

DISTURBED AREA = 3.8 ACRES

CUT SLOPES: 2:1

FILL SLOPES: 3:1

PAD QUANTITIES:

TOTAL CUT = 19639 CUBIC YARDS

TOTAL FILL = 22732 CUBIC YARDS

NET = 3893 CUBIC YARDS FILL

SPOIL DOES NOT INCLUDE TOP SOIL

RD 1 QUANTITIES:

TOTAL CUT: 6150

TOTAL FILL: 5525

NET = 625 CUBIC YARDS CUT

RD 2 QUANTITIES:

TOTAL CUT: 2529 CUBIC YARDS

TOTAL FILL: 75 CUBIC YARDS

NET = 2454 CUBIC YARDS CUT

#### CUTTINGS PIT

Capacity with 2'

freeboard = 2040 Bbls

Total Volume = 690 CY

TOP SOIL QUANTITY FOR PAD

BASED ON 6 INCH DEPTH:

3080 CUBIC YARDS

#### Notes:

1. Contact utility line locators before digging. CALL 811

2. Earth work quantities are estimated and should be used at contractors own discretion.

3. Earth work is based on the removal of 6 inches of topsoil for Elk Ranch Pad and RD 2.

TYP PAD CORNER  
R = 25.0'  
L = 39.27'

C 15.3  
7278.25

155.5'

N 16° 53' 51.35" E  
200.0'

N 16° 53' 51.35" E  
200.000'

153.0'

F 8.5  
7275.75

7277.3

97.0'

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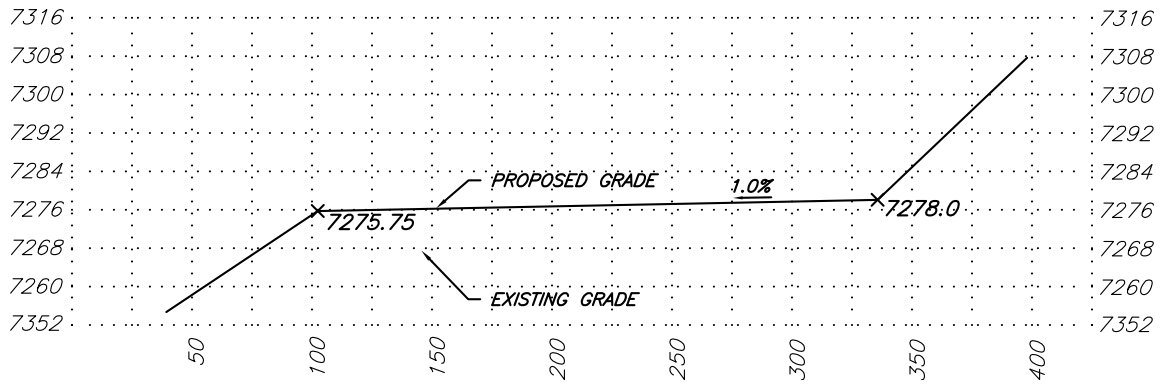
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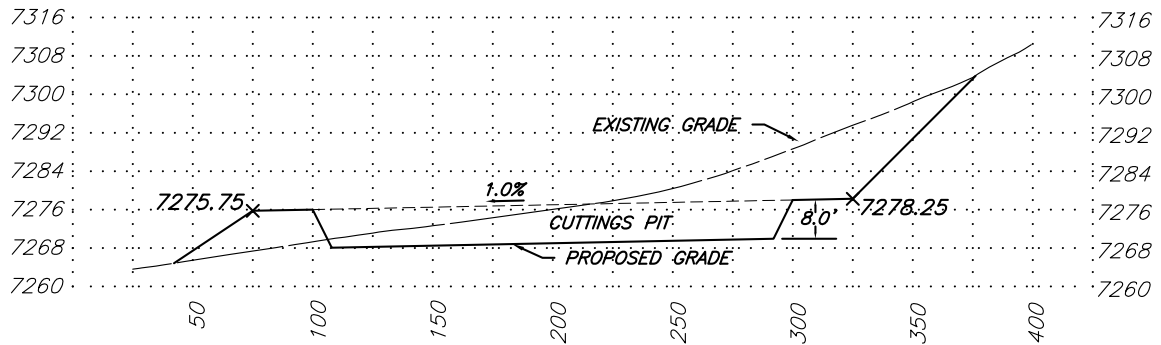
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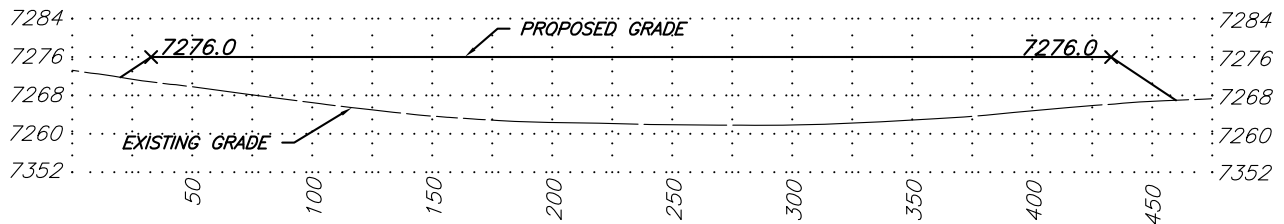
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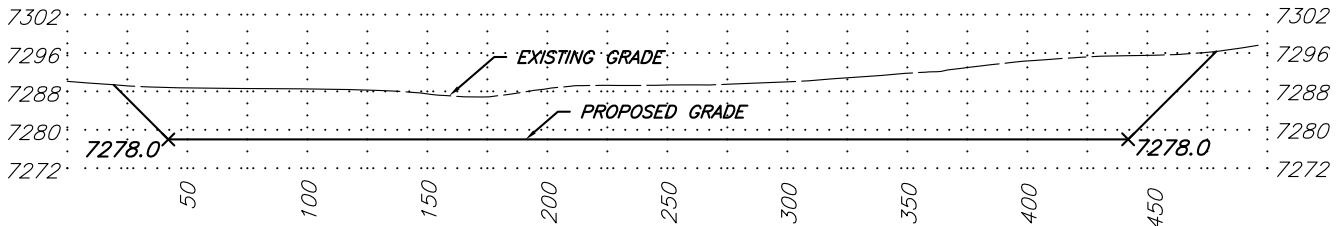
Section A1-A2



Section B1-B2



Section C1-C2



Section D1-D2

SCALE: 1"=80' HORZ  
1"=40' VERT



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Sheet 2B of 8

Elk Ranch Pad

Elk Ranch Pad Cross-Sections

Sect. 17, T. 9 S., R. 93 W., 6th P.M., Mesa County, CO

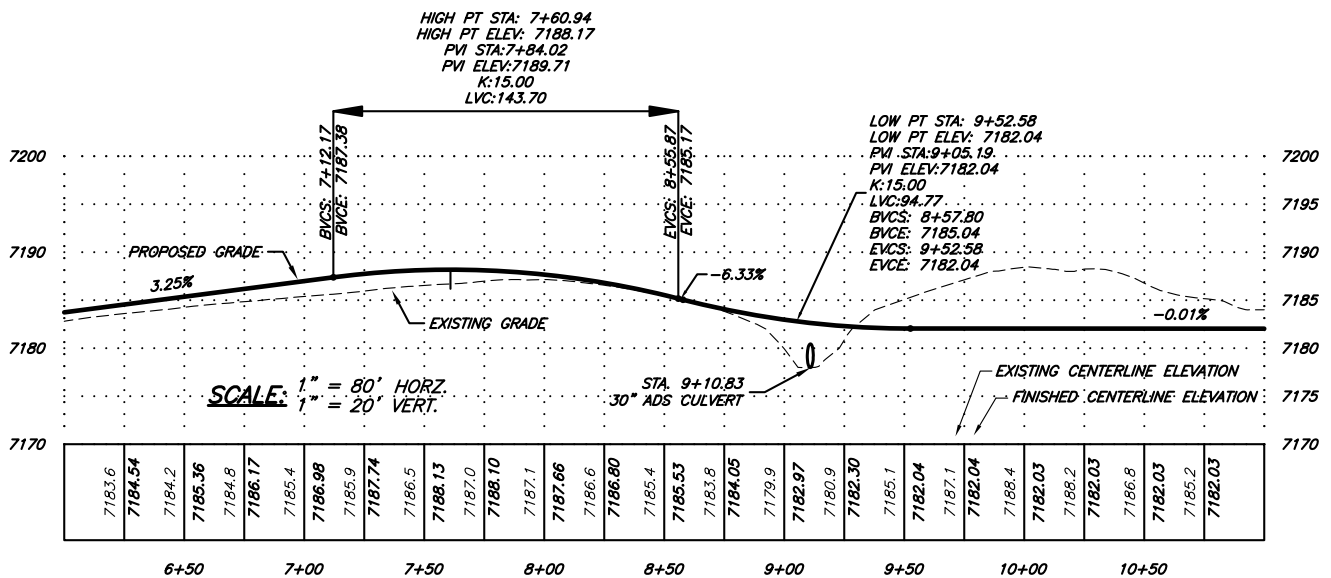
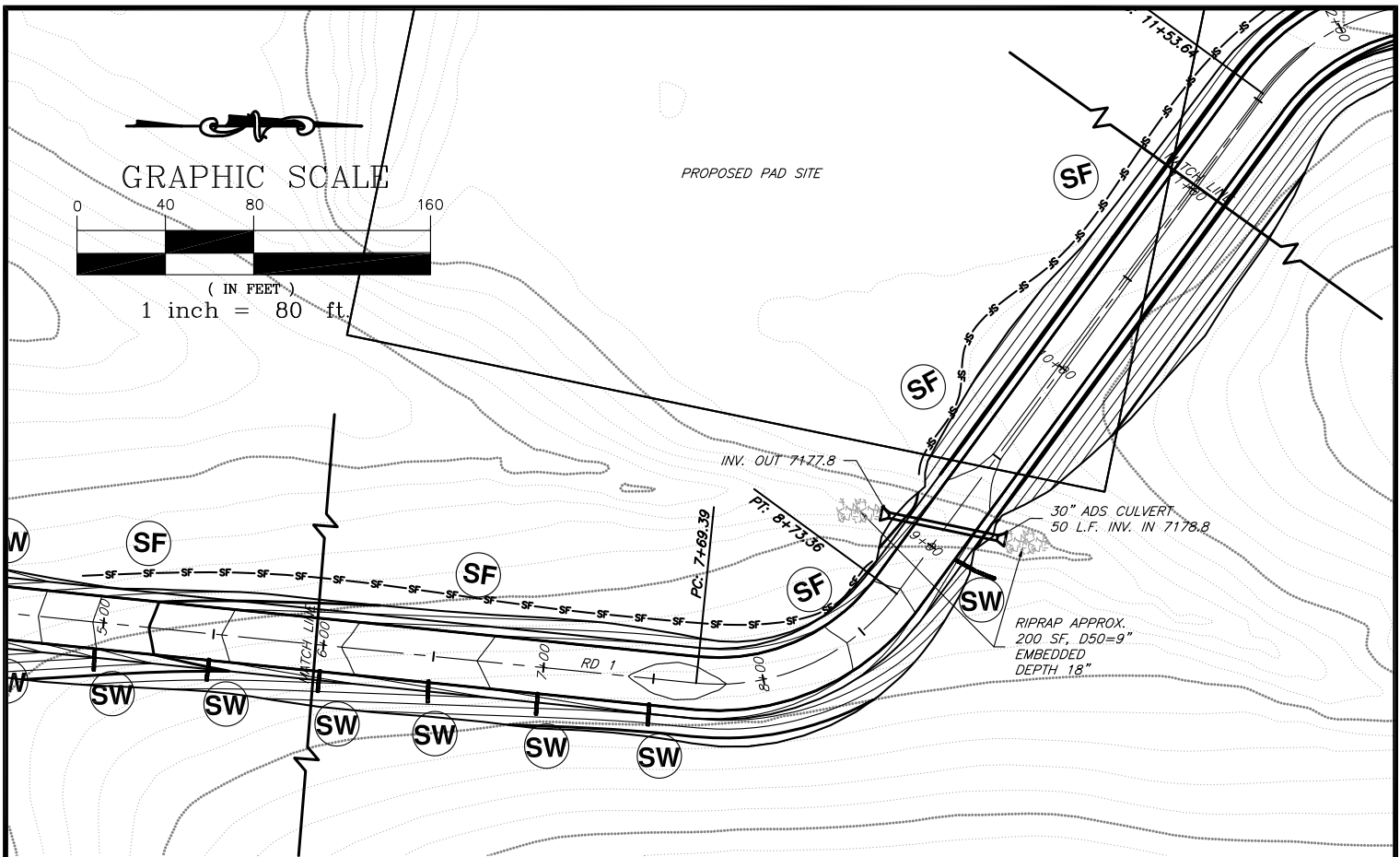
Job# 2010-349.001

Date: 7.19.11

By: DCS

File: ElkRanchBM.dwg





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Sheet 2D of 8

Elk Ranch Pad

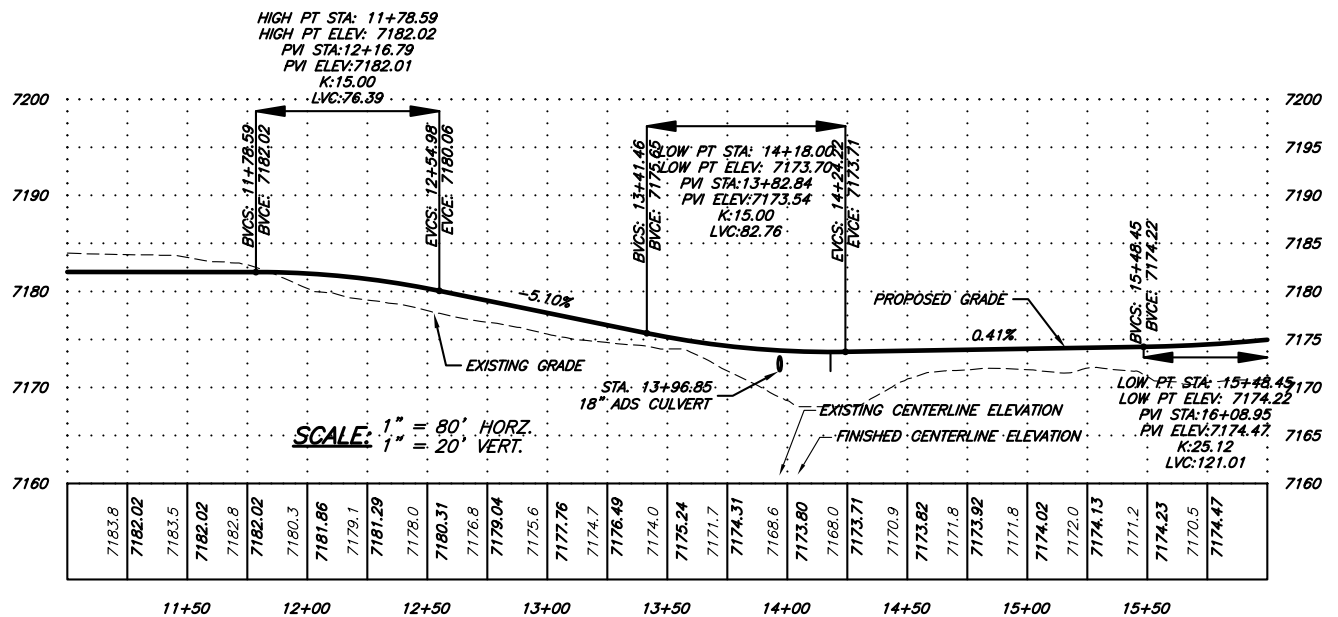
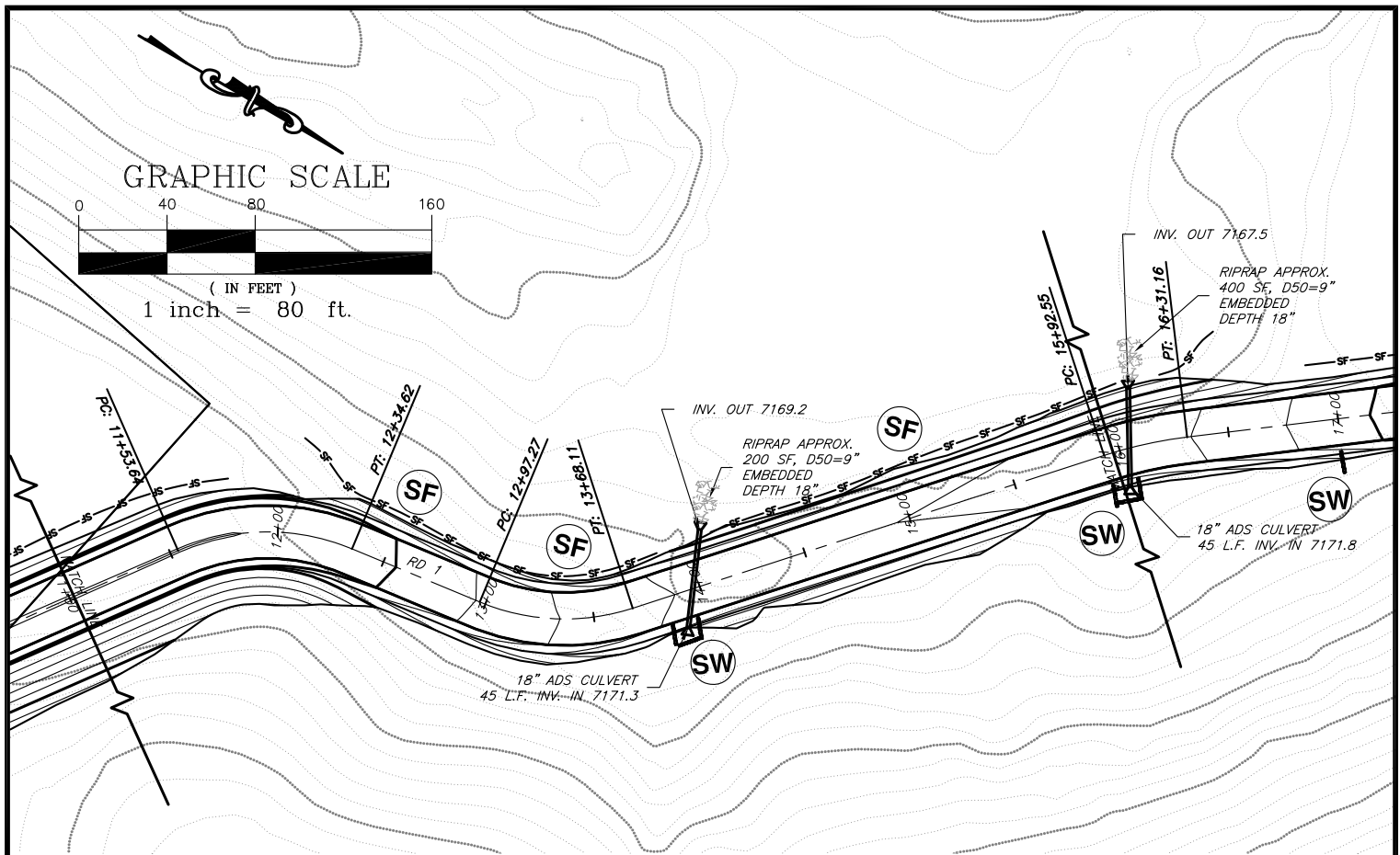
Elk Ranch Pad Access Road Design and Road SWMP  
 Sect. 17, T. 9 S., R. 93 W., 6th P.M., Mesa County, CO

Job# 2010-349.001

Date: 6.9.11

By: DCS

File: BCU170&NBC17L



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Sheet 2E of 8

Elk Ranch Pad

Elk Ranch Pad Access Road Design and Road SWMP

Sect. 17, T. 9 S., R. 93 W., 6th P.M., Mesa County, CO

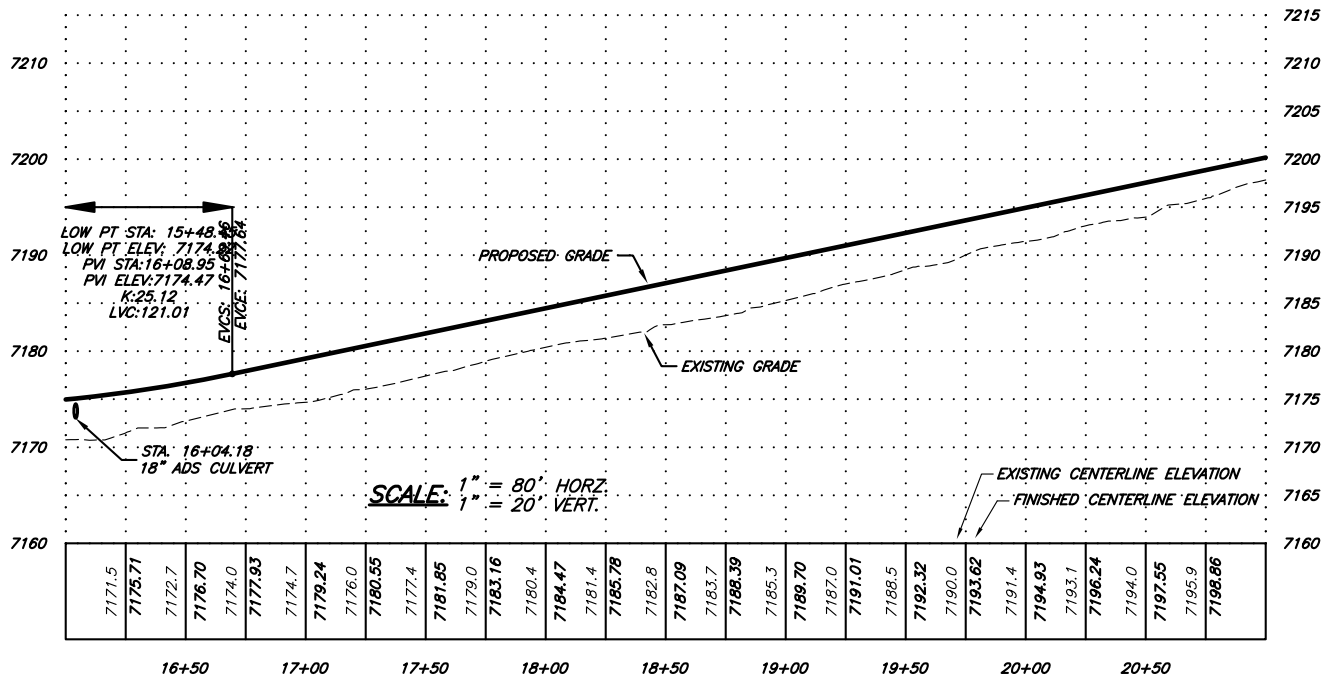
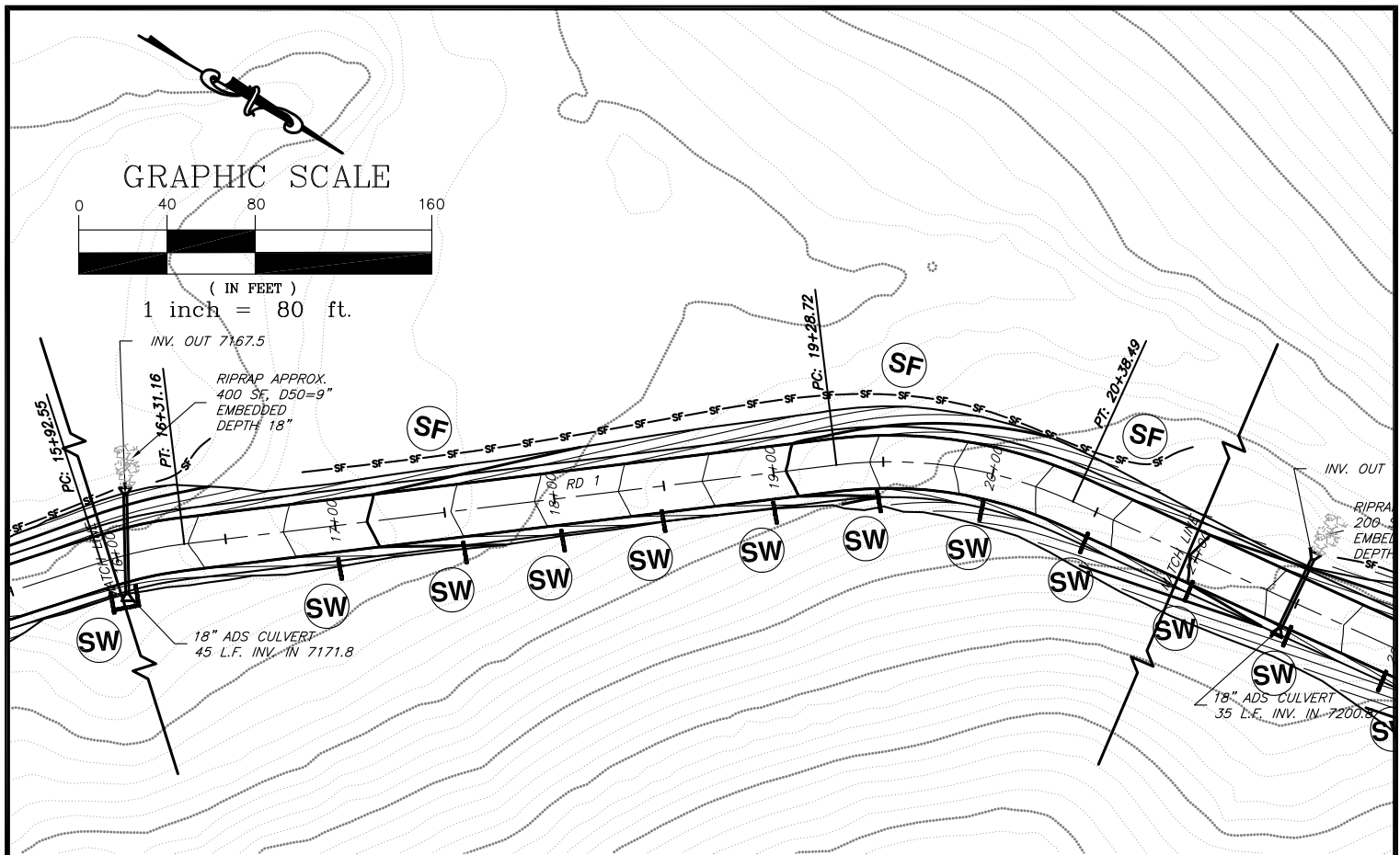
Job# 2010-349.001

Date: 6.9.11

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Sheet 2F of 8

Elk Ranch Pad

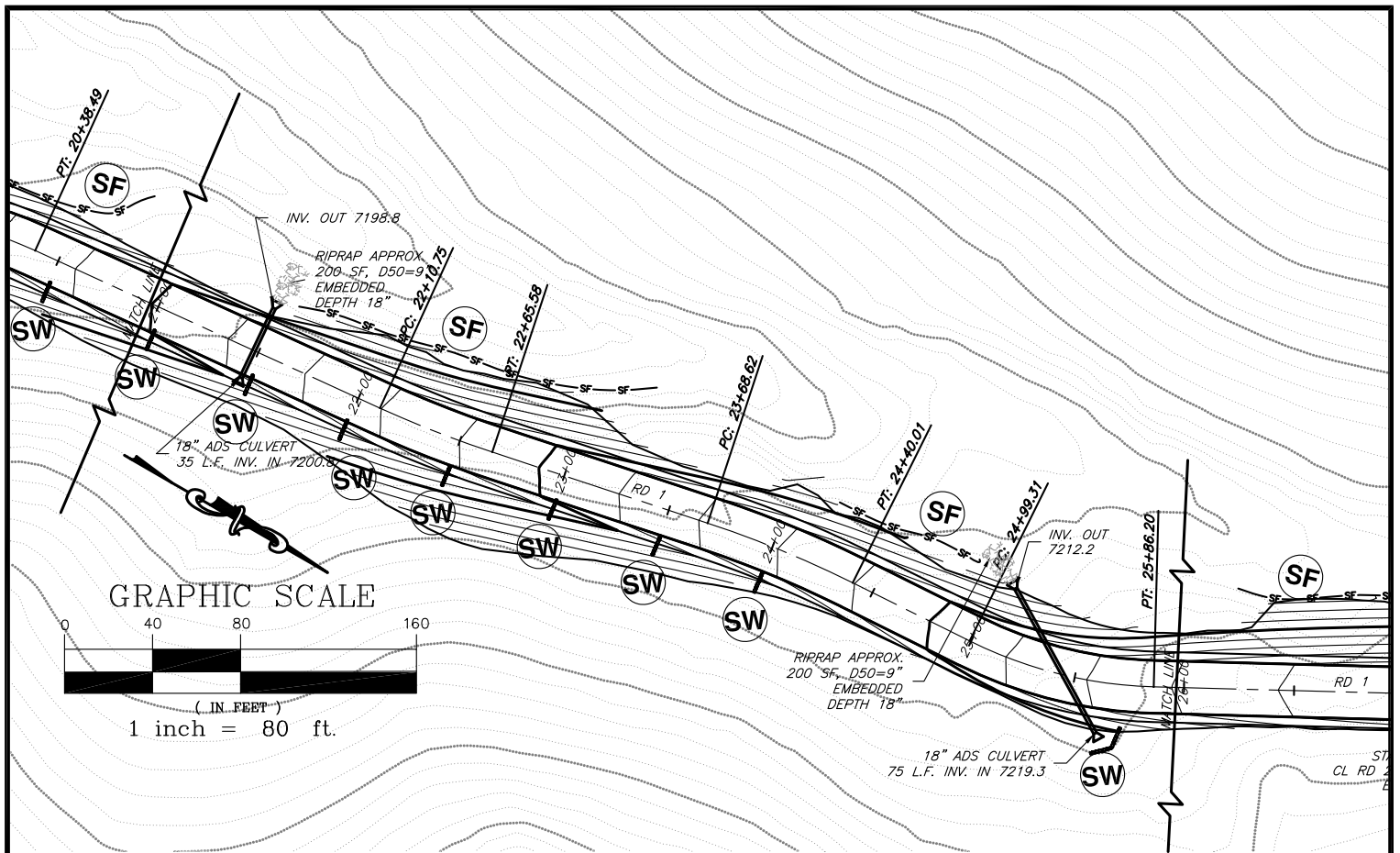
Elk Ranch Pad Access Road Design and Road SWMP  
 Sect. 17, T. 9 S., R. 93 W., 6th P.M., Mesa County, CO

Job# 2010-349.001

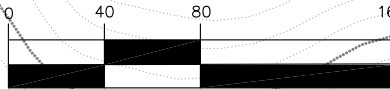
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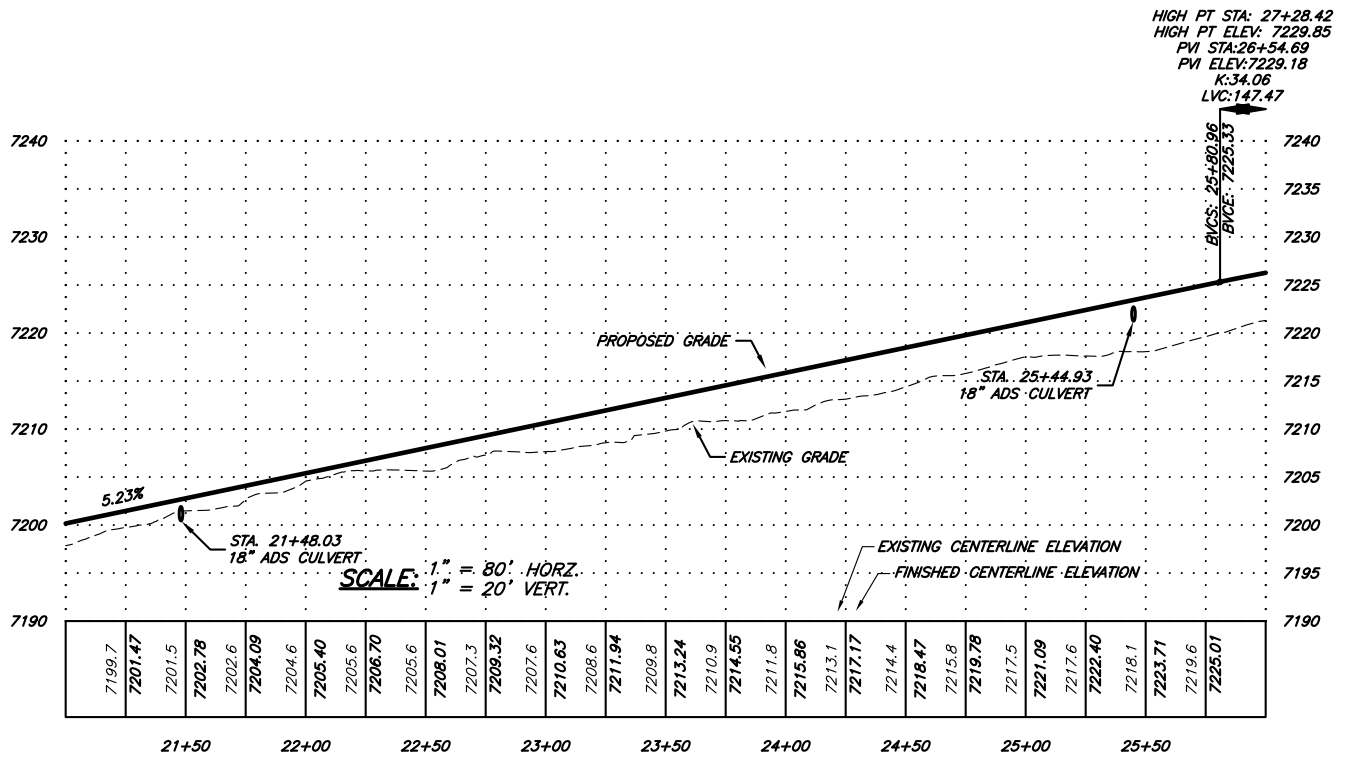
File: BCU170&NBC17L



GRAPHIC SCALE



(IN FEET)  
1 inch = 80 ft.



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Sheet 2G of 8

Elk Ranch Pad

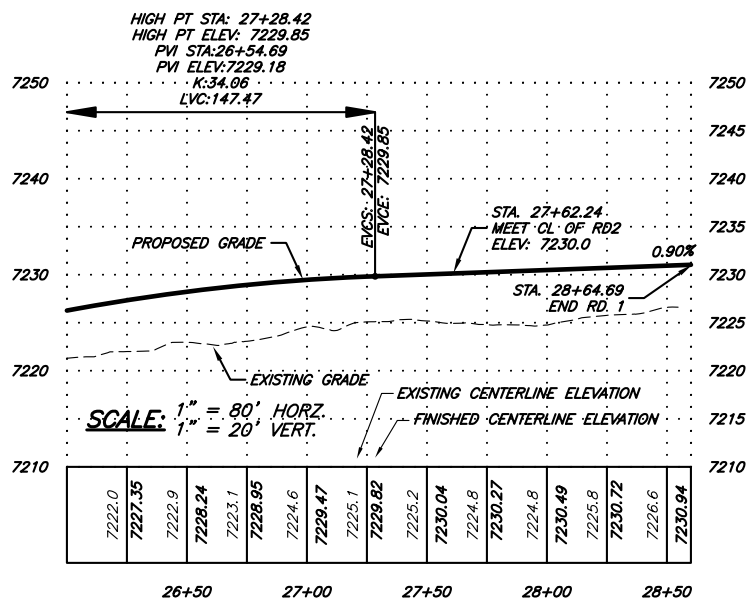
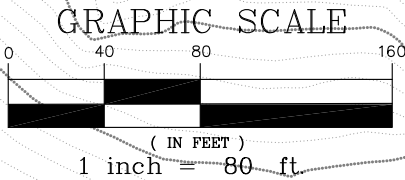
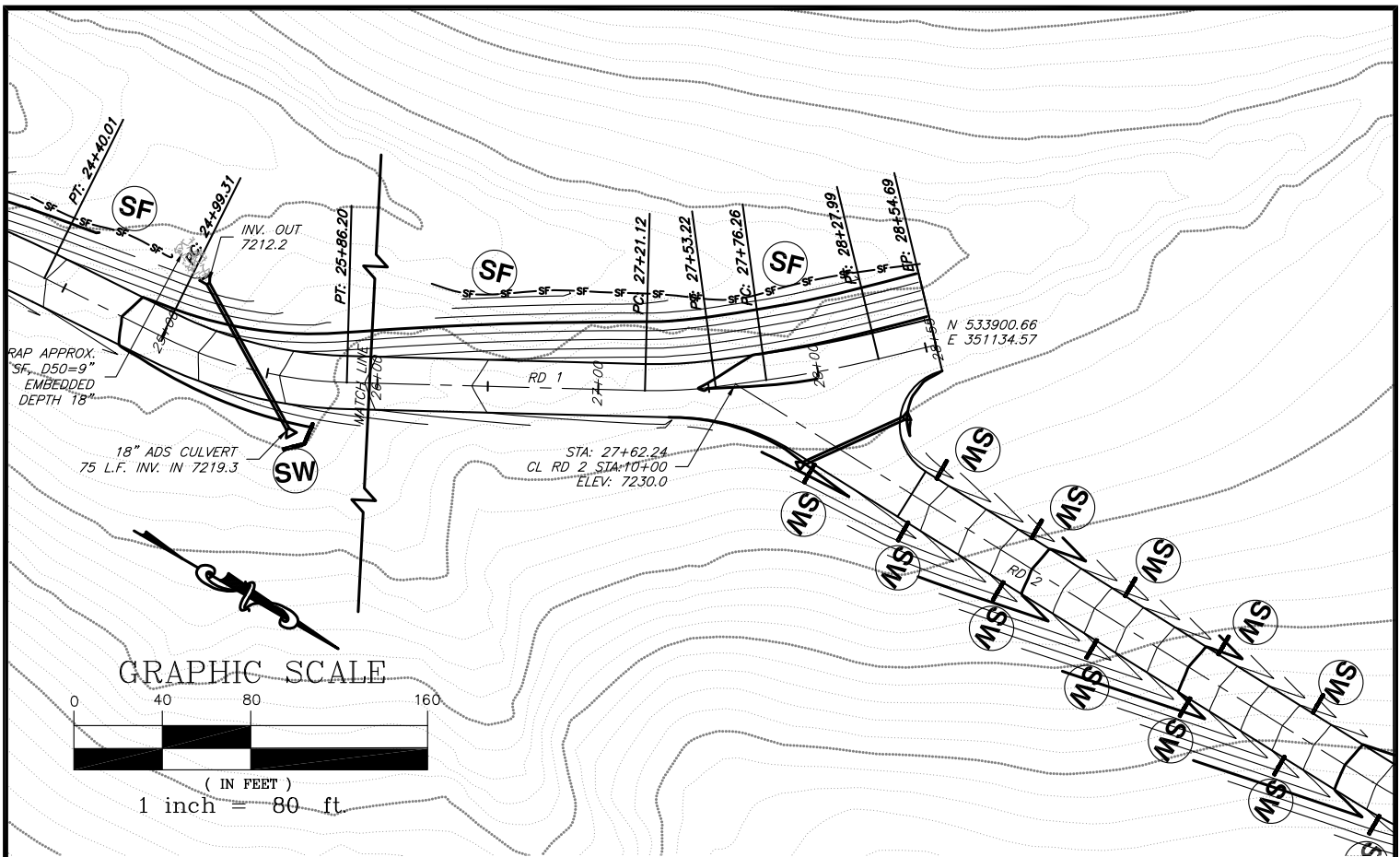
Elk Ranch Pad Access Road Design and Road SWMP  
Sect. 17, T. 9 S., R. 93 W., 6th P.M., Mesa County, CO

Job# 2010-349.001

Date: 6.9.11

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Sheet 2H of 8

Elk Ranch Pad

Elk Ranch Pad Access Road Design and Road SWMP  
 Sect. 17, T. 9 S., R. 93 W., 6th P.M., Mesa County, CO

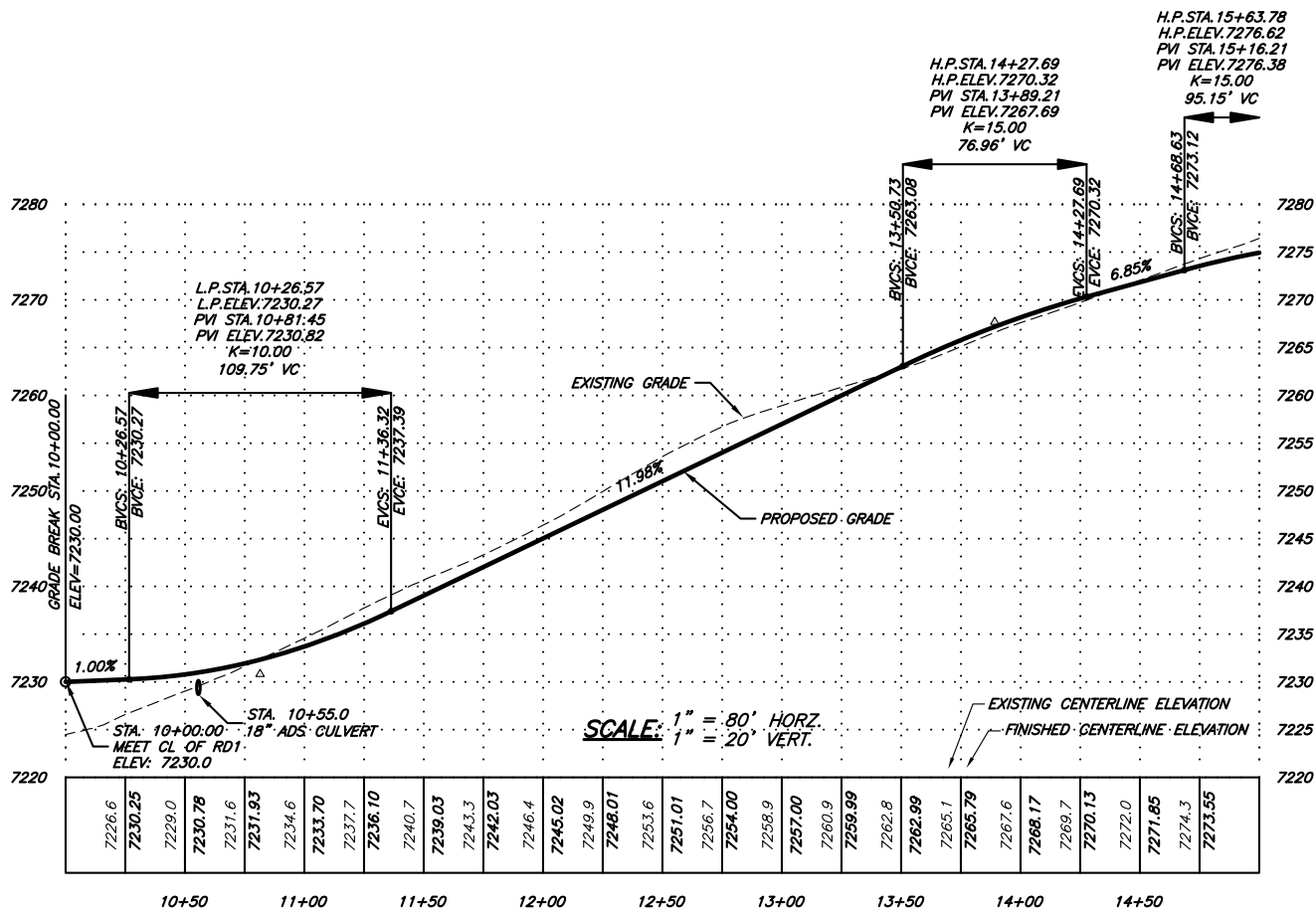
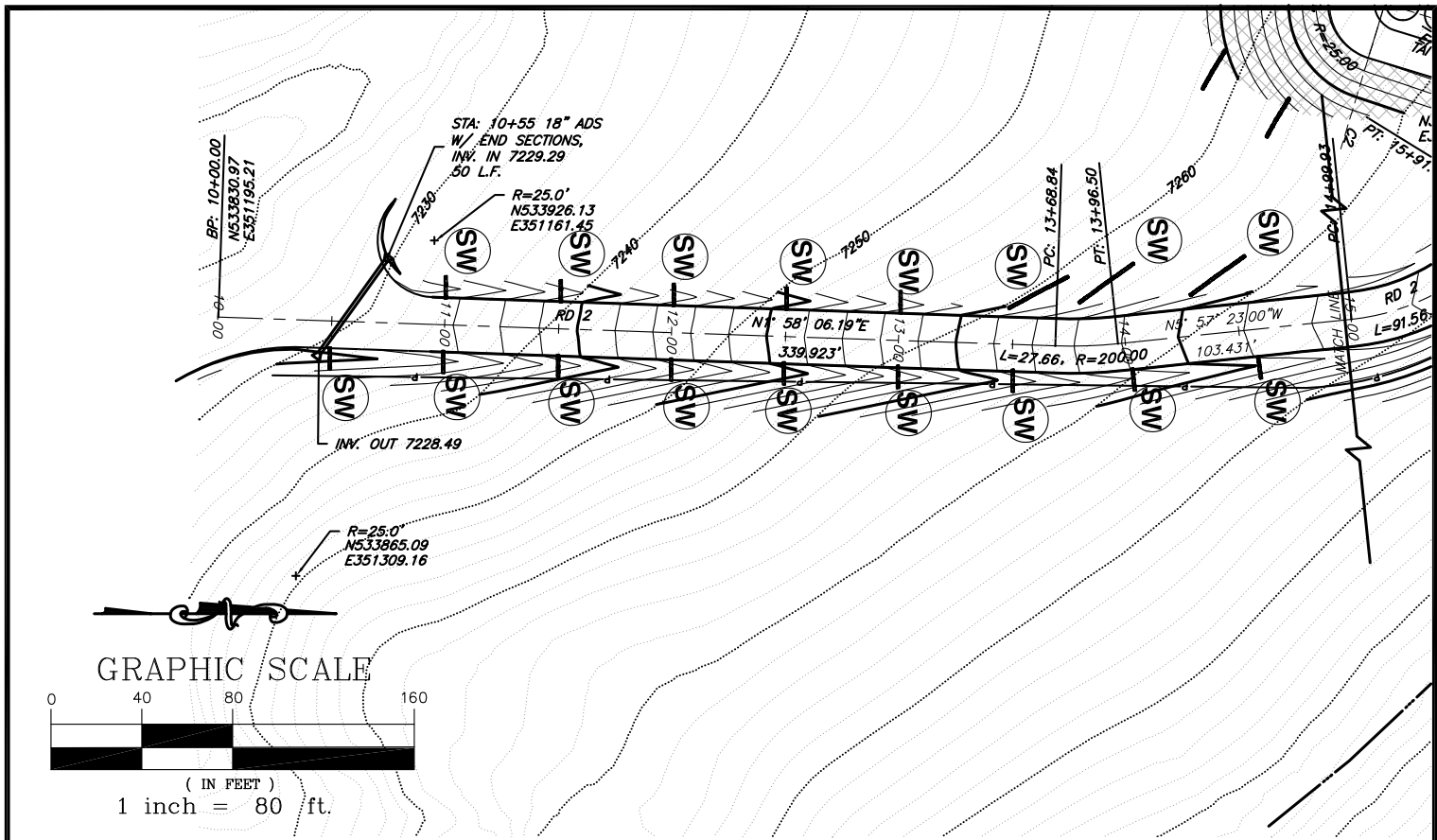
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Sheet 21 of 8

Elk Ranch Pad

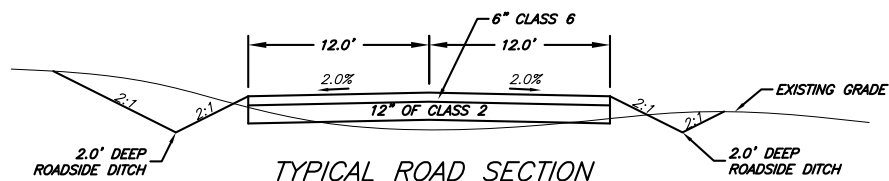
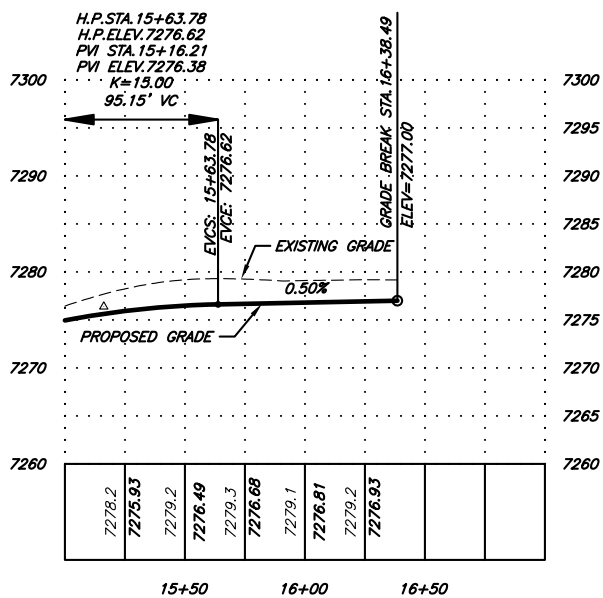
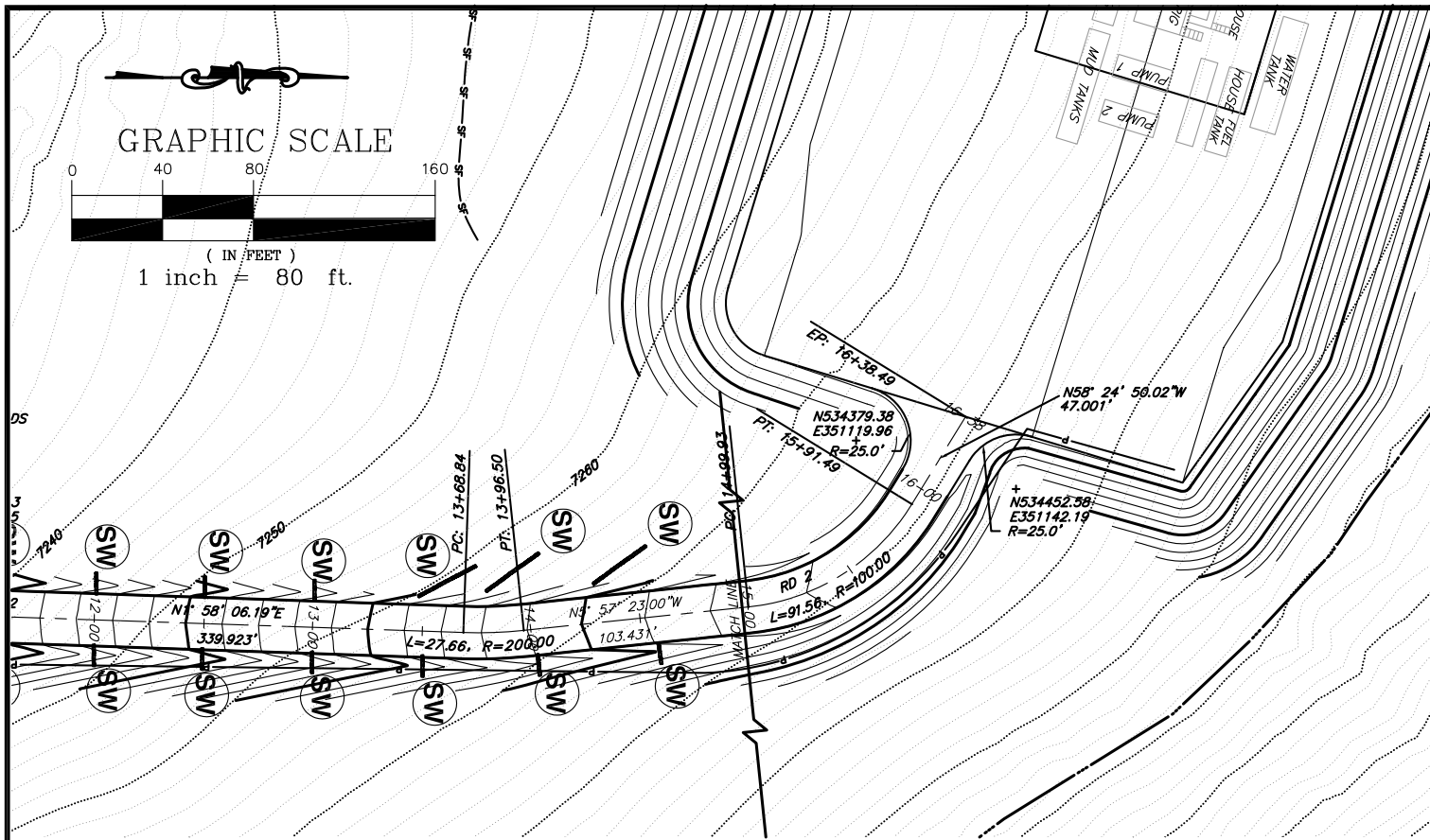
Elk Ranch Pad Access Road Design and Road SWMP  
Sect. 17, T. 9 S., R. 93 W., 6th P.M., Mesa County, CO

Job# 2010-349.001

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Sheet 2J of 8

Elk Ranch Pad

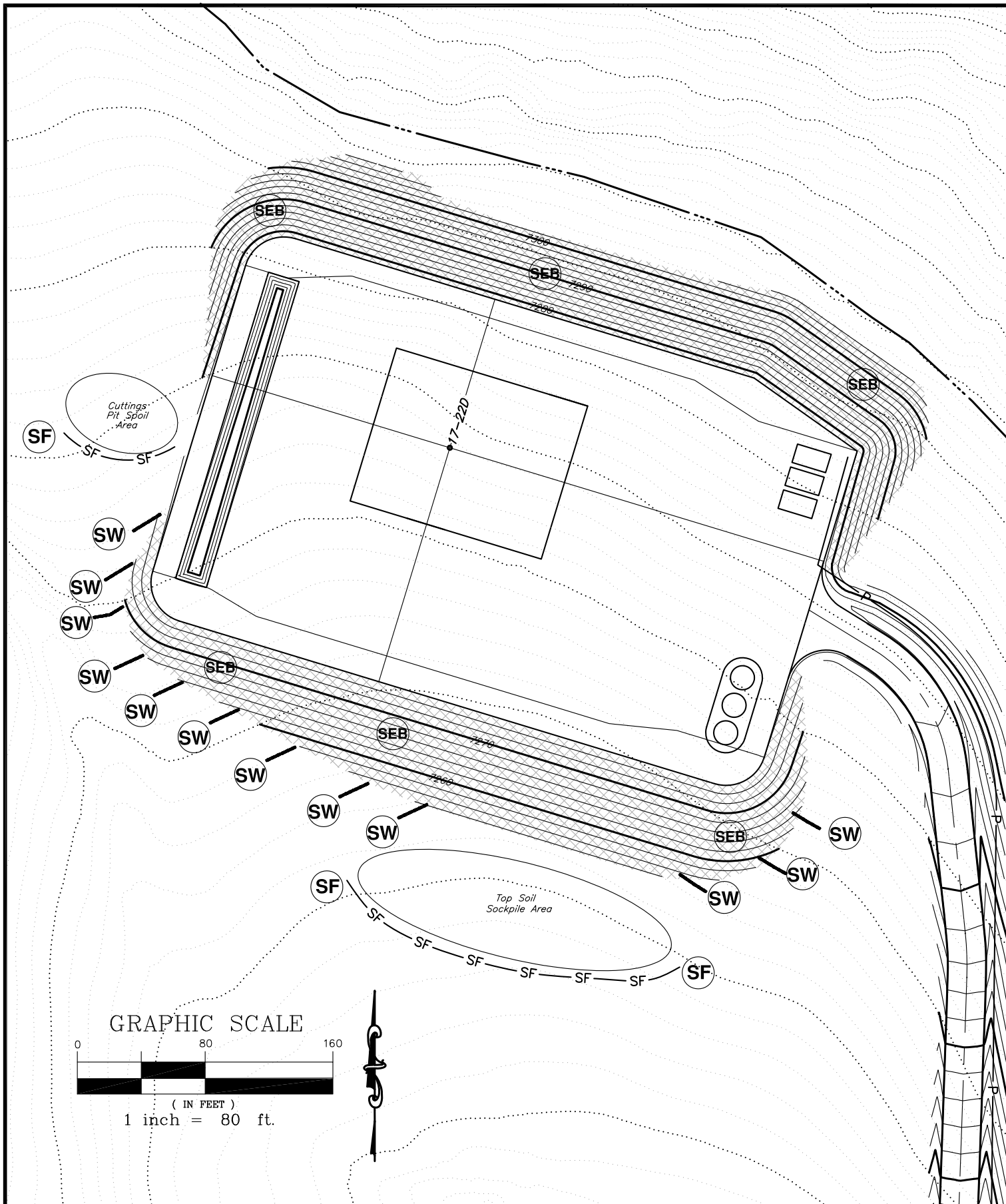
Elk Ranch Pad Access Road Design and Road SWMP  
Sect. 17, T. 9 S., R. 93 W., 6th P.M., Mesa County, CO

Job# 2010-349.001

Date: 7.19.11

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Sheet 2K of 8

Elk Ranch Pad

Elk Ranch Pad SWMP

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Job# 2010-349.001

Date: 7.19.11

By: DCS

File: ElkRanchBM.dwg

SF

— SF — SF —

SILT  
FENCE

A temporary sediment barrier constructed of posts, filter fabric and, in some cases, a wire support fence, placed across or near the toe of a slope or in a minor drainage way to intercept and detain sediment and decrease flow velocities from drainage areas of limited size; applicable where sheet and rill or small concentrated flows may be a problem.

SW



STRAW  
WATTLE

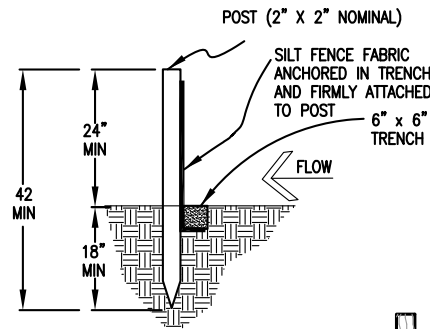
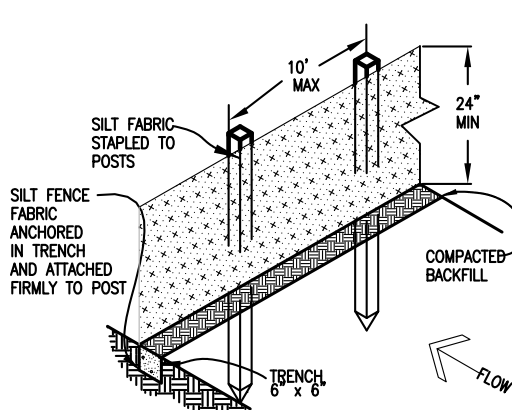
A temporary sediment barrier composed of netted straw rolls placed parallel with grade of slope to intercept and detain flow to allow sediment to settle; for low flow velocities where sheet and rill erosion potential is low. Install to manufacturer specs.

SEB

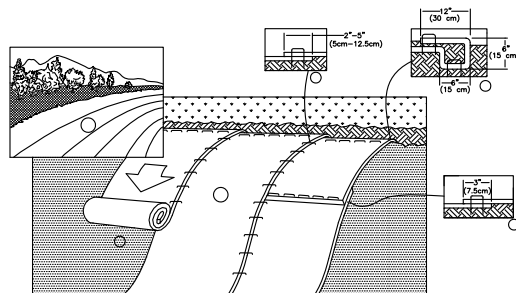


SOIL  
EROSION  
BLANKET

Apply to all new fill slopes steeper than 4:1. See slope installation detail.



## SILT FENCE



## STRAW WATTLE INSTALLATION DETAIL

N.T.S.

- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.  
NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
- ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM\*, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
- CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.  
NOTE:  
\*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

## SLOPE INSTALLATION

### SEEDING (RIGHT-OF-WAY)

SOIL PREPARATION, FERTILIZER, SEEDING, MULCHING (WEED FREE) AND MULCH TACKIFIER WILL BE REQUIRED FOR AN ESTIMATED 0.9 ACRES OF DISTURBED AREA WITHIN THE RIGHT-OF-WAY LIMITS WHICH ARE NOT SURFACED. THE FOLLOWING TYPES AND RATES SHALL BE USED:

### SEEDING PLAN

COMMON NAME	SCIENTIFIC NAME	LBS PLS/ACRE
"ARRIBA" WESTERN WHEATGRASS	PASCOPYRUM SMITHII	5.0
SAND DROPSSEED	SPOROBOLUS CRYPTANDRUS	1.0
"SALADO" ALKALI SACATON	SPOROBOLUS AIROIDES	2.0
"PALOMA" INDIAN RICEGRASS	ORYZOPSIS HYMENOIDES	3.0
"CHEYENNE" INDIANGRASS	SORGHASTRUM NUTANS	4.0
"CIMARRON" LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM	4.0
"BROMMA" MOUNTAIN BROME	BROMUS MARGINATUS	6.0
<b>TOTAL</b>		<b>25.0 LBS</b>

\*APPLY SEED MIX TO ALL TOPSOIL AREAS AND SOIL EROSION BLANKET AREAS BEFORE BLANKET IS INSTALLED.



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Sheet 2L of 8

Elk Ranch Pad

Elk Ranch Pad SWMP Details

Sect. 17, T. 9 S., R. 93 W., 6th P.M., Mesa County, CO

Job# 2010-349.001

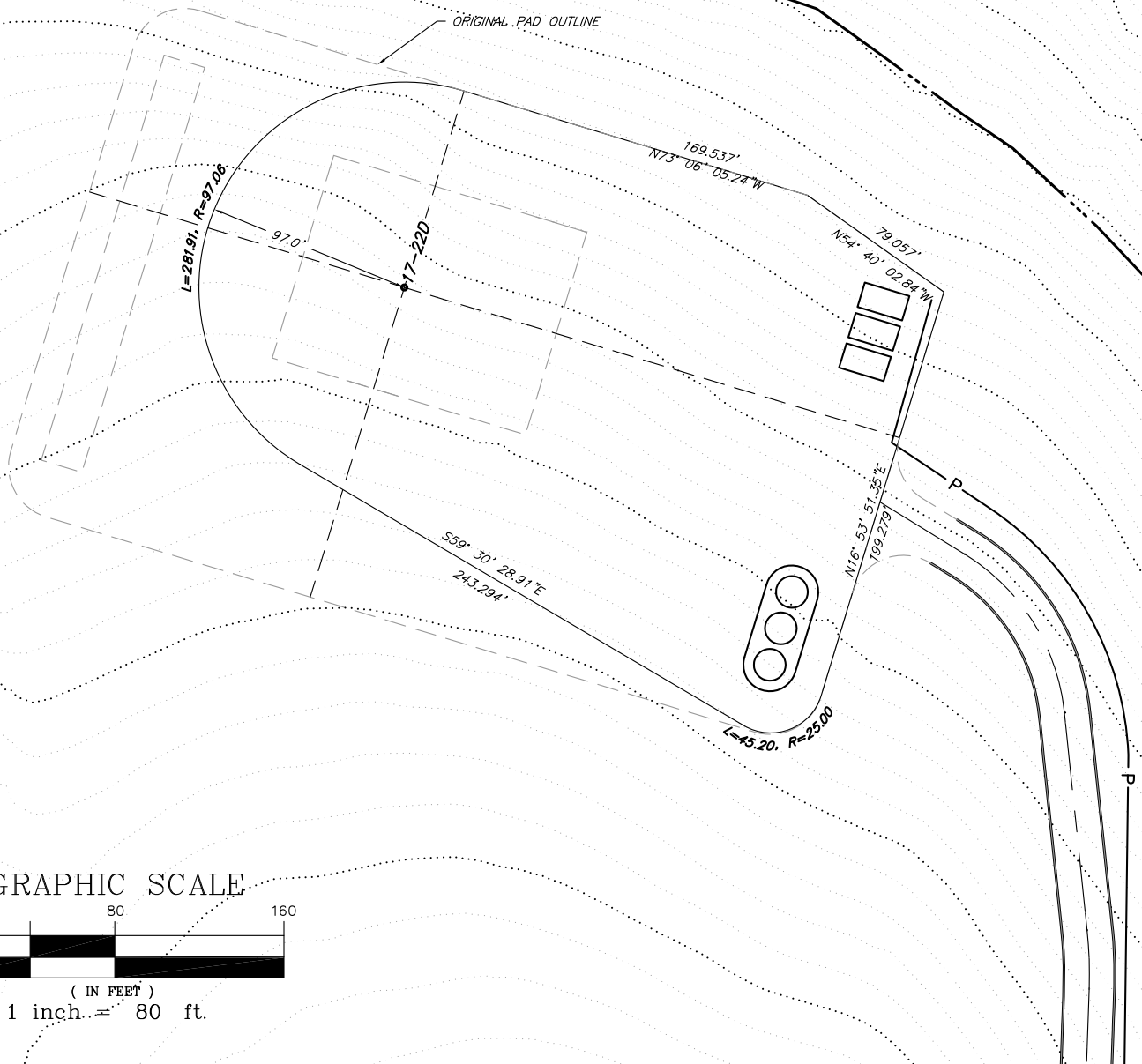
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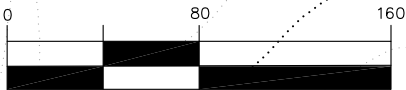
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Notes:

1. Topsoil and seed new cut and fill slopes and new disturbed areas for reclaimed pad according to specs on sheet 2L.
2. Cut slopes to be no steeper than 2.5:1 and fill slopes to be no steeper than 3:1 unless slope grade will cause disturbance on previously undisturbed ground.
3. Use original pad material to fill in cut slopes and layback fill slopes for the reclaimed surface.



GRAPHIC SCALE



( IN FEET )  
1 inch. = 80 ft.



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Sheet 2M of 8

Elk Ranch Pad

Elk Ranch Pad Construction Layout

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Job# 2010-349.001

Date: 7.19.11

By: DCS

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