Hill 2527

304.c.(14): Topsoil Protection Plan

A topsoil protection plan consistent with the requirements of Rule 1002.c.

1002c. Protection of soils. All stockpiled soils shall be protected from degradation due to contamination, compaction and, to the extent practicable, from wind and water erosion during drilling and production operations. Best management practices to prevent weed establishment and to maintain soil microbial activity shall be implemented.

Soil probes were used to determine the depth of topsoil horizons. These probes have informed the plan for topsoil removal and segregation. Topsoil horizons have been identified and will be separated and stored separately from one another during construction of the pad and access road with locations documented on site stormwater and reclamation maps to facilitate subsequent reclamation. Four topsoil probes were taken from the undisturbed project area capturing the one soil type (Platner Loam (0-3% slopes)) in the development area. The probes showed a trace organic layer at the surface with seven inches of topsoil below.

The pad will have suitable stormwater erosion controls in place prior to construction and a diversion ditch and berm will be placed along the perimeter to prevent stormwater runoff and run on. Berm sections will be compacted in accordance with standard construction practices. The ditches will have culverts placed under the access road where it crosses the ditch. Sediment trap will be constructed on the downgradient side of the ditches to allow any sediment to settle out of stormwater. The stormwater detention area will also drain into the south sediment trap.

Approximately 6,359 cubic yards of topsoil will be removed from the project area, segregated and will be stored on the northside of the location in a pile 8 feet high, with 5:1 slopes to allow seeding equipment access and weed prevention activities. Below is a scaled diagram that depicts the location of the topsoil pile. Also shown below is an aerial photograph depicting the extent of the disturbed area. The topsoil location will be documented and tracked on regularly scheduled stormwater inspection maps and construction as-built drawings and will be designated on location with signage.

The topsoil pile will be drill seeded with straw mulch to protect it from degradation after it is removed during the construction phase. The prairie seed mix requested by the landowner will be mixed with a quick gemination sterile grass to get immediate protection for the topsoil. Control measures will be used as designed for the specific areas to prevent any migration of soils off site.

Soil stabilization and erosion control issues will be addressed immediately upon surface disturbance and will continue throughout the life of the well.

At the time of interim reclamation, the portions of the pad not needed for production equipment and operations will have topsoil redistributed on to the location during interim reclamation. The remaining topsoil will be reseeded where necessary.

Annual or noxious weeds shall be controlled on all disturbed areas. A weed monitoring and control program will be implemented beginning the first growing season after the location is built and through interim and final reclamation. All reclamation equipment will be cleaned prior to use to reduce the potential for introduction of noxious weeds or other undesirable non-native species. The operator will coordinate all weed control measures with the surface owner.

Topsoil horizons on this location are described below:

Topsoil Probe 1 – 40.639007/-104.143385

O Horizon: Very thin or not present in this area, less than a half inch.
A Horizon: Topsoil is approximately seven inches, more silt and fine sand, not much clay or humus
Below the Topsoil is a more granular undifferentiated sand subsoil.

Topsoil Probe 2 – 40.638974/-104.142642

O Horizon: Very thin or not present in this area, less than a half inch.
A Horizon: Topsoil is approximately six inches, more silt and fine sand, not much clay or humus
Below the Topsoil is a more granular undifferentiated sand subsoil.

Topsoil Probe 3 – 40.637863/-104.143379

O Horizon: Very thin or not present in this area, less than a half inch.
A Horizon: Topsoil is approximately seven inches, more silt and fine sand, not much clay or humus
Below the Topsoil is a more granular undifferentiated sand subsoil.

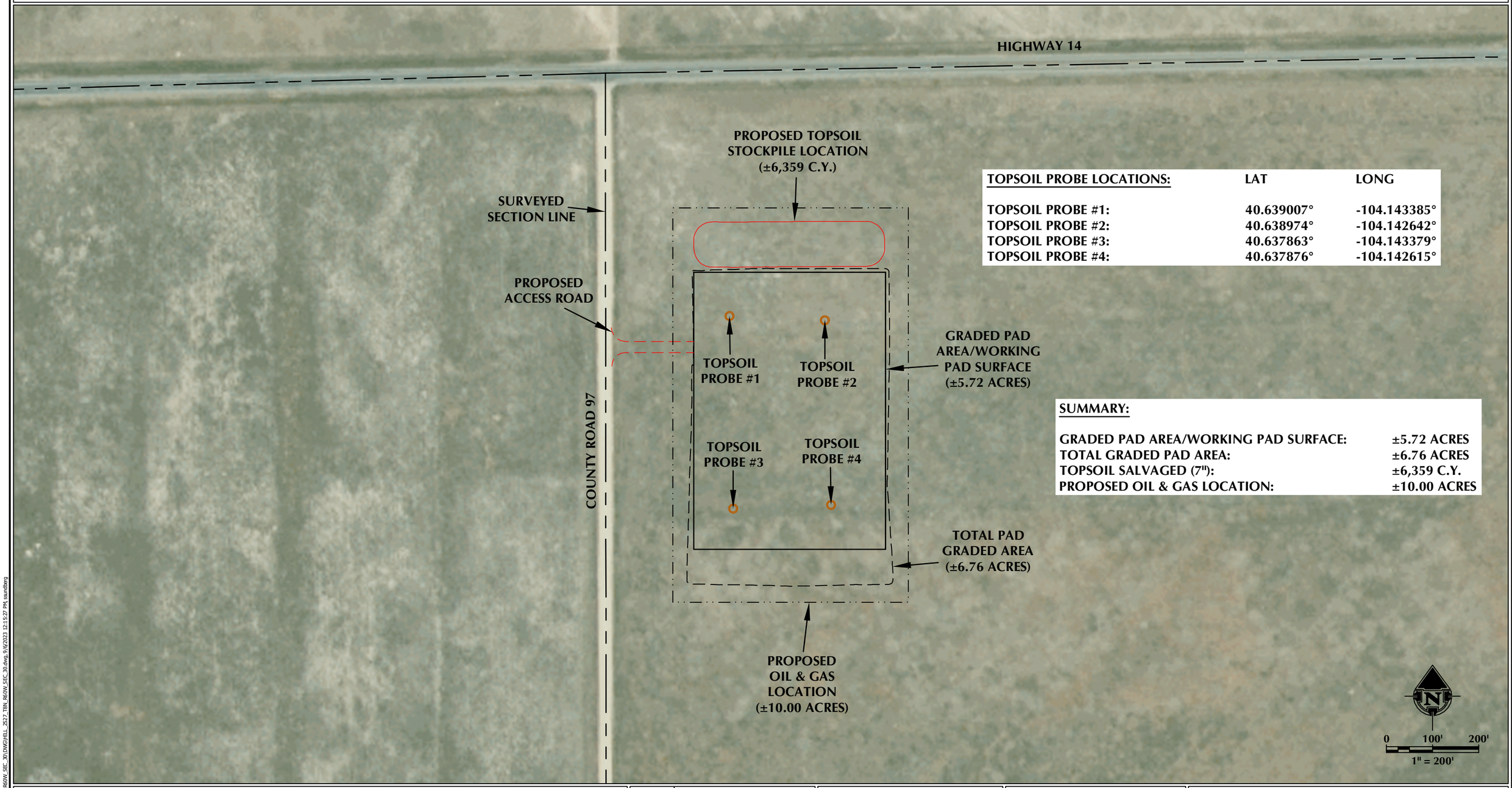
Topsoil Probe 4 – 40.637876/-104.142615

O Horizon: Very thin or not present in this area, less than a half inch.
A Horizon: Topsoil is approximately seven inches, more silt and fine sand, not much clay or humus
Below the Topsoil is a more granular undifferentiated sand subsoil.

BMPs for Topsoil Protection:

- During initial pad construction, the topsoil will be stripped from the disturbance area and stored onsite for future use during pad interim reclamation. All stockpiled topsoil will be protected from degradation due to contamination, compaction, and, to the extent practicable, from wind and water erosion. This will be achieved initially by applying cat-tracking/soil roughening to the topsoil pile and subsequent seeding for vegetation cover protection.
- Verdad maintains a weed mitigation maintenance program to prevent the establishment of weeds on the topsoil pile and location.
- The site will be inspected bi-weekly for BMP integrity and current installation. Any deficiencies noted will be addressed in a timely manner.
- Verdad will grade the topsoil stockpile 5:1 to ensure that all surfaces can be stabilized safely and effectively.
- Verdad will stabilize and maintain areas needed for production operations or for subsequent drilling operations to minimize dust and erosion.
- Verdad will install secondary containment around tanks and vessels, conduct daily inspections and implement a Spill Prevention, Control, and Countermeasure plan to protect soil from potential spills.

TOPSOIL PLAN
HILL 2527
NW1/4 NW1/4 SECTION 30, TOWNSHIP 8 NORTH, RANGE 60 WEST, 6TH P.M., WELD COUNTY, COLORADO



TOPSOIL PROBE LOCATIONS:	LAT	LONG
TOPSOIL PROBE #1:	40.639007°	-104.143385°
TOPSOIL PROBE #2:	40.638974°	-104.142642°
TOPSOIL PROBE #3:	40.637863°	-104.143379°
TOPSOIL PROBE #4:	40.637876°	-104.142615°

SUMMARY:

GRADED PAD AREA/WORKING PAD SURFACE:	±5.72 ACRES
TOTAL GRADED PAD AREA:	±6.76 ACRES
TOPSOIL SALVAGED (7"):	±6,359 C.Y.
PROPOSED OIL & GAS LOCATION:	±10.00 ACRES

LEGEND
- TOPSOIL PROBE LOCATION
- PROPOSED OIL & GAS LOCATION
- PROPOSED WORKING PAD SURFACE
- TOPSOIL STOCKPILE
- PROPOSED ACCESS ROAD
- TOTAL PAD GRADED AREA

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VERDAD RESOURCES
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SCALE:	1" = 200'
DATE SURVEYED:	6/12/23
DATE:	8/3/23
DRAFTER:	GLK
REVISED:	9/6/23

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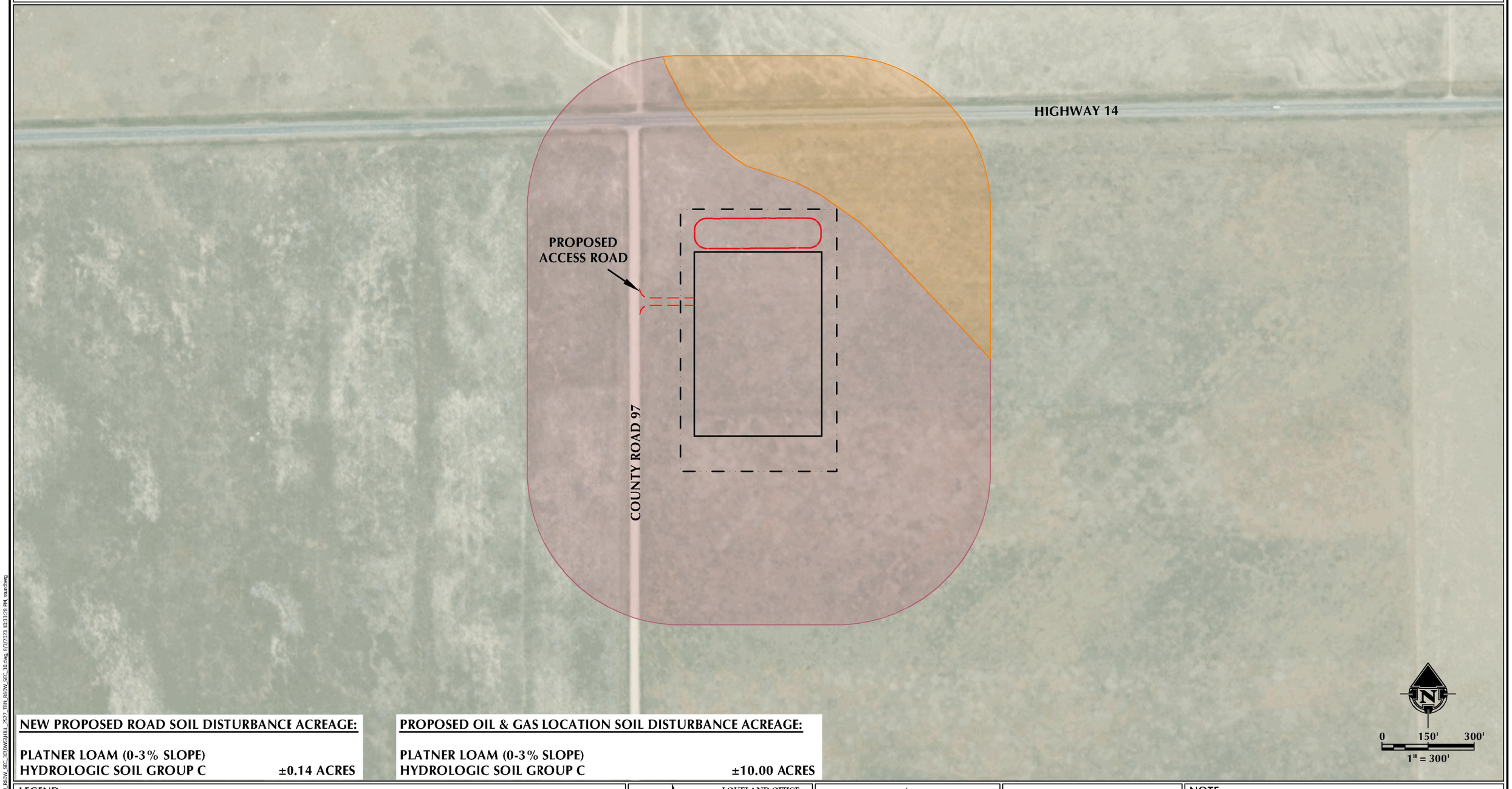
ACCESS ROAD - NRCS MAP

HILL 2527

NW1/4 NW1/4 SECTION 30, TOWNSHIP 8 NORTH, RANGE 60 WEST, 6TH P.M., WELD COUNTY, COLORADO



NEW PROPOSED ROAD SOIL DISTURBANCE ACREAGE:

PLATNER LOAM (0-3% SLOPE)
HYDROLOGIC SOIL GROUP C ±0.14 ACRES

PROPOSED OIL & GAS LOCATION SOIL DISTURBANCE ACREAGE:

PLATNER LOAM (0-3% SLOPE)
HYDROLOGIC SOIL GROUP C ±10.00 ACRES

LEGEND

- PROPOSED OIL & GAS LOCATION
- PROPOSED WORKING PAD SURFACE
- TOPSOIL STOCKPILE
- PROPOSED ACCESS ROAD
- PLATNER LOAM (0-3% SLOPE) HYDROLOGIC SOIL GROUP C
- OLNEY FINE SANDY LOAM (0-6% SLOPE) HYDROLOGIC SOIL GROUP B

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SCALE:	1" = 300'
DATE SURVEYED:	6/12/23
DATE:	8/3/23
DRAFTER:	GLK
REVISED:	

NOTE:
1. SOIL CLASSIFICATICN COURTESY OF NRCS.

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