

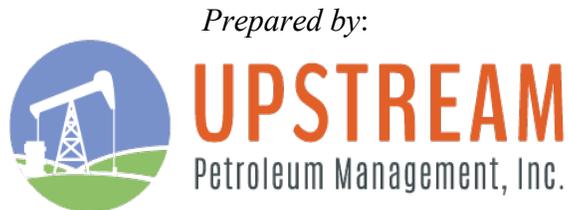
# **GMT Exploration Company, LLC**

## **Invicta 3-65 28 Pad Phase II Environmental Surface Impacts**

### **Cumulative Impacts Plan**

*Prepared for:*  
City of Aurora  
Energy & Environmental Division  
DA-2371-01  
Case Number 2023-6050-01

*On Behalf of:*  
GMT Exploration Company, LLC



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## 1.0 INTRODUCTION

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This Cumulative Impacts Plan (CIP) was submitted to the Colorado Energy and Carbon Management Commission and it covers criteria required in Section 135-2.C. of the Oil and Gas Manual (OGM) for this Oil and Gas Permit Application for the City of Aurora.

This Cumulative Impacts Plan has been prepared pursuant to Rule 304.c.(19) of the Colorado Energy and Carbon Management Commission and addresses the following resources:

- Air Resources
- Public Health
- Water Resources
- Terrestrial and Aquatic Wildlife Resources and Ecosystems
- Soil Resources
- Public Welfare

This plan documents how the Operator (GMT Exploration Company, LLC) will address cumulative impacts to resources identified pursuant to Rule 303.a.(5) that includes:

- A. A description of all resources for which cumulative adverse impacts are expected (Section 4.0);
- B. A description of specific measures taken to avoid or minimize the extent to which cumulative adverse impacts are increased (Section 5.0);
- C. A description of all measures taken to mitigate or offset cumulative adverse impacts to any of the resources (Section 6.0); and
- D. Additional information determined to be reasonable and necessary to the evaluation of cumulative impacts by the Operator, the Director, CDPHE, CPW, or the Relevant Local Government (Sections 1.0, 2.0, and 3.0).

This Cumulative Impacts Plan was prepared based on the information included in the preliminary Oil and Gas Location Assessment (Form 2A) and Cumulative Impacts Data Identification (Form 2B).

### **Note to Cumulative Impacts Plan as requested by ECMC: Crestone locations:**

The Schuh 3-65 has already been constructed and has four (4) producing wells. These wells were drilled in 2021.

The King 3-65 location has also been constructed and has four (4) producing wells. Crestone has an approved OGDG to enlarge the location. Public information on the ECMC website indicates that twelve (12) wells have been drilled.

GMT has no information regarding another Operator's plan of operations. Regarding traffic, all of these projects are in the city of Aurora. A Road Maintenance Agreement will be required by the City of Aurora.

## 2.0 PROJECT DESCRIPTION

The proposed oil and gas location, Invicta 3-65 28 Pad, "Location" is located in Township 3 South, Range 65 West of Section 28: N/2 in the City of Aurora, Adams County, Colorado. The proposed location is on fee surface (parcel 0181928100003) with a required total Location disturbance of 19.075 acres which includes the active working pad surface area of 8.585 acres. A new access road is required for this oil and gas location. During interim reclamation and the production phase 8.774 acres will be reclaimed leaving a disturbed production area of 10.301 acres. The access road and Right-of-Way disturbance will be approximately 3.202 acres.

## 3.0 CUMULATIVE IMPACT METHODOLOGY

Cumulative impacts may result when impacts associated with project implementation are added to other similar impacts associated with past, present and reasonably foreseeable future actions. The proposed project is located in the Aurora City Limits in Adams County, Colorado. Until recently the area surrounding the proposed Location was primarily used in agricultural crop production. Based on observations made during a site visit completed in August 2023, much of the surrounding area is being converted to residential housing and other non-agricultural uses. Publically available data sources including county, state, federal, and public domains, were used to characterize the past, present, and reasonably foreseeable development in the vicinity of the proposed project. Based on data, there are five oil and gas locations that are active and built, and one (1) that has been approved, but not built (Bijou North) within one mile of the proposed locations.

Each resource addressed in this cumulative impacts analysis is assigned a spatial and temporal scale that establishes the extent of the analysis. The spatial component of this analysis is referred to as the "Cumulative Impact Analysis Area (CIAA). The CIAA varies by resource and can be relatively smaller for some resources, as for vegetation, or much larger as in the case for air quality. **Table 3-1** presents the geographic extent for each resource CIAA. The temporal boundary for most resources is the 10-year life of the project. For wildlife and vegetation that temporal boundary includes an additional 5 years toward achievement of agency-approved reclamation standards.

**Table 3-1 Geographic Scope for Cumulative Impact Analysis**

Resource	Cumulative Impact Analysis Area (CIAA)
Air Quality	1-mile radius
Public Health	1-mile radius
Water	½-mile radius
Terrestrial and Aquatic Wildlife Resources and Ecosystems	1-mile radius
Soils	Full extent of disturbance
Vegetation	1-mile radius
Public Welfare	1-mile radius

## 4.0 SUMMARY OF RESOURCE IMPACTS

### 4.1 AIR

#### 4.1.1 Resource Description

There a variety of air emission sources at the proposed location and within the CIAA including, vehicle traffic and airplanes. Implementation of the Project would have a cumulative impact on air quality within the 1-mile CIAA. Demonstrated by the Emissions Inventory in Form 2B, the cumulative effects of the proposed project on air emissions in the CIAA would be minor.

#### **4.1.2 Direct and Indirect Impacts**

During the air emissions analysis, it was determined indirect and direct impacts to air quality would be primarily from vehicle traffic and production activities. The following impacts have been identified:

- Temporary increase in traffic during drilling and completion phase will result in approximately 100 trips per day. Traffic during production phase will result in approximately 5 trips per day due to the lack of infrastructure of water and oil pipelines in the area.
- Incremental contribution of emissions from engines needed for the drilling operations and production stage operations can lead to a decrease in air quality.
- Short-term contribution of emissions from engines needed for the drilling and completions operations can lead to a decrease in air quality.
- Incremental contribution of emissions from engines including, but not limited to separators, tanks and ECD's, needed for the production stage operations can lead to a decrease in air quality.

#### **4.1.3 Cumulative Impacts**

Impacts to air resources would be minimized and mitigated by the measures described in Sections 5 and 6 of this Plan. Emissions would be permitted and regulated by the Colorado Department of Public Health and Environment, Air Pollution Control Division, and would be subject to appropriate controls to reduce emissions, including APENS and Air permits. Based on the level of emissions expected to be released as the result of implementation of this proposed project, the contribution to past, present, and reasonably foreseeable projects represents a minor cumulative increase in emissions within the CIAA.

Increased traffic from oil and gas development in the may have a incremental impact on air quality in the area due to vehicle emissions, dust emissions and fugitive emissions.

### **4.2 PUBLIC HEALTH**

As described in Form 2B, The Public Health section refers to emissions of different Hazardous Air Pollutants (HAPs) that may be emitted from production equipment and during drilling and/or completion operations on the Location. The following impacts have been identified:

- Incremental contribution of vehicle emissions and dust from vehicles on the access road can lead to a decrease in air quality
- Incremental contribution of emissions from engines needed for the drilling and completions operations and production stage operations can lead to a decrease in air quality. GMT has committed to Tier IV engines or utility line power.
- Short-term contribution of emissions from engines needed for the drilling operations can lead to a decrease in air quality
- Incremental contribution of emissions from engines needed for the production stage operations can lead to a decrease in air quality.

## 4.3 WATER RESOURCES

### 4.3.1 Resource Description

There are no water bodies (i.e., groundwater, ponds, stream, rivers) in areas proposed for disturbance. Based on National Wetland Inventory (NWI) data, there are no mapped wetlands in areas proposed for disturbance. There are no known public water systems within one mile of the proposed Locations.

### 4.3.2 Direct and Indirect Impacts

Construction and operation of the proposed location could potentially impact water resources that exist within ½-mile of the proposed facilities based on the potential for increases in localized erosion and sedimentation rates. Implementation of the proposed Projects could temporarily increase soil compaction on nearby existing roads, and on the proposed access roads and well pads. As a result of the localized increases in soil compaction, there is the potential for increased surface runoff in areas associated with the access roads and working pad surfaces. Based on the lack of substantial pathways (surface drainages) and the installation of SW BMPs by the Operator within or near the proposed disturbance and with the successful implementation of project-related soil erosion control measures, there is low likelihood of substantial sedimentation of intermittent drainages in the area.

### 4.3.3 Cumulative Impacts

Construction and production activities at the proposed Locations combined with other past, present, and reasonably foreseeable activities in the area could increase the possibility for accidental releases of industrial products, including fuels, lubricants, and other petroleum products. Such accidental releases could impact local groundwater resources, if releases are of sufficient magnitude. Successful implementation of project-related best practices and mitigation measures would result in negligible cumulative impacts to local water resources.

Water would be obtained from existing, permitted sources of groundwater, including an estimated 3,600,000 bbls of groundwater and 1,200,000 bbls of surface water. Use of an estimated 4,800,000 bbls of total estimated water volume would cumulatively contribute to other water uses in the area.

## 4.4 TERRESTRIAL ECOSYSTEM AND WILDLIFE RESOURCES

### 4.4.1 Resource Description

The current vegetation cover at the proposed Location is dominated by native and non-native grasses and herbaceous species, including Western wheatgrass, Needlegrass, Sideoats grama, Fendler threeawn, Bottlebrush squirreltail, Prairie junegrass, and Blue grama. . Historically, the land at the proposed Location has been used to grow cultivated crops. At the time of the site visit in August 2023, the location was fallow. National Wetland Inventory (NWI) data do not indicate any mapped wetlands associated with areas of proposed disturbance. Trees do not exist at or near any of the areas proposed for disturbance.

As an initial evaluation for the occurrence of special status species at the Location, a United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) report was prepared (USFWS 2023). The IPaC report identified six federally-listed species with the potential to occur at the proposed Location. These species include the Gray Wolf (*Canis lupus*, Endangered),

Piping Plover (*Charadrius melodus*, Threatened), Whooping Crane (*Grus americana*, Endangered), Ute Ladies'-tresses (*Spiranthes diluvialis*, Threatened), and Western Prairie Fringed Orchid (*Platanthera praeclara*, Threatened). Based on distribution and/or site-specific habitat conditions, none of these federally-listed species are expected to occur at the proposed Location.

Using the Colorado Parks and Wildlife Colorado's Conservation Data Explorer (CODEX) website, a report was generated that describes the known occurrences of special status species at or near the proposed Location (CPW 2023). Known occurrences of four regulatory species within two miles of the proposed Location were identified in the CODEX report. These species include, Golden Eagle (*Aquila chrysaetos*), Bald Eagle (*Haliaeetus leucocephalus*), Black-footed Ferret (*Mustela nigripes*), and Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*). The Burrowing Owl (*Athene cunicularia*, State Threatened) was the only State-listed species identified with a known occurrence within two miles of the proposed Location. Habitat at the proposed Location is not suitable for these species. None of these species were observed at the site in August 2023 and there was no evidence that these species occur at the Location.

No High Priority Habitats (HPHs) overlap with areas proposed for disturbance. The nearest Rule 1202.c NSO Habitat, Aquatic Native Species Conservation Waters, is approximately three miles west of the proposed Location and associated with First Creek. The nearest Rule 1202.d Density Habitat, Mule Deer Migration Corridor, is approximately three miles east of the proposed Location. The nearest Rule 309.e.1, Other Consultation Habitats, is a Burrowing Owl Active Nest site, approximately 1.5 miles east of the proposed Location.

#### **4.4.2 Direct and Indirect Impacts**

Implementation of the proposed project could result in direct and indirect impacts to wildlife. Direct impacts are those that result in mortality, injury, and behavioral changes (for example: displacement) to wildlife. Direct impacts to wildlife typically occur during construction when wildlife are unable to avoid operating construction equipment and other project-related vehicles. Wildlife may be injured or killed during surface disturbing activities. Surface disturbing activities, including increases in human presence and associated noise, have the potential to displace wildlife. Such displacement is expected to have minimal impact on individuals based on the availability and suitability of other unaffected habitats in the area. During the construction phase, new light sources may be created. New light sources have the potential to attract insects which in turn may attract foraging bird and bat species. There is a potential for injury or mortality to birds and bats through collision with project-related infrastructure. Because the areas proposed for disturbance are not expected to offer high quality habitat for wildlife species, direct impacts are expected to be negligible. Indirect impacts to wildlife include the alteration of non-native habitats that potentially provide forage and cover; changes in local habitats based on the potential for introduction of noxious weeds; and project-related increases in predator densities or concentrations. Indirect impacts to wildlife species are expected to be minimal; based on the low diversity and relative quality of the impacted habitats and the availability of other undisturbed and suitable habitats in the vicinity. Implementation of the proposed project would not result in impacts to special status wildlife species.

#### **4.4.3 Cumulative Impacts**

Implementation of the proposed project would have an insignificant cumulative impact on locally occurring wildlife and wildlife habitats, as the project is proposed for an area that has limited natural/undisturbed habitats.

## **4.5 SOIL RESOURCES**

### **4.5.1 Resource Description**

Based on NRCS soils data, the following soil types have been described for the proposed locations:

#### **Adena-Colby – silt loams, 1 to 5 percent slopes**

Soils are comprised of 65 percent Adena, 25 percent Colby, and 10 percent of minor components.

The Adena complex drainage class is “well drained” with a (0.2 to 0.6 in/hr) capacity to transmit water; depth to restrictive feature is typically 80 inches or more in depth.

#### **Platner Loam – 0 to 3 percent slopes**

Soils are comprised of 85 percent Platner and 15 percent minor components. The Platner complex drainage class is “well drained” with a (0.06 to 0.2 in/hr) capacity to transmit water; depth to restrictive feature is typically more than 80 inches.

### **4.5.2 Direct and Indirect Impacts**

Implementation of the proposed project, including surface disturbing activities, could result in soil compaction, and subsequent increases in erosion and sedimentation. Compaction of soils can lead to decreases in water and air absorption. Severe compaction can also lead to a conversion from aerobic to anaerobic soil conditions, thereby altering organisms in the soil and subsequently causing changes in soil nutrient cycling.

### **4.5.3 Cumulative Impacts**

Implementation of the proposed project would have a negligible cumulative impact on soil resources in the area. Past, present, and reasonably foreseeable projects and activities in the area have likely resulted in similar impacts to soil resources.

## **4.6 PUBLIC WELFARE**

### **4.6.1 Existing Oil & Gas Operations**

#### ***Resource Description***

The Schuh 3-65 has already been constructed and has four (4) producing wells. These wells were drilled in 2021.

The King 3-65 location has also been constructed and has four (4) producing wells. Crestone has an approved OGDPA to enlarge the location. Public information on the ECMC website indicates that there are twelve (12) drilled wells. GMT has no information regarding another Operator's plan of operations. Regarding traffic, all of these projects are in the city of Aurora. A Road Maintenance Agreement will be required by the City of Aurora.

#### ***Direct and Indirect Impacts***

The existing locations will have a temporary impact on public welfare during drilling through completions.

### ***Cumulative Impacts***

The existing locations will have minimal impacts on Noise, Odor, Light and Dust as the locations have already been constructed and there are already producing wells on these locations.

#### **4.6.2 Noise**

##### ***Resource Description***

The proposed project is located in City of Aurora, Adams County, Colorado where agricultural operations and residential and commercial development has taken place. There are no Residential Building Units (RBUs) within 2,000'. There are no high occupancy building units (HOBUs, including schools and daycares) within 5,280 feet of the proposed working pad surface. The area is being redeveloped as an industrial park. There are existing oil and gas operations, including two (2) in the same section.

The location is also within the Airport District (AD). There are 3 midstream facilities nearby.

##### ***Direct and Indirect Impacts***

Receptors to noise impacts will be the nearby RBUs which are more than 5,280' from the location. Potential noise impacts to human receptors is expected to be low based on the expected low intensity and duration of the noise created during construction. Based on the distance between the proposed Location and the RBUs combined with project-related mitigation measures to minimize noise production, direct and indirect impacts are expected to be minimal.

##### ***Cumulative Impacts***

No substantial cumulative noise impacts are expected.

#### **4.6.3 Odor**

##### ***Resource Description***

Within one mile of the proposed Location there is a facility associated with asphalt/concrete production/recycling, residential home development, and other energy development facilities. All of which are likely to generate odors. There are 3 contributing midstream facilities that can generate odors.

##### ***Direct and Indirect Impacts***

Implementation of the proposed project has the possibility of creating short-term and temporary changes to odors in the vicinity of the project.

##### ***Cumulative Impacts***

Implementation of the proposed project could result in short-term and temporary odor impacts within the cumulative impacts analysis area. Potential impacts of the proposed Location are expected to be negligible based on the limited duration and intensity of odor production.

#### **4.6.4 Light**

##### ***Resource Description***

The proposed Location is in an undeveloped area of Adams County, where light sources are limited and dispersed in low densities.

### ***Direct and Indirect Impacts***

The greatest potential for light impacts would occur during the drilling and completion phase of the proposed project. During the drilling phase, the appearance of new light sources may be perceivable to distant observers. Public county roads in the vicinity of the proposed Project do not typically support high traffic volumes. The project proponent is committed to daylight operations, when possible. There would be no permanent light sources on the working pad surface during operation of the proposed facilities. The only light source during the production phase would be from trucks hauling water.

### ***Cumulative Impacts***

There would not be any long-term permanent light-related cumulative impacts associated with implementation of the proposed project.

## **4.6.5 Dust**

### ***Resources Description***

Development of the proposed Project would require earth disturbing activities and travel on unpaved roads, which has the potential to produce fugitive dust emissions. Production of agricultural cash crops is a common practice in the vicinity of the proposed Locations. Agricultural practices can be a source of fugitive dust. As of August 2023, there was active construction of a large residential development west of the proposed Location, which is also expected to be a source of fugitive dust.

### ***Direct and Indirect Impacts***

The greatest potential for impacts from dust is during construction of the proposed working pad surfaces and construction and use of the associated proposed access route. Dust from vehicles on the access road can lead to a decrease in air quality without appropriate mitigation.

### ***Cumulative Impacts***

There would not be any long-term permanent dust-related cumulative impacts associated with implementation of the proposed project with appropriate mitigation and minimization measure.

## **5.0 MINIMIZATION MEASURES**

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In § 34-60-106 (2.5), C.R.S., the COGCC defines “minimizing adverse impacts” as

”providing necessary and reasonable protections to reduce the extent, severity, significance, or duration of an unavoidable direct, indirect, and cumulative adverse impacts to public health, safety, welfare, the environment, or wildlife resources from oil and gas operations.”

Minimization measures reduce impacts to the greatest degree that is practical and can include operational and mechanical controls. GMT has committed to the minimization measures listed in the following sections. GMT will abide by Minimization measures as referenced in the Oil and Gas Manual.

## 5.1 AIR QUALITY

- Oil pipeline will be utilized, reducing truck trips for oil loadout.
- GMT will utilize a Modular Large Volume Tank (MLVT) and layflat lines reducing the need to truck water during hydraulic fracturing operations.
- Operator will use non-emitting pneumatic controllers. GMT uses instrument air. The compressor for the instrument air is electric and will run off of grid power.
- GMT is working with Xcel and Civitas to determine if adequate grid power is available for electrification for the drilling phase.
- Operator will use electric pumps for hydraulic fracturing if available, and will demonstrate best-effort if unable to utilize them
- Operator will use Tier IV or equivalent engines, such as NG Tier II w/ battery assist, (or better) for hydraulic fracturing (dual-fuel engines are not considered equivalent)
- GMT is working with Xcel to secure power for production operations Electric equipment is planned for the Invicta site.
- Measures associated with fugitive dust include: GMT will gravel all working surfaces and perform interim reclamation within six months of well drilling and completion.
- If wind conditions are such that work cannot be completed without creating fugitive dust, action will be immediately taken to apply water to all dust-creating surfaces.
- Avoid unnecessary work on dust generating on high wind days (sustained winds 25mph or greater).
- Utilize existing vegetation, trees slash or brush piles to cover disturbed areas not used for vehicle traffic.
- Application of fresh water during construction and dry season.
- Operations will be confined to the wellpad working surface.
- Continuous monitoring of disturbed areas to evaluate additional BMPs needed.
- Fresh water or magnesium chloride application to graveled surfaced of the Location and associated roads.
- Speed limit signs will be posted per surface owner agreement.
- Belly Dump Trucks will be covered.
- Contractors will be notified of speed limits if no signs are posted. Proposed vehicle speed limit or 20 mph or less on lease roads; 5 mph or less on the location.
- Regular road maintenance such as grading and adding additional gravel as needed.
- Covered storage containers will be used for sand, silica, proppant or similar material during hydraulic facturing for dust containment.
- Remote technologies (for example, supervisory control and data acquisition (SCADA) will be used to monitor well operations. This will reduce emissions from vehicle traffic by reducing the number of vehicle trips to the site. During Hydraulic Fracturing Treatment operations, an Operator will continuously monitor and record Bradenhead Annulus pressure on all Wells being Stimulated.

- Produced water storage tank emissions will be captured and routed to an emission control device that has at least 95 percent design destruction efficiency.
- Instrument air will be used to operate all pneumatic control valves on location.
- Tanks and vapor control systems will be designed and constructed in accordance with Air Quality Control Commission Regulation Number 7.
- A Leak Detection and Repair Program will be implemented. This will include monthly inspections using infrared cameras. Per ECMC, there will be continuous air monitoring. GMT will be using SGS Smartsense equipment.
- There will be no emission-producing reserve pits.

## **5.2 PUBLIC HEALTH & WELFARE – AIR, NOISE AND ODOR**

- Best Management Practices to mitigate impacts to public health, safety, welfare and the environment can be found in the Phase I Letter of Intent and throughout this document. This is based on the HAP modeling results that indicate no HAP is expected to exceed the target cancer risk or noncancer hazard index for chronic duration exposures. No HAPS exceed the residential or industrial screening levels for acute duration exposures within the well pad location during pre-production or production phases.
- Equipment, including welding trucks, will be equipped with fire extinguishers and spark arresters.
- Where public exposure to pipeline corridors is possible, warning signs will be installed to inform the public of the presence of the pipeline.
- Vehicle operators will be instructed to travel at low speeds and to stay on existing public roadways, project-related travel routes, and the well pad at all times.
- Vehicle trips to the location will be reduced through the use of technologies that allow for remote monitoring of the wells (for example, SCADA).
- A Transportation Plan will be developed and implemented. This plan will guide management of transportation related issues during implementation of the project.
- Oil and gas operations will be in compliance with the Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section X11.
- A freshwater mud system will be used for surface hole. Oil Based Mud will be used for production drilling.
- Drill pipe will be wiped to remove residual mud upon tripping out of the hole.

## **5.3 WATER RESOURCES**

- A Stormwater Management Plan has been prepared. This plan will guide site-specific efforts to protect Waters of the State and protect soil resources that could receive stormwater runoff from the proposed location.
- There will be no staging, refueling, or chemical storage areas in the vicinity of onsite water resources within 500' of water resources.
- Potential pollutants located onsite will be sealed, wrapped, covered when not in use so as to eliminate or minimize contact with stormwater runoff.
- Proper storage, safe-handling, good housekeeping and spill prevention practices will be used to prevent pollutants from leaving the site as referenced in the SWMP.

- A small quantity of spill response equipment (absorbent pads) is typically stored on-site in the meter run building. Additional spill response equipment is stored at the GMT yard, and is available on short notice to cleanup a more significant spill.
- During construction, disturbed slopes will be covered with coconut blankets, straw mulch, or straw wattles, seeded and maintained for the life of the project or until slopes are stabilized and revegetated.
- With appropriate landowner authorization, baseline water quality samples will be collected from agency-approved water wells in the vicinity of the proposed oil and gas location.
- Proposed wells will be equipped with offsite technology that will allow for rapid well shutdown in the event of an unplanned release.

#### **5.4 TERRESTRIAL ECOSYSTEMS AND WILDLIFE RESOURCES**

- Project employees and contractors will be informed and educated on wildlife conservation practices, including no harassment or feeding of wildlife, daily inspections to insure wildlife conservation practices are effective.
- Proposed site facilities (for example, collection and distribution facilities) will be consolidated and centralized in an effort to minimize impact to wildlife habitats.
- Fugitive dust control measures will be implemented per the Dust Mitigation Plan. See Dust Mitigation Plan for dust control measures.
- Screens and other nesting barriers will be installed on stacks, heater treater openings, and fired vessels to prevent nesting by migratory bird species. Bird protectors will be placed on any openings where chemicals may accumulate.
- Should any issues arise concerning wildlife (i.e. dead birds, rats etc.) the Colorado Parks & Wildlife will be contacted immediately for directions and/or remediation at the location.

#### **5.5 SOIL RESOURCES**

- Topsoil and Stormwater management plans will be prepared for the proposed site and will include measures that will avoid and minimize impacts to soil resources, including sediment leaving or entering the location.
- Some of these measures include the following:
  - Topsoil will be stripped from the disturbance area and will be stored onsite for future use.
  - Topsoil stockpiles will be protected from wind and water erosion with SW BMPs.
  - Weed management/control practices will be used to prevent weed establishment on the topsoil stockpile.
  - Installation of coconut blankets, straw mulch, or straw wattles (seeded), sediment basins, swales, and perimeter ditches will be used to prevent minimize erosion from disturbed areas.
  - Biweekly inspections by a third-party contractor of BMP integrity and effectiveness will be implemented. Deficiencies will be noted and submitted to the operator and addressed in a timely manner. See SWMP Plan for inspections after storms.
  - Construction activities will be curtailed during wet periods in an effort to avoid unnecessary soil disturbance.
  - All roads will be recontoured and revegetated to a stable condition, unless the landowner directs differently.

- Cut and fill areas will be regraded to match pre-project contours, to the extent possible.
- The topsoil stockpile will be graded and/or BMPs installed to ensure all surface stability.
- Soils in areas associated with production operations or for subsequent drilling operations will be stabilized toward minimization of dust and erosion in these areas.
- A Spill Prevention, Control, and Countermeasure Plan will be prepared and implemented toward protecting soils from spills and releases. All spills will be reported to the City of Aurora.

### **5.6 AIR QUALITY**

- Minimization measures described in the previous section will address potential impacts associated air resources in the CIAA. No additional mitigation measures for are quality are included.

### **5.7 PUBLIC HEALTH**

- HAP emissions are not expected to contribute to acute or chronic risks to human health within or beyond the well pad location. No additional mitigation measures are required.

### **5.8 WATER RESOURCES**

- Minimization measures included in the site-specific SWMP combined with other measures listed in the previous section will address the potential for impacts to water resources in the CIAA. No other mitigation measures are required.

### **5.9 TERRESTRIAL ECOSYSTEMS AND WILDLIFE RESOURCES**

- As part of final reclamation, all roads and pads will be recontoured and revegetated to a condition similar to pre-project conditions.
- For trenches, wildlife escape ramps will be installed every 0.25 mile.

### **5.10 SOIL RESOURCES**

- Signs will be placed on each topsoil stockpile designating and preserving the material for reclamation purposes.

## **6.0 REFERENCES**

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Colorado Parks and Wildlife (CPW). 2023. CODEX report for Invicta 3-65 28 Pad. Generated 8-16-23.

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Colorado Energy and Carbon Management Commission. (n.d.). *ECMC Home.* <https://ecmc.state.co.us/#/home>