



Harambe 2920

304.c.(5) Dust Mitigation Plan

In accordance with Rule 427, the Operator provides the following information outlining existing conditions at the proposed Oil and Gas location.

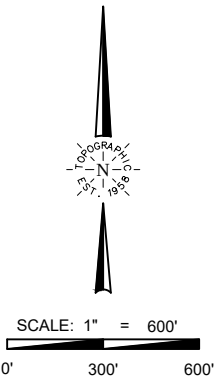
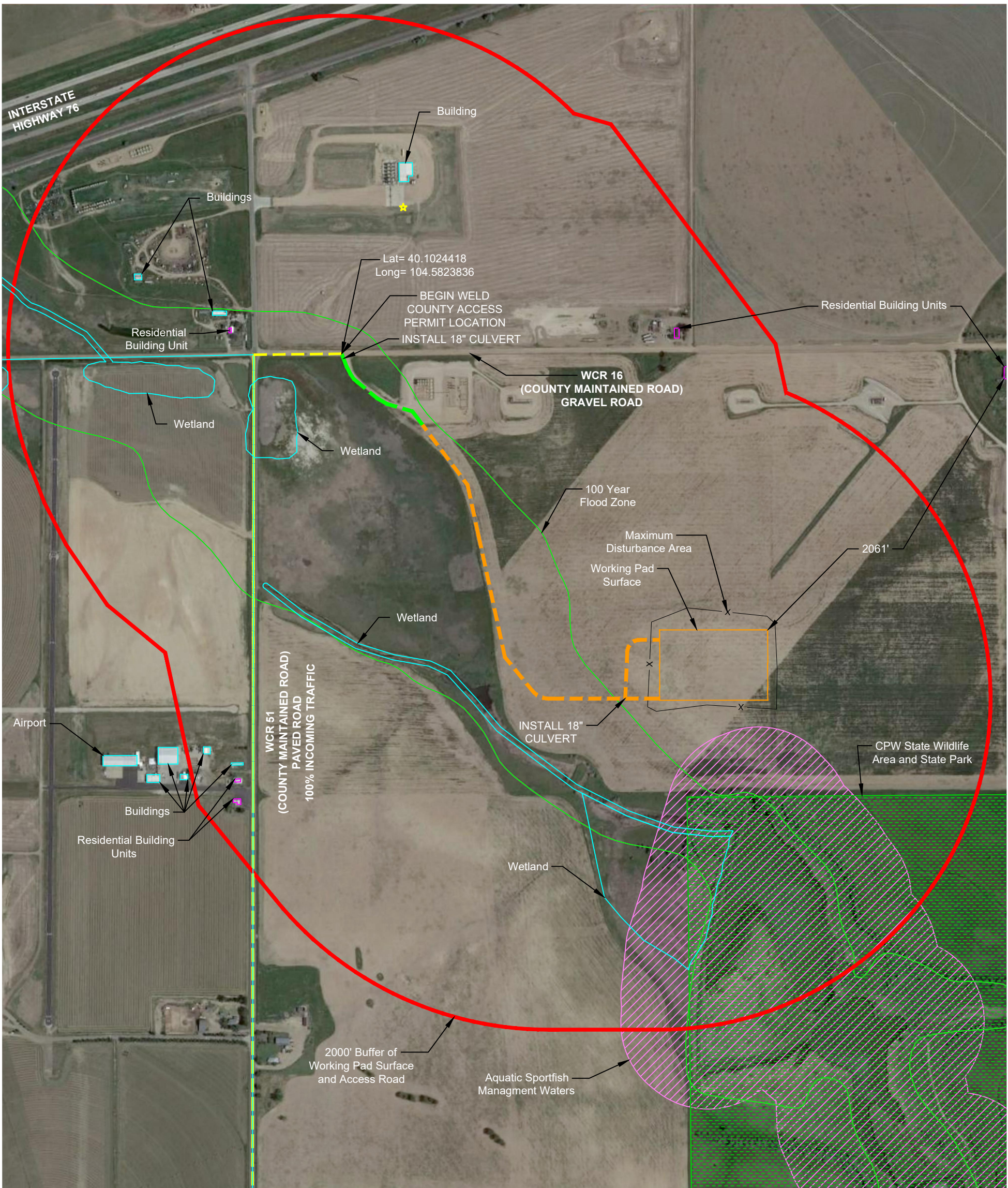
- (1)** Soil Type on Pad and Road
 - A.** NRCS 15 Colby Loam, 1 to 3 percent Slope (Pad and Road)
 - B.** NRCS 16 Colby Loam, 3 to 5 percent Slope (Pad and Road)
- (2)** Vehicle speed limit be under 25 mph to minimize dust;
- (3)** Total Area of Soil Disturbance
 - A.** NRCS 15 Colby loam, 1 to 3 percent Slope (6.74 acres)
 - B.** NRCS 16 Colby loam, 3 to 5 percent Slope (5.026 acres)
- (4)** The existing and proposed access road is/will be gravel.
- (5)** Number of anticipated truck trips for a 10 acre well pad and the drilling, completion and production of 9 horizontal wells.
 - Construction: 728 Trips
 - Drilling: 2230 Trips
 - Completion: 2689 Trips
 - Interim Reclamation: 96 Trips
 - Production: 1081* (monthly trips- reducing over time as water volumes decrease)
- (6)** A plan for suppressing fugitive dust caused solely by wind;

Restriction of construction activity during high-wind days. On windy days or days when dust becomes fugitive (leaves or threatens to leave the site) construction or activities will be halted until either fresh water can suppress dust or dust is no longer visible.

- (7)** A list of Best Management Practices that will be used. Such practices may include, but are not limited to:



- Operator will reduce traffic and dust associated with transporting completions water and produced liquids through the use of pipelines, large tanks, and other measures.
- Operator will stabilize the topsoil stockpiles utilizing vehicle tracking perpendicular to slope angle for short term stabilization and drill seed/crimped straw mulch application for longer term stabilization measures to suppress fugitive dust caused by wind.
- The access road will be covered with a minimum of 2" of road base material for stabilization and to mitigate dust. Per the approved 1041WOGLA, water or magnesium chloride will be used to mitigate dust impacts during initial construction of the drill site and may be restricted or limited during high-wind days. To control dust, we will reduce speed on unpaved public roads. If there is any additional dust after the above measures have been taken, we will employ water trucks to mitigate dust. Dust control on unpaved county roads will be conducted in coordination with Public Works.
- Restriction of construction activity during high-wind days. On windy days or days when dust becomes fugitive (leaves or threatens to leave the site) construction or activities will be halted until either fresh water can suppress dust or dust is no longer visible.
- Use of a gravity fed box proppant delivery system that meets OSHA standards, rather than the historic pneumatic trailer proppant transfer system that blows sand out of the trailer into frac sand silos on the location; a method that required supplemental dust control to meet OSHA requirements. With a gravity fed proppant delivery system, the delivery container is also a well pad storage container, eliminating the need for frac sand silos on location. Storing frac sand in containers reduces sand dust during fracing operations by dropping sand directly from the container into the blender sand hopper.
- To prevent dust from becoming a nuisance to the public, Mag Chloride will be utilized before construction on access road. To control dust, we will reduce speed on unpaved public roads. If there is any additional dust after the above measures have been taken, we will employ water trucks to mitigate dust. Dust control on unpaved county roads will be conducted in coordination with Public Works
- Verdad will have a gathering line for gas transmission. Verdad is working on an agreement with Taproot and plan to also have a crude gathering line by the time we are on location.
- Verdad will be utilizing centralized storage facilities for fresh water, allowing us to limit the number of truck trips on and off location. During drilling operations all continuous operations personnel live on location. During completions operations a Verdad supervisor lives on location, a majority of the frac crews travel via bus. All of the above will substantially reduce truck traffic. In addition, logistical traffic management will be conducted in a manner that loads will be minimized as the opportunity allows.
- Maximum speed on all roads constructed and maintained by the operator will not exceed 25 mph.



TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
520 Stacy Court Ste B, Lafayette, CO 80026
303.666.0379 www.topographic.com

BEGIN WELD COUNTY ACCESS PERMIT LOCATION:
TURN SOUTH (RIGHT) ON THE EXISTING GRAVEL ACCESS ROAD FROM
WELD COUNTY ROAD 16; CONTINUE SOUTH 0.83 MILES TO THE SITE
PASSING THE 100 YEAR FLOOD PLAIN AT 0.6 MILES.

EXISTING GRAVEL ACCESS ROAD: 641' 0.368 ACRES
NORTHERLY PROPOSED ACCESS ROAD: 2560' 1.476 ACRES
SOUTHERLY PROPOSED ACCESS ROAD: 518' 0.290 ACRES
TOTAL PROPOSED ACCESS ROAD: 3078' 1.766 ACRES

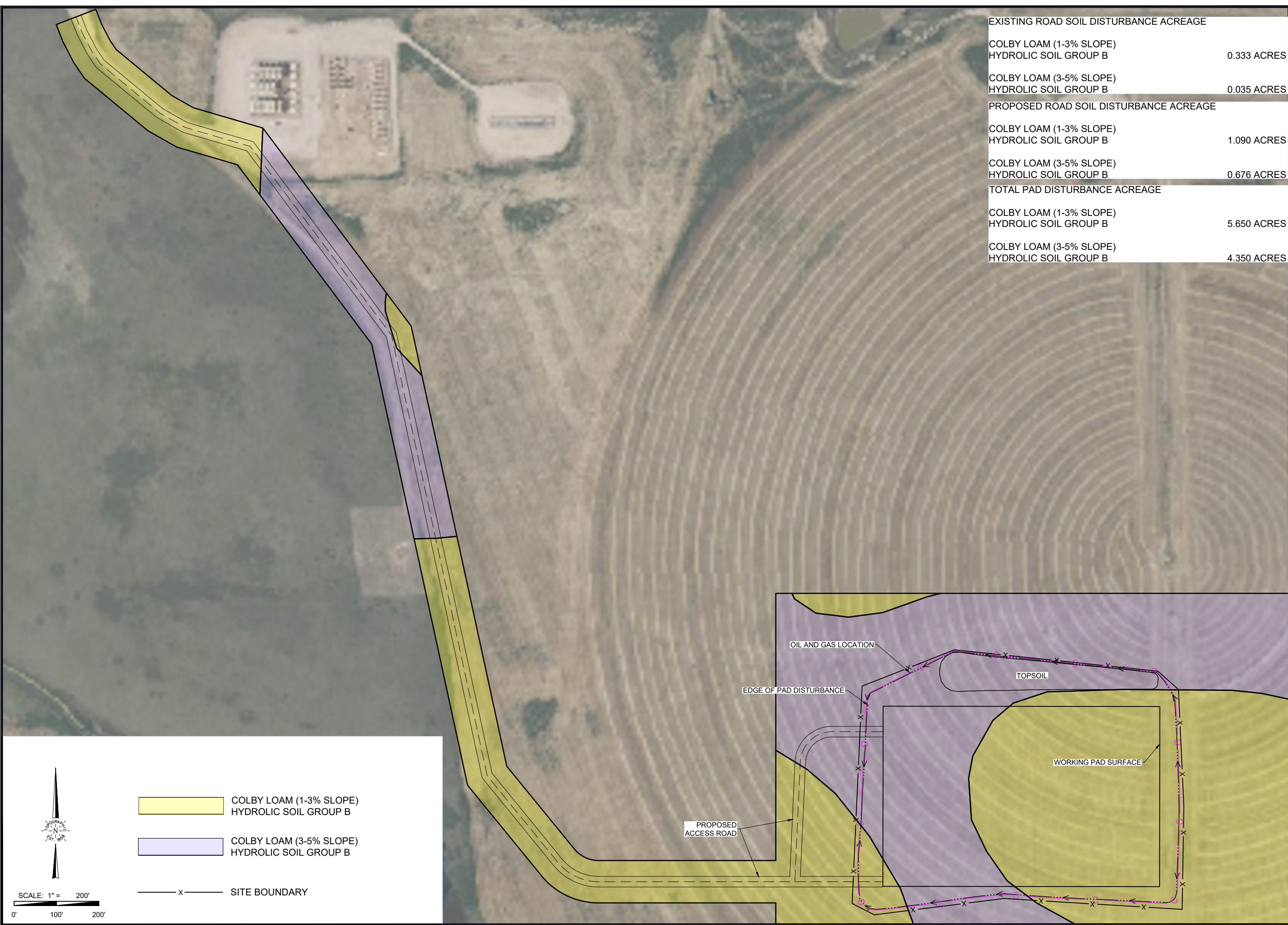
NOTES:

1. THE DEPICTED WELD COUNTY ACCESS DOES NOT PASS ANY SCHOOL FACILITY, FUTURE SCHOOL FACILITY CHILD CARE CENTERS, RULE 411A SURFACE WATER SUPPLY AREA BUFFER ZONES.
2. THERE ARE NO TRAFFIC CONTROL FEATURES OR TRUCK STAGING AREAS.
3. ALL FLOODPLAIN, WETLAND, HIGH PRIORITY HABITAT, RULE 411A, CITY BOUNDARY, FACILITY/TANK BATTERY, SCHOOL FACILITY, OR CHILD CARE CENTER INFORMATION SHOWN ON THIS PAGE ARE COGCC DATA ONLY (LAST ACCESSED 2/15/2022)

LEGEND

- PROPOSED ACCESS ROAD
- EXISTING ACCESS ROAD
- COUNTY MAINTAINED ROAD
- 2000' BUFFER OF WORKING PAD SURFACE AND ACCESS ROAD
- WORKING PAD SURFACE
- MAXIMUM DISTURBANCE AREA
- CITY LIMITS HUDSON
- 100 YEAR FLOODPLAIN
- BUILDING/ BARN
- RESIDENTIAL BUILDING UNIT
- WETLAND
- AQUATIC SPORTFISH MANAGEMENT WATERS
- CPW STATE WILDLIFE AREA'S & STATE PARKS
- FACILITY/ TANK BATTERY

ACCESS ROAD MAP
TO A LOCATION IN
S/2 N/2, SECTION 32 T2N R64W 6TH PM
WELD COUNTY, COLORADO



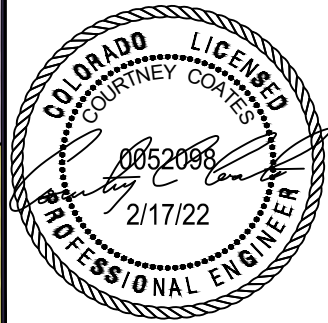
EXISTING ROAD SOIL DISTURBANCE ACREAGE		
COLBY LOAM (1-3% SLOPE)	HYDROLIC SOIL GROUP B	0.333 ACRES
COLBY LOAM (3-5% SLOPE)	HYDROLIC SOIL GROUP B	0.035 ACRES
PROPOSED ROAD SOIL DISTURBANCE ACREAGE		
COLBY LOAM (1-3% SLOPE)	HYDROLIC SOIL GROUP B	1.090 ACRES
COLBY LOAM (3-5% SLOPE)	HYDROLIC SOIL GROUP B	0.676 ACRES
TOTAL PAD DISTURBANCE ACREAGE		
COLBY LOAM (1-3% SLOPE)	HYDROLIC SOIL GROUP B	5.650 ACRES
COLBY LOAM (3-5% SLOPE)	HYDROLIC SOIL GROUP B	4.350 ACRES



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LOYALTY INNOVATION LEGACY

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NCRS MAP UNIT DESCRIPTION		
HARAMBE 2920		
VERDAD		



DATE:	02/17/22
DRAWN BY:	TJM
REVIEWED BY:	CCC
SCALE:	1" = 200'
SHEET:	19 OF 23
REVISION:	
XXX	XXXX/XX
XXX	XXXX/XX
XXX	XXXX/XX

Weld County, Colorado, Southern Part

15—Colby loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 361q
Elevation: 4,850 to 5,050 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 135 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Colby and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colby

Setting

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits

Typical profile

H1 - 0 to 7 inches: loam
H2 - 7 to 60 inches: silt loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Wiley

Percent of map unit: 9 percent

Hydric soil rating: No

Keith

Percent of map unit: 6 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Weld County, Colorado, Southern Part

Survey Area Data: Version 20, Aug 31, 2021

Weld County, Colorado, Southern Part

16—Colby loam, 3 to 5 percent slopes

Map Unit Setting

National map unit symbol: 361r

Elevation: 4,850 to 5,050 feet

Mean annual precipitation: 12 to 16 inches

Mean annual air temperature: 48 to 50 degrees F

Frost-free period: 135 to 155 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Colby and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colby

Setting

Landform: Ridges, hills

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Calcareous eolian deposits

Typical profile

H1 - 0 to 7 inches: loam

H2 - 7 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high to high (0.57 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: R067BY002CO - Loamy Plains

Hydric soil rating: No

Minor Components

Wiley

Percent of map unit: 8 percent

Hydric soil rating: No

Keith

Percent of map unit: 7 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Weld County, Colorado, Southern Part

Survey Area Data: Version 20, Aug 31, 2021