

NOBLE ENERGY, INC

35L PAD GRADING , DRAINAGE, ACCESS ROAD AND EROSION & SEDIMENT CONTROL PLAN

1625 BROADWAY, SUITE 2000
DENVER, CO. 80202

URS

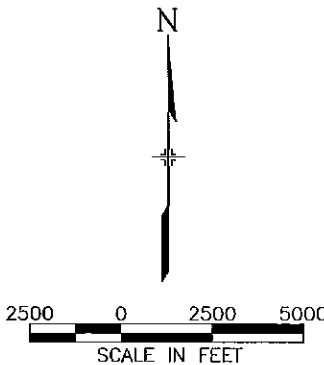
713 Cooper Ave
Glenwood Springs, CO. 81601
970-384-4731 (phone)
970-945-9182 (fax)

ne noble
energy

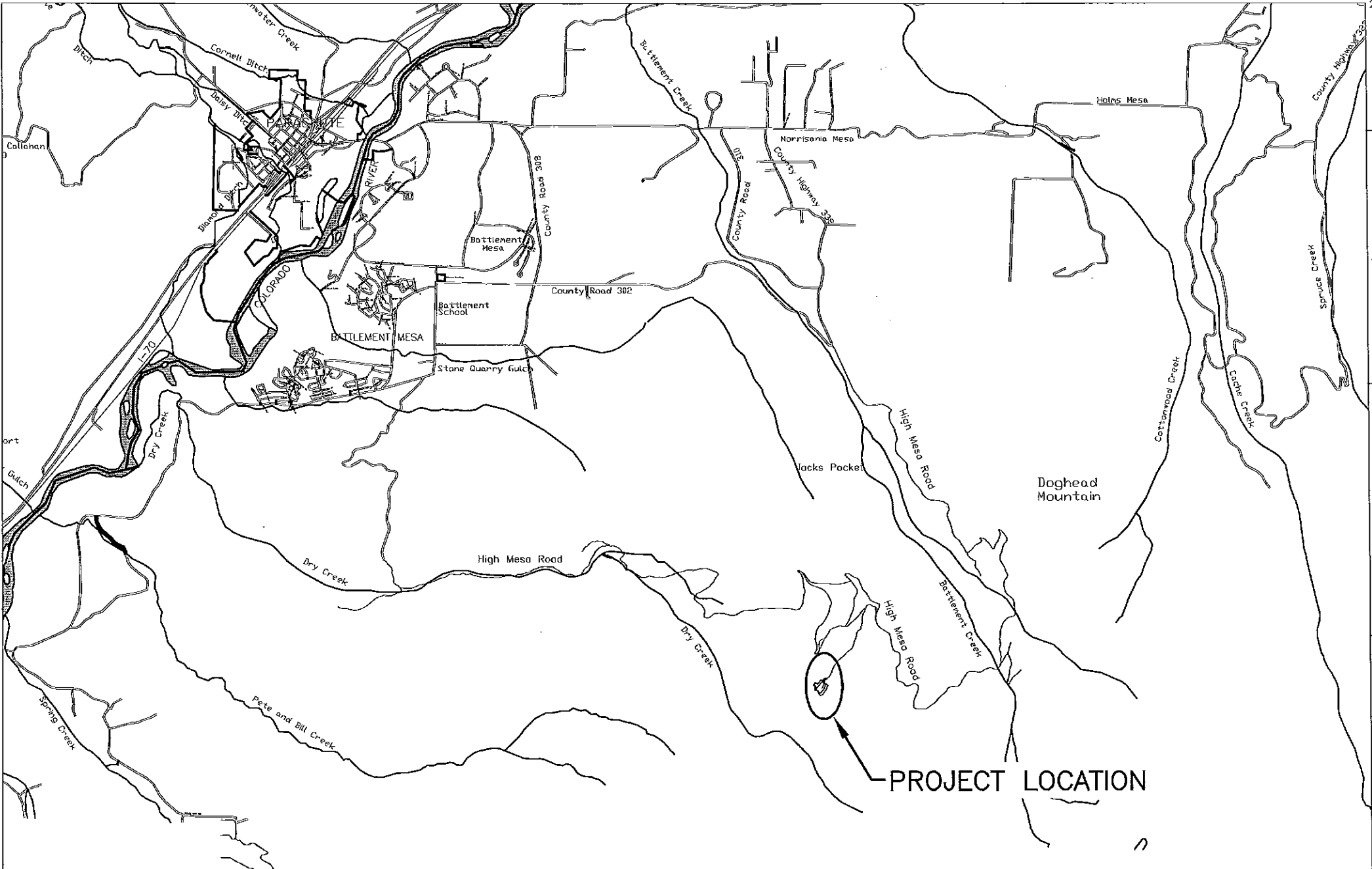
DOGHEAD MOUNTAIN
35L PAD
GRADING AND
EROSION & SEDIMENT
CONTROL PLAN

PROJECT PLANS

DESCRIPTION	SHEET NO.
COVER SHEET	1
GRADING PLAN	2
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Know what's below.
Call before you dig.



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DATE BY

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NO.	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION	7/30/10
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URS PROJECT NO: 22240346

DRAWN BY: R.J.L.

DESIGNED BY:

CHECKED BY:

DATE CREATED:

PLOT DATE:

SCALE:

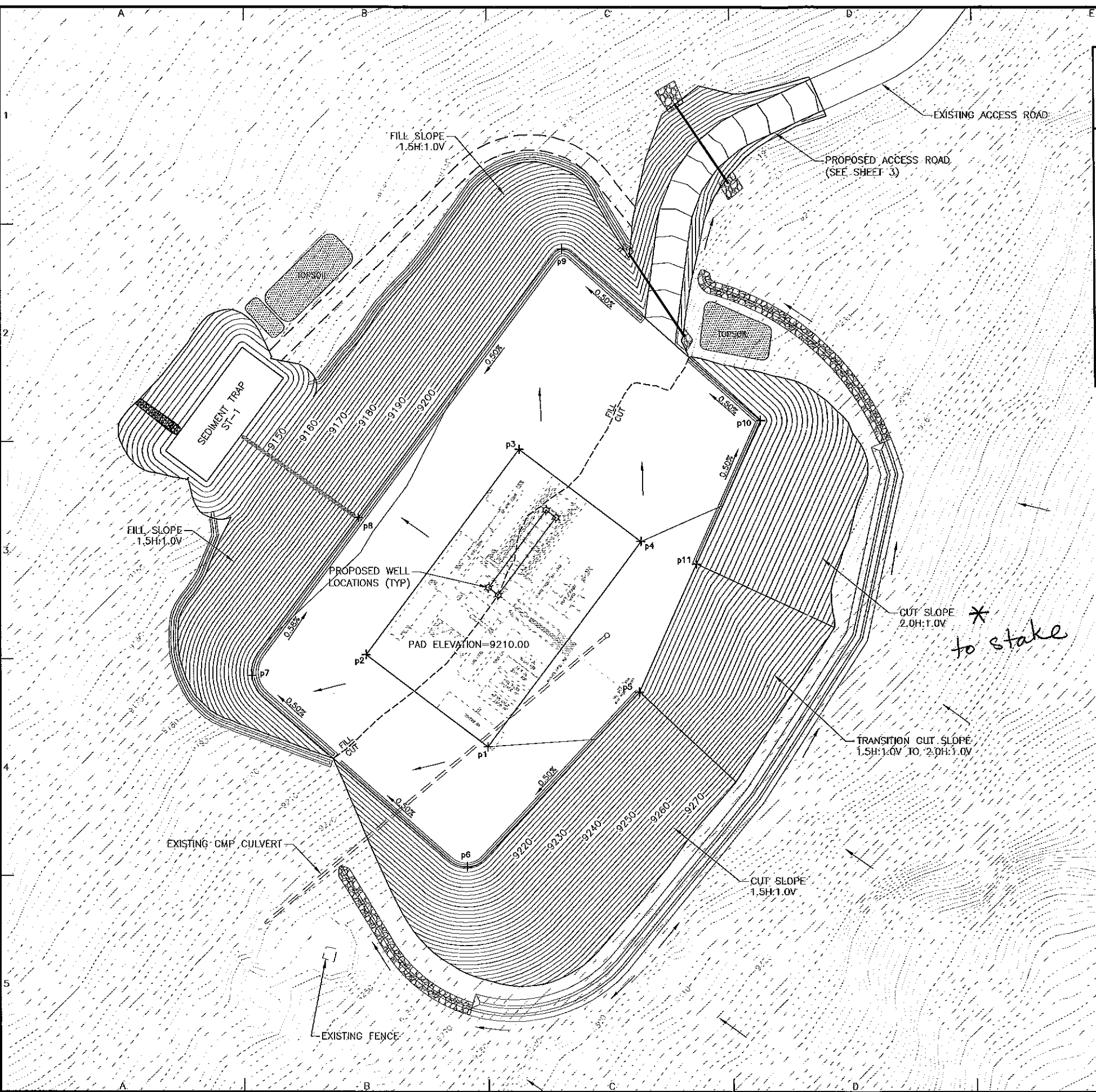
ACAD VER:

SHEET TITLE

LOCATION MAP

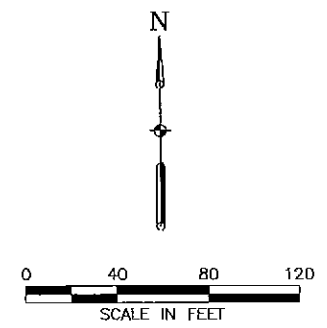
LAUITT, RANDY J. 7/30/2010 5:42 PM

URS DRAWING PATH: T:\Projects\22240346_Noble_Energy_On-Call_Services\7.0_CAD_GIS\7.04_Plans_Doghead_Mtn\Pad 35\Pad 35L Plans.dwg



NOTES:
1.) HORIZONTAL DATUM: NAD83
2.) ELEVATION "Z" IS THE ELEVATION OF WELL/RIG SITE WHICH MAY VARY FROM THAT SHOWN ON PLANS.

POINT	NORTHING	EASTING	ELEVATION
p1	1577228.60	2301456.89	Z
p2	1577299.90	2301362.18	Z
p3	1577458.80	2301481.68	Z
p4	1577387.59	2301576.46	Z
p5	1577271.10	2301574.89	Z
p6	1577135.33	2301440.69	Z -0.7'
p7	1577283.45	2301273.06	Z -1.9'
p8	1577405.95	2301358.36	Z -2.7'
p9	1577613.32	2301515.50	Z -1.4'
p10	1577481.07	2301670.45	Z -0.4'
p11	1577370.01	2301619.91	Z +0.3'



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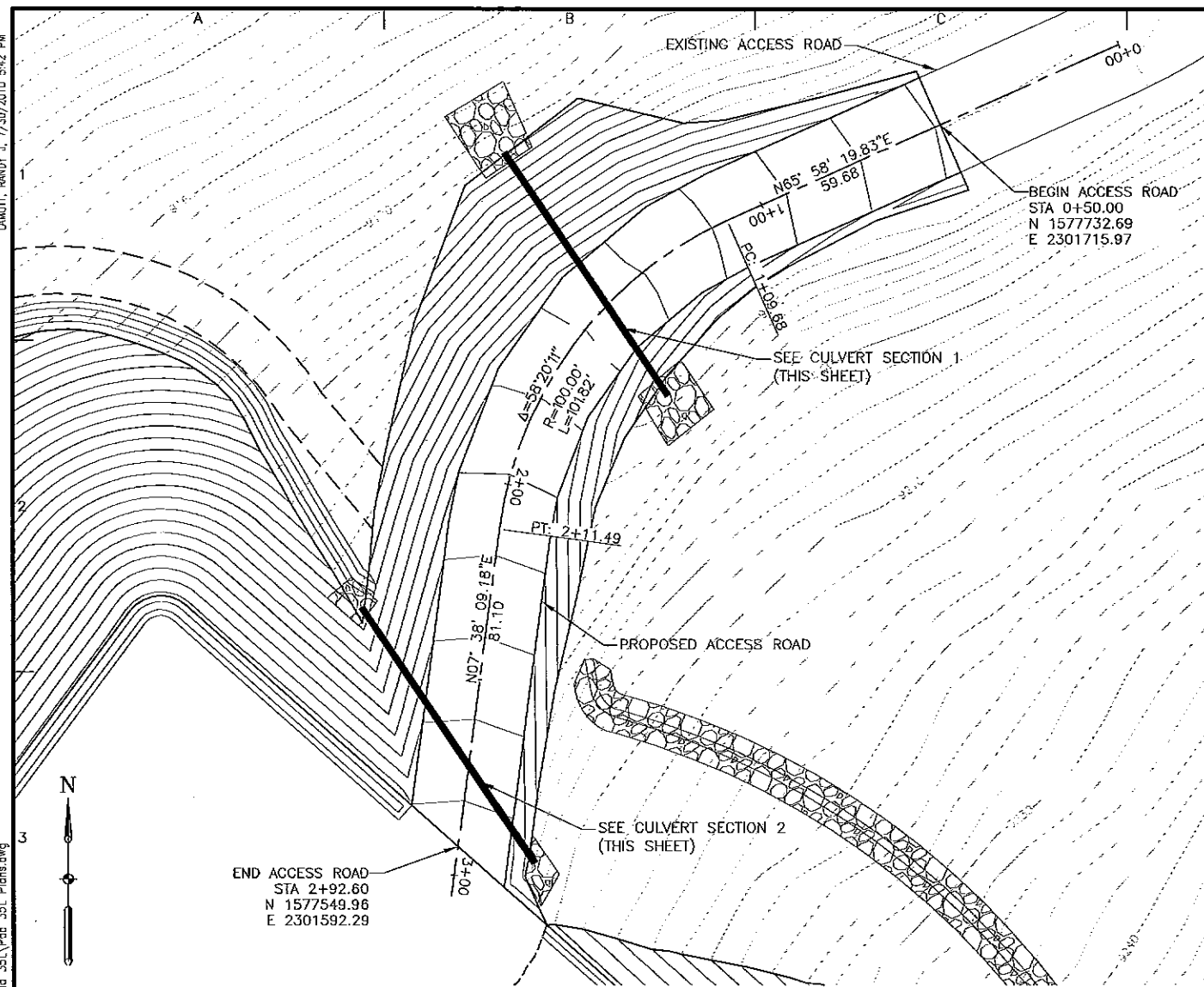
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SHEET TITLE		

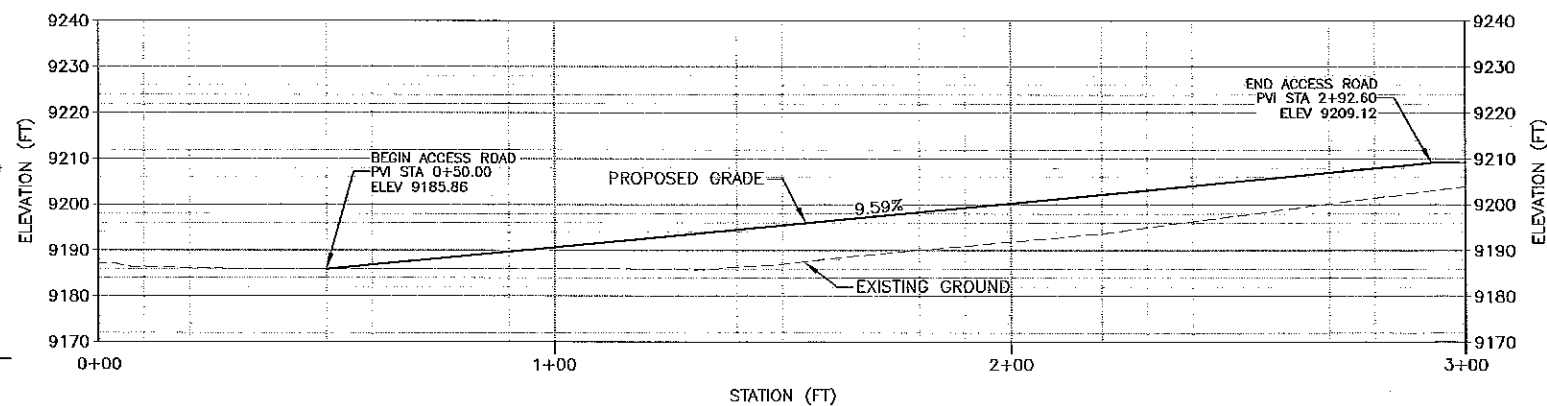
GRADING PLAN

LAJUT, RANDY J., 7/30/2010 5:42 PM

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ACCESS ROAD PLAN



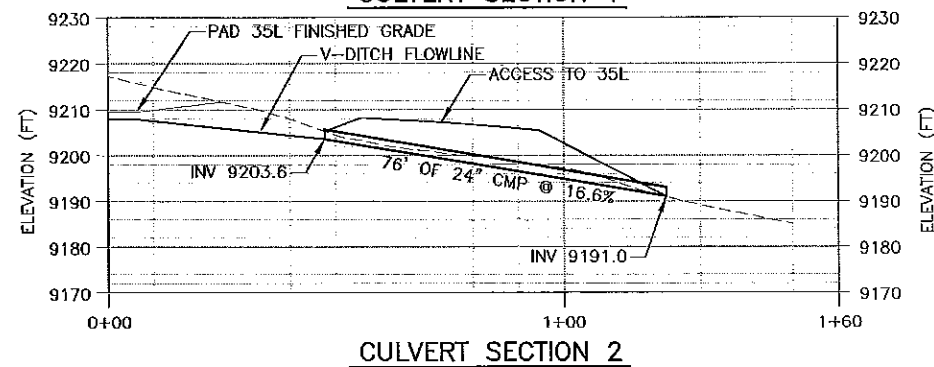
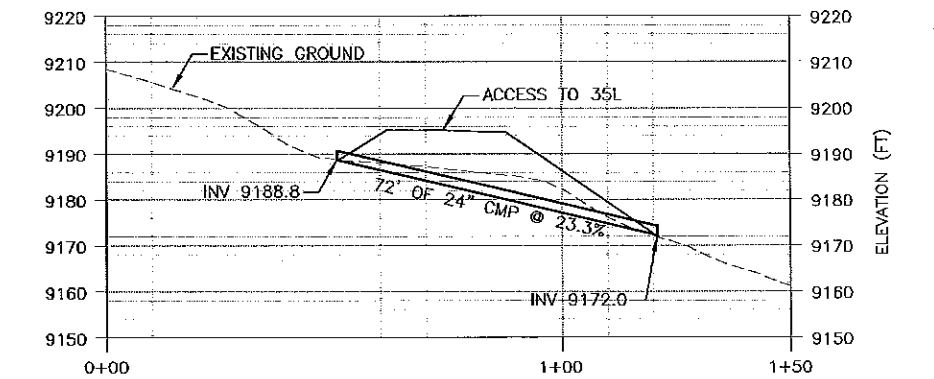
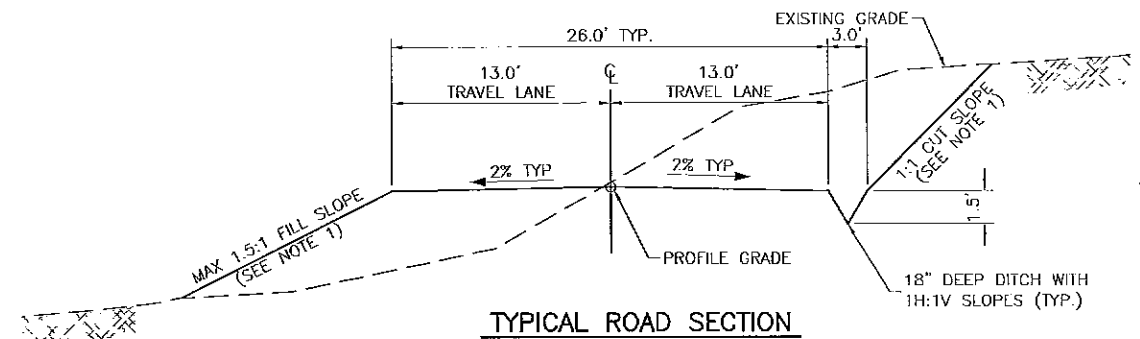
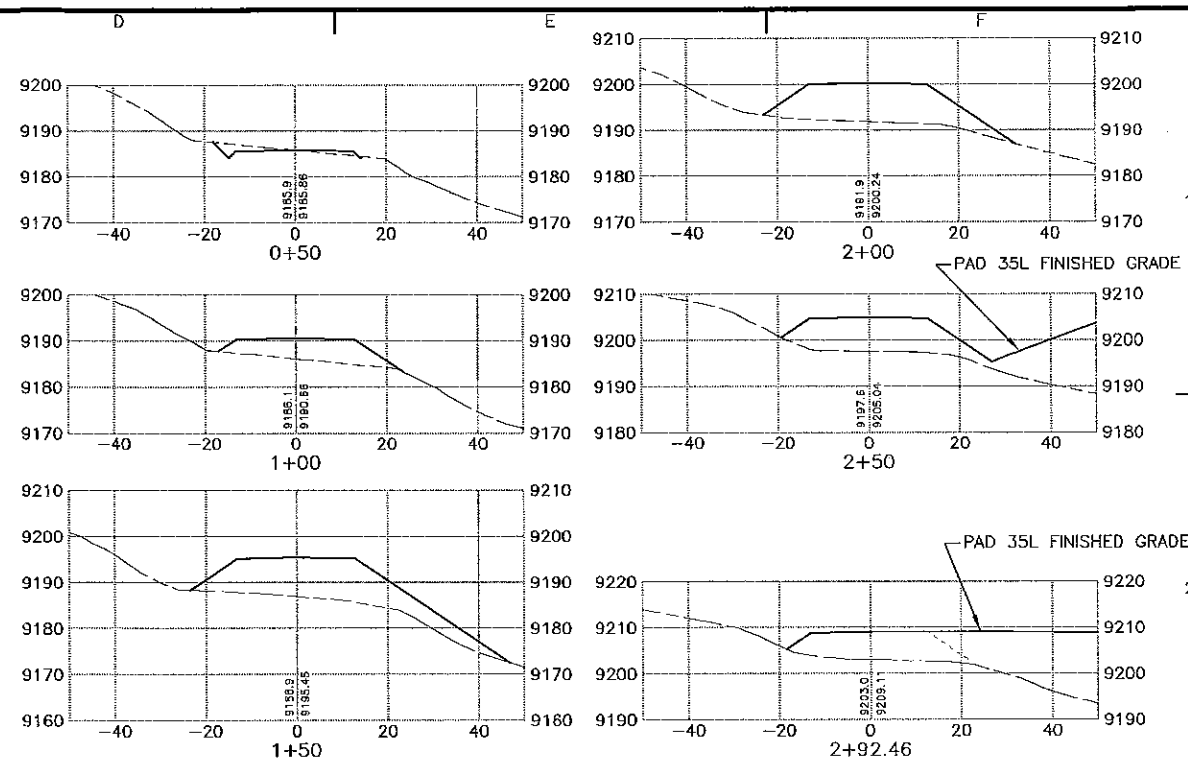
ACCESS ROAD PROFILE

NOTES:

1. ALL VOLUMES LISTED HAVE A FILL FACTOR OF 1.15.
2. PAD 35L APPROX. ADJUSTED VOLUME;
CUT: 64,428 CY
FILL: 61,576 CY
NET: 2,852 CY CUT



TOTAL VOLUME TABLE					
STATION	CUT VOL	FILL VOL	CUM CUT VOL	CUM FILL VOL	NET VOL
0+50	0	0	0	0	0
1+00	18	164	18	164	-146
1+50	0	613	18	777	-759
2+00	0	820	18	1597	-1579
2+50	0	643	18	2239	-2222
2+92	0	322	18	2562	-2544



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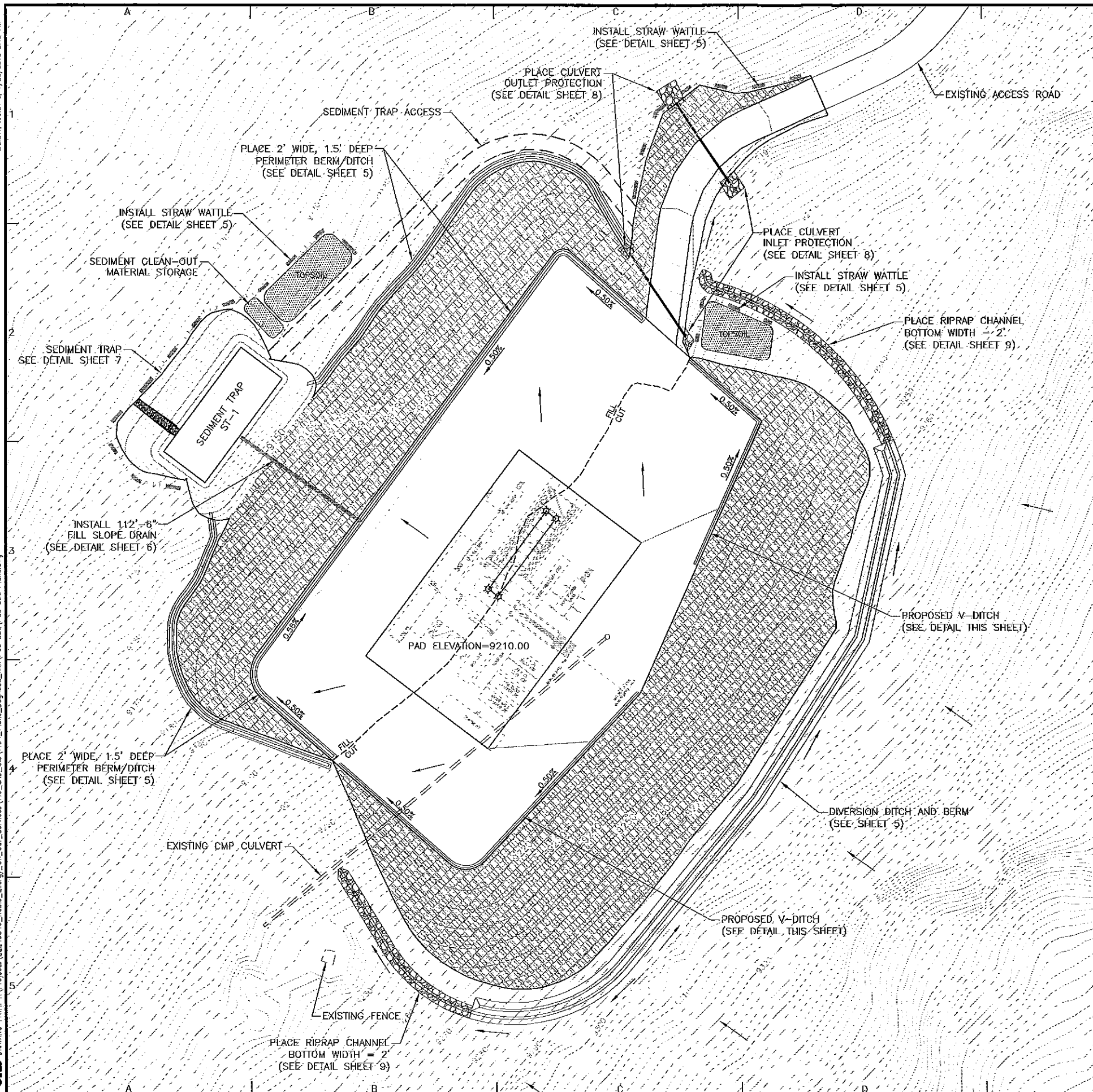
ACCESS ROAD PLAN
PROFILE, AND
SECTIONS

03

SHEET 3 OF 9

LAJUTT, RANDY 4, 7/30/2010 5:42 PM

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SEQUENCE OF CONSTRUCTION:

1. CONSTRUCT DIVERSION BERM/ DITCH
2. INSTALL STRAW WATTLE ALONG ROAD, CLEAN-OUT AND TOPSOIL STORAGE PILE.
3. CONSTRUCT SEDIMENT TRAP THEN INSTALL FILL SLOPE DRAIN AND EARTH PERIMETER BERMS TO SEDIMENT TRAP. CONSTRUCT ACCESS ROADWAY AND RELATED BMP's.
4. APPLY SEED THEN HYDRAULIC MULCH (FGM).

LEGEND

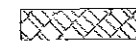
OUTFALL PROTECTION OR RIP-RAP CHANNEL



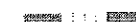
DIRECTION OF FLOW



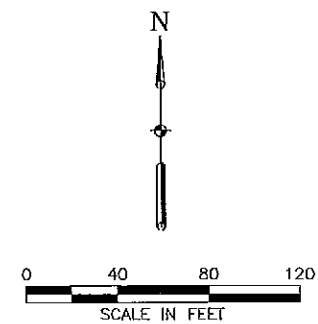
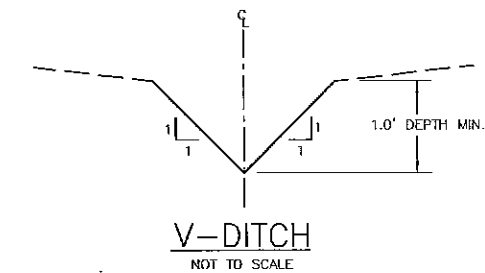
SEED & HYDRAULIC MULCH (FGM)



STRAW WATTLE (SEE DETAIL SHEET 5)



FILL SLOPE DRAIN



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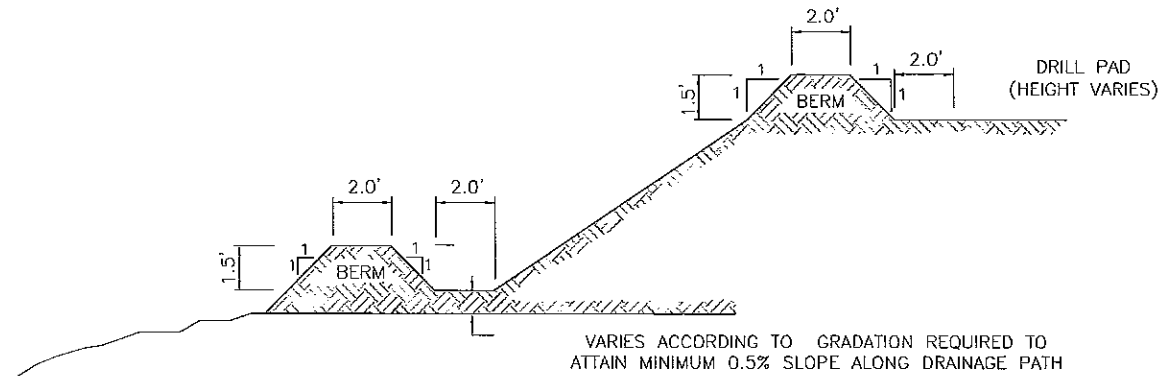
EROSION AND
SEDIMENT CONTROL
PLAN

04

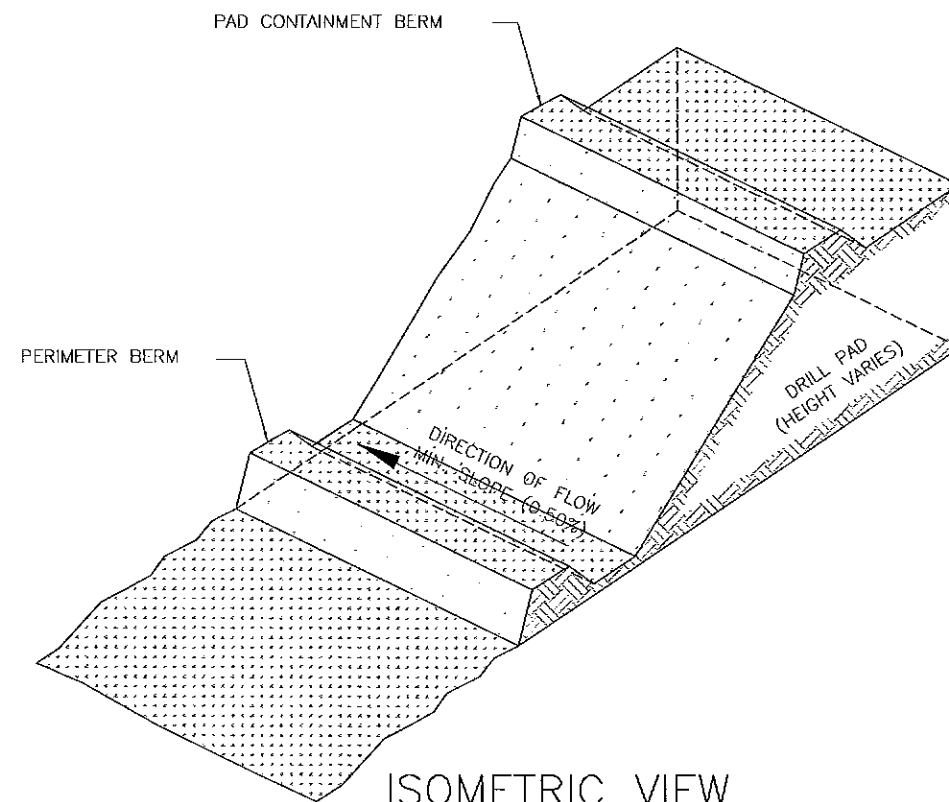
SHEET 4 OF 9

LAMITT, RANDY J. 7/30/2010 5:42 PM

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PROFILE VIEW-PERIMETER BERMS/ DITCHES



ISOMETRIC VIEW

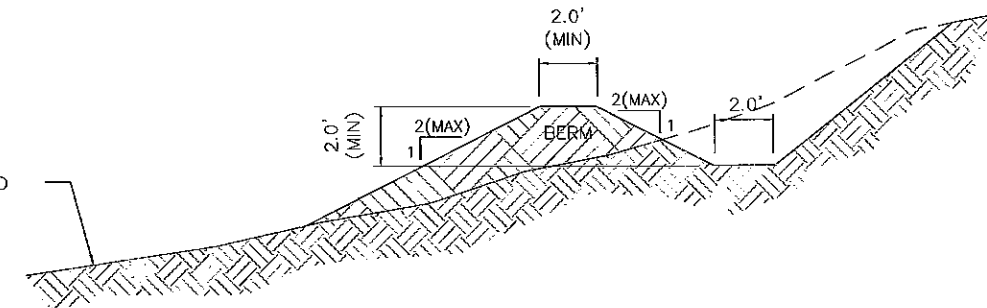
CONSTRUCTION SPECIFICATIONS:

1. THE AREA UP-SLOPE OF THE BERM AT THE BASE OF INITIAL FILL SLOPE SHALL HAVE A MINIMUM SLOPE OF 0.5%.
2. COMPACT BERMS WITH HAND HELD COMPACTION DEVICE, TRACKHOE BUCKET OR OTHER METHOD CAPABLE OF ATTAINING 85% DENSITY.
3. FOLLOW-UP INSPECTION AND ANY NEEDED MAINTENANCE SHALL BE PERFORMED EVERY 14 DAYS AND AFTER EACH STORM.
4. SEE PLAN FOR BERM WIDTH, DEPTH AND LOCATIONS.

PERIMETER BERM DETAIL

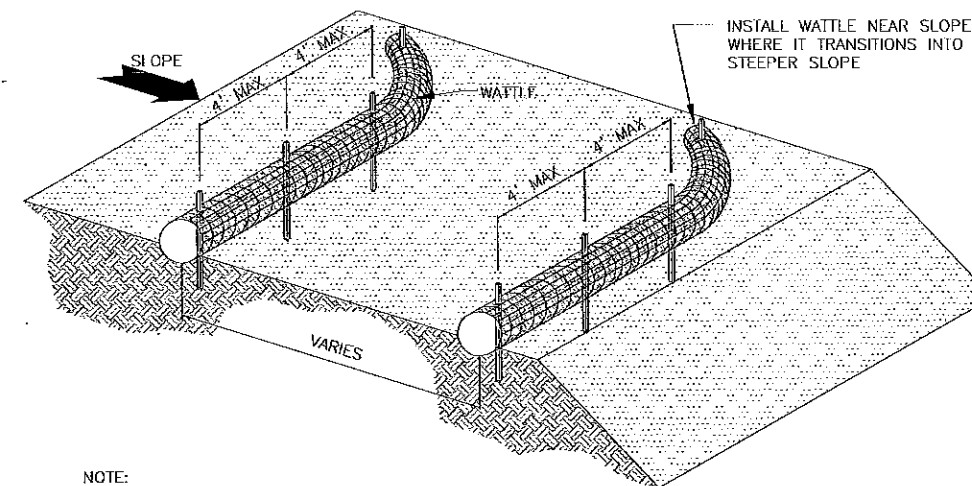
NOT TO SCALE

EXISTING GROUND

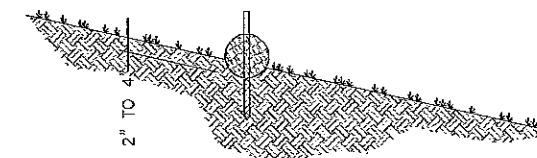


DIVERSION BERM/DITCH DETAIL

NOT TO SCALE



NOTE:
INSTALL WATTLE ALONG A LEVEL CONTOUR.
EXTEND END OF WATTLE UPSLOPE TO AVOID FLOW AROUND END.



WATTLE DETAIL

NOT TO SCALE

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SHEET TITLE

TEMPORARY EROSION
CONTROL DETAILS

05

SHEET 5 OF 9

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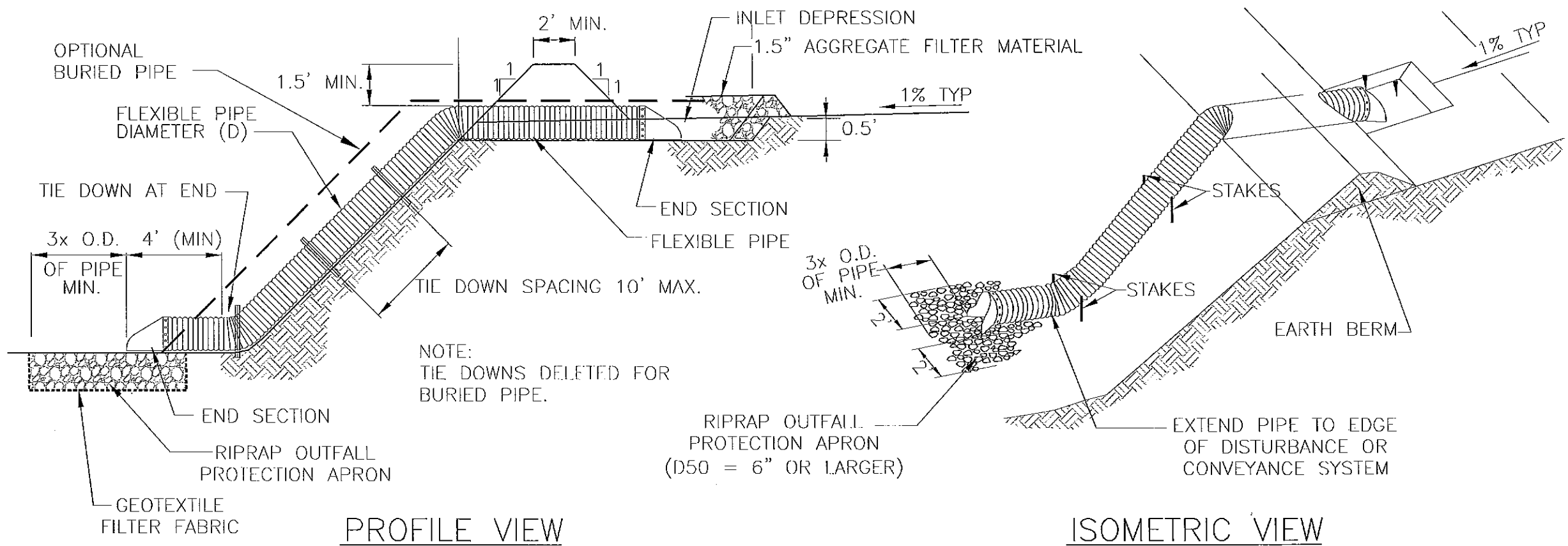
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SHEET TITLE

TEMPORARY EROSION
CONTROL DETAILS

06

SHEET 6 OF 9



CONSTRUCTION SPECIFICATIONS:

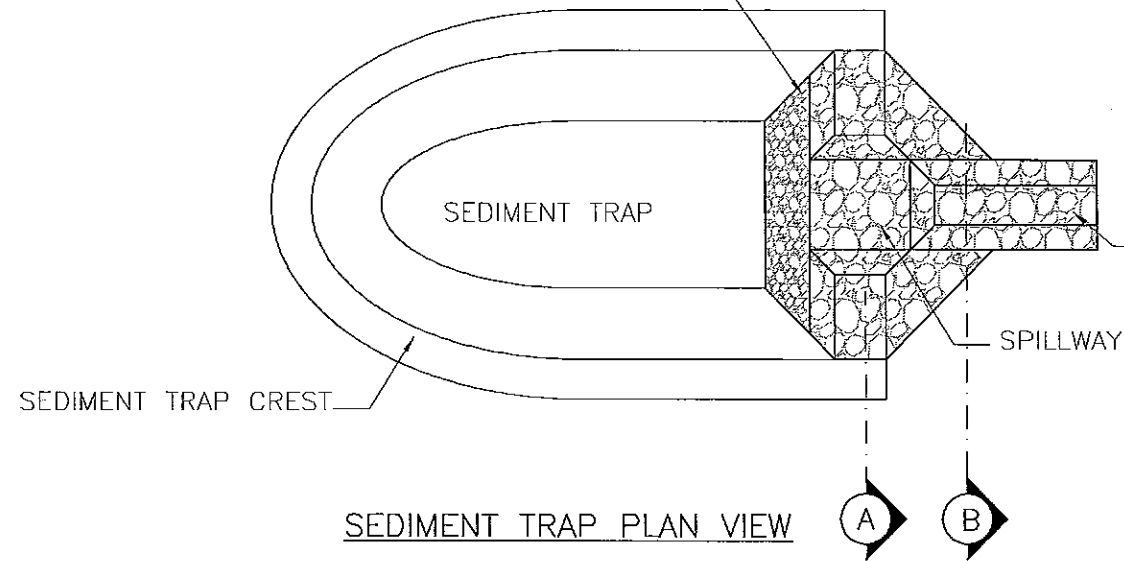
1. THE SLOPE DRAIN SHALL HAVE A MINIMUM SLOPE OF 5%.
2. THE TOP OF THE EARTH BERM OVER THE INLET PIPE AND THOSE BERMS CARRYING WATER TO THE PIPE SHALL BE AT LEAST 1.5 FEET HIGHER THAN THE TOP OF THE INLET PIPE.
3. THE PIPE SHALL BE FLEXIBLE WITH WATER TIGHT CONNECTING BANDS. FLEXIBLE PIPE SHOULD BE STAKED ON EITHER SIDE.
4. A RIPRAP APRON SHALL BE PROVIDED AT THE OUTLET.
5. THE SOIL AROUND AND UNDER THE INLET PIPE AT THE ENTRANCE SECTION SHALL BE HAND TAMPED IN 4" LIFTS TO THE TOP OF THE EARTH BERM.
6. FOLLOW-UP INSPECTION AND ANY NEEDED MAINTENANCE SHALL BE PERFORMED EVERY 14 DAYS AND AFTER EACH STORM.
7. SEE PLAN FOR PIPE DIAMETER, LENGTH AND LOCATIONS.

FILL SLOPE DRAIN

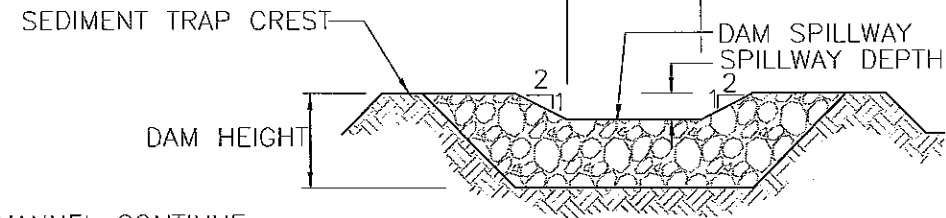
NOT TO SCALE

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JAWITT, RANDY J. 7/30/2010 5:42 PM

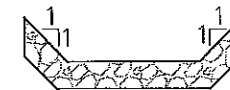
1.5" AGGREGATE FILTER MATERIAL
FOR EROSION CONTROL (6" UNIFORM)



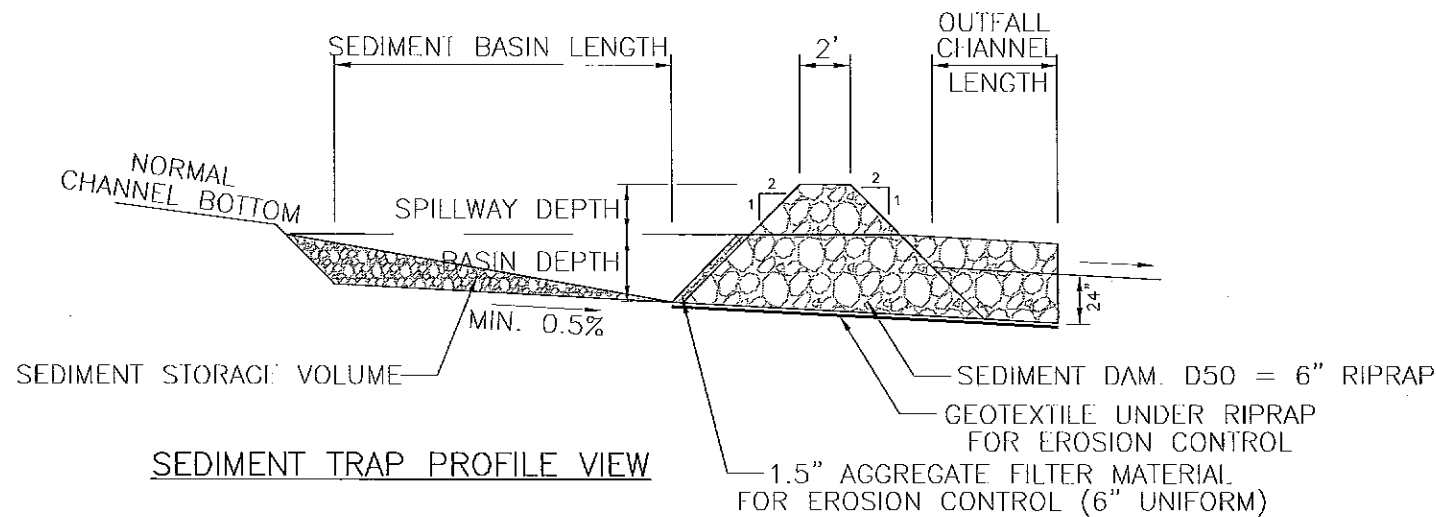
SEDIMENT TRAP PLAN VIEW



SECTION A: SEDIMENT DAM SPILLWAY



SECTION B: DRAINAGE DITCH DETAIL



SEDIMENT TRAP PROFILE VIEW

CONSTRUCTION SPECIFICATIONS:

1. RIPRAP SHOULD BE MECHANICALLY PLACED AND SHAPED.
2. SEDIMENT TRAP MUST BE CLEANED OUT WHEN SEDIMENT STORAGE VOLUME IS HALF FULL.
3. ALL AREAS OF THE SEDIMENT TRAP SHALL BE TEMPORARILY SEEDED EXCEPT FOR THE BOTTOM OF THE BASIN.
4. FOLLOW-UP INSPECTION AND ANY NEEDED MAINTENANCE SHALL BE PERFORMED EVERY 14 DAYS AND AFTER EACH STORM.
5. SEE PLAN FOR SEDIMENT TRAP AND DAM LENGTH, WIDTH AND LOCATIONS.

SEDIMENT TRAP & DAM DETAIL

NOT TO SCALE

SEDIMENT TRAP	DRAINAGE AREA	SIZE (AT CREST)	SPILLWAY WIDTH	SPILLWAY DEPTH	ELEVATION BERM	ELEVATION BOTTOM	STORAGE REQUIRED	STORAGE PROVIDED
ST-1	4.65 AC.	112'x52'x3'	6'	1'	9141.00	9138.00	311.6 CY	339.2 CY

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TEMPORARY EROSION
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07

SHEET 7 OF 9

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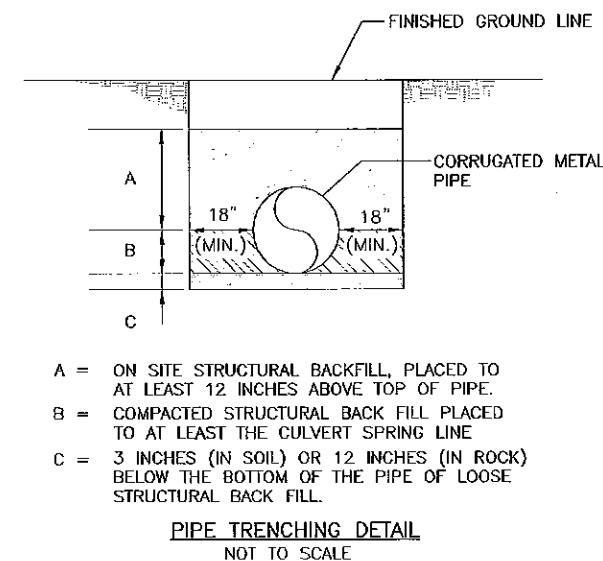
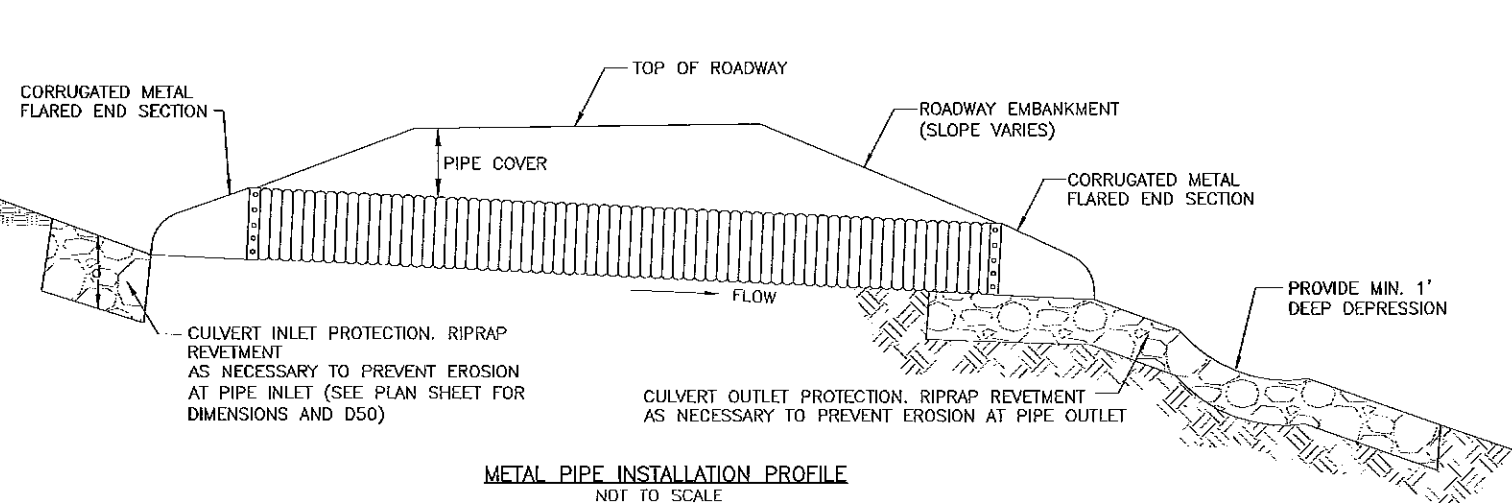
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CONSTRUCTION DETAIL
CULVERT CROSSING

08

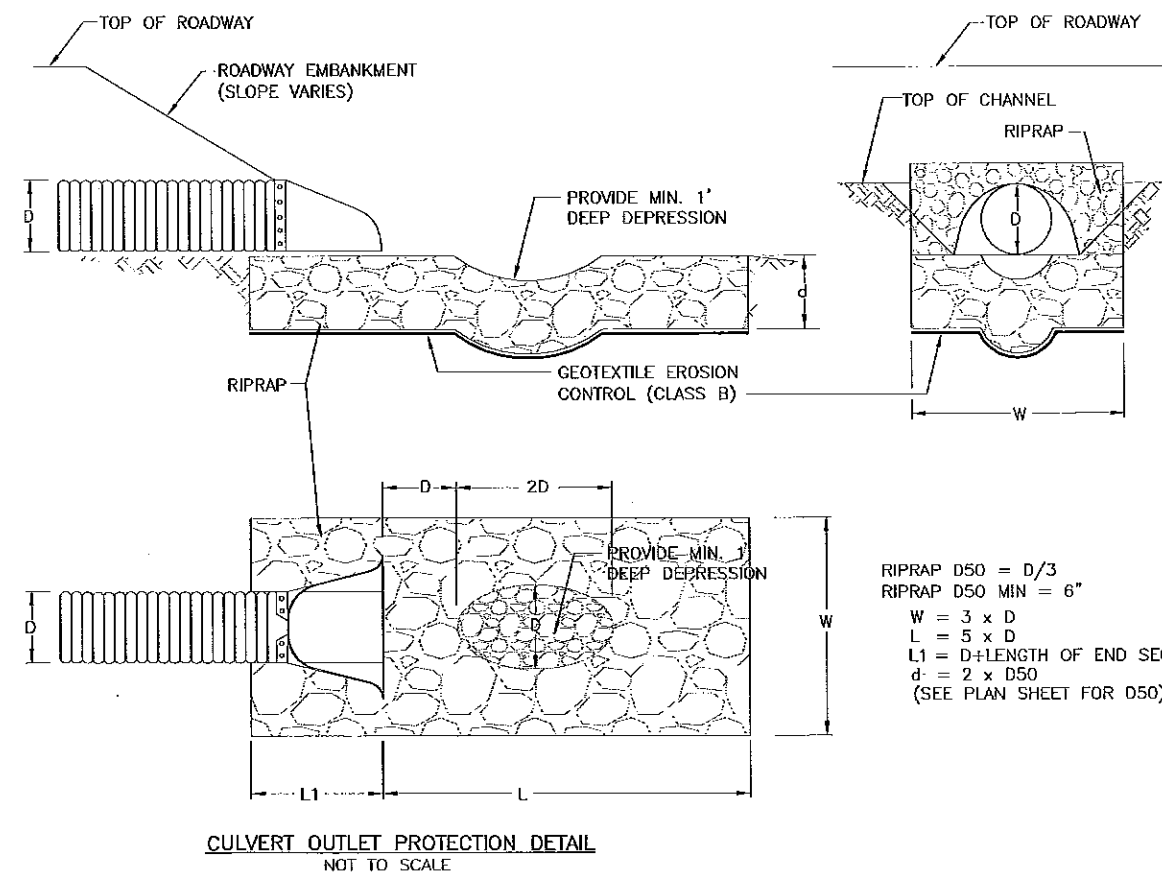
SHEET 8 OF 9



RIP-RAP APRON SIZING DIMENSIONS - INLET AND OUTLET							
PIPE DIA. (D)	RIP-RAP D50 (D/3)	END SECTION LENGTH	L1	LENGTH (L)	WIDTH (W)	d (2 x D50)	DEPRESSION DIM.
24"	8"	78"	102"	120"	72"	16"	24"x48"x12"
30"	10"	96"	126"	150"	90"	20"	30"x60"x12"
36"	12"	96"	132"	180"	108"	24"	36"x72"x12"

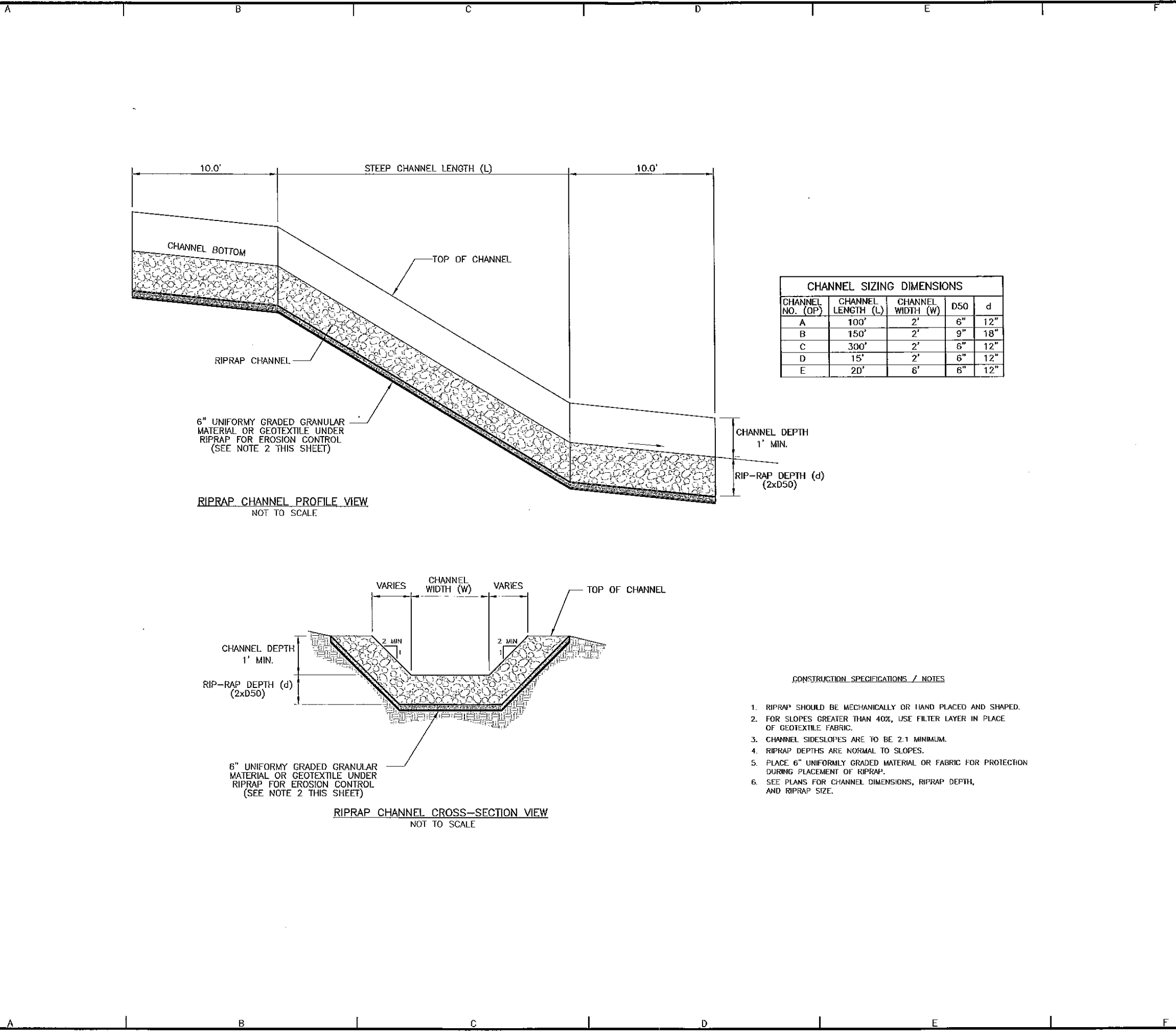
CONSTRUCTION SPECIFICATIONS:

1. CORRUGATED METAL PIPE SIZING VARIES, SEE PLANS FOR LENGTH AND DIAMETER.
2. PIPE SLOPE: MINIMUM SLOPE => 0.5%, MAXIMUM SLOPE => 10%.
3. MINIMUM PIPE COVER IS TWO FEET. MAXIMUM PIPE COVER IS FIFTEEN FEET OR MANUFACTURER'S RECOMMENDED VALUES.
4. STRUCTURE BACKFILL SHALL BE COMPOSED OF SUITABLE MATERIALS DEVELOPED ON THE PROJECT. TO BE SUITABLE FOR USE UNDER THIS CLASSIFICATION, BACKFILL SHALL BE FREE OF FROZEN LUMPS, WOOD, OR OTHER ORGANIC MATERIAL. IF THE MATERIAL CONTAINS ROCK FRAGMENTS THAT, IN THE OPINION OF THE ENGINEER, WILL BE INJURIOUS TO THE STRUCTURE, THE NATIVE MATERIAL SHALL NOT BE USED FOR BACKFILLING AND IMPORTED STRUCTURE BACKFILL SHALL BE USED.
5. CONNECT END SECTION TO PIPE AS RECOMMENDED BY THE MANUFACTURER.



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CHANNEL SIZING DIMENSIONS				
CHANNEL NO. (OP)	CHANNEL LENGTH (L)	CHANNEL WIDTH (W)	D50	d
A	100'	2'	6"	12"
B	150'	2'	9"	18"
C	300'	2'	6"	12"
D	15'	2'	6"	12"
E	20'	6'	6"	12"

CONSTRUCTION SPECIFICATIONS / NOTES

1. RIPRAP SHOULD BE MECHANICALLY OR HAND PLACED AND SHAPED.
2. FOR SLOPES GREATER THAN 40%, USE FILTER LAYER IN PLACE OF GEOTEXTILE FABRIC.
3. CHANNEL SIDESLOPES ARE TO BE 2:1 MINIMUM.
4. RIPRAP DEPTHS ARE NORMAL TO SLOPES.
5. PLACE 6" UNIFORM GRADED MATERIAL OR FABRIC FOR PROTECTION DURING PLACEMENT OF RIPRAP.
6. SEE PLANS FOR CHANNEL DIMENSIONS, RIPRAP DEPTH, AND RIPRAP SIZE.

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RIPRAP CHANNEL
DETAIL

09

SHEET 9 OF 9