

*ENCANA OIL & GAS (USA) INC*

*GENERAL MULTI WELL PLAN  
SECTION DRILLING MAP*

*CBU 015 1100 (PHASE I)  
T1S, R100W, 6th P.M.*



*TRI STATE LAND SURVEYING & CONSULTING*  
180 NORTH VERNAL AVE. — VERNAL, UTAH 84078  
(435) 781-2501

|                             |                     |                    |
|-----------------------------|---------------------|--------------------|
| DATE SURVEYED:<br>04-18-14  | SURVEYED BY: G.D.O. | SHEET<br>1<br>OF 8 |
| DATE DRAWN:<br>06-27-14     | DRAWN BY: L.C.S.    |                    |
| REVISED:<br>07-14-14 F.T.M. | SCALE: 1" = 2000'   |                    |

# ENCANA OIL & GAS (USA) INC

## LOCATION DRAWING

### ADDENDUM TO LEGAL PLAT

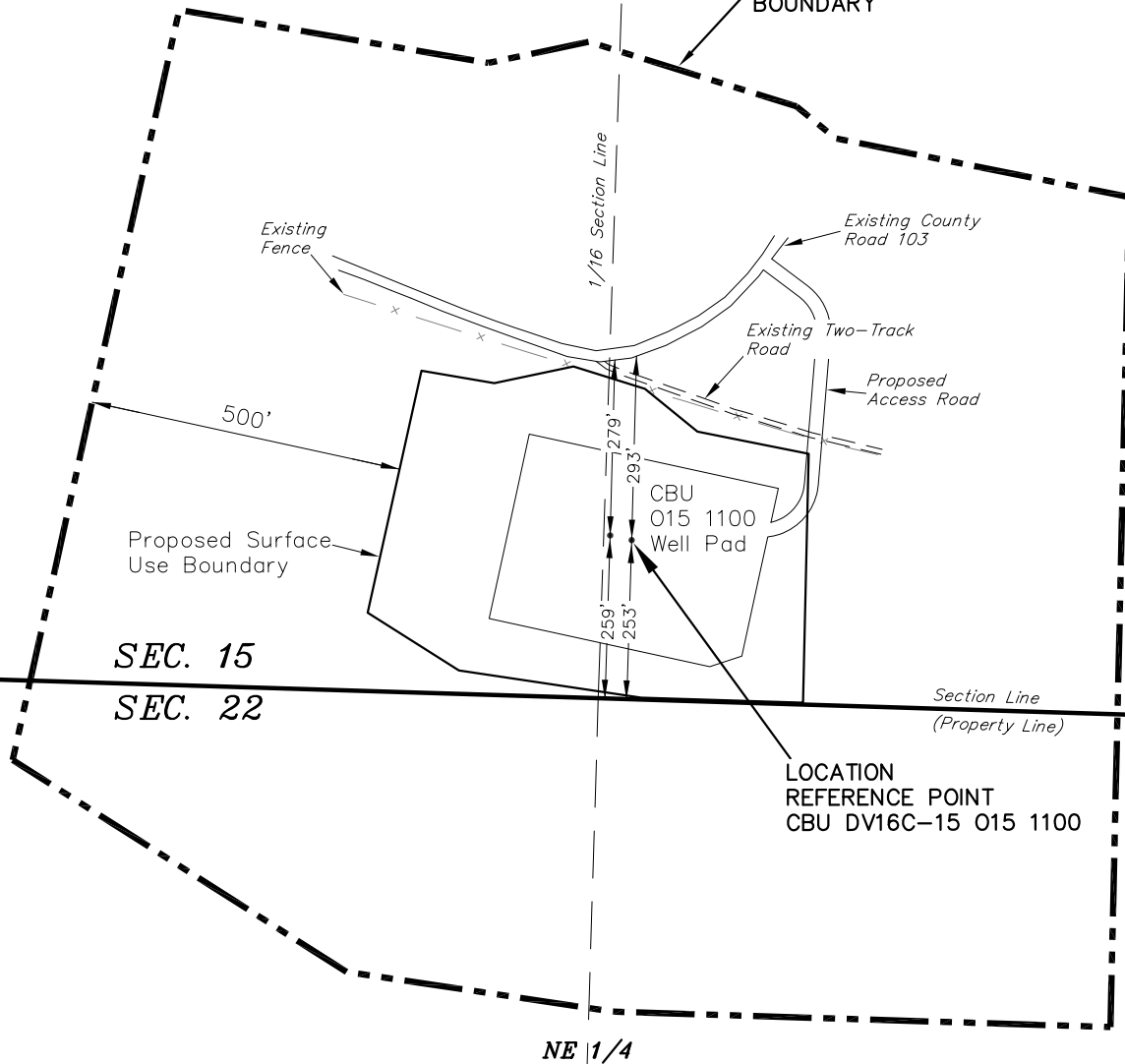
#### WELL PAD CBU 015 1100 (PHASE I)

Section 15, T1S, R100W, 6th P.M.

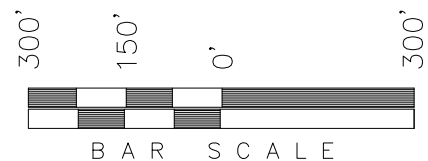
SE 1/4



500' OFFSET  
FROM SURFACE USE  
BOUNDARY



| Feature                          | Reference point: Distance from Location Reference Point |
|----------------------------------|---|
| Building (Meter Shed)            | >5,280'   |
| Building Unit (House)            | >5,280'   |
| High Occupancy Building Unit     | >5,280'   |
| Designated Outside Activity Area | >5,280'   |
| Public Road                      | ±293'   |
| Above Ground Utility             | >5,280'   |
| Railroad                         | >5,280'   |
| Property Line                    | ±253'   |



SURVEYED BY: G.D.O. DATE SURVEYED: 04-18-14  
DRAWN BY: L.C.S. DATE DRAWN: 06-27-14  
SCALE: 1" = 300' REVISED:

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SHEET  
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# ENCANA OIL & GAS (USA) INC

## DETAILED MULTI WELL PLAN WELL PAD INTERFERENCE PLAT

### CBU 015 1100 (PHASE I)

Pad Location: SE 1/4 Section 15, T1S, R100W, 6th P.M.

#### TOP HOLE FOOTAGES

CBU DV16C-15 015 1100  
253' FSL & 1277' FEL

CBU DHS3B-27 015 1100  
259' FSL & 1312' FEL

#### BOTTOM HOLE FOOTAGES

CBU DV16C-15 015 1100  
256' FSL & 928' FEL

CBU DHS3B-27 015 1100  
744' FSL & 1339' FEL

#### RELATIVE COORDINATES From top hole to bottom hole

| WELL     | NORTH    | EAST |
|----------|----------|------|
| DV16C-15 | -8'      | 350' |
| DHS3B-27 | -10,093' | 365' |

#### LATITUDE & LONGITUDE Surface position of Wells (NAD 83)

| WELL     | LATITUDE   | LONGITUDE   |
|----------|------------|-------------|
| DV16C-15 | 39.957144° | 108.598512° |
| DHS3B-27 | 39.957161° | 108.598634° |

#### LATITUDE & LONGITUDE Bottom hole position of Wells (NAD 83)

| WELL     | LATITUDE   | LONGITUDE   |
|----------|------------|-------------|
| DV16C-15 | 39.957156° | 108.597265° |
| DHS3B-27 | 39.929447° | 108.598679° |

SURVEYED BY: G.D.O. DATE SURVEYED: 04-18-14  
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SCALE: 1" = 100' REVISED: F.T.M. 07-14-14

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Edge of  
Proposed  
Well Pad

1/16 Section Line

CBU DHS3B-27 015 1100

35'

(To Bottom of Hole)

-S02°04'24"W - 10099.61'

(To Bottom of Hole)

S88°44'53"E - 349.66'

(To Bottom of Hole)

Bottom  
of Hole

Existing County  
Road 103

Existing Two-Track  
Road

Proposed  
Road

Existing Fence



ENCANA OIL & GAS (USA) INC

LOCATION LAYOUT

CBU 015 1100 (PHASE I)

Pad Location: SE 1/4 Section 15,  
T1S, R100W, 6th P.M.

ECM & Fleterra Topsoil Bern (Typ.)

VISUAL BERM/EXCESS MATERIAL  
Approx. Dims. = 322'x144'x15'  
Approx. Area = 40,842 Sq. Ft.  
±18,810 Cu. Yds.

NOTE:  
The topsoil & Excess material  
stockpile areas are calculated as  
being mounds containing 22,500  
cubic yards of dirt (a 10% fluff  
factor is included). The mound  
areas are calculated with push  
slopes of 1.5:1 & fall slopes of  
1.5:1.

WELL HEAD:  
UNGRADED = 8350.8'  
FIN. GRADE = 8340.7'

- NOTES:
- (1) Slope Track and/or Terrace All Slopes and Piles
  - (2) Erosion Control & Seed Topsoil Stockpile
  - (3) Erosion Control & Seed Outside Slopes of Stockpiles
  - (4) Slope away from Substructure Areas 1% to 3% to Flow Control Ditch on Entire Pad
  - (5) When Possible the Cut and Fill Slopes Directly Behind the Proposed Production Equipment Should be Reclaimed with 3:1 Slopes and Topsoil Spread During Pad Construction.
  - (6) BMP Selection and Position may Change Depending on Actual Conditions Encountered During the Construction Process.
  - (7) All CMP's Shall have Inlet and Outlet Protection.
  - (8) All BMP's to be constructed to EnCana Oil & Gas (USA) Inc. BMP Manual's Specifications.

LEGEND:

- PARI = PAD/ACCESS ROAD INTERFACE  
SR = SEDIMENT RESERVOIR  
ST = SEDIMENT TRAP  
R.O.P. = RUN-ON PROTECTION  
= PERIMETER CONTROL (WATTLES)  
CDM = CHECK DAM  
FCD = FLOW CONTROL DITCH  
ECB = EROSION CONTROL BLANKET  
D = FILL DIVERSION TO SEDIMENT TRAP  
CSD = CUT SLOPE DIVERSION (BERM TOE OF CUT SLOPE)  
VGB = VEGETATION BUFFER (UNDISTURBED LAND INSIDE PC)  
= SEED, ECB & FLEX  
= LEVEL SPREADER

SURVEYED BY: G.D.O. DATE SURVEYED: 04-18-14  
DRAWN BY: L.C.S. DATE DRAWN: 06-27-14  
SCALE: 1" = 50' REVISED: F.T.M. 07-14-14

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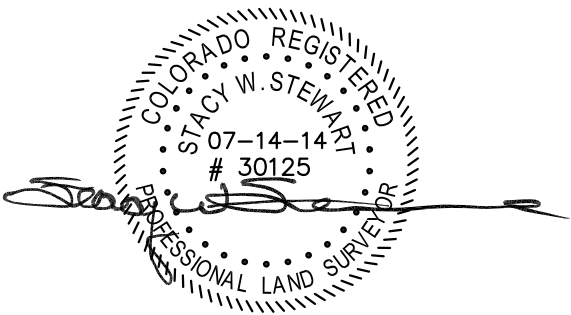
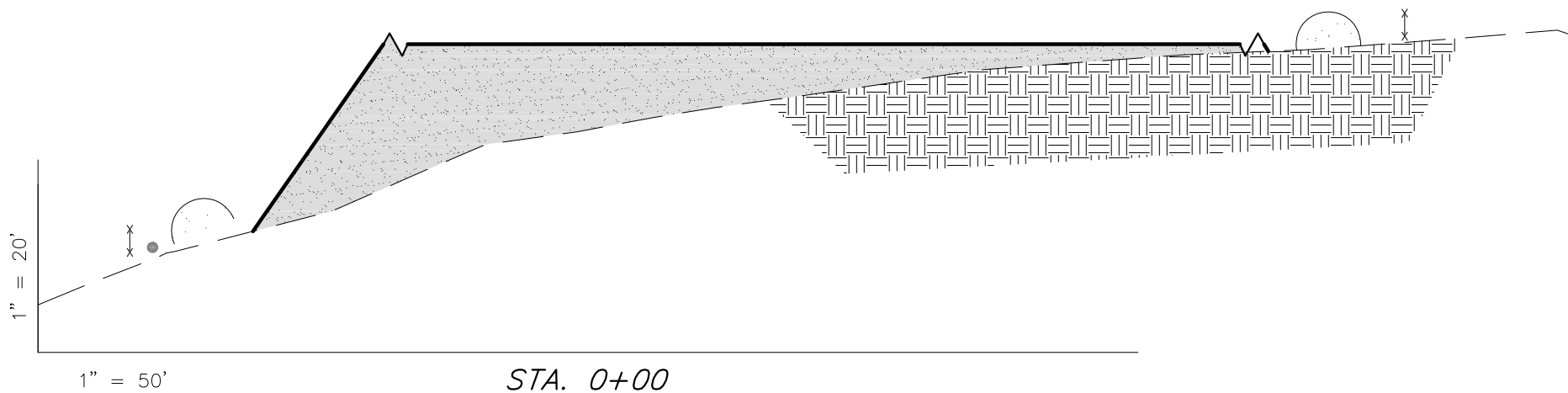
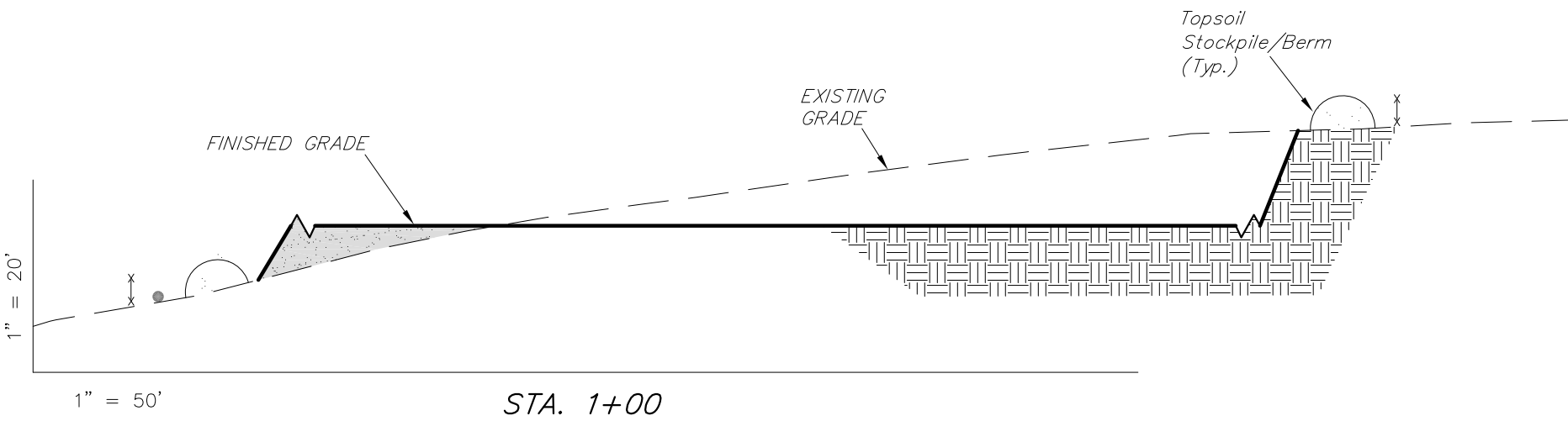
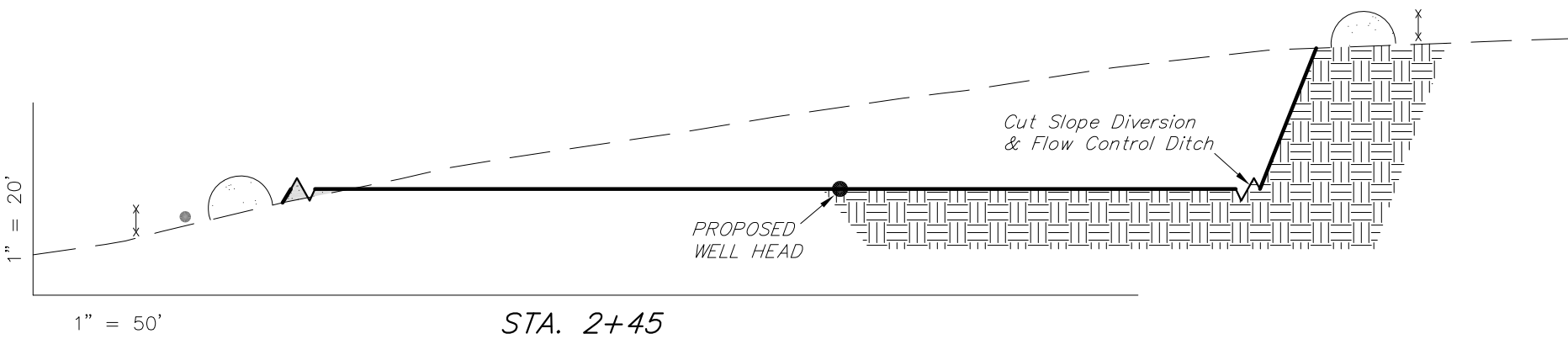
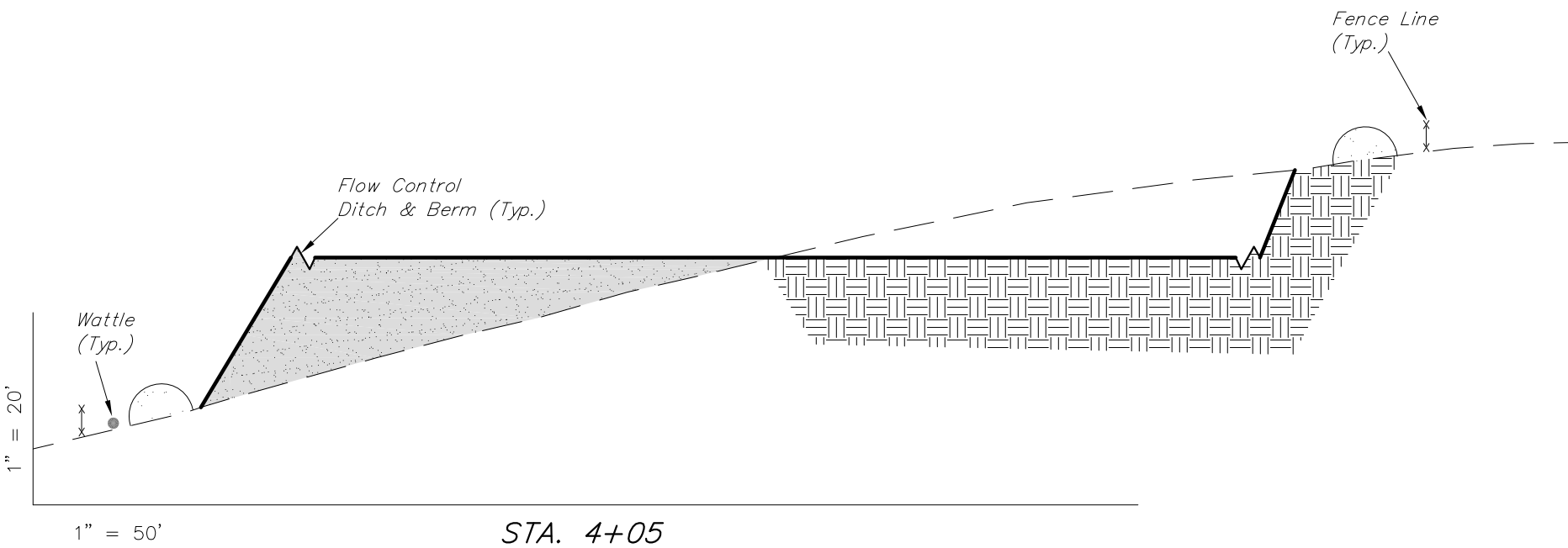
SHEET  
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CROSS SECTIONS

CBU 015 1100 (PHASE I)

Pad Location: SE 1/4 Section 15, T1S, R100W, 6th P.M.



| ESTIMATED EARTHWORK QUANTITIES<br>(No Shrink or swell adjustments have been used)<br>(Expressed in Cubic Yards) |        |       |                                    |        |
|---|--------|-------|------------------------------------|--------|
| ITEM  | CUT    | FILL  | 6" TOPSOIL                         | EXCESS |
| PAD   | 25,750 | 8,640 | Topsoil is not included in Pad Cut | 17,100 |
| PIT   | N/A    | N/A   |                                    | N/A    |
| TOTALS  | 25,750 | 8,640 | 3,560                              | 17,100 |

NOTE:  
UNLESS OTHERWISE NOTED ALL  
CUT SLOPES ARE AT 1:1  
FILL SLOPES ARE AT 1.5:1

|              |          |                |                 |
|--------------|----------|----------------|-----------------|
| SURVEYED BY: | G.D.O.   | DATE SURVEYED: | 04-18-14        |
| DRAWN BY:    | L.C.S.   | DATE DRAWN:    | 06-27-14        |
| SCALE:       | 1" = 50' | REVISED:       | F.T.M. 07-14-14 |

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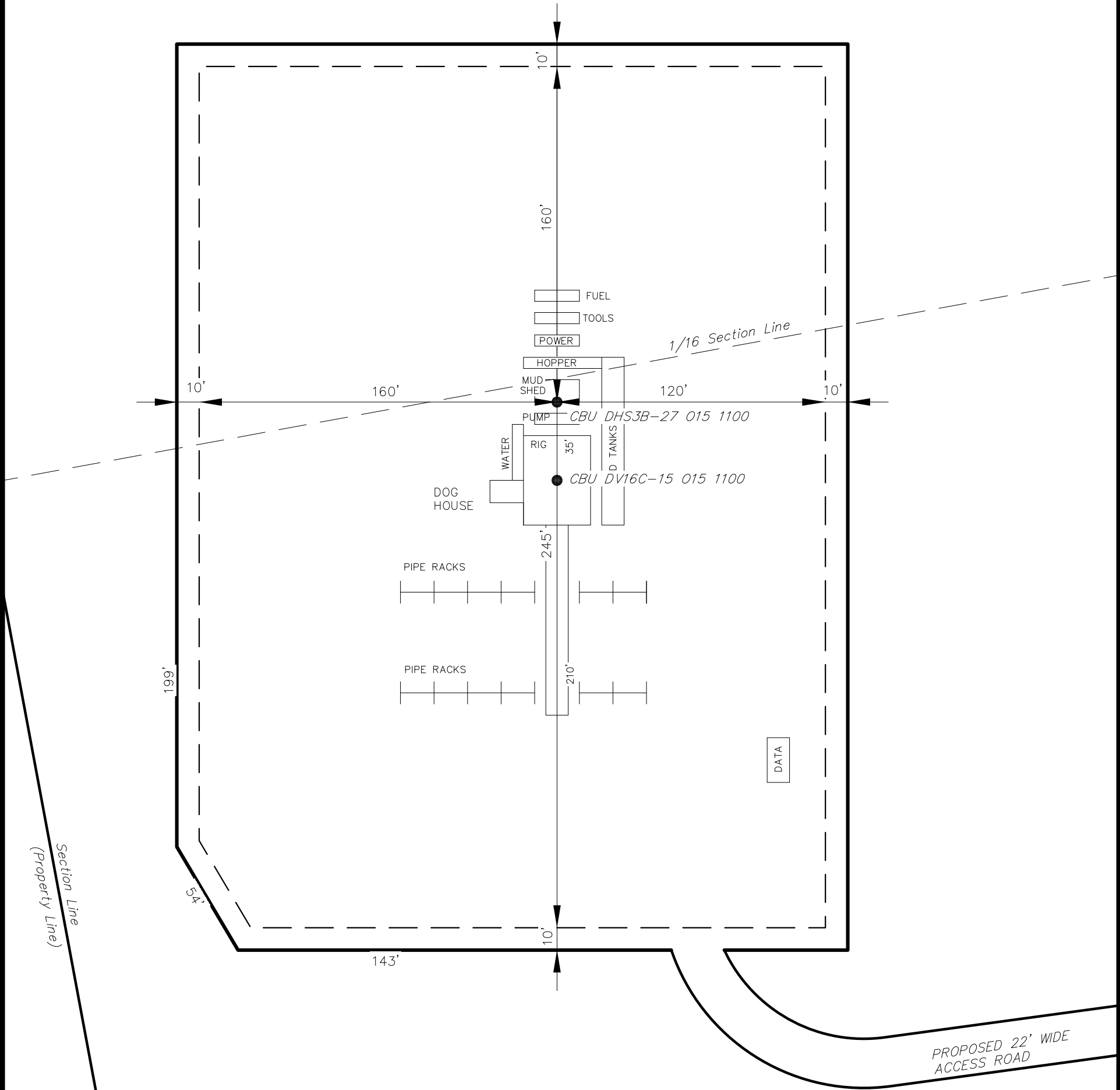
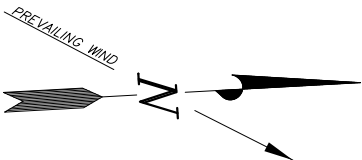
SHEET  
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ENCANA OIL & GAS (USA) INC

TYPICAL RIG LAYOUT

CBU 015 1100 (PHASE I)

Pad Location: SE 1/4 Section 15, T1S, R100W, 6th P.M.



|                     |                          |
|---------------------|--------------------------|
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| DRAWN BY: L.C.S.    | DATE DRAWN: 06-27-14     |
| SCALE: 1" = 50'     | REVISED: F.T.M. 07-14-14 |

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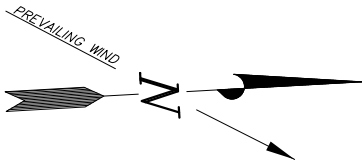
SHEET  
6

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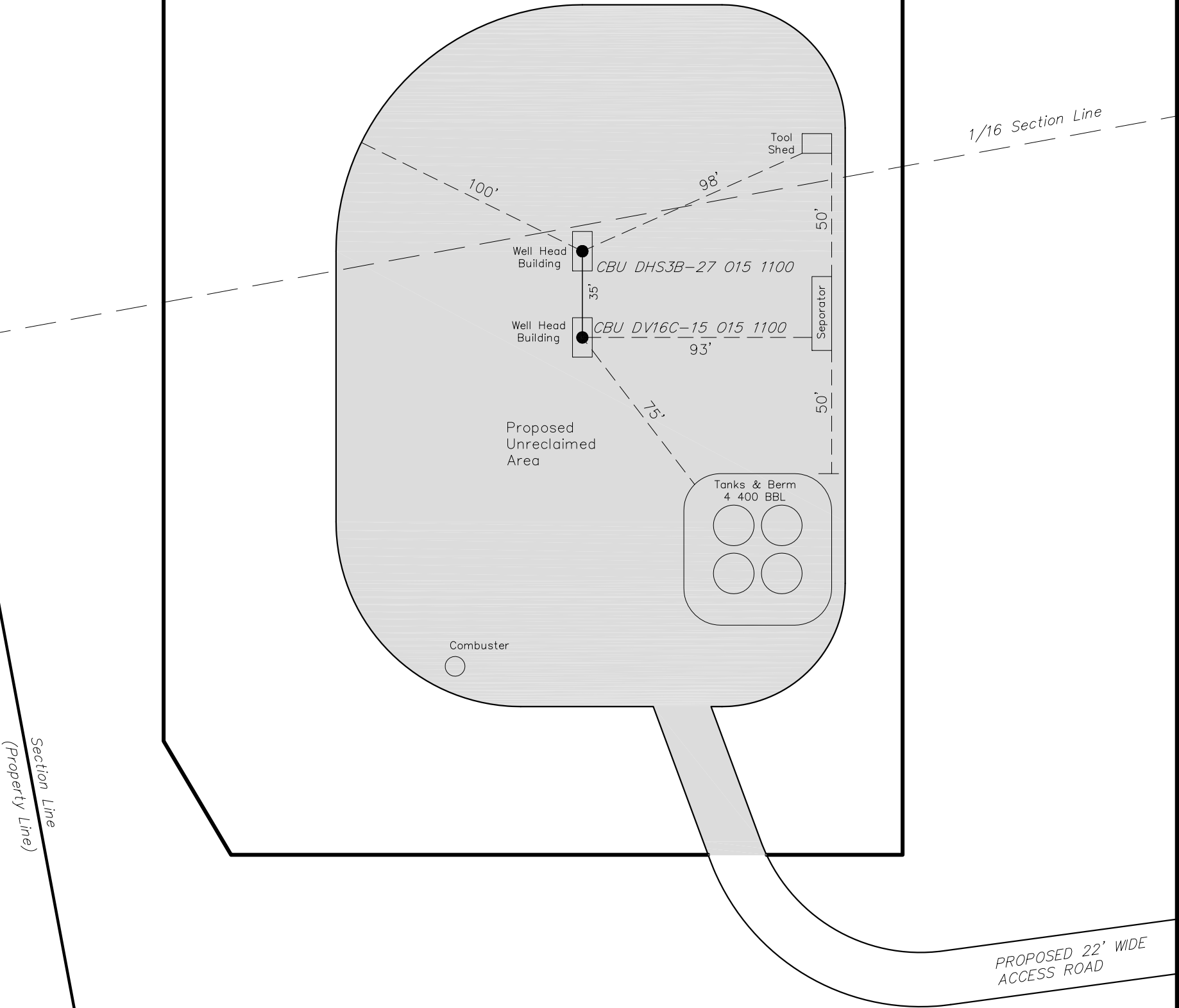
EQUIPMENT LAYOUT

CBU 015 1100 (PHASE I)

Pad Location: SE 1/4 Section 15, T1S, R100W, 6th P.M.



- Notes:
- 1. Reclaimed area to include seeding of approved vegetation and sufficient storm water management system.
  - 2. Reclaimed Pad to have storm water Management BMP's Per Encana Oil & Gas (USA) Inc. BMP Manual.
  - 3. Actual Equipment Layout and Reclaimed Pad Surface Area May Change do to Production Requirements or Site Conditions.



DISTURBED AREA:  
TOTAL DISTURBED AREA = ±6.866 ACRES  
TOTAL RECLAIMED AREA = ±5.581 ACRES  
UNRECLAIMED AREA = ±1.285 ACRES

|                     |                          |
|---------------------|--------------------------|
| SURVEYED BY: G.D.O. | DATE SURVEYED: 04-18-14  |
| DRAWN BY: L.C.S.    | DATE DRAWN: 06-27-14     |
| SCALE: 1" = 50'     | REVISED: F.T.M. 07-14-14 |

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Sec. 15

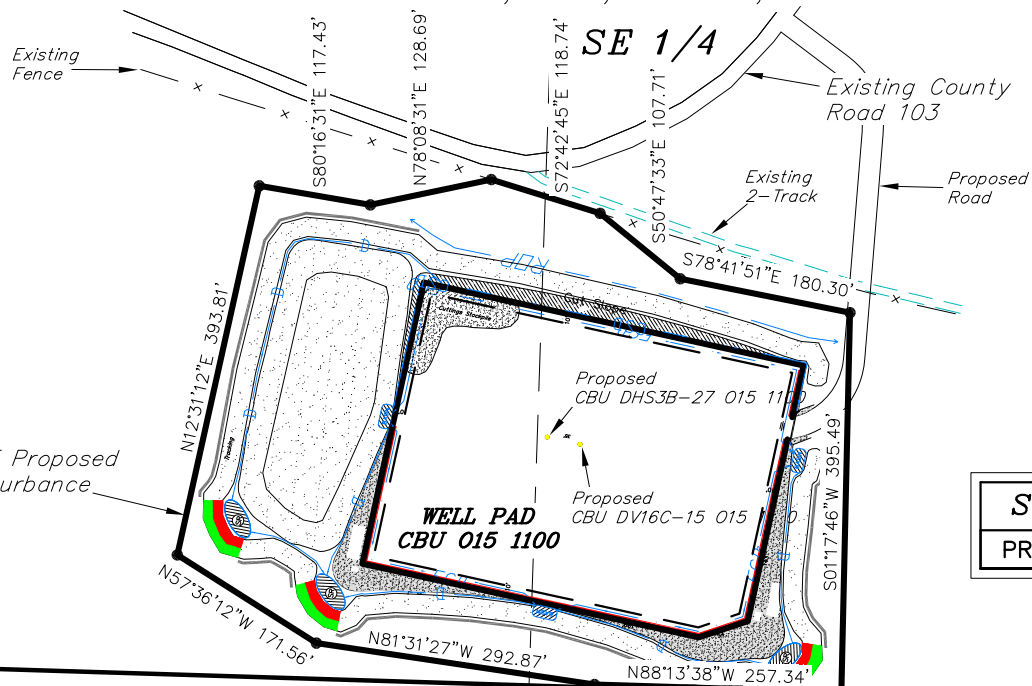
SURFACE DISTURBANCE AREA  
WELL PAD CBU 015 1100 (PHASE I)  
Section 15, T1S, R100W, 6th P.M.



B.L.M. (U.S.A.)  
SW 1/4 SE 1/4

Boundary of Proposed  
Surface Disturbance

1/4 Corner  
(Set Tristate Aluminum  
Cap)



B.L.M. (U.S.A.)  
SE 1/4 SE 1/4

Surface Disturbance Area

|          |             |
|----------|-------------|
| PROPOSED | 6.866 Acres |
|----------|-------------|

Section Corner 15 14  
22 23  
(1938 Brass Cap)

Section Line (Property Line)

N88°03'17"W 996.76'  
N88°13'38"W (Basis of Bearings)  
2644.50' (Measured)

ERTL FAMILY PARTNERSHIP, LTD.  
NW 1/4 NE 1/4

ERTL FAMILY PARTNERSHIP, LTD.  
NE 1/4 NE 1/4

NE 1/4

Sec. 22

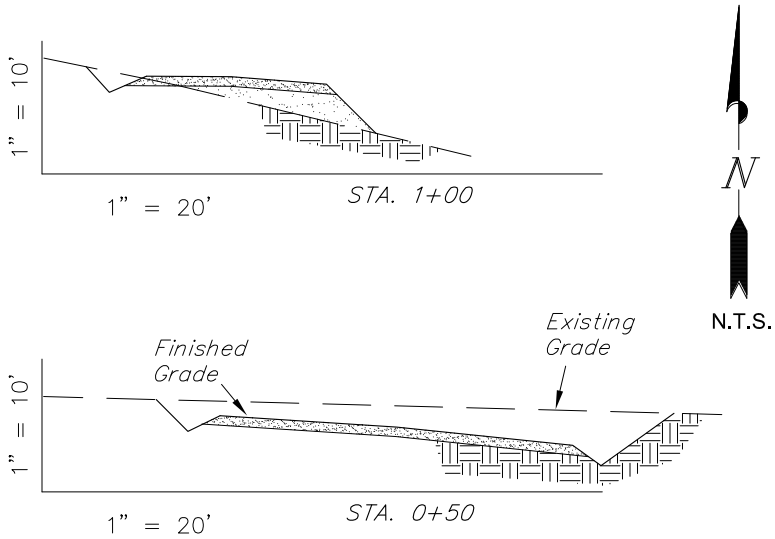
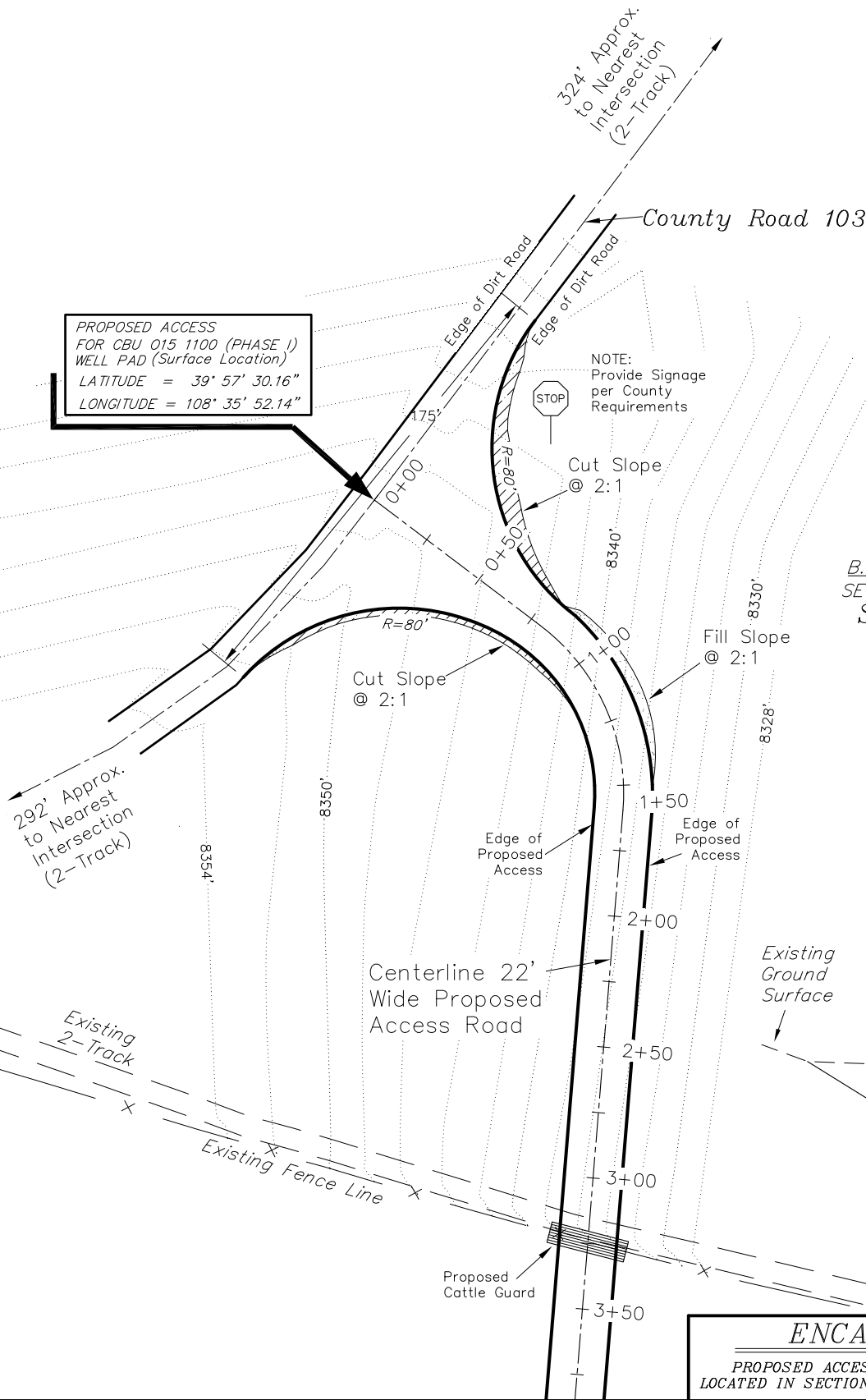
|                     |                          |
|---------------------|--------------------------|
| SURVEYED BY: G.D.O. | DATE SURVEYED: 04-18-14  |
| DRAWN BY: L.C.S.    | DATE DRAWN: 06-27-14     |
| SCALE: 1" = 200'    | REVISED: F.T.M. 07-14-14 |

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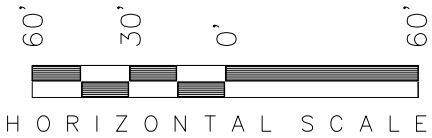


Elevations are based on an N.G.S.  
OPUS Correction. LOCATION: LAT.  
39°47'48.18" LONG. 108°28'45.07"  
(Tristate Aluminum Cap) NAVD88  
Elev. 7583.56'



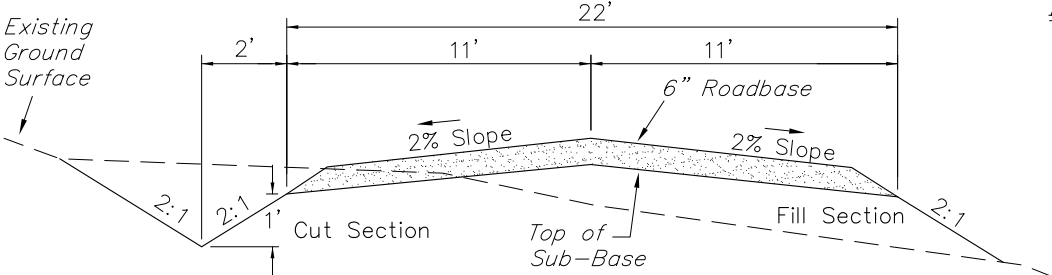
**Road Sections**

Scale: Horiz. 1"=20', Vert. 1" = 10'



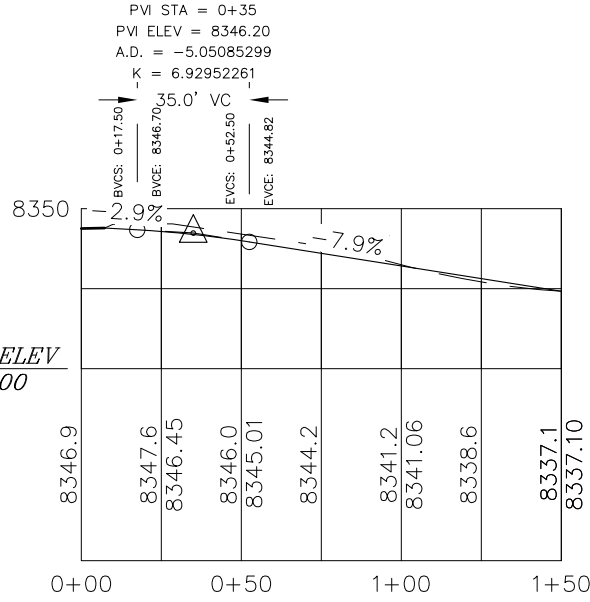
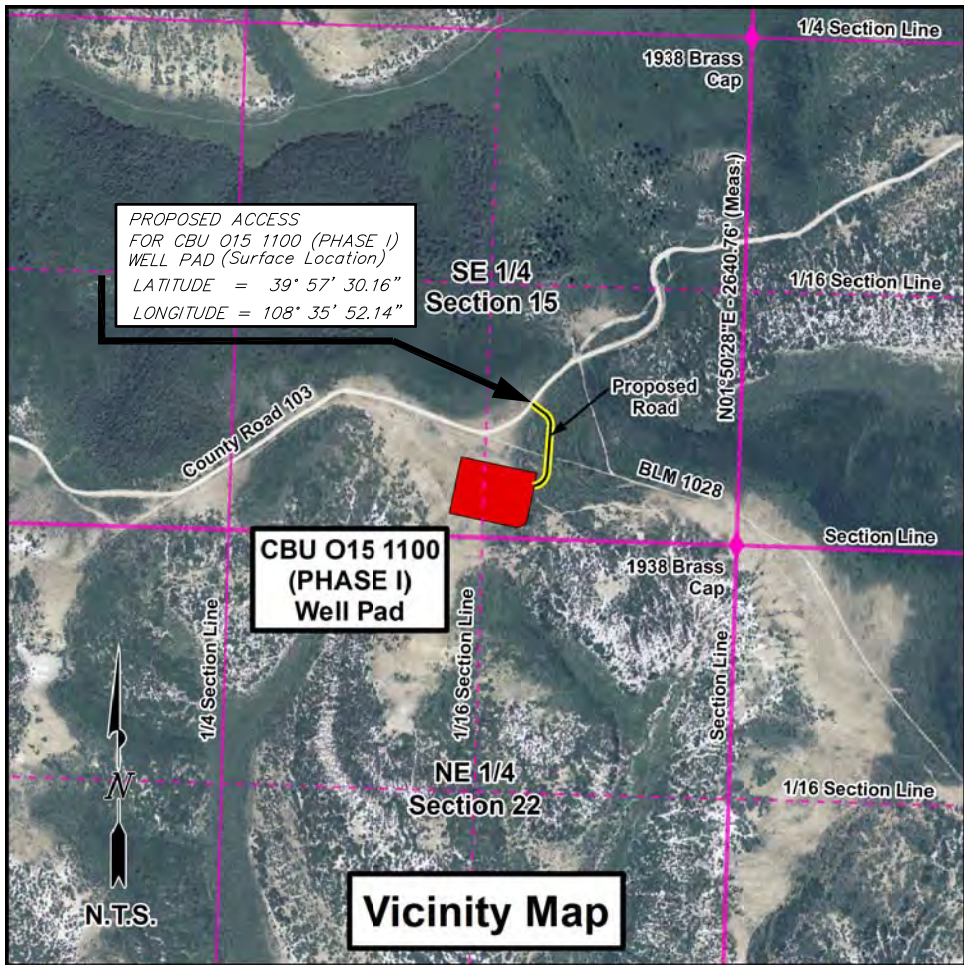
B.L.M. (U.S.A.)  
SE 1/4 SE 1/4  
Sec. 15

SSD Calculations:  
Reaction Time = 2.5 sec (AASHTO standard)  
Driver eye Height = 5ft (Truck)  
Object height = 3ft (AASHTO intersection standard)  
Speed = 25 mph (Assumed Speed Limit not posted)  
Coefficient of Friction = 0.35 (Taken from AASHTO)  
Deceleration rate = 6.8fps (Truck)  
Grade = 6.6% (Measured)  
  
SSD =  $[1.47 \text{ mph} \cdot \text{Reaction Time}] + \left[ \frac{(\text{mph})^2}{30 (\text{friction} - \text{grade})} \right]$   
SSD =  $[1.47 \cdot 25 \cdot 2.5] + \left[ \frac{(25)^2}{60 \cdot (0.35 - 0.066)} \right]$   
SSD = 129ft



**Typical Road Section**

Not to Scale



**Road Profile**

Scale: Horiz. 1"=60', Vert. 1" = 30'

**ENCANA OIL & GAS (USA) INC**  
PROPOSED ACCESS ROAD FOR THE CBU 015 1100 (PHASE I) WELL PAD  
LOCATED IN SECTION 15, T1S, R100W, 6TH P.M. RIO BLANCO COUNTY, COLORADO

SURVEYED BY: G.D.O. DATE SURVEYED: 04-24-14  
DRAWN BY: L.C.S. DATE DRAWN: 06-27-14  
SCALE: AS SHOWN FILE: DWG #14-0099

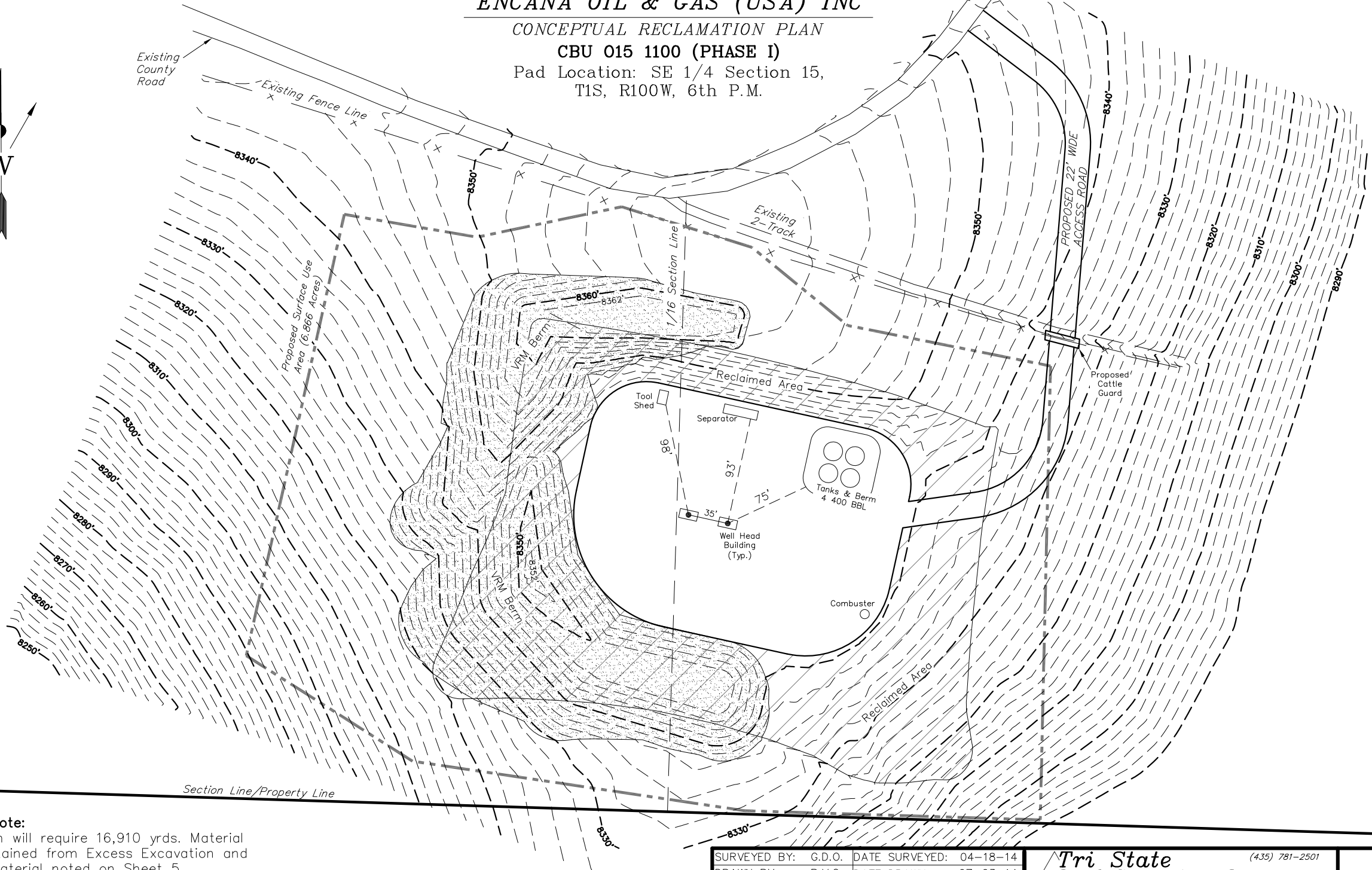
REVISD: ADDED PROPOSED CATTLE GUARD  
**Tri State Land Surveying, Inc.** (435) 781-2501  
180 NORTH VERNAL AVE. VERNAL, UTAH 84078

# ENCANA OIL & GAS (USA) INC

## CONCEPTUAL RECLAMATION PLAN

### CBU 015 1100 (PHASE I)

Pad Location: SE 1/4 Section 15,  
T1S, R100W, 6th P.M.



#### Volume Note:

VRM Berm will require 16,910 yds. Material to be obtained from Excess Excavation and Topsoil material noted on Sheet 5, Estimated earth work quantities.

|                     |                          |
|---------------------|--------------------------|
| SURVEYED BY: G.D.O. | DATE SURVEYED: 04-18-14  |
| DRAWN BY: R.V.C.    | DATE DRAWN: 07-03-14     |
| SCALE: 1" = 100'    | REVISED: F.T.M. 07-14-14 |

|  |                |
|--|----------------|
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|--|----------------|