

<p style="text-align: center;">Adams County Community and Economic Development Department Development Review Comments</p>				
Case Number: USR2018-00007			Case Name: Crow	
Applicant: ConocoPhillips			Date Initiated: 11/19/2018	
Referral Comment No.	Mapped?	Reviewer Initials	County Comment	Applicant Response (date)
1	N/A	CD	No resident comments were received	

No response/responding without concern

Xcel Energy

Referral Agency Comments:

1) Tri-County Health:

- a. Recommend baseline sampling of private and commercial water wells located within one-half mile.
- b. TCH is requesting to review the source of water for workers and any potable water systems used by workers.
- c. Non-potable water sources on site should be clearly marked with a sign indicating the water is non-potable.
- d. All storage tanks on site must have secondary containment to prevent the release of contaminants into the soil and water supplies.
- e. In the event of a wastewater spill or leak, TCHD should be contacted immediately.
- f. Implement Vapor Recovery Equipment and green completion technology.
- g. Implement dust control and mitigation.

2) Colorado Department of Public Health and Environment:

- a. Electrical equipment and device: Utilize electrical equipment and devices to the extent practicable in order to reduce emissions from diesel and natural gas powered equipment and devices.
- b. Odors: Implement BMP's to reduce Odors during each phase. Examples include but are not limited too;
 - i. Chillers and chemicals to mask or neutralize hydrocarbon odors from drilling mud
 - ii. Squeegee to remove drilling fluids from drilling pipe as the pipe is removed from the wellbore

- iii. Covered containers to store drilling mud
- iv. Minimize use of diesel fuel
- c. Management of exploration and production waste: The division recommends testing for and properly disposing of technologically enhanced naturally occurring radioactive materials (TENORM).
- d. Installation of pipelines: Prior to commencing commercial production, connection to pipeline with adequate takeaway capacity.
 - i. Maximum utilization during green completions
 - ii. Minimize flaring natural gas (reduce overall emissions)
- e. Minimize flaring: Project is located in the Denver/Metro Front Range (DMNFR) ozone nonattainment area, so the division is recommending limited use of flares to the extent practicable to facilitate emission reduction.
- f. Plugging and abandonment: Implement measures to control unnecessary and excessive venting during plugging and abandonment operations.

3) Colorado Department of Parks and Wildlife:

- a. Location holds value as wildlife habitat. Main impact to wildlife habitat is fragmentation and loss of habitat.
- b. If Raptor and/or Migratory bird nest are identified then implement a buffer around the nesting area to avoid interference with nesting activities.
- c. If prairie dog colony is discovered the potential may exist for Burrowing owls to be present. Burrowing owls are protected by both state and federal laws. If earth-moving activities begin between March 15th and October 31st. a burrowing owl survey should be completed.
- d. If prairie dog colonies are present, it is recommended that they are relocated or humanely euthanized before earth-moving occurs. Permits for relocation may be required.
- e. Avoid planting or spreading noxious weeds on or around the site. Weeds have been defined as “a plant that interferes with management objectives for a given area of land at a given point in time”

County Staff

1. Landscape review:

- i. Please indicate on the landscape plan the distance from the lease area to all property lines (i.e. setback distance of the well pad to property lines). This can also be submitted as a separate site plan showing the location of the well pad area in relation to the overall parcel.
- ii. An irrigation plan is required. Please submit details of the proposed irrigation method.
- iii. Please provide detail on the landscape plan showing the proposed fence elevations (for both privacy and wildlife). The elevations must show the height and material of the fence. Please also update the landscape plan with a label indicating the location of each fence type, it is currently unclear on the submitted landscape plan.

2. Case Manager:

- i. What physical and or administrative Best Management Practices/Best Available Technologies are being implemented to meet the following potential Environmental, Health, and Safety impacts? What phases of the project will the Best Management Practices/Best Available Technologies be implemented?
 - a. Soils
 - b. Air Quality/Emissions

- c. Traffic impacts
 - d. Dust mitigation
 - e. Noise
 - f. Visual impacts
 - g. Odors
 - h. Material Handling/Spill Prevention
- ii. Will closed loop equipment be utilized?
 - iii. Will Green Completion Technology be implemented?
 - iv. How will the project be phased including but not limited to pad development, drilling, completions, and production?
 - v. What is the anticipated project schedule?
 - vi. What water wells were identified for baseline testing as required by the COGCC?
 - vii. Has ConocoPhillips been contacted by any private water well owners with request for baseline testing?
 - viii. Please describe alternative sites that were evaluated to determine the currently proposed location is the best available location.
 - ix. How will the proposed facility be compatible with current and planned zoning/land use?
 - x. Where is the required water being sourced? Will the water be trucked in, piped in, or sourced on site?
 - xi. Where is process water being disposed? Will produced water be trucked off site or piped off site?



Right of Way & Permits
1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571.3284
donna.l.george@xcelenergy.com

December 10, 2018

Adams County Community and Economic Development Department
4430 South Adams County Parkway, 3rd Floor, Suite W3000
Brighton, CO 80601

Attn: Christine Dougherty

Re: ConocoPhillips Crow Well Pad, Case # USR2018-00007

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the amended site plan for **ConocoPhillips Crow Well Pad** and has **no apparent conflict**.

The property owner/developer/contractor must complete the **application process** for any new electric service via FastApp-Fax-Email-USPS (go to: [https://www.xcelenergy.com/start, stop, transfer/new construction service activation for builders](https://www.xcelenergy.com/start_stop_transfer/new_construction_service_activation_for_builders)). It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

As a safety precaution, PSCo would like to remind the developer to call the **Utility Notification Center** at 1-800-922-1987 to have all utilities located prior to any construction.

Please contact me at donna.l.george@xcelenergy.com or 303-571-3306 if there are any questions with this referral response.

Donna George
Right of Way and Permits
Public Service Company of Colorado



December 11, 2018

Christine Dougherty
Adams County Community and Economic Development
4430 South Adams County Parkway, Suite W2000A
Brighton, CO 80601

RE: ConocoPhillips – Crow Well Pad, USR2018-00007
TCHD Case No. 5293

Dear Ms. Dougherty,

Thank you for the opportunity to review and comment on the Use by Special Review Permit application for eight horizontal wells on one well pad for the production of oil and gas located northwest of Quail Run Road and 26th Avenue. Tri-County Health Department (TCHD) staff has reviewed the application for compliance with applicable environmental and public health regulations and principles of healthy community design. After reviewing the application, TCHD has the following comments.

Domestic Wastewater Management

Proper wastewater management promotes effective and responsible water use, protects potable water from contaminants, and provides appropriate collection, treatment, and disposal of waste that protects public health and the environment. TCHD, as the local public health agency, plays a role in reviewing whether a new proposed land use has addressed the domestic water and wastewater needs and is the regulating agency for On-Site Wastewater Treatment Systems (OWTS). Because of the nature of oil and gas operations and the typical location of this land use, not in close proximity to existing wastewater facilities, many of the oil and gas sites utilize portable above-ground wastewater storage systems.

To ensure public health is protected, the system utilized for collecting and storing domestic wastewater shall be operated and maintained in a sanitary manner, to include pumping and hauling of the wastewater by a Cleaner licensed by TCHD. TCHD maintains a list of licensed system Cleaners which can be found here <http://www.tchd.org/745/Finding-Certified-Septic-Professionals>. If you have any questions regarding installation or operation of a portable above-ground wastewater storage system, or the process to obtain a Cleaner/Pumper license, please contact Mike Weakley at 720-200-1593 or mweakley@tchd.org.

Baseline Water Quality Testing

Water quality is unregulated in domestic and irrigation wells in Colorado and monitored in a limited manner for commercial wells. This means water quality testing is typically not required, and the water quality is often unknown. In general, TCHD supports

baseline water quality testing to establish the existing water quality relative to the water well's permitted use and to identify water quality issues that should be known and addressed by the well's owner. Baseline water quality testing can also provide an understanding of pre-existing conditions should the water quality change in the future. Baseline and subsequent water quality testing data can support a determination of whether water treatment may be needed to protect the health of well water users and the health of the environment.

Specific Recommendations for Water Wells within ½ mile:

TCHD believes that any owner of a well within one-half mile of the proposed oil and gas operation should have the opportunity to obtain a baseline water quality test prior to the change in land use. One-half mile is the area of influence established by the Colorado Oil and Gas Conservation Commission's Final Rule 609 Statewide Groundwater Baseline Sampling and Monitoring.

TCHD recommends the following for well permits and water rights holders located within one-half mile of the proposed oil and gas well as they are likely used or will be used for drinking water for humans or animals.

- That the County or applicant notify owners of the wells or groundwater rights owners of the proposed application;
- That the County refer well owners who want to test their wells to TCHD for guidance on recommended testing parameters, procedures for selection of qualified sampling professionals and laboratories, and sharing of data; and
- That the County refers well owners desiring guidance for wellhead protection to TCHD.

Water Supply for Use by Workers

Providing clean and safe water for use by workers for ware washing, food preparation, hand washing, and showering is important. The majority of foodborne illnesses can be traced to improper food handling procedures in home, retail, or office kitchens. Improper transport, storage, cross-connections, and backflow also pose dangers to potable water quality.

TCHD will need to review information regarding the source of water for workers as well as any proposed potable water system used by workers. If the drinking water is to be hauled, a public water system identification number for the water hauler must be provided to TCHD.

Potential Temporary Water Storage

Non-potable water is often used onsite at oil and gas sites. The storage tank should be marked with a sign indicating the water is non-potable. In addition, these very large water storage tanks have the potential to collapse if not properly constructed with appropriate quality controls. A collapse can result in significant damage to the

environment, property, and individuals that may be nearby. TCHD recommends the applicant employ proper quality control techniques when constructing the water storage tank.

Above Ground Storage Tanks

Fuel is often stored onsite at oil and gas sites. All storage tanks must have a secondary containment area, a routine monitoring system to check for leaks, and best management practices implemented in order to prevent the release of contaminants into the soil and water supplies.

Emergency Response Plan/Spill Reporting

One of the most common environmental releases associated with oil and gas drilling operations is the inadvertent surface spill of chemicals, produced water, or flowback water. No Emergency Response Plan was available for review with the referral materials. The Emergency Response Plan should include response and notification procedures for responding to and effective strategies for minimizing the risk of hydrocarbon spills, hazardous chemical spills, and produced water spills. If a spill or incident were to occur, the emergency response to spills should be indicated in the Spill Prevention, Control, and Countermeasures Plan that is kept onsite.

Specific information related directly to a potential leak or spill from the domestic wastewater system should also be addressed. In the event there is a domestic wastewater spill or leak, TCHD should be contacted immediately.

Air Quality Permitting

Air pollutant emissions including flares are regulated by the Colorado Department of Public Health and Environment. Vapor recovery equipment should be used to control the release of vapors into the environment. The use of green completion technology is strongly encouraged at every site. If the site is to use multiple flares and combustors, the oil and gas industry permits should include a regulatory analysis determining the applicability of state and federal air quality permitting requirements and air pollution control regulations for the proposed emissions source(s). More information as well as all forms can be found online at <https://www.colorado.gov/pacific/cdphe/all-permits>.

Dust Control and Mitigation

TCHD encourages the applicant to follow best management practices for erosion control on the site, specifically to minimize excessive dust from land disturbance. This will help minimize the environmental impact resulting from any construction and land disturbance on the site. TCHD encourages any reclamation, including site pad minimization, and reseeding activities to occur as early as possible. This prevents erosion, helps control excessive weeds, and can provide some benefit to air quality.

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Traffic Safety

Oil and gas production and monitoring wells involve significant truck traffic to and from a site during the construction and drilling process. TCHD commends the applicant for including traffic control in their best management practices and TCHD encourages the County to designate a primary traffic route for all construction traffic and deliveries. If the trucks servicing the site will be traveling on a local school bus route, we encourage the County to work with the applicant to minimize traffic during hours when school buses are in operation.

Please feel free to contact me at 720-200-1575 or kboyer@tchd.org if you have any questions on TCHD's comments.

Sincerely,

A handwritten signature in cursive script, appearing to read 'K Boyer', followed by a horizontal line extending to the right.

Kathy Boyer, REHS
Land Use and Built Environment Specialist III

cc: Sheila Lynch, Dylan Garrison, TCHD

Submitted via email to: cdougherty@adcogov.org

November 7, 2018

Christine Dougherty
Community and Economic Development Department
4430 South Adams County Parkway, Suite W2000Bs
Brighton, CO 80601-8218

Re: Case No. AUSR2018-00007

Dear Christine Dougherty:

The Colorado Department of Public Health and Environment has the following comments on the November 5, 2018 ConocoPhillips Crow Well Pad request for comment (Case No. AUSR2018-00007).

The Department respectfully recommends that ConocoPhillips employ best management practices throughout the project area and is providing comments on the following topics:

- Electrical equipment and devices
- Odors from drilling and completion activities
- Management of exploration and production waste
- Installation of pipelines
- Plugging and abandonment

Electrical equipment and devices

The Department recommends that ConocoPhillips utilize electrical equipment and devices to the extent practicable in order to reduce emissions from diesel and natural gas powered equipment and devices.

Odors from drilling and completion activities

The Department recommends that ConocoPhillips implement methods and practices to reduce odors during each phase of the exploration and production process throughout the duration of the project, including but not limited to: using chillers and

chemicals to mask or neutralize hydrocarbon odors emulating from drilling mud; using a squeegee to remove drilling fluids from the drilling pipe as they exit the wellbore and; using covered containers to store the drilling mud on the well site and; minimizing the use of diesel fuels as additives in drilling mud.

Management of exploration and production waste

The Department recommends that ConocoPhillips test for and properly dispose of technologically enhanced naturally occurring radioactive materials (TENORM).

Installation of pipelines

The Department recommends that ConocoPhillips not commence commercial production of any well until adequate pipeline takeaway capacity is available at the facility. This practice ensures that green completions will be utilized to the extent practicable during flowback operations and that the flaring of natural gas will be minimized, thus reducing emissions from well sites.

Minimization of Flaring

The project area is within the Denver Metro/North Front Range (DMNFR) ozone nonattainment area. The flaring of natural gas produces nitrogen oxides (NOx) as well as additional volatile organic compound (VOC) emissions due to incomplete combustion. Both pollutants contribute to ozone formation.

In 2008, EPA came out with a stricter ozone standard and the DMNFR was designated as a "Marginal" nonattainment area for this standard. Although Colorado's air quality is getting better, meeting the 2008 ozone standard continues to be a challenge.

The Department recommends that ConocoPhillips limit the use of flares to the extent practicable in order to facilitate emission reduction efforts.

Plugging and abandonment

The Department recommends that ConocoPhillips implement measures to control unnecessary and excessive venting during plugging and abandonment operations to protect public health and the environment, and to ensure that vapors and odors from well plugging operations do not constitute a nuisance or hazard to public welfare.

Conclusion

The Department appreciates the opportunity to submit these comments and as this project develops over the coming months, the Department may submit additional comments in an effort to minimize the impacts from oil and gas operations on public health and the environment.

Please contact Sean Hackett at [303-692-3662](tel:303-692-3662) with any questions.



Sincerely,

Sean Hackett
Environmental Protection Specialist
Colorado Department of Public Health and Environment





COLORADO

Parks and Wildlife

Department of Natural Resources

Northeast Regional Office
6060 Broadway
Denver, CO 80216
P 303.291.7227 | F 303.291.7114

November 30, 2018

Christine Dougherty
Adams County
Oil & Gas Liaison, Community and Economic Development Department
4430 South Adams County Parkway, Suite W2000A
Brighton, CO 80601-8216

RE: Request for a Use by Special Review Permit to allow eight (8) horizontal wells on one (1) well pad for the production of oil and gas (Case Number USR2018-00007)

Dear Ms. Dougherty:

Thank you for the opportunity to comment on the proposed ConocoPhillips Crow #3-64 29-30 (Amended Site Plan) oil and gas well facility, consisting of one well pad with up to eight wells and one access road for the production of oil and gas located at the northwest corner of Quail Run Road and East 26th Avenue, Assessor's Parcel Number 0181720100001, in Adams County. The mission of Colorado Parks and Wildlife (CPW) is to perpetuate the wildlife resources of the state, to provide a quality state parks system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources. Our goal in responding to land use proposals such as this is to provide complete, consistent, and timely information to all entities who request comment on matters within our statutory authority.

District Wildlife Manager Serena Rocksund recently analyzed the amended project sites. The project location is surrounded by agricultural lands and some residential single-family homes. Although development of the well facility is not within sensitive wildlife habitat, the site is proposed in rural agricultural lands and does hold value as wildlife habitat. The main impacts to wildlife from this development include fragmentation and loss of habitat.

Fragmentation of wildlife habitat has been shown to impede the movement of wildlife across the landscape. Open space areas are more beneficial to wildlife if they connect to other natural areas. The areas of wildlife habitat that most closely border human development show heavier impact than do areas on the interior of the open space. However, when open space areas are smaller in size, the overall impact of the fragmentation is greater (Odell and Knight, 2001). By keeping open space areas contiguous and of larger size the overall benefit to wildlife increases dramatically.

CPW would expect a variety of wildlife species to utilize this site on a regular basis, most notably, small to mid-sized mammals, songbirds, and raptors. The potential also exists for large mammals such as deer and pronghorn to frequent this site. Raptors and other migratory birds are protected from take, harassment, and nest disruption at both the state and federal



levels. If an active nest is discovered within the development area, CPW recommends that buffer zones around nest sites be implemented during any period of activity that may interfere with nesting season. This will prevent the intentional or unintentional destruction of an active nest.

For further information on this topic, a copy of the document “Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors,” is available from your local District Wildlife Manager or located at <https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RaptorBufferGuidelines2008.pdf>.

Following the recommendations outlined in this document will decrease the likelihood of unintentional take through disturbance.

If a prairie dog colony is discovered within the project area, the potential may also exist for the presence of burrowing owls. Burrowing owls live on flat, treeless land with short vegetation, and nest underground in burrows dug by prairie dogs, badgers, and foxes. These raptors are classified as a state threatened species and are protected by both state and federal laws, including the Migratory Bird Treaty Act. These laws prohibit the killing of burrowing owls or disturbance of their nests. Therefore, if any earth-moving will begin between March 15th and October 31st, a burrowing owl survey should be performed. Guidelines for performing a burrowing owl survey can also be obtained from your local District Wildlife Manager or found at <https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RecommendedSurveyOwls.pdf>

If prairie dog colonies are present, CPW would recommend they either be captured alive and moved to another location or humanely euthanized before any earth-moving occurs. The possibility of live-trapping and donating to a raptor rehabilitation facility may also exist. If interested, please contact the local District Wildlife Manager. Be aware that a permit and approval from county commissioners may be required for live relocation.

CPW recommends the installation of an exclusionary fence, at least seven-feet in height plus 2 strands of top wire, to prevent deer from accessing the station. CPW recommends a smooth top to the fence (e.g., no top barbed wire or exposed metal rods) to prevent wildlife from impaling themselves or entanglement if they attempt to cross into the station. The bottom of the fence shall be four inches or less from the ground. CPW has developed a document, <https://cpw.state.co.us/Documents/LandWater/PrivateLandPrograms/FencingWithWildlifeInMind.pdf>, to assist with choosing the correct type of fencing to allow or restrict wildlife movement.

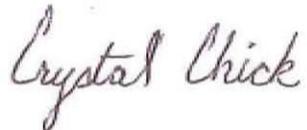
CPW recommends that all site lights should be motion-activated and downward-directed to minimize light pollution for active nocturnal or resting diurnal wildlife species.

CPW recommends consideration be made for using principles of an integrated weed management plan, which Adams County may already have in place, to control and eliminate the spread of any noxious weeds in and around the site. CPW recommends that the planting of any species listed as noxious weeds be avoided throughout the development site and surrounding area. The spread and control of noxious weeds on the sites is a concern for wildlife in the immediate and surrounding area. Weeds are defined as “a plant that interferes with management objectives for a given area of land at a given point in time” (Whitson,

1999). Invasive plants endanger the ecosystem by disturbing natural processes and jeopardizing the survival of native plants and the wildlife that depend on them. The threat is so severe in the United States that scientists now agree that the spread of invasive species is one of the greatest risks to biodiversity (Nature Conservancy, 2003).

Thank you again for the opportunity to comment on the proposed ConocoPhillips Crow #3-64 29-30 (amended site plan) oil and gas well facility located at the northwest corner of Quail Run Road and East 26th Avenue, in Adams County. Please do not hesitate to contact us again about ways to continue managing the property in order to maximize wildlife value while minimizing potential conflicts. If you have any further questions, please contact District Wildlife Manager Serena Rocksund at (303) 291-7132 or serena.rocksund@state.co.us.

Sincerely,

A handwritten signature in cursive script that reads "Crystal Chick".

Crystal Chick
Area 5 Wildlife Manager

Cc: M. Leslie, T. Kroening, S. Rocksund