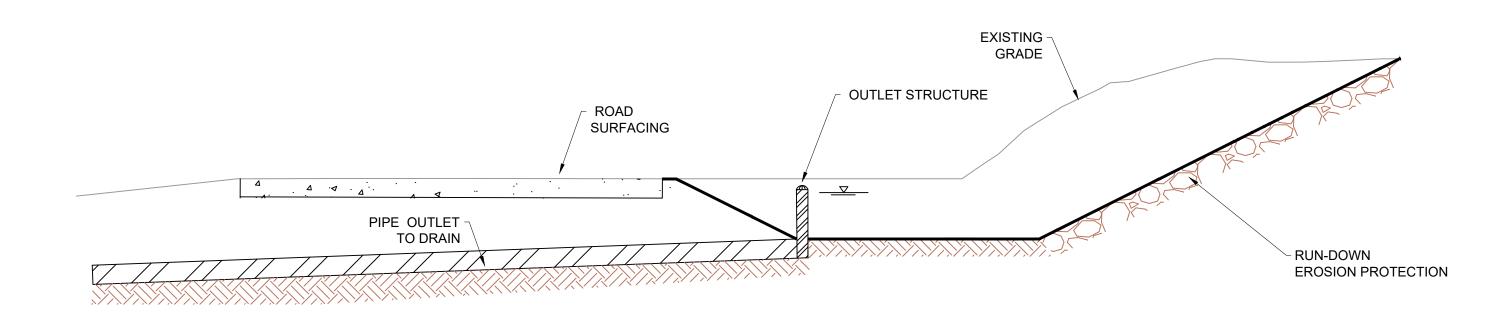
ICE HOUSE, BRIDGE AND CAVE ROADS - INVERTED CROWN



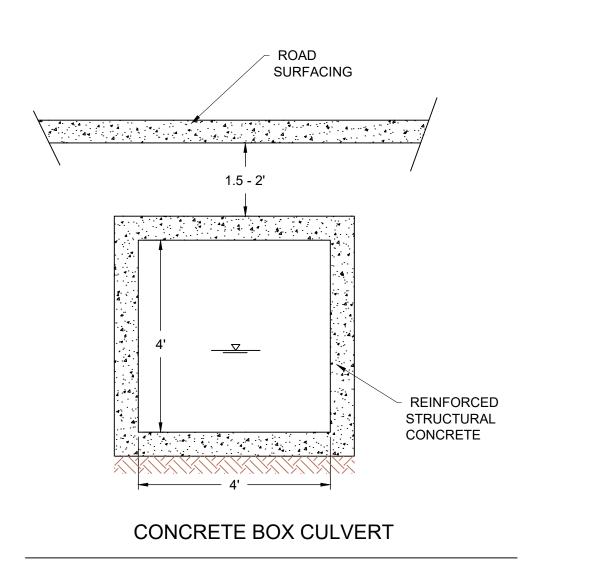
FIRE HOUSE LANE - SLOPED INWARD

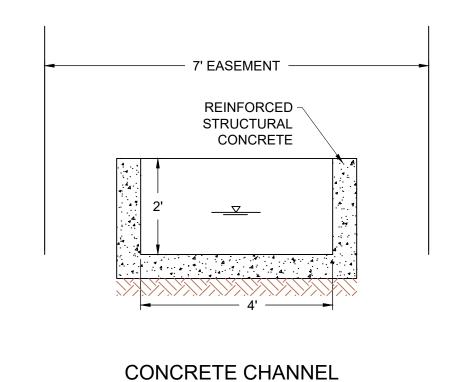


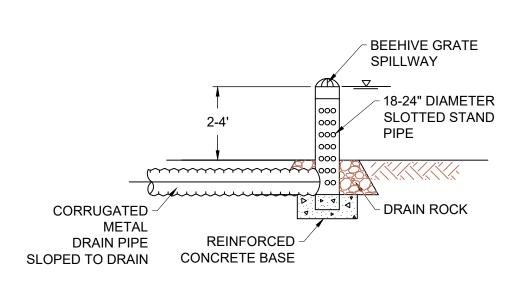
DIP SECTION CROSS DRAIN



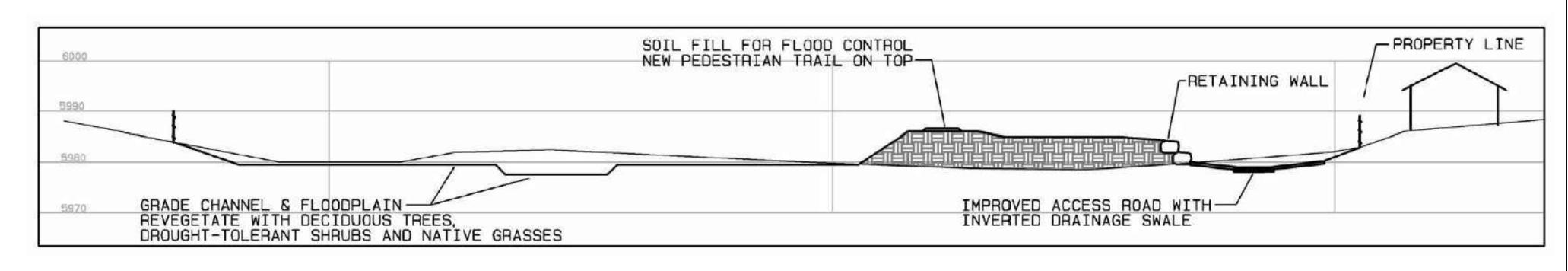
TYPICAL DETENTION POND/ SEDIMENT BASIN







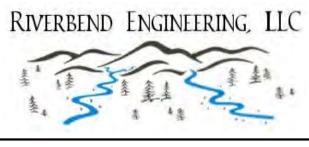
TYPICAL SEDIMENT/DETENTION BASIN OUTLET STRUCTURE



TYPICAL MADRID ARROYO IMPROVED CHANNEL AND FLOODPLAIN WITH BERM AND RETAINING WALL FOR FLOOD PROTECTION (FROM SANTA FE COUNTY DESIGN DATED 1/30/2019)



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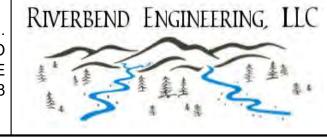






MADRID STORMWATER & EROSION CONTROL PROJECT
TYPICAL DETAILS
PRE-FINAL CONCEPTUAL DESIGN



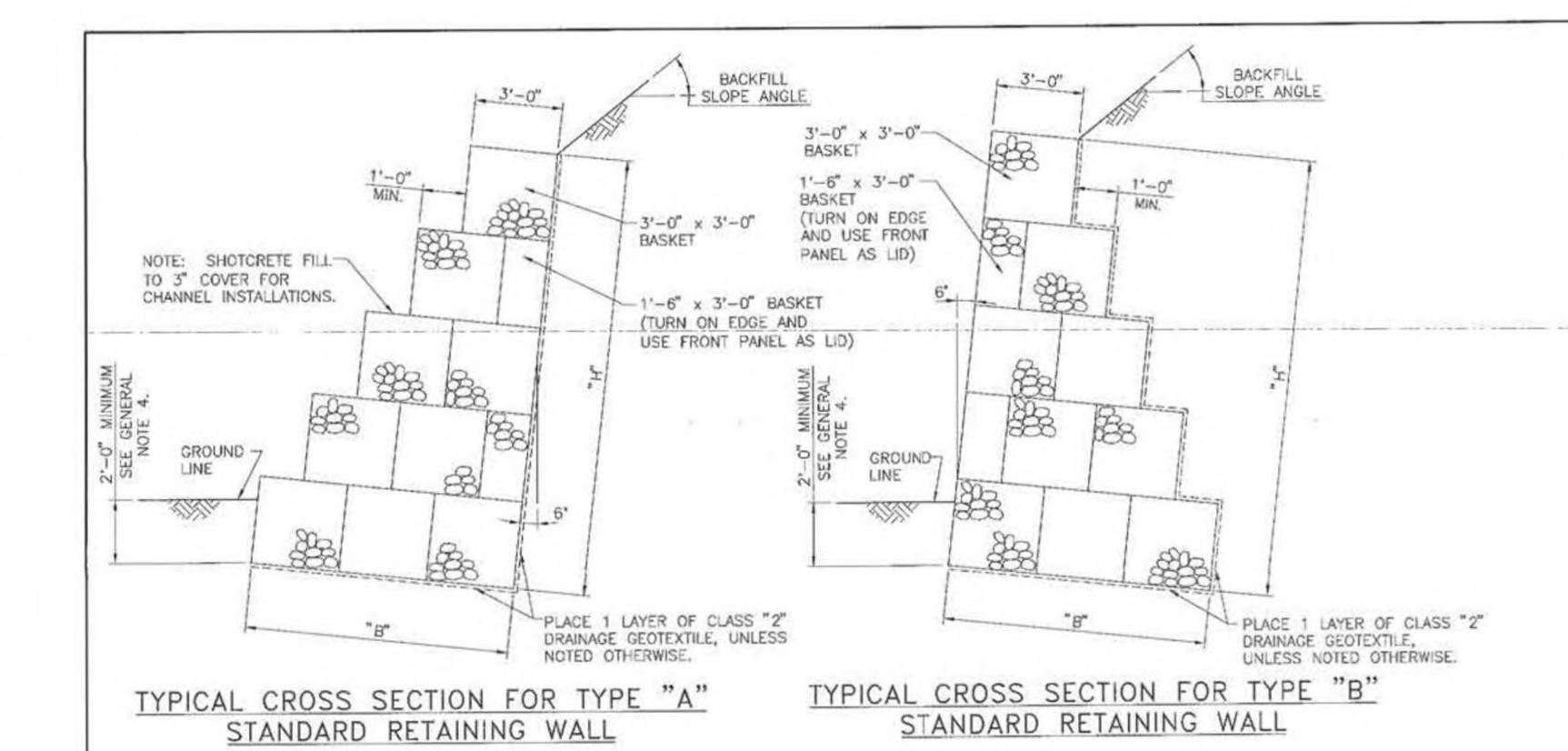




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MADRID STORMWATER & EROSION SAFETY PROJECT
STORAGE TANK AREA
PRE-FINAL CONCEPTUAL DESIGN



BACKFILL TABLE

BACKFILL SLOPE ANGLE	OF BACKFILL
O.	33*
9.5	33*
18.4	33*
26.6*	33"
33.7	34'

DESIGN DATA

OIL BEARING PRESSURE — ALL FRICTION ANGLE — OIL FRICTION ANGLE — ALL BATTER	 3000 PSF DEGREES SEE BACKFILL TABLE ABOV NEGATIVE 6 DEGREES
ACKFILL SLOPE ANGLE OIL DENSITY ABION FILL DENSITY AFETY FACTOR AGAINST OVERTURNING AFETY FACTOR AGAINST SLIDING	SEE BACKFILL TABLE ABOV 120 LBS./ CU. FT. 80% OF SOIL DENSITY 2.0 1.5
URCHARGE PRESSURE (LEVEL BACKFILL) -	- 2 FT. x 120 LBS./CU. FT.
Property and the State of the Control of the State of the	x = 1.25 = 300 LBS./SQ. FT.

TYPE "A" GABION RETAINING WALL QTY. CU. YD. NO. OF COURSES PER LIN. FT. 0.833 6'-0" 4'-6" 1.50 9'-0" 6'-0" 2.33 7'-6" 12'-0" 3.33 5 9'-0" 15'-0"

TY	PE "B" GABION	RETAINING W	ALL
WALL HEIGHT	BASE "B"	NO. OF COURSES	QTY, CU. YD PER LIN. FT.
6'-0"	4'-6"	2	0.833
9'-0"	6'-0"	3	1.50
12'-0"	7'-6"	4	2.33
15'-0"	90,	5	3.33

GENERAL NOTES

- WORKMANSHIP AND MATERIALS SHALL CONFORM TO SECTION 602 OF THE NEW MEXICO STATE DEPARTMENT OF TRANSPORTATION (NMDOT) STANDARD SPECIFICATIONS.
- 2. QUANTITIES FOR GABION BASKETS SHALL BE SHOWN ON THE PLANS.
- 3. RETAINING WALL FOUNDATION SHALL BE INSTALLED A MINIMUM OF 2 FEET BELOW THE GROUND LINE. WHEN GABION WALLS ARE TO BE INSTALLED IN STREAMBED, MEASURES TO PROTECT THE WALL AGAINST UNDERMINING SHALL BE SHOWN ON THE PROJECT SPECIFIC DRAWINGS.
- 4. ALL FOUNDATION SOILS SHALL BE ANALYZED TO ENSURE ADEQUATE BEARING PRESSURE, SOILS THAT DO NOT MEET THE DESIGN BEARING PRESSURE SHALL BE STABILIZED ACCORDING TO THE RECOMMENDATIONS OF THE NEW MEXICO STATE DEPARTMENT OF TRANSPORTATION'S FOUNDATION ENGINEER PRIOR TO THE START OF CONSTRUCTION.
- 5. INTERNAL FRICTION ANGLE REQUIREMENT OF THE BACKFILL MATERIAL SHALL BE VERIFIED BY PROCEDURES OUTLINED IN SECTION 506- MECHANICALLY STABILIZED EARTH RETAINING STRUCTURES, OF THE NMDOT STANDARD SPECIFICATIONS EXCEPT THAT THE FRICTION ANGLE SHALL NOT BE LESS



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Sheet 602-04

GABION BANK PROTECTION NMDOT STANDARD DETAIL

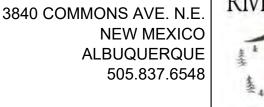
EDGES CONNECTED

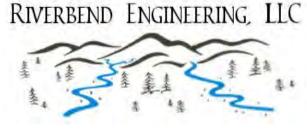
BY EITHER LACING

OR BY APPROVED

RING FASTENERS.







TYPICAL VIEW OF GABION RETAINING WALL

* NOTE: STAGGER JOINTS AT 3'-0" WHEN PRACTICAL.





