Encana OIL & GAS (USA) INC.

ADDENDUM TO LEGAL PLATS FOR

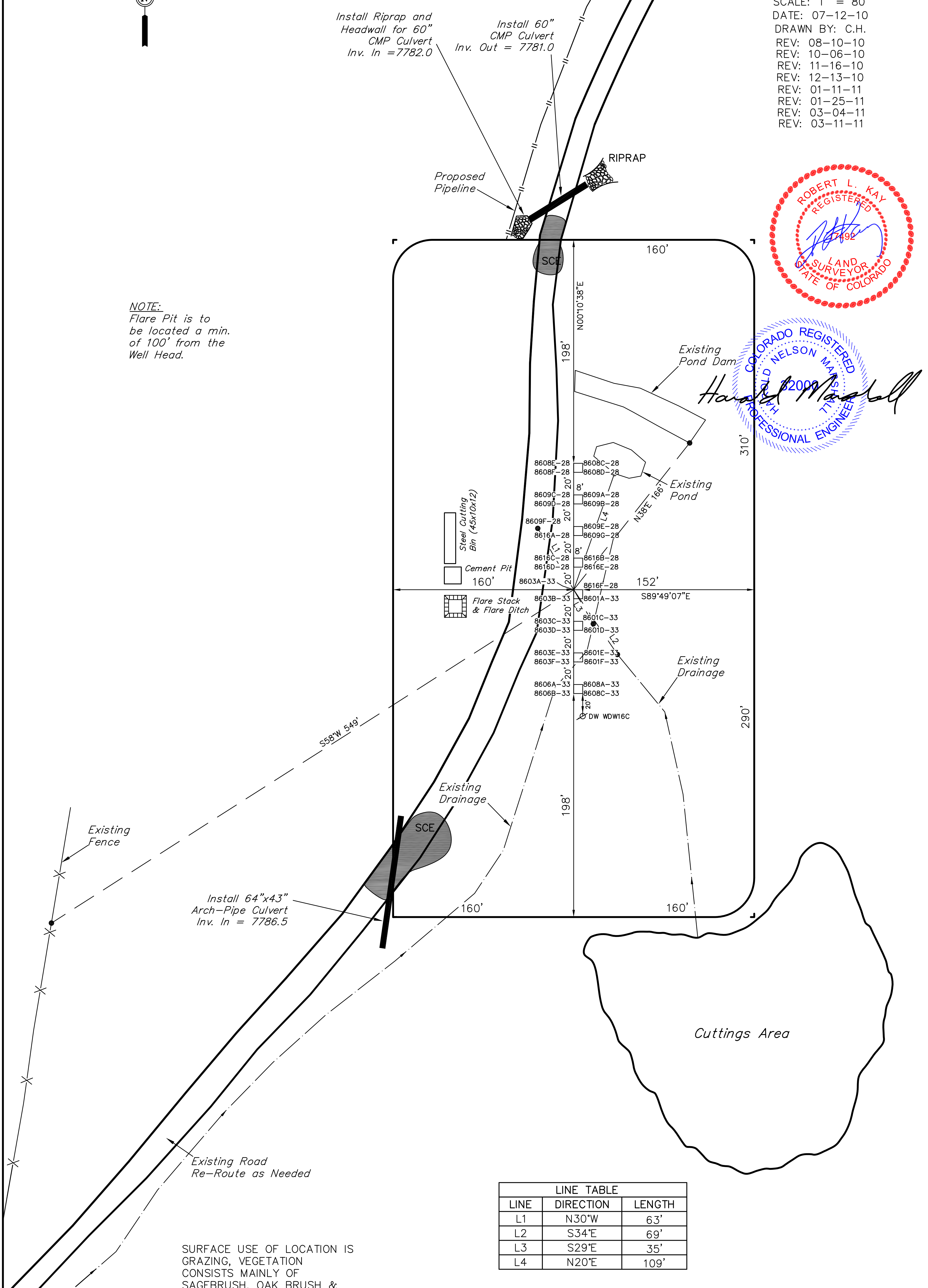
WELL PAD P28 496

SECTION 28, T4S, R96W, 6th P.M.

SE 1/4

Sheet 1ww of 11

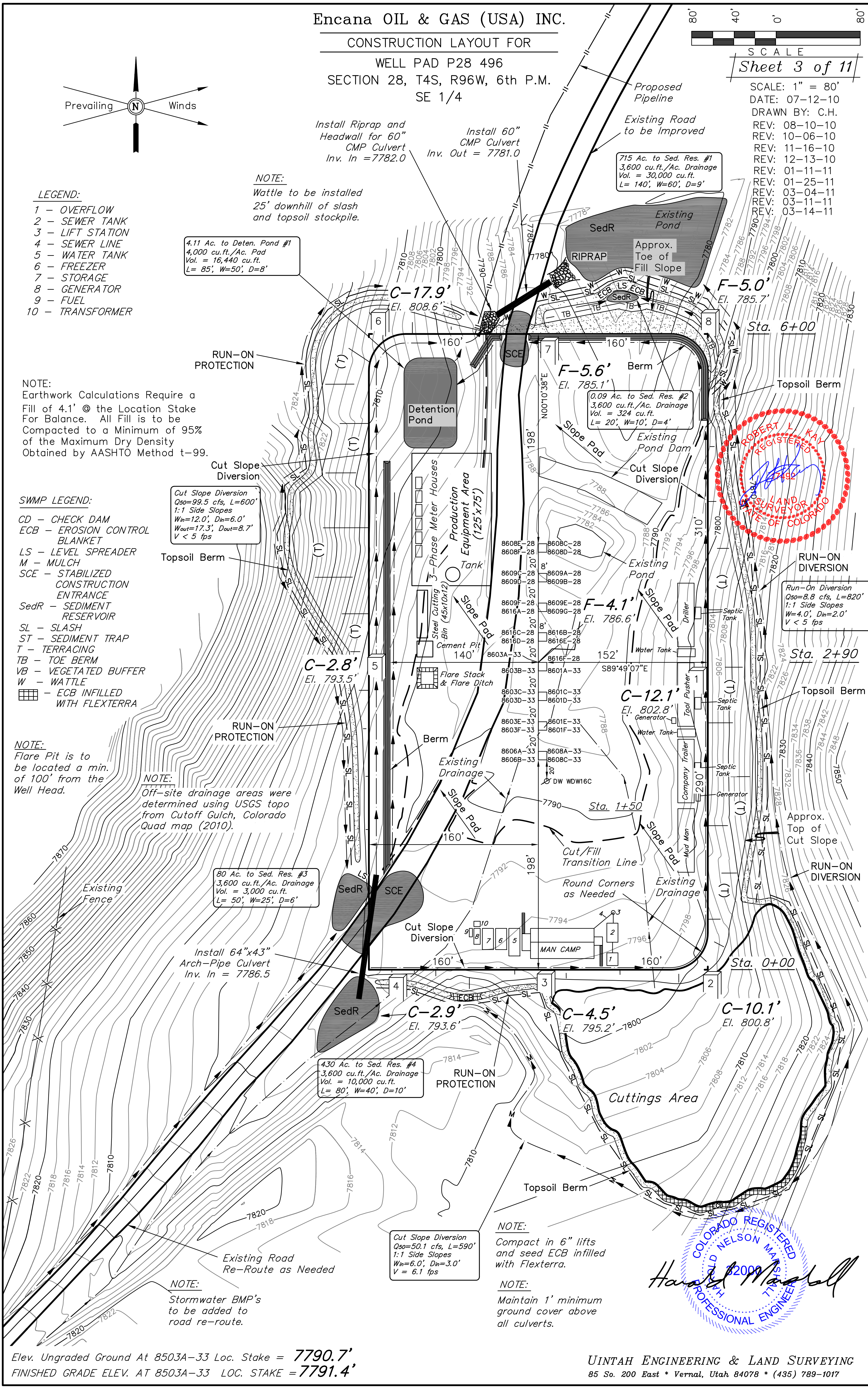
SCALE: 1" = 80'
DATE: 07-12-10
DRAWN BY: C.H.
REV: 08-10-10
REV: 10-06-10
REV: 11-16-10
REV: 12-13-10
REV: 01-11-11
REV: 01-25-11
REV: 03-04-11
REV: 03-11-11

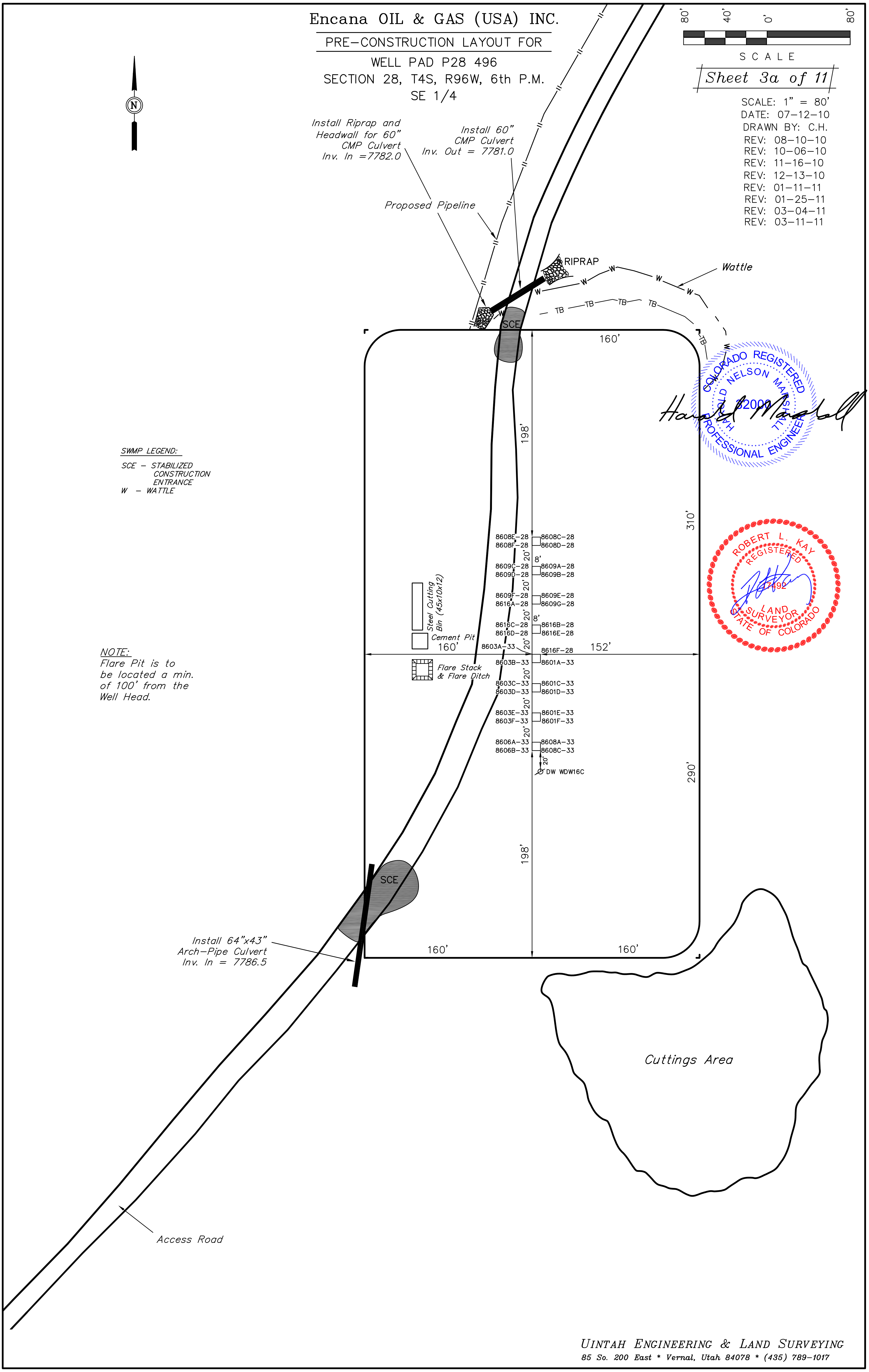


LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N30°W	63'
L2	S34°E	69'
L3	S29°E	35'
L4	N20°E	109'

SURFACE USE OF LOCATION IS GRAZING, VEGETATION CONSISTS MAINLY OF SAGEBRUSH, OAK BRUSH & NATIVE GRASSES.

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017


Encana OIL & GAS (USA) INC.
CONSTRUCTION LAYOUT FOR
WELL PAD P28 496
SECTION 28, T4S, R96W, 6th P.M.
SE 1/4
80' 40' 0' 80'
SCALE
Sheet 3 of 11
SCALE: 1" = 80'
DATE: 07-12-10
DRAWN BY: C.H.
REV: 08-10-10
REV: 10-06-10
REV: 11-16-10
REV: 12-13-10
REV: 01-11-11
REV: 01-25-11
REV: 03-04-11
REV: 03-11-11
REV: 03-14-11
Prevailing N Winds
LEGEND:
1 - OVERFLOW
2 - SEWER TANK
3 - LIFT STATION
4 - SEWER LINE
5 - WATER TANK
6 - FREEZER
7 - STORAGE
8 - GENERATOR
9 - FUEL
10 - TRANSFORMER
NOTE:
Earthwork Calculations Require a Fill of 4.1' @ the Location Stake For Balance. All Fill is to be Compacted to a Minimum of 95% of the Maximum Dry Density Obtained by AASHTO Method t-99.
SWMP LEGEND:
CD - CHECK DAM
ECB - EROSION CONTROL BLANKET
LS - LEVEL SPREADER
M - MULCH
SCE - STABILIZED CONSTRUCTION ENTRANCE
SedR - SEDIMENT RESERVOIR
SL - SLASH
ST - SEDIMENT TRAP
T - TERRACING
TB - TOE BERM
VB - VEGETATED BUFFER
W - WATTLE
ECB INFILLED WITH FLEXTERRA
NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.
NOTE:
Off-site drainage areas were determined using USGS topo from Cutoff Gulch, Colorado Quad map (2010).
NOTE:
Wattle to be installed 25' downhill of slash and topsoil stockpile.
Install Riprap and Headwall for 60" CMP Culvert Inv. In =7782.0
Install 60" CMP Culvert Inv. Out = 7781.0
Proposed Pipeline
Existing Road to be Improved
715 Ac. to Sed. Res. #1
3,600 cu.ft./Ac. Drainage
Vol. = 30,000 cu.ft.
L= 140', W=60', D=9'
4.11 Ac. to Deten. Pond #1
4,000 cu.ft./Ac. Pad
Vol. = 16,440 cu.ft.
L= 85', W=50', D=8'
Existing Pond
Approx. Toe of Fill Slope
RIPRAP
SedR
C-17.9'
El. 808.6'
F-5.0'
El. 785.7'
Sta. 6+00
RUN-ON PROTECTION
Detention Pond
SCE
F-5.6'
El. 785.1'
Berm
Topsoil Berm
0.09 Ac. to Sed. Res. #2
3,600 cu.ft./Ac. Drainage
Vol. = 324 cu.ft.
L= 20', W=10', D=4'
Existing Pond Dam
Slope Pad
Cut Slope Diversion
Cut Slope Diversion
Qso=99.5 cfs, L=600'
1:1 Side Slopes
Win=12.0', Din=6.0'
Wout=17.3', Dout=8.7'
V < 5 fps
Topsoil Berm
3-Phase Meter Houses
Production Equipment Area (125'x75')
Tank
Steel Cutting Bin (45x10x12)
Cement Pit
Flare Stack & Flare Ditch
N00°10'38"E
8608E-28 8608F-28 8608C-28 8608D-28
8609C-28 8609D-28 8609A-28 8609B-28
8609F-28 8616A-28 8609E-28 8609G-28
8616C-28 8616D-28 8616B-28 8616E-28
8603A-33 8616F-28
8603B-33 8601A-33
8603C-33 8603D-33 8601C-33 8601D-33
8603E-33 8603F-33 8601E-33 8601F-33
8606A-33 8606B-33 8608A-33 8608C-33
DW WDW16C
Existing Pond
F-4.1'
El. 786.6'
RUN-ON DIVERSION
Run-On Diversion
Qso=8.8 cfs, L=820'
1:1 Side Slopes
W=4.0', Din=2.0'
V < 5 fps
Driller
Septic Tank
Water Tank
152'
S89°49'07"E
Sta. 2+90
C-2.8'
El. 793.5'
C-12.1'
El. 802.8'
Generator
Tool Pusher
Company Trailer
Mud Man
Septic Tank
Generator
Topsoil Berm
RUN-ON PROTECTION
Berm
Existing Drainage
Sta. 1+50
Cut/Fill Transition Line
Round Corners as Needed
Existing Drainage
Approx. Top of Cut Slope
RUN-ON DIVERSION
160'
198'
310'
290'
140'
80 Ac. to Sed. Res. #3
3,600 cu.ft./Ac. Drainage
Vol. = 3,000 cu.ft.
L= 50', W=25', D=6'
Existing Fence
Cut Slope Diversion
MAN CAMP
Install 64"x43" Arch-Pipe Culvert Inv. In = 7786.5
Sta. 0+00
C-2.9'
El. 793.6'
C-4.5'
El. 795.2'
C-10.1'
El. 800.8'
430 Ac. to Sed. Res. #4
3,600 cu.ft./Ac. Drainage
Vol. = 10,000 cu.ft.
L= 80', W=40', D=10'
RUN-ON PROTECTION
Cuttings Area
Topsoil Berm
Cut Slope Diversion
Qso=50.1 cfs, L=590'
1:1 Side Slopes
Win=6.0', Din=3.0'
V = 6.1 fps
NOTE:
Compact in 6" lifts and seed ECB infilled with Flexterra.
NOTE:
Maintain 1' minimum ground cover above all culverts.
Existing Road Re-Route as Needed
NOTE:
Stormwater BMP's to be added to road re-route.
ROBERT L. KAY REGISTERED LAND SURVEYOR STATE OF COLORADO
COLORADO REGISTERED HAROLD NELSON MARSHALL 32000 PROFESSIONAL ENGINEER
Elev. Ungraded Ground At 8503A-33 Loc. Stake = 7790.7'
FINISHED GRADE ELEV. AT 8503A-33 LOC. STAKE = 7791.4'
UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017


Encana OIL & GAS (USA) INC.
PRE-CONSTRUCTION LAYOUT FOR
WELL PAD P28 496
SECTION 28, T4S, R96W, 6th P.M.
SE 1/4
80' 40' 0' 80'
SCALE
Sheet 3a of 11
SCALE: 1" = 80'
DATE: 07-12-10
DRAWN BY: C.H.
REV: 08-10-10
REV: 10-06-10
REV: 11-16-10
REV: 12-13-10
REV: 01-11-11
REV: 01-25-11
REV: 03-04-11
REV: 03-11-11
N
Install Riprap and Headwall for 60" CMP Culvert Inv. In =7782.0
Install 60" CMP Culvert Inv. Out = 7781.0
Proposed Pipeline
RIPRAP
Wattle
SCE
160'
198'
310'
COLORADO REGISTERED
HAROLD NELSON MARSHALL
32000
PROFESSIONAL ENGINEER
ROBERT L. KAY
REGISTERED
LAND SURVEYOR
STATE OF COLORADO
SWMP LEGEND:
SCE – STABILIZED CONSTRUCTION ENTRANCE
W – WATTLE
8608E-28
8608F-28
8608C-28
8608D-28
8609C-28
8609D-28
8609A-28
8609B-28
8609F-28
8616A-28
8609E-28
8609G-28
8616C-28
8616D-28
8616B-28
8616E-28
8603A-33
8616F-28
8603B-33
8601A-33
8603C-33
8603D-33
8601C-33
8601D-33
8603E-33
8603F-33
8601E-33
8601F-33
8606A-33
8606B-33
8608A-33
8608C-33
DW WDW16C
20'
8'
Steel Cutting Bin (45x10x12)
Cement Pit
Flare Stack & Flare Ditch
160'
152'
290'
NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.
Install 64"x43" Arch-Pipe Culvert Inv. In = 7786.5
Cuttings Area
Access Road
UINTAH ENGINEERING & LAND SURVEYING
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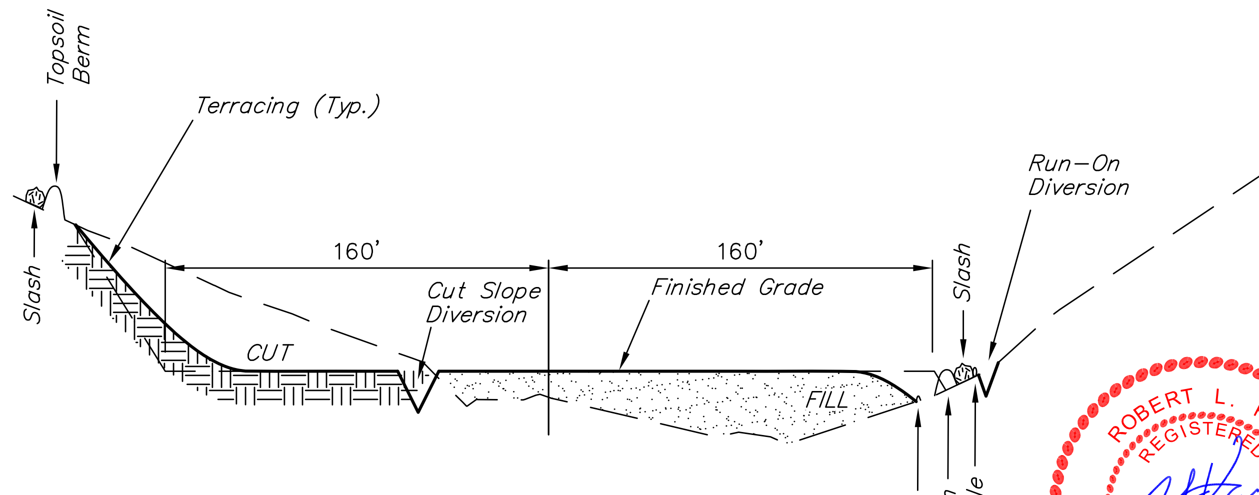
X-Section Scale
1" = 40'
1" = 80'

DATE: 07-12-10
DRAWN BY: C.H.
REV: 08-10-10
REV: 10-06-10
REV: 11-16-10
REV: 12-13-10
REV: 01-25-11
REV: 03-04-11
REV: 03-11-11

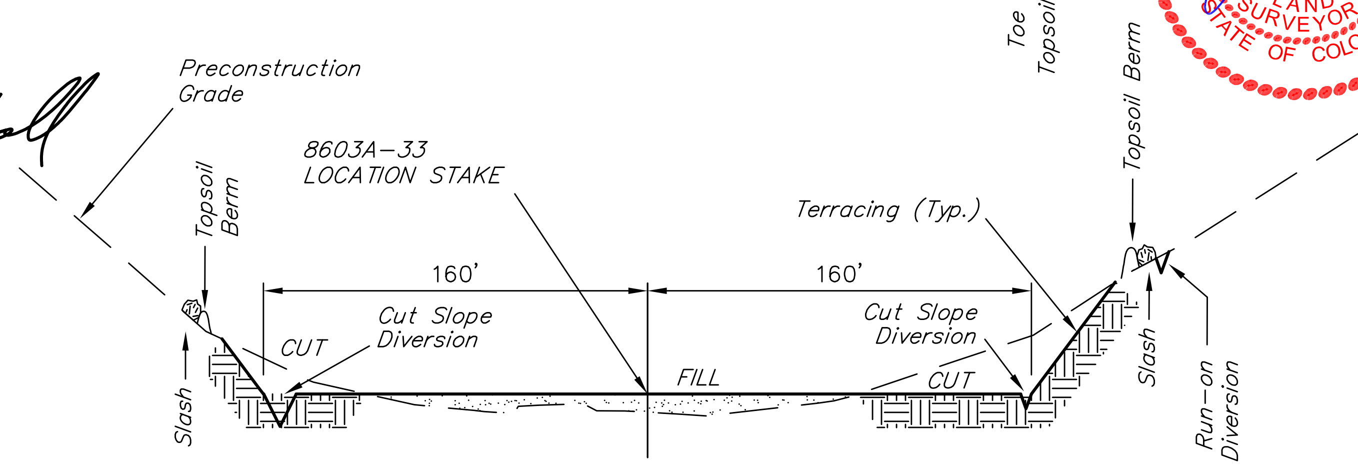
Encana OIL & GAS (USA) INC.

CONSTRUCTION LAYOUT CROSS SECTION FOR
WELL PAD P28 496
SECTION 28, T4S, R96W, 6th P.M.
SE 1/4

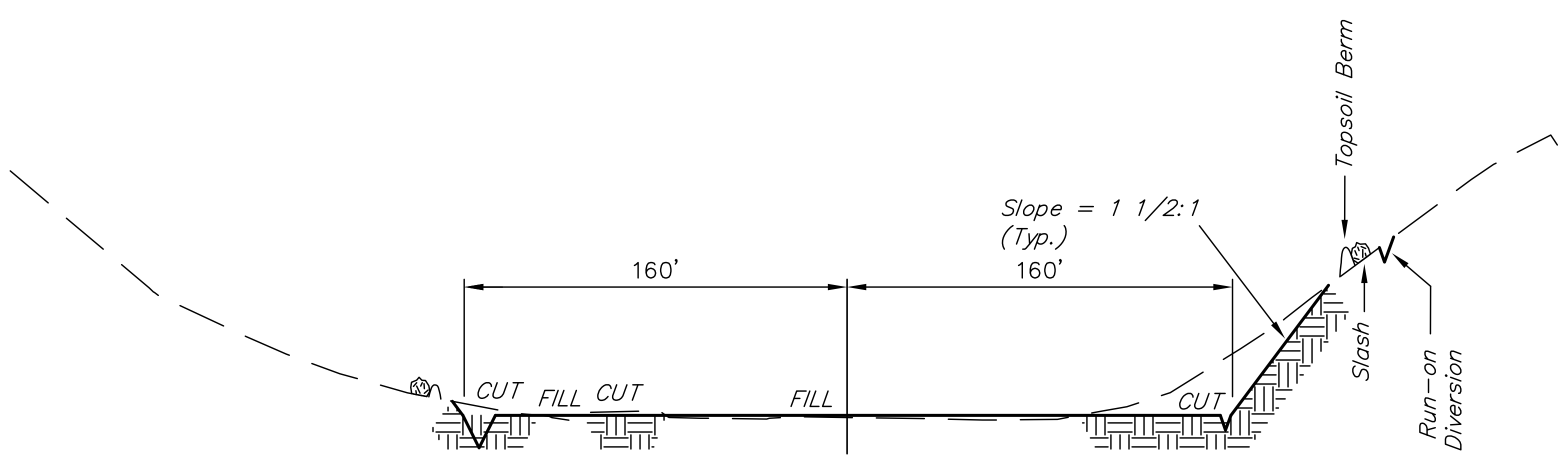
NOTE:
Per NRCS U.S. Soil Survey for Douglas-Plateau Area, Parts of Garfield and Mesa Counties, CO. Site has Channery Loam, and Unweathered Bedrock.



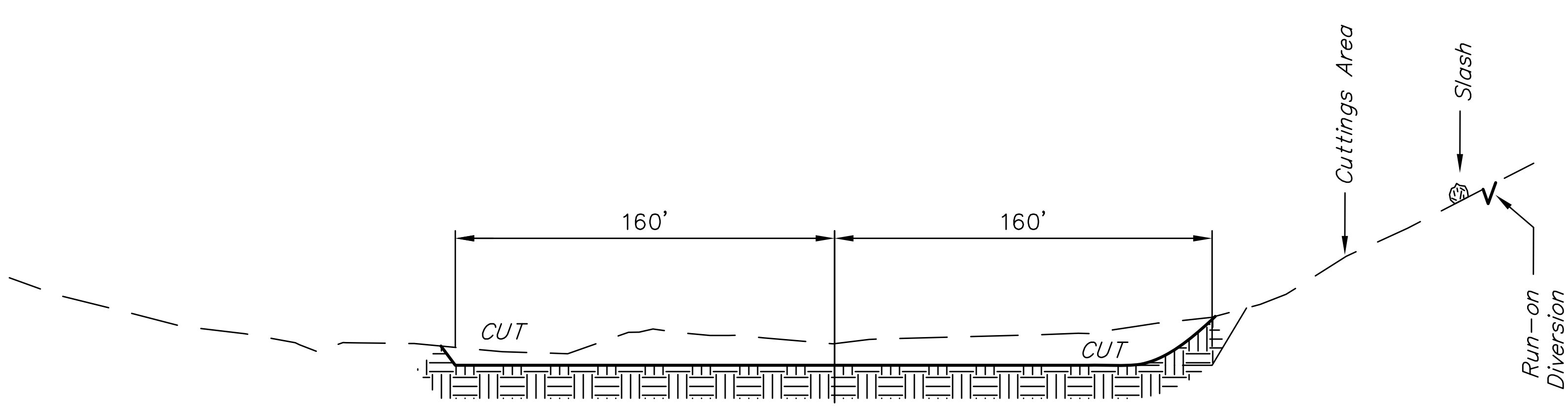
STA. 6+00



STA. 2+90



STA. 1+50



STA. 0+00

COLORADO REGISTERED PROFESSIONAL ENGINEER
HAROLD NELSON MARSHALL
32000

ROBERT L. KAY
REGISTERED LAND SURVEYOR
STATE OF COLORADO

NOTE:
Topsoil should not be Stripped Below Finished Grade on Substructure Area.

* *NOTE:*
FILL QUANTITY INCLUDES 5% FOR COMPACTION

APPROXIMATE YARDAGES

(6") Topsoil Stripping	=	*4,420* Cu. Yds.
Remaining Location	=	*23,650* Cu. Yds.
TOTAL CUT	=	*28,070* CU.YDS.
FILL	=	*17,360* CU.YDS.

EXCESS MATERIAL	=	*10,710* Cu. Yds.
Topsoil	=	*4,420* Cu. Yds.
EXCESS UNBALANCE (After Interim Rehabilitation)	=	*6,290* Cu. Yds.

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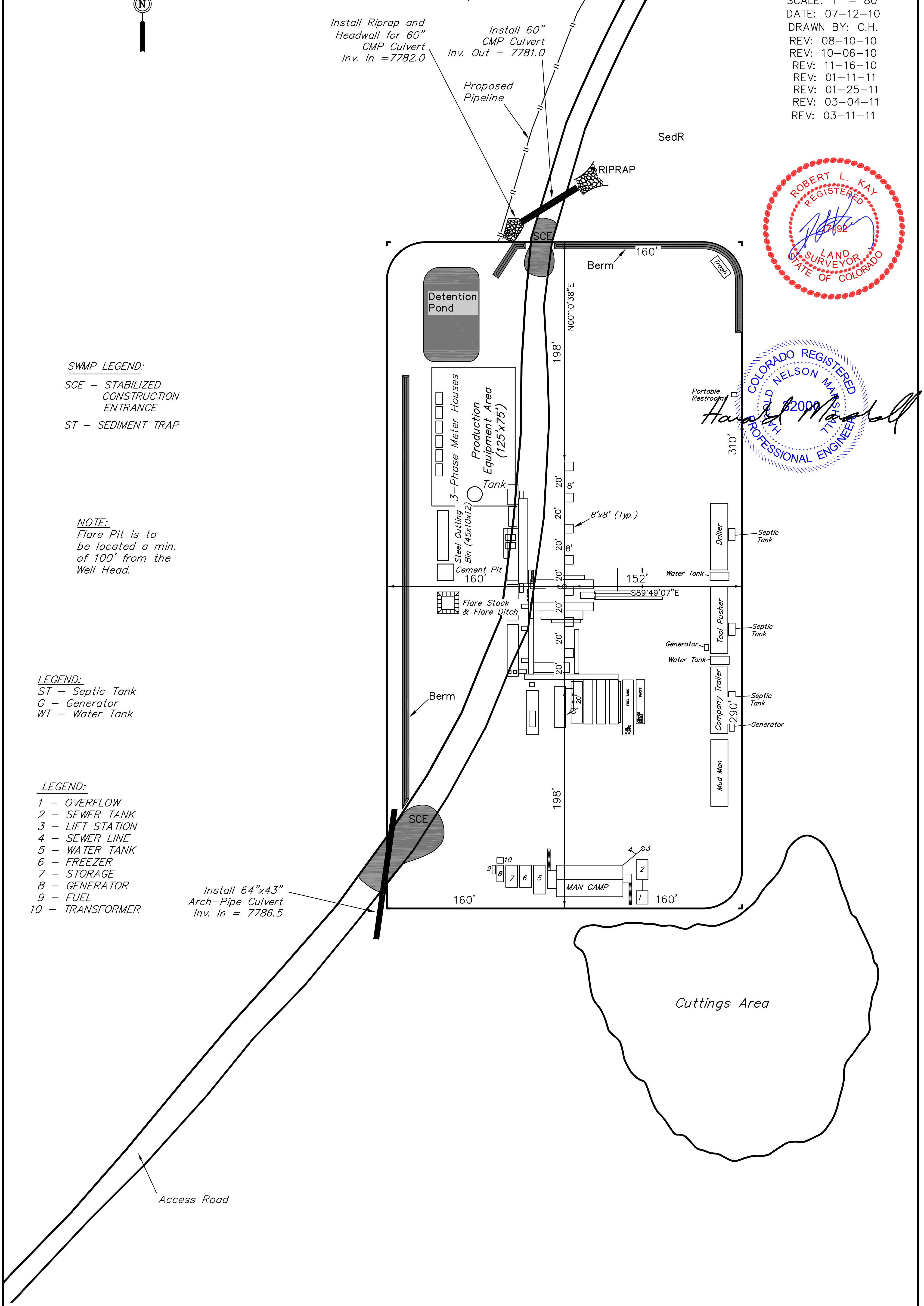
Encana OIL & GAS (USA) INC.

TYPICAL RIG LAYOUT FOR

WELL PAD P28 496
SECTION 28, T4S, R96W, 6th P.M.
SE 1/4

Sheet 5 of 11

SCALE: 1" = 80'
DATE: 07-12-10
DRAWN BY: C.H.
REV: 08-10-10
REV: 10-06-10
REV: 11-16-10
REV: 01-11-11
REV: 01-25-11
REV: 03-04-11
REV: 03-11-11



SWMP LEGEND:
SCE – STABILIZED CONSTRUCTION ENTRANCE
ST – SEDIMENT TRAP

NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.

LEGEND:
ST – Septic Tank
G – Generator
WT – Water Tank

LEGEND:
1 – OVERFLOW
2 – SEWER TANK
3 – LIFT STATION
4 – SEWER LINE
5 – WATER TANK
6 – FREEZER
7 – STORAGE
8 – GENERATOR
9 – FUEL
10 – TRANSFORMER

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Encana OIL & GAS (USA) INC.

PRODUCTION SCHEMATIC FOR

WELL PAD P28 496

SECTION 28, T4S, R96W, 6th P.M.

SE 1/4

SCALE: 1" = 80'
DATE: 07-12-10
DRAWN BY: C.H.
REV: 08-10-10
REV: 10-06-10
REV: 11-16-10
REV: 12-13-10
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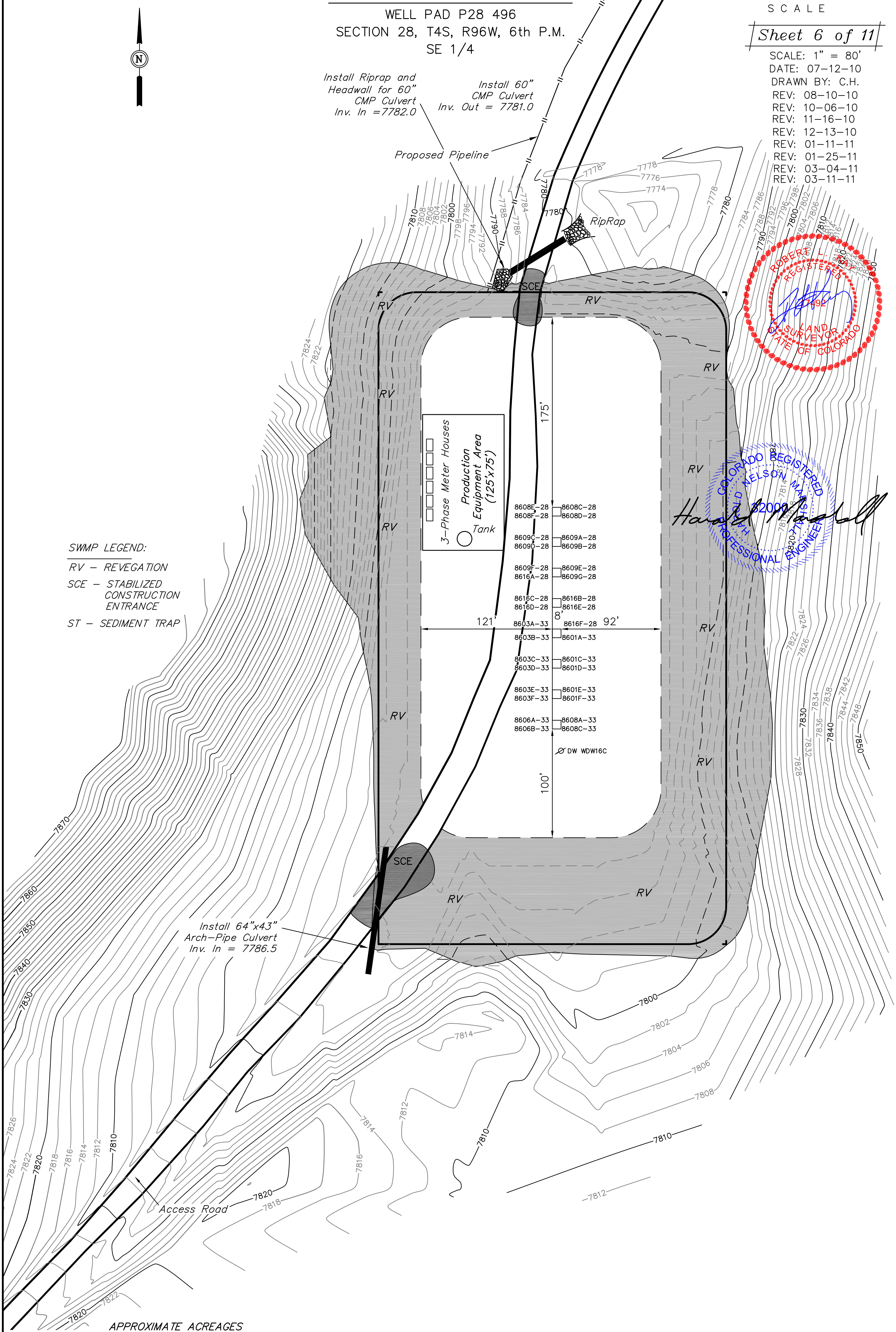
REV: 03-04-11
REV: 03-11-11



SWMP LEGEND:

RV – REVEGATION

SCE – STABILIZED CONSTRUCTION ENTRANCE

ST – SEDIMENT TRAP

APPROXIMATE ACREAGES

TOTAL RECLAIMED AREA = ± 3.974 ACRES

UN-RECLAIMED AREA = ± 2.390 ACRES

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Encana OIL & GAS (USA) INC.

SURFACE DISTURBANCE AREA FOR

WELL PAD P28 496

SECTION 28, T4S, R96W, 6th P.M.

SE 1/4

80' 40' 0' 80'

SCALE

SCALE: 1" = 80'
DATE: 07-12-10
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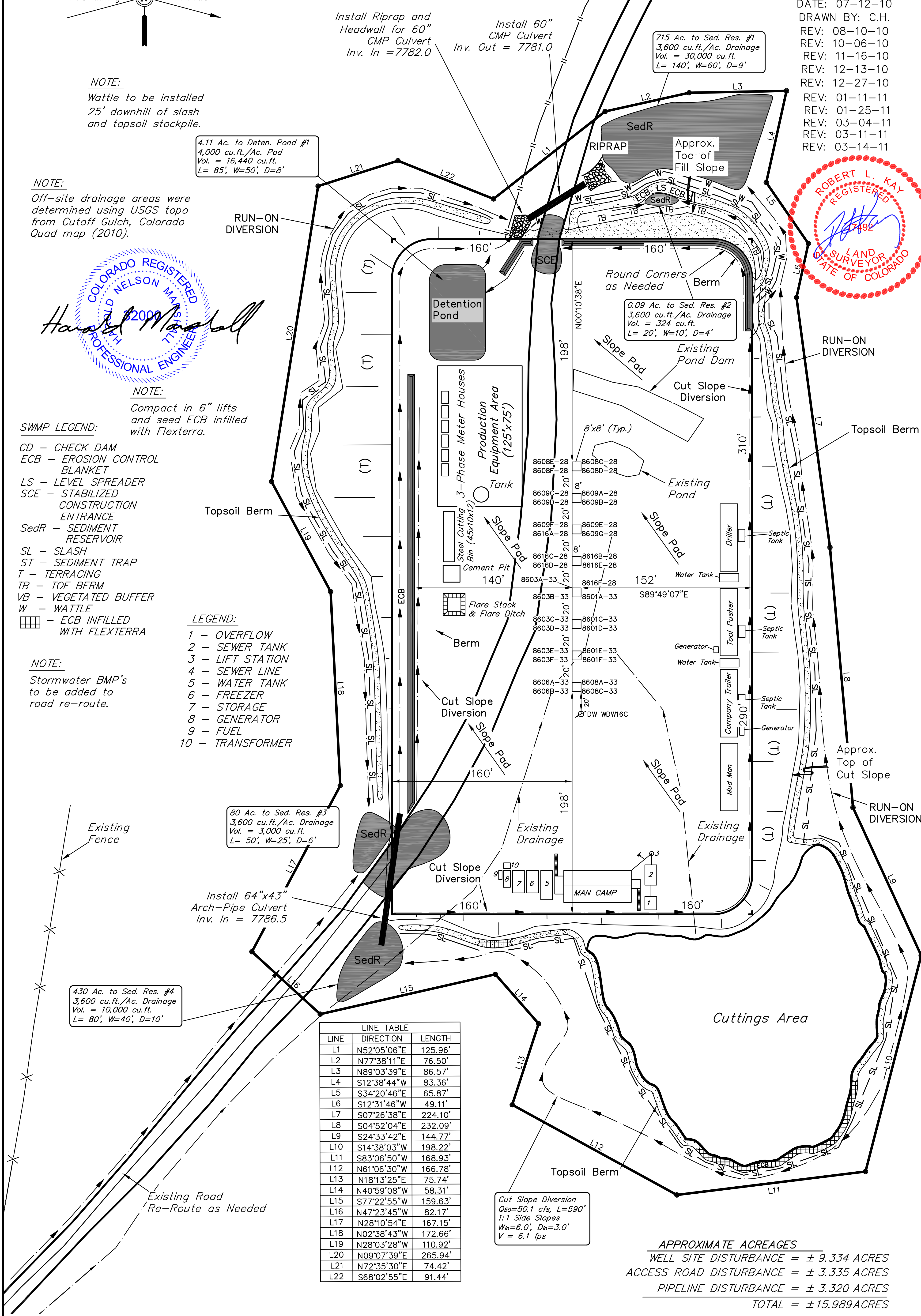
REV: 03-14-11



NOTE:
Wattle to be installed 25' downhill of slash and topsoil stockpile.

NOTE:
Off-site drainage areas were determined using USGS topo from Cutoff Gulch, Colorado Quad map (2010).

NOTE:
Compact in 6" lifts and seed ECB infilled with Flexterra.

SWMP LEGEND:

- CD – CHECK DAM
- ECB – EROSION CONTROL BLANKET
- LS – LEVEL SPREADER
- SCE – STABILIZED CONSTRUCTION ENTRANCE
- SedR – SEDIMENT RESERVOIR
- SL – SLASH
- ST – SEDIMENT TRAP
- T – TERRACING
- TB – TOE BERM
- VB – VEGETATED BUFFER
- W – WATTLE
- – ECB INFILLED WITH FLEXTERRA

LEGEND:

1 – OVERFLOW
2 – SEWER TANK
3 – LIFT STATION
4 – SEWER LINE
5 – WATER TANK
6 – FREEZER
7 – STORAGE
8 – GENERATOR
9 – FUEL
10 – TRANSFORMER

NOTE:
Stormwater BMP's to be added to road re-route.

LINE TABLE

LINE	DIRECTION	LENGTH
L1	N52°05'06"E	125.96'
L2	N77°38'11"E	76.50'
L3	N89°03'39"E	86.57'
L4	S12°38'44"W	83.36'
L5	S34°20'46"E	65.87'
L6	S12°31'46"W	49.11'
L7	S07°26'38"E	224.10'
L8	S04°52'04"E	232.09'
L9	S24°33'42"E	144.77'
L10	S14°38'03"W	198.22'
L11	S83°06'50"W	168.93'
L12	N61°06'30"W	166.78'
L13	N18°13'25"E	75.74'
L14	N40°59'08"W	58.31'
L15	S77°22'55"W	159.63'
L16	N47°23'45"W	82.17'
L17	N28°10'54"E	167.15'
L18	N02°38'43"W	172.66'
L19	N28°03'28"W	110.92'
L20	N09°07'39"E	265.94'
L21	N72°35'30"E	74.42'
L22	S68°02'55"E	91.44'

APPROXIMATE ACREAGES

WELL SITE DISTURBANCE = ± 9.334 ACRES
ACCESS ROAD DISTURBANCE = ± 3.335 ACRES
PIPELINE DISTURBANCE = ± 3.320 ACRES
TOTAL = ±15.989 ACRES

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Encana OIL & GAS (USA) INC.

LOCATION DRAWING FOR

WELL PAD P28 496

SECTION 28, T4S, R96W, 6th P.M.

SE 1/4

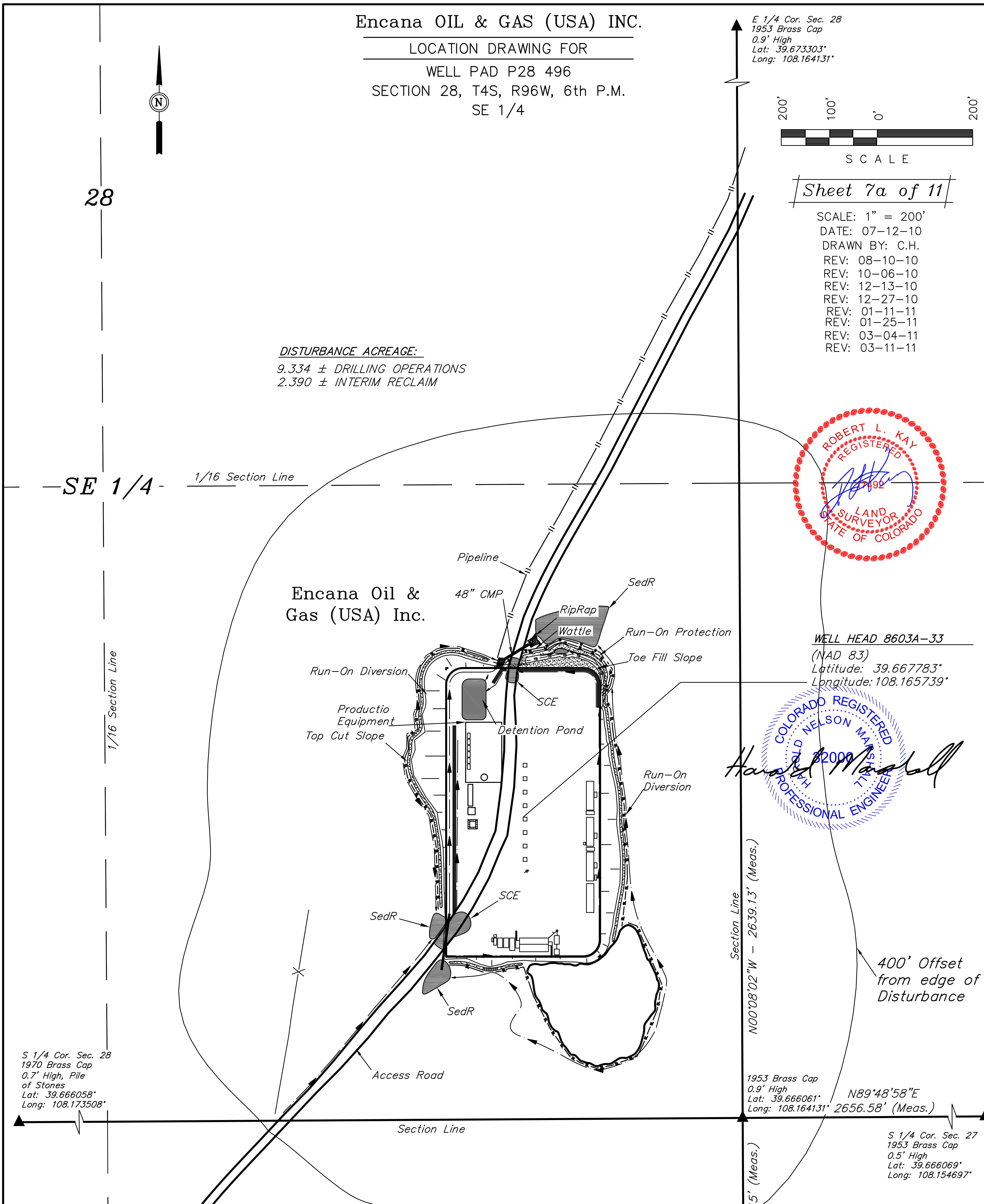
Sheet 7a of 11

SCALE: 1" = 200'
DATE: 07-12-10
DRAWN BY: C.H.
REV: 08-10-10
REV: 10-06-10
REV: 12-13-10
REV: 12-27-10
REV: 01-11-11
REV: 01-25-11
REV: 03-04-11
REV: 03-11-11

DISTURBANCE ACREAGE:

9.334 ± DRILLING OPERATIONS
2.390 ± INTERIM RECLAIM

WELL HEAD 8603A-33
(NAD 83)
Latitude: 39.667783°
Longitude: 108.165739°



PLANT COMMUNITY
☐ DISTURBED GRASSLAND
☐ NATIVE GRASSLAND
☐ SHRUB LAND
☐ PLAINS RIPARIAN
☐ MOUNTAIN RIPARIAN
☒ FOREST LAND
☐ WETLANDS AQUATIC
☐ ALPINE
☐ OTHER (Describe):

Existing Features	(Distance from 8603A-33)
Building	N48°E 17,500'
Public Road	SOUTH 4,500'
Property Line	WEST 2190'
Utility	S26°E 35,600'
Surface Water	S65°W 5,100'
Railroad	S17°E 73,660'

CURRENT LAND USE					
CROP LAND:	☐ IRRIGATED	☐ DRY LAND	☐ IMPROVED PASTURE	☐ HAY MEADOW	☐ CRP
NON-CROP LAND:	☒ RANGELAND	☐ TIMBER	☐ RECREATIONAL	☐ OTHER (Describe)	
SUBDIVIDED:	☐ INDUSTRIAL	☐ COMMERCIAL	☐ RESIDENTIAL		

FUTURE LAND USE					
CROP LAND:	☐ IRRIGATED	☐ DRY LAND	☐ IMPROVED PASTURE	☐ HAY MEADOW	☐ CRP
NON-CROP LAND:	☒ RANGELAND	☐ TIMBER	☐ RECREATIONAL	☐ OTHER (Describe)	
SUBDIVIDED:	☐ INDUSTRIAL	☐ COMMERCIAL	☐ RESIDENTIAL		

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