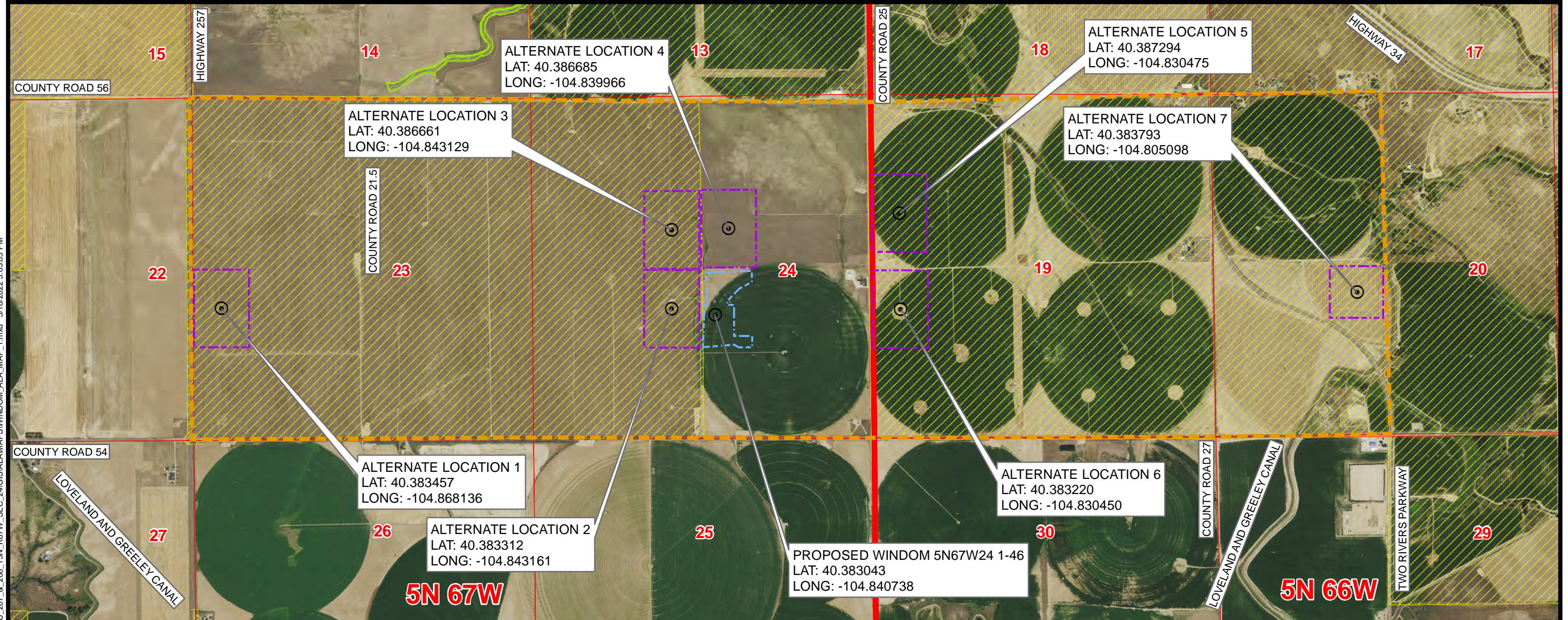


**Exhibit A-21 - Map 1 - Water Features**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
**SECTION 24, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO**



ALTERNATE LOCATION 4  
 LAT: 40.386685  
 LONG: -104.839966

ALTERNATE LOCATION 5  
 LAT: 40.387294  
 LONG: -104.830475

ALTERNATE LOCATION 3  
 LAT: 40.386661  
 LONG: -104.843129

ALTERNATE LOCATION 7  
 LAT: 40.383793  
 LONG: -104.805098

ALTERNATE LOCATION 1  
 LAT: 40.383457  
 LONG: -104.868136

ALTERNATE LOCATION 6  
 LAT: 40.383220  
 LONG: -104.830450

ALTERNATE LOCATION 2  
 LAT: 40.383312  
 LONG: -104.843161

PROPOSED WINDOM 5N67W24 1-46  
 LAT: 40.383043  
 LONG: -104.840738

- Legend**
- PROPOSED REFERENCE POINT
  - PROPOSED WORKING PAD SURFACE
  - ALTERNATE OIL AND GAS LOCATION
  - PROPOSED MINERAL BOUNDARY
  - JURISDICTIONAL BOUNDARY
  - 100-YEAR FLOODPLAIN (PRELIMINARY, 2020)
  - 100-YEAR FLOODWAY (PRELIMINARY, 2020)
  - 100-YEAR FLOODPLAIN (EFFECTIVE, 2016)

NOTE:  
 THIS MAP IS A COMPILATION OF PUBLICLY AVAILABLE DATA. THE ACCURACY AND COMPLETENESS OF SAID DATA HAS NOT BEEN VERIFIED BY 609 CONSULTING, LLC. EXISTING CONDITIONS MAY DIFFER FROM WHAT IS SHOWN.

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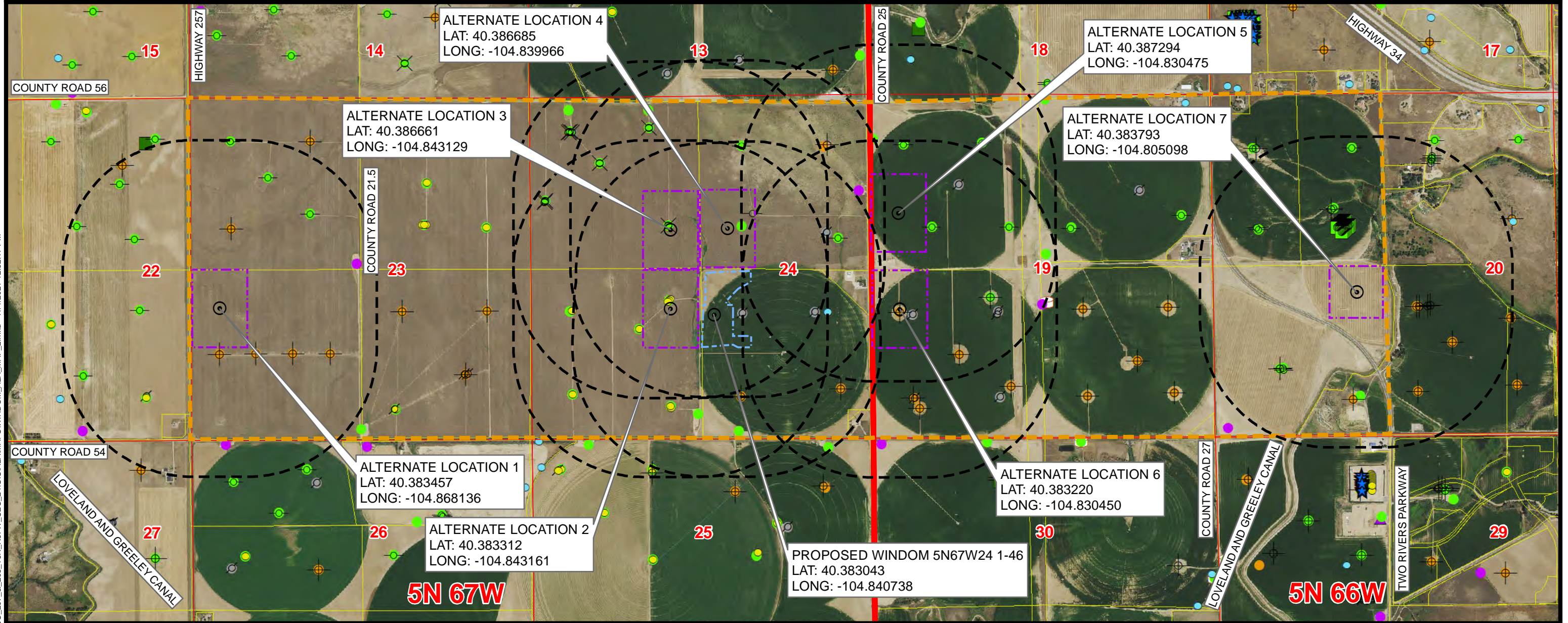
NAD83 CO-Nft  
 Scale: 1" = 1,500ft

Drawn by: SP  
 Revised: RJ

Date: 1 Nov 2021  
 Date: 18 May 2022

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**Exhibit A-21 - Map 2 - Existing Infrastructure and Mineral Development Area**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
**SECTION 24, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO**




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**Legend**

- |                                       |  |   |                    |                       |
|---------------------------------------|--|---|--------------------|-----------------------|
| PROPOSED REFERENCE POINT              | WELD OIL AND GAS LOCATION ASSESSMENT (WOGLA) | PENDING LOCATION PERMIT (FORM 2A)       | WATER WELL         | PERMITTED             |
| PROPOSED WORKING PAD SURFACE          | PENDING WELL PERMIT (FORM 2)                 | APPROVED LOCATION PERMIT (FORM 2A)      | ABANDONED LOCATION | PLUGGED AND ABANDONED |
| ALTERNATE OIL AND GAS LOCATION        | APPROVED WELL PERMIT (FORM 2)                | ACTIVE LOCATION                         | ACTIVE             | PRODUCING             |
| 2000' BUFFER                          | TANK BATTERY                                 | ABANDONED LOCATION                      | DOMESTIC           | SHUT IN               |
| PROPOSED MINERAL BOUNDARY             | CLOSED PIT                                   | CLOSED LOCATION                         | DRILLING           | TEMPORARILY ABANDONED |
| PARCEL BOUNDARY                       |  | VISIBLE LOCATION ON AERIAL NOT IN COGCC | DRY AND ABANDONED  | WAITING ON COMPLETION |
| DISPROPORTIONATELY IMPACTED COMMUNITY |  |   | INJECTING          |                       |


NOTE: THIS MAP IS A COMPILATION OF PUBLICLY AVAILABLE DATA. THE ACCURACY AND COMPLETENESS OF SAID DATA HAS NOT BEEN VERIFIED BY 609 CONSULTING, LLC. EXISTING CONDITIONS MAY DIFFER FROM WHAT IS SHOWN.


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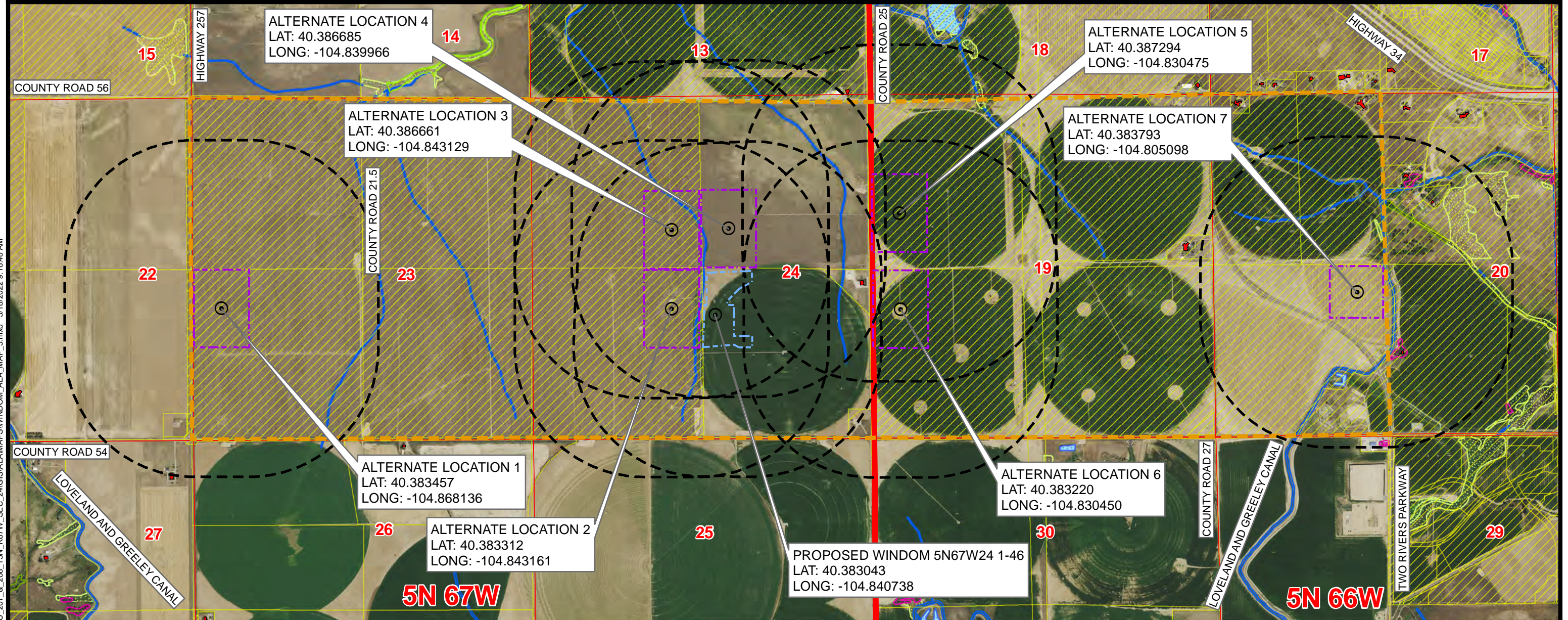

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Drawn by: SP  
Revised:

Date: 1 Nov 2021  
Date:

  
 NAD83 CO-Nft  
 Scale: 1" = 1,500ft

**Exhibit A-21 - Map 3 - RBUs, Child, School and Health Facilities**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
**SECTION 24, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO**




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**Legend**

- |                                |                                     |   |                                   |
|--------------------------------|-------------------------------------|---|-----------------------------------|
| PROPOSED REFERENCE POINT       | RESIDENTIAL BUILDING UNIT           | GUDI SOURCE LOCATIONS (RULE 411)        | RIPARIAN CORRIDOR                 |
| PROPOSED WORKING PAD SURFACE   | NON-RESIDENTIAL BUILDING UNIT       | TYPE III WELL LOCATIONS (RULE 411)      | RIVERINE CORRIDOR                 |
| ALTERNATE OIL AND GAS LOCATION | HIGH OCCUPANCY BUILDING UNIT        | DITCH/CANAL/DRAINAGE                    | FRESHWATER EMERGENT WETLAND       |
| 2000' BUFFER                   | ABANDONED RESIDENTIAL BUILDING UNIT | 100-YEAR FLOODPLAIN (PRELIMINARY, 2020) | FRESHWATER FORESTED/SHRUB WETLAND |
| PROPOSED MINERAL BOUNDARY      | HEALTH FACILITY                     | 100-YEAR FLOODWAY (PRELIMINARY, 2020)   | OTHER WETLAND                     |
| PARCEL BOUNDARY                | SCHOOL FACILITY                     | 100-YEAR FLOODPLAIN (EFFECTIVE, 2016)   | LAKE                              |
| JURISDICTIONAL BOUNDARY        | CHILD CARE FACILITY                 |   | FRESHWATER POND                   |

NOTE: THIS MAP IS A COMPILATION OF PUBLICLY AVAILABLE DATA. THE ACCURACY AND COMPLETENESS OF SAID DATA HAS NOT BEEN VERIFIED BY 609 CONSULTING, LLC. EXISTING CONDITIONS MAY DIFFER FROM WHAT IS SHOWN.

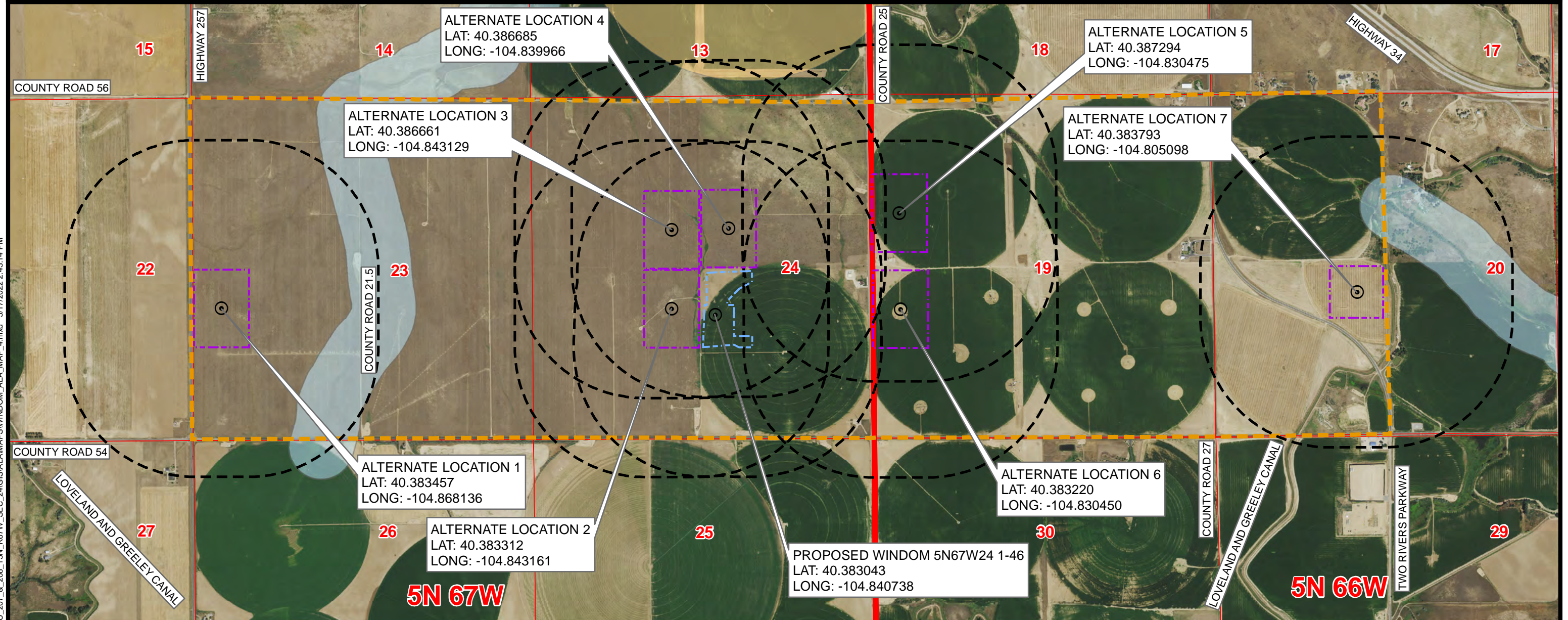

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 NAD83 CO-Nft  
 Scale: 1" = 1,500ft

Drawn by: SP  
 Revised: RJ  
 Date: 1 Nov 2021  
 Date: 18 May 2022


**Exhibit A-21 - Map 4 - Wildlife**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
**SECTION 24, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO**



**Legend**

- |                                |   |
|--------------------------------|---|
| PROPOSED REFERENCE POINT       | <b>SENSITIVE WILDLIFE HABITAT</b>                 |
| PROPOSED WORKING PAD SURFACE   | BALD EAGLE ROOST SITE                             |
| ALTERNATE OIL AND GAS LOCATION | BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER    |
| 2000' BUFFER                   | <b>HIGH PRIORITY HABITAT (RULE 1202)</b>          |
| PROPOSED MINERAL BOUNDARY      | BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER |
|                                | AQUATIC NATIVE SPECIES CONSERVATION WATERS        |
|                                | AQUATIC SPORTFISH MANAGEMENT WATERS (500' BUFFER) |
|                                | MULE DEER SEVERE WINTER RANGE                     |
|                                | MULE DEER MIGRATION CORRIDOR                      |


NOTE:  
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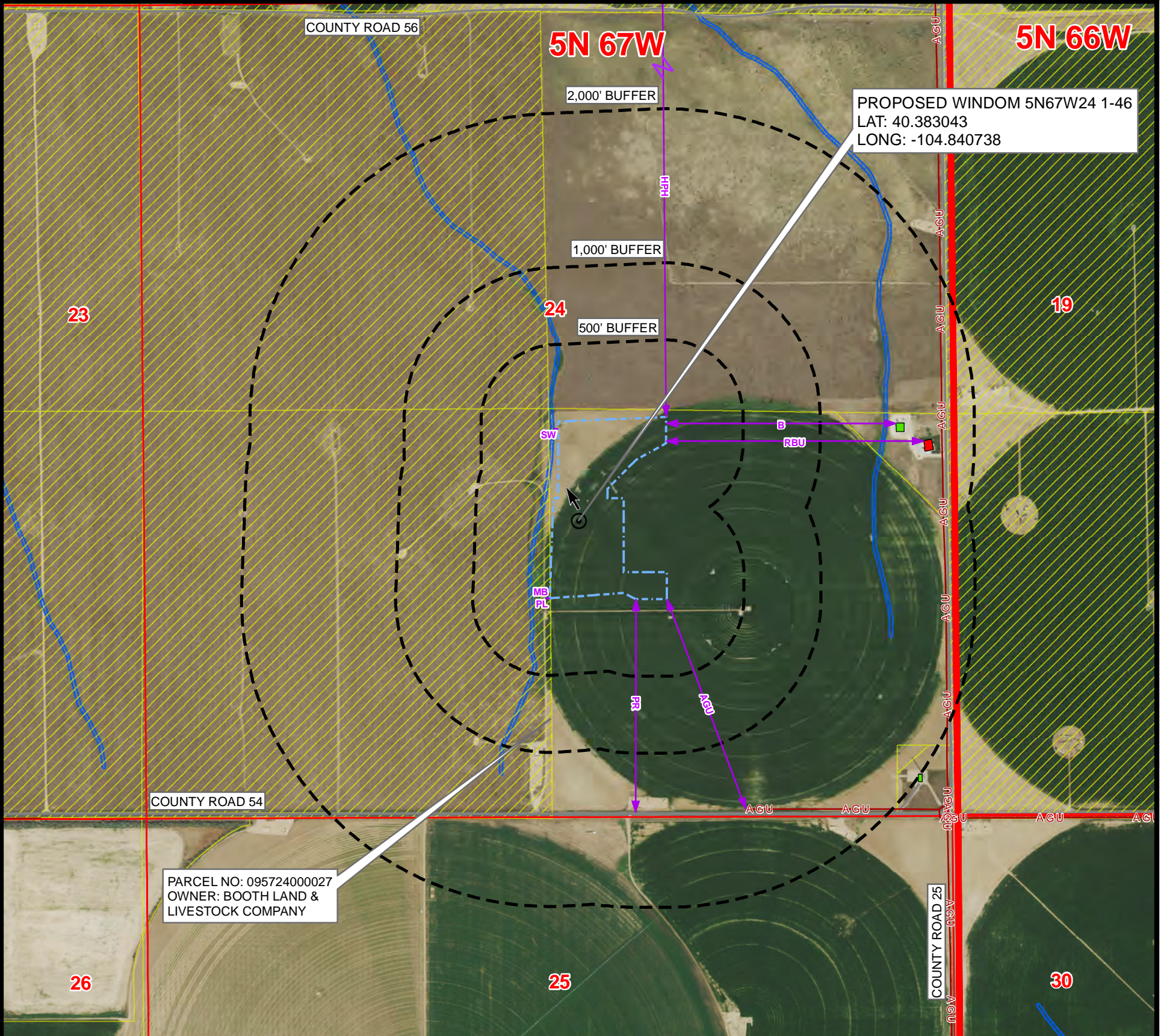


N  
 NAD83 CO-Nft  
 Scale: 1" = 1,500ft

Drawn by: SP  
 Revised: RJ  
 Date: 1 Nov 2021  
 Date: 18 May 2022

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**Exhibit A-21 - Proposed Location**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
 SECTION 24, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO




# OF CULTURAL FEATURES WITHIN	0-500 FEET	501-1,000 FEET	1,001-2,000 FEET
BUILDING UNIT (RESIDENTIAL AND NON-RESIDENTIAL)	0	0	1
RESIDENTIAL BUILDING UNIT	0	0	1
HIGH OCCUPANCY BUILDING UNIT	0	0	0
SCHOOL PROPERTY	0	0	0
SCHOOL FACILITY	0	0	0
DESIGNATED OUTSIDE ACTIVITY AREA	0	0	0

MEASURED TO THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±1494' E
RB	RESIDENTIAL BUILDING UNIT	±1672' E
HOBU	HIGH OCCUPANCY BUILDING UNIT	5280'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	5280'+
PR	PUBLIC ROAD	±1384' S
AGU	ABOVE GROUND UTILITY	±1456' S
RR	RAILROAD	5280'+
PL	PROPERTY LINE	±29' W
S	SCHOOL FACILITY	5280'+
CC	CHILD CARE CENTER	5280'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	5280'+
MB	MUNICIPALITY BOUNDARY	±29' W
CB	COUNTY BOUNDARY	±0'
SW	SURFACE WATER	±30' W
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	5280'+
HPH	HIGH PRIORITY HABITAT	±4252' N


NOTE:  
 THIS MAP IS A COMPILATION OF PUBLICLY AVAILABLE DATA. THE ACCURACY AND COMPLETENESS OF SAID DATA HAS NOT BEEN VERIFIED BY 609 CONSULTING, LLC. EXISTING CONDITIONS MAY DIFFER FROM WHAT IS SHOWN.

**Legend**

- PROPOSED REFERENCE POINT
- PROPOSED WORKING PAD SURFACE
- BUFFER
- BUILDING
- NON-RESIDENTIAL BUILDING UNIT
- RESIDENTIAL BUILDING UNIT
- ABANDONED RESIDENTIAL BUILDING UNIT
- HIGH OCCUPANCY BUILDING UNIT
- HEALTH FACILITY
- SCHOOL FACILITY
- CHILD CARE FACILITY
- DOWNGRADIENT
- ABOVE GROUND UTILITY
- PUBLIC ROAD
- RAILROAD
- DITCH/CANAL/DRAINAGE
- RIPARIAN CORRIDOR
- RIVERINE CORRIDOR
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- OTHER WETLAND
- LAKE
- FRESHWATER POND
- 100-YEAR FLOODPLAIN (PRELIMINARY, 2020)
- 100-YEAR FLOODWAY (PRELIMINARY, 2020)
- 100-YEAR FLOODPLAIN (EFFECTIVE, 2016)
- GUDI SOURCE LOCATIONS (RULE 411)
- TYPE III WELL LOCATIONS (RULE 411)
- DISPROPORTIONATELY IMPACTED COMMUNITY
- PARCEL BOUNDARY
- JURISDICTIONAL BOUNDARY
- SENSITIVE WILDLIFE HABITAT**
- BALD EAGLE ROOST SITE
- BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER
- HIGH PRIORITY HABITAT (RULE 1202)**
- BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER
- AQUATIC NATIVE SPECIES CONSERVATION WATERS
- AQUATIC SPORTFISH MANAGEMENT WATERS (500' BUFFER)
- MULE DEER SEVERE WINTER RANGE
- MULE DEER MIGRATION CORRIDOR




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N

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Date: 1 Nov 2021  
Date: 18 May 2022
NAD83 CO-Nft  
Scale: 1" = 750ft

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## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

#### **Windom ALA Narrative**

##### **Proposed Location**

The proposed location for the Windom 1-46 pad is located within irrigated cropland. This is both the current and future planned use for the subject area. PDC Energy, Inc. has obtained a Surface Use Agreement for the proposed location.

##### **Description of potential impacts to health, safety, welfare, wildlife, and the environment related to the development of this location:**

This location has one (1) RBU located within 2,000 feet of the proposed location at 1,672 feet to the east. The subject RBU may experience noise, odor, dust, light, and increased truck traffic during construction, drilling, and completions operations. They may also experience dust and traffic impacts due to regular tank unloading during the flowback phase of operations. PDC intends to isolate traffic primarily to County Road (CR) 54 to minimize potential traffic impacts to the subject RBU. PDC would plan to have midstream equipment in place to pipe out gas and liquids from the location. BMPs would be implemented, such as reduced speed in the Surface Owner's field, to suppress dust. Noise and light would be mitigated by installation of 32-foot sound walls. Lighting would be shielded and turned downward to mitigate light pollution for the subject RBU. This location would have temporary impacts to farming operations on the subject property. PDC has worked with the Surface Owner to ensure that farming operations can continue around the working pad surface once the wells go into the production phase of operations.

##### **Description of advantages and disadvantages associated with this location:**

- **Advantages:**

- PDC has an executed Surface Use Agreement with the Surface Owner of the proposed location
- This location allows PDC to consolidate its well pad and production facility to one location and produce approximately 2,240 mineral acres, eliminating the need for multiple oil and gas locations to produce the proposed mineral development area
- No RBUs within 1,500 feet of the working pad surface
- Accommodating topography with no concerns for construction (fairly flat, no high water table, no wildlife, etc.)
- Outside of High Priority Habitat, no surface occupancy, wetlands, and floodplain
- Not located in a Disproportionately Impacted Community
- The proposed location is not located near a childcare or school facility
- To be connected via electric, pipeline for oil and gas, and temporary pipeline for fresh water
- Access to location does not create any negative impacts to surrounding communities/residences
- Existing grades provide natural screening from public roadways and the existing RBU to the east
- Step out length is technically feasible, maximizes drilling and completion efficiencies and provides the ability to capture the minerals effectively

## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

- **Disadvantages:**

- One (1) RBU within 2,000 feet of the proposed location, located 1,672 feet east of the working pad surface
- Location will create temporary disruption to farming operations [due to the location impeding upon the existing irrigation pivot](#)

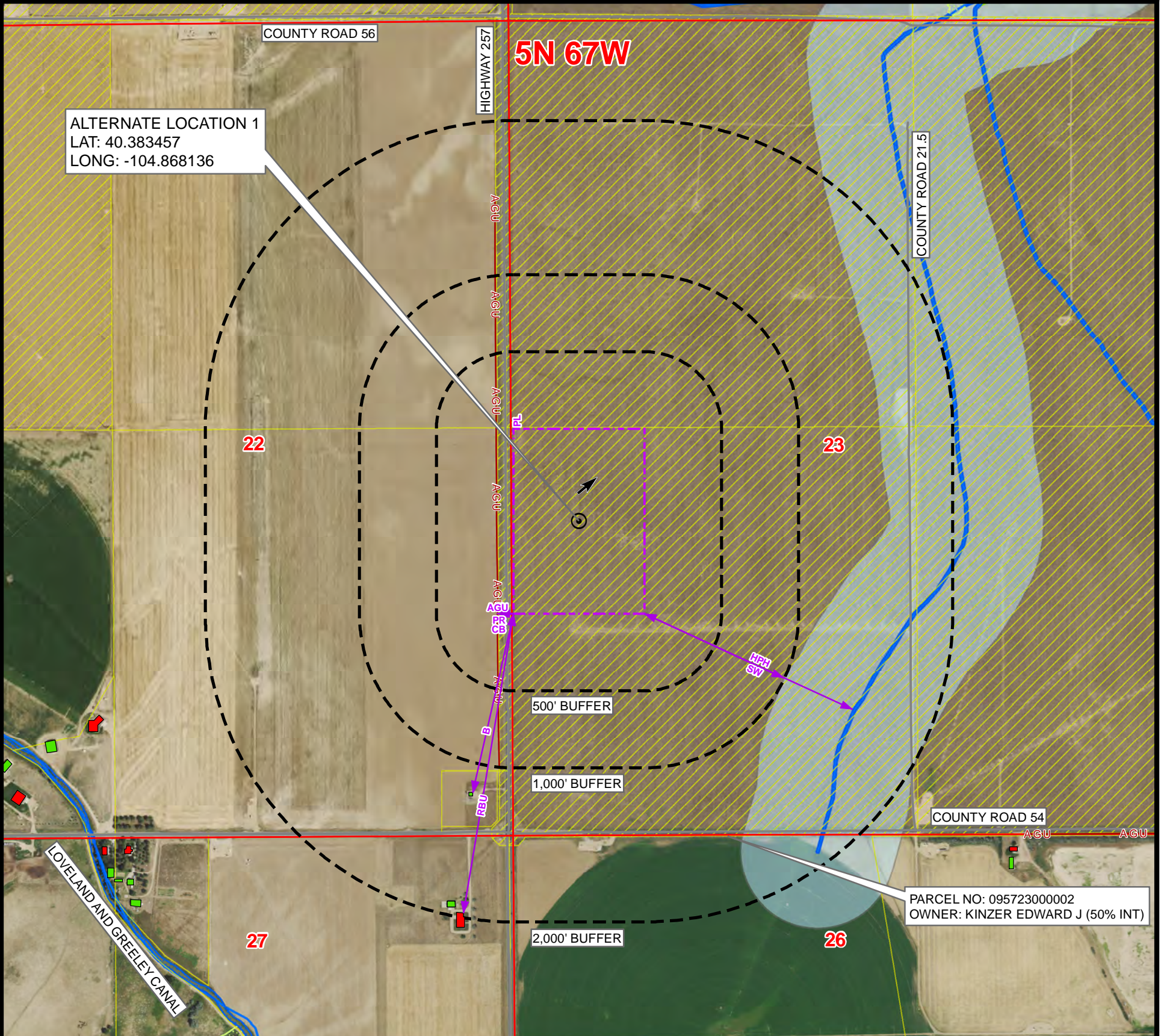
**Permitting considerations for this location:**

- PDC is submitting the proposed oil and gas location through the COGCC via Comprehensive Area Plan 314.B(5).
- A Weld County 1041 WOGLA permit would need to be obtained.
- A Weld County Access permit will be required prior to construction of the proposed location.
- A signed Surface Use Agreement has been obtained from the Surface Owner.

**Conditions or factors that make the location unavailable:**

- None

**Exhibit A-21 - ALTERNATE LOCATION 1**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
**SECTION 23, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO**




# OF CULTURAL FEATURES WITHIN	0-500 FEET	501-1,000 FEET	1,001-2,000 FEET
BUILDING UNIT (RESIDENTIAL AND NON-RESIDENTIAL)	0	0	1
RESIDENTIAL BUILDING UNIT	0	0	1
HIGH OCCUPANCY BUILDING UNIT	0	0	0
SCHOOL PROPERTY	0	0	0
SCHOOL FACILITY	0	0	0
DESIGNATED OUTSIDE ACTIVITY AREA	0	0	0

	MEASURED TO THE NEAREST	EDGE OF WORKING PAD
B	BUILDING	±1190' S
RBU	RESIDENTIAL BUILDING UNIT	±1970' S
HOBUS	HIGH OCCUPANCY BUILDING UNIT	5280'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	5280'+
PR	PUBLIC ROAD	±24' W
AGU	ABOVE GROUND UTILITY	±105' W
RR	RAILROAD	5280'+
PL	PROPERTY LINE	±8' N
S	SCHOOL FACILITY	5280'+
CC	CHILD CARE CENTER	5280'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	5280'+
MB	MUNICIPALITY BOUNDARY	±0'
CB	COUNTY BOUNDARY	±101' W
SW	SURFACE WATER	±1484' SE
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	5280'+
HPH	HIGH PRIORITY HABITAT	±994' SE


NOTE:  
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**Legend**

- PROPOSED REFERENCE POINT
- ALTERNATE OIL AND GAS LOCATION
- BUFFER
- BUILDING
- NON-RESIDENTIAL BUILDING UNIT
- RESIDENTIAL BUILDING UNIT
- ABANDONED RESIDENTIAL BUILDING UNIT
- HIGH OCCUPANCY BUILDING UNIT
- HEALTH FACILITY
- SCHOOL FACILITY
- CHILD CARE FACILITY
- DOWNGRADIANT
- ABOVE GROUND UTILITY
- PUBLIC ROAD
- RAILROAD
- DITCH/CANAL/DRAINAGE
- RIPARIAN CORRIDOR
- RIVERINE CORRIDOR
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- OTHER WETLAND
- LAKE
- FRESHWATER POND
- 100-YEAR FLOODPLAIN (PRELIMINARY, 2020)
- 100-YEAR FLOODWAY (PRELIMINARY, 2020)
- 100-YEAR FLOODPLAIN (EFFECTIVE, 2016)
- GUDI SOURCE LOCATIONS (RULE 411)
- TYPE III WELL LOCATIONS (RULE 411)
- DISPROPORTIONATELY IMPACTED COMMUNITY
- PARCEL BOUNDARY
- JURISDICTIONAL BOUNDARY
- SENSITIVE WILDLIFE HABITAT**
- BALD EAGLE ROOST SITE
- BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER
- HIGH PRIORITY HABITAT (RULE 1202)**
- BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER
- AQUATIC NATIVE SPECIES CONSERVATION WATERS
- AQUATIC SPORTFISH MANAGEMENT WATERS (500' BUFFER)
- MULE DEER SEVERE WINTER RANGE
- MULE DEER MIGRATION CORRIDOR




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Date: 1 Nov 2021  
Date: 18 May 2022
NAD83 CO-Nft  
Scale: 1" = 750ft

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## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

#### **Alternate Location 1**

This location is located within dryland pasture ground. This is both the current and future planned use for the subject property. PDC Energy, Inc. has not obtained a Surface Use Agreement for this location.

#### **Description of potential impacts to health, safety, welfare, wildlife, and the environment related to the development of this location:**

This location has one (1) RBU within 2,000 feet of the working pad surface, located 1,970 feet to the southwest of the working pad surface. The subject RBU may experience noise, odor, dust, light, and increased truck traffic during construction, drilling, and completions operations. They may also experience dust and traffic impacts due to regular tank unloading during the flowback phase of operations. PDC would plan to have midstream equipment in place to pipe out gas and liquids from the location. BMPs would be implemented, such as reduced speed in the Surface Owner's field, to suppress dust. Noise and light would be mitigated by installation of sound walls to the north, south, east, and west of the location. Lighting would be shielded and turned downward to mitigate light pollution for the subject RBU.

#### **Description of advantages and disadvantages associated with this location:**

- **Advantages:**
  - Accommodating topography with no concerns for construction (fairly flat, no high water table, no wildlife concerns)
  - No RBUs within 1,500 feet of the working pad surface
  - Located more than 2,000 feet from a school and/or childcare center
  - Outside of High Priority Habitat, no surface occupancy, wetlands, and floodplain
  - Not located within a Disproportionately Impacted Community
- **Disadvantages:**
  - One (1) RBU within 2,000 feet of location
  - Difficult access to location due to high volume of traffic along State Highway 257
  - Due to the technical constraints of drilling 3.5 mile laterals with a step out greater than 2,500 feet, additional oil and gas locations would be required to effectively produce the entire mineral production area

#### **Permitting considerations for this location:**

- Location would require a City of Greeley Access Permit, as well as a Department of Transportation Access Permit.
- A Use by Special Review Permit would need to be obtained from the City of Greeley.
- Location would require execution of a Surface Use Agreement.

#### **Conditions or factors that make the location unavailable:**

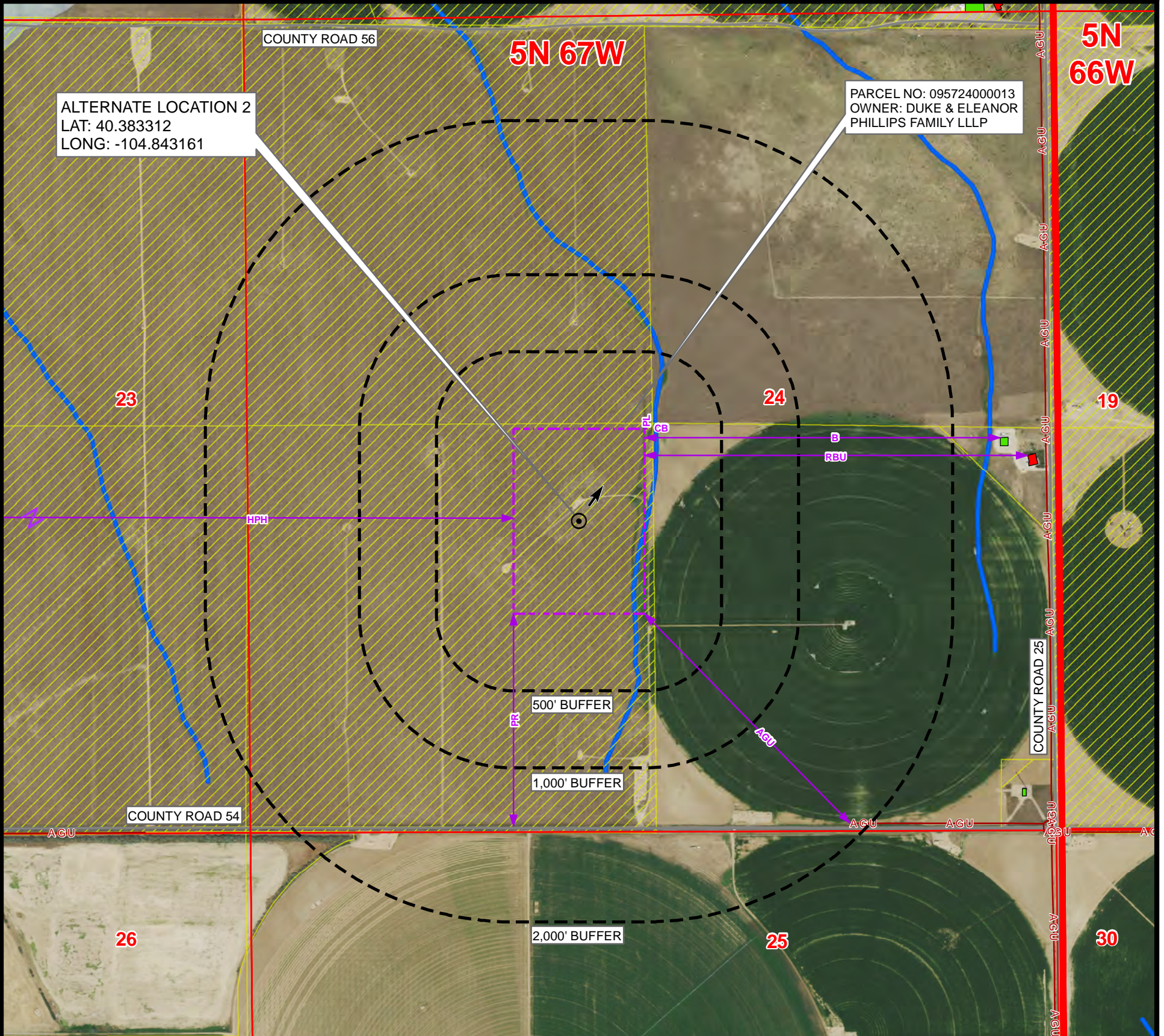
- PDC deemed this location unavailable primarily due to the technical challenges that drilling a 3.5 mile lateral from this location would present. One or two additional locations would be required to produce the entire mineral production area, substantially increasing PDC's overall footprint within the project area, as well as the length of time for drilling

## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

and completion operations. Additionally, PDC had concerns regarding access to this location, as the ingress/egress is located off State Highway 257 and traffic moves at a high rate of speed. PDC assessed accessing this location from the southwest corner of the property off CR 54, however it was deemed an unsafe access due to an existing stop light and a blind hill just east of where PDC's proposed access would be. Accessing this location from any other portion of the subject property would cause significant impacts to future land use.

**Exhibit A-21 - ALTERNATE LOCATION 2**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
**SECTION 24, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO**




# OF CULTURAL FEATURES WITHIN	0-500 FEET	501-1,000 FEET	1,001-2,000 FEET
BUILDING UNIT (RESIDENTIAL AND NON-RESIDENTIAL)	0	0	0
RESIDENTIAL BUILDING UNIT	0	0	0
HIGH OCCUPANCY BUILDING UNIT	0	0	0
SCHOOL PROPERTY	0	0	0
SCHOOL FACILITY	0	0	0
DESIGNATED OUTSIDE ACTIVITY AREA	0	0	0

MEASURED TO THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±2309' E
RBU	RESIDENTIAL BUILDING UNIT	±2487' E
HOBU	HIGH OCCUPANCY BUILDING UNIT	5280'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	5280'+
PR	PUBLIC ROAD	±1379' S
AGU	ABOVE GROUND UTILITY	±1905' SE
RR	RAILROAD	5280'+
PL	PROPERTY LINE	±7' N
S	SCHOOL FACILITY	5280'+
CC	CHILD CARE CENTER	5280'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	5280'+
MB	MUNICIPALITY BOUNDARY	±0'
CB	COUNTY BOUNDARY	±21' E
SW	SURFACE WATER	±0'
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	5280'+
HPH	HIGH PRIORITY HABITAT	±3519' W


NOTE:  
 THIS MAP IS A COMPILATION OF PUBLICLY AVAILABLE DATA. THE ACCURACY AND COMPLETENESS OF SAID DATA HAS NOT BEEN VERIFIED BY 609 CONSULTING, LLC. EXISTING CONDITIONS MAY DIFFER FROM WHAT IS SHOWN.

**Legend**

- PROPOSED REFERENCE POINT
- ALTERNATE OIL AND GAS LOCATION
- BUFFER
- BUILDING
- NON-RESIDENTIAL BUILDING UNIT
- RESIDENTIAL BUILDING UNIT
- ABANDONED RESIDENTIAL BUILDING UNIT
- HIGH OCCUPANCY BUILDING UNIT
- HEALTH FACILITY
- SCHOOL FACILITY
- CHILD CARE FACILITY
- DOWNGRADIENT
- ABOVE GROUND UTILITY
- PUBLIC ROAD
- RAILROAD
- DITCH/CANAL/DRAINAGE
- RIPARIAN CORRIDOR
- RIVERINE CORRIDOR
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- OTHER WETLAND
- LAKE
- FRESHWATER POND
- 100-YEAR FLOODPLAIN (PRELIMINARY, 2020)
- 100-YEAR FLOODWAY (PRELIMINARY, 2020)
- 100-YEAR FLOODPLAIN (EFFECTIVE, 2016)
- GUDI SOURCE LOCATIONS (RULE 411)
- TYPE III WELL LOCATIONS (RULE 411)
- DISPROPORTIONATELY IMPACTED COMMUNITY
- PARCEL BOUNDARY
- JURISDICTIONAL BOUNDARY
- SENSITIVE WILDLIFE HABITAT**
- BALD EAGLE ROOST SITE
- BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER
- HIGH PRIORITY HABITAT (RULE 1202)**
- BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER
- AQUATIC NATIVE SPECIES CONSERVATION WATERS
- AQUATIC SPORTFISH MANAGEMENT WATERS (500' BUFFER)
- MULE DEER SEVERE WINTER RANGE
- MULE DEER MIGRATION CORRIDOR




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 Phone 307-674-0609



N

Drawn by: SP  
Revised: RJ
Date: 1 Nov 2021  
Date: 18 May 2022
NAD83 CO-Nft  
Scale: 1" = 750ft

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## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

#### **Alternate Location 2**

This location is located within dryland pasture ground. The Surface Owner has plans for future development, including a golf course on the subject property. PDC Energy, Inc. has not obtained a Surface Use Agreement for this location.

#### **Description of potential impacts to health, safety, welfare, wildlife, and the environment related to the development of this location:**

This location has zero (0) RBUs within 2,000 feet of the working pad surface. This location would have potential impacts to the Surface Owner's future plans for development which include a golf course and clubhouse within close proximity to the location.

#### **Description of advantages and disadvantages associated with this location:**

- **Advantages:**
  - Accommodating topography with no concerns for construction (fairly flat, no high water table, no wildlife concerns)
  - Located more than 2,000 feet from a school and/or childcare center
  - Outside of High Priority Habitat, no surface occupancy and floodplain
  - Not located within a Disproportionately Impacted Community
  - Centralized location within the mineral development unit that allows PDC to consolidate the production of the entire mineral development unit to one location
  
- **Disadvantages:**
  - One (1) RBU within 2,000 feet of location
  - Inability to reach a contractual agreement with the Surface Owner
  - Mapped wetland inside of Working Pad Surface

#### **Permitting considerations for this location:**

- Location would require a City of Greeley Access Permit
- A Use by Special Review Permit would need to be obtained from the City of Greeley
- Location would require execution of a Surface Use Agreement
- Potential Army Corps of Engineers permitting for wetland

#### **Conditions or factors that make the location unavailable:**

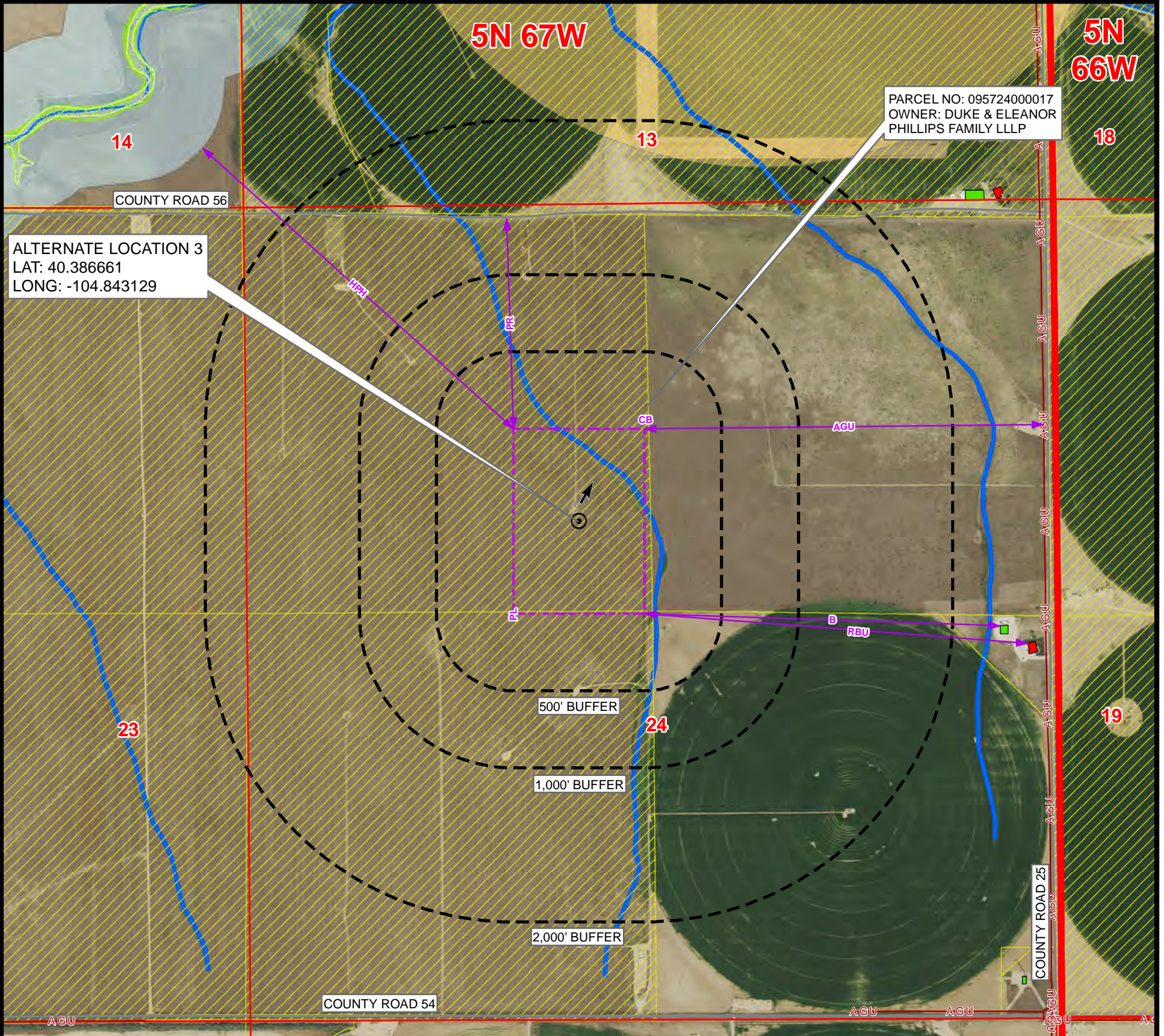
- PDC was unable to reach a contractual agreement with the Surface Owner of the subject property for this location. PDC consulted extensively with the Surface Owner in 2019 and 2020 regarding this location. However, the Surface Owner had concerns regarding future plans for a golf course on the subject property, which included a clubhouse in the same approximate area as this location. While the Surface Owner was willing to discuss moving the location further north on the adjacent property. Doing such would have made the step out length technically unfeasible and required one to two additional locations in which to produce the entire mineral development area, increasing PDC's overall footprint within the project area, as well as the length of time for drilling and completion

## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

operations. Due to these reasons, PDC deemed this location unavailable for oil and gas development.

**Exhibit A-21 - ALTERNATE LOCATION 3**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
 SECTION 24, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO




# OF CULTURAL FEATURES WITHIN	0-500 FEET	501-1,000 FEET	1,001-2,000 FEET
BUILDING UNIT (RESIDENTIAL AND NON-RESIDENTIAL)	0	0	0
RESIDENTIAL BUILDING UNIT	0	0	0
HIGH OCCUPANCY BUILDING UNIT	0	0	0
SCHOOL PROPERTY	0	0	0
SCHOOL FACILITY	0	0	0
DESIGNATED OUTSIDE ACTIVITY AREA	0	0	0

	MEASURED TO THE NEAREST	EDGE OF WORKING PAD
B	BUILDING	±2311' E
RBU	RESIDENTIAL BUILDING UNIT	±2495' E
HOBU	HIGH OCCUPANCY BUILDING UNIT	5280'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	5280'+
PR	PUBLIC ROAD	±1366' N
AGU	ABOVE GROUND UTILITY	±2590' E
RR	RAILROAD	5280'+
PL	PROPERTY LINE	±10' S
S	SCHOOL FACILITY	5280'+
CC	CHILD CARE CENTER	5280'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	5280'+
MB	MUNICIPALITY BOUNDARY	±0'
CB	COUNTY BOUNDARY	±10' E
SW	SURFACE WATER	±0'
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	5280'+
HPH	HIGH PRIORITY HABITAT	±2717' NW


NOTE:  
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**Legend**

- PROPOSED REFERENCE POINT
- ALTERNATE OIL AND GAS LOCATION
- BUFFER
- BUILDING
- NON-RESIDENTIAL BUILDING UNIT
- RESIDENTIAL BUILDING UNIT
- ABANDONED RESIDENTIAL BUILDING UNIT
- HIGH OCCUPANCY BUILDING UNIT
- HEALTH FACILITY
- SCHOOL FACILITY
- CHILD CARE FACILITY
- DOWNGRADIANT
- ABOVE GROUND UTILITY
- PUBLIC ROAD
- RAILROAD
- DITCH/CANAL/DRAINAGE
- RIPARIAN CORRIDOR
- RIVERINE CORRIDOR
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- OTHER WETLAND
- LAKE
- FRESHWATER POND
- 100-YEAR FLOODPLAIN (PRELIMINARY, 2020)
- 100-YEAR FLOODWAY (PRELIMINARY, 2020)
- 100-YEAR FLOODPLAIN (EFFECTIVE, 2016)
- GUDI SOURCE LOCATIONS (RULE 411)
- TYPE III WELL LOCATIONS (RULE 411)
- DISPROPORTIONATELY IMPACTED COMMUNITY
- PARCEL BOUNDARY
- JURISDICTIONAL BOUNDARY
- SENSITIVE WILDLIFE HABITAT**
- BALD EAGLE ROOST SITE
- BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER
- HIGH PRIORITY HABITAT (RULE 1202)**
- BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER
- AQUATIC NATIVE SPECIES CONSERVATION WATERS
- AQUATIC SPORTFISH MANAGEMENT WATERS (500' BUFFER)
- MULE DEER SEVERE WINTER RANGE
- MULE DEER MIGRATION CORRIDOR




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N  
 NAD83 CO-Nft  
 Scale: 1" = 750ft

Drawn by: SP  
Revised: RJ

Date: 1 Nov 2021  
Date: 18 May 2022

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## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

#### **Alternate Location 3**

This location is located within dryland pasture ground. The Surface Owner has plans for future development, including plans for a golf course on the subject property. PDC Energy Inc. has not obtained a Surface Use Agreement for this location.

#### **Description of potential impacts to health, safety, welfare, wildlife, and the environment related to the development of this location:**

This location has zero (0) RBUs within 2,000 feet of the working pad surface. This location would have potential impacts to the Surface Owner's future plans for development which include a golf course and clubhouse within close proximity to the location.

#### **Description of advantages and disadvantages associated with this location:**

- **Advantages:**
  - Accommodating topography with no concerns for construction (fairly flat, no high water table, no wildlife concerns)
  - Zero (0) RBUs within 2,000 feet of the working pad surface
  - Located more than 2,000 feet from a school and/or childcare center
  - Outside of High Priority Habitat, no surface occupancy and floodplain
  - Not located within a Disproportionately Impacted Community
  - Centralized location within the mineral development area that allows PDC to consolidate the production of the entire mineral development area to one location
- **Disadvantages:**
  - Future plans for development on the subject property
  - Inability to reach a contractual agreement with the Surface Owner
  - Mapped wetland inside of Working Pad Surface

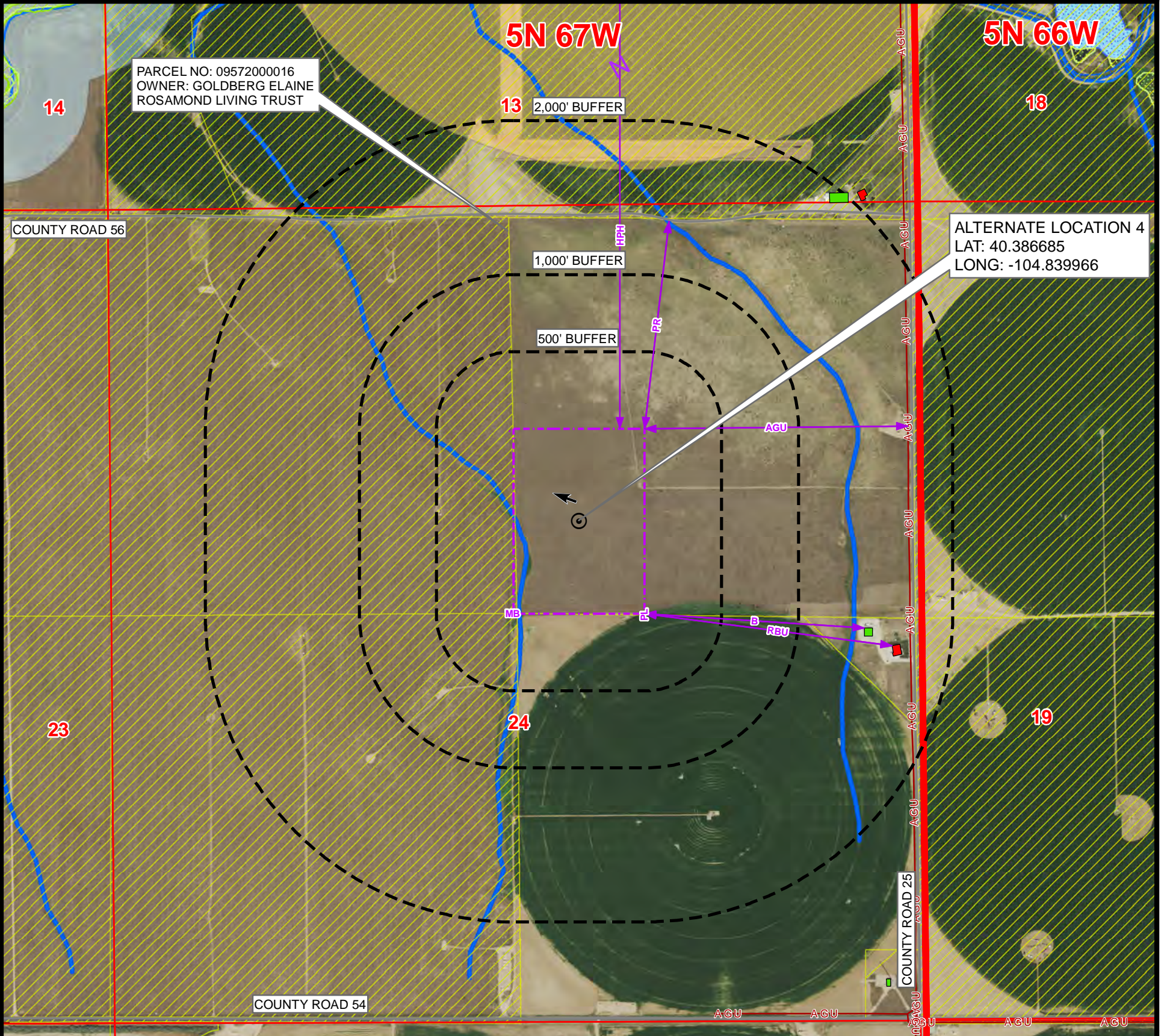
#### **Permitting considerations for this location:**

- Location would require a City of Greeley Access Permit.
- A Use by Special Review Permit would need to be obtained from the City of Greeley.
- Location would require execution of a Surface Use Agreement.
- Potential Army Corps of Engineers permitting for wetland.

#### **Conditions or factors that make the location unavailable:**

- This location is owned by the same Surface Owner as alternate location 2. PDC was unable to reach a contractual agreement with the Surface Owner of the subject property for this location. PDC consulted extensively with the surface owner in 2019 and 2020 regarding this location. However, the Surface Owner had concerns regarding future plans for developing the subject property and the impacts this location would have on such development. PDC assessed this location as a result of the Surface Owner requesting the location be located as far north on the subject property as possible. This location was the furthest north that PDC could place a location without requiring one to two additional locations to produce the entire mineral development area. Due to these reasons, PDC deemed this location unavailable for an oil and gas location.

**Exhibit A-21 - ALTERNATE LOCATION 4**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
 SECTION 24, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO




# OF CULTURAL FEATURES WITHIN	0-500 FEET	501-1,000 FEET	1,001-2,000 FEET
BUILDING UNIT (RESIDENTIAL AND NON-RESIDENTIAL)	0	0	1
RESIDENTIAL BUILDING UNIT	0	0	1
HIGH OCCUPANCY BUILDING UNIT	0	0	0
SCHOOL PROPERTY	0	0	0
SCHOOL FACILITY	0	0	0
DESIGNATED OUTSIDE ACTIVITY AREA	0	0	0

MEASURED TO THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±1432' E
RBU	RESIDENTIAL BUILDING UNIT	±1620' E
HOBU	HIGH OCCUPANCY BUILDING UNIT	5280'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	5280'+
PR	PUBLIC ROAD	±1356' N
AGU	ABOVE GROUND UTILITY	±1709' E
RR	RAILROAD	5280'+
PL	PROPERTY LINE	±10' S
S	SCHOOL FACILITY	5280'+
CC	CHILD CARE CENTER	5280'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	5280'+
MB	MUNICIPALITY BOUNDARY	±10' W
CB	COUNTY BOUNDARY	±0'
SW	SURFACE WATER	±0'
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	5280'+
HPH	HIGH PRIORITY HABITAT	±3001' N


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**Legend**

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- ALTERNATE OIL AND GAS LOCATION
- BUFFER
- BUILDING
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- RESIDENTIAL BUILDING UNIT
- ABANDONED RESIDENTIAL BUILDING UNIT
- HIGH OCCUPANCY BUILDING UNIT
- HEALTH FACILITY
- SCHOOL FACILITY
- CHILD CARE FACILITY
- DOWNGRADIANT
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- RIPARIAN CORRIDOR
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- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- OTHER WETLAND
- LAKE
- FRESHWATER POND
- 100-YEAR FLOODPLAIN (PRELIMINARY, 2020)
- 100-YEAR FLOODWAY (PRELIMINARY, 2020)
- 100-YEAR FLOODPLAIN (EFFECTIVE, 2016)
- GUDI SOURCE LOCATIONS (RULE 411)
- TYPE III WELL LOCATIONS (RULE 411)
- DISPROPORTIONATELY IMPACTED COMMUNITY
- PARCEL BOUNDARY
- JURISDICTIONAL BOUNDARY
- SENSITIVE WILDLIFE HABITAT**
- BALD EAGLE ROOST SITE
- BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER
- HIGH PRIORITY HABITAT (RULE 1202)**
- BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER
- AQUATIC NATIVE SPECIES CONSERVATION WATERS
- AQUATIC SPORTFISH MANAGEMENT WATERS (500' BUFFER)
- MULE DEER SEVERE WINTER RANGE
- MULE DEER MIGRATION CORRIDOR




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N

Drawn by: SP  
Revised: RJ
Date: 1 Nov 2021  
Date: 18 May 2022
NAD83 CO-Nft  
Scale: 1" = 750ft

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## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

#### **Alternate Location 4**

This location is located within dryland pasture ground. This is both the current and future planned use for the subject property. PDC Energy, Inc. has not obtained a Surface Use Agreement for this location.

#### **Description of potential impacts to health, safety, welfare, wildlife, and the environment related to the development of this location:**

This location has one (1) RBU located within 2,000 feet of the working pad surface, which is located 1,620 feet east of the location. This RBU may experience noise, odor, dust, light, and increased truck traffic during construction, drilling, and completions operations. It may also experience dust and traffic impacts due to regular tank unloading during the flowback phase of operations. PDC would plan to have midstream equipment in place to pipe out gas and liquids from the location. BMPs would be implemented, such as reduced speed in the Surface Owner's field, to suppress dust. Noise and light would be mitigated by installation of 32-foot sound walls to the north, south, east, and west of the location. Lighting would be shielded and turned downward to mitigate light pollution for the subject RBU.

#### **Description of advantages and disadvantages associated with this location:**

- **Advantages:**
  - Accommodating topography with no concerns for construction (fairly flat, no high water table, no wildlife concerns)
  - No RBUs within 1,000 feet from the working pad surface
  - Located more than 2,000 feet from a school and/or childcare center
  - Outside of High Priority Habitat, no surface occupancy and floodplain
  - Not located within a Disproportionately Impacted Community
  - Centralized location provides PDC the ability to produce the entire mineral development area from one location, reducing PDC's overall footprint
- **Disadvantages:**
  - Unable to come to a contractual agreement with the Surface Owner
  - One (1) RBU within 2,000 feet of the working pad surface
  - Access and access road(s) would be in close proximity to existing RBUs
  - Mapped wetland inside of Working Pad Surface

#### **Permitting considerations for this location:**

- A Weld County 1041 WOGLA permit would need to be obtained
- PDC has not obtained a Surface Use Agreement for this location
- Location would require a Weld County Access Permit
- Potential Army Corps of Engineers permitting for wetland

#### **Conditions or factors that make the location unavailable:**

- PDC consulted with the Surface Owner of the subject property in November of 2020 regarding this location and the Surface Owner has made it apparent to PDC that they are not interested in an oil and gas location on the subject property. Additionally, PDC had concerns regarding access and traffic to this location due to the existing RBUs near the northeast and southeast corners of the property. PDC would need to design an access to

## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

this location that was further from the existing RBUs to mitigate potential impacts. Doing such would have substantial impacts to the subject property as PDC's access would sterilize a portion of the property from future development.

## EXHIBIT A-21

### WINDOM – 05N67W18 1-46 Pad

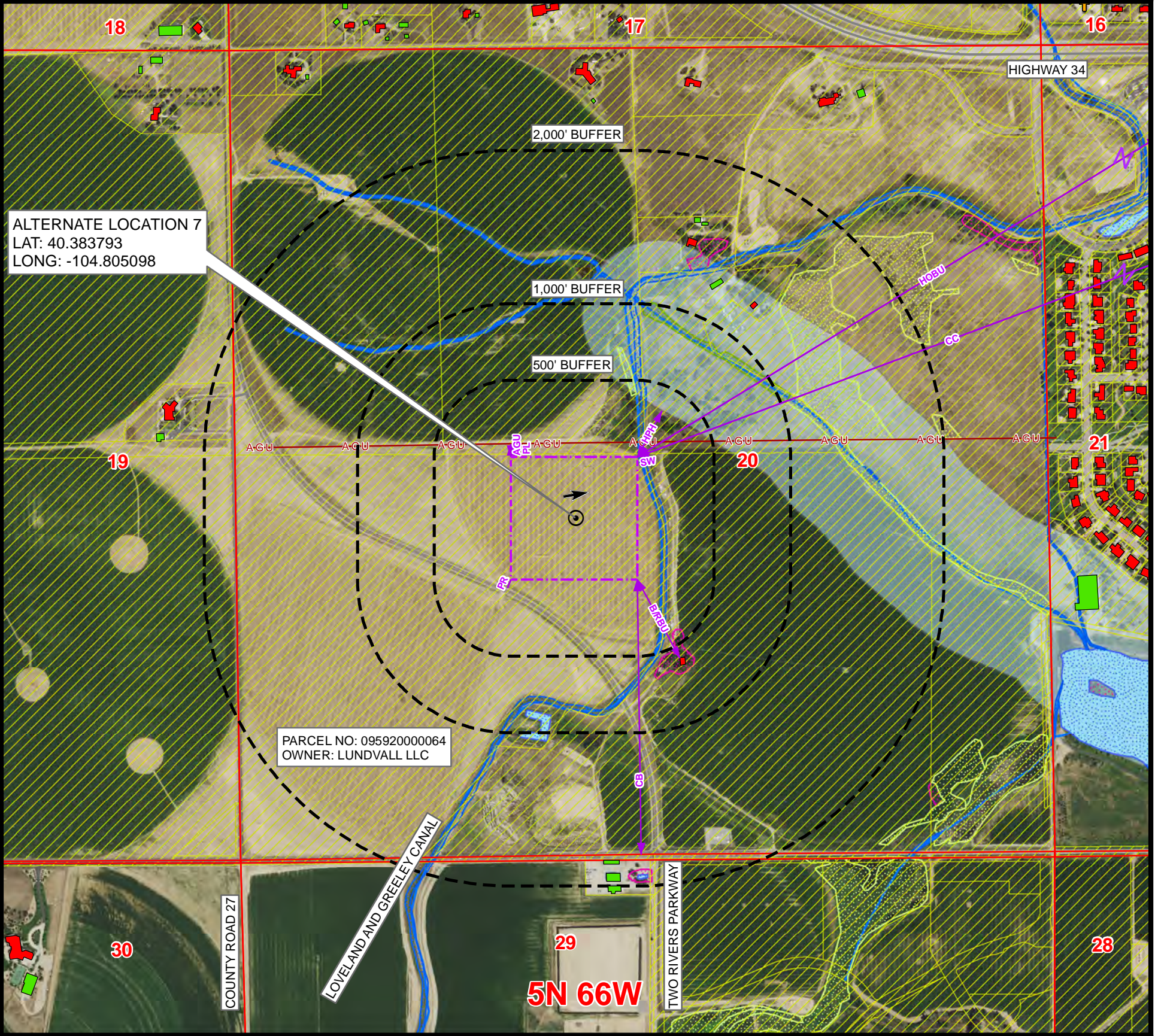
#### Alternate Location 5

This proposed location is located within pivot sprinkler irrigated farm ground. This is the current and future planned use for the subject location. PDC Energy Inc. has not obtained a Surface Use Agreement for alternate location 5. This location has one (1) RBU within 500 feet of the location that is not owned by the Surface Owner of the subject property and would not be subject to a Surface Use Agreement. In order to effectively produce the entire mineral development area from this property, the location would need to be positioned in the southwest corner of the subject field, which is within 500 feet of the adjacent RBU. This location is also within cropland that is irrigated by a sprinkler pivot irrigation system. Additionally, there are two (2) large pipelines east of County Road 25, limiting the space needed to effectively develop the mineral development area. This location would have had long term impacts on future farming operations, as it would have [inhibited the sprinkler's ability to operate in a 360 degree manner after operations and interim reclamation are complete](#). Due to these reasons, PDC ultimately deemed this location unavailable for oil and gas development.

#### Alternate Location 6

This proposed location is located within pivot irrigated farm ground. This is the current and future planned use for the subject location. PDC Energy, Inc. has not obtained a Surface Use Agreement for this location. This location has one (1) RBU within 500 feet of the working pad surface that is not owned by the Surface Owner of the subject property and would not be subject to a Surface Use Agreement. Similar to alternate location 5, PDC would need to position this location furthest northwest on the subject property to effectively capture all of the minerals within the mineral development unit. Doing such would put this location within 500 feet of an existing RBU. Additionally, there are two (2) large pipelines east of County Road 25, limiting the space needed to effectively develop the mineral development area. [The wells and a portion of the production facility at this alternate location would have encroached into the area of this field that is irrigated by a sprinkler irrigation pivot. Thus, eliminating the ability for the sprinkler to operate in a 360 degree manner after operations and interim reclamation are complete.](#)

**Exhibit A-21 - ALTERNATE LOCATION 7**  
**WINDOM 5N67W24 1-46 (2A DOC NO. 402714007)**  
**SECTION 20, TOWNSHIP 5 NORTH, RANGE 66 WEST, 6TH P.M., WELD COUNTY, COLORADO**




# OF CULTURAL FEATURES WITHIN	0-500 FEET	501-1,000 FEET	1,001-2,000 FEET
BUILDING UNIT (RESIDENTIAL AND NON-RESIDENTIAL)	0	1	2
RESIDENTIAL BUILDING UNIT	0	1	2
HIGH OCCUPANCY BUILDING UNIT	0	0	0
SCHOOL PROPERTY	0	0	0
SCHOOL FACILITY	0	0	0
DESIGNATED OUTSIDE ACTIVITY AREA	0	0	0

	MEASURED TO THE NEAREST	EDGE OF WORKING PAD
B	BUILDING	±583' SE
RBU	RESIDENTIAL BUILDING UNIT	±583' SE
HOBHU	HIGH OCCUPANCY BUILDING UNIT	±3993' NE
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	5280'+
PR	PUBLIC ROAD	±60' SW
AGU	ABOVE GROUND UTILITY	±86' N
RR	RAILROAD	5280'+
PL	PROPERTY LINE	±21' N
S	SCHOOL FACILITY	5280'+
CC	CHILD CARE CENTER	±4700' E
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	5280'+
MB	MUNICIPALITY BOUNDARY	±0'
CB	COUNTY BOUNDARY	±1795' S
SW	SURFACE WATER	±9' E
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	5280'+
HPH	HIGH PRIORITY HABITAT	±342' NE


NOTE:  
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**Legend**

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- ALTERNATE OIL AND GAS LOCATION
- BUFFER
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- NON-RESIDENTIAL BUILDING UNIT
- RESIDENTIAL BUILDING UNIT
- ABANDONED RESIDENTIAL BUILDING UNIT
- HIGH OCCUPANCY BUILDING UNIT
- HEALTH FACILITY
- SCHOOL FACILITY
- CHILD CARE FACILITY
- DOWNGRADIENT
- ABOVE GROUND UTILITY
- PUBLIC ROAD
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- 100-YEAR FLOODPLAIN (PRELIMINARY, 2020)
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- 100-YEAR FLOODPLAIN (EFFECTIVE, 2016)
- GUDI SOURCE LOCATIONS (RULE 411)
- TYPE III WELL LOCATIONS (RULE 411)
- DISPROPORTIONATELY IMPACTED COMMUNITY
- PARCEL BOUNDARY
- JURISDICTIONAL BOUNDARY
- SENSITIVE WILDLIFE HABITAT**
- BALD EAGLE ROOST SITE
- BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER
- HIGH PRIORITY HABITAT (RULE 1202)**
- BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER
- AQUATIC NATIVE SPECIES CONSERVATION WATERS
- AQUATIC SPORTFISH MANAGEMENT WATERS (500' BUFFER)
- MULE DEER SEVERE WINTER RANGE
- MULE DEER MIGRATION CORRIDOR




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N  
 NAD83 CO-Nft  
 Scale: 1" = 750ft

Drawn by: SP
Date: 1 Nov 2021

Revised: RJ
Date: 18 May 2022

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## **EXHIBIT A-21**

### **WINDOM – 05N67W18 1-46 Pad**

#### **Alternate Location 7**

This proposed location is located within pivot irrigated farm ground. The Surface Owner of this location has mentioned plans for future development of the subject property. PDC Energy, Inc. has not obtained a Surface Use Agreement for this location.

#### **Description of potential impacts to health, safety, welfare, wildlife, and the environment related to the development of this location:**

This location has three (3) RBUs located within 2,000 feet of the working pad surface. The closest RBU is located 583 feet to the southeast of the location. The three (3) RBUs within 2,000 feet of the location may experience noise, odor, dust, light, and increased truck traffic during construction, drilling, and completions operations. They may also experience dust and traffic impacts due to regular tank unloading during the flowback phase of operations. PDC would plan to have midstream equipment in place to pipe out gas and liquids from the location. BMPs would be implemented, such as reduced speed in the Surface Owner's field, to suppress dust. Noise and light would be mitigated by installation of 32-foot sound walls to the north, south, east, and west of the location. Lighting would be shielded and turned downward to mitigate light pollution for these RBUs.

#### **Description of advantages and disadvantages associated with this location:**

- **Advantages:**
  - Accommodating topography with no concerns for construction (fairly flat, no high water table, no wildlife concerns)
  - Located more than 2,000 feet from a school and/or childcare center
  - Outside of High Priority Habitat, no surface occupancy, and floodplain
  - Not located within a Disproportionately Impacted Community
- **Disadvantages:**
  - Long term disruption to landowner's irrigation methods
  - Inability to reach a contractual agreement with the Surface Owner
  - Due to technical constraints associated with the drilling and completing 3.5-mile laterals, one to two additional locations would have been required to effectively produce the mineral development area
  - Located within close proximity to the Loveland and Greeley Canal
  - Location would inhibit future farming operations on the subject property
  - Impacts to future development on the subject property
  - Location impedes upon the City of Greeley's future 32nd Street extension
  - Immediately upgradient to a mapped wetland

#### **Permitting considerations for this location:**

- Location would require a City of Greeley Access Permit.
- A Use by Special Review Permit would need to be obtained from the City of Greeley.
- Location would require execution of a Surface Use Agreement.

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#### Conditions or factors that make the location unavailable:

- PDC was unable to reach a contractual agreement with the Surface Owner for this location. PDC consulted with the Surface Owner of the subject property in June of 2018 regarding a potential oil and gas location. The Surface Owner cited several concerns with the proposed location, including negative impacts to current farming operations, as well as negative impacts to future development on the subject property. Due to the existing sprinkler pivot being a “corner system”, there was no option to maneuver the sprinkler around PDC’s well pad and production facility once interim reclamation was achieved at this location. This location is also located in an area of the City of Greeley that is recognized as a fast growing residential development area that the landowner deemed to be more valuable than an oil and gas well pad development. Ultimately the Surface Owner advised PDC that this location was not an option for an oil and gas location and asked that PDC continue assessing alternate locations for the proposed mineral development area. PDC also had concerns with the close proximity in which this location was to the Loveland and Greeley Canal. Additionally, PDC recognized that this location would require an additional one to two locations to effectively produce the entire mineral development area, due to the drilling and completion constraints associated with three and a half mile laterals. PDC believes the proposed location to be far less impactful to public health, safety, welfare, and the environment due to the fact that it allows PDC the ability to consolidate operations to one location.

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#### Windom ALA Narrative Summary

- After a thorough evaluation of potential impacts via the Alternative Location Analysis process, PDC has selected the proposed location over the alternate locations, as it is preferred based on the minimization of adverse impacts.
- The Proposed Location provides PDC with the ability to produce approximately 2,240 mineral acres from one consolidated location that will consist of approximately 9.6 acres of disturbance area once interim reclamation is achieved. PDC has worked extensively with the Surface Owner to design an oil and gas location that accommodates their current and future plans for the property, while minimizing impacts to the surrounding community. This location has been designed in such a way that the Surface Owner will be able to continue farming operations around the location both during operations, as well as the production phase of the location. This location has also been positioned in the furthest northwest corner of the subject property, reducing potential impacts on the public roads, as well as reducing potential impacts to the Surface Owner's long term development plans for the property.
- Alternate Location 1 was not selected due to various concerns that were identified through PDC's due diligence process. The primary concern with this location was the technical feasibility of drilling and completing three- and one-half mile laterals that would be required from this location. To date, PDC has not drilled and completed three- and one-half mile laterals due to the potential complications that can come with doing so. One to two additional locations would have been required to effectively produce the entire mineral development area, resulting in a greater overall footprint and longer operation times for drilling and completion operations. Where possible, PDC strives to consolidate its footprint to one location in which to produce mineral development areas, and this location did not provide PDC the ability to do so. Additionally, concerns were raised during PDC's field assessment of this location regarding access and traffic safety. This location is situated adjacent to State Highway 257, in which traffic moves at a high rate of speed. An access off State Highway 257 would have created more potential impacts than an access off a county road. Unfortunately, the county road adjacent to this location that would have been PDC's other option for access was near a lighted intersection and a blind hill. Placing an access on this portion of County Road 54 would create significant impacts to traffic, as well as safety concerns.
- Alternate Location 2 was one of several locations that PDC assessed near the center of the proposed mineral development area in an effort to consolidate operations to one oil and gas location. This location provided the ability for PDC to drill two- and one-half mile laterals to the east, and one and one half mile laterals to the west to produce the entire mineral development area. PDC consulted extensively with the Surface Owner of the subject property in 2019 and 2020 and we were ultimately unable to come to a contractual agreement for an oil and gas location. The Surface Owner expressed concerns regarding future development of the property, which included a golf course and club house in close proximity to alternate location 2. The Surface Owner expressed interest in shifting the location north to obtain a greater distance from the future development plans but doing so would have exceeded PDC's step out capabilities for drilling and completion operations.
- Alternate Location 3 is owned by the same Surface Owner as alternate location 2 and was a location that PDC designed in an effort to accommodate the Surface Owner's request to shift this location further north on their property. This was the furthest that PDC could shift the location

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north until step out capabilities would become technically infeasible, and an additional location would be required to produce the southern half of the mineral development area. The Surface Owner did not feel that this location would be far enough north from his future development plans to successfully mitigate impacts. Additionally, through our consultations with the Surface Owner, concerns started to arise regarding access to this location and the impacts that access could have on the future planned development. PDC was not able to come to a contractual agreement with the Surface Owner and therefore deemed this location unavailable for oil and gas development. It was at this time, PDC continued to explore locations that provided the capability to produce the entire mineral development area from one consolidated location, in an effort to reduce our overall footprint within the project area.

- Alternate Location 4 was not selected due to PDC's inability to come to a contractual agreement with the Surface Owner of the subject property. This location was assessed by PDC due to its centralized location within the mineral development area and the potential it provided to consolidate operations to one location. One concern that was raised during PDC's field assessment was that the access to the location, which PDC generally tries to construct along property lines, would be within close proximity to existing RBUs. Designing an access to this location that did not create potential impacts to the existing RBUs near the northeast and southeast corners of the subject property would in turn create significant impacts to future development of the subject property. PDC consulted with the Surface Owner of the subject property in November of 2020 regarding this potential oil and gas location and the Surface Owner advised PDC that they were not interested in such a location on the property. Because of this, PDC deemed this location unavailable for oil and gas operations and continued assessing the mineral development area.
- Alternate Location 5 was another location that PDC assessed due to its positioning within the mineral development area, and the ability it would provide to consolidate operations to one oil and gas location. Due to existing farming operations on the subject property, PDC would be required to isolate the working pad surface to the southwest or southeast corner of the subject property to achieve practical step out distances. In doing so, PDC discovered that this location would be within 500 feet of an existing RBU. The subject RBU is not owned by the Surface Owner of alternate location 5 and would not be subject to a Surface Use Agreement. This location would also have significant impacts on current and future farming operations, as it would impact the existing sprinkler irrigation system on the subject property. [Even by utilizing as much of the corner outside of the sprinkler pivot as possible, this location would have still encroached into the sprinkler pivot during operations and after interim reclamation. Doing so would have inhibited the sprinkler's ability to operate in a 360 manner. This leads to certain crop restrictions that become costly for farming due to the fact that it takes much longer for the water to get back to the crops and can also cause oversaturation of certain portions of the field.](#) Due to these reasons, PDC deemed this location unavailable for oil and gas development.
- Alternate Location 6 is owned by the same Surface Owner as alternate location 5 and was another location that PDC assessed due to the ability it provided to consolidate operations to one location in which to produce the entire mineral development area. Similar to alternate location 5, existing farming operations required this location to be isolated to the northwest corner of the subject property [in an effort to not inhibit the existing sprinkler irrigation pivot from operating in a 360](#)

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degree manner. Doing such would result in an existing RBU to be located 139 feet from the working pad surface. This RBU is not owned by the Surface Owner of alternate location 6 and would not be subject to a Surface Use Agreement. The proposed location achieves a substantially greater distance from this RBU, and therefore deemed alternate location 6 unavailable for oil and gas operations.

- Alternate Location 7 was assessed in the early stages of PDC's due diligence process, prior to obtaining a Surface Use Agreement for the proposed location. At such time, PDC acknowledged the fact that multiple locations may be necessary to effectively produce the entire mineral development area. This location would have required three- and one-half mile laterals to consolidate operations to one location, a lateral length that PDC has not achieved to date. Therefore, PDC would have been required to secure a second location in which to produce the west half of the proposed mineral development area, doubling the overall footprint within the project area and increasing the length of time for operations. This location was also closer in proximity to existing RBUs than other locations assessed, with the closest RBU being located 584 to the southeast of the working pad surface. PDC consulted with the Surface Owner of this location in June of 2018 and the Surface Owner cited multiple concerns with alternate location 7. These concerns included severe impacts to current and future farming operations, the proximity in which this location would be from the Loveland and Greeley Canal, and significant impacts to future development plans. Due to the existing sprinkler pivot being a "corner system", there was no option to maneuver the sprinkler around PDC's well pad and production facility once interim reclamation was achieved at this location. This location is also located in an area of the City of Greeley that is recognized as a fast growing residential development area that the landowner deemed to be more valuable than an oil and gas well pad development. Additionally, PDC also obtained information from the City of Greeley during a preliminary siting discussion that this location would interfere with the future extension of 32nd Street. Due to these reasons, PDC deemed this location unavailable for oil and gas development.