

CHANNEL WATER SURFACE

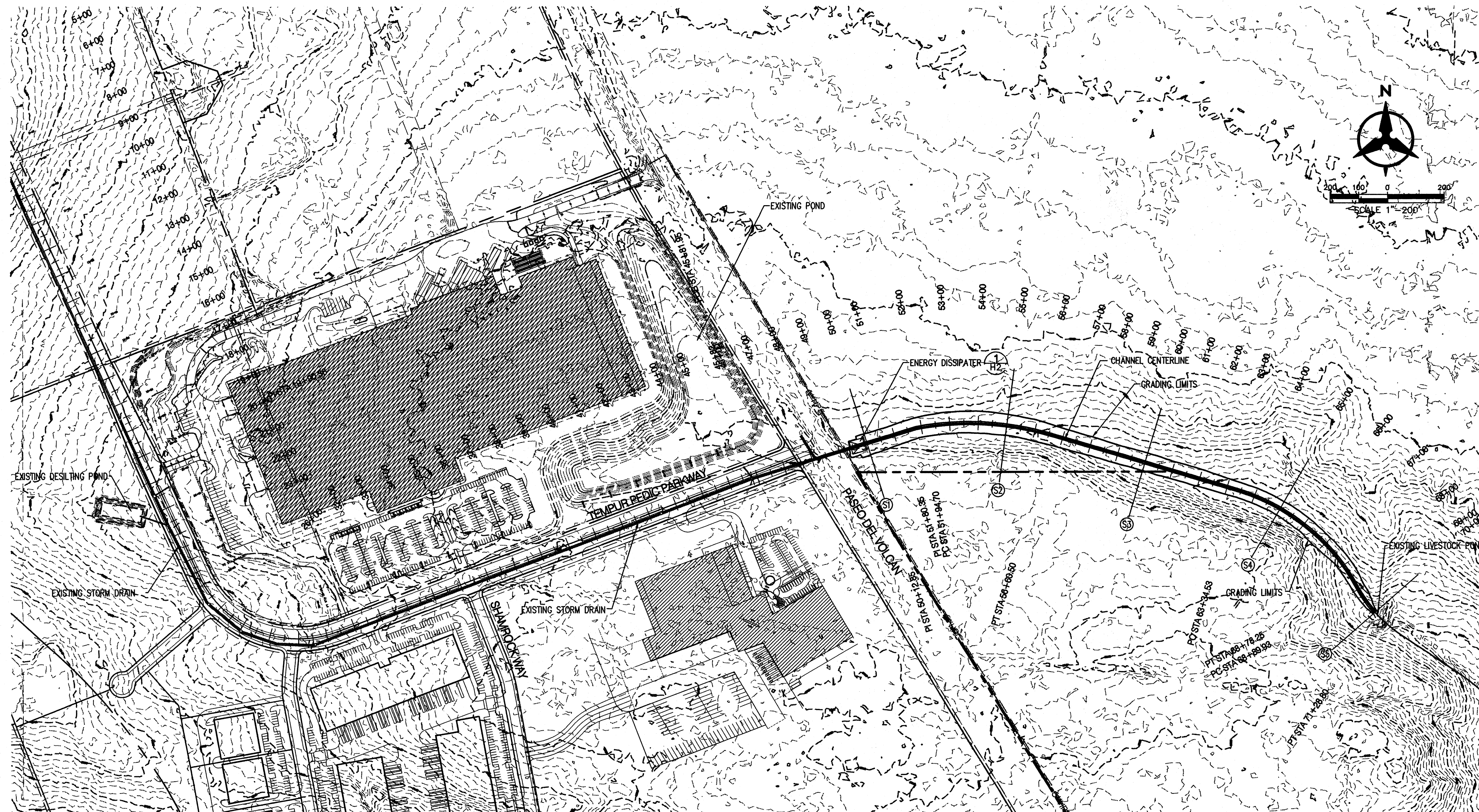
Existing Condition			
Design Storm	Flow Rate (CFS)	Normal Flow Depth ⁽²⁾ (FT)	Channel Velocity ⁽³⁾ (FT / SEC)
2-YEAR, 6-HOUR STORM ⁽¹⁾	4.8	0.3	1.5
10-YEAR, 6-HOUR STORM ⁽¹⁾	17.5	0.8	2.3
100-YEAR, 6-HOUR STORM ⁽¹⁾	61.3	1.3	3.5
NOTES:			
(1)	Flow rate calculated using DPM Section 22.2		Zone: 1
(2)	Normal Depth calculated based upon Manning's Equation for given channel.		
(3)	Channel Velocity calculated based upon normal depth of flow within the given channel.		
CHANNEL CHARACTERISTICS			
n = 0.030			
SLOPE = 0.005 FT/FT			

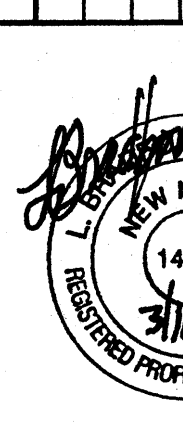
Developed Condition			
Design Storm	Total Flow Rate (CFS)	Normal Flow Depth ⁽²⁾ (FT)	Channel Velocity ⁽³⁾ (FT / SEC)
2-YEAR, 6-HOUR STORM ⁽¹⁾	168.7	2.2	4.6
10-YEAR, 6-HOUR STORM ⁽¹⁾	267.6	2.8	5.3
100-YEAR, 6-HOUR STORM ⁽¹⁾	387.2	3.3	5.8
NOTES:			
(1)	Flow rate calculated using DPM Section 22.2		Zone: 1
(2)	Normal Depth calculated based upon Manning's Equation for given channel.		
(3)	Channel Velocity calculated based upon normal depth of flow within the given channel.		

THE EXISTING STORM DRAIN AND PROPOSED STORM DRAIN OUTFALL ARE DESIGNED TO ACCOMMODATE THE 2.2, 10, AND 100-YEAR STORM EVENTS. HYDROLOGIC AND HYDRAULIC ANALYSIS WAS CONDUCTED PER THE CITY OF ALBUQUERQUE DPM SECTION 22.2. BENTLEY INROADS STORM AND SANITARY 2004 WAS USED TO DESIGN AND ANALYZE THE HYDRAULIC BEHAVIOR OF THE STORM DRAIN NETWORK. PIPE FLOW CAPACITIES AND FLOW DEPTHS WERE CALCULATED USING MANNING'S EQUATION. WATER SURFACE ELEVATIONS WITHIN THE CHANNEL WERE ALSO CALCULATED FOR EACH STORM EVENT. THE TEMPORARY CHANNEL IS DESIGNED TO BE EARTHEN WITH A 10-FOOT BOTTOM WIDTH AND 3:1 SIDE SLOPES TYPICAL TO EXISTING GROUND. AN ENERGY DISSIPATER LOCATED AT THE OUTFALL OF THE STORM DRAIN NETWORK WILL PREVENT SCOUR PASO DEL VOLCAN AND REDUCE FLOW VELOCITIES. HOWEVER, THE WATER WILL ULTIMATELY RETURN TO A VELOCITY GREATER THAN 3 FEET PER SECOND DOWNSTREAM OF THE ENERGY DISSIPATER WITH DEVELOPED CONDITION FLOWS. THE GRADED CHANNEL WILL TERMINATE AT THE EXISTING STONE POND, WATER WILL SUBSEQUENTLY FLOW WITHIN THE EXISTING ARROYO CHANNEL INTO THE WEST I-40 DIVERSION STORM DRAIN SYSTEM. THIS TEMPORARY CHANNEL WILL BE IMPROVED AS DEVELOPMENT ENSUES.

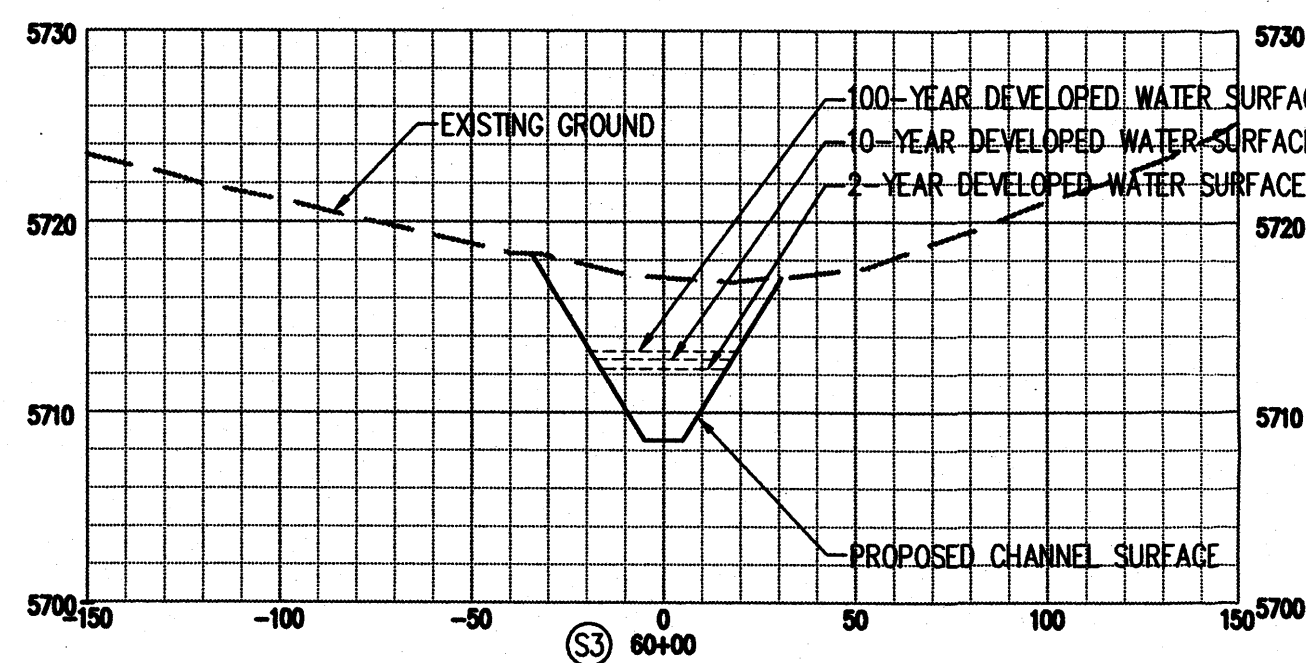
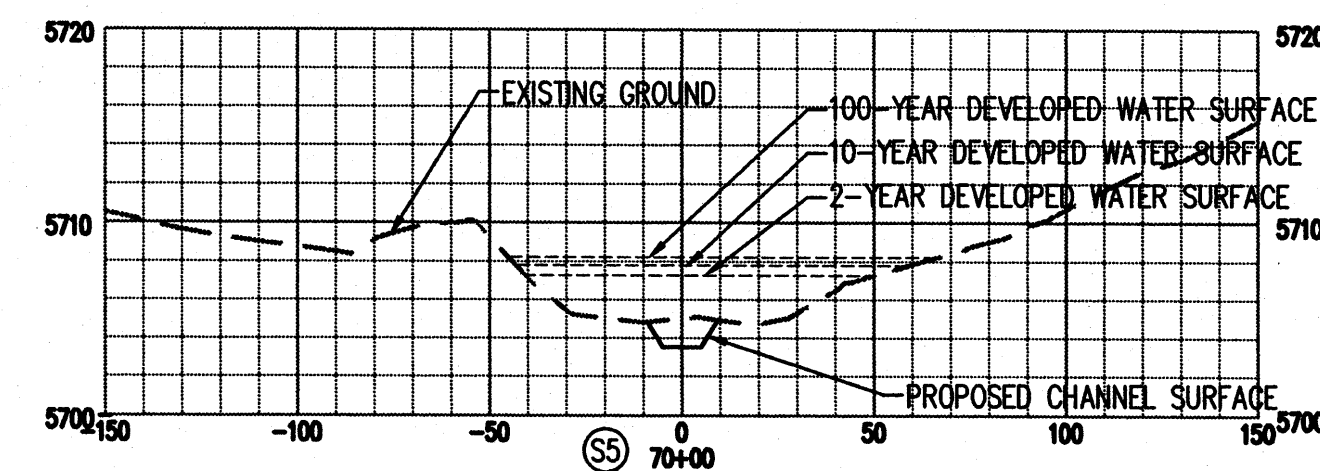
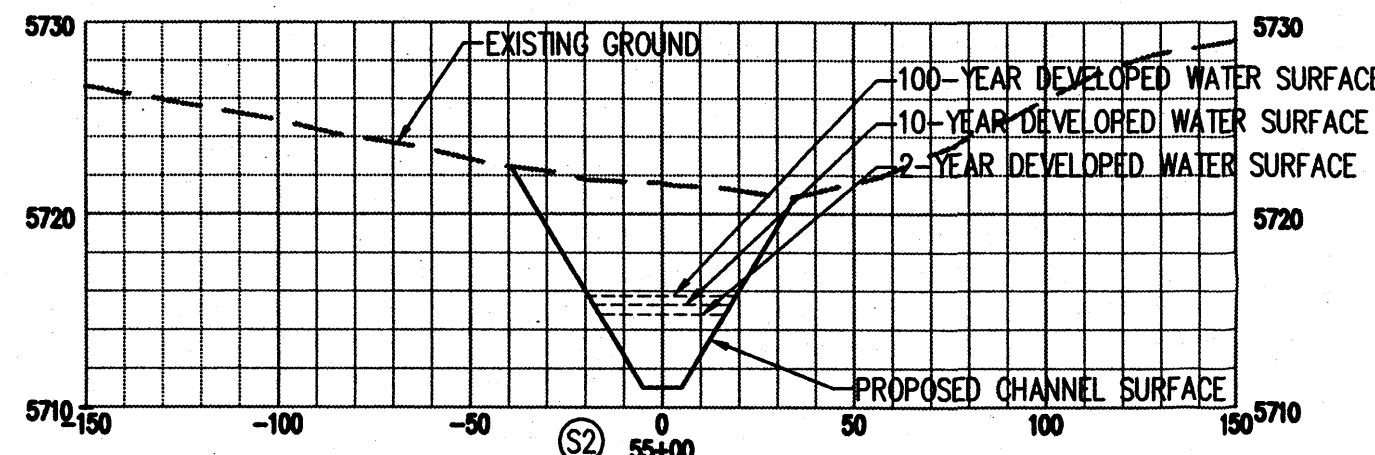
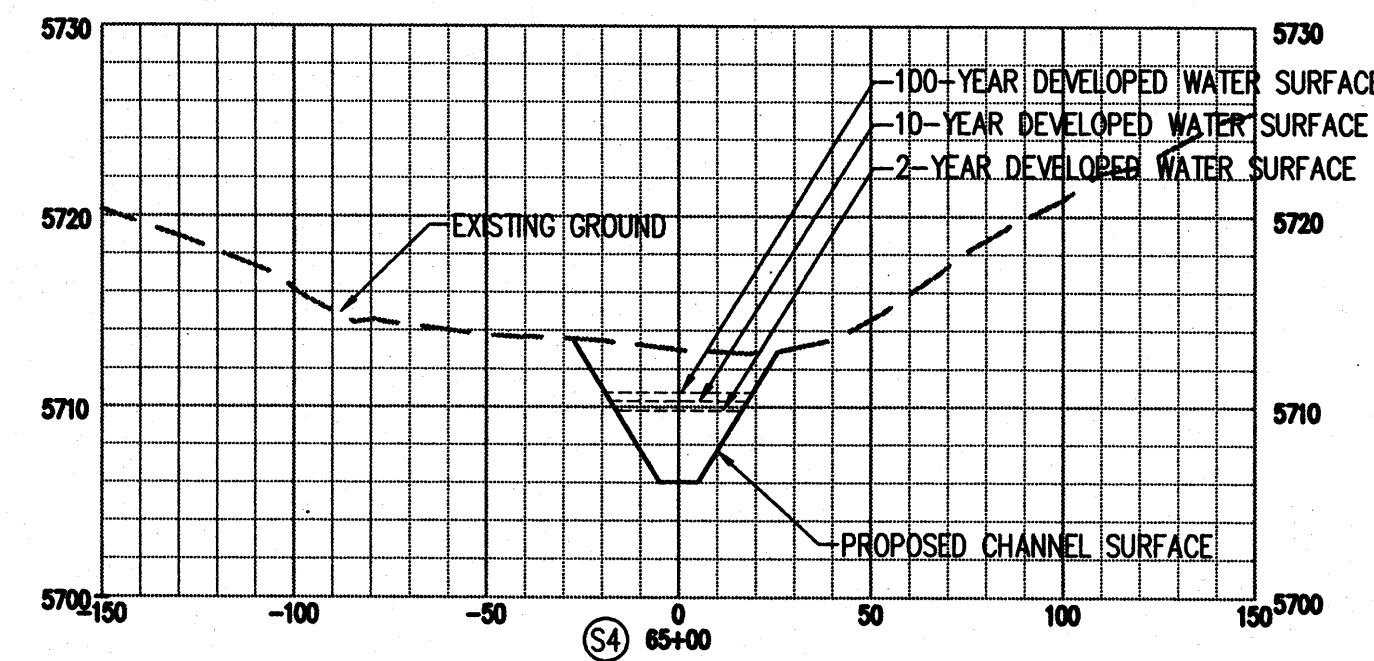
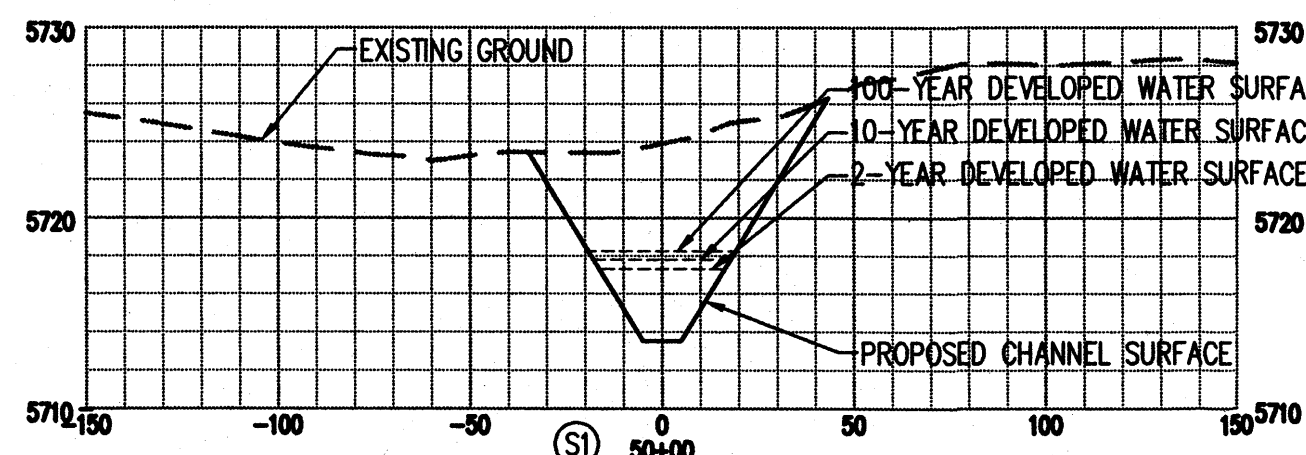
NOTES

(1) TYPICAL CHANNEL CROSS-SECTION LOCATED ON SHEET H2

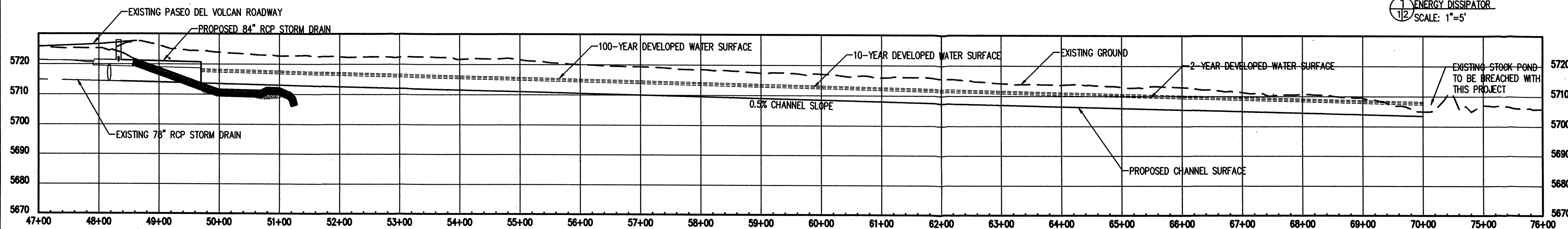


Bohannon ▴ Huston Courtyard 7500 Jefferson St NE Albuquerque, NM 87109-4335 ENGINEERING ▴ SPATIAL DATA ▴ ADVANCED TECHNOLOGIES				SURVEY INFORMATION FIELD NOTES NO. BY DATE 		BENCH MARKS MUSIC BRASS CAP STAMPED "L-40-27A" GEOGRAPHIC POSITION (NAD 1927) MODIFIED STATE PLANE COORDINATES N = 1481056.174, E = 341090.969 GROUND TO GRID FACTOR = 0.999655608 NGVD 1928 ELEVATION = 5681.458		AS-BUILT INFORMATION CONTRACTOR _____ DATE _____ DESIGNED BY _____ DATE _____ INSPECTOR'S FIELD _____ DATE _____ MODIFICATION BY _____ DATE _____ CORRECTED BY _____ DATE _____ MICRO-FILM INFORMATION RECORDED BY _____ DATE _____ NO. _____	
County of Bernalillo Public Works Division State of New Mexico CORDERO MESA STORM DRAIN HYDRAULIC ANALYSIS PLAN		No. Date REMARKS DESIGN Revisions Designed By: KWI DATE: 03.13.06 Drawn By: SFG DATE: 03.13.06 Checked By: KWI/RS DATE: 03.13.06							
<i>K5-D001</i>		Last Design Update		Mo./Day/Yr. 		Mo./Day/Yr. 		Sheet _____ Of _____	
Project No.		Zone Map No.		Drawing No.		Sheet		Of	
060238		K-5,K-6,L-6,L-7		H1		1		2	

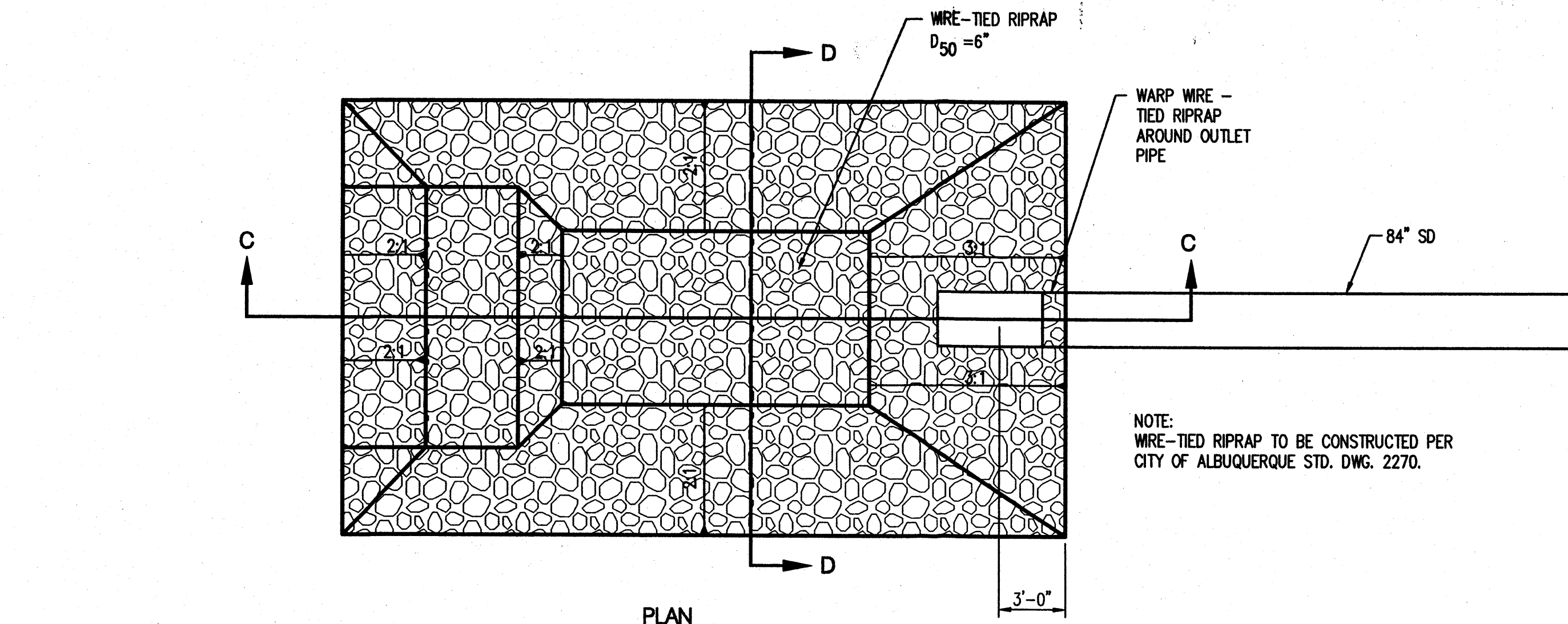
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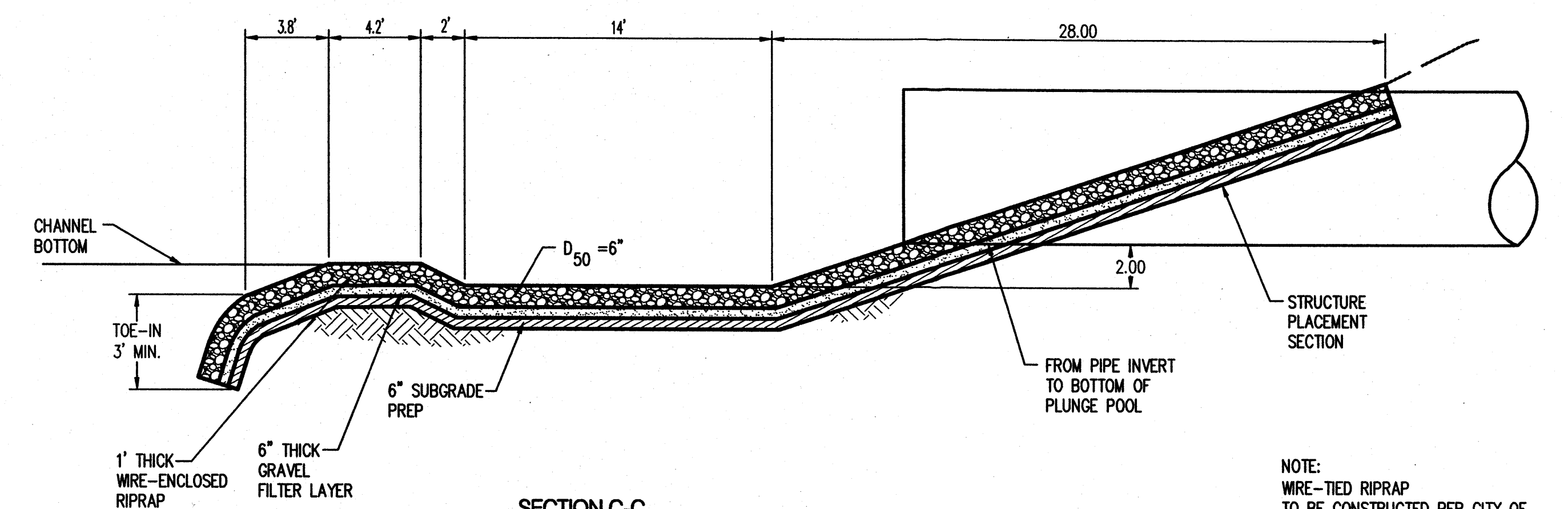
CHANNEL CROSS SECTIONS
SCALE: 1"=50' HORIZONTAL
1"=10' VERTICAL



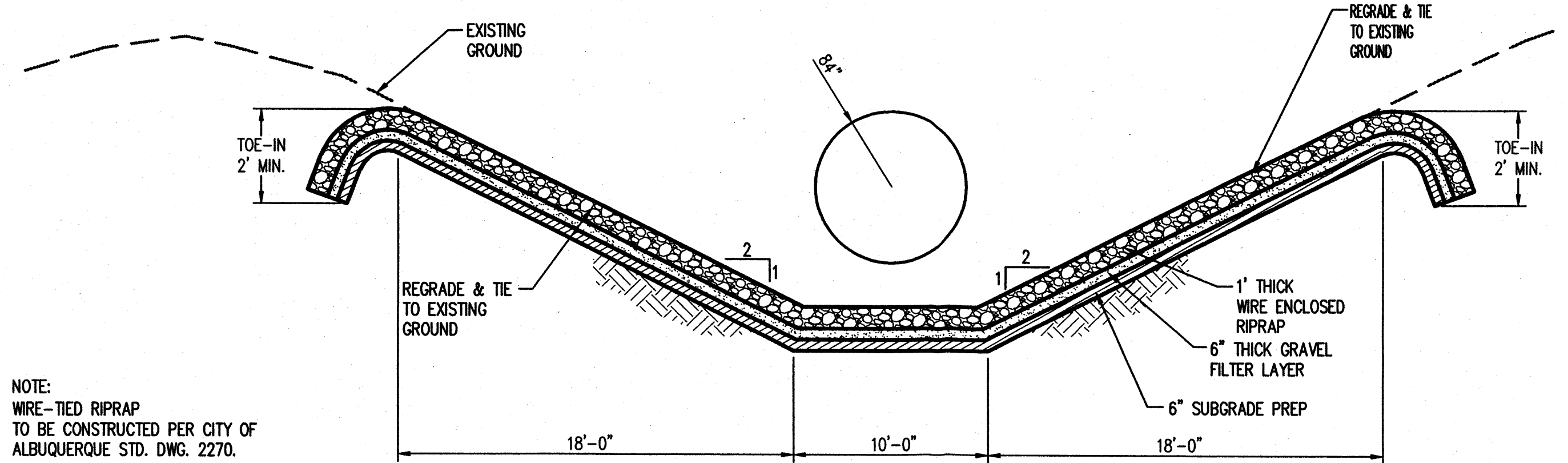
CHANNEL CENTERLINE PROFILE
SCALE: 1"=100' (HORIZONTAL)
1"=20' (VERTICAL)



PLAN



SECTION C-C



SECTION D-D

1 ENERGY DISSIPATOR
12 SCALE: 1"=5'

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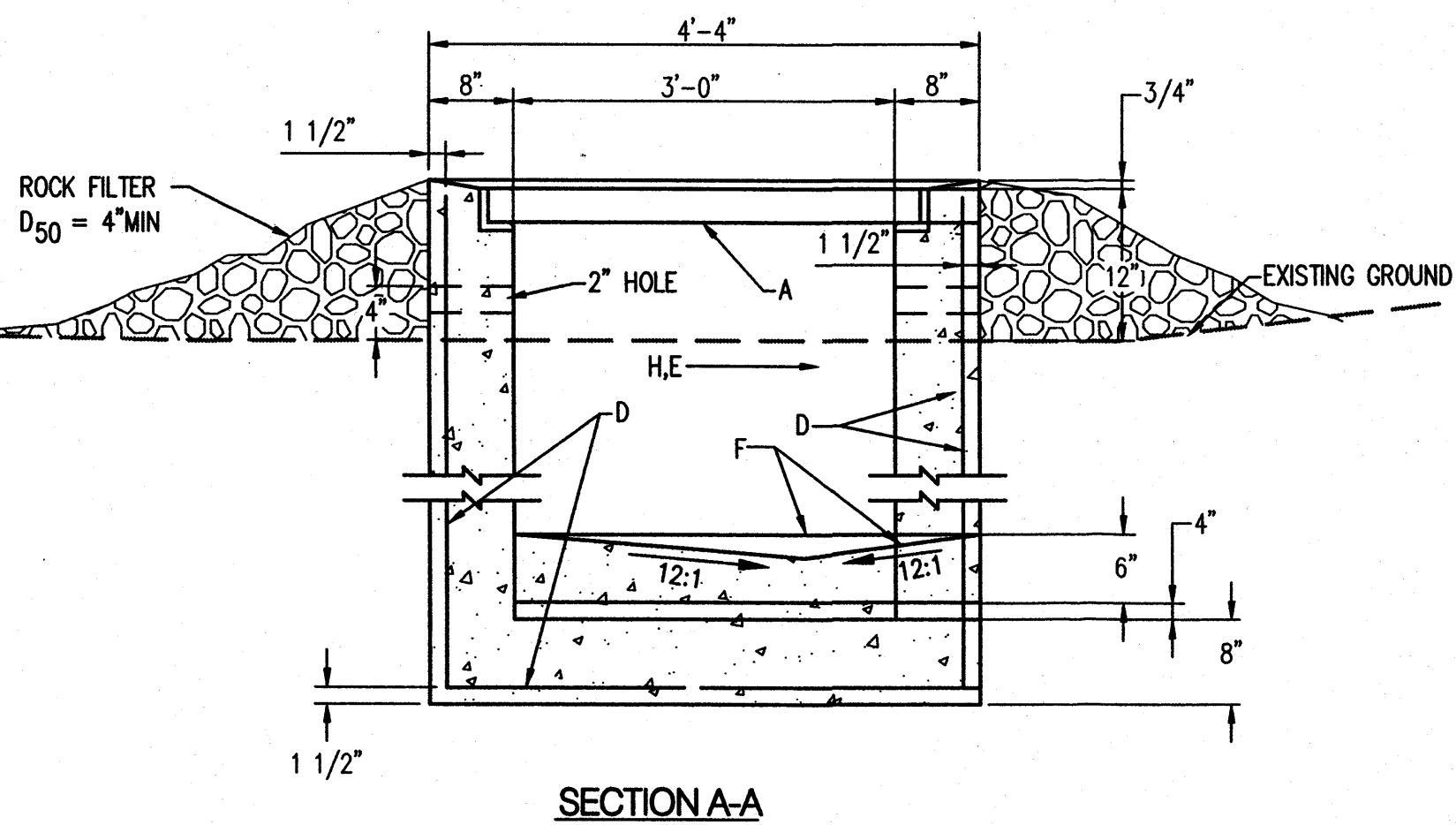
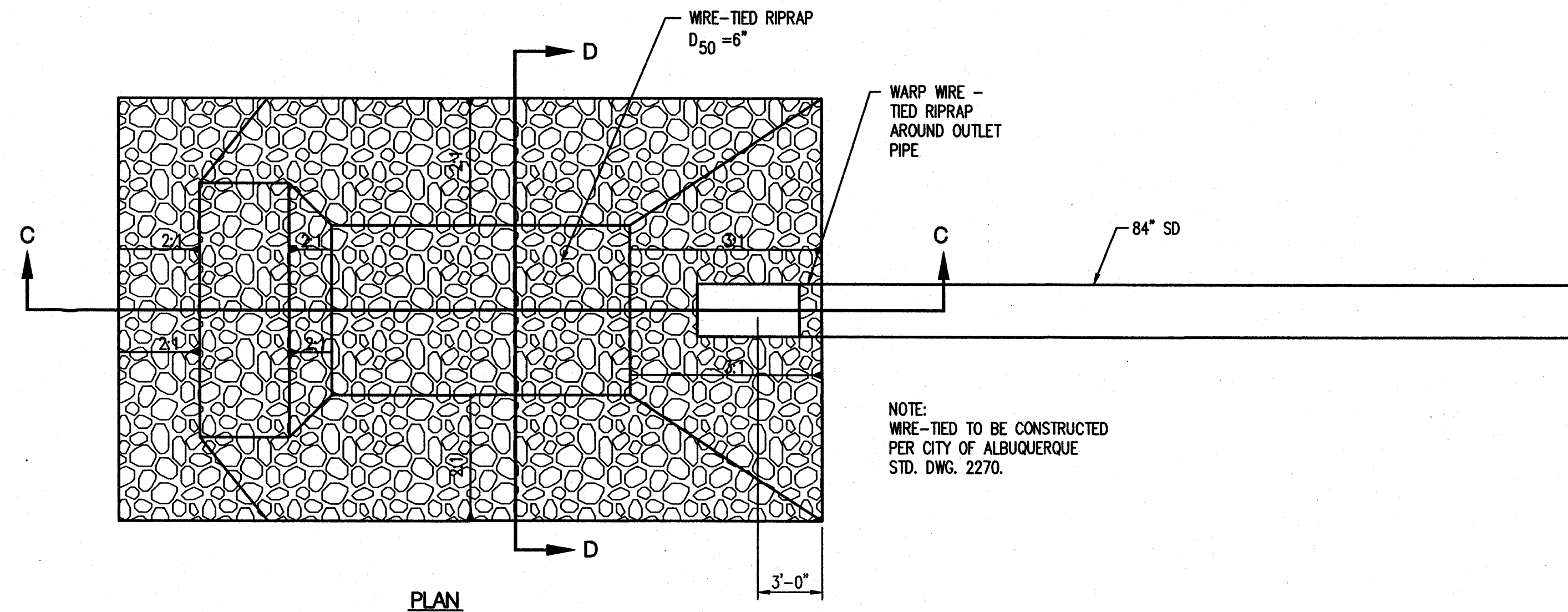
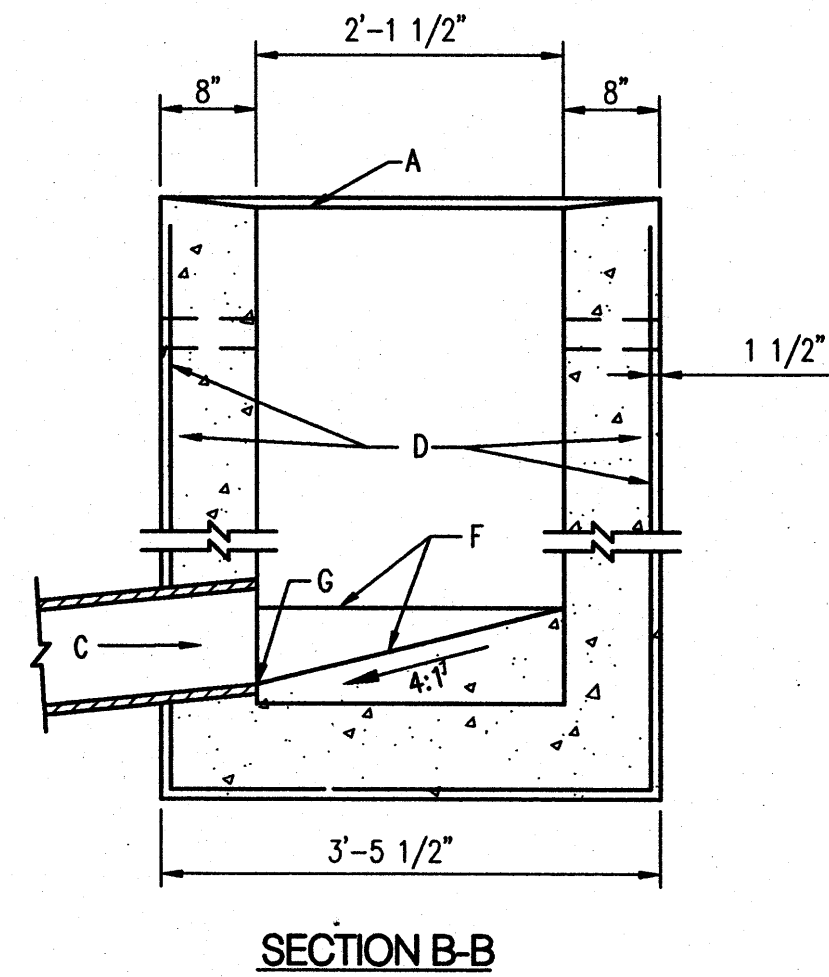
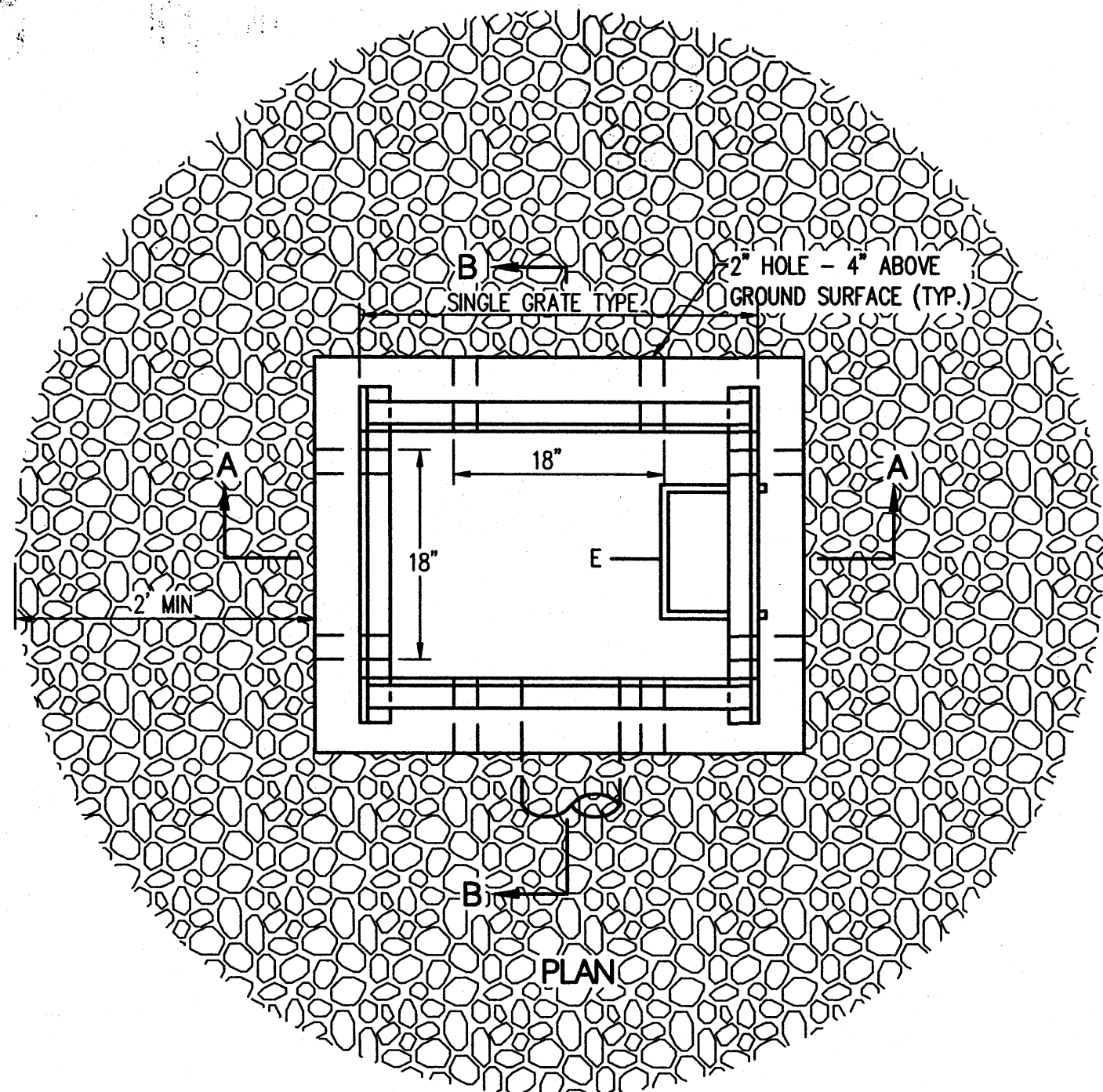
Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
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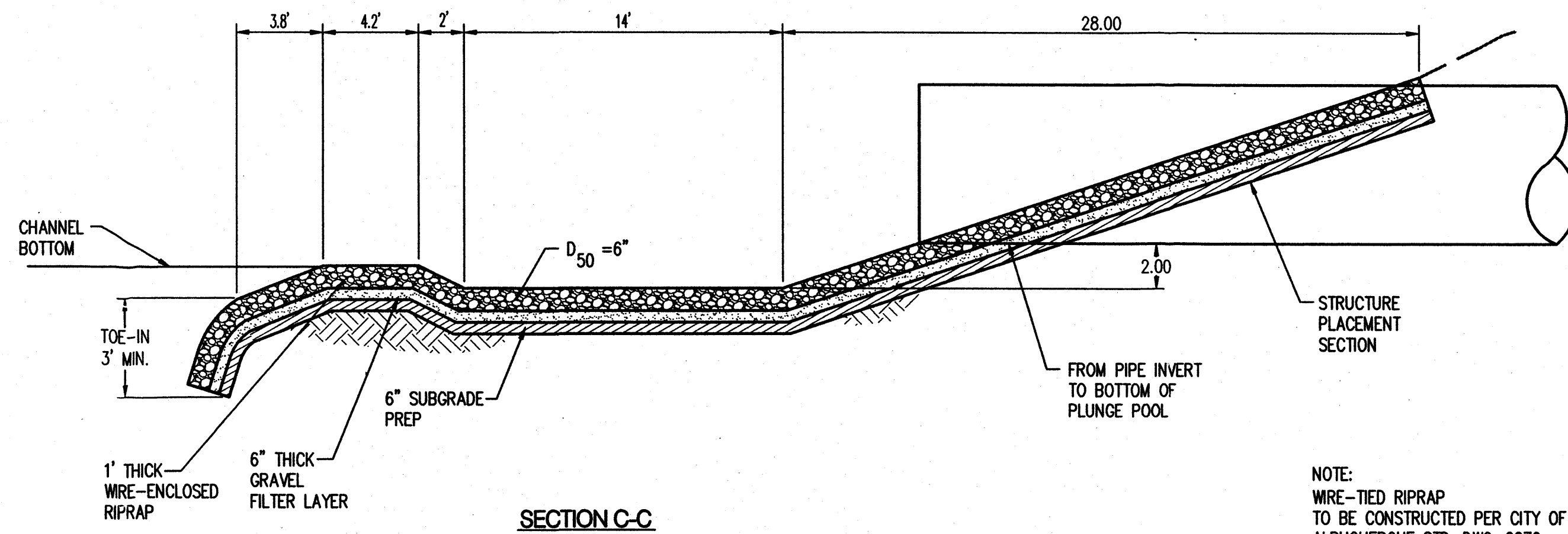
County of Bernalillo
Public Works Division
State of New Mexico

CORDERO MESA
STORM DRAIN
HYDRAULIC ANALYSIS DETAILS

Project No. **060238** Zone Map No. **K-5-K-6.1-6.1-7** Drawing No. **H2** Sheet **2** Of **2**

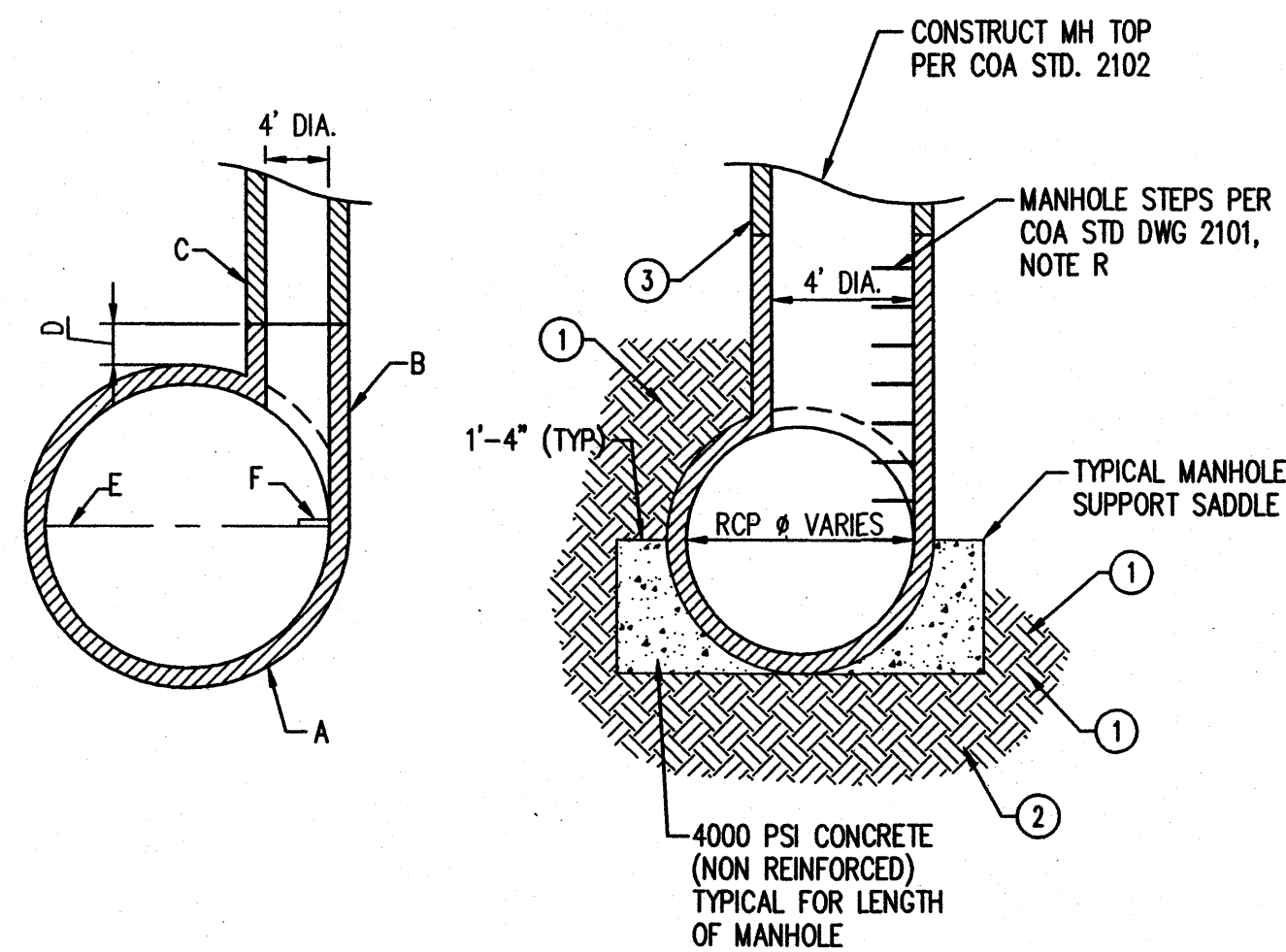


- GENERAL NOTES:**
- FOR FRAME & GRATING, SEE COA STD. 2216, 2220 & 2221.
- CONSTRUCTION NOTES:**
- FRAME & GRATE.
 - CUT ONE HORIZONTAL AND ONE VERTICAL BAR MAX. AT PIPE OPENING.
 - NO. 4 BARS AT 6" O.C. EACH WAY.
 - USE STANDARD STEPS, SEE COA STD. 2229.
 - CONC. FILL, SEE NOTE C COA STD. 2220.
 - INVERT PER DESIGN.



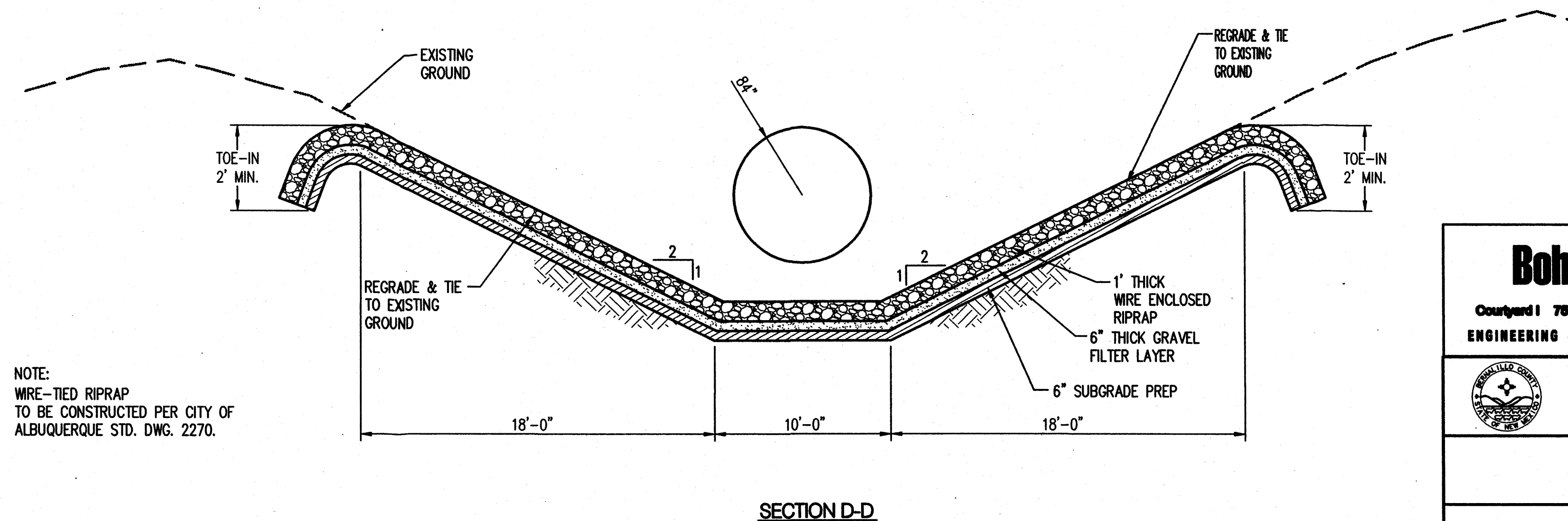
NOTE:
WIRE-TIED RIPRAP
TO BE CONSTRUCTED PER CITY OF
ALBUQUERQUE STD. DWG. 2270.

1 STORM WATER QUALITY INLET
SCALE: N.T.S.



2 TEE TYPE MANHOLE
SCALE: N.T.S.

- GENERAL NOTES:**
- MANHOLE STEPS ARE REQUIRED FOR MANHOLES DEEPER THAN 6 FEET. LOWEST STEP SHOULD BE AT THE SPRINGLINE OF THE SEWER PIPE.
 - FIELD FABRICATION OF TEE OR ECCENTRIC PIPE UNIT WILL NOT BE ACCEPTED.
- CONSTRUCTION NOTES:**
- STORM SEWER PIPE
 - PRECAST VERTICAL PIPE
 - PRECAST MANHOLE RISERS
 - TOP OF VERTICAL PIPE MINIMUM 18" ABOVE
 - SPRINGLINE
 - LOWEST MANHOLE STEP
- KEYED NOTES:**
- BACKFILL COMPACTED PER COA STD SPECIFICATIONS
 - 24" SUBGRADE COMPACTED TO 95% ASTM D-1557. COMPACT IN LIFTS NOT EXCEEDING 8" LOOSE.
 - 4" DIA. MANHOLE RISERS AS REQUIRED.



3 ENERGY DISSIPATOR
SCALE: N.T.S.

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Last Save By: jgarcia

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County of Bernalillo
Public Works Division
State of New Mexico
CORDERO MESA STORM DRAIN
MISCELLANEOUS DETAILS

Project No.	Zone Map No.	Drawing No.	Sheet	Of
060238	K-5,K-6,L-6,L-7	C2	4	7

BHI JOB NO. 060238.003.***CWH

Date: 02.02.06