

**Wavetech Helium Inc.**  
**1 Wavetech Burlington Farms 43-2**  
**Alternative Location Analysis Narrative**  
**Section 2 T12S R43W**

**Proposed Expansion to Existing Oil and Gas Location Name:** 1 Wavetech Burlington Farms 43-2

**Total Disturbed Area within Project:** 3.4 Acres

**Size of Location After Interim Reclamation:** 1.1 Acres

**Surface Owner:** FPI Burlington Farms

**Relevant Local Government:** Cheyenne County

**Relevant Local Government Zoning:** Agriculture

**Current Land Use:** Non-irrigated crop land

**Future Land Use:** Non-irrigated crop land

**Description of Potential Impacts to Health, Safety, Welfare, Wildlife and Environment related to the Development of this Oil and Gas Location:**

There are no Residential Building Units (RBUs) within 2,000' of the working pad surface of the proposed location.

Potential impacts to health, safety, welfare, and the environment are minimal due to the remote nature of the location. Wildlife may be minimal and temporarily impacted due to operations. Potential impacts to health, safety, welfare, and the environment are minimal due to the remote nature of the location. Impacts to wildlife are anticipated to be minimal due to the presence of ongoing wind facility operations and seasonal agriculture activities.

**Description of Advantages and Disadvantages associated with Oil and Gas Location:**

**Advantages:**

1. There are no RBUs within 1 mile of the location.
2. The location is 3.3 miles from the nearest Lesser Prairie Chicken Lek Buffer.
3. There are five (5) wind turbines within 1,800 meters of the proposed location. The United States Fish and Wildlife Services has suggested the impact disturbance from a wind turbine to be 1,800m. Due to the proximity of multiple wind turbines the area has been deemed not considerably highly suitable habitat. The closest windmill is 4,388' (1337m) from the working pad surface. The next closest windmill is 4,940' (1506m) from the working pad surface. The proposed working pad surface is 3.3 miles from a known lek.
4. The proposed location is not within the Lesser Prairie Chicken Focal Area or Connectivity Area.

**Disadvantages:**

1. The proposed Wavetech location lie within the Lesser Prairie Chicken Estimated Occupied Range (EOR).

**Permitting Considerations for the Oil and Gas Location:**

The majority of Cheyenne County is covered by the EOR. It is impossible to move the proposed locations outside of the EOR while still developing the helium leases owned by Wavetech. Wavetech does not have any proposed locations within a mapped Lek.

Geologically, the locations chosen cannot be moved. Oil and gas production, and associated helium, in the Morrow Formation of eastern Colorado occurs from conventional traps. These conventional traps result from Morrow channel sandstone bodies draping across structurally high areas to allow buoyancy trapping to occur. The traps have sharp, boundaries defined by the presence of the reservoir sandstone and specific elevations above a structural datum below which water is present in the reservoir.

The reservoir sandstones were deposited from river channels and like modern rivers which occupy narrow regions of the landscape (Morrow reservoir sandstone bodies average approximately one-half mile in width in eastern Colorado). As such, drilling targets require detailed mapping to define potential sandstone boundaries and proposed well locations are specific and precise.

Minimal location moves, even less than 100', from the axis of the reservoir channel systems exponentially increases the possibility of dry holes. Helium fields in eastern Colorado producing from the Morrow formation are usually one or at most two locations wide and run longitudinally as far as the sandstone remains above a datum elevation that defines the water contact (less than one to several miles along its axis). Reservoir sandstones, when present, have high porosity and high permeability and neither horizontal drilling nor fracking is required to produce. The footprint of Morrow formation within the landscape of Cheyenne County is minimal.

Tier III-A.

304.b.(2).B- x Criteria Met									
i	ii	iii	iv	v	vi	vii	viii	ix	x
							X		X

**Conditions or Factors that make the Oil and Gas Location Unavailable:**

Wavetech does not believe there are any conditions or factors that make the subject Oil and Gas Location unavailable for development.

**Any Other Considerations for Subject Oil and Gas Location:**

Wavetech is committed to Best Management Practices that will minimize and mitigate impacts to the Lesser Prairie Chicken. Traffic and traffic emissions will be reduced due to existing gas pipeline infrastructure.

**Alternative Location No. 1:**

**Legal Description:** T12S R43W Section 2 NESE

**Surface Owner:** FPI Burlington Farms

**Relevant Local Government:** Cheyenne County

**Relevant Local Government Zoning:** Agriculture

**Current Land Use:** Non-irrigated crop land

**Future Land Use:** Non-irrigated crop land

**Description of Potential Impacts to Health, Safety, Welfare, Wildlife and Environment related to the Development of this Oil and Gas Location:**

The alternative location triggers the same criteria as the proposed location. There is no alternative location that can reach the proposed mineral development that is not located within the Lesser Prairie Chicken EOR.

**Description of Advantages and Disadvantages associated with Oil and Gas Location:**

**Advantages:**

1. There are no RBUs within 1 mile of the location.
2. The location is over 3 miles from the nearest Lesser Prairie Chicken Lek.
3. There are five (5) wind turbines within 1,800 meters of the proposed location. The United States Fish and Wildlife Services has suggested the impact disturbance from a wind turbine to be 1,800m. Due to the proximity of multiple wind turbines the area has been deemed not considerably highly suitable habitat.
4. The proposed location is not within the Lesser Prairie Chicken Focal Area or Connectivity Area.

**Disadvantages:**

1. The proposed Wavetech location lie within the Lesser Prairie Chicken Estimated Occupied Range (EOR).
2. The alternative location is 49' to a mapped wetland.

**Permitting Considerations for the Oil and Gas Location:**

The majority of Cheyenne County is covered by the EOR. It is impossible to move the proposed locations outside of the EOR while still developing the helium leases owned by Wavetech. Wavetech does not have any proposed locations within a mapped Lek.

Geologically, the locations chosen cannot be moved. Oil and gas production, and associated helium, in the Morrow Formation of eastern Colorado occurs from conventional traps. These conventional traps result from Morrow channel sandstone bodies draping across structurally high areas to allow buoyancy trapping to occur. The traps have sharp, boundaries defined by the presence of the reservoir sandstone and specific elevations above a structural datum below which water is present in the reservoir.

The reservoir sandstones were deposited from river channels and like modern rivers which occupy narrow regions of the landscape (Morrow reservoir sandstone bodies average approximately one-half mile in

width in eastern Colorado). As such, drilling targets require detailed mapping to define potential sandstone boundaries and proposed well locations are specific and precise.

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Tier III-A.

304.b.(2).B- x Criteria Met									
i	ii	iii	iv	v	vi	vii	viii	ix	x
							X		

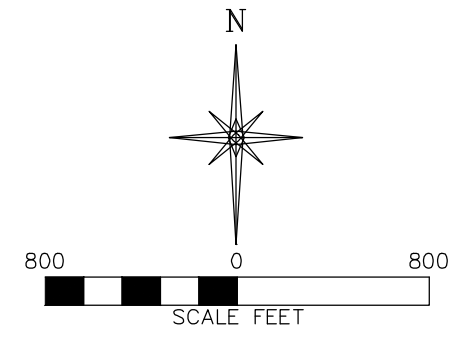
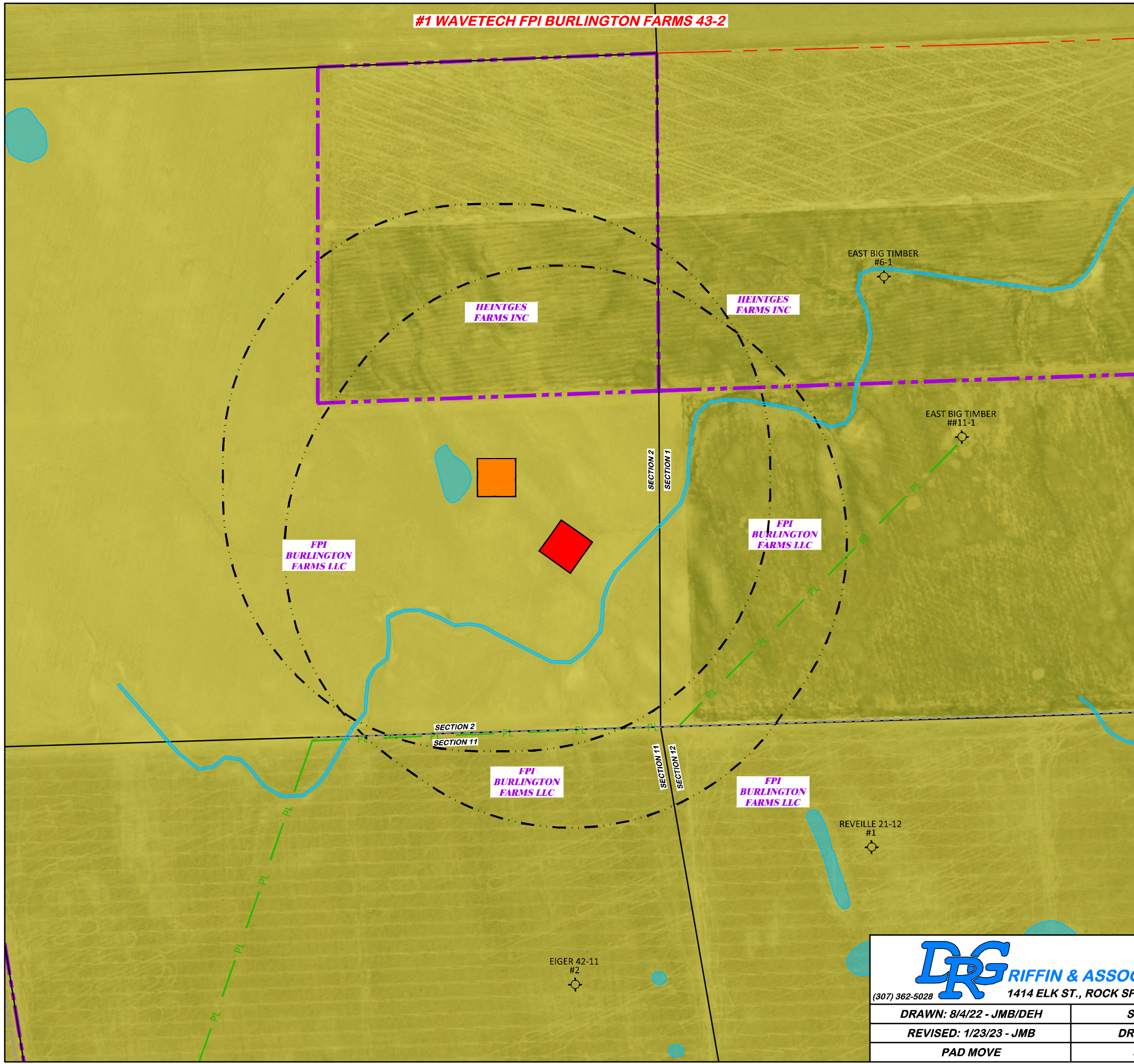
**Conditions or Factors that make the Oil and Gas Location Unavailable:**

1. There are no conditions or factor that make the location unavailable.










**Any Other Considerations for Subject Oil and Gas Location:**

None

**#1 WAVETECH FPI BURLINGTON FARMS 43-2**



	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
PROPOSED LOCATION	N 39.035815	W 102.188468
ALTERNATE LOCATION	N 39.037357	W 102.190312

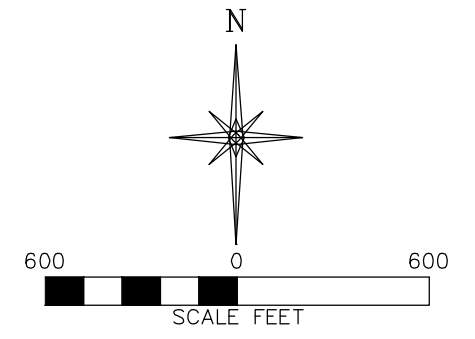
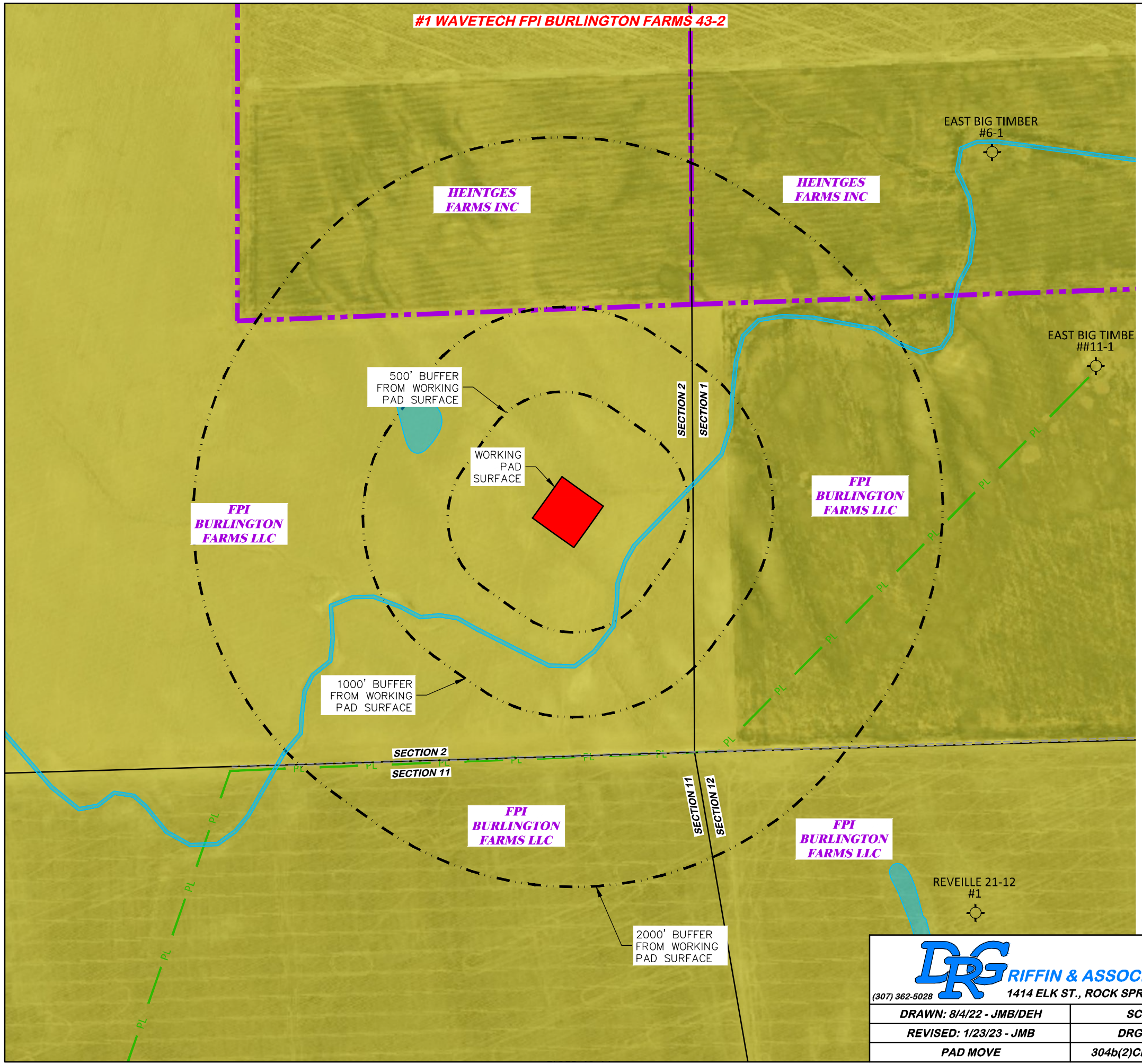
	PROPOSED WORKING PAD SURFACE
	ALTERNATE WORKING PAD SURFACE
	PROPERTY LINE
	2000' WORKING PAD SURFACE BUFFER
	EXISTING 2-TRACK ROAD
	EXISTING UNDERGROUND PIPELINE
	PLUGGED OIL & GAS (P&A) WELL
	WETLANDS AREA PROVIDED BY USFWS
	RULE 309.e.1 OTHER CONSULTATION HABITAT - LESSER PRAIRIE CHICKEN ESTIMATED OCCUPIED RANGE

**DRG RIFFIN & ASSOCIATES, INC.**  
 (307) 362-5028 1414 ELK ST., ROCK SPRINGS, WY 82901

DRAWN: 8/4/22 - JMB/DEH	SCALE: 1" = 800'
REVISED: 1/23/23 - JMB	DRG JOB No. 22270
PAD MOVE	304b(2)Ci ALA

**ALTERNATIVE LOCATION ANALYSIS**

**WAVETECH HELIUM, INC.**  
**#1 WAVETECH FPI BURLINGTON FARMS 43-2**  
**NESE, SECTION 2, T. 12 S., R. 43 W., 6th P.M.,**  
**CHEYENNE COUNTY, COLORADO**



	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
PROPOSED LOCATION	N 39.035815	W 102.188468

**CULTURAL ITEMS:**  
MEASURED FROM NEAREST EDGE OF THE PROPOSED WORKING PAD SURFACE

BUILDING	5280+
RESIDENTIAL BUILDING	5280+
HIGH OCCUPANCY BUILDING	5280+
DOAA	5280+
PUBLIC ROAD	5280+
ABOVE GROUND UTILITY	4384' NW
RAILROAD	5280+
PROPERTY LINE	987' N
SCHOOL FACILITY	5280+
SCHOOL PROPERTY LINE	5280+
CHILDCARE FACILITY	5280+
SCHOOL PROPERTY LINE	5280+
DI COMMUNITY	5280+
USFWS WETLANDS	272' SE

**CULTURAL FEATURE INFORMATION**

PRODUCTION FEATURE	0-500 FEET	501 - 1,000 FEET	1,001 - 2,000 FEET
	NUMBER	NUMBER	NUMBER
BUILDING	0	0	0
RESIDENTIAL BUILDING	0	0	0
HIGH OCCUPANCY BUILDING	0	0	0
SCHOOL PROPERTIES	0	0	0
SCHOOL FACILITIES	0	0	0
DOAA	0	0	0

	PROPOSED WORKING PAD SURFACE
	PROPERTY LINE
	WORKING PAD SURFACE BUFFER
	EXISTING 2-TRACK ROAD
	EXISTING UNDERGROUND PIPELINE
	PLUGGED OIL & GAS (P&A) WELL
	WETLANDS AREA PROVIDED BY USFWS
	RULE 309.e.1 OTHER CONSULTATION HABITAT - LESSER PRAIRIE CHICKEN ESTIMATED OCCUPIED RANGE

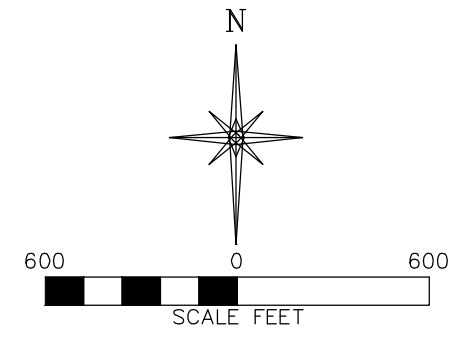
**DRG RIFFIN & ASSOCIATES, INC.**  
 (307) 362-5028 1414 ELK ST., ROCK SPRINGS, WY 82901

DRAWN: 8/4/22 - JMB/DEH	SCALE: 1" = 600'
REVISED: 1/23/23 - JMB	DRG JOB No. 22270
PAD MOVE	304b(2)Ciii ALA SHEET 1 OF 2

**ALTERNATIVE LOCATION ANALYSIS**

**WAVETECH HELIUM, INC.**  
**#1 WAVETECH FPI BURLINGTON FARMS 43-2**  
**NESE, SECTION 2, T. 12 S., R. 43 W., 6th P.M.,**  
**CHEYENNE COUNTY, COLORADO**

**#1 WAVETECH FPI BURLINGTON FARMS 43-2**



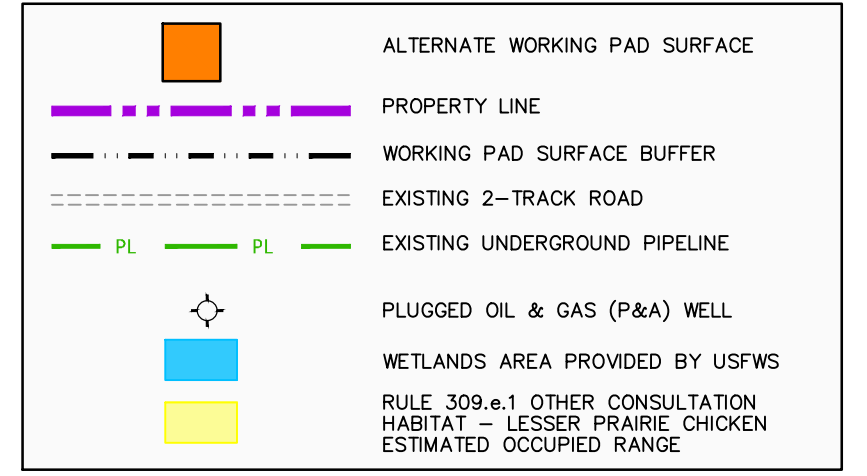
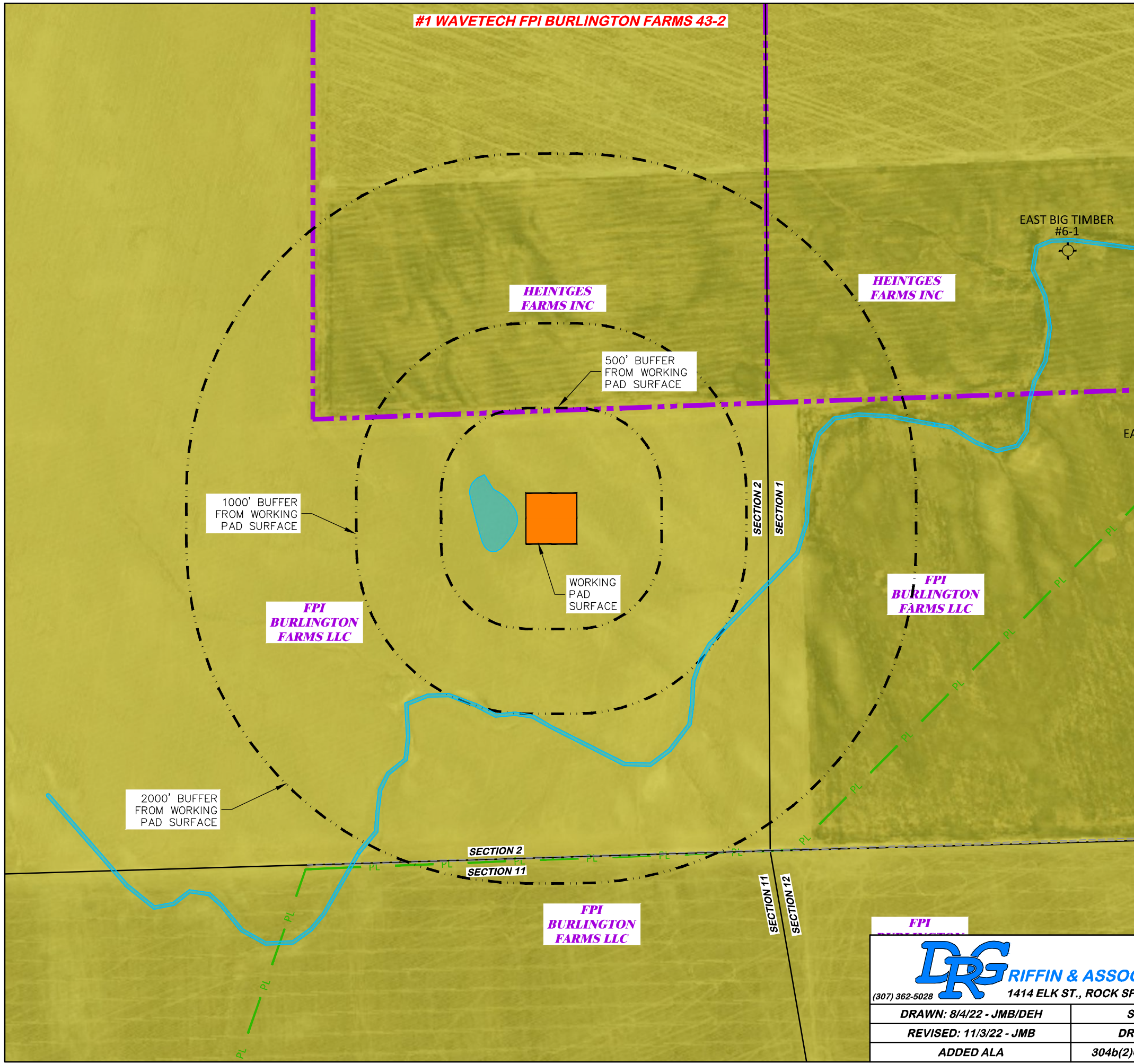
	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
ALTERNATE LOCATION	N 39.037357	W 102.190312

**CULTURAL ITEMS:**  
MEASURED FROM NEAREST EDGE OF THE PROPOSED WORKING PAD SURFACE

BUILDING	5280'+
RESIDENTIAL BUILDING	5280'+
HIGH OCCUPANCY BUILDING	5280'+
DOAA	5280'+
PUBLIC ROAD	5280'+
ABOVE GROUND UTILITY	3725' NW
RAILROAD	5280'+
PROPERTY LINE	491' N
SCHOOL FACILITY	5280'+
SCHOOL PROPERTY LINE	5280'+
CHILDCARE FACILITY	5280'+
SCHOOL PROPERTY LINE	5280'+
DI COMMUNITY	5280'+
USFWS WETLANDS	49' W

**CULTURAL FEATURE INFORMATION**

PRODUCTION FEATURE	0-500 FEET	501 - 1,000 FEET	1,001 - 2,000 FEET
	NUMBER	NUMBER	NUMBER
BUILDING	0	0	0
RESIDENTIAL BUILDING	0	0	0
HIGH OCCUPANCY BUILDING	0	0	0
SCHOOL PROPERTIES	0	0	0
SCHOOL FACILITIES	0	0	0
DOAA	0	0	0

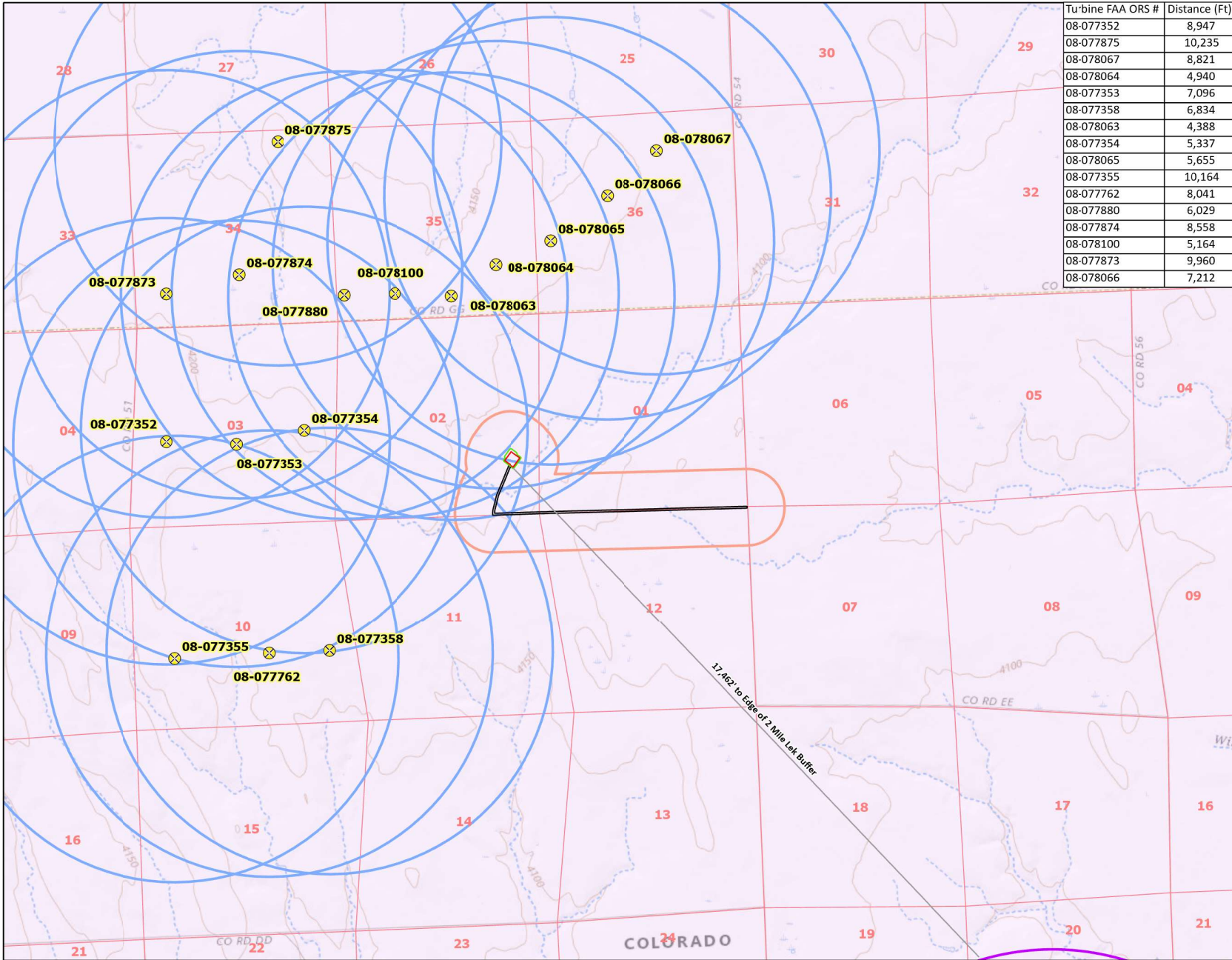


**DRG RIFFIN & ASSOCIATES, INC.**  
 (307) 362-5028 1414 ELK ST., ROCK SPRINGS, WY 82901

DRAWN: 8/4/22 - JMB/DEH	SCALE: 1" = 600'
REVISED: 11/3/22 - JMB	DRG JOB No. 22270
ADDED ALA	304b(2)Ciii ALA SHEET 2 OF 2

**ALTERNATIVE LOCATION ANALYSIS**

**WAVETECH HELIUM, INC.**  
**#1 WAVETECH FPI BURLINGTON FARMS 43-2**  
**NESE, SECTION 2, T. 12 S., R. 43 W., 6th P.M.,**  
**CHEYENNE COUNTY, COLORADO**

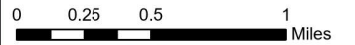


Turbine FAA ORS #	Distance (Ft)
08-077352	8,947
08-077875	10,235
08-078067	8,821
08-078064	4,940
08-077353	7,096
08-077358	6,834
08-078063	4,388
08-077354	5,337
08-078065	5,655
08-077355	10,164
08-077762	8,041
08-077880	6,029
08-077874	8,558
08-078100	5,164
08-077873	9,960
08-078066	7,212

### Legend

- Proposed Access Road
- Proposed Oil and Gas Location
- Proposed Working Pad Surface
- Lesse- Prairie Chicken Lek Buffer
- LPC Estimated Occupied Range
- LPC Connectivity Area
- 1,800m Turbine Buffer
- 300m Project Buffer
- Wind Turbine Location

No other CPW High Priority Habitats were evident in this area.  
 Source: [https://cogcc.state.co.us/documents/data/downloads/gis/CPW\\_HPH\\_for\\_309e\\_1202c\\_1202d\\_20211231.zip](https://cogcc.state.co.us/documents/data/downloads/gis/CPW_HPH_for_309e_1202c_1202d_20211231.zip)



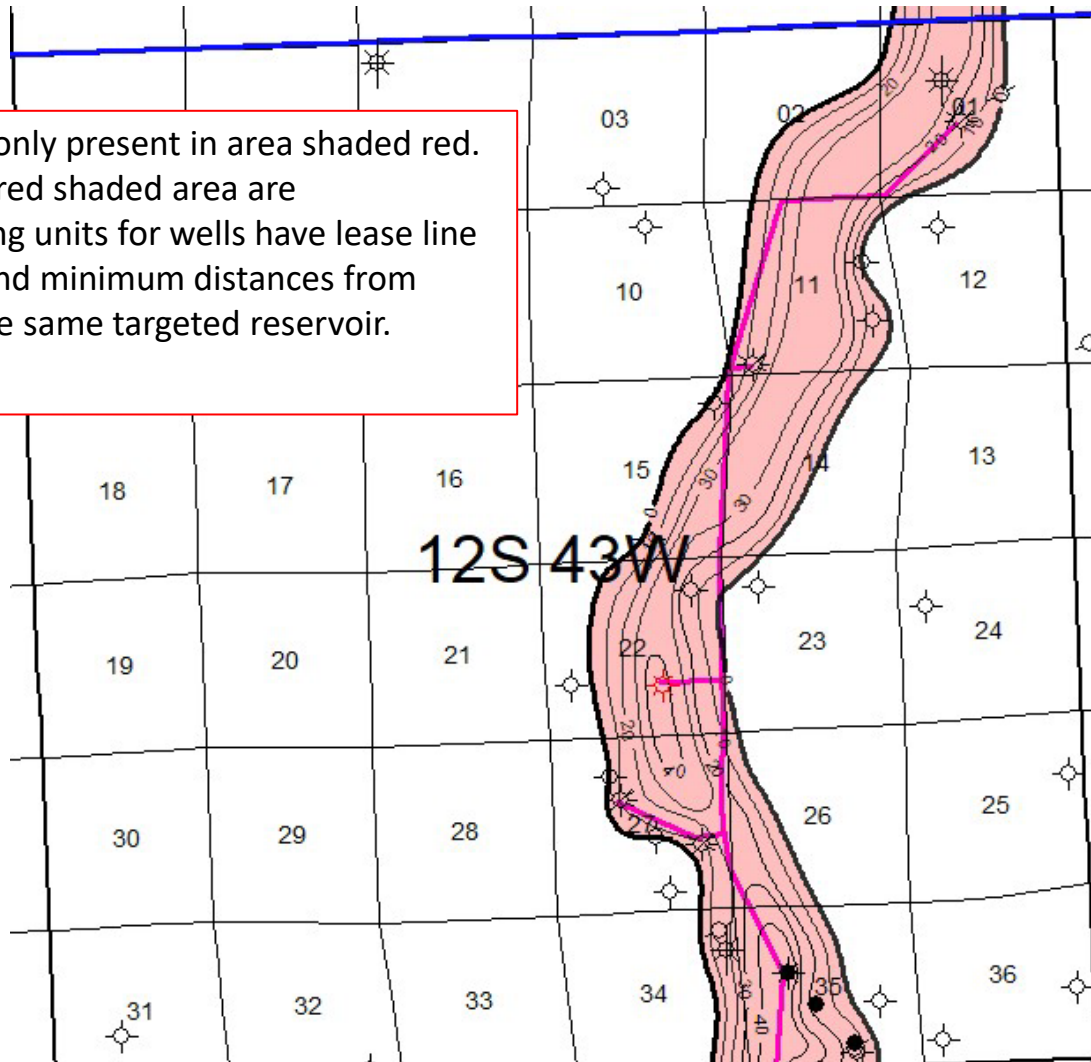
**WAVETECH ENERGY, INC.**  
**1 WAVETECH FPI BURLINGTON FARMS 43-2**  
**SEC. 2 T12S R43W (NE/4 SE/4)**  
**CHEYENNE COUNTY, COLORADO**  
**SURFACE: FEE**  
**TURBINE DISTANCES**

Coordinate System: NAD 83 StatePlane  
 Colorado South FIPS 0503 Feet

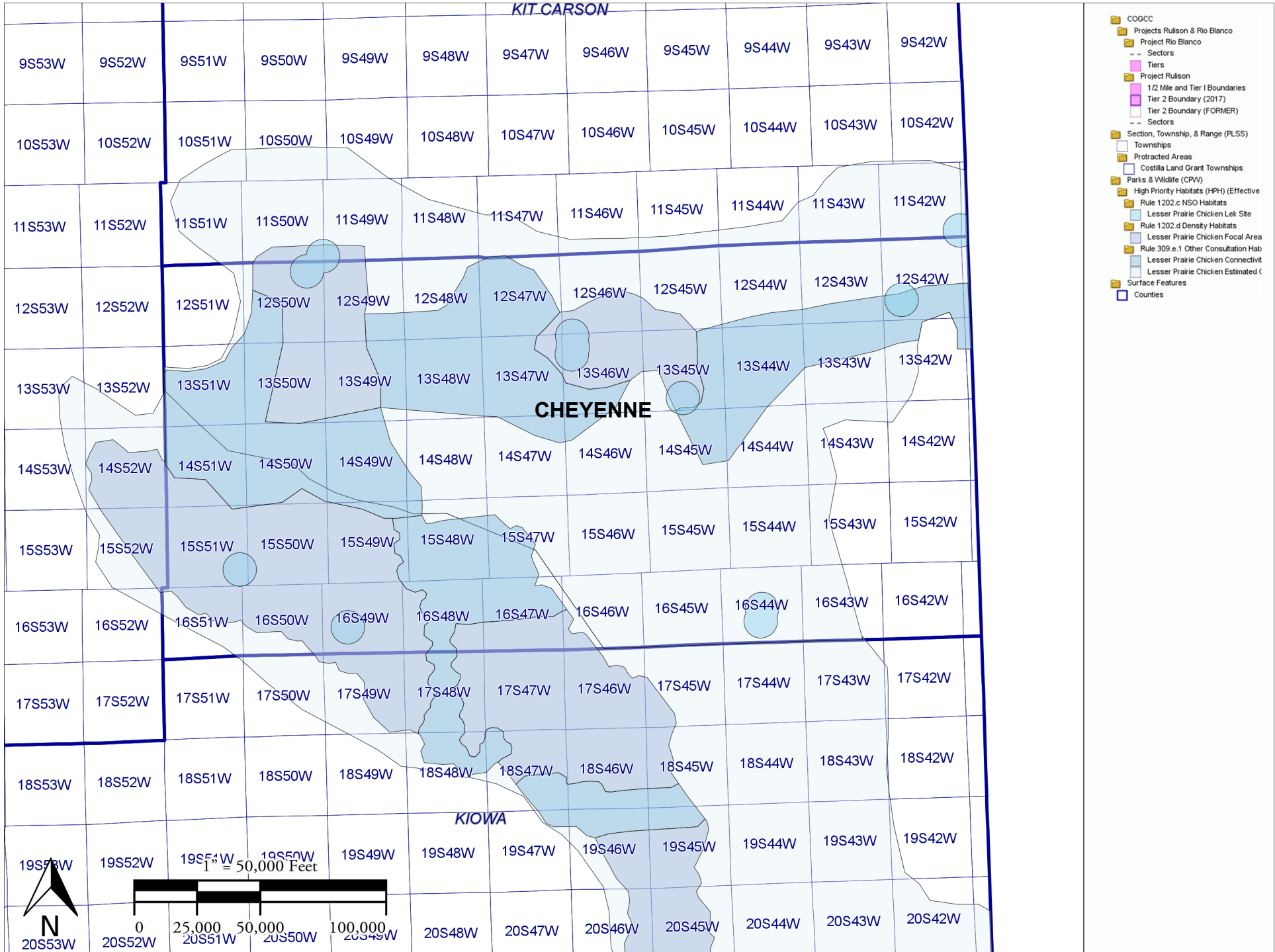
Prepared By: REDHAWK GIS

# Example Area – V3 Morrow Sandstone Prospect Harker Ranch Field

V3 Morrow reservoir is only present in area shaded red. All areas outside of the red shaded area are non-prospective. Spacing units for wells have lease line setback requirements and minimum distances from wells producing from the same targeted reservoir.



# Cheyenne County Lesser Prairie Chicken



- COGCC
- Projects Rufison & Rio Blanco
- Project Rio Blanco
- - Sectors
- Tiers
- Project Rufison
- 1/2 Mile and Tier I Boundaries
- Tier 2 Boundary (2017)
- Tier 2 Boundary (FORMER)
- - Sectors
- Section, Township, & Range (PLSS)
- Townships
- Protracted Areas
- Costilla Land Grant Townships
- Parks & Wildlife (CPW)
- High Priority Habitats (HPH) (Effective
- Rule 1202.c NSO Habitats
- Lesser Prairie Chicken Lek Site
- Rule 1202.d Density Habitats
- Lesser Prairie Chicken Focal Area
- Rule 309.e.1 Other Consultation Hab
- Lesser Prairie Chicken Connectiv
- Lesser Prairie Chicken Estimated C
- Surface Features
- Counties