



Kerr-McGee Oil & Gas Onshore LP

Alternative Location Analysis

**Paul Nelson 25-29HZ Well Pad and Facility**

NWSE Section 29, Township 5N, Range 67W

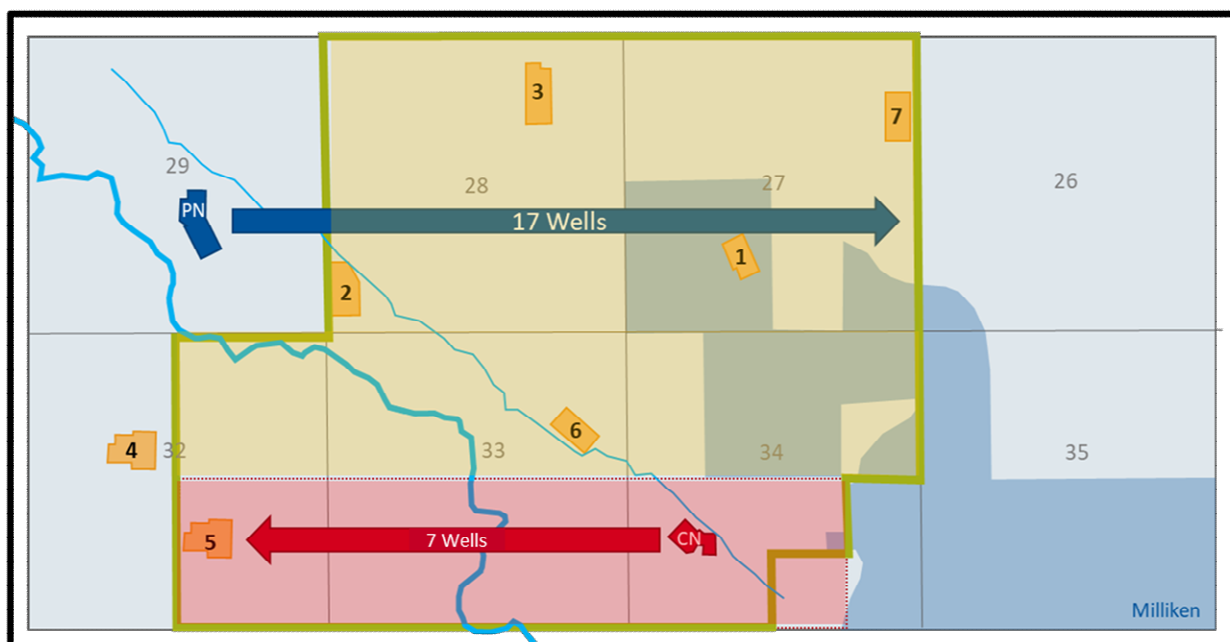
Weld County, CO

**February 2022**

## Introduction

Kerr-McGee Oil & Gas Onshore LP's (KMOG) preferred Paul Nelson 25-29HZ pad is proposed to be located in the NW quarter of the SE quarter of Section 29, Township 5N, Range 67W. This location is one of two pads that will be used to develop the Nelson Family OGD. The Nelson Family development area covers 2,760 acres. As currently planned, the Paul Nelson 25-29HZ location would utilize 17 long lateral wellbores to develop 1,960 acres including Sections 27, 28 and portions of Sections 32, 33, and 34. KMOG's preferred Charlene Nelson 12-34HZ location will develop the remaining 800 acres of the Nelson Family OGD with seven long lateral horizontal wells in portions of Sections 32, 33 and 34.

When considering the development of these minerals, KMOG evaluated 12 alternative locations in addition to the preferred locations. The locations brought forward by KMOG are those that allow the operator to conduct its operations in a reasonable manner to avoid, minimize and mitigate adverse impacts to public health, safety, welfare, the environment, and wildlife resources while avoiding the drilling of unnecessary wells and preventing waste of oil and gas resources.



## Historical Perspective

When planning the Paul Nelson 25-29HZ pad, KMOG focused efforts on consolidation, minimizing surface disturbance, maximizing the mineral development, and planning operations to occur in a safe manner. The Nelson Family development area was originally planned by another operator, and at that time, development would have consisted of seven ten-acre pads with short lateral wells. In 2018, KMOG replanned the wells and reduced the pad count to five locations. The five locations included alternate sites 1, 2, 3, 6, and the Charlene Nelson 12-34HZ proposed location. KMOG has made substantial efforts over the past three years to limit the surface impacts in this OGD and has been successful in working with surface owners to reduce the number of proposed locations from seven with approximately 70 acres of surface disturbance to two with 27 acres of disturbance during operations. In 2018 the OGD would have required 64 wells to develop the mineral acreage. KMOG is now able to achieve full development with 24 long lateral wells. The choice of the Paul Nelson 25-29 and Charlene Nelson 12-34HZ locations

allow KMOG to minimize the number of wells and surface disturbance required to efficiently develop the mineral acreage. The proposed pads are situated on Nelson Family LLC property, within Weld County, and are currently zoned for Agriculture. Nelson Family LLC encourages development at the proposed locations.

Table 1 summarizes the ALA criteria triggered by each of the locations considered.

Table 1			KMOG Alternatives							COGCC Requested Additional Alternatives					
	Rule	Language	Paul Nelson	AL 1	AL2	AL3	AL4	AL6	AL7	NW 28	NE 29	W/2 26	SE 22	SW 23	Potential BMPs
		Tier	IV-B	IV-B	IV-B	III-B	IV-B	IV-B	III-B	IV-B	III-B	N/A	III-B	III-B	
304.b.(2).B	304.b.(2).B.i	The proposed Working Pad Surface is within 2,000 feet of 1 or more Residential Building Units or High Occupancy Building Units;	1	1	1	1	1	1	1	1	1	1	1	1	<ul style="list-style-type: none"><li>o To the extent possible KMOG would minimize noise, dust, light that may affect nearby residents.</li><li>·Sound walls would likely be placed on portions of the pad and would drastically reduce the amount of noise and light experienced outside of the location.</li><li>· All lighting will be LED in order to reduce skyglow and directed inward and downward</li><li>· Strict speed limits will be followed, and water will be deployed along the access road if needed to reduce dust.</li><li>· Odor reducing additives will be added to the drilling fluid</li></ul>
	304.b.(2).B.ii	The proposed Working Pad Surface is less than 2,000 feet from a School Facility or Child Care Center;													
	304.b.(2).B.iii	The proposed Working Pad Surface is within 1,500 feet of a Designated Outside Activity Area;													
	304.b.(2).B.iv	The proposed Working Pad Surface is less than 2,000 feet of a municipal or county boundary, and the Proximate Local Government objects to the location or requests an alternative location analysis;		1 if Miliken Objects		1 if Miliken Objects			1 if either Miliken or Greeley Object				1 if Miliken Objects	1 if Miliken Objects	
	304.b.(2).B.v	The proposed Working Pad Surface is within a Floodplain;	1												
	304.b.(2).B.vi	Unless waived by the applicable Public Water System(s), the proposed Oil and Gas Location is within: aa. A surface water supply area as defined in Rule 411.a.(1); or bb. Within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1);								Unknown - Unlikely	Unknown - Unlikely		Unknown - Unlikely	Unknown - Unlikely	
	304.b.(2).B.vii	The proposed Oil and Gas Location is within the boundaries of, or is immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor		1	1	1	1			1					<ul style="list-style-type: none"><li>o KMOG would contain flowback and stimulation fluids in tanks in an area with downgradient perimeter berming.</li><li>o KMOG would maintain adequate spill response equipment at the location during drilling and completions operations.</li></ul>
	304.b.(2).B.viii	The proposed Oil and Gas Location is within High Priority Habitat and the Operator did not obtain a waiver from CPW through a pre-application consultation;	1		1			1							<ul style="list-style-type: none"><li>o KMOG would likely conduct construction operations during seasonal timing stipulations.</li><li>o KMOG would engage with CPW regarding direct impact mitigation options.</li></ul>
	304.b.(2).B.viii-	The proposed Oil and Gas Location is within High Priority Habitat R. Cutthroat trout designated crucial habitat and native fish and other native aquatic species conservation waters (within 500 feet of OHWM);S. Sportfish management waters not identified by CPW as “Gold Medal” (within 500 feet of OHWM); and T. CPW-owned State Wildlife Areas and State Parks	1												
	304.b.(2).B.ix	The Operator is using or intends to use a Surface Owner protection bond pursuant to Rule 703 to access the proposed Oil and Gas Location;	SUA Executed	As KMOG has not fully negotiated the alternative locations it is assumed that an SUA could be executed at each of the alternative locations											
304.b.(2).B.x	The proposed Working Pad Surface is within 2,000 feet of a Residential Building Unit, High Occupancy Building Unit, or School Facility located within a Disproportionately Impacted Community.														
Additional Comments				Deeded to Miliken for part of a trail system and no development permitted	Would require an additional pad to capture the minerals Cropland	Short Lateral wells = 2X More wells & equipment Additional Pad (s) required Crop Land	Surface Owner would discourage development at this location due to home proximity Crop land	Short Lateral wells = 2X More wells & equipment Additional Pad (s) required Crop Land	Surface owner would discourage development at this location Air Strip Safety Concerns	Would require an additional pad to capture the minerals Cropland	Would require an additional pad to capture the minerals Cropland	Another Operator has this acreage in a CAP	Would require an additional pad to capture the minerals Cropland	Native Aquatic Species Conservation Waters HPH Topography Would require 2 additional locations to capture minerals	
Additional Comments			Can Mitigate for all triggered criteria	Not useable	Higher Impact due to increased number of locations	Higher Impact due to central location and short laterals	Surface owner discourages development	Higher Impact due to central location and short laterals	Not useable	Higher Impact due to increased number of locations	Higher Impact due to increased number of locations	Not useable	Higher Impact due to increased number of locations	Higher Impact due to increased number of locations	
Tier Interpretation		ALA Criteria Triggered Total	4	2	3	2	2	2	1	2	1	1	1	1	



## Proposed Paul Nelson 25-29HZ Location NWSE Section 29: Tier IV-A

### Disadvantages and Triggered ALA Criteria

Disadvantages to the Working Pad Surface (WPS) of the preferred proposed location include triggers of the following ALA criteria:

- [Rule 304.b.\(2\).B.i](#) The proposed WPS is within 2,000 feet of 1 or more Residential Building Units (RBU) or High Occupancy Building Units (HOBUs).
  - The WPS is within 500 to 1,000 feet of one RBU the closest being 938 feet to the east. The WPS is within 1,001-2,000 feet of seven RBUs
- [Rule 304.b.\(2\).B.v](#) The proposed WPS is within a floodplain;
  - The location is just outside of the boundary of historic 2016 effective floodplain (FEMA) and within the 2020 preliminary floodplain of the Big Thompson River.
    - KMOG's initial reviews of this location did not consider the location to be in the floodplain. Weld County floodplain specialists are using the more conservative preliminary floodplain which is anticipated to be adopted by FEMA in the first half of 2022. Please see further discussion in the Additional Information and Proposed Mitigation Measures section of this location.
- [Rule 304.b.\(2\).B.viii](#) The proposed Oil and Gas Location is within High Priority Habitat (HPH).
  - The WPS is within HPH associated with Mule Deer Severe Winter Range.
- [304.b.\(2\).B.viii+](#) The proposed Oil and Gas Location is within HPH associated with native aquatic species conservation waters (within 500 feet of Ordinary High Water Mark (OHWM))
  - An initial desktop review of the Paul Nelson 25-29HZ location indicated the WPS of the location may have triggered Rule 304.b.(2).B.vii, however, upon verification in the field wildlife specialists confirmed that the OHWM associated with native aquatic species conservation waters was closer to the proposed location than the desktop review indicated.
- Additional disadvantages to this location include its position within crop land. KMOG attempts to avoid or minimize the impact to agriculture which is important to both the landowners and the relevant local government, Weld County.
- This location requires indirect impacts due to more than five active locations per square mile.

### Advantages

Advantages to the WPS of the preferred proposed location include triggers of the following ALA criteria:

- The proposed location is not within 2,000 feet of a HOBUs
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no Disproportionately Impacted Communities (DIC) within 2,000 feet.
- There are no municipal or county boundaries within 2,000 feet and no objections from the relevant local government, Weld County.
- The proposed oil and gas location is not within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The proposed Oil and Gas Location is not within the boundaries of, or immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor.
- The surface owners at this location encourage development of their land and a surface owner protection bond to access the proposed Oil and Gas Location is not required.

- The Paul Nelson 25-29HZ location allows KMOG to drill 17 wells from one surface location, minimizing the number of necessary wellbores, surface equipment and eliminating the need for additional surface locations to efficiently capture the hydrocarbons associated with the mineral rights.
- KMOG's best in class Best Management Practices (BMPs) allow for minimization and mitigation and minimal impacts.

### Potential Impacts to the Environment

- Potential impacts to the environment related to the development of this location are anticipated to be minimal because of stringent BMPs.
- As a result of the location's position in Mule Deer Severe Winter Range HPH, KMOG will adhere to timing stipulations and compensate CPW for direct mitigation fees so that they may offset any potential impacts.
  - KMOG will also compensate CPW for indirect impacts because of more than five locations per square mile.
  - The western portion of the Facility Pad WPS is within 500 feet of the OHWM of HPH associated with native aquatic species conservation waters. KMOG has obtained a waiver from CPW for the placement of chemical totes.
  - The equipment on the pad will be protected in the unlikely event that a flood occurs.
  - KMOG also uses the Integrated Operations Center (IOC) which can shut in facilities remotely 24 hours per day, seven days per week.
  - During the production phase, KMOG anticipates minimal to no noise, dust, and light impacts to any nearby wildlife.
  - For further detail please see the Wildlife Mitigation Plan

### Permitting considerations for this Location

- A Surface Use Agreement (SUA) has been executed with the surface owners, Nelson Family LLC
- A Weld County 1041-WOGLA permit has been submitted and passed completeness with a WOGLA hearing date currently scheduled for December 16, 2021
- A Floodplain Hazard Development Permit has been submitted to Weld County
- An Access Permit has been submitted to and approved by Weld County
- An Emergency Action Plan has been submitted to Front Range Fire Rescue

### Additional Information and Proposed Mitigation Measures

The list below details additional information and potential BMPs that will allow KMOG to mitigate or reduce the impacts created by use of the proposed location. For a complete list of BMPs please see each of the specific plans included in the OGD submittal.

- **Rule 304.b.(2).B.i** The proposed WPS is within 2,000 feet of one or more RBU or HOBUs.
  - To the extent possible KMOG will minimize noise, dust, light that may affect nearby residents.
    - Sound walls on part of the north side, the complete east side and part of the southern side of the pad will drastically reduce the amount of noise and light experienced outside of the location.
    - All lighting will be LED in order to reduce skyglow and directed inward and downward
    - Strict speed limits will be followed, and water will be deployed along the access road if needed to reduce dust
    - Odor reducing additives will be added to the drilling fluid
- **Rule 304.b.(2).B.v** The proposed WPS is within a floodplain;

- After review of the site and site characteristics, it was determined that the preliminary floodplain boundaries near the proposed project area don't accurately represent existing hydraulic conditions. Great Western Railroad tracks run parallel to the Big Thompson River between the proposed project area and the river. According to the preliminary floodplain study the 100-year event base flood elevation (BFE) will not overtop the railroad tracks along the area adjacent to the proposed project area.
- ⊖ An existing culvert located just south of the intersection of County Road 15 ½ and Great Western Railroad was analyzed for the potential of providing connectivity across the railroad tracks. The existing culvert was found to convey a maximum of 7.8 cfs during the 100-year event. The culvert flows away from the project site back toward the river but would allow backwater conveyance during flooding events. Along the east side, the culvert is linked to a ditch and natural topography that drains to the southeast, away from the project area.
- In addition to connectivity provided by the existing culvert, potential connectivity due to backwater effects was also analyzed. According to the HEC-RAS model used for the preliminary study, floodwaters from below the Great Western Railroad bridge will create backwater that floods to the north, over County Road 52, with a water surface elevation of 4782.0 feet. Due to existing topography across the field to the north (upslope and upstream), backwater will not reach the proposed well pad or production facility as the backwater flood depth is less than the lowest point (4784.0 feet) on the proposed well pad.
- At the time of this analysis, the public comment period for the preliminary flood study was already closed. Because the study is not yet effective, a Letter of Map Amendment (LOMA) or Letter of Map Revision (LOMR) could not be completed proving that the location is, in fact, out of the floodplain. Due to the timing of the permit related to the release of the preliminary floodplain study, Weld County requested the submittal of a Flood Hazard Development Permit (FHDP) application based on the preliminary floodplain study. A FHDP application adhering to all floodplain development requirements was submitted to Weld County and was approved on December 3, 2021.
- As discussed in the FHDP application, flooding depths were analyzed using data from the preliminary floodplain study and corresponding HEC-RAS model (without adjusting for the actual hydraulic conditions). The maximum depth of water near facility equipment during the 100-year event would be approximately 0.4 feet. At this depth, flood water would not overtop secondary containment berms (1.5 feet tall) placed around the separators and tanks. The maximum depth of water on the well pad at the wells would be approximately 2.8 feet. Furthermore, the HEC-RAS model used for the preliminary floodplain study classifies the area east of the railroad tracks (project area) as ineffective flow. By definition, ineffective flow area contains water but will have no conveyance as the velocity is assumed to be zero.
- In addition to potential floodwater conditions from the Big Thompson River, on-site flooding due to stormwater detention has been evaluated. Per Weld County requirements, on-site stormwater from the proposed project area will be detained. During both the construction and production phases, stormwater from the facility and well pad will be held on the well pad using berms and ditches and will be released at reduced rates. During the 100-year event, stormwater stored on the well pad will pond to a maximum depth of 1.1 feet.

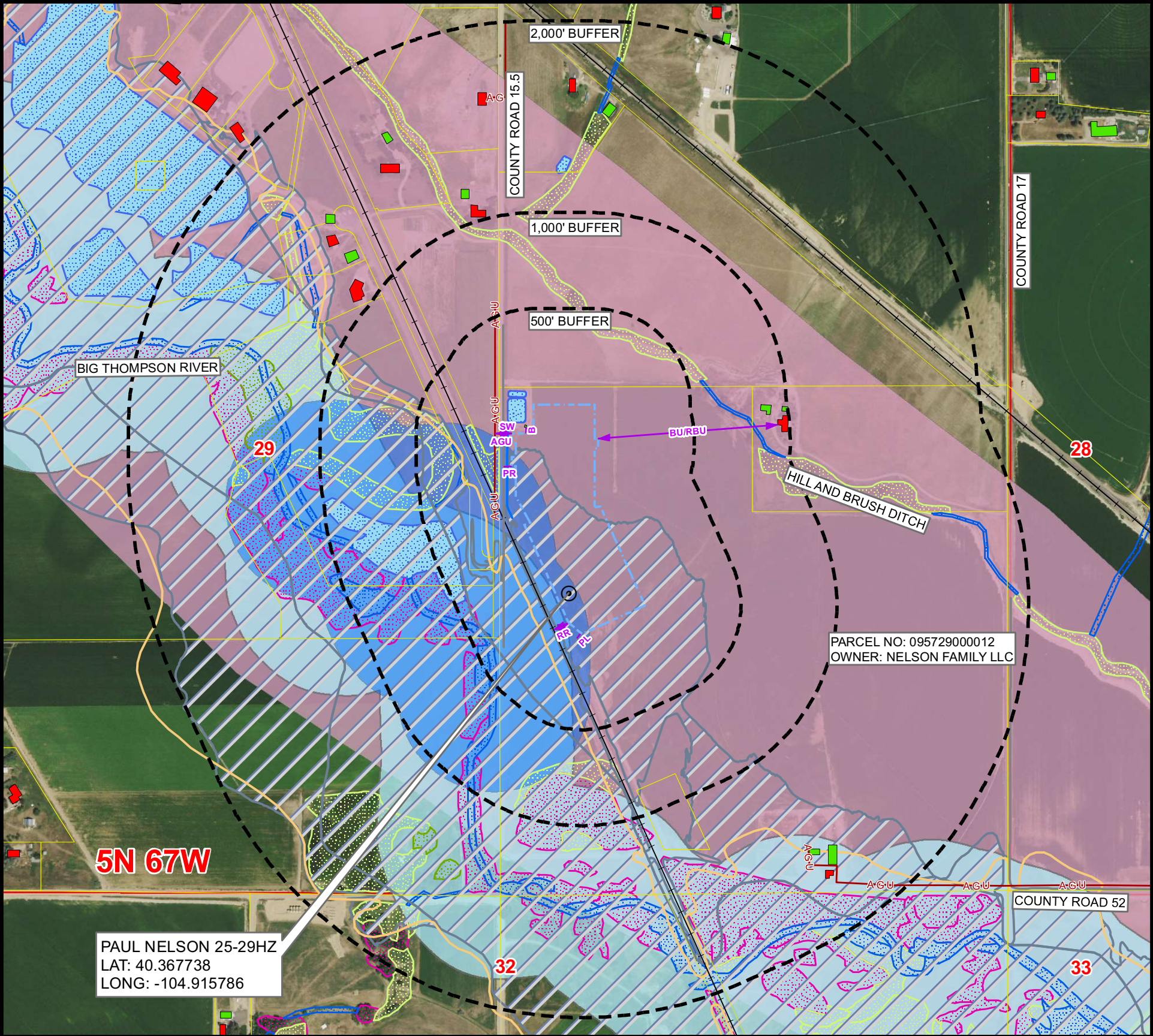
- KMOG's FHDP was approved on December 3, 2021 with the following conditions, which KMOG will comply with.
  - The applicant shall ensure that the site remains in compliance with FEMA, Colorado Water Conservation Board, and Weld County floodplain regulations (Chapter 23, Article XI) at all times.
  - All oil and gas production facilities including tank batteries shall be anchored to resist flotation, collapse or lateral movement. Oil and gas production facilities shall be elevated, flood proofed, or flood vented as appropriate. Typical anchoring systems include, but are not limited to, cables over the tanks that are tied to an anchor rod, bolting to a concrete pad, and/or pouring concrete into a tank to provide enough weight to prevent flotation.
  - If fill material is to be used in the floodplain, a registered Colorado Professional Engineer shall certify that the fill material is designed to withstand the erosional forces associated with the base flood.
  - Outside storage of floatable materials associated with non-agricultural uses shall not be allowed. Materials that are not floatable can be stored outside provided that a floodplain development permit is obtained.
  - The applicant shall ensure that all proposed or existing structures will or do meet the minimum setback and offset requirements for the zone district in which the property is located.
  - The well pad and associated production facilities shall be oriented parallel to flood flows within the floodplain to minimize the obstruction of the water flows.
  - Fencing around the well pad shall be of an open rail design to prevent the accumulation of debris during a flood event. The fence must allow flood water to rise and recede without being impeded.
  - Any future placement of fill within the FEMA defined 100-year floodplain shall obtain a Flood Hazard Development Permit prior to the placement of fill.
  - Any development on this parcel within the FEMA defined floodplain shall not cause a rise in the BFE on adjacent or upstream properties or structures.
  - Photographic evidence of the tank anchoring shall be provided to the Weld County Department of Planning Services.
  - If there are pipes entering and/or exiting the meter shed or separator additional anchoring may not be required if the equipment is located in the flood fringe. If the equipment is located in a floodway, it will need to be anchored.
  - The VOC burner is required to be bolted to the pad or anchored in another manner.
  - Storage structures and other buildings at a well pad are required to be flood proofed.
  - All electrical equipment is required to be elevated a minimum of 1 foot above the BFE or 4 feet above the ground if the BFE is undetermined. The BFE, if determined, shall be identified on site by a clear visible marking and shall be available at the time of electrical inspection or an elevation certificate will be required
  - A Building Permit for oil and gas equipment and electrical shall be submitted to the Weld County Building Inspection Department prior to setting equipment.
- In summary: an in-depth analysis was conducted by a Colorado certified professional engineer via KMOG's contracted surveyors 609 Consulting, LLC. This review indicates the following:
  - Portions of the WPS are in the floodplain, but not in the floodway.

- During the one-percent annual chance event the modeled water depths do not indicate the water would be deep enough to top the Great Western Railway railroad track that runs adjacent to the location and parallel to the Big Thompson River.
  - Flood flow velocities of zero will not cause erosion or negatively impact soil piles or pad fill toes.
- Rule 304.b.(2).B.viii The proposed Oil and Gas Location is within HPH.
  - Seasonal Stipulations: In order to reduce and potentially eliminate impacts to Mule Deer for this location, KMOG has agreed to limit construction operations to the time between May 1 and November 30.
  - KMOG has coordinated with CPW and agreed to compensate CPW for both direct and indirect impacts associated with the placement of this location.
- Rule 304.b.(2).B.viii+ The proposed Oil and Gas Location is within HPH R. Cutthroat Trout designated crucial habitat and native fish and other native aquatic species conservation waters (within 500 feet of OHWM)
  - An initial desktop review of the Paul Nelson 25-29HZ location indicated the WPS of the location may have triggered 304.b.(2).B.vii, however upon verification in the field wildlife specialists confirmed that the OHWM associated with native aquatic species conservation waters was closer to the proposed location than the desktop review indicated.
  - KMOG is working with CPW to obtain a waiver for storage tanks located within 500 feet of the OHWM associated with native aquatic species conservation waters. The waiver will be sent to COGCC when acquired.



ALTERNATIVE LOCATION ANALYSIS - DATA MAP - PROPOSED LOCATION  
PAUL NELSON 25-29HZ

SECTION 29, 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	0	1	7
RESIDENTIAL BUILDING UNIT	0	1	7
HIGH OCCUPANCY BUILDING UNIT	0	0	0
SCHOOL PROPERTY	0	0	0
SCHOOL FACILITY	0	0	0
DESIGNATED OUTSIDE ACTIVITY AREA	0	0	0

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.

MEASURED FROM THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±31' N
BU	BUILDING UNIT	±938' E
RBU	RESIDENTIAL BUILDING UNIT	±938' E
HOB	HIGH OCCUPANCY BUILDING UNIT	2000'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	2000'+
PR	PUBLIC ROAD	±44' W
AGU	ABOVE GROUND UTILITY	±89' W
RR	RAILROAD	±87' SW
PL	PROPERTY LINE	±36' SW
S	SCHOOL FACILITY	2000'+
CC	CHILD CARE CENTER	2000'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	2000'+
MB	MUNICIPALITY BOUNDARY	2000'+
CB	COUNTY BOUNDARY	2000'+
SW	SURFACE WATER	±23' W
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	2000'+
HPH	HIGH PRIORITY HABITAT	±0'

**Legend**

PROPOSED REFERENCE POINT

PROPOSED WORKING PAD SURFACE

BUFFER

BUILDING

BUILDING UNIT

RESIDENTIAL BUILDING UNIT

HEALTH FACILITY

SCHOOL FACILITY

CHILD CARE FACILITY

AGU - 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 (EFFECTIVE, 2016)

100-YEAR FLOODPLAIN (PRELIMINARY, 2020)

GUDI SOURCE LOCATIONS (RULE 411)

TYPE III WELL LOCATIONS (RULE 411)

DISPROPORTIONATELY IMPACTED COMMUNITY

PARCEL BOUNDARY

JURISDICTIONAL BOUNDARY

AQUATIC NATIVE SPECIES CONSERVATION WATERS

MULE DEER SEVERE WINTER RANGE

BALD EAGLE ROOST SITE

BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER

BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER

ORDINARY HIGH WATER MARK (500 FT BUFFER)

**Kerr-McGee Oil & Gas Onshore L.P.**

1099 18th Street  
Denver, Colorado 80202

**609 Consulting, LLC**

LOVELAND OFFICE  
6706 North Franklin Avenue  
Loveland, Colorado 80538  
Phone 970-776-4331

SHERIDAN OFFICE  
1095 Saberton Avenue  
Sheridan, Wyoming 82801  
Phone 307-674-0609

Drawn by: CPS  
Revised: BB

Date: 29 Apr 2021  
Date: 8 Sep 2021

NAD83 CO-Nft  
Scale: 1" = 600ft

## Alternative Location 1 NESW Sec 27: Tier IV-B

### Disadvantages and Triggered ALA Criteria

Disadvantages to Alternative Location 1 (AL1) include triggers of the following ALA criteria:

- Rule 304.b.(2).B.i The proposed WPS is within 2,000 feet of one or more RBUs or HOBUs.
  - The location is within 500 - 1,000 feet of one RBU, 633 feet to the south. The location is within 1,000 - 2,000 feet of 17 RBUs.
- Rule 304.b.(2).B.vii The proposed Oil and Gas Location is within the boundaries of, or is immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor.
  - The location is east of and directly upgradient from mapped wetlands
- Additional disadvantages to this location include:
  - This location is within the Town of Milliken on a parcel that was deeded to the Town with guidance that no development can occur and that the land is to be preserved for use as a part of a trail system in the future.
  - Operational limitations restrict the ability to access the same minerals captured by the Paul Nelson 25-29HZ preferred location due to large back builds and associated horizontal well step-outs. Requiring one to two additional locations.
  - Challenging topography for construction and access.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1.

### Advantages

Advantages for AL1 include a lack of triggers of the following ALA criteria:

- The proposed location is not within 2,000 feet of a HOBUs
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no DICs within 2,000 feet.
- The location is not within a floodplain.
- The proposed oil and gas location is not within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).

### Potential Impacts to the Environment

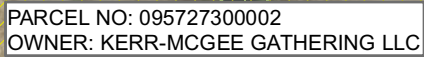
Potential impacts to the environment related to the development of this location would be minimal because of stringent BMPs that will be implemented throughout the duration of operations.

### Permitting considerations for this location

- This location is in the Town of Milliken a USR permit would be required
- An Emergency Action Plan would be required to be submitted to Front Range Fire Rescue



**ALTERNATIVE LOCATION ANALYSIS - DATA MAP - ALTERNATE LOCATION 1**  
**CHARLENE NELSON 12-34HZ & PAUL NELSON 25-29HZ**



# OF CULTURAL FEATURES WITHIN	0-500 FEET	501-1,000 FEET	1,001-2,000 FEET
BUILDING UNIT	0	1	17
RESIDENTIAL BUILDING UNIT	0	1	17
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 FROM THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±633' S
BU	BUILDING UNIT	±745' S
RBU	RESIDENTIAL BUILDING UNIT	±745' S
HOB	HIGH OCCUPANCY BUILDING UNIT	2000'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	2000'+
PR	PUBLIC ROAD	±909' S
AGU	ABOVE GROUND UTILITY	±787' S
RR	RAILROAD	2000'+
PL	PROPERTY LINE	±278' E
S	SCHOOL FACILITY	2000'+
CC	CHILD CARE CENTER	2000'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	2000'+
MB	MUNICIPALITY BOUNDARY	±0'
CB	COUNTY BOUNDARY	2000'+
SW	SURFACE WATER	±180' NW
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	2000'+
HPH	HIGH PRIORITY HABITAT	2000'+

NOTE:  
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### Legend

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

**Kerr-McGee Oil &  
Gas Onshore L.P.**

**1099 18th Street  
Denver, Colorado 80202**



**Consulting, LLC**

Drawn by: CPS  
Revised: CPS

Date: 29 Apr 2021  
Date: 3 Sep 2021



NAD83 CO-Nft  
Scale: 1" = 600ft



## Alternative Location 2 SWSW Sec 28: Tier IV-B

### Disadvantages and Triggered ALA Criteria

Disadvantages to Alternative Location 2 (AL2) include triggers of the following ALA criteria:

- Rule 304.b.(2).B.i The proposed WPS is within 2,000 feet of 1 or more RBUs or HOBUs.
  - The location is within 1,001-2,000 feet of four RBUs. The closest of which is 1,001 feet to the southeast.
- Rule 304.b.(2).B.vii The proposed Oil and Gas Location is within the boundaries of, or is immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor.
  - The location is west of fresh emergent wetlands
- Rule 304.b.(2).B.viii The proposed Oil and Gas Location is within HPH.
  - The location is within HPH associated with Mule Deer Severe Winter Range
- Utilizing this location would be operationally challenging to capture the northernmost wells. To make this a viable location, Alternate Location 3 or 7 and possibly 4, 5, or 6 may also be needed to develop the same area that the Paul Nelson 25-29HZ develops.
- This location is located within crop land. KMOG attempts to avoid or minimize the impact to agriculture which is important to both the landowners and the relevant local government, Weld County.
- This location would require indirect impacts due to more than 5 active locations per square mile.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1

### Advantages

Advantages for AL2 include a lack of triggers of the following ALA criteria:

- The proposed location is not within 2,000 feet of a HOBUs.
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no disproportionately impacted communities (DIC) within 2,000 feet.
- There are no municipal or county boundaries within 2,000 feet and KMOG does not anticipate that there would be objections from the relevant local government, Weld County.
- The location is not within a floodplain.
- The proposed oil and gas location is not within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The proposed location is not within HPH for native aquatic species conservation waters.

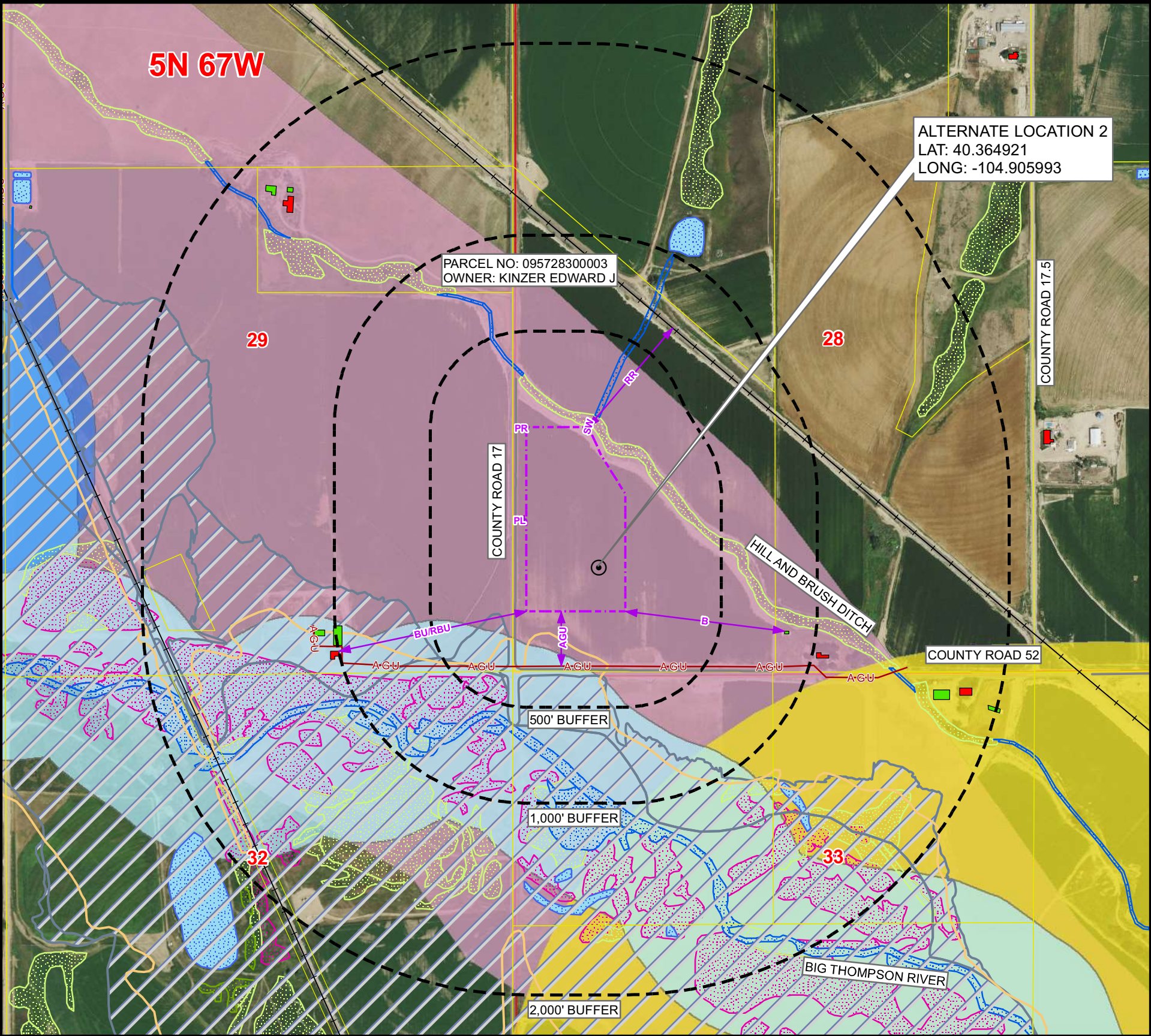
### Potential Impacts to the Environment

Potential impacts to the environment related to the development of this location would be minimal because of stringent BMPs. As a result of the location's placement in Mule Deer Severe Winter Range HPH, KMOG would work with CPW to consider timing stipulations and other considerations.

### Permitting considerations for this location

- KMOG would attempt to negotiate an SUA with the surface owners at this location and a surface owner protection bond to access the proposed Oil and Gas Location would not likely be required.
- A Weld County 1041-WOGLA permit would be required
- An Access Permit would be required to be submitted to Weld County
- An Emergency Action Plan would be required to be submitted to Front Range Fire Rescue

ALTERNATIVE LOCATION ANALYSIS - DATA MAP - ALTERNATE LOCATION 2  
CHARLENE NELSON 12-34HZ & PAUL NELSON 25-29HZ  
SECTION 28, 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	0	0	4
RESIDENTIAL BUILDING UNIT	0	0	4
HIGH OCCUPANCY BUILDING UNIT	0	0	0
SCHOOL PROPERTY	0	0	0
SCHOOL FACILITY	0	0	0
DESIGNATED OUTSIDE ACTIVITY AREA	0	0	0

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.

MEASURED FROM THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±837' E
BU	BUILDING UNIT	±1001' W
RBU	RESIDENTIAL BUILDING UNIT	±1001' W
HOB	HIGH OCCUPANCY BUILDING UNIT	2000'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	2000'+
PR	PUBLIC ROAD	±55' W
AGU	ABOVE GROUND UTILITY	±287' S
RR	RAILROAD	±678' NE
PL	PROPERTY LINE	±70' W
S	SCHOOL FACILITY	2000'+
CC	CHILD CARE CENTER	2000'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	2000'+
MB	MUNICIPALITY BOUNDARY	2000'+
CB	COUNTY BOUNDARY	2000'+
SW	SURFACE WATER	±3' NE
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	2000'+
HPH	HIGH PRIORITY HABITAT	±0'

Legend

- PROPOSED REFERENCE POINT

ALTERNATE OIL AND GAS LOCATION

BUFFER

BUILDING

NON-RESIDENTIAL BUILDING UNIT

RESIDENTIAL BUILDING UNIT

HEALTH FACILITY

SCHOOL FACILITY

CHILD CARE FACILITY

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 (EFFECTIVE, 2016)
- 100-YEAR FLOODPLAIN (PRELIMINARY, 2020)

GUDI SOURCE LOCATIONS (RULE 411)

TYPE III WELL LOCATIONS (RULE 411)

DISPROPORTIONATELY IMPACTED COMMUNITY

PARCEL BOUNDARY

JURISDICTIONAL BOUNDARY

AQUATIC NATIVE SPECIES CONSERVATION WATERS

MULE DEER SEVERE WINTER RANGE

BALD EAGLE ROOST SITE

BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER

BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER

ORDINARY HIGH WATER MARK (500 FT BUFFER)

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Drawn by: CPS  
Revised: CPS  
Date: 29 Apr 2021  
Date: 3 Sep 2021



NAD83 CO-Nft  
Scale: 1" = 600ft



## Alternative Location 3 NWNE Section 28: Tier III-B

### Disadvantages and Triggered ALA Criteria

Disadvantages to Alternative Location 3 (AL3) include triggers of the following ALA criteria:

- Rule 304.b.(2).B.i The proposed WPS is within 2,000 feet of one or more RBUs or HOBUs.
  - The location is within 500 to 1,000 feet of three RBUs and 1,001 - 2,000 feet of two RBUs. The closest of which is 623 feet to the west.
- Rule 304.b.(2).B.iv The proposed WPS is less than 2,000 feet of a municipal or county boundary, and the Proximate Local Government objects to the location or requests an alternative location analysis;
  - The location is 1,760 feet away from the Town of Milliken. It is unknown whether the Town of Milliken would object or require an alternative location analysis.
- Rule 304.b.(2).B.vii The proposed Oil and Gas Location is within the boundaries of, or is immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor.
  - The location is west of and upgradient from a riparian corridor, a freshwater pond, and a mapped freshwater emergent wetland.
- Additional disadvantages to this location include its position within the center of the proposed DSU.
  - Short-lateral wells would have to be drilled if this location were used, requiring twice the number of wells. This would necessitate a larger pad and increase surface disturbance and related equipment placed on location.
  - In addition to a larger less efficient pad the location would not be able to reach the minerals captured by the wells at the Paul Nelson 25-29HZ location and Alternate Locations 4, 5, or 6 would also be required for development.
  - This location would require indirect impacts due to more than five active locations per square mile.
  - This location is within a center-pivot. KMOG attempts to avoid or minimize the impact to agriculture which is important to both landowners and the relevant local government, Weld County.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1.

### Advantages

Advantages for AL3 include a lack of triggers of the following ALA criteria:

- The location is not within 2,000 feet of a HOBUs
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no DICs within 2,000 feet.
- The location is not within a floodplain.
- The location is not within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The location is not within the boundaries of, or is immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor.
- The location is not within HPH

### Permitting considerations for this location

- KMOG would attempt to negotiate an SUA with the surface owners at this location and a surface owner protection bond to access the proposed Oil and Gas Location would not likely be required.
- A Weld County 1041-WOGLA permit would be required
- An Emergency Action Plan would be required to be submitted to Front Range Fire Rescue



[illegible]

MEASURED FROM THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±519' W
BU	BUILDING UNIT	±623' W
RBU	RESIDENTIAL BUILDING UNIT	±623' W
HOB	HIGH OCCUPANCY BUILDING UNIT	2000'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	2000'+
PR	PUBLIC ROAD	±483' N
AGU	ABOVE GROUND UTILITY	±504' N
RR	RAILROAD	2000'+
PL	PROPERTY LINE	±52' E
S	SCHOOL FACILITY	2000'+
CC	CHILD CARE CENTER	2000'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	2000'+
MB	MUNICIPALITY BOUNDARY	±1760' SE
CB	COUNTY BOUNDARY	2000'+
SW	SURFACE WATER	±704' E
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	2000'+
HPH	HIGH PRIORITY HABITAT	2000'+

## Legend

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



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**NAD83 CO-Nft**  
**Scale: 1" = 600ft**



## Alternative Location 4 SENW Section 32: Tier IV-B

### Disadvantages and Triggered ALA Criteria

Disadvantages to Alternative Location 4 (AL4) include triggers of the following ALA criteria:

- Rule 304.b.(2).B.i The proposed WPS is within 2,000 feet of one or more RBUs or HOBUs.
  - The location is within 0 to 500 feet of two RBUs, 500 to 1,000 feet of two RBUs, and 1,001 to 2,000 feet of two RBUs. The closest of which is 312 feet to the southeast.
  - The surface owner and resident of the RBU 312 feet to the southeast indicated they would discourage development at this location.
- Rule 304.b.(2).B.vii The proposed Oil and Gas Location is within the boundaries of, or is immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor.
  - There are fresh emergent wetlands to the east of the location
- This location is located within crop land. KMOG attempts to avoid or minimize the impact to agriculture which is important to both the landowners and the relevant local government, Weld County.
- After preliminary conversations with the surface owner, KMOG interprets that securing a surface use agreement at this location would not be achievable.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1.

### Advantages

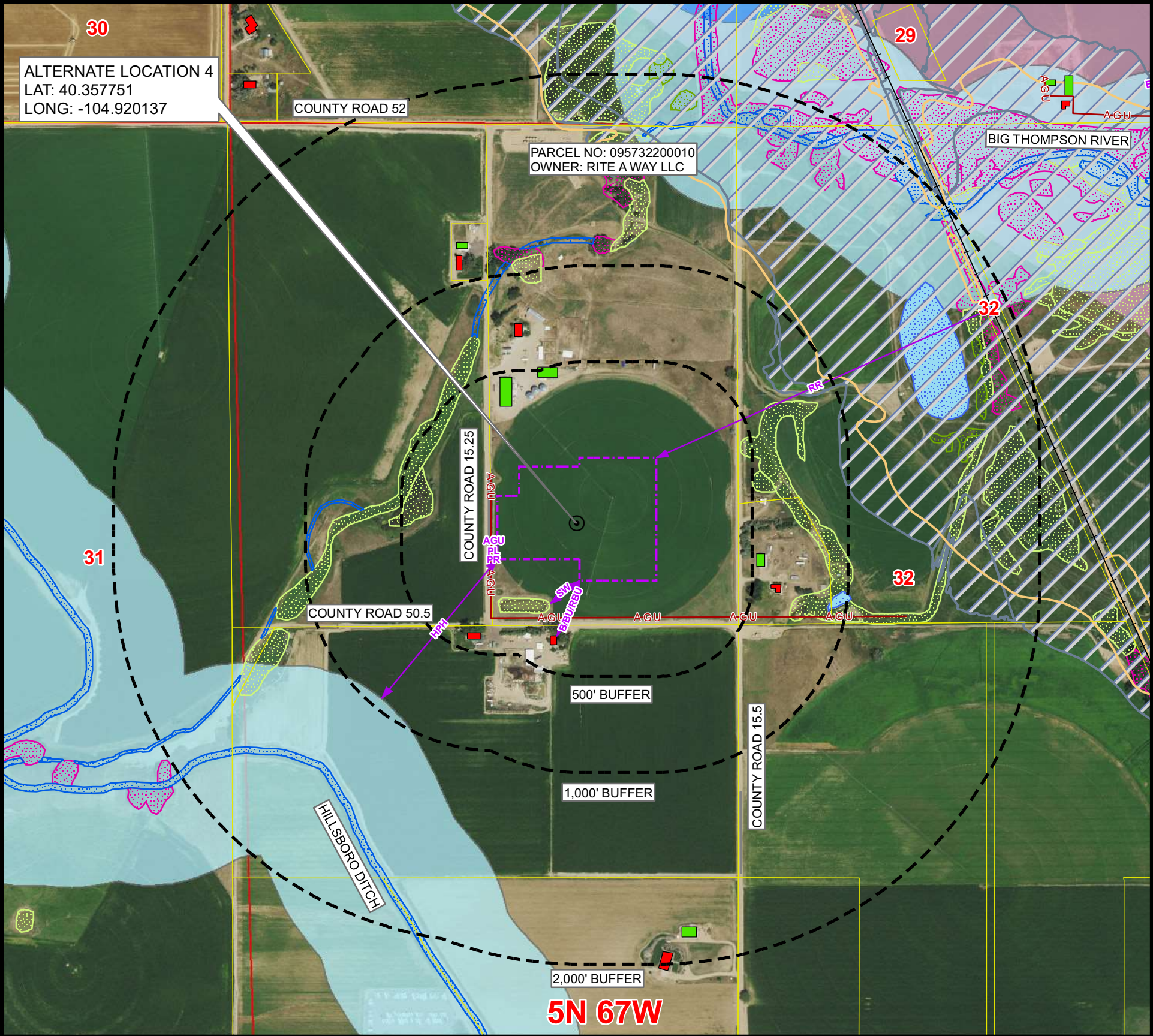
Advantages for AL4 include a lack of triggers of the following ALA criteria:

- The proposed location is not within 2,000 feet of a High Occupancy Building Units (HOBUs)
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no DICs within 2,000 feet.
- There are no municipal or county boundaries within 2,000 feet and no objections from the relevant local government, Weld County.
- The location is not within a floodplain.
- The proposed oil and gas location is not within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The location is not within HPH

### Permitting considerations for this location

- A Weld County 1041-WOGLA permit would be required
- An Access Permit would be required to be submitted to Weld County
- An Emergency Action Plan would be required to be submitted to Front Range Fire Rescue

ALTERNATIVE LOCATION ANALYSIS - DATA MAP - ALTERNATE LOCATION 4  
CHARLENE NELSON 12-34HZ & PAUL NELSON 25-29HZ  
SECTION 32, 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	2	2	2
RESIDENTIAL BUILDING UNIT	2	2	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

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.

MEASURED FROM THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±312' S
BU	BUILDING UNIT	±312' S
RBU	RESIDENTIAL BUILDING UNIT	±312' S
HOB	HIGH OCCUPANCY BUILDING UNIT	2000'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	2000'+
PR	PUBLIC ROAD	±43' W
AGU	ABOVE GROUND UTILITY	±33' W
RR	RAILROAD	±1914' NE
PL	PROPERTY LINE	±30' W
S	SCHOOL FACILITY	2000'+
CC	CHILD CARE CENTER	2000'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	2000'+
MB	MUNICIPALITY BOUNDARY	2000'+
CB	COUNTY BOUNDARY	2000'+
SW	SURFACE WATER	±195' SW
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	2000'+
HPH	HIGH PRIORITY HABITAT	±943' SW

**Legend**

- PROPOSED REFERENCE POINT
- ALTERNATE OIL AND GAS LOCATION
- BUFFER
- BUILDING
- NON-RESIDENTIAL BUILDING UNIT
- RESIDENTIAL BUILDING UNIT
- HEALTH FACILITY
- SCHOOL FACILITY
- CHILD CARE FACILITY
- 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 (EFFECTIVE, 2016)
- 100-YEAR FLOODPLAIN (PRELIMINARY, 2020)
- GUDI SOURCE LOCATIONS (RULE 411)
- TYPE III WELL LOCATIONS (RULE 411)
- DISPROPORTIONATELY IMPACTED COMMUNITY
- PARCEL BOUNDARY
- JURISDICTIONAL BOUNDARY
- AQUATIC NATIVE SPECIES CONSERVATION WATERS
- MULE DEER SEVERE WINTER RANGE
- BALD EAGLE ROOST SITE
- BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER
- BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER
- ORDINARY HIGH WATER MARK (500 FT BUFFER)

## Kerr-McGee Oil & Gas Onshore L.P.

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Drawn by: CPS  
Revised: CPS

Date: 29 Apr 2021  
Date: 3 Sep 2021

NAD83 CO-Nft  
Scale: 1" = 600ft



## Alternative Location 6 SENW Section 33: Tier IV-B

### Disadvantages and Triggered ALA Criteria

Disadvantages to Alternative Location 6 (AL6) include triggers of the following ALA criteria:

- Rule 304.b.(2).B.i The proposed WPS is within 2,000 feet of one or more RBUs or HOBUs.
  - The location is within 1,001-2,000 feet of four RBUs. The closest of which is 1,121 feet to the southeast.
- Rule 304.b.(2).B.viii The proposed Oil and Gas Location is within HPH.
  - The location is within HPH associated with Bald Eagle Roost or Communal Roost
  - The location is within the half mile buffer of an Active Bald Eagle Nest Site
- Additional disadvantages to this location include its position within the center of the proposed DSU. This would require two times the number of wells to be drilled, requiring a larger pad increasing surface disturbance. The short-lateral wells would not be able to reach the area captured by the wells at the Paul Nelson location and therefore an additional surface location.
- This location is located within crop land. KMOG attempts to avoid or minimize the impact to agriculture which is important to both the landowners and the relevant local government, Weld County.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1.

### Advantages

Advantages for AL6 include a lack of triggers of the following ALA criteria:

- The proposed location is not within 2,000 feet of a HOBUs
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no DIC within 2,000 feet.
- There are no municipal or county boundaries within 2,000 feet and no objections from the relevant local government, Weld County.
- The location is not within a floodplain.
- The proposed oil and gas location is not within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The proposed Oil and Gas Location is not within the boundaries of, or is immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor.
- The proposed location is not within HPH for native aquatic species conservation waters.
- The surface owners at this location encourage development of their land and a surface owner protection bond to access the proposed Oil and Gas Location is not required.

### Potential Impacts to the Environment

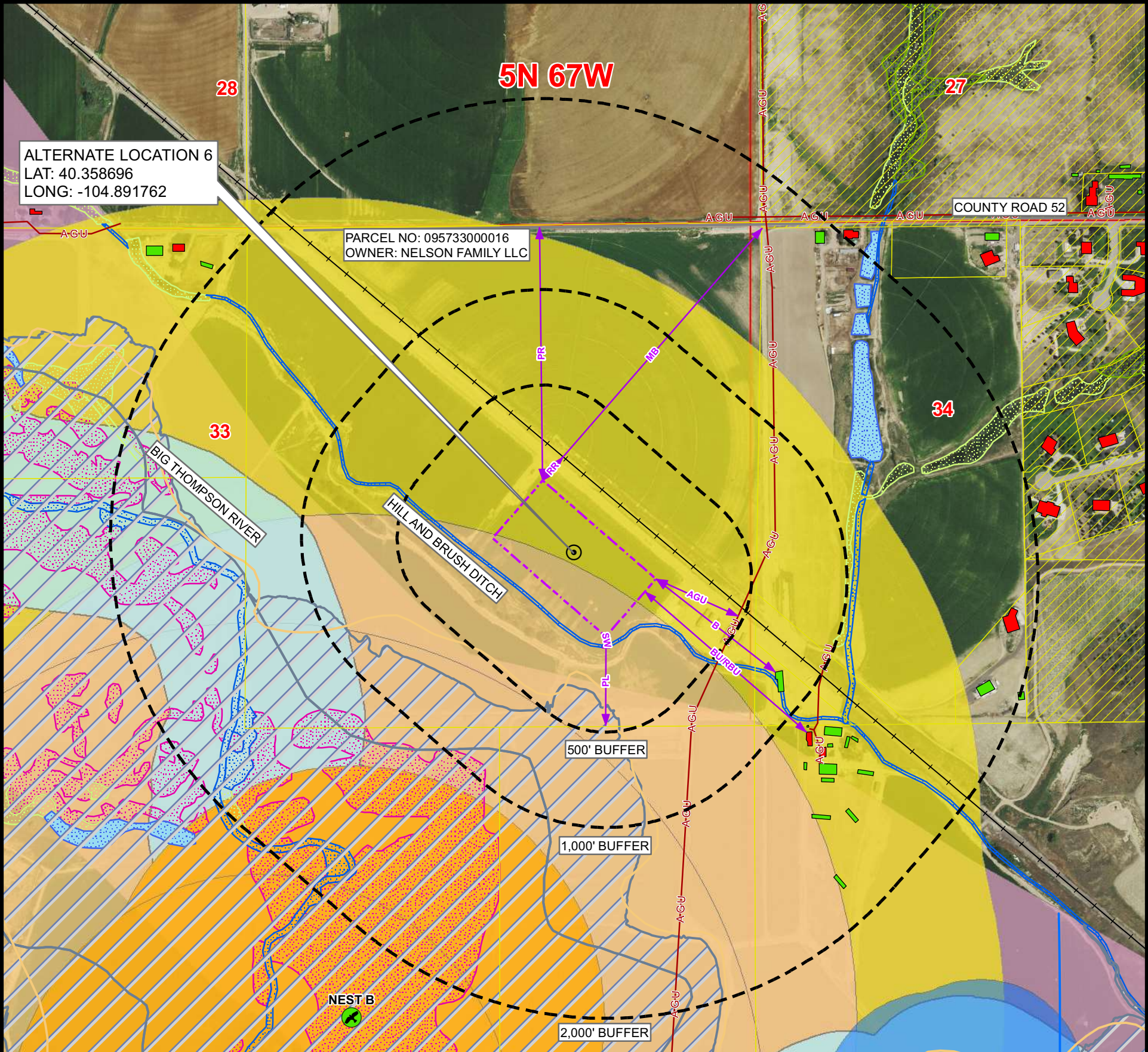
Potential impacts to the environment related to the development of this location would be minimal because of stringent BMPs. As a result of the location's placement in Bald Eagle Roost and within half-mile of an active Bald Eagle Nest site, KMOG would work with CPW to consider timing stipulations.

### Permitting considerations for this location

- A Surface Use Agreement (SUA) has been executed with the surface owners, Nelson Family LLC
- A Weld County 1041-WOGLA permit would be required
- An Access Permit would be required to be submitted to Weld County
- An Emergency Action Plan would be required to be submitted to Front Range Fire Rescue



ALTERNATIVE LOCATION ANALYSIS - DATA MAP - ALTERNATE LOCATION 6  
CHARLENE NELSON 12-34HZ & PAUL NELSON 25-29HZ  
SECTION 33, 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	0	0	4
RESIDENTIAL BUILDING UNIT	0	0	4
HIGH OCCUPANCY BUILDING UNIT	0	0	0
SCHOOL PROPERTY	0	0	0
SCHOOL FACILITY	0	0	0
DESIGNATED OUTSIDE ACTIVITY AREA	0	0	0

NOTE:  
1. BASED ON FIELD CONDITIONS, NEST A IS NOT PRESENT AND NEST B IS ACTIVE.  
2. 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.

MEASURED FROM THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±792' SE
BU	BUILDING UNIT	±1121' SE
RBU	RESIDENTIAL BUILDING UNIT	±1121' SE
HOB	HIGH OCCUPANCY BUILDING UNIT	2000'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	2000'+
PR	PUBLIC ROAD	±1326' N
AGU	ABOVE GROUND UTILITY	±472' SE
RR	RAILROAD	±164' NE
PL	PROPERTY LINE	±467' S
S	SCHOOL FACILITY	2000'+
CC	CHILD CARE CENTER	2000'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	2000'+
MB	MUNICIPALITY BOUNDARY	±1751' NE
CB	COUNTY BOUNDARY	2000'+
SW	SURFACE WATER	±40' S
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	2000'+
HPH	HIGH PRIORITY HABITAT	±0'

Legend

- PROPOSED REFERENCE POINT

ALTERNATE OIL AND GAS LOCATION

BUFFER

BUILDING

NON-RESIDENTIAL BUILDING UNIT

RESIDENTIAL BUILDING UNIT

HEALTH FACILITY

SCHOOL FACILITY

CHILD CARE FACILITY

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 (EFFECTIVE, 2016)

100-YEAR FLOODPLAIN (PRELIMINARY, 2020)

GUDI SOURCE LOCATIONS (RULE 411)

TYPE III WELL LOCATIONS (RULE 411)

DISPROPORTIONATELY IMPACTED COMMUNITY
- PARCEL BOUNDARY

JURISDICTIONAL BOUNDARY

ACTIVE BALD EAGLE NEST SITE

NOT PRESENT BALD EAGLE NEST SITE

AQUATIC NATIVE SPECIES CONSERVATION WATERS

MULE DEER SEVERE WINTER RANGE

BALD EAGLE ROOST SITE

BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER

BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER

ORDINARY HIGH WATER MARK (500 FT BUFFER)

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Drawn by: CPS  
Revised: CPS  
Date: 29 Apr 2021  
Date: 3 Sep 2021

NAD83 CO-Nft  
Scale: 1" = 600ft



## Alternative Location 7 NENE Section 27: Tier III-B

### Disadvantages and Triggered ALA Criteria

Disadvantages to Alternative Location 7 (AL7) include triggers of the following ALA criteria:

- **Rule 304.b.(2).B.i** The proposed WPS is within 2,000 feet of one or more RBUs or HOBUs.
  - The location is within 500 - 1,000 feet of two RBUs, and 1,001 - 2,000 feet of two RBUs. The closest of which is 504 feet to the north.
- **Rule 304.b.(2).B.iv** The proposed WPS is less than 2,000 feet of a municipal or county boundary, and the Proximate Local Government objects to the location or requests an alternative location analysis.
  - The location is 746 feet away from the Town of Milliken. It is unknown whether the Town of Milliken would object or require an alternative location analysis.
  - The location is 1,038 feet away from the City of Greeley. It is unknown whether the City of Greeley would object or require an alternative location analysis.
- **Additional Information:**
  - The surface owner has a private airstrip near the potential locations.
    - Safety is the first concern of KMOG.
    - Due to the proximity of the airstrip, any potential locations on this acreage would not be considered safe either during pre-production activities or production.
    - Safety concerns including, but not limited to the following are the presence of derricks or towers during pre-production activities to both the workers on location as well as the pilot and any passengers; lighting from the location could create visual issues for the pilot; Planes may cause a dangerous distraction to any personnel on location; KMOG does not permit drones overhead of its locations due to the risk of potential distraction.
  - While this location can reach 12 of the 17 wells planned for the preferred Paul Nelson 25-29HZ location, drilling the southernmost wells in the north half of sections 32, 33 and 34 would be significantly operationally challenging with some wellbores beyond KMOG's technical limitations.
    - This option would risk stranding acreage and require KMOG to add a second pad to develop the same area as the Paul Nelson 25-29HZ location.
  - This location is located within crop land. KMOG attempts to avoid or minimize the impact to agriculture which is important to both the landowners and the relevant local government, Weld County.
  - KMOG approached this surface owner regarding this location. During discussions with the landowner, who is also the resident of the RBU that is 504 feet away from the pad, the landowner indicated they would discourage development at this alternate location.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1.

### Advantages

Advantages for AL7 include a lack of triggers of the following ALA criteria:

- The proposed location is not within 2,000 feet of a HOBUs
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no DIC within 2,000 feet.
- The location is not within a floodplain.

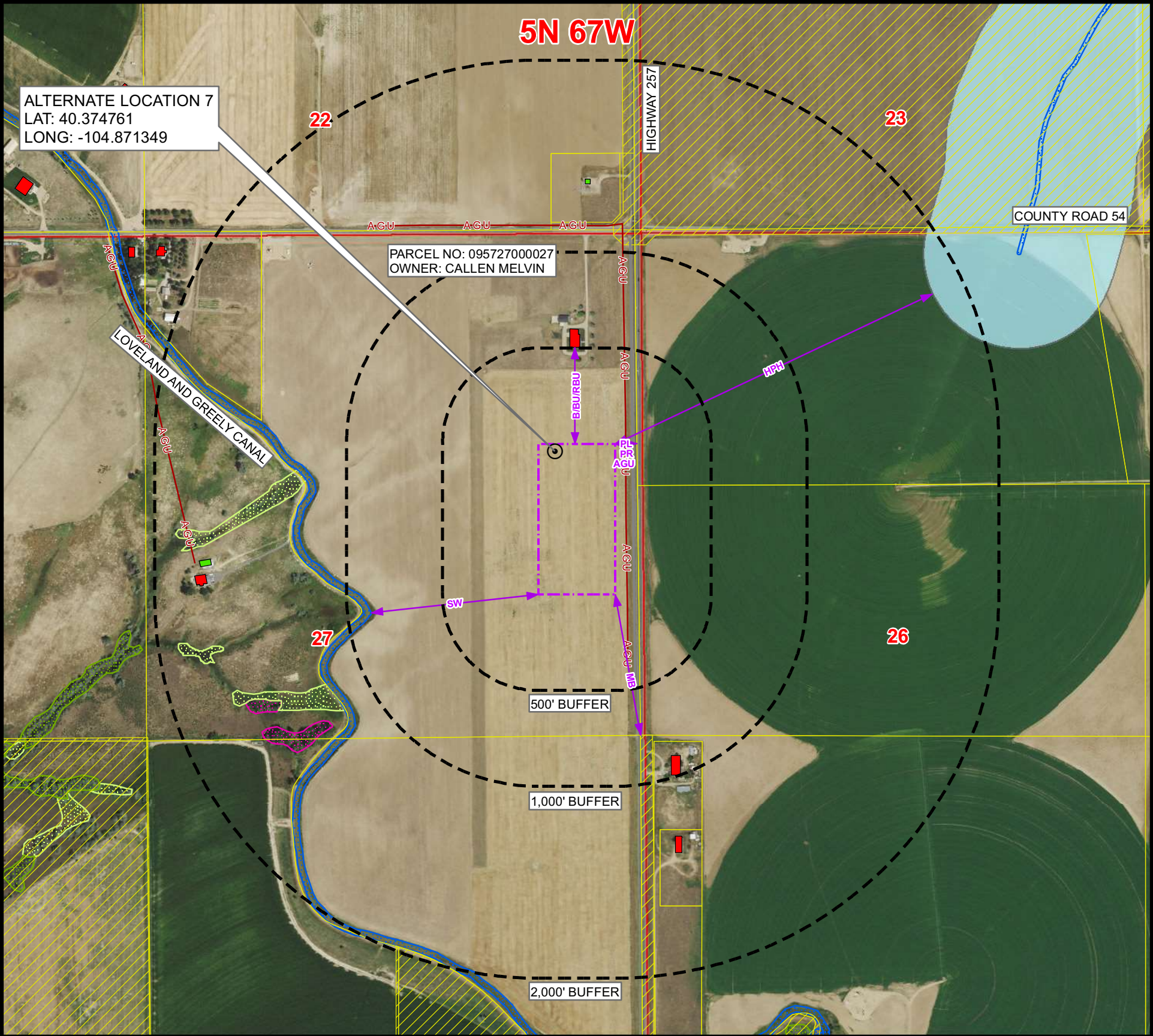
- The proposed oil and gas location is not within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The proposed Oil and Gas Location is not within the boundaries of, or is immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor.
- The proposed location is not within HPH for native aquatic species conservation waters.
- The surface owners at this location encourage development of their land and a surface owner protection bond to access the proposed Oil and Gas Location is not required.

#### Permitting considerations for this location

- KMOG would attempt to negotiate an SUA with the surface owners at this location and a surface owner protection bond to access the proposed Oil and Gas Location would not likely be required.
- A Weld County 1041-WOGLA permit would be required
- An Access Permit would be required to be submitted to Weld County
- An Emergency Action Plan would be required to be submitted to Front Range Fire Rescue



ALTERNATIVE LOCATION ANALYSIS - DATA MAP - ALTERNATE LOCATION 7  
CHARLENE NELSON 12-34HZ & PAUL NELSON 25-29HZ  
SECTION 27, 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	0	2	2
RESIDENTIAL BUILDING UNIT	0	2	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 FROM THE NEAREST		EDGE OF WORKING PAD
B	BUILDING	±504' N
BU	BUILDING UNIT	±504' N
RBU	RESIDENTIAL BUILDING UNIT	±504' N
HOB	HIGH OCCUPANCY BUILDING UNIT	2000'+
DOAA	DESIGNATED OUTSIDE ACTIVITY AREA	2000'+
PR	PUBLIC ROAD	±90' E
AGU	ABOVE GROUND UTILITY	±54' E
RR	RAILROAD	2000'+
PL	PROPERTY LINE	±114' E
S	SCHOOL FACILITY	2000'+
CC	CHILD CARE CENTER	2000'+
DIC	DISPROPORTIONATELY IMPACTED COMMUNITY BOUNDARY	2000'+
MB	MUNICIPALITY BOUNDARY	±746' S
CB	COUNTY BOUNDARY	2000'+
SW	SURFACE WATER	±877' W
PWS	PUBLIC WATER SYSTEM SUPPLY WELL	2000'+
HPH	HIGH PRIORITY HABITAT	±1829' NE

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

HEALTH FACILITY

SCHOOL FACILITY

CHILD CARE FACILITY

AGU- 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 (EFFECTIVE, 2016)

100-YEAR FLOODPLAIN (PRELIMINARY, 2020)

GUDI SOURCE LOCATIONS (RULE 411)

TYPE III WELL LOCATIONS (RULE 411)

DISPROPORTIONATELY IMPACTED COMMUNITY

PARCEL BOUNDARY

JURISDICTIONAL BOUNDARY

AQUATIC NATIVE SPECIES CONSERVATION WATERS

MULE DEER SEVERE WINTER RANGE

BALD EAGLE ROOST SITE

BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER

BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER

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Consulting, LLC

Drawn by: CPS

Revised: CPS

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N

NAD83 CO-Nft

Scale: 1" = 600ft

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23

## Alternative Location NW/4 Sec28: Tier IV-B

Additional ALA for review per OGLA staff recommendation

### Disadvantages and Triggered ALA Criteria

Disadvantages to this location include triggers of the following ALA criteria:

- Rule 304.b.(2).B.i The proposed WPS is within 2,000 feet of one or more RBUs or HOBUs.
  - There are 6 to 8 RBUs within 2,000 feet of the location.
- Rule 304.b.(2).B.vii The proposed Oil and Gas Location is within the boundaries of, or is immediately upgradient from, a mapped, visible, or field-verified wetland or riparian corridor.
  - There is a mapped freshwater emergent wetland in the center of this quarter.
  - This feature follows a topographic low which would create challenges for construction operations.
- This location would not be able to reach the southernmost wells that are captured by the Paul Nelson 25-29HZ location and would require another pad.
- This location is located within crop land. KMOG attempts to avoid or minimize the impact to agriculture which is important to both the landowners and the relevant local government, Weld County.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1.

### Advantages

Advantages this location include a lack of triggers of the following ALA criteria:

- The location is not within 2,000 feet of a HOBUs
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no DIC within 2,000 feetThere are no municipal or county boundaries within 2,000 feet and no anticipated objections from the relevant local government, Weld County.
- The location is not within a floodplain.
- This location is not believed to be within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The location is not within HPH for native aquatic species conservation waters.



## Alternative Location NE/4 Sec 29: Tier IV-B

Additional ALA for review per OGLA staff recommendation

### Disadvantages and Triggered ALA Criteria

Disadvantages to this location include triggers of the following ALA criteria:

- Rule 304.b.(2).B.i The proposed WPS is within 2,000 feet of one or more RBUs or HOBUs.
  - There are 8 to 10 RBUs within 2,000 feet of the location.
- The southwestern quarter of the northeastern quarter contains HPH associated with Mule Deer Severe Winter Range
- This location would not be able to reach the southernmost wells that are captured by the Paul Nelson 25-29HZ location and would require another pad.
- The remaining portion of the quarter is crop land. KMOG attempts to avoid or minimize the impact to agriculture which is important to both the landowners and the relevant local government, Weld County.
- This location would require indirect impacts due to more than five active locations per square mile.
- The surface owners at this location have not responded to attempts to discuss this location.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1.

### Advantages

Advantages this location include a lack of triggers of the following ALA criteria:

- The location is not within 2,000 feet of a HOBUs
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no DIC within 2,000 feet.
- There are no municipal or county boundaries within 2,000 feet and no anticipated objections from the relevant local government, Weld County.
- The location is not within a floodplain.
- This location is not believed to be within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The location is not within HPH for native aquatic species conservation waters.

## Alternative Location W/2 Sec 26:

Additional ALA for review per OGLA staff recommendation

### Disadvantages and Triggered ALA Criteria

Disadvantages to this location include triggers of the following ALA criteria:

- This location is covered under a Tier 1 Stay associated with the 1-233 SRC CDP Tier 1 Stay and therefore no surface locations in this section can be used.
  - The remaining criteria were not evaluated for this location.

## Alternative Location SE/4 Sec 22:

Additional ALA for review per OGLA staff recommendation

### Disadvantages and Triggered ALA Criteria

Disadvantages to this location include triggers of the following ALA criteria:

- Rule 304.b.(2).B.i The proposed WPS is within 2,000 feet of one or more RBUs or HOBUs.
  - There are four or more RBUs within 2,000 feet of the location.
- Rule 304.b.(2).B.iv The proposed WPS is less than 2,000 feet of a municipal or county boundary, and the Proximate Local Government objects to the location or requests an alternative location analysis;
  - The location is directly adjacent to the Town of Milliken. It is unknown whether the Town of Milliken would object or require an alternative location analysis.
- Although the entirety of the area is not covered by No Surface Occupancy (NSO) HPH, a drainage running through the area is associated with aquatic native species conservation waters and would require a 500 foot buffer.
- Combining the NSO areas with the topography would cause challenges finding a suitable location.
- This location would require indirect impacts due to more than five active locations per square mile.
- This location would not be able to reach the southernmost wells that are captured by the Paul Nelson 25-29HZ location and would require two additional pads to capture the minerals.
- The location is crop land. KMOG attempts to avoid or minimize the impact to agriculture which is important to both the landowners and the relevant local government, Weld County.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1.

### Advantages

Advantages this location include a lack of triggers of the following ALA criteria:

- The location is not within 2,000 feet of a HOBUs
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no DIC 2,000 feet.
- The location is not within a floodplain.
- This location is not believed to be within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The location is not within HPH.

## Alternative Location SW/4 Sec 23:

Additional ALA for review per OGLA staff recommendation

### Disadvantages and Triggered ALA Criteria

Disadvantages to this location include triggers of the following ALA criteria:

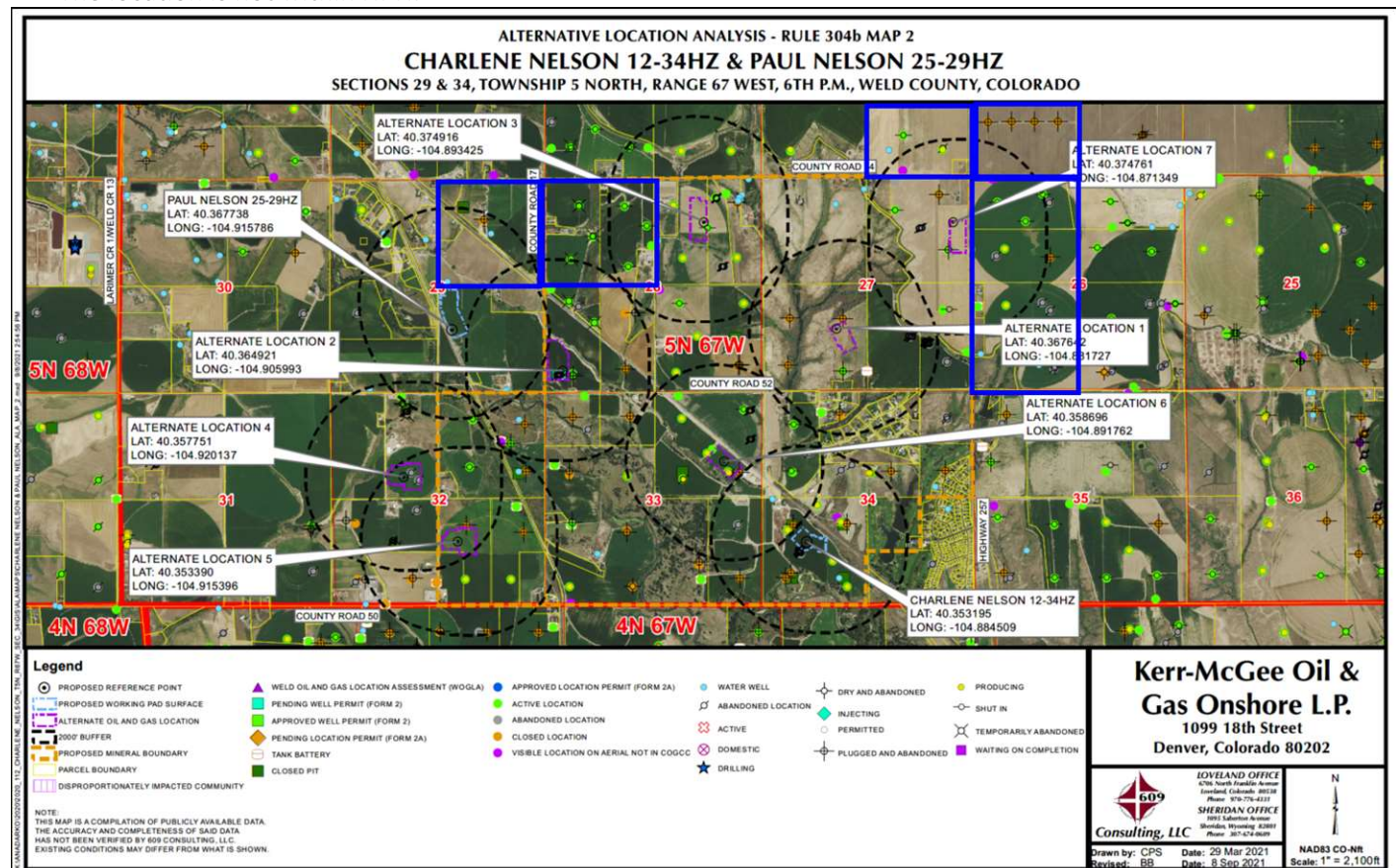
- Rule 304.b.(2).B.i The proposed WPS is within 2,000 feet of one or more RBUs or HOBUs.
  - There are four or more RBUs within 2,000 feet of the location.
- Rule 304.b.(2).B.iv The proposed WPS is less than 2,000 feet of a municipal or county boundary, and the Proximate Local Government objects to the location or requests an alternative location analysis;

- The location is within the Town of Milliken. It is unknown whether the Town of Milliken would object or require an alternative location analysis.
- This location would not be able to reach the southernmost wells that are captured by the Paul Nelson 25-29HZ location and would require two additional pads to capture the minerals.
- The location is crop land. KMOG attempts to avoid or minimize the impact to agriculture which is important to both the landowners and the relevant local government, Weld County.
- This location would require indirect impacts due to more than five active locations per square mile.
- Potential BMPs that could be used to mitigate the triggered ALA criteria are listed in Table 1.

## Advantages

Advantages this location include a lack of triggers of the following ALA criteria:

- The location is not within 2,000 feet of a HOBV
- There are no school facilities or childcare centers within 2,000 feet.
- There are no designated outside activity areas within 1,500 feet.
- There are no DIC within 2,000 feet.
- The location is not within a floodplain.
- This location is not believed to be within a surface water supply area or within 2,640 feet of a Public Water System supply well that is completed in a Type III Aquifer or is a groundwater under the direct influence of surface water well as defined in Rule 411.b.(1).
- The location is not within HPH.



## Conclusions

KMOG has considered up to 12 alternative locations to the two preferred locations proposed to develop the 2,760 acres proposed for development of the Nelson Family OGD in Township 5N Range 67 W. KMOG provided six alternative locations with this OGD submittal, adding five upon OGLA staff request to fully vet this location. Eleven alternative locations were considered for the Paul Nelson 25-29HZ preferred location. The Paul Nelson 25-29HZ location will allow KMOG to develop 1,960 acres using 17 long lateral (10,000 feet plus) wellbores.

When considering the development of these minerals, KMOG has thoughtfully considered the potential impacts to public health, safety, welfare, the environment, and wildlife resources. KMOG has also considered potential BMPs or mitigation measures for each of the locations. The locations brought forward by KMOG are those that allow the operator to conduct its operations in a reasonable manner to avoid, minimize and mitigate adverse impacts while avoiding the drilling of unnecessary wells and preventing waste of oil and gas resources.

KMOG has focused on consolidating wells on this location in order to minimize surface disturbance and use of resources. KMOG does not anticipate any negative impacts to health, safety or welfare associated with the development of the Nelson Family OGD. KMOG will impact fewer RBUs with development at this location when compared to the multiple required alternatives that would be needed to replace the Paul Nelson 25-29HZ pad. Although some of the alternative locations have a higher tier ranking than the preferred locations, in most cases the alternative locations would have required more pads than the two currently planned. The addition of pads affects not only the surface disturbance, but the amount of equipment utilized, the number of receptors in the area, traffic counts and emissions.

KMOG will minimize potential impacts to wildlife by operating between May 1 and November 30 to comply with Mule Deer Severe Winter Range High Priority Habitat Stipulations. KMOG has received a waiver from CPW for the placement of chemicals within 500 feet of the OHWM of Native Aquatic Species Conservation Waters due to stringent mitigation measures. KMOG will comply with all regulations associated with the location in the FEMA 2021 preliminary 100-year floodplain. In addition to rigorous BMPs, KMOG will also compensate CPW to offset direct and indirect impacts associated with High Priority Habitat.

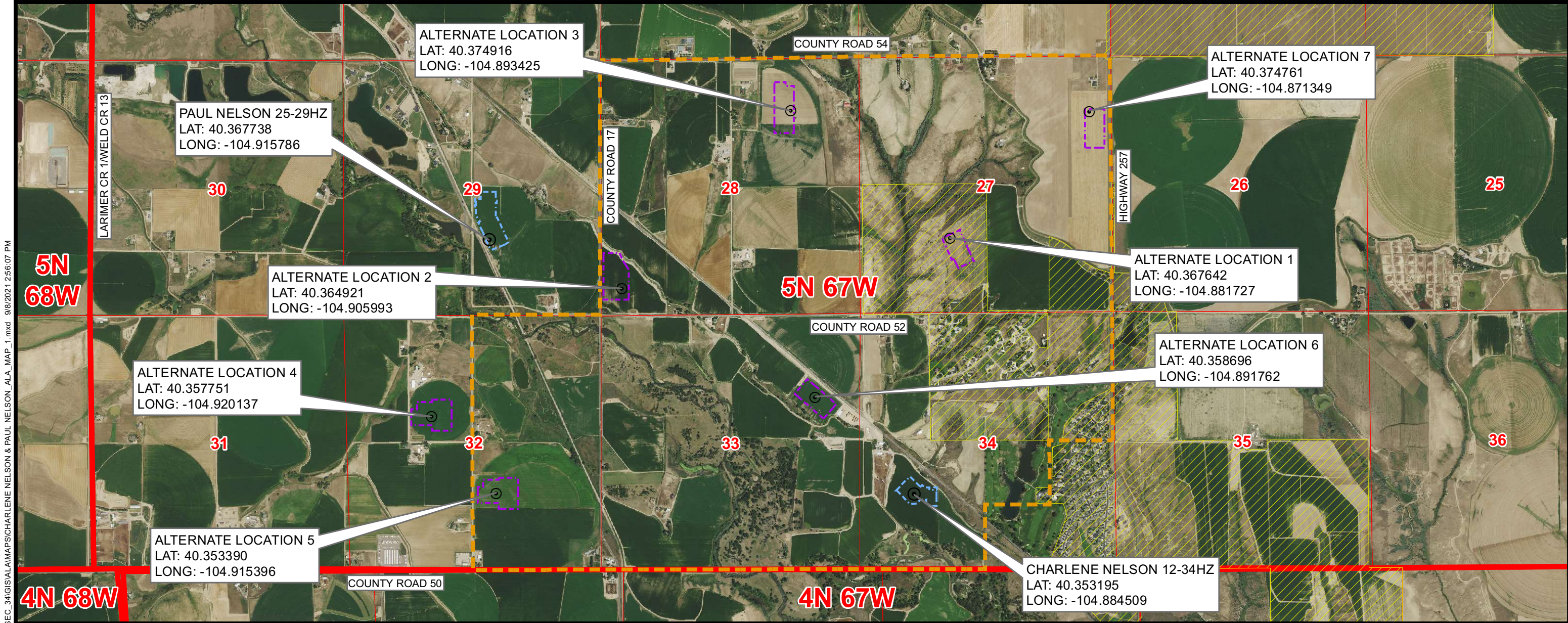
The Paul Nelson 25-29HZ and Charlene Nelson 12-34HZ pads, are both located on land owned by the Nelson Family, who are fully supportive of KMOG's development.



ALTERNATIVE LOCATION ANALYSIS - RULE 304b MAP 1

**CHARLENE NELSON 12-34HZ & PAUL NELSON 25-29HZ**

SECTIONS 29 & 34, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO



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- Legend**
- PROPOSED REFERENCE POINT
  - PROPOSED WORKING PAD SURFACE
  - ALTERNATE OIL AND GAS LOCATION
  - PROPOSED MINERAL BOUNDARY
  - JURISDICTIONAL BOUNDARY

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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Revised: BB

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Date: 8 Sep 2021

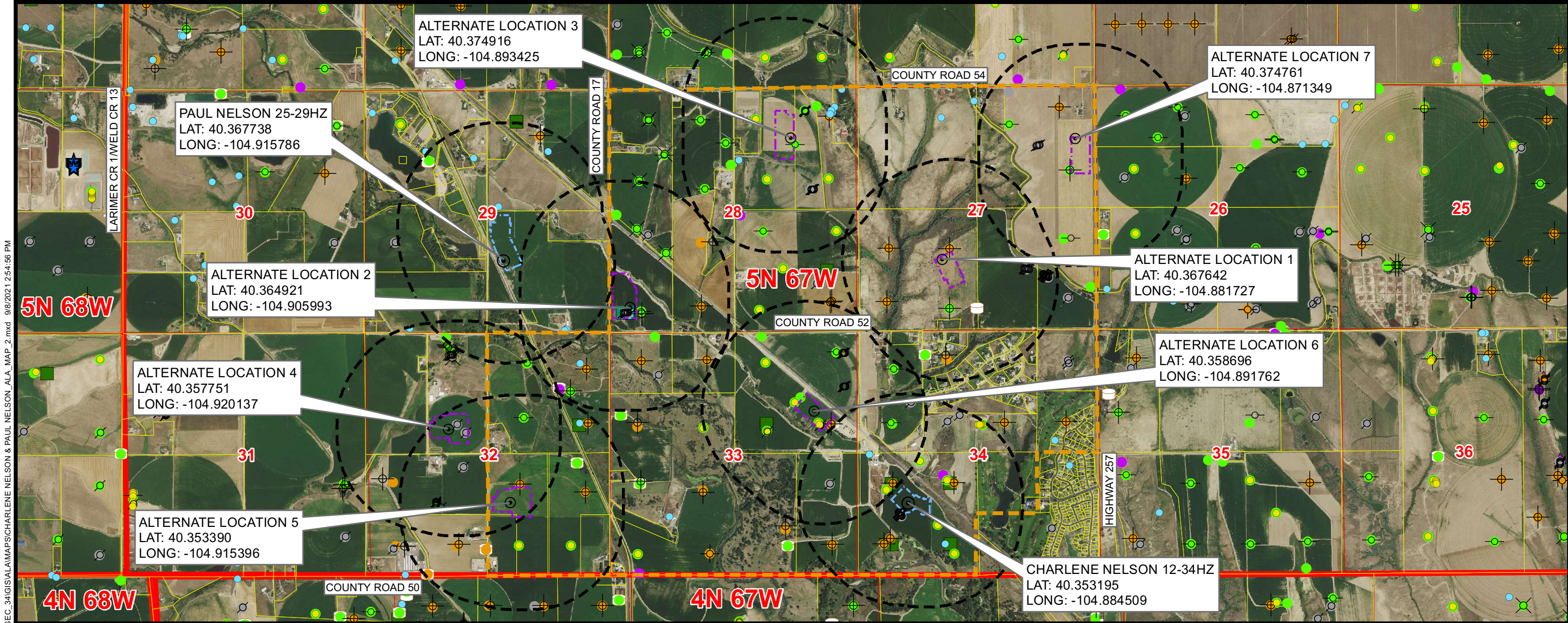
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Scale: 1" = 2,000ft



ALTERNATIVE LOCATION ANALYSIS - RULE 304b MAP 2

**CHARLENE NELSON 12-34HZ & PAUL NELSON 25-29HZ**

SECTIONS 29 & 34, 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) | APPROVED LOCATION PERMIT (FORM 2A)      | WATER WELL         | DRY AND ABANDONED     | PRODUCING             |
| PROPOSED WORKING PAD SURFACE          | PENDING WELL PERMIT (FORM 2)                 | ACTIVE LOCATION                         | ABANDONED LOCATION | INJECTING             | SHUT IN               |
| ALTERNATE OIL AND GAS LOCATION        | APPROVED WELL PERMIT (FORM 2)                | ABANDONED LOCATION                      | ACTIVE             | PERMITTED             | TEMPORARILY ABANDONED |
| 2000' BUFFER                          | PENDING LOCATION PERMIT (FORM 2A)            | CLOSED LOCATION                         | DOMESTIC           | PLUGGED AND ABANDONED | WAITING ON COMPLETION |
| PROPOSED MINERAL BOUNDARY             | TANK BATTERY                                 | VISIBLE LOCATION ON AERIAL NOT IN COGCC | DRILLING           |                       |                       |
| PARCEL BOUNDARY                       | CLOSED PIT                                   |                                         |                    |                       |                       |
| DISPROPORTIONATELY IMPACTED COMMUNITY |                                              |                                         |                    |                       |                       |

NOTE:  
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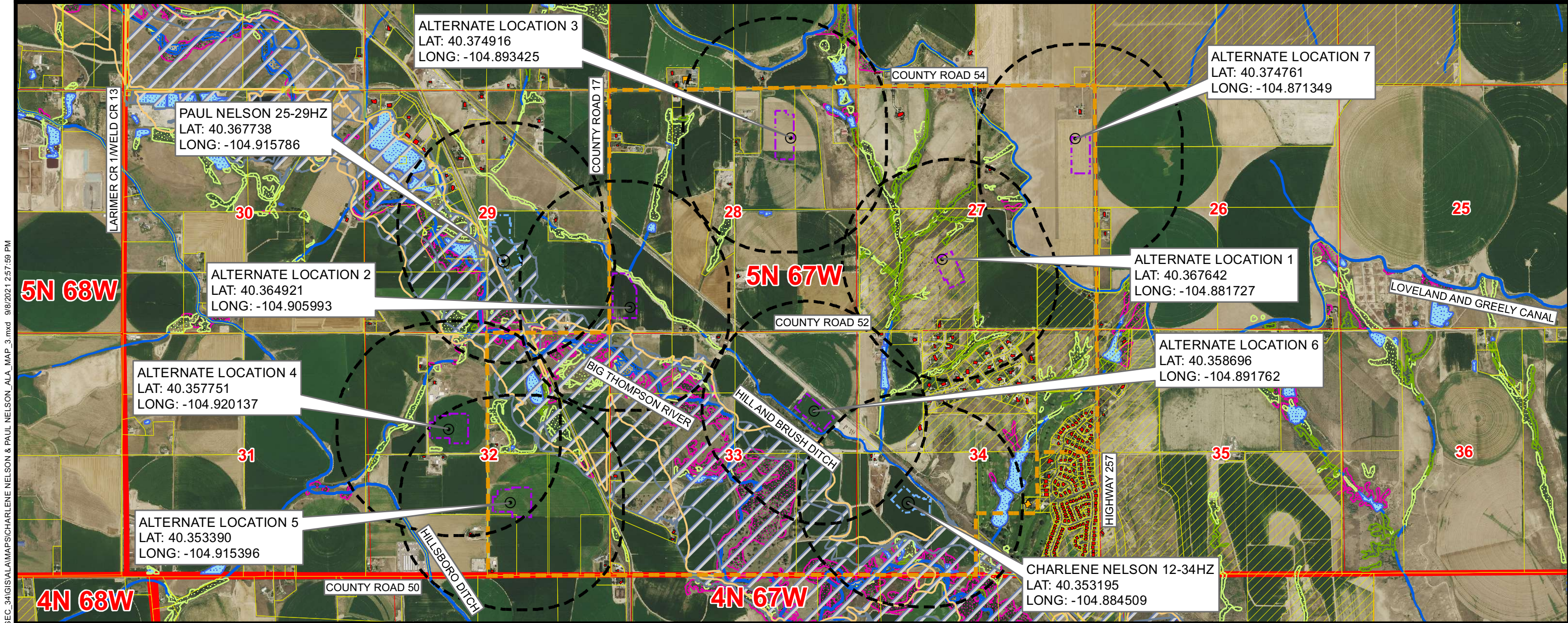
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Revised: BB	Date: 8 Sep 2021	



ALTERNATIVE LOCATION ANALYSIS - RULE 304b MAP 3

**CHARLENE NELSON 12-34HZ & PAUL NELSON 25-29HZ**

SECTIONS 29 & 34, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO



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**Legend**

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

NOTE:  
THIS MAP IS A COMPILATION OF PUBLICLY AVAILABLE DATA.  
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Revised: BB  
Date: 29 Mar 2021  
Date: 8 Sep 2021

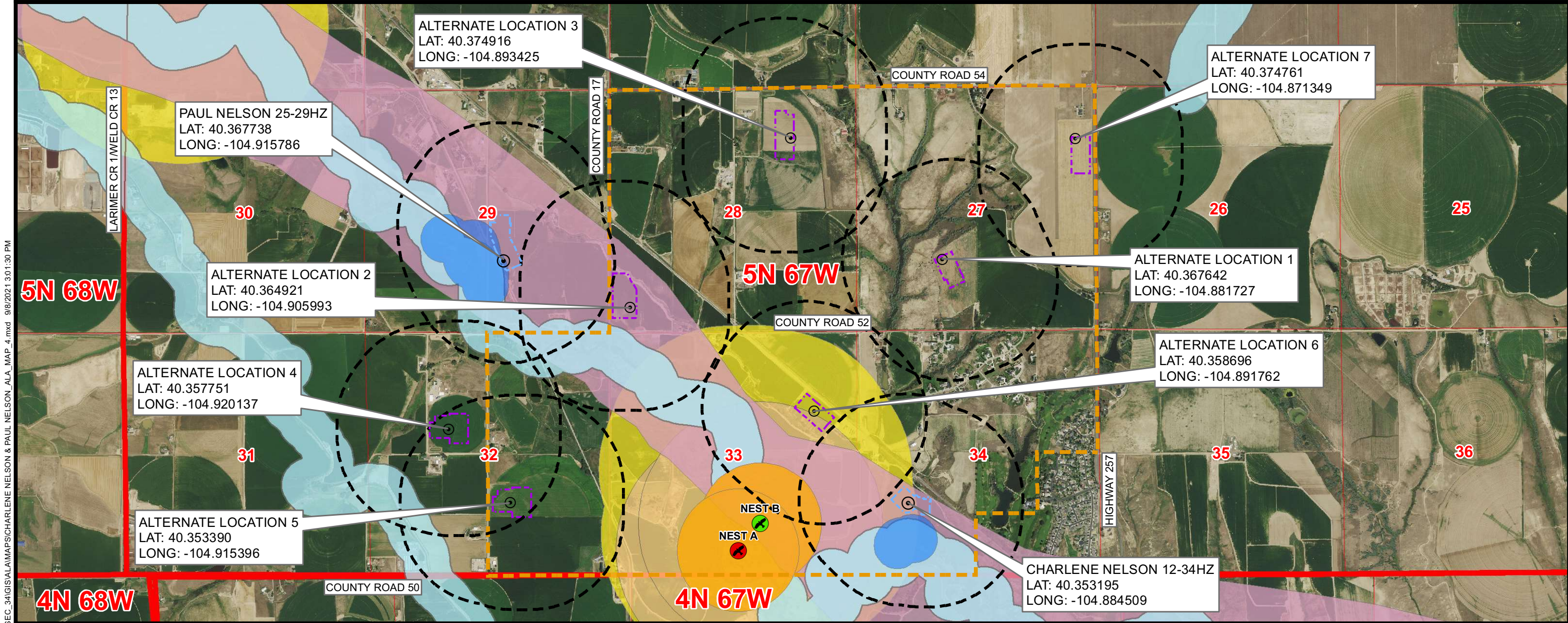
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Scale: 1" = 2,100ft



ALTERNATIVE LOCATION ANALYSIS - RULE 304b MAP 4

**CHARLENE NELSON 12-34HZ & PAUL NELSON 25-29HZ**

SECTIONS 29 & 34, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO



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**Legend**

- |  |                                |  |                                  |  |                                                   |
|--|--------------------------------|--|----------------------------------|--|---------------------------------------------------|
|  | PROPOSED REFERENCE POINT       |  | ACTIVE BALD EAGLE NEST SITE      |  | AQUATIC NATIVE SPECIES CONSERVATION WATERS        |
|  | PROPOSED WORKING PAD SURFACE   |  | NOT PRESENT BALD EAGLE NEST SITE |  | MULE DEER SEVERE WINTER RANGE                     |
|  | ALTERNATE OIL AND GAS LOCATION |  |                                  |  | BALD EAGLE ROOST SITE                             |
|  | 2000' BUFFER                   |  |                                  |  | BALD EAGLE ACTIVE NEST SITE - QUARTER MILE BUFFER |
|  | PROPOSED MINERAL BOUNDARY      |  |                                  |  | BALD EAGLE ACTIVE NEST SITE - HALF MILE BUFFER    |
|  |                                |  |                                  |  | ORDINARY HIGH WATER MARK (500 FT BUFFER)          |

NOTE:

1. BASED ON FIELD CONDITIONS, NEST A IS NOT PRESENT AND NEST B IS ACTIVE.

2. 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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