

# Planning Commission Agenda Summary

November 8<sup>th</sup>, 2022

Key Staff Contact: Michael Franke, Planner I, (970) 350-9782

## **Title:**

Public Hearing to consider a Use by Special Review request to allow for up to 23 oil and gas wells to be constructed on one pad with associated production facility equipment, known as the Bypass 1-23 Oil and Gas facility. The proposed subject site is located south of US Highway 34, approximately ¾ mile west of 83<sup>rd</sup> Avenue, and east of 95<sup>th</sup> Avenue in the Holding Agriculture zoning district. (Project: USR2022-0006).

## **Summary:**

The City of Greeley is considering a request by the application, Tammy Waters and Paul Montville, on behalf of PDC Energy, for approval of a USR (Use by Special Review) to allow for a new oil and gas development containing up to 23 wells with associated production facility equipment on one pad in the H-A (Holding Agriculture) zoning district. The subject site is located south of US Highway 34, approximately ¾ mile west of 83<sup>rd</sup> Avenue, and east of 95<sup>th</sup> Avenue. The subject site parcel is 78.68-acres in size. The subject site is currently used for other oil and gas well production and dry crop farmland. The operation plan for the proposed development consists of a construction & drilling phase, completion phase, production phase, and plugging and abandonment phase. The City of Greeley Development Code states oil and gas development is permitted within all zoning districts upon approval of the USR process due to the highly regulated nature for oil and gas production.

## **Recommended Action:**

### **Approval:**

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed Use by Special Review for an oil and gas operation that consists of 23 oil and gas wellheads and associated production facility equipment in the H-A (Holding Agriculture) zoning district is consistent with the Development Code criteria of Section 24-206 (Items 1-8) and the proposed oil and gas operations will meet the provisions contained in Section 24-1102, Oil and Gas; and therefore, approve the Use by Special Review.

## **Attachments:**

Staff Report

Attachment A – Aerial & Vicinity Map

Attachment B – Existing Zoning Map

Attachment C – Narrative and Operations Plan

Attachment D – Overall Site Plan

Attachment E – Environmental and Safety Plan

Attachment F – Traffic Impact Study

Attachment G – Tactical Response Plan

## Attachment H – Noticing Boundary Area

## PLANNING COMMISSION SUMMARY

**ITEM:** Use by Special Review (USR) for Oil and Gas Production Facility in the H-A (Holding-Agriculture) Zoning District

**FILE NUMBER:** USR2022-0006

**PROJECT:** Bypass State 1-23 Pad/Facility Oil and Gas Use by Special Review

**LOCATION:** South of US Hwy 34, approximately ¾ mile west of 83<sup>rd</sup> Avenue, and east of 95<sup>th</sup> Avenue

**APPLICANT:** Tammy Waters and Paul Montville, on behalf of PDC Energy.

**CASE PLANNER:** Michael Franke, Planner I

**PLANNING COMMISSION HEARING DATE:** November 8<sup>th</sup>, 2022

### PLANNING COMMISSION FUNCTION:

Review the proposal for compliance with Section 24-1102, Oil and Gas Operations, and Section 24-206, Review Criteria/Uses by Special Review, of the City of Greeley Development Code and either approve, approve with conditions, or deny the request.

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### EXECUTIVE SUMMARY

The City of Greeley is considering a request by Tammy Waters and Paul Montville, on behalf of PDC Energy, for approval of a Use by Special Review (USR) to allow up to 23 horizontal oil and gas wells and construct temporary and permanent facilities needed for supporting drilling, completion, and production operations. The proposed project would be on a property located south of US Hwy 34, approximately ¾ mile west of 83<sup>rd</sup> Avenue, and east of 95<sup>th</sup> Avenue (*Attachment A – Aerial & Vicinity Map and Attachment D – Overall Site Plan*). The subject site is approximately 78.68 acres in size and is zoned H-A (Holding Agriculture).

### A. REQUEST

The applicant is requesting approval of a USR to allow for an oil and gas operation for up to 23 oil and gas wellheads and production facility on approximately 20.9 acres of the 78.68-acre site (*Attachment D – Overall Site Plan and Attachment C – Narrative*).

### B. STAFF RECOMMENDATION

Approval.

## **C. LOCATION**

### **Current Zoning:**

H-A (Holding Agriculture) (*see Attachment B – Existing Zoning Map*)

### **Abutting Zoning:**

North: H-A (Holding Agriculture)

South: H-A (Holding Agriculture)

East: H-A (Holding Agriculture) and I-L (Industrial Low Intensity)

West: H-A (Holding Agriculture) and R-E (Residential Estate)

### **Surrounding Land Uses:**

North: Dry Crop Farming, Oil & Gas, and Residential

South: Dry Crop Farming and Oil & Gas

East: Drop Crop Farmland and Utilities

West: Dry Crop Farmland, Oil & Gas, and Residential

### **Site Characteristics:**

The site is primarily utilized for dry crop farming and oil & gas production. There are one existing oil and gas well on the site. with the status of Shut-in (Kettler 1-18). The well does include storage tanks on the property as well. The remaining and majority of the parcel's land is vacant and utilized for farming activity and natural, open, area.

## **D. BACKGROUND**

The subject site was annexed into the City of Greeley and zoned H-A, in 2017, as part of the 1034 Enclave Annexation (Reception No. 4303716 and 4291881) (File No. A 12:16 and Z 12:16). The subject site has remained undeveloped, other than oil and gas operations since its annexation. The subject site does not have an associated subdivision. CDOT owns the entirety of the right-of-way of US Highway 34 along the north side of the property.

## **E. OPERATION PLAN**

The Operating Plan is divided into the Drilling Phase and Protection of Water Formations, the Completion Phase, the Production Phase, and the Plugging and Abandonment Phase.

All phases of operations including drilling, completion, production, abandonment, and reclamation are designed to adhere to the Rules and Regulations of the COGCC, especially COGCC 300 Series (Permitting Process), 400 Series (Operations and Reporting), 600 Series (Safety and Facility Operations), 900 Series (Environmental Impact Prevention), 1000 Series (Reclamation), 1100 Series (Flowlines), and 1200 Series (Protection of Wildlife Resources). Enclosed flares shall be utilized during the drilling, completion, recompletion, reworking, production, repair, and maintenance of the pad site. PDC will use Best Management Practices during all phases of operations.



PDC Energy intends to horizontally drill 23 proposed wells using facilities, equipment, on approximately 78.68 acres of land, with a footprint of approximately 20.9 acres (*Attachment C – Narrative and Operations Plan*).

PDC will use Best Management Practices during all phases of operations.

#### Drilling Phase and Protection of Water Formations:

The proposed drill site will be approximately 20.9 acres in size and construction of this site will include leveling the pad to accommodate the drilling rig. Sound walls to mitigate sound and light will be installed after the pad is constructed, prior to the commencement of drilling. Once the pad is completed, a small surface drilling rig will be brought onto location and rigged up to drill the surface portion of the well for the 23 wells on the pad. This will take approximately 24 hours per well. Drilling operations, which run twenty-four (24) hours a day until completed, will commence after the rig is “rigged up”. A 13-1/2-inch surface hole will be drilled to approximately 1750 feet using fresh water. Surface casing 9-5/8 inches in diameter will then be run and cemented to surface to protect any shallow freshwater zones. Surface casing setting depth is determined from subsurface ground water maps prepared by the State Engineer and supplemented by the latest data available from offsetting wells. A baseline water sample will be obtained from water wells within ½ mile of the proposed location to ensure water quality. When all 23 wells have surface casing set, the surface rig will move off the Bypass location. It is estimated to take one day per well to drill and set surface casing.

Once the location is clear from the surface rig, a liner is set on the pad where the drilling rig will be rigged up to contain and prevent any potential fluid from hitting the ground. In addition, wooden matting boards will be placed over the liner as a secondary containment for fluids and stability for the drilling rig. Once the location is prepped, the drilling rig will move in and rig up on the first well on location. The Blowout Preventer Equipment (BOPE) will be installed and tested prior to drilling. After testing, the drilling of the production hole will commence. A bit and directional tools comprise the bottomhole assembly (BHA). (*Attachment C – Narrative and Operations Plan*).

The directional tools are placed behind the bit to steer the assembly, and continuously survey and send data to the surface to monitor the wellbores 3D position spatially, and to track in the targeted formation. The 8-1/2-inch bit and BHA will drill-out of the surface casing shoe and drill the “vertical” portion of the hole in which angle is built to separate wells into their planned slots. Once the vertical portion of the hole is drilled, the curve will be initiated. The curve will take approximately 1,000 feet to drill and will then place the wellbore at approximately 90° in order to enter the targeted hydrocarbon bearing zone. The wells will be drilled horizontally or parallel to the surface for approximately 1.5 miles at a vertical depth of 6,800-7,200 feet below the ground. The total Measured Depth (MD) for the proposed wells is approximately 15,000 feet.

Once the horizontal section of the wellbore is drilled, a string of production casing will be run into the wellbore. This casing will be 5-1/2 inches in outer diameter and weigh 20 pounds per linear foot. The cement sheath will isolate the entire casing string from the total depth of the well back to surface.

#### Completion Phase:

The completion phase typically begins when the drilling equipment is transported off the location. There will be no intentional rest period between drilling and completion operations. Lag time could be encountered dependent on vendor availability. Completion operations are conducted twenty-four (24) hours per day intermittently over a period of several weeks. The site may be regraded to accommodate the completion operations and anchors may be set for the completion operations. For horizontal wells, multiple fracture stages are induced along the length of the wellbore in the respective formation that the well has been drilled.

During hydraulic fracturing, water and some additives are pumped at high rates and pressures that exceed the minimum in-situ rock stresses and hydraulically fracture the formation. Sand is then pumped into the created fracture to allow gas and oil to flow freely from the formation into the well bore. The fracturing equipment will consist of one Modular Large Volume Tank (MLVT) for freshwater storage that will fully comply with COGCC's MLVT policy, multiple flowback tanks, pressure pumps, blending and bulk material trucks with other necessary equipment. After fracturing is completed, the mobile equipment is removed, excluding tanks that are used to retain the water that is produced during flowback and testing operations. No water is allowed to accumulate or be disposed of on surface. All water is hauled to approved disposal sites or recycled for stimulation use. The flowback tanks will remain on location until the well is rerouted through standard production equipment.

It takes approximately 2-3 days to hydraulically fracture each well for a total of 45-60 days on this location COGCC regulations give the operator three months to complete restoration activities, but restoration may occur sooner than three months. (*Attachment C – Narrative and Operations Plan*).

#### Production Phase:

The production equipment for the Bypass State 1-23 Well Pad/Facility will be located adjacent to the wells. The equipment on this site will consist of the following components: 6 temporary oil tanks, 6 temporary water tanks, 2 permanent maintenance tanks, 2 permanent steel water tanks, 1 permanent partially buried water vault, 7 combustors, 1 temporary water tank combustor, 2 tank/surge vapor recovery unit, (1) 2-phase vertical separator, 5 oxygen destruction system, 1 unloading separator, 3 separator LP vapor recovery units, (1) 2-phase separator, 1 communication tower, 3 instrument air skids, 3 surge vessels, 3 oil LACT, 2 water LACT, 23 production separators, 1 meter area, 2 gas lifts skids.

If needed, a temporary generator will be used before connecting to electric lines; a short noise control fence will be installed or other agreeable measures to mitigate the noise from this generator. Tanks and facilities shall be painted per COGCC Rules. The steel berm ring around the facility will hold 150% of the capacity of the largest tank within the berm. Flowlines will be installed but will not leave the oil and gas operations area. Additionally, all flowlines will be pressure tested at least annually to verify integrity and will remain in full compliance with COGCC 1100 Series Rules.

Connecting the well pad to pipeline is anticipated by 3rd quarter 2025. An PDC employee or contractor called a “lease operator,” then begins monitoring the well on a scheduled basis. The lease operator reports the tank measurements of the oil, gas sales, and pressure readings. Much of this production information is compiled and submitted to the COGCC monthly. In addition, the lease operator will inspect the site for hazards and weed control, maintaining the appearance of the Bypass State 05N66W18 1-23 Pad/Facility. For the first few months, water and oil will be hauled daily from the location. As volumes decline, water and oil hauling will also decline. (*Attachment C – Narrative and Operations Plan*).

#### Plugging / Abandonment Phase:

At the time the wells become sub-economic to operate, PDC or PDC’s successors will engage the services of a plugging rig to remove production equipment from the wellbores and plug the productive zones with a combination of bridge plugs and cement plugs in accordance with COGCC Rules and Regulations. If the separators and tanks on the surface of the land are no longer needed for other wells, they will be removed. Surface restoration will involve removal of any above-ground casing and the installation of regulation markers that will not interfere with subsequent surface use.

After all production equipment is removed, the surface will be restored to the original grade with reseeding in accordance with COGCC Rules and Regulations. This may be waived with the permission of the surface owner at the time of final restoration if there has been further land engineering that would conflict with the drill site being restored as described herein.

All transmission and/or flow lines shall be completely removed from the ground upon entering the abandonment phase. No underground lines that can or may contain any flammable product shall remain in the ground after the facility is abandoned. (*Attachment C – Narrative and Operations Plan*).

### **APPROVAL CRITERIA**

**Use by Special Review:** Uses by Special Review possess characteristics which require a public hearing to determine if a proposed use has the potential to adversely affect other land uses, transportation systems, public facilities, or the like in the surrounding neighborhood. The Planning Commission may require conditions of approval necessary to eliminate or mitigate, to an acceptable level, any potentially adverse effects of the

proposed use.

Section 24-206.b of the Development Code contains eight criteria that are used to evaluate Uses by Special Review:

**1. All criteria for site plan review in Section 24-207**

Staff Comment: The proposed project satisfies the requirements of Section 24-207 of the Development Code. The applicant has addressed all staff comments and included all required materials to satisfy the criteria for a Site Plan Review and for the Use by Special Review.  
*(Attachment D – Overall Site Plan).*

*The proposal complies with this criterion*

**2. The application furthers the intent of the proposed zoning district, does not conflict with the intent of any abutting districts, and is otherwise determined to be consistent with the Comprehensive Plan.**

The following Imagine Greeley Comprehensive Plan policies apply to this request:

▪ **NR-3.6 Resource Extraction**

*To the extent possible, minimize negative impacts from the extraction of sand, gravel, oil and gas, and other natural resources on the environment and surrounding land uses. Encourage the thoughtful reclamation of land that has been mined.*

▪ **NR-3.11 Oil and Gas Operations**

*Encourage the co-location of oil and gas facilities, where possible, to minimize the overall footprint of affected areas and impacts on adjacent land uses and the environment.*

▪ **TM-4.1 Truck Impacts**

*Establish and enforce appropriate truck routes to and through the city, including for hazardous materials. Encourage the co-location of oil and gas facilities in order to minimize impacts of transporting these resources on the community.*

Staff Comment: The Comprehensive Plan encourages the colocation of oil and gas well facilities. PDC Energy proposes to cluster 23 wells onto one pad site, complying with co-location standards of item NR-3.11. Both the cluster concept and the horizontal drilling, allow the operator to reach resources desired, while reducing the oil

and gas footprint on the surface. The drilling operations would allow the owner or lessee of the mineral estate to recover hydrocarbons prior to surface development. This site, because of horizontal drilling, has the potential to reduce the cumulative number of smaller independent sites and plug and abandon sites throughout the area. The proposal allows for access to below-grade mineral rights in a larger geographic area where surface development has already been completed.

PDC will utilize access road, 95<sup>th</sup> Ave/County Road 25, off US Highway 34 for all traffic associated with construction and production of the wells proposed for the Bypass State Pad. The access roads would be constructed to accommodate local emergency vehicles. The drill pad shall have two access roads during drilling and completion phases of the project. Both accesses would be constructed as shown on the construction plans. During the production phase the north access is required to be restricted for use by emergency vehicles only and must be gated. All routine production traffic would use the south access only. The roads would be required to be maintained for access. Traffic will be routed to minimize local interruption. (*Attachment D – Overall Site Plan and Attachment F – Traffic Study*).

*The proposal complies with this criterion.*

**3. Any associated site development or construction complies with requirements of this code, including any conditions or additional requirements identified for the particular use.**

Staff Comment: The proposed project complies with all development code requirements for site development and construction standards. Additional requirements, such as visual, noise, air quality, environmental, etc. mitigation have been provided within the narrative, operation plans, and submitted studies. Various city departments, external agencies, and abutting municipalities have reviewed the project proposal and have expressed no concern with the proposal as it meets all requirements for site design, site construction, and production of oil and gas goods.

*The proposal complies with this criterion.*

- 4. Compatibility with the area in terms of operating characteristics such as hours of operation, visible and audible impacts, traffic patterns, intensity of use, and other potential impacts on adjacent property. The cumulative impact of a concentration of similar existing uses may be considered as part of the impact of a particular use.**

Staff Comment: The operating characteristics of the proposed project are within normal standards for the site location and abutting properties. The site location is experienced with other oil and gas operations to the same standards as the proposed project. The surrounding uses of dry crop farmland, oil and gas production, create similar impacts to the proposed project and are not unusual for this area of the city.

PDC Energy has conducted several studies and submitted each to the city for review, such as an Emergency Action Plan (EAP) and Tactical Response Plan (TRP), Traffic Study, Final Drainage and Erosion Control Reports and Plans, Light Mitigation Plan, Environmental Study, etc. PDC Energy must continuously monitor conditions of the site to comply with various mitigation standards. Upon review, staff found all submitted mitigation and response plans to be in compliance with City, County, State, and COGCC requirements.

Traffic impacts would be the greatest during the construction and drilling phases. PDC Energy would utilize the lease access road, 95<sup>th</sup> Avenue and US Highway 34 for all traffic associated with construction and production of the wells proposed for the Bypass project. Ninety-fifth Avenue is design for oil and gas production traffic as well as farming equipment traffic. US Highway 34 is equipped for large travel volumes and truck travel. PDC Energy is required to obtaining all required Colorado Department of Transportation (CDOT) permits. Approximately 50% of the incoming traffic would be from US Highway 34 and 50% from 95<sup>th</sup> Avenue. The same goes for outgoing traffic, 50% would be routed north to US Highway 34 and 50% would be routed south on 95<sup>th</sup> Avenue. The project does not propose any traffic impacts unusual to the site and abutting properties. (*Attachment F - Traffic Impact Study, and Attachment C – Narrative and Operation Plan*).

*The proposal complies with this criterion.*

**5. The site is physically suitable for the proposed use, and whether any additional site specific conditions are necessary for the use to be appropriate and meet these criteria.**

Staff Comment: The 78.68-acre site is currently dry crop farmland with oil and gas wells and storage tank facilities. The site is adjacent to unoccupied parcels to the east and south. The nearest structure to the facility is equipment used for utility production/transmission shed that is unoccupied and access irregularly by associated employees. The equipment is over 600 feet away from the edge of the site boundary. To the west, there is an occupied single-family residence in the form of an estate lot/farmhouse. The residence is located approximately 1,200 feet away from the proposed site. Staff has not received any concerns from the property owner regarding the proposed project. There is other existing oil and gas operations nearby the residence, so this proposal does not alter the site suitability.

All wellheads and on-site production equipment are required to be at least 150 feet from any other wells or associated production equipment in the low-density areas of the city and at least 200' from any occupied building. The proposed wells are located at least, if not more than, 150 feet from any occupied building. The COGCC requires setbacks of at least 500 feet from any occupied building and at least 2,000 feet from any school facility or childcare center. The proposed project complies with the COGCC regulations. The site is physically suitable for oil and gas operation and the proposed development meets or exceeds the setback requirements required by the city and the COGCC. *(Attachment D – Overall Site Plan)*

*The proposal complies with this criterion*

**6. Whether a limited time period for the permit is reasonably necessary to either limit the duration of the use, assess the use against changing conditions in the area, or ensure periodic reporting and ongoing enforcement of the permit.**

Staff Comment: It is not necessary to limit the duration of the use. A limited time period for the permit operation is not proposed, other than the natural timeline proposed for the project. The estimated schedule for operational phases of the project begins with pad



construction approximately March of 2023, with production phase beginning approximately August of 2024. After the production phase begins, wells and production equipment would likely continue to operate until deemed economically unviable. At such time, the wells would be plugged and abandoned as appropriate. Once all wells are plugged and abandoned, including flowline abandonment, permanent and final reclamation of the land shall take place. Currently, there are no development plans in this area that would propose changing conditions in the area.

Periodic reporting and ongoing enforcement is required to be provided by PDC Energy to agencies such as the COGCC for compliance with mitigation regulations. If necessary, City of Greeley Fire Department shall work with the applicant to address any issues violating municipal requirements for oil and gas operations. PDC Energy must continuously monitor the project site. A PDC Energy employee are required to visit the site daily. PDC Energy staff shall address any aspects of the project that may fall out of compliance to meet regulatory requirements at the local, state, and federal levels.

*The proposal complies with this criterion.*

**7. The long-range plans for the surrounding area are not negatively impacted considering the permanence of the proposed use, the permanence of existing uses in the area, and any changes in character occurring in the area.**

Staff Comment: The subject area is proposed as a mixed-use high intensity area, surrounded by suburban uses and community separator land according to Greeley's Land Use Guidance Map within the Imagine Greeley Comprehensive Plan. The mixed-use designation is to maximize the land value and opportunity adjacent to US Highway 34 and 95<sup>th</sup> Avenue. At this time, there are not any anticipated development plans that would occur in this area to cause changing conditions from current. Projected long range uses of this site area could include development plans for a mixture of commercial development with residential development integrated or surrounding the commercial uses. However, no development of that nature is proposed. The proposed project is placed as far south as possible, away from US Highway 34, where any potential future mixed-use



development may occur in the future. Existing uses in the area are similar and suitable for oil and gas development, including dry crop farmland, vacant land, and other existing oil and gas operations. Mitigation measures are proposed to reduce impacts, or the cumulative effects associated with continuous oil and gas development within the area.

In general, staff has seen an increase in oil and gas activity on the western and southern sides of the city as operators look to identify locations that support multiple wells, meet COGCC setback and spacing requirements, and provide accessibility to resources located underdeveloped portions of the city. As these sites would operate for several years, staff has encouraged operators to locate away from tracts with potential for residential development and provide some improvements based on the nexus of rough proportionality for each site, which staff finds to be applicable for the Bypass project.

*The proposal complies with this criterion.*

**8. The recommendations of professional staff or other technical reviews associated with the application.**

Staff Comment: The following departments and agencies have reviewed the proposed project submittal:

- City of Greeley: Planning, Engineering Development Review, MS4, Fire, and Traffic.
- Agencies: Colorado Department of Transportation (CDOT) and Colorado Department of Parks and Wildlife (CPW).

No formal comment letters were received by CDOT expressing concern regarding the project. The review bodies listed above have all been involved in the review of the proposed project as planned due to compliance with required standards of local, state, and federal policies for oil and gas development and production. PDC Energy has submitted the proposed project to the COGCC for review and hearing approval.

*The proposal complies with this criterion*

**Oil and Gas Operations**

Applications for Uses by Special Review for oil and gas operations are subject to the provisions of Section 24-1102, Oil and Gas. Sections 24-1102.c through Section 24-1102.h address well and production facility setbacks, disposal of production waste, seismic

operations, signage, access roads, environmental requirements, recordation of flow lines, reclamation of the site, abandonment and plugging of wells, well operations in high density areas, compliance with COGCC, review criteria, and inspection requirements.

Staff Comment: A review of information submitted by the applicant indicates compliance with Sections 24-1102.c through 24-1102.h. These design and operational requirements are reflected in the site plan, landscape plan and standards attached for potential approval (*Attachment D – Overall Site Plan, Attachment E – Environmental and Safety Plan, and Attachment C – Narrative and Operations Plan*).

*This proposal complies with this criterion.*

## **F. PHYSICAL SITE CHARACTERISTICS**

### **1. HAZARDS**

There is one existing oil and gas wells on the subject parcel (Kettler 1-18 #322621), however, the Kettler well has a status of “Shut-In”. Staff is unaware of any additional hazardous conditions or events that have occurred on the site to date.

### **2. WILDLIFE**

The subject site is not within the City’s Ecological Significance Areas. For this reason, the applicant was not required to submit an Environmental Report of the site; however, the applicant did submit an Environmental Study for review. Nonetheless, the Colorado Department of Parks and Wildlife (CPW) was assigned a review for the project. CPW provided comments to the city. CPW noted if the nearby eagle nest is occupied and/or active, there should be no surface occupancy (NSO) and no ground disturbance (NGD) year-round within 0.25 miles of an active nest. The proposed project site is beyond the 0.25-mile buffer of a nesting site and causes no disturbance to the nest. No permitted or authorized human activities within 0.5 miles of an active nest from December 1st, through July 31st. Pre-construction surveys should be conducted by the applicant (oil and gas operator in this case) prior to any surface disturbance/occupancy.

The Development Code indicates that if there are black-tailed prairie dogs inhabiting portions of the site, they must be properly removed as indicated in Section 24-1102 (e) (2) and destruction of prairie dog towns may do not occur during the nesting season (May 15 – September 15) due to the potential presence of the burrowing owl. If burrowing owls are actively nesting on the site or brood-rearing is present, a plan shall be developed by the applicant and approved by the City and/or the Colorado Division of Wildlife. It must be implemented before development occurs. Staff finds the applicant has worked with appropriate agencies and coordinated strategies for ecological mitigation. No activity for the proposed project shall disturb any ecologically significant lands nearby. The applicant shall work to mitigate against any impacts to ecologically significant areas.

### **3. FLOODPLAIN**

The subject site is not located in the floodplain or floodway according to Federal Emergency Management Administration (FEMA) flood data.

### **4. DRAINAGE AND EROSION**

A drainage report was submitted by the applicant and reviewed by the Engineering Development Review Division, which indicates Changes in natural drainage patterns are not anticipated. The well site will be monitored during the drilling and completion phases for any stormwater erosion or sedimentation concerns. Necessary measures would be required to be taken to correct any problems, immediately in most cases. Once the drilling and completion phases are complete, the drill site is required to be restored as near as practical, to its original grade and vegetation planted as required by COGCC regulations and surface use agreements. PDC must continue to monitor the site until all applicable regulatory requirements for re-vegetation have been met. PDC uses a closed loop or “pitless” system for drilling and fluid management and does not construct a reserve pit. The drilling company would actively manage the area around the rig equipment such that any minor fluid spills would be diverted and drained to small pumps strategically located and from there, if only water, would be pumped into the drilling fluid system. If the fluid is contaminated by fluids other than water, it would be required to be pumped into a separate container and removed from the site to an approved disposal facility

### **5. TRANSPORTATION**

PDC would utilize access road, 95<sup>th</sup> Ave/County Road 25, off US Highway 34 for all traffic associated with construction and production of the wells proposed for the Bypass State Pad. The access road must be constructed at a minimum of 24 to 30 foot wide (based on location on the site, see Site Plans for details), with a minimum 13.5 feet of overhead clearance. All access roads are required to be constructed of 1 and ½ in crushed road base over 6 inches of 95% compacted subgrade and aggregate base course. The access roads would be properly graded for adequate drainage and maintained to prevent dust and mud; culverts shall be utilized where necessary. PDC has submitted an access permit application to CDOT and is working through the permit requirements. A transportation study/memo has been prepared by a traffic consultant. (see Attachment F – Traffic Study).

## **G. SERVICES**

### **1. WATER**

All of the water used for drilling and completion operations would be fresh water. The optimum water source during drilling operations would be determined by PDC prior to drilling of the wells. It is anticipated that the water used during the completion operations for fracture stimulation would be provided by Noble Midstream Partners and would be transferred to location by means of pipes and pumps and not delivered from an offsite source by means of tanker trucks. It is estimated that for each of the horizontal wells, the

estimated number of truckloads of water and associated truck traffic that can be eliminated by virtue of transferring water by pipe and pumps could be up to approximately 1,300 truckloads per well. If all 23 horizontal wells are drilled that could mean the elimination of over 41,600 truckloads.

## **2. SANITATION**

Portable sanitary facilities that comply with COGCC Rules and Regulations would be provided and maintained on the location during the drilling and completion phases of the operation. Because no personnel are on the location for an extended period of time, no city services or sanitary services of any kind would be required or provided after the well begins to produce. An PDC employee or contractor must visit the site every day and will be responsible for picking up and disposing of any debris.

## **3. EMERGENCY SERVICES**

The property would be served by the City of Greeley's Police and Fire Departments as it serves the residences along US Highway 34 corridor, east of State Highway 257. The nearest fire station to the site is Greeley Fire Department Station No. 6, approximately 1 mile from the site. Additionally, an Emergency Response and Fire Protection Plan (ERFPP), also called Tactical Response Plan, was reviewed by the Greeley Fire Department and complies with City standards (*see Attachment G – Tactical Response Plan*).

As the emergency response agency, that would be called to mitigate an incident, the Greeley Fire Department has implemented strategies to mitigate the risks associated with potential incidents related to oil and gas facilities, just as they do with the vast array of other risks in the community. These strategies consists of identifying the hazards associated with oil and gas drilling/operations, developing a mitigation strategy, updating the strategy as the risks change, implementing the plan when necessary (response), and then reviewing and making corrections as necessary after an incident.

Some highlights of this strategy include the Greeley Fire Department being actively involved in the review and permitting of oil and gas operations; training and equipping members of their department to be prepared to fight flammable liquids fires; command staff attending courses on handling oil and gas well emergencies; incorporating oil and gas well response into the required training program for all firefighters; reviewing local incidents outside the Departments response area and sharing critique information with all personnel. The Fire Department uses a fire suppression foam trailer to improve flammable liquid fire mitigation response time.

## **4. PARKS/OPEN SPACES**

The City of Greeley's *Parks, Trails, and Open Lands Master Plan* (PTOL) does not identify the area having any future parks or trails that would intersect the proposed project

parcel or site. No open space or parks is required with this development; however, sufficient open space (not usable) would be present during the production phase.

## **5. SCHOOLS**

This project would have no impact on area schools. No schools are proposed or located within the site.

## **H. NEIGHBORHOOD IMPACTS**

### **1. VISUAL**

The production facilities would be painted in accordance with the COGCC Rule 804 regarding Visual Mitigation, which states: “Production facilities, regardless of construction date, which are observable from any public highway shall be painted with uniform, non-contrasting, non-reflective color tones (similar to the Munsell Soil Color Coding System), and with colors matched to but slightly darker than the surrounding landscape”. PDC has reduced the overall size of the disturbance, moving the location further away from both residential and highway sight lines. With the reduction in size and rural landscape of the surrounding area, PDC believes recontouring to natural grade and seeding with native grasses will adequately mitigate any potential visual impacts associated with the location. No additional landscaping is proposed due to the remoteness of the site location and visual mitigation efforts

During drilling, lighting would be utilized on site to facilitate a 24-hour drilling schedule. A temporary sound wall will be installed around the northerly and westerly edges of the well pad. The walls are 32 feet high, with LED lights placed 8-10 feet below the top of the wall. These lights are placed every 200-300 feet along the wall, directed downward to mitigate any outside exposure to unwanted lighting. The drilling phase includes 8 lights around the walls while the completion phase will require 14 lights to be installed. These are only temporary and not permanent. During the drilling and completions phases lights will be pointed inward and downward and screened by sound walls. During the production phase, lights are required to be pointed inward and downward and will be switch-controlled and only in use while PDC personnel are present on location. (*Attachment E – Environmental and Safety Plan*).

### **2. NOISE**

Any operations involving the use of a drilling rig, workover rig, or fracking, and any equipment used in the drilling, completion, or production of a well are subject to and must comply with the noise regulations set forth by the City of Greeley, wherein compliance will be met by abiding by state environmental and noise requirements set forth in COGCC Rule 423. PDC’s contract drilling company will comply with COGCC Rules and Regulations for noise abatement. In addition to following the COGCC Rules and Regulations, PDC, whenever possible, will schedule deliveries and construction

traffic to and from the site during daylight hours. PDC will perform all of the following to mitigate noise from the operation:

- A noise model from a qualified third-party noise consultant would be conducted on the drilling and hydraulic fracturing equipment prior to commencing operations to determine potential sensitive areas, which includes an ambient survey. Additional source-based noise mitigation will be implemented as required to address the results of the model.
- Sound walls are required to be installed around the northerly and westerly edges of the well pad, as well as a portion of the northeast corner, in order to mitigate sound and light. Installation would be after the pad is constructed, prior to the commencement of operations. Sound walls will remain in place approximately 8 months, more or less, and taken down after the completion phase, prior to production.
- An internal process has been developed to quickly address any potential noise issues that arise during operations.
- In addition to sound walls, the operator would further reduce noise from completions operations by using a frac fleet consisting of the latest sound mitigation technology available to the operator. Containerized sand delivery and storage will also be used for further noise reduction.

Mitigation of potential impacts, such as noise, would be handled in accordance with COGCC regulations, along with applicable Municipal Code standards. Staff finds the project plans as proposed provide adequate noise mitigation in relation to the surrounding land uses and oil and gas development.

## **I. PUBLIC NOTICE AND COMMENT**

A neighborhood meeting took place on September 21<sup>st</sup>, 2022 at 5:00 PM. The meeting was held virtually due to the remoteness of the proposed project site, existing land uses, and minimal impacts to the surrounding area. The virtual platform provides greater accessibility for public participation through flexibility of participation. No members of the community attended the meeting. No phone calls, emails, or letters were received by the City of Greeley or PDC Energy expressing concerns regarding the project.

Letters, per Development Code requirements, regarding the public hearing for the proposed Use by Special Review were mailed on October 20<sup>th</sup>, 2022 to property owners within 1,000 feet of the site. Signs were posted on the site on October 20<sup>th</sup>, 2022. To date, November 2<sup>nd</sup>, 2022, no comments have been received (*see Attachment K – Noticing Boundary Area*).

## **J. MINERAL ESTATE OWNER NOTIFICATION**

Mineral notice is required for a public hearing. The applicant is the sole owner of the minerals for the subject site; therefore, a thirty (30) days' notice was not required.

## **K. PLANNING COMMISSION RECOMMENDED MOTION**

### **Approval:**

Based on the application received and the preceding analysis, the Planning Commission finds that the proposed Use by Special Review for an oil and gas operation that consists of 23 oil and gas wellheads and associated production facility equipment in the H-A (Holding Agriculture) zoning district is consistent with the Development Code criteria of Section 24-206 (Items 1-8) and the proposed oil and gas operations will meet the provisions contained in Section 24-1102, Oil and Gas; and therefore, approve the Use by Special Review.

### **Denial:**

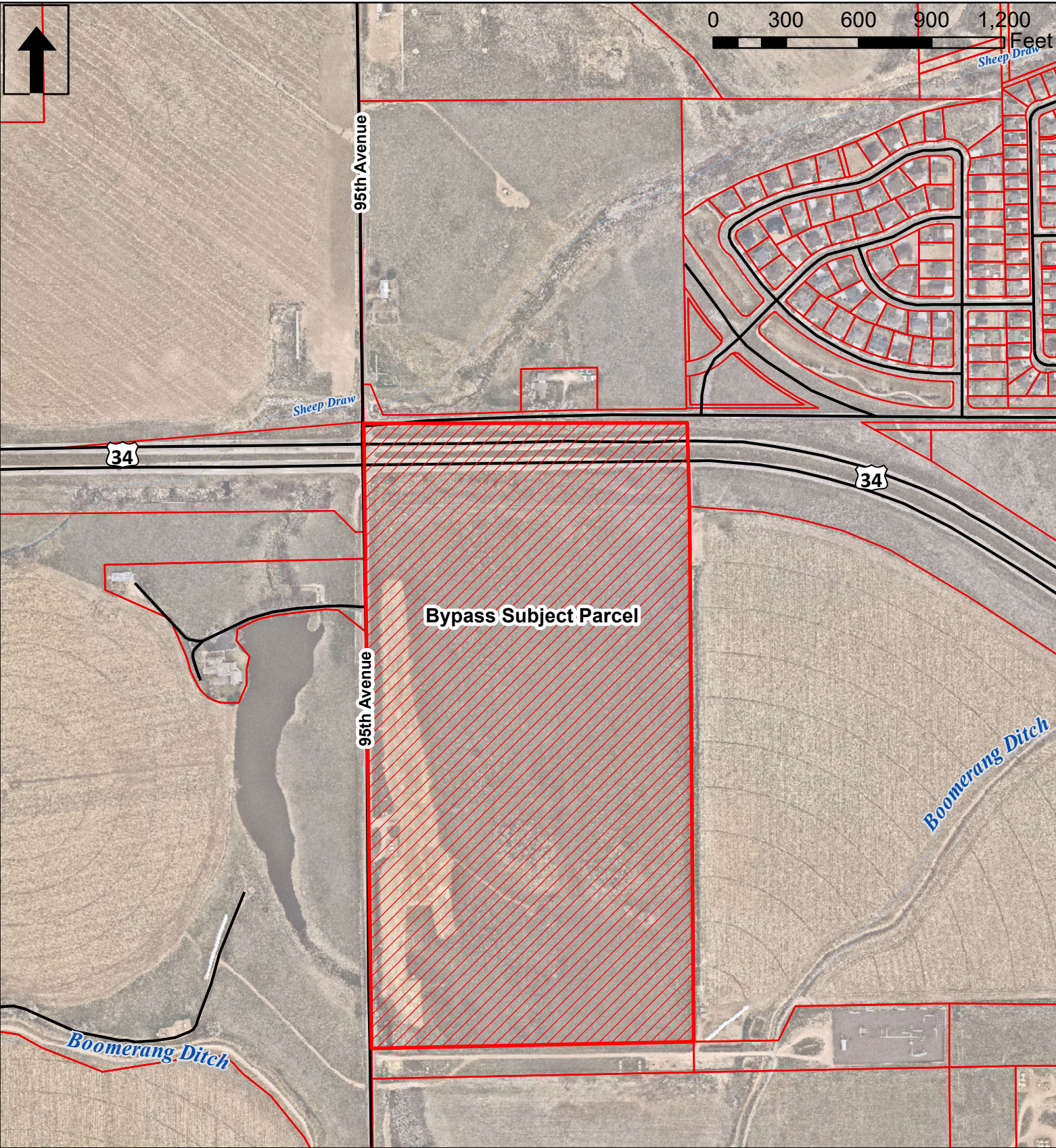
Based on the application received and the preceding analysis, the Planning Commission finds that the proposed Use by Special Review for an oil and gas operation that consists of 23 oil and gas wellheads and associated production facility equipment in the H-A (Holding Agriculture) zoning district is not consistent with the Development Code criteria of Section 24-206 (Items 1-8) and the proposed oil and gas operations will not meet the provisions contained in Section 24-1102, Oil and Gas; and therefore, deny the Use by Special Review.

## **ATTACHMENTS**

- Attachment A – Aerial & Vicinity Map
- Attachment B – Existing Zoning Map
- Attachment C – Narrative and Operations Plan
- Attachment D – Overall Site Plan
- Attachment E – Environmental and Safety Plan
- Attachment F – Traffic Impact Study
- Attachment G – Tactical Response Plan
- Attachment H – Noticing Boundary Area



Attachment A - Bypass Oil & Gas Well and Production Facility Vicinity Map



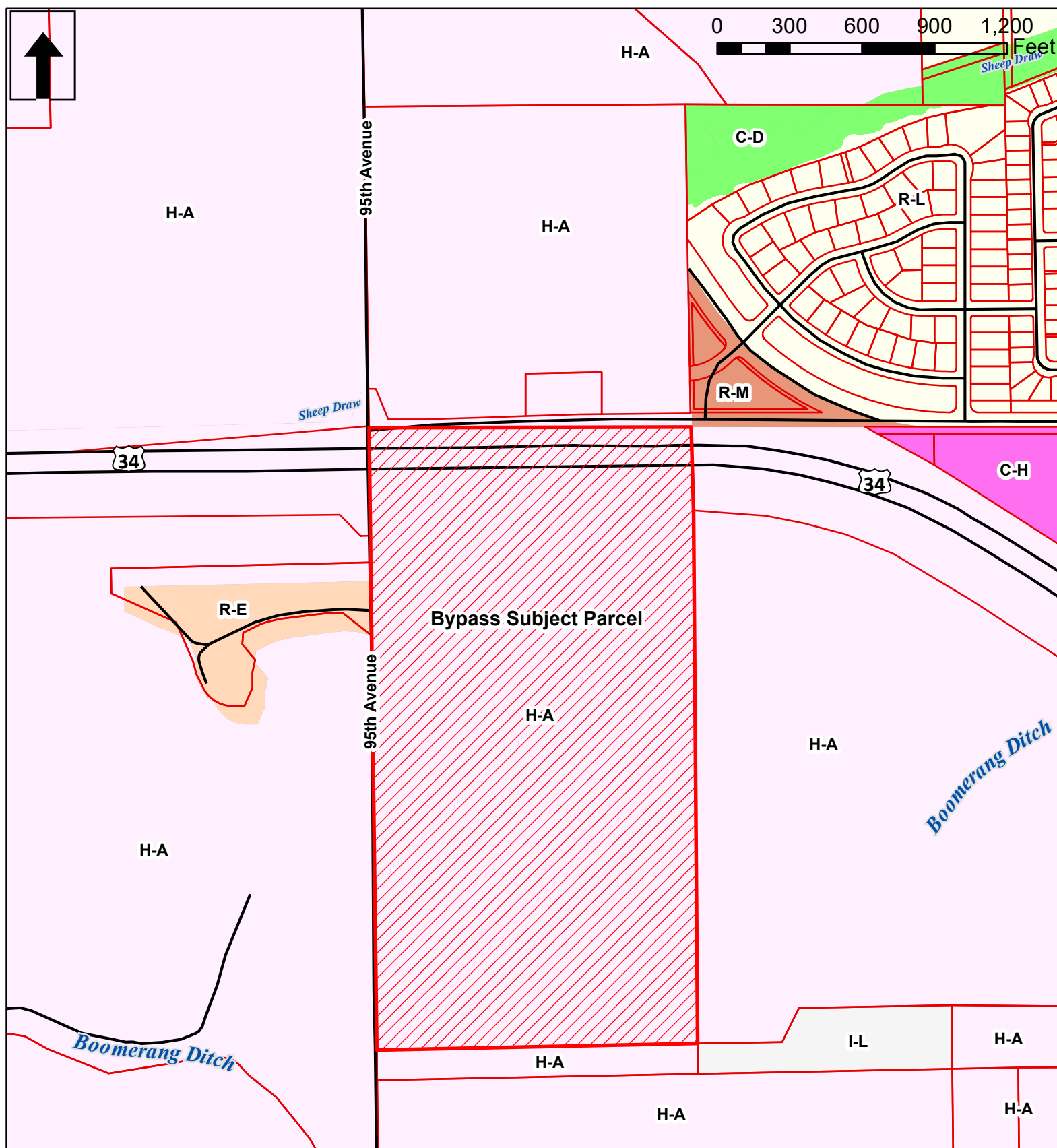
-  Greeley Parcels
-  Bypass Subject Parcel



COMMUNITY DEVELOPMENT



# Attachment B - Bypass Oil & Gas Well and Production Facility Vicinity and Existing Zoning



- |                           |                             |                            |
|---------------------------|-----------------------------|----------------------------|
| Greeley Parcels           | Holding Agriculture         | Residential Estate         |
| Bypass Subject Parcel     | Industrial Low Intensity    | Residential Low Density    |
| Conservation District**   | Industrial Medium Intensity | Residential Medium Density |
| Commercial Low Intensity  | Industrial High Intensity   | Residential High Density   |
| Commercial High Intensity | Planned Unit Development    | Residential Mobile Home    |

**CITY OF GREELEY**  
**LAND USE APPLICATION/USE BY SPECIAL REVIEW**  
**USR2022-0006 (formerly USR2018-0024)**

APPLICANT:



**1775 SHERMAN STREET, SUITE 3000**  
**DENVER, COLORADO 80203**

**PROPOSED OIL AND GAS LOCATION AND WELLS:**  
**W/2NW SECTION 18, TOWNSHIP 5 NORTH, RANGE 66 WEST, 6<sup>TH</sup> P.M.**  
**BYPASS STATE 05N66W18 1-23 PAD/FACILITY**  
**BYPASS STATE 01N, BYPASS STATE 02N, BYPASS STATE 03N, BYPASS STATE 04N,**  
**BYPASS STATE 05N, BYPASS STATE 06N, BYPASS STATE 07N, BYPASS STATE 08N,**  
**BYPASS STATE 09N, BYPASS STATE 10N, BYPASS STATE 11N, BYPASS STATE 12N,**  
**BYPASS STATE 13N, BYPASS STATE 14N, BYPASS STATE 15N, BYPASS STATE 16N,**  
**BYPASS STATE 17N, BYPASS STATE 18N, BYPASS STATE 19N, BYPASS STATE 20N,**  
**BYPASS STATE 21N, BYPASS STATE 22N, BYPASS STATE 23N**  
**23 WELLS**

**SUBMITTAL NOVEMBER 2, 2018**  
**RESUBMITTAL MARCH 22, 2019**  
**RESUBMITTAL APRIL 1, 2022**  
**RESUBMITTAL JUNE 29, 2022**

SUBMITTED BY:



**8620 Wolff Court**  
**Westminster, Colorado 80031**

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# CITY OF GREELEY LAND USE APPLICATION/USE BY SPECIAL REVIEW

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## CITY OF GREELEY LAND USE APPLICATION/USE BY SPECIAL REVIEW

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**Table of Contents (continued)**  
**PDC ENERGY, INC.**  
**BYPASS STATE 05N66W18 1-23 PAD/FACILITY**

<b>Exhibits</b>
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- Exhibit A Land Use Application
- **Exhibit B Use by Special Review and Construction Drawings**
- Exhibit C Drainage Report
- Exhibit D Cumulative Traffic Study
- Exhibit E Location Photos
- Exhibit F Location Drawing with 500' Buffer
- Exhibit G Area of Ecological Significance
- Exhibit H Required Permits
- Exhibit I Area Showing Well Locations in Section
- Exhibit J Photos of Equipment to be Used
- Exhibit K Above-ground Equipment Specs
- Exhibit L State Issued Stormwater Discharge Permit
- Exhibit M Stormwater Management Plan
- Exhibit N Oil and Gas Lease
- Exhibit O Sound Wall Design Specifications – Confidential Business Information
- Exhibit P Modular Large Volume Tank (MLVT) Specifications
- Exhibit Q Rig Layout Diagram
- Exhibit R Native Seed Mix
- Exhibit S Tactical Response Card
- Exhibit T Water Assurance
- **Exhibit U Environmental Study**
- Exhibit V Site Safety and Emergency Action Plan
- Exhibit W City of Greeley Roadway Maintenance Agreement
- Exhibit X Traffic Direction
- Exhibit Y Proof of Ownership
- **Exhibit Z Operations and Maintenance Manual**

<b>Project Narrative: Overview of Use by Special Review</b>
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### **Description of Intended Use**

PDC Energy, Inc. (PDC) submits this application for a Use by Special Review for the proposed Bypass State 05N66W18 1-23 Pad/Facility, located in the west half of the northwest quarter (W/2NW) of Section 18, Township 5 North, Range 66 West of the 6<sup>th</sup> P.M. within the City of Greeley limits. More specifically, the proposed project is located approximately one-third of a mile south of the intersection of Highway 34 Bypass and County Road 25/95<sup>th</sup> Avenue, on the southeast corner of the 78.68-acre parcel of land owned by Greeley Ranch and Farm LLC. Please refer to Exhibit B Use by Special Review and Construction Drawings for the exact location. PDC proposes to drill twenty-three (23) horizontal wells and construct temporary and permanent facilities needed to support drilling, completion, and production operations.

In general, the proposed project is a multiple oil and gas well and a facilities pad, located on the southern edge of the parcel and will be operated by PDC. The proposed well and facility pad will include 23 horizontally drilled wells, 23 single phase separators, 6 temporary oil tanks, 6 temporary water tanks, and other equipment. These wells and production facilities will be built in a cluster arrangement. This layout allows for a smaller footprint with centralized facilities for the proposed 23 wells. The cluster concept and horizontal drilling essentially eliminate the need to develop additional well pads, thus reducing the footprint on the surface.

A pre-application meeting with City of Greeley personnel was held on August 29, 2018, and the preliminary siting of the project was given approval to move forward with the USR process.

This application for a Use by Special Review permit pursuant to Chapters 18.20 and 18.56 of the Greeley Municipal Code includes a full description of the drilling, completion, production, and maintenance processes related to the 23 proposed wells.

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## CITY OF GREELEY LAND USE APPLICATION/USE BY SPECIAL REVIEW

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### **Familiarity with City of Greeley and State of Colorado Regulations**

PDC is familiar with the Colorado Oil and Gas Conservation Commission (COGCC) Rules and Regulations as well as the City of Greeley's regulations as they relate to oil and gas operations. PDC is aware of the drilling, operation maintenance, and abandonment procedures that are established by the COGCC and the City of Greeley.

It is PDC's intent to develop the Bypass State 05N66W18 1-23 Pad/Facility in a manner that is not detrimental to the public health, safety, welfare, the environment, and wildlife resources, or detrimental to the character of the surrounding area. The proposed use shall be consistent with the Imagine Greeley Comprehensive Plan. The location, site, design, and operation characteristics of the proposed use shall be compatible with the existing and future land uses within the general area in which the proposed use is to be located, and will not create significant noise, traffic or other conditions or situations that may be objectionable or detrimental to other permitted uses in the vicinity. PDC understands that reasonable conditions may be placed on uses by special review to protect public health, safety, welfare, the environment, and wildlife resources. The site shall be physically suitable for the type and intensity of the proposed land use. The proposed land use shall not adversely affect traffic flow or parking in the neighborhood.

PDC is a responsible operator and will abide by all setbacks by placing wellheads, production tanks and/or associated on-site production equipment at the required distance per COGCC Rules and Regulations, and City of Greeley Code standards.

All exploration and production waste, including drilling mud or other drilling fluids, will be stored, handled, transported, treated, recycled, or disposed of in accordance with COGCC regulations, to prevent any significant adverse environmental impact on air, water, soil, or biological resources. (Ord. 27, 1998 §1).

PDC will abide by State law and regulations concerning noise abatement (Title 25, Article 12, C.R.S.), together with applicable local government ordinances, rules, or regulations. PDC has detailed its plans in this Land Use Application for addressing all nuisance impacts in Section III. Environmental and Safety Plan, and all safety impacts in Section IV. Emergency Response and Fire Protection Plan.

### **Imagine Greeley Comprehensive Plan**

The proposed use shall be consistent with the Imagine Greeley Comprehensive Plan. PDC has and will continue to demonstrate responsible stewardship of natural resources and the environment within the City of Greeley limits, as well as Weld County and the State of Colorado. PDC acknowledges the City of Greeley's wish to continue to build and expand upon existing efforts as they relate to the environment and protection of natural resources, as well as its continuing efforts to develop new ways to preserve open lands. PDC's focus on water and air quality is consistent with the City of Greeley's in the face of the City's future growth.

PDC designed the landscape plan for the Bypass State 05N66W18 1-23 Pad/Facility in an effort to stay consistent with other use by special review locations within the City of Greeley. PDC feels the proposed plan allows for optimal screening, reduces the overall footprint, and allows a substantial amount of land to be restored back to farmable ground after interim reclamation is complete.

## CITY OF GREELEY LAND USE APPLICATION/USE BY SPECIAL REVIEW

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### List of Property Owners within 500 feet of the Proposed Well Site

PDC ENERGY, INC.  
1775 SHERMAN STREET  
SUITE 3000  
DENVER, COLORADO 802034341  
WELD COUNTY PARCEL 09591820009

CHISMAR MATTHEW J TRUST  
3051 TALIESIN WAY  
FORT COLLINS, COLORADO 805249383  
WELD COUNTY PARCEL 095918000005

LUNDVALL LLC  
2015 CLUBHOUSE DR STE 101  
GREELEY, COLORADO 806343651  
WELD COUNTY PARCEL 095713101002

LUNDVALL SIX LLC  
2015 CLUBHOUSE DR STE 101  
GREELEY, COLORADO 806343651  
WELD COUNTY PARCEL 095918200010

POUDRE VALLEY RURAL ELEC ASSN  
PROPERTY TAX DEPARTMENT  
PO BOX 272550  
FORT COLLINS, COLORADO 805272550  
WELD COUNTY PARCELS 095918200008, 095918201001

WELL SITE SURFACE OWNER:  
PDC ENERGY, INC.  
1775 SHERMAN STREET  
SUITE 3000  
DENVER, COLORADO 80203

**Operator and Surface Owner Information**

Operator:

PDC Energy, Inc.  
1775 Sherman Street  
Suite 3000  
Denver, Colorado 80203

Surface Owner

PDC Energy, Inc.  
1775 Sherman Street  
Suite 3000  
Denver, Colorado 80203

Project Plan prepared by:

Ascent Geomatics Solutions  
8620 Wolff Court  
Westminster, Colorado 80031  
(303) 928-7128



### Operating Plan

The Operating Plan is divided into the Drilling Phase and Protection of Water Formations, the Completion Phase, the Production Phase, and the Plugging and Abandonment Phase.

This location is not considered an Urban Mitigation Area, as described by the Colorado Oil and Gas Conservation Commission (COGCC) Rules and Regulations – Definitions (100 Series).

All phases of operations including drilling, completion, production, abandonment and reclamation are designed to adhere to the Rules and Regulations of the COGCC, especially COGCC 300 Series (Permitting Process), 400 Series (Operations and Reporting), 600 Series (Safety and Facility Operations), 900 Series (Environmental Impact Prevention), 1000 Series (Reclamation), 1100 Series (Flowlines), and 1200 Series (Protection of Wildlife Resources).

Enclosed flares shall be utilized during the drilling, completion, recompletion, reworking, production, repair, and maintenance of the pad site.

PDC will use Best Management Practices during all phases of operations.

Routine fire inspections are required during the different phases of operation and, at a minimum, an annual inspection, upon completion of the wells and production facilities. The Greeley Fire Department will coordinate and schedule these inspections.

### Drilling Phase and Protection of Water Formations

The proposed drill site will be approximately 20.9 acres in size and construction of this site will include leveling the pad to accommodate the drilling rig. Sound walls to mitigate sound and light will be installed after the pad is constructed, prior to the commencement of drilling. Once the pad is completed, a small surface drilling rig will be brought onto location and rigged up to drill the surface portion of the well for the 23 wells on the pad. This will take approximately 24 hours per well.

Drilling operations, which run twenty-four (24) hours a day until completed, will commence after the rig is “rigged up”. A 13-1/2-inch surface hole will be drilled to approximately 1750 feet using fresh water. Surface casing 9-5/8 inches in diameter will then be run and cemented to surface to protect any shallow freshwater zones. Surface casing setting depth is determined from subsurface ground water maps prepared by the State Engineer and supplemented by the latest data available from offsetting wells. A baseline water sample will be obtained from water wells within ½ mile of the proposed location to ensure water quality. When all 23 wells have surface casing set, the surface rig will move off the Bypass location. It is estimated to take one day per well to drill and set surface casing.

Once the location is clear from the surface rig, a liner is set on the pad where the drilling rig will be rigged up to contain and prevent any potential fluid from hitting the ground. In addition, wooden matting boards will be placed over the liner as a secondary containment for fluids and stability for the drilling rig. Once the location is prepped, the drilling rig will move in and rig up on the first well on location. The Blowout Preventer Equipment (BOPE) will be installed and tested prior to drilling. After testing, the drilling of the production hole will commence. A bit and directional tools comprise the bottomhole assembly (BHA).

The directional tools are placed behind the bit to steer the assembly, and continuously survey and send data to the surface to monitor the wellbores 3D position spatially, and to track in the targeted formation. The 8-1/2-inch bit and BHA will drill-out of the surface casing shoe and drill the “vertical” portion of the hole in which angle is built to separate wells into their planned slots. Once the vertical portion of the hole is drilled, the curve will be initiated. The curve will take approximately 1,000 feet to drill and will then place the wellbore at approximately 90° in order to enter the targeted hydrocarbon bearing zone. The wells will be drilled horizontally or parallel to the surface for approximately 1.5 miles at a vertical depth of 6,800-7,200 feet below the ground. The total Measured Depth (MD) for the proposed wells is approximately 15,000 feet.

Once the horizontal section of the wellbore is drilled, a string of production casing will be run into the wellbore. This casing will be 5-1/2 inches in outer diameter and weigh 20 pounds per linear foot. The grade will be P110IC, which has a collapse rating of 12,100 psi and an internal yield rating of 12,630 psi. This casing will be cemented into place to isolate the productive zones of the reservoir. The cement sheath will isolate the entire casing string from the total depth of the well back to surface.

PDC’s drilling rigs are equipped with a closed loop system, therefore, the drilling mud is recycled and re-used, and reserve pits will not be constructed. The drilling rig will be on location for approximately 4-5 days per horizontal well for a total of approximately 90-110 days. At the end of the drilling phase, the drilling rig will be moved off location.

Best industry practices shall be utilized during drilling operations to prevent fluids from reaching the flare during a “kick” or upset conditions.

### **Completion Phase**

The completion phase typically begins when the drilling equipment is transported off the location. There will be no intentional rest period between drilling and completion operations. Lag time could be encountered dependent on vendor availability. Completion operations are conducted twenty-four (24) hours per day intermittently over a period of several weeks. The site may be regraded to accommodate the completion operations and anchors may be set for the completion operations. For horizontal wells, multiple fracture stages are induced along the length of the wellbore in the respective formation that the well has been drilled.

During hydraulic fracturing, water and some additives are pumped at high rates and pressures that exceed the minimum in-situ rock stresses and hydraulically fracture the formation. Sand is then pumped into the created fracture to allow gas and oil to flow freely from the formation into the well bore. The fracturing equipment will consist of one Modular Large Volume Tank (MLVT) for freshwater storage that will fully comply with COGCC’s MLVT policy, multiple flowback tanks, pressure pumps, blending and bulk material trucks with other necessary equipment. After fracturing is completed, the mobile equipment is removed, excluding tanks that are used to retain the water that is produced during flowback and testing operations. No water is allowed to accumulate or be disposed of on surface. All water is hauled to approved disposal sites or recycled for stimulation use. The flowback tanks will remain on location until the well is rerouted through standard production equipment.

It takes approximately 2-3 days to hydraulically fracture each well for a total of 45-60 days on this location.

COGCC regulations give the operator three months to complete restoration activities, but restoration may occur sooner than three months.

### **Production Phase**

The production equipment for the Bypass State 05N66W18 1-23 Well Pad/Facility will be located adjacent to the wells. The equipment on this site will consist of the following components:

6 temporary oil tanks, 6 temporary water tanks, 2 permanent maintenance tanks, 2 permanent steel water tanks, 1 permanent partially buried water vault, 7 combustors, 1 temporary water tank combustor, 2 tank/surge vapor recovery unit, (1) 2-phase vertical separator, 5 oxygen destruction system, 1 unloading separator, 3 separator LP vapor recovery units, (1) 2-phase separator, 1 communication tower, 3 instrument air skids, 3 surge vessels, 3 oil LACT, 2 water LACT, 23 production separators, 1 meter area, 2 gas lifts skids.

If needed, a temporary generator will be used before connecting to electric lines; a short noise control fence will be installed or other agreeable measures to mitigate the noise from this generator. Tanks and facilities shall be painted per COGCC Rules. The steel berm ring around the facility will hold 150% of the capacity of the largest tank within the berm.

Flowlines will be installed but will not leave the oil and gas operations area. Additionally, all flowlines will be pressure tested at least annually to verify integrity and will remain in full compliance with COGCC 1100 Series Rules.

Connecting the well pad to pipeline is anticipated by 3rd quarter 2025. An PDC employee or contractor called a "lease operator," then begins monitoring the well on a scheduled basis. The lease operator reports the tank measurements of the oil, gas sales, and pressure readings. Much of this production information is compiled and submitted to the COGCC on a monthly basis.

In addition, the lease operator will inspect the site for hazards and weed control, maintaining the appearance of the Bypass State 05N66W18 1-23 Pad/Facility. For the first few months, water and oil will be hauled daily from the location. As volumes decline, water and oil hauling will also decline.

### **Plugging and Abandonment Phase**

At the time the wells become sub-economic to operate, PDC or PDC's successors will engage the services of a plugging rig to remove production equipment from the wellbores and plug the productive zones with a combination of bridge plugs and cement plugs in accordance with COGCC Rules and Regulations. If the separators and tanks on the surface of the land are no longer needed for other wells, they will be removed. Surface restoration will involve removal of any above-ground casing and the installation of regulation markers that will not interfere with subsequent surface use.

After all production equipment is removed, the surface will be restored to the original grade with reseeded in accordance with COGCC Rules and Regulations. This may be waived with the permission of

the surface owner at the time of final restoration if there has been further land engineering that would conflict with the drill site being restored as described herein.

All transmission and/or flow lines shall be completely removed from the ground upon entering the abandonment phase. No underground lines that can or may contain any flammable product shall remain in the ground after the facility is abandoned.

### **Water Resources for Drilling Activities**

All of the water used for drilling and completion operations will be fresh water. The optimum water source during drilling operations will be determined by PDC prior to drilling of the wells. It is anticipated that the water used during the completion operations for fracture stimulation will be provided by Noble Midstream Partners and will be transferred to location by means of pipes and pumps and not delivered from an offsite source by means of tanker trucks. It is estimated that for each of the horizontal wells, the estimated number of truckloads of water and associated truck traffic that can be eliminated by virtue of transferring water by pipe and pumps could be up to approximately 1,300 truckloads per well. If all 23 horizontal wells are drilled that could mean the elimination of over 41,600 truckloads.

### **Compatibility with Surrounding Property Uses**

The site does not interfere with the existing use of the area. The parcel is zoned as vacant land and remains compatible with the area as surrounding parcels are zoned Agricultural (H-A) and vacant land.

Above-ground equipment will be painted a neutral brown “sand” or similar color to best blend in with the surroundings.

### **Employees and Hours of Operation**

There are no permanent employees on this site. The site will be visited by an PDC pumper on a daily basis. The employee is typically not on site for longer than one to two hours at a time.

The location will produce oil and gas 24 hours a day 7 days a week. On average one employee will visit the site once each day in a pick-up truck. Trucks will haul product from the location as needed, and will steadily decline.

### **Site Maintenance**

All disturbed areas shall be kept free of noxious weeds and debris. If necessary, a third party weed control service will be contracted annually to prevent and control the reoccurrence of noxious or excessive weed growth. Weeds that cannot be controlled by this method will be sprayed as needed with a systemic herbicide. Any additional weed control required to maintain the site free of weeds will be implemented if the standard plan is not sufficient.

### Description of Water and Sewer

This is an unmanned facility; therefore, no water or sewer will be needed. Due to the lack of employees permanently on site, a water connection is not necessary. Bottled water will be available during construction and during operations.

### Proposed Landscaping

PDC will be reseeded the entire location with Native Seed Mix. No landscaping is proposed for this site. Through a recent re-design of this location, PDC has reduced the overall size of the disturbance, moving the location further away from both residential and highway sight lines. With the reduction in size and rural landscape of the surrounding area, PDC believes recontouring to natural grade and seeding with native grasses will adequately mitigate any potential visual impacts associated with the location.

### Timing/Phases of Operations:

#### **Bypass Pad – Row 1 - 12 Wells**

• Construction Phase 1	3/1/2023	Lasting +/- 60 days
• Construction Phase 2	5/4/2023	Lasting +/- 14 days
• Drilling Phase	9/13/2023	Lasting +/- 80-90 days
• Completion Phase	3/1/2024	Lasting +/- 80-90 days
• Flowback Phase	6/30/2021	Lasting +/- 45-60
• Production Phase	8/15/2021	

#### **Bypass Pad – Row 2 - 11 Wells**

• Construction Phase 1	will be done with Row 1	Lasting +/- 60 days
• Construction Phase 2	will be done with Row 1	Lasting +/- 14 days
• Drilling Phase	11/12/2023	Lasting +/- 80-90 days
• Completion Phase	3/1/2024	Lasting +/- 80-90 days
• Flowback Phase	6/30/2024	Lasting +/- 45-60
• Production Phase	8/15/2024	

\*Dates referenced above are subject to change depending on drilling schedule and rig availability

The Drilling Phase, Completion Phase, and Production Phase will operate with two 12-hour shifts.

<b>Environmental and Safety Plan</b>
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### **Setbacks**

The proposed Bypass State 05N66W18 1-23 Pad/Facility will comply with City of Greeley setback standards and COGCC Rules and Regulations for cultural setbacks.

### **Air and Water Quality**

Emission Control System: Test separators and associated flow lines and sand traps shall be installed on-site to accommodate green completions techniques pursuant to COGCC Rules and Regulations. In the anticipated absence of a viable gas sales line, the flowback gas shall be thermally oxidized in an emissions control device (ECD), which will be installed and kept in operable condition for at least the first ninety (90) days of production pursuant to CDPHE rules. The ECD shall have an adequate capacity for 1.5 times the largest flowback within a 10-mile radius, will be flanged to route gas to other or permanent oxidizing equipment, and shall be provided with the equipment needed to maintain combustions where non-combustible gases are present. A closed-loop system will be utilized at this site.

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Any operations involving the use of a drilling rig, workover rig, or fracking, and any equipment used in the drilling, completion, or production of a well are subject to and will comply with the noise regulations set forth by the City of Greeley, wherein compliance will be met by abiding by state environmental and noise requirements set forth in COGCC Rule 423. PDC's contract drilling company will comply with COGCC Rules and Regulations for noise abatement. In addition to following the COGCC Rules and Regulations, PDC, whenever possible, will schedule deliveries and construction traffic to and from the site during daylight hours. PDC will perform all of the following to mitigate noise from the operation:

- A noise model from a qualified third-party noise consultant will be conducted on the drilling and hydraulic fracturing equipment prior to commencing operations to determine potential sensitive areas, which includes an ambient survey. Additional source-based noise mitigation will be implemented as required to address the results of the model.
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All requirements applicable in COGCC regulations related to odor and dust will be adhered to by PDC. No noxious, prolonged, or unusually high amounts of odor are expected from the proposed drilling of the wells. Oil and gas facilities and equipment shall be operated in such a manner that odors and dust do not constitute a nuisance or hazard to public welfare. PDC shall employ practices for control of fugitive dust caused by operations, which may include but are not limited to treating roads and location with water, the use of speed restrictions, regular road maintenance, and silica dust controls when handling sand used in hydraulic fracturing operations.



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### Well Site Restoration

Interim Reclamation for the Bypass State 05N66W18 1-23 Pad/Facility will be approximately 13.9 acres. Reclamation will be conducted under company supervision in accordance with COGCC Rules and Regulations. Following drilling operations, all drilling mud and cuttings will be removed from any reserve/retention area using trucks, pumps, and mechanical squeezing with a dozer. The mud and cuttings will be trucked offsite to an approved commercial disposal site, per COGCC regulations. The pad will be backfilled with soils in the reverse order removed and capped with the separated topsoil. Subsoils will be mechanically compacted while backfilling.

All tanks and equipment, lines and roads will be removed from the entire Bypass State 05N66W18 1-23 Pad/Facility. All reseeding shall be done with grasses consistent with the Rocky Mountain native mix or other grasses reasonably requested by the surface owner and during planting period suggested by owner. When the area is no longer farmed, the seed mixture will be planted. All surface restoration shall be accomplished and completed to the reasonable satisfaction of the surface owner, as soon as practical after installation (weather permitting), and in accordance with regulatory agencies' standards. All site reclamation will be in conformance with the City of Greeley as well as COGCC regulations.



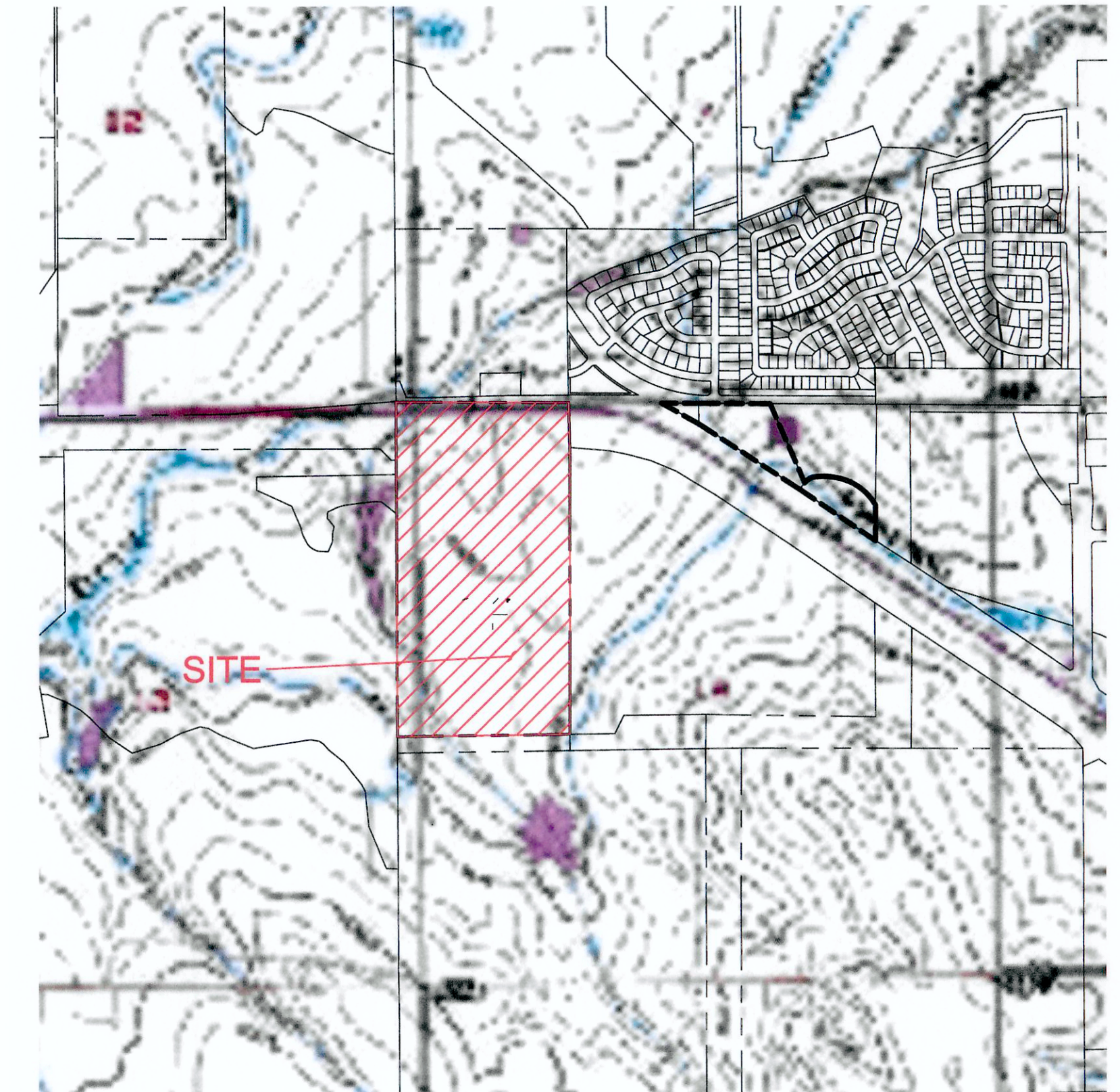
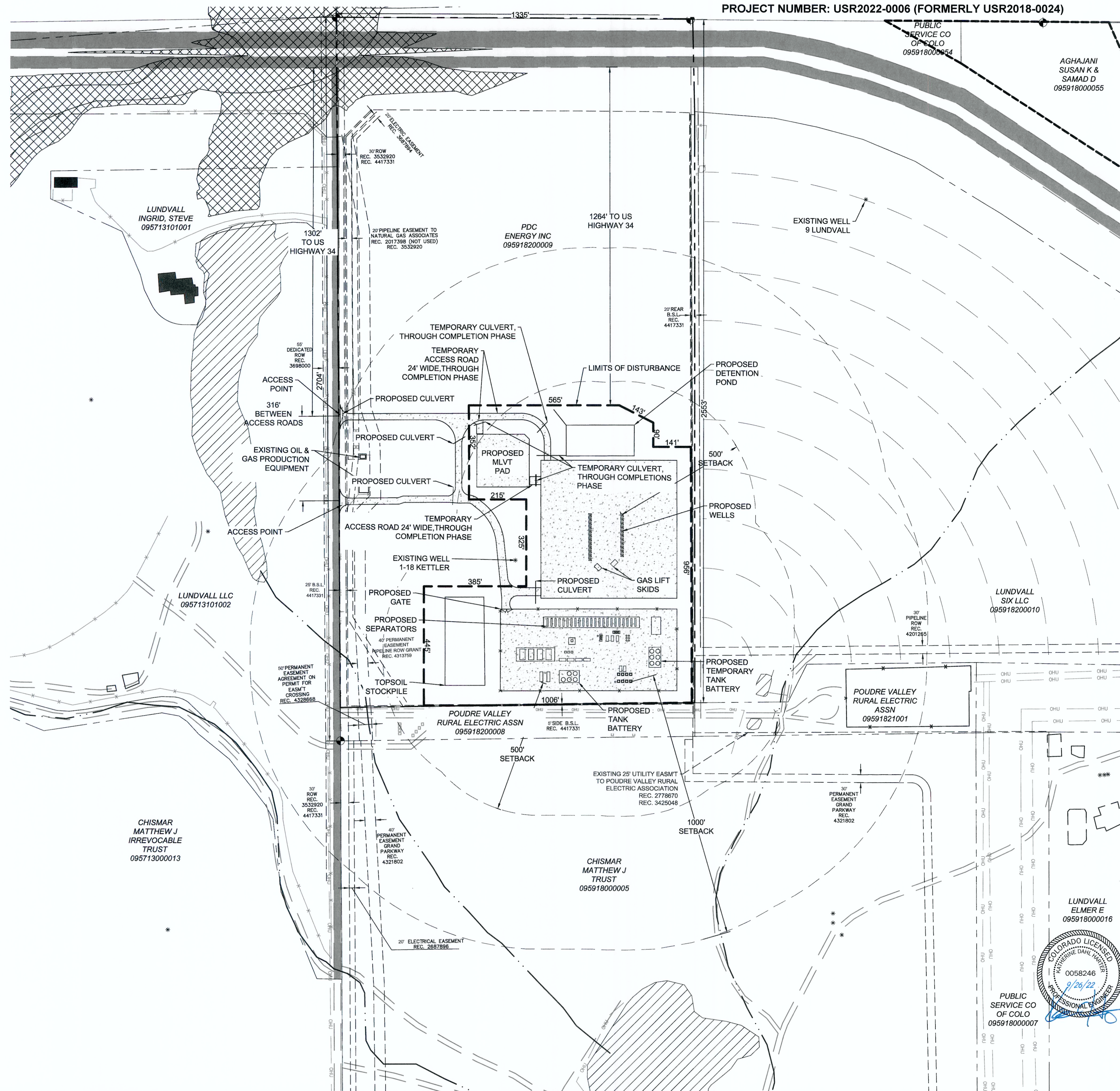
**Weed Control**

All disturbed areas shall be kept reasonably free of noxious weeds and undesirable species as practicable. When a well is completed for production, all disturbed areas no longer needed will be restored and re-vegetated as soon as practicable. A third party weed control service will be contracted annually, if necessary, to prevent and control the reoccurrence of noxious or excessive weed growth. PDC will drag the lease roads and the production site as needed with a “drag” designed to remove weeds. Weeds that cannot be controlled with this method will be sprayed as needed with a systemic herbicide. Any additional weed control required to maintain the site free of weeds will be implemented if the standard plan is not sufficient. PDC will comply with COGCC Rules and Regulations regarding weed control.



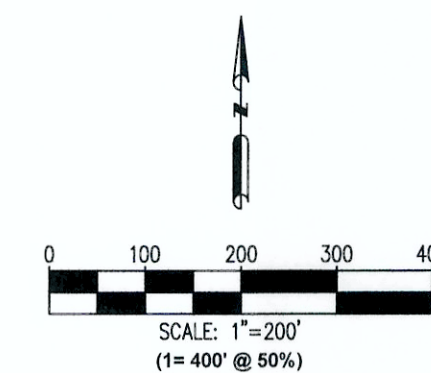
## *Attachment D*

**BYPASS STATE 05N66W18 1-23 PAD**  
**USE BY SPECIAL REVIEW AND CONSTRUCTION DRAWINGS**  
 TOWNSHIP 5 NORTH, RANGE 66 WEST, 6TH P.M., SECTION 18  
 CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO  
 20.90 ACRES  
 PROJECT NUMBER: USR2022-0006 (FORMERLY USR2018-0024)



VICINITY MAP  
SCALE: 1" = 1000'

- # LEGEND
- |  |   |
|--|---|
|  | = OPERATIONS AREA                             |
|  | = COMPACTED CLASS 6 ROAD BASE                 |
|  | = SUBJECT PARCEL                              |
|  | = SETBACK - PROPOSED OIL & GAS FACILITY       |
|  | = EXISTING FACILITY                           |
|  | = EXISTING FLOODPLAIN                         |
|  | = EXISTING PAVED ROAD                         |
|  | = UG1 = EXISTING UNDERGROUND GAS LINE         |
|  | = UG2 = EXISTING UNDERGROUND FIBER OPTIC LINE |
|  | = UG3 = EXISTING UNDERGROUND ELECTRIC LINE    |
|  | = EXISTING OVERHEAD UTILITY LINE              |
|  | = PARCEL LINE                                 |
|  | = PROPOSED EDGE OF ROAD                       |
|  | = EXISTING EDGE OF ROAD                       |
|  | = PROPOSED FENCE                              |
|  | = EXISTING FENCE                              |
|  | = EXISTING DITCH                              |
|  | = EXISTING PIPELINE CENTERLINE                |
|  | = PROPOSED WELL                               |
|  | = PRODUCING WELL                              |
|  | = EXISTING MONUMENT                           |
|  | = PROPOSED GATE                               |
|  | = SECTION LINE                                |
|  | = EXISTING EDGE OF EASEMENT                   |
|  | = UG4 = EXISTING UNDERGROUND TELEPHONE        |
|  | = EXISTING POND                               |
|  | = BUILDING UNIT                               |



NOTE: ASCENT GEOMATICS SOLUTIONS WAS NOT PROVIDED A TITLE REPORT FOR THIS SITE. ALL RECORDED DOCUMENTS REFERENCED ON THESE PLANS WERE DOWNLOADED FROM RESEARCH VIA THE WELD COUNTY CLERK AND RECORDER. ASCENT GEOMATICS SOLUTIONS MAKES NOT GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED, TO THE COMPLETENESS OF ENCUMBRANCES TO THE SUBJECT PROPERTY.

This plot does not represent a monumented land survey and should not be relied upon to determine boundary lines, property ownership or other property interests. Parcel lines, if depicted have not been field verified and may be based upon publicly available data that also has not been independently verified.

DATA SOURCES:  
-PARCELS: WELD COUNTY ASSESSOR

PUBLICLY AVAILABLE DATA  
SOURCES HAVE NOT BEEN  
INDEPENDENTLY VERIFIED  
BY ASCENT.

REPREPARED BY:



Ascent Geomatics Solutions  
8620 Wolff Court  
Westminster, CO 80031

REPREPARED FOR:



PDC ENERGY INC.  
1775 SHERMAN STREET, SUITE 3000  
DENVER, CO 80203  
(303) 860-5800

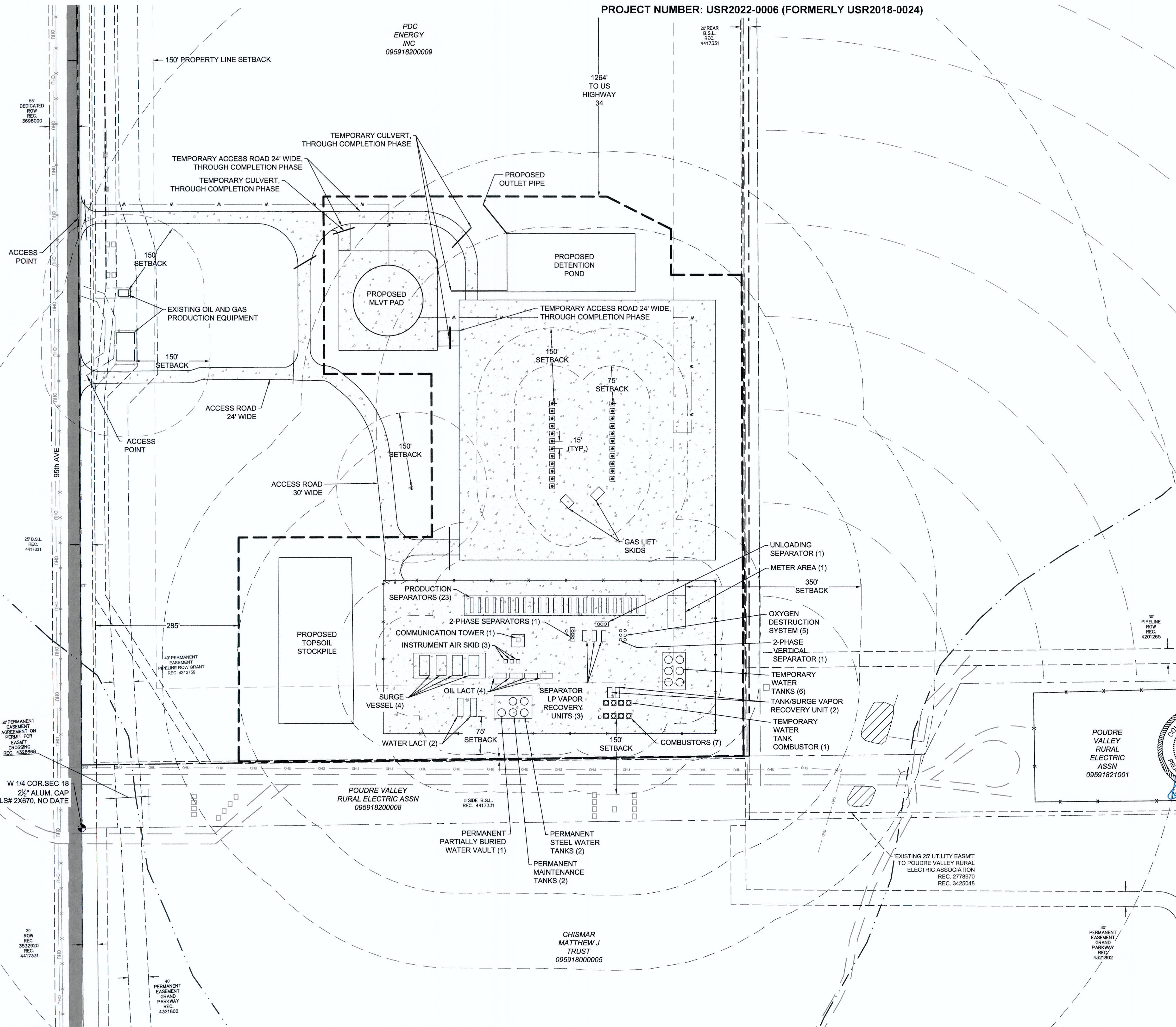
OVERALL SITE PLAN

SECTION 18, TOWNSHIP 5 NORTH, RANGE 66 WEST  
OF THE 6TH PRINCIPAL MERIDIAN  
WELD COUNTY, COLORADO

DP	ISSUED FOR CONSTRUCTION	09-26-22	0	ELD DATE:	08-16-2018
				DRAWING DATE:	08-18-2021
				RAFTED BY:	CSG
				SHEET NO.	S2
					02 OF 21



BYPASS STATE 05N66W18 1-23 PAD  
USE BY SPECIAL REVIEW AND CONSTRUCTION DRAWINGS  
TOWNSHIP 5 NORTH, RANGE 66 WEST, 6TH P.M., SECTION 18  
CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO  
20.90 ACRES  
PROJECT NUMBER: USR2022-0006 (FORMERLY USR2018-0024)



- LEGEND**
- [Symbol] = OPERATIONS AREA
  - [Symbol] = COMPACTED CLASS 6 ROAD BASE
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  - [Symbol] = SETBACK - PROPOSED OIL & GAS FACILITY
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- GENERAL NOTES:**
- ELECTRICITY WILL INITIALLY BE PROVIDED BY A DIESEL AND/OR NATURAL GAS (NGL) POWERED GENERATOR, UNTIL PERMANENT UTILITY CAN BE INSTALLED. PDC ENERGY EXPECTS PERMANENT UTILITY TO BE INSTALLED WITHIN ONE (1) YEAR OF THE START OF PRODUCTION.
- BEST MANAGEMENT PRACTICES:**
- THE OPERATION SHALL COMPLY WITH THE CITY OF GREELEY NOISE REGULATIONS, IN ACCORDANCE WITH TITLE 12, CHAPTER 6, ARTICLE II OF THE CITY OF GREELEY MUNICIPAL CODE AS IS CONSISTENT WITH THE RULES AND REGULATIONS OF THE COLORADO OIL AND GAS CONSERVATION COMMISSION (COGCC).

PREPARED BY:

**ASCENT**  
GEOMATICS SOLUTIONS

Ascent Geomatics Solutions  
8620 Wolff Court  
Westminster, CO 80031

PREPARED FOR:

**PDC ENERGY**

PDC ENERGY INC.  
1775 SHERMAN STREET, SUITE 3000  
DENVER, CO 80203  
(303) 860-5800

SHEET NAME:

**SITE PLAN**

SURFACE LOCATION:  
SECTION 18, TOWNSHIP 5 NORTH, RANGE 66 WEST  
OF THE 6TH PRINCIPAL MERIDIAN  
WELD COUNTY, COLORADO

INT.	DP	REVISION DESCRIPTION	DATE	NO.	FIELD DATE
		ISSUED FOR CONSTRUCTION	09-26-22	0	08-16-2018
					08-18-2021

DRAFTED BY:

**CSG**

SHEET NO.

**S3**

03 OF 21

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DATA SOURCES:  
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**Environmental and Safety Plan**

**Setbacks**

The proposed Bypass State 05N66W18 1-23 Pad/Facility will comply with City of Greeley setback standards and COGCC Rules and Regulations for cultural setbacks.

**Air and Water Quality**

Emission Control System: Test separators and associated flow lines and sand traps shall be installed on-site to accommodate green completions techniques pursuant to COGCC Rules and Regulations. In the anticipated absence of a viable gas sales line, the flowback gas shall be thermally oxidized in an emissions control device (ECD), which will be installed and kept in operable condition for at least the first ninety (90) days of production pursuant to CDPHE rules. The ECD shall have an adequate capacity for 1.5 times the largest flowback within a 10-mile radius, will be flanged to route gas to other or permanent oxidizing equipment, and shall be provided with the equipment needed to maintain combustions where non-combustible gases are present. A closed-loop system will be utilized at this site.

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**TO:** Land Department – Mr. Paul Montville  
**FROM:** Zack Liesenfeld, EHS  
**DATE:** April 15, 2021  
**SUBJECT:** A review for Waters of the United States, FEMA 100-Year Floodplain, Soils, Regulated Species and Critical Habitat, Social Considerations, Wildlife Management Areas, Special Recreation Areas, Cultural Resources, Stormwater Permitting, Air, and Initial On-Site Conditions in order to comply with the requirements of the COGCC 1200 Series-Form 2A rules that took effect January 15, 2021: **Bypass 5N66W18** proposed Project site

## Summary

A review of environmental resources was completed for the proposed **Bypass 5N66W18** (Project) site. The proposed Project is to construct a production site in **Township 5 North, Range 66 West, Section 18** in Weld County, Colorado. The following items have been reviewed: wetlands, floodplains, soils, regulated species and critical habitat, social considerations, wildlife management areas, special recreation areas, cultural resources, stormwater permitting, air emissions, preliminary on-site conditions, and compliance with the requirements of the COGCC 1200 Series-Form 2A rules that took effect January 15, 2021, of a proposed production facility and well pad.

### **1. Waters of the United States (WOUS) Review**

A WOUS review was conducted on **4/14/2021**, which for the purpose of this review included an initial assessment of:

- Aerial and topographic imagery of the proposed site
- Natural Resources Conservation Service (NRCS) soil survey and hydric soils (NRCS 2021)
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) (2021)
- Federal Emergency Management Agency (FEMA) 100-Year floodplain review
- Weld County 100-Year floodplain review (County responsible for mapping)

**Location Review Results:** The northwest corner of the Project area is located within the FEMA 100-year flood zone. The NWI data depict a freshwater emergent wetland along an unnamed tributary in the southwest corner of the Project area. The Loup-Boel loamy sands, 0 to 3% soil type is listed in the National Hydric Soils List for Weld County, Colorado.

**Location Review Recommendations:** A site visit is recommended to confirm the NWI mapped data. If wetlands or WOUS will be impacted by the Project, Section 404 permitting under the Clean Water Act (CWA) may be required. The Project may fall under a U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP)-39 for commercial and institutional developments, which requires pre-construction notification (PCN) for all activities (and PCNs require completion of cultural or Section 106 survey and documentation). Under NWP-39, impacts cannot result in the loss of greater than 0.50 acre of WOUS; compensatory mitigation is required if impacts are greater than 0.10 acre of WOUS. If PDC Energy is unable to perform the work under NWP-39, an individual Section 404 permit will be required.

The presence of hydric soils within the Project area should be considered in the design of the Project.

### **Endangered and Threatened Species and Critical Habitat Review (Regulated Species of Concern)**

A review of species and their habitat was conducted on **4/14/2021**, which for the purpose of this review, included an initial assessment of:

- Colorado Parks and Wildlife (CPW) Non-Disclosure Agreement (NDA) data (2021); and
- USFWS Information Planning and Consultation (IPaC) tool-generated list of federal-listed species (IPaC 2021).

**Location Review Results:** There are no CPW mapped raptor nests or bald eagle winter roost sites within 0.50 mile of the Project area. The Project is within bald eagle winter range.

**Location Review Recommendations:** CPW does not have recommended buffer zones or seasonal restrictions for bald eagle winter range. An on-site investigation is recommended to determine the presence of migratory bird nests within the Project area one week prior to construction if construction is scheduled to occur within the nesting season (i.e., April 1 through August 31).

## 2. COGCC 1200 Series-Form 2A

A Review of the COGCC 1200 Series, Protection of Wildlife Resources, was conducted on 4/14/2021 relative to the assessment of High Priority Habitat - Colorado Oil and Gas Information System (COGIS) and CPW.

### **Review Result (High Priority Habitats under COGCC Rule 1202.c include):**

- ☐ Columbian sharp-tailed grouse (within 0.6 miles of the lek site)
- ☐ Greater prairie chicken (within 0.6 miles of the lek site)
- ☐ Greater sage-grouse (within 1.0 miles of the lek site)
- ☐ Gunnison sage-grouse (within 1.0 miles of the lek site)
- ☐ Lesser prairie chicken (within 1.25 miles of the lek site)
- ☐ Plains sharp-tailed grouse (within 0.4 miles of the lek site)
- ☐ Bald eagle (within 0.25 miles of an active nest)
- ☐ Ferruginous hawk (within 0.5 miles of an active nest)
- ☐ Golden eagle (within 0.25 miles of an active nest)
- ☐ Northern goshawk (within 0.5 miles of an active nest)
- ☐ Peregrine falcon (within 0.5 miles of an active nest)
- ☐ Prairie falcon (within 0.5 miles of an active nest)
- ☐ Least tern production area
- ☐ Piping plover production area
- ☐ Townsend's big-eared bat, Mexican free-tailed bat, and myotis (within 350 feet of winter hibernacula)
- ☐ Bighorn sheep production area
- ☐ Waters identified by CPW as "Gold Medal" (within 500 feet of ordinary high water mark [OHWM])
- X Cutthroat trout designated crucial habitat and native fish and other native aquatic species conservation waters (within 500 feet of OHWM)
- ☐ Sportfish management waters not identified by CPW as "Gold Medal" (within 500 feet of OHWM)
- ☐ CPW-owned State Wildlife Areas and State Parks

**Review Result (High Priority Habitats under Rule 1202.d include):**

- ☐ Bighorn sheep migration corridors and winter range
- ☐ Elk migration corridors, production areas, severe winter range, and winter concentration areas
- ☐ Mule deer migration corridors, severe winter range, and winter concentration areas
- ☐ Pronghorn migration corridors and winter concentration areas
- ☐ Greater sage-grouse priority habitat management areas
- ☐ Columbian sharp-tailed grouse production areas
- ☐ Greater prairie chicken production areas
- ☐ Gunnison sage-grouse occupied habitat and production areas
- ☐ Lesser prairie chicken focal areas
- ☐ Plains sharp-tailed grouse production areas

**Location Review Results:** The Project area is within mapped High Priority Habitat under COGCC rule 1202.c (native fish and other native aquatic species conservation waters [within 500 feet of OHWM]). The Project area is not within any mapped High Priority Habitat under COGCC rule 1202.d.

**Location Review Recommendations:** recommends coordination with CPW and COGCC before moving forward with the Project unless High Priority Habitat listed under COGCC rule 1202.c (native fish and other native aquatic species conservation waters within 500 feet of an OHWM) can be avoided. High Priority Habitat is identified by the COGCC as habitat areas identified by CPW where measures to avoid, minimize, and mitigate adverse impacts to wildlife have been identified to protect breeding, nesting, foraging, migrating, or other uses by wildlife. New ground disturbance and well work, including access road and pad construction, drilling and completion activities, and flowline/utility corridor clearing and installation activities proposed within High Priority Habitats listed under COGCC Rule 1202.c requires coordination with CPW and a Wildlife Mitigation Plan (and additional requirements may be applicable).

### **3. Social & Cultural-State Historical Preservation Office / Tribal Historic Preservation Office (SHPO/THPO)**

Melanie Medeiros, Principal Investigator, SWCA Environmental Consultants, conducted a cultural resource file review on 4/15/2021, which for the purpose of this review included an initial search of the Colorado Office of Archeology and Historic Preservation (OAHP) on-line database of cultural resources (COMPASS), the National Register of Historic Places (NRHP), and U.S. Geological Survey Historical Map Topographic Explorer.

**Location Review Results:** The closest NRHP-listed historic property to the Project is the Von Trotha-Firestien Farm (5WL5983), that was listed in the NRHP in 2009 (Reference No. 09000291) under the Multiple Property Documentation Form Historic Farms and Ranches of Weld County. Six cultural resource surveys have been previously conducted in the section containing the Project. Four cultural resources have been previously recorded in the section associated with the Project and include the Loveland Greeley Canal (5WL898), two segments of the Boomerang Ditch (5WL2254.3 and 5WL2254.6), and a pre-historic isolated find (5WL2255). A review of the Loveland Greeley Canal records suggests this canal is not actually present in Section 18 and is mislocated in the COMPASS records.

A review of historic USGS quadrangles and aerial imagery indicates that one historic farm, the remains of a historic building, a power/transmission line, the Boomerang Ditch (see above), and U.S. Highway 34 are present within the section containing the Project. U.S. Highway 34 trends east along the northern edge of the section before curving southeast into the section and continuing southeast/east. One east-trending improved road trends

and two north-trending improved roads border the section containing the Project. Although these roads are unnamed on the historic quadrangles, today the roads are known as Weld County Road (WCR) 25 / West 20th Street, 95th Avenue, and 83rd Avenue, respectively.

**Location Review Recommendations:** The Von Trotha-Firestien Farm is approximately northeast of the Project and will not be physically or non- physically affected by the Project. Of the six cultural resource surveys that have been previously conducted in the section containing the Project: WL.CH.R27 overlaps the very northern portion of the Project area and was completed in 1996 along U.S. Highway 34; and the other five projects were conducted between 1998 and 2007 for pipeline projects, a transmission project, and a fiber optic project. None of these five surveys overlap the Project area.

The Boomerang Ditch is currently considered not eligible for listing in the NRHP, although the ditch was recorded pre-2000, when the methodology for recording and assessing ditches in Colorado changed and it is likely the ditch would be assessed as eligible under modern methodology. However, neither previously recorded segment of the Boomerang Ditch is present within the Project area, and the unrecorded portion of the ditch also does not extend into the Project area. The pre-historic isolated find, which is not eligible for listing in the NRHP, is also not within the Project area. The Project team does not anticipate physical effects to these resources as a result of the Project.

The historic farm, historic building remains, and power/transmission line have not been previously recorded as cultural resources and have not been evaluated for eligibility for listing in the NRHP. These resources are outside of the proposed development area and based on the current design, the Project will not physically affect these resources.

U.S. Highway 34 has been previously recorded but not in Weld County. In Larimer County, the highway is unevaluated for the NRHP; in Yuma County, the highway is eligible for listing in the NRHP. U.S. Highway 34 may provide access to the Project but no physical effect to the roads is anticipated. WCR 25 / West 20th Street, 95th Avenue, and 83rd Avenue have not been previously recorded as cultural resources or assessed for NRHP eligibility. WCR 25 / West 20th Street and 95th Avenue may provide general access to the Project but no physical effect to the roads is anticipated.

The Project may indirectly affect the viewshed and setting of these historic resources. The setting near the Project is still relatively rural, especially to the north, west, and south, with a nearby small well pad and a modern substation present. Substantial modern development east of the area has compromised the viewshed and setting of the noted historic resources to a moderate degree. The Project team does not anticipate any adverse visual effects to the farm, ditch, or roads as a result of the Project. No historic properties are present within the Project area, although three cultural resources are present within the section containing the Project. Based on the results of this desktop review, no physical and no adverse non-physical (e.g., visual) effects to historic properties are anticipated.

If the Project develops a federal nexus, additional cultural resources work beyond this desktop review may be required to satisfy the requirements of Section 106 of the National Historic Preservation Act. As with all PDC Energy projects, if any cultural resources are encountered during construction, those activities should cease until a qualified archaeologist or historian has had an opportunity to evaluate the significance of the cultural materials.

#### **4. Social and Management Unit Review**

Review of social considerations and management units was conducted on **4/14/2021** by Olsson.

**Location Review Results:** The proposed Project site is in undeveloped pastureland with one residence located to the northeast. The proposed Project site falls within the Larimer, Adams, and Weld Game Management Unit (GMU).

**Location Review Recommendations:** No direct social effects are anticipated from the proposed Project, although negligible to minor social impacts may result to the viewshed and traffic depending on final design details for the Project site. Construction-related social impacts would be short term and temporary. No hunting should be permitted on the Project site due to the nature of the development.

#### **5. Stormwater Permitting Review**

Stormwater permitting with the Colorado Department of Public Health and Environment (CDPHE) is required for projects in which the proposed disturbance will impact one acre or greater.

**Location Review Results:** The Project requires stormwater permitting.

**Location Review Recommendations:** PDC Energy should obtain a stormwater permit through the CDPHE unless PDC Energy has a permitted field-wide plan that the disturbance activities can be covered under.

#### **6. Air Emissions Review**

A review for air permitting and emissions was conducted on **8/28/2021**.

**Location On-Site Review Results:** The proposed Bypass pad (23 wells) will not have to be aggregated with any existing or proposed horizontal facilities. If the Kettler 1-18 vertical pad is still producing when Bypass TILs, the two pads will need to be aggregated. Loadout control, surge vessel, tank VRU, instrument air, produced water tank control, and line power will all be required. At a minimum, there needs to be enough line power on site to power the LACTs, ODS systems, instrument air compressors, on-site instrumentation and either electric tank VRUs, electric separator VRUs, or electric separator heaters. If gas lift is required on site, power needs will be higher.

**Location Review Recommendations:** At a minimum, there needs to be enough line power on site to power the LACTs, ODS systems, instrument air compressors, on-site instrumentation and either electric tank VRUs, electric separator VRUs, or electric separator heaters. If gas lift is required on site, power needs will be higher.

#### **7. Initial On-Site Review**

An initial site visit of pad location was conducted on **4/8/2021**

**Location On-Site Review Result:** On site review noted tall vegetation and trees on the proposed location. Recommend removing vegetation and trees outside of season nesting restrictions. Vegetative removal should be conducted between September 1st and December 31st to avoid impacts or hazards to raptors and migratory birds. A site review is recommended 6 months prior to construction.

#### **Location Review Recommendations:**

A site visit is recommended to confirm the NWI mapped data. If wetlands or WOUS will be impacted by the Project, Section 404 permitting under the CWA may be required. The Project may fall under an USACE NWP-



39 for commercial and institutional developments, which requires PCN for all activities (and PCNs require completion of cultural or Section 106 survey and documentation). Under NWP-39, impacts cannot result in the loss of greater than 0.50 acre of WOUS; compensatory mitigation is required if impacts are greater than 0.10 acre of WOUS. If PDC Energy is unable to perform the work under NWP-39, an individual Section 404 permit will be required.

The presence of hydric soils within the Project area should be considered in the design of the Project.

An on-site investigation is recommended to determine the presence of migratory bird nests within the Project area one week prior to construction if construction is scheduled to occur within the nesting season (i.e., April 1 through August 31).

Olsson recommends coordination with CPW and COGCC before moving forward with the Project unless High Priority Habitat listed under COGCC rule 1202.c (native fish and other native aquatic species conservation waters within 500 feet of an OHWM) can be avoided. High Priority Habitat is identified by the COGCC as habitat areas identified by CPW where measures to avoid, minimize, and mitigate adverse impacts to wildlife have been identified to protect breeding, nesting, foraging, migrating, or other uses by wildlife. New ground disturbance and well work, including access road and pad construction, drilling and completion activities, and flowline/utility corridor clearing and installation activities proposed within High Priority Habitats listed under COGCC Rule 1202.c requires coordination with CPW and a Wildlife Mitigation Plan (and additional requirements may be applicable).



## TECHNICAL MEMORANDUM

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**TO:** Zack Liesenfeld, EHS Professional, PDC Energy

**FROM:** Jenna Friesen, Olsson

**DATE:** April 15, 2021

**SUBJECT:** Desktop Review of PDC Energy's Bypass 5N66W18 Proposed Project Site

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Olsson completed a desktop review (DTR) of environmental resources for PDC Energy's proposed **Bypass 5N66W18** (Project) site. The site is located in Township 5 North, Range 66 West, Section 18 in Weld County, Colorado, on private land (parcel 09591820009; the owner is Greeley Ranch and Farm LLC). The results of our DTR are presented below. Per Olsson's approved scope of services, this review excluded an on-site reconnaissance and air emissions review.

### **Overview**

This DTR was based on review of the following files transmitted to us by PDC Energy:

- Bypass Map 2 PDF;
- BypassProject\_Field Report\_180516 PDF; and
- 180515\_BypassProjectDesktop\_CJ PDF files.

A spatial data search was conducted on April 14, 2021, to evaluate the following resources:

- Waters of the United States (WOUS) and soils;
- Federal Emergency Management Agency (FEMA) 100-year floodplains in Weld County;
- Regulated species listed by the Federal Endangered Species Act (ESA) for Weld County and by the Colorado Oil and Gas Conservation Commission (COGCC) for High Priority Habitat;
- Wildlife management areas and special recreation areas;
- Cultural resources; and
- Social considerations.

Additionally, stormwater permitting requirements were assessed.

### **WOUS, Soils, and FEMA Review**

A review of WOUS, soils, and FEMA data was conducted on April 14, 2021, for the purpose of this DTR and included an initial assessment of the following:

- Aerial imagery of the proposed Project site;
- Natural Resources Conservation Service (NRCS) soil survey and hydric soils (NRCS 2021);
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI 2021);

- FEMA 100-year floodplain review; and
- Weld County 100-year floodplain review (County responsible for mapping).

Aerial imagery depicts the Project area as in pastureland and surrounding areas as agricultural land with US Highway 34 bordering the northern property line (**Figure 1**). A topographic map review corresponds with the aerial imagery and indicates the Project area is relatively flat, sloping slightly north (**Figure 2**). The NWI data depict a freshwater emergent wetland along an unnamed tributary in the southwest corner of the Project area. The unnamed tributary flows north to Sheep Draw which is north and west of the Project area (**Figure 1**). If wetlands or WOUS will be impacted by the Project, Section 404 permitting under the Clean Water Act (CWA) will be required. This Project may fall under a U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP)-39 for commercial and institutional developments, which requires pre-construction notification (PCN) for all activities (and PCNs require completion of a cultural or Section 106 survey and documentation). Under NWP-39, impacts cannot result in the loss of greater than 0.50 acre of WOUS; compensatory mitigation is required if impacts are greater than 0.10 acre of WOUS. If PDC Energy is unable to perform the work under NWP-39, an individual Section 404 Permit will be required. If wetlands and WOUS are avoided, no Section 404 permitting will be required. A site visit is recommended to confirm NWI reported data for the Project area. The northwestern corner of the Project area is located within the FEMA 100-year flood zone. W Weld County Floodplain Development Permit will be required if any development is proposed in that area of the site. Seven soil types were identified through the NRCS search within the Project area (**Figure 1**): Loup-Boel loamy sands, 0 to 3% slopes; Olney fine sandy loam, 1 to 3% slopes; Otero sandy loam, 3 to 5% slopes; Otero sandy loam, 5 to 9% slopes; Tassel fine sandy loam, 5 to 20% slopes; Vona loamy sand, 5 to 9% slopes; and Vona sandy loam, 1 to 3% slopes. The Loup-Boel loamy sands, 0 to 3% soil type is listed in the National Hydric Soils List for Weld County, Colorado (NRCS 2021). The presence of hydric soils within the Project area should be considered in the design of the Project.

There may be stormwater drainages/culverts located along roads within the Project area. These would not be considered jurisdictional and would not require permitting with the USACE.

### **Regulated Species Review**

A review of species and their habitat was conducted on April 14, 2021, for the purpose of this DTR and included an initial assessment of the following:

- High Priority Habitat - Colorado Oil and Gas Information System (COGIS) and Colorado Parks and Wildlife (CPW);
- CPW Non-Disclosure Agreement (NDA) data (2021); and
- USFWS Information Planning and Consultation (IPaC) tool-generated list of federal-listed species (IPaC 2021).



A total of seven federally listed threatened, endangered, or candidate species are listed for Weld County, Colorado (see **Attachment**). Habitat for federally listed species was reviewed using the abovementioned spatial data. Critical habitat has been designated for three of the listed species potentially occurring in Weld County: Preble's meadow jumping mouse (*Zapus hudsonius preblei*), piping plover (*Charadrius melodus*), and whooping crane (*Grus americana*). Critical habitat has not been designated by the USFWS for Ute ladies'-tresses (*Spiranthes diluvialis*), western prairie fringed orchid (*Platanthera praeclara*), pallid sturgeon (*Scaphirhynchus albus*), or eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*). The Project area does not contain any mapped critical habitat for the aforementioned species.

Given the agricultural nature of the Project area, the area does not contain suitable habitat for any of the federally listed species with the potential to occur in Weld County. However, if the Project results in consumptive use of waters from the Platte River basin, federally listed species associated with the Platte River may be impacted by the Project.

There are no CPW mapped raptor nests or bald eagle winter roost sites within 0.50 mile of the Project area. The Project is within bald eagle winter range. CPW does not have recommended buffer zones or seasonal restrictions for bald eagle winter range.

High Priority Habitat is identified by the COGCC as habitat areas identified by CPW where measures to avoid, minimize, and mitigate adverse impacts to wildlife have been identified to protect breeding, nesting, foraging, migrating, or other uses by wildlife. Proposed oil and gas operations on new or amended oil and gas locations requiring a new Form 2A, Oil and Gas Location Assessment Outside of High Priority Habitat, require a Wildlife Protection Plan that includes a description of the Rule 1202.a operating requirements applicable to the location. Wildlife Protection Plans may address multiple oil and gas locations if supplemental site-specific information is provided as needed to meet Rule 1202.a operating requirements at each location. Wildlife Protection Plans do not require CPW consultation or approval. Oil and gas locations within High Priority Habitat require a Wildlife Mitigation Plan describing the implementation of operating requirements pursuant to Rules 1202.a, 1202.b, and 1202.c, as well as any mitigation requirements pursuant to Rules 1202.d and 1203. New ground disturbance and well work, including access road and pad construction, drilling and completion activities, and flowline/utility corridor clearing and installation activities are generally not allowed within High Priority Habitats listed under COGCC Rule 1202.c. Oil and gas locations within High Priority Habitat listed under COGCC Rule 1202.d require compensatory mitigation to offset any direct and unavoidable adverse indirect impacts to wildlife resources pursuant to Rule 1203.b. If the oil and gas location causes the density of oil and gas locations to exceed one per square mile within High Priority Habitat listed under COGCC Rule 1202.d (and if the total density of oil and gas locations is less than 5 per square mile), additional compensatory mitigation may be required. A list of species with mapped COGCC High Priority Habitat under COGCC Rules 1202.c and 1202.d within the Project area is presented in **Table 1**.



**Table 1. List of Species with High Priority Habitat under COGCC Rules 1202.c and 1202.d within the Project Area for the PDC Energy Bypass 5N66W18 Site**

Common Name	COGCC Ruling	Potential Impact
Columbian sharp-tailed grouse	<i>1202.c and 1202.d</i>	A
Greater prairie chicken	<i>1202.c and 1202.d</i>	A
Greater sage-grouse	<i>1202.c and 1202.d</i>	A
Gunnison sage-grouse	<i>1202.c and 1202.d</i>	A
Lesser prairie chicken	<i>1202.c and 1202.d</i>	A
Plains sharp-tailed grouse	<i>1202.c and 1202.d</i>	A
Bald eagle	<i>1202.c</i>	A
Ferruginous hawk	<i>1202.c</i>	A
Golden eagle	<i>1202.c</i>	A
Northern goshawk	<i>1202.c</i>	A
Peregrine falcon	<i>1202.c</i>	A
Prairie falcon	<i>1202.c</i>	A
Least tern production area	<i>1202.c</i>	A
Piping plover production area	<i>1202.c</i>	A
Bat winter hibernacula	<i>1202.c</i>	A
Bighorn sheep production area	<i>1202.c and 1202.d</i>	A
Gold medal waters (within 500 feet of OHWM)	<i>1202.c</i>	A
Cutthroat trout designated crucial habitat (within 500 feet of OHWM)	<i>1202.c</i>	A
Native fish and other native aquatic species conservation waters (within 500 feet of OHWM)	<i>1202.c</i>	B
Sportfish management waters not identified by CPW as Gold Medal (within 500 feet of OHWM)	<i>1202.c</i>	A
CPW-owned State Wildlife Areas and State Parks	<i>1202.c</i>	A
Elk	<i>1202.d</i>	A
Mule deer	<i>1202.d</i>	A
Pronghorn	<i>1202.d</i>	A

Notes:

A – No mapped High Priority Habitat within the Project area.

B – Mapped High Priority Habitat is present within the Project area.

OHWM – ordinary high water mark



The Project area is within mapped High Priority Habitat under COGCC rule 1202.c (native fish and other native aquatic species conservation waters within 500 feet of an ordinary high water mark [OHWM]). Olsson recommends consultation with CPW and COGCC before moving forward with the Project unless High Priority Habitat can be avoided (**Figure 3**). The Project area is not within High Priority Habitat under COGCC rule 1202.d.

An on-site investigation is recommended to determine the presence of migratory bird nests within the Project area one week prior to construction if construction is scheduled to occur within the nesting season (i.e., April 1 through August 31).

### **Cultural Resources**

This DTR included an initial review of cultural resource records through the Colorado Office of Archaeology and Historic Preservation's (OAHP's) on-line database of cultural resources (COMPASS), the National Register of Historic Places (NRHP), and U.S. Geological Survey (USGS) Historical Map Topographic Explorer.

Forty (41) historic properties are listed in the NRHP in Weld County, Colorado. Two of these properties are archaeological districts (Keota Stone Circles Archaeological District and West Stoneham Archaeological District), and one is a Rural Historic Landscape (Von Gohren-Thompson Homestead/Gerry Farm). The vast majority of these properties (n = 28) are of historic age.

The closest NRHP-listed historic property to the Project is the Von Trotha-Firestien Farm (5WL5983), that was listed in the NRHP in 2009 (Reference No. 09000291) under the Multiple Property Documentation Form Historic Farms and Ranches of Weld County. The Von Trotha-Firestien Farm is approximately northeast of the Project and will not be physically or non- physically affected by the Project.

Six cultural resource surveys have been previously conducted in the section containing the Project. WL.CH.R27 overlaps the very northern portion of the Project area and was completed in 1996 along U.S. Highway 34. The other five projects were conducted between 1998 and 2007 for pipeline projects, a transmission project, and a fiber optic project. None of these five surveys overlap the Project area.

Four cultural resources have been previously recorded in the section associated with the Project and include the Loveland Greeley Canal (5WL898), two segments of the Boomerang Ditch (5WL2254.3 and 5WL2254.6), and a pre-historic isolated find (5WL2255). A review of the Loveland Greeley Canal records suggests this canal is not actually present in Section 18 and is mislocated in the COMPASS records. The Boomerang Ditch is currently considered not eligible for listing in the NRHP, although the ditch was recorded pre-2000, when the methodology for recording and assessing ditches in Colorado changed and it is likely the ditch would be assessed as eligible under modern methodology. However, neither previously recorded segment of the Boomerang Ditch is present within the Project area, and the unrecorded portion of the ditch also does not extend into the





Project area. The pre-historic isolated find, which is not eligible for listing in the NRHP, is also not within the Project area. The Project team does not anticipate physical effects to these resources as a result of the Project.

A review of historic USGS quadrangles and aerial imagery indicates that one historic farm, the remains of a historic building, a power/transmission line, the Boomerang Ditch (see above), and U.S. Highway 34 are present within the section containing the Project. The farm, building remains, and power/transmission line have not been previously recorded as cultural resources and have not been evaluated for eligibility for listing in the NRHP. These resources are outside of the proposed development area and based on the current design, the Project will not physically affect these resources.

U.S. Highway 34 trends east along the northern edge of the section before curving southeast into the section and continuing southeast/east. U.S. Highway 34 has been previously recorded but not in Weld County. In Larimer County, the highway is unevaluated for the NRHP; in Yuma County, the highway is eligible for listing in the NRHP. U.S. Highway 34 may provide access to the Project but no physical effect to the roads is anticipated.

One east-trending improved road trends and two north-trending improved roads border the section containing the Project. Although these roads are unnamed on the historic quadrangles, today the roads are known as Weld County Road (WCR) 25 / West 20th Street, 95th Avenue, and 83rd Avenue, respectively. None of these roads have been previously recorded as cultural resources or assessed for NRHP eligibility. WCR 25 / West 20th Street and 95th Avenue may provide general access to the Project but no physical effect to the roads is anticipated.

The Project may indirectly affect the viewshed and setting of these historic resources. The setting near the Project is still relatively rural, especially to the north, west, and south, with a nearby small well pad and a modern substation present. Substantial modern development east of the area has compromised the viewshed and setting of the noted historic resources to a moderate degree. The Project team does not anticipate any adverse visual effects to the farm, ditch, or roads as a result of the Project.

No historic properties are present within the Project area, although three cultural resources are present within the section containing the Project. Based on the results of this desktop review, no physical and no adverse non-physical (e.g., visual) effects to historic properties are anticipated.

If the Project develops a federal nexus, additional cultural resources work beyond this desktop review may be required to satisfy the requirements of Section 106 of the National Historic Preservation Act.

As with all PDC Energy projects, if any cultural resources are encountered during construction, those activities should cease until a qualified archaeologist or historian has had an opportunity to evaluate the significance of the cultural materials.



### **Social Considerations**

The proposed Project area falls within the Larimer, Adams, and Weld Game Management Unit (GMU). CPW specifies areas and times for which certain wildlife species may be taken in the GMU. No hunting should be permitted on the Project site due to the nature of the development. The proposed Project site is in pastureland surrounded by agricultural land and US Highway 34 to the north. There is one residence to the northwest, but no direct social effects are anticipated from the proposed Project, although negligible to minor social impacts may result to the viewshed and traffic depending on final design details for the Project site. Construction-related social impacts would be short term and temporary.

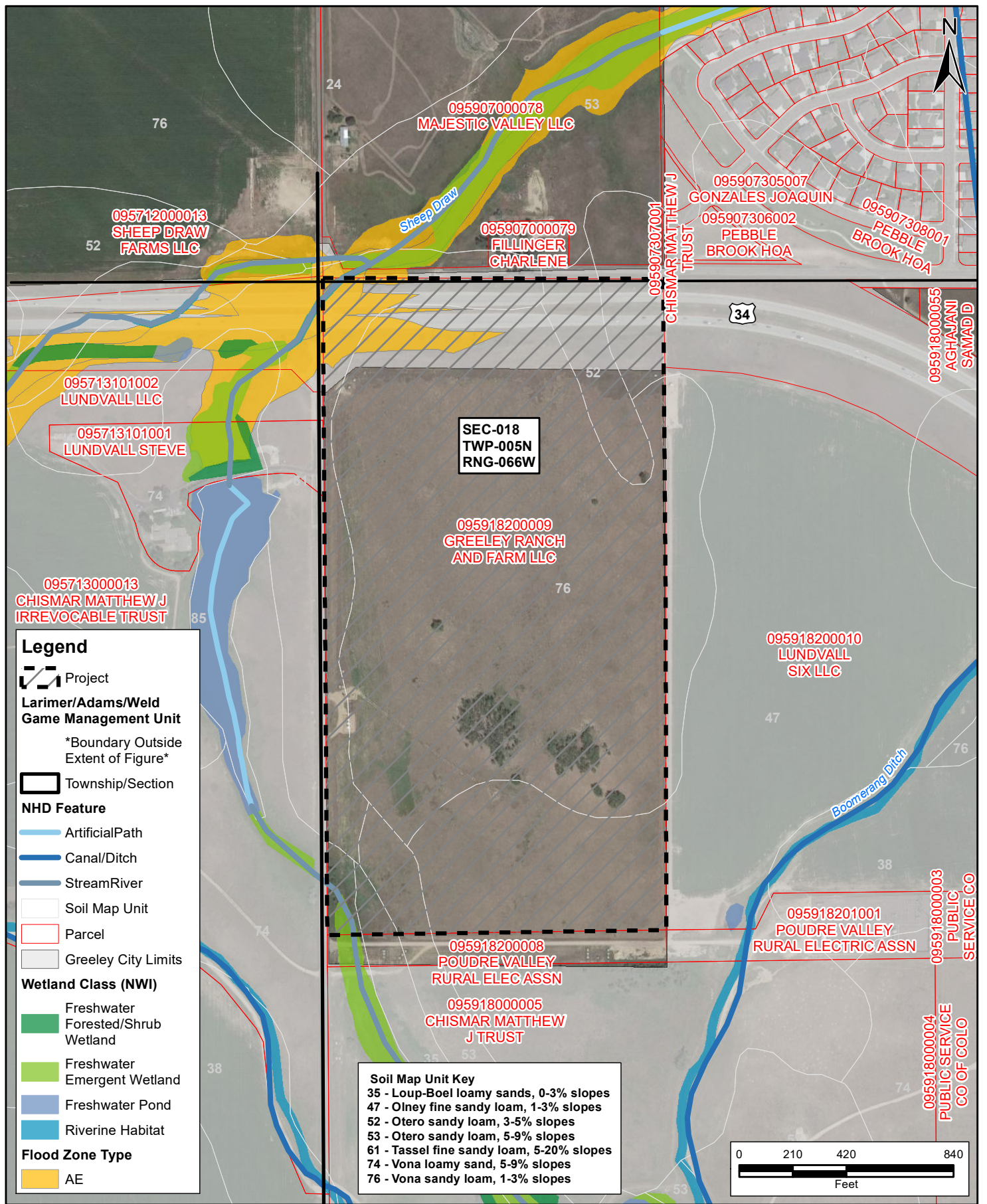
### **Stormwater Permitting**

This Project requires stormwater permitting with the Colorado Department of Public Health and Environment (CDPHE) (unless PDC Energy has a permitted field-wide plan that the disturbance activities can be covered under) as the proposed disturbance would impact greater than one acre.

### **Disclosure**

This evaluation was completed using readily available existing and published data and did not include coordination with any public agencies. We recommend qualified PDC Energy staff visit the site to confirm the reported and mapped data. *PDC Energy should not rely solely on the mapped data without field verification.* If PDC Energy would like Olsson to perform an on-site review, such review will be scoped and costed separately for PDC Energy's consideration and authorization. If PDC Energy has questions about the DTR results presented herein, please contact Paige Koutelas at [pkoutelas@olsson.com](mailto:pkoutelas@olsson.com) or 913.660.2432.

## FIGURES



PROJECT: 018-2718

DRAWN BY:

J. Friesen

DATE: April 14, 2021

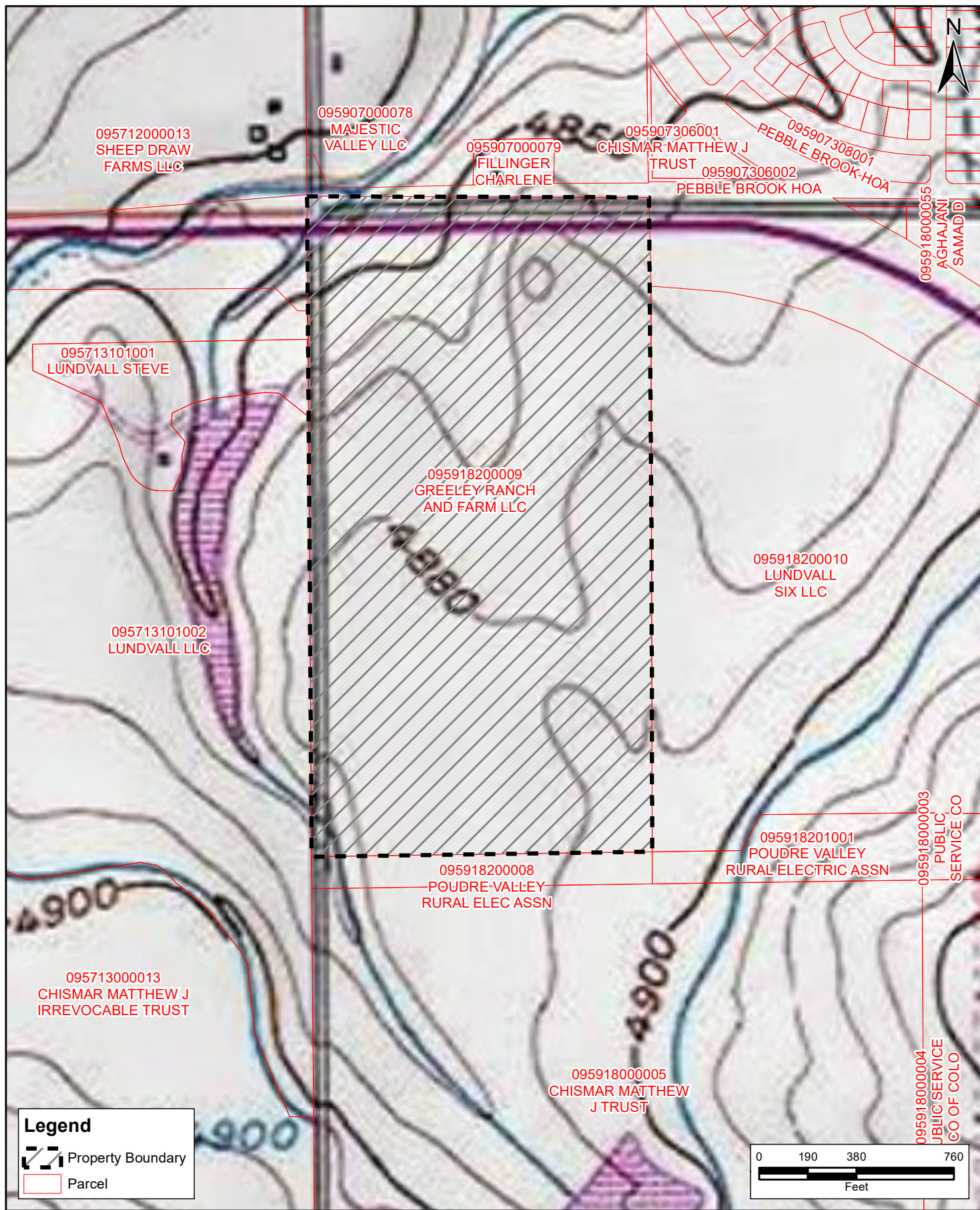
**Bypass 5N66W18**  
PDC Energy Planning Map  
Weld County, CO

**olsson**

FIGURE

1





PROJECT: 018-2718

DRAWN BY:

J. Friesen

DATE: April 14, 2021

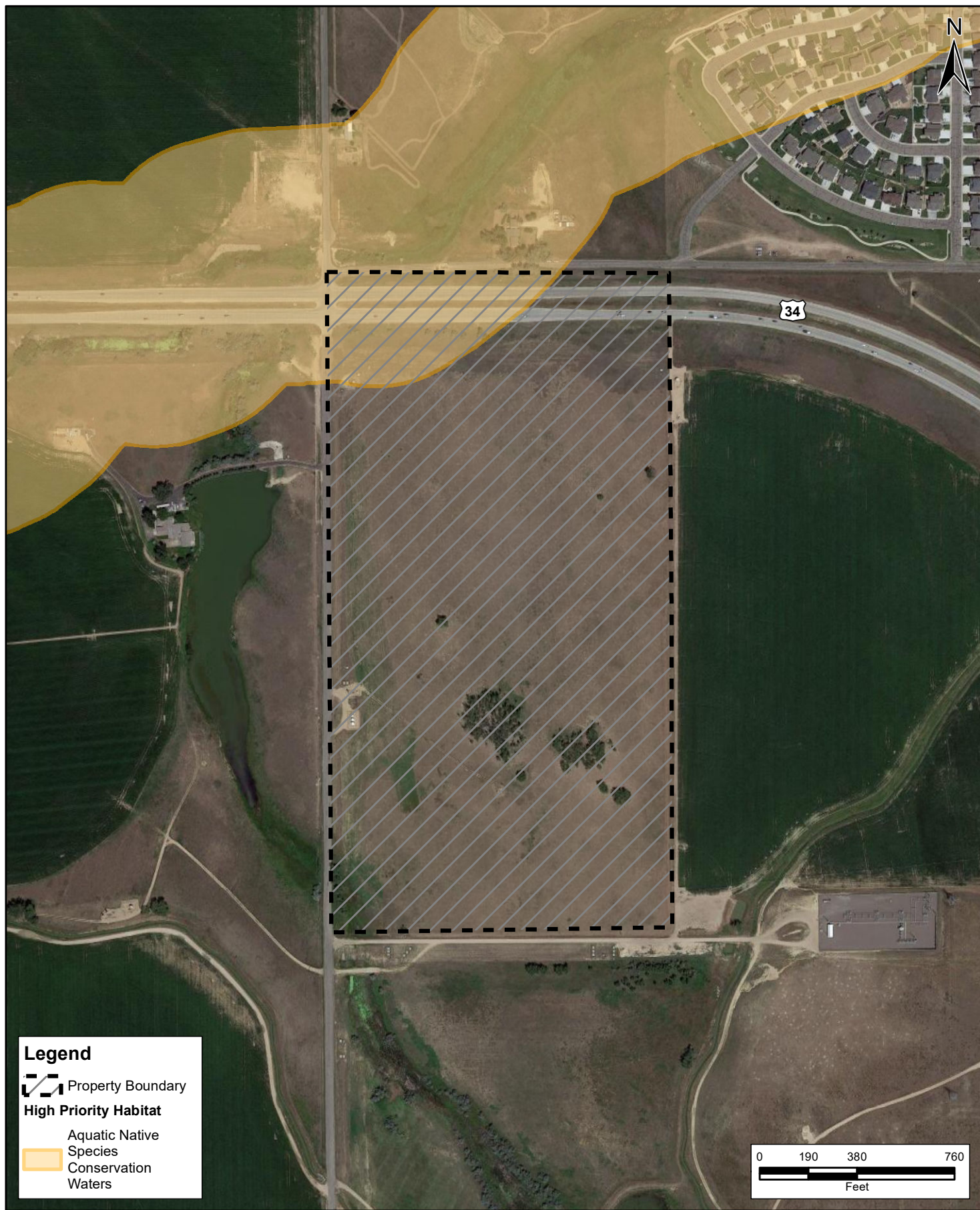
**Bypass 5N66W18**  
PDC Energy Planning Map  
Weld County, CO

**olsson**

FIGURE

2





PROJECT: 018-2718

DRAWN BY:

J. Friesen

DATE: April 14, 2021

**Bypass 5N66W18**  
PDC Energy Planning Map  
Weld County, CO

**olsson**

FIGURE

3



**ATTACHMENT**



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Colorado Ecological Services Field Office  
Denver Federal Center  
P.O. Box 25486  
Denver, CO 80225-0486  
Phone: (303) 236-4773 Fax: (303) 236-4005  
<http://www.fws.gov/coloradoES>  
<http://www.fws.gov/platteriver>

In Reply Refer To:

April 14, 2021

Consultation Code: 06E24000-2021-SLI-0720

Event Code: 06E24000-2021-E-01876

Project Name: PDC Energy Bypass\_entire parcel

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

[www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html).

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
  - USFWS National Wildlife Refuges and Fish Hatcheries
  - Migratory Birds
  - Wetlands
-

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Colorado Ecological Services Field Office**

Denver Federal Center  
P.O. Box 25486  
Denver, CO 80225-0486  
(303) 236-4773

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## Project Summary

Consultation Code: 06E24000-2021-SLI-0720

Event Code: 06E24000-2021-E-01876

Project Name: PDC Energy Bypass\_entire parcel

Project Type: OIL OR GAS

Project Description: Oil and Gas

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.40332325,-104.82989609635788,14z>



Counties: Weld County, Colorado

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## Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 4 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Preble's Meadow Jumping Mouse <i>Zapus hudsonius preblei</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/4090">https://ecos.fws.gov/ecp/species/4090</a> General project design guidelines: <a href="https://ecos.fws.gov/docs/tess/ipac_project_design_guidelines/doc6861.pdf">https://ecos.fws.gov/docs/tess/ipac_project_design_guidelines/doc6861.pdf</a>	Threatened

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## Birds

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10477">https://ecos.fws.gov/ecp/species/10477</a>	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a>	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>	Endangered

## Fishes

NAME	STATUS
Pallid Sturgeon <i>Scaphirhynchus albus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/7162">https://ecos.fws.gov/ecp/species/7162</a>	Endangered

## Flowering Plants

NAME	STATUS
Ute Ladies'-tresses <i>Spiranthes diluvialis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2159">https://ecos.fws.gov/ecp/species/2159</a>	Threatened
Western Prairie Fringed Orchid <i>Platanthera praeclara</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/1669">https://ecos.fws.gov/ecp/species/1669</a>	Threatened

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

# USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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## Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Oct 15 to Jul 31

## Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the

FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

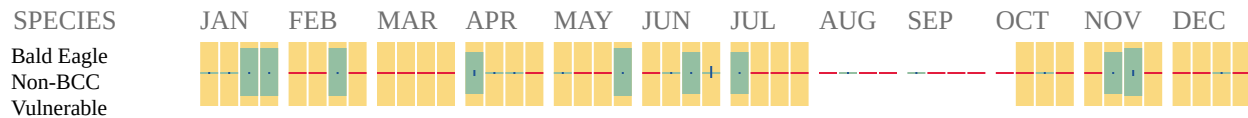
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

### No Data (—)

A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

## Migratory Birds FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

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Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

**Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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## Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

### FRESHWATER EMERGENT WETLAND

- [PEM1Fh](#)

### RIVERINE

- [R5UBH](#)
-



1889 York Street  
Denver, CO 80206  
(303) 333-1105  
FAX (303) 333-1107  
E-mail: [lsc@lscdenver.com](mailto:lsc@lscdenver.com)

March 15, 2019

Ms. Kristi McRedmond  
Petroleum Field Services, LLC  
dba Ascent Geomatics Solutions  
7535 Hilltop Circle  
Denver, CO 80221

Re: SRC Master  
Traffic Impact Analysis  
Greeley, CO  
LSC #190190

Dear Ms. McRedmond:

In response to your request, LSC Transportation Consultants, Inc. has prepared this Master Traffic Impact Analysis for five proposed SRC well sites in Greeley, Colorado, known as the Bost Farms Pad, the Bypass Pad, the Denali Pad, the Ridge Pad, and the Stugart 16 Pad. Figure 1 shows a vicinity map of the well site locations.

## **REPORT CONTENTS**

The report contains the following: the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, etc.; the existing weekday peak-hour traffic volumes; the existing daily traffic volumes in the area; the typical weekday site-generated traffic volume projections for six different phases of each site development; the assignment of the projected traffic volumes to the area roadways for the eight highest combinations of phases from 2019 to 2022; the projected total traffic volumes on the area roadways for these eight scenarios; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the traffic impacts from the five sites. The estimated timing of each site and overall combination of phases is the best information available today but is subject to change over time.

## **LAND USE AND ACCESS**

The five sites are proposed as oil and gas operations with a varying number of well heads per site. Full movement access is proposed to 77<sup>th</sup> Avenue (Two Rivers Parkway), 83<sup>rd</sup> Avenue, and 95<sup>th</sup> Avenue via private access roads. There is adequate sight distance in each direction from the proposed access points.

Each of the areas will generally be developed in six phases as follows:

- |  |                  |
|--|------------------|
| 1. Construction Phase 1 (earthwork of site and access road)      | 20 days +/-      |
| 2. Construction Phase 2 (finishing work of site and access road) | 10 days +/-      |
| 3. Drilling Phase  | 80 - 90 days +/- |
| 4. Completion Phase  | 80 - 90 days +/- |
| 5. Flow Back Phase   | 45 - 60 days +/- |
| 6. Production/Operations Phase                                   | Ongoing          |

The estimated combination of phases is shown in a very detailed Gantt Chart included in the appendix. The eight highest trip-generating combinations of phases are shown in the following table:

Year	Scenario	Construction 2	Drilling	Completion	Flowback	Production/ Operations
2019	Scenario 1	Bost Farms (S) Pad A Bost Farms (S) Pad B		Bost Farms (NW)		
2019	Scenario 2	Ridge		Bost Farms (S) Pad A		Bost Farms (NW)
2020	Scenario 3		Bost Farms (NE) Bost Farms (S) Pad B	Denali (Row 1) Bypass (Row 1)		Ridge Bost Farms (NW) Bost Farms (S) Pad A
2020	Scenario 4		Bost Farms (S) Pad B	Bypass (Row 1) Bost Farms (NE)	Denali (Row 1)	Ridge Bost Farms (NW) Bost Farms (S) Pad A
2020	Scenario 5	Stugart 16		Bost Farms (S) Pad B	Bypass (Row 1) Bost Farms (NE)	Ridge Denali (Row 1) Bost Farms (NW) Bost Farms (S) Pad A
2021	Scenario 6		Denali (Row 2)	Stugart 16		Ridge Denali (Row 1) Bypass (Row 1) Bypass (Row 2) Bost Farms (NW) Bost Farms (NE) Bost Farms (S) Pad A Bost Farms (S) Pad B
2021	Scenario 7		Bypass (Row 2)		Denali (Row 2)	Ridge Stugart 16 Denali (Row 1) Bypass (Row 1) Bost Farms (NW) Bost Farms (NE) Bost Farms (S) Pad A Bost Farms (S) Pad B
2022	Scenario 8				Bypass (Row 2)	Ridge Stugart 16 Denali (Row 1) Denali (Row 2) Bypass (Row 1) Bost Farms (NW) Bost Farms (NE) Bost Farms (S) Pad A Bost Farms (S) Pad B

## ROADWAY AND TRAFFIC CONDITIONS

### Area Roadways

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **US Highway 34** is an east-west, four-lane highway passing through the study area. It is classified as an Expressway (E-X) by CDOT. The intersection with 83<sup>rd</sup> Avenue is signalized with auxiliary turn lanes and the intersection with 95<sup>th</sup> Avenue is unsignalized with auxiliary turn lanes. The posted speed limit is 65 mph near the study area.
- **US Highway 34 (Business)** is an east-west, four-lane highway passing north of the study area. It is classified as Non-Rural Highway (NR-A) by CDOT. The intersection with 95<sup>th</sup> Avenue is stop-sign controlled with auxiliary turn lanes. The posted speed limit is 65 mph near the study area.
- **W. 37<sup>th</sup> Street** is an east-west, two-lane paved roadway south of the study area. The intersection with 77<sup>th</sup> Avenue (Two Rivers Parkway) is stop-sign controlled with some auxiliary lanes. The intersection with 95<sup>th</sup> Avenue is stop-sign controlled with no auxiliary lanes. The posted speed limit in the vicinity of the site is 45 mph near 95<sup>th</sup> Avenue and reduces to 35 mph at 77<sup>th</sup> Avenue (Two Rivers Parkway).
- **77<sup>th</sup> Avenue (Two Rivers Parkway)** is a north-south, two-lane roadway passing through the study area. The intersection with W. 37<sup>th</sup> Street is stop-sign controlled with some auxiliary lanes. The posted speed limit is 45 mph near the Stugart 16 Pad and reduces to 35 mph at W. 37<sup>th</sup> Street.
- **83<sup>rd</sup> Avenue** is a north-south, two-lane roadway passing through the study area. The intersection with US Highway 34 is signalized with auxiliary turn lanes. The posted speed limit in the vicinity of the site is 55 mph near US Highway 34.
- **95<sup>th</sup> Avenue** is a north-south, two-lane paved roadway passing through the study area. The intersections with US Highway 34 (Business) and W. 37<sup>th</sup> Avenue are stop-sign controlled with auxiliary turn lanes. No speed limit is posted in the vicinity of the site.
- **Existing or Proposed Private Access Roads** are gravel roadways that will provide access to the various sites from the public roadway network. They will be maintained to accommodate construction traffic.

### Existing Traffic Conditions

Figure 2 shows the existing weekday traffic volumes, existing lane geometry, the existing traffic controls, and the posted speed limits in the vicinity of the site. The weekday peak-hour traffic volumes and average daily traffic volumes are from the attached traffic counts conducted by Counter Measures in August, 2017 and July and September, 2018.

**2019, 2020, 2021, and 2022 Background Traffic**

Figures 3a through 3d show the 2019, 2020, 2021, and 2022 background traffic volumes based on an annual growth rate of about three percent based on the CDOT 20-year growth factor of 1.78. The CDOT straight line diagram for US Highway 34 is attached.

**Existing, 2019, 2020, 2021, and 2022 Background Levels of Service**

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from “A” to “F.” LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for signalized and unsignalized intersections.

The intersections in the study area were analyzed to determine the existing, 2019, 2020, 2021, and 2022 background levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

- **US Highway 34 (Business)/95<sup>th</sup> Avenue:** The northbound and southbound left/through movements currently operate at LOS “F” during the morning and afternoon peak-hours and are expected to do so through 2022. All other movements are expected to operate at LOS “C” or better during both peak-hours through 2022.
- **US Highway 34/95<sup>th</sup> Avenue:** The northbound and southbound approaches currently operate at LOS “F” during the morning and afternoon peak-hours and are expected to do so through 2022. All other movements currently operate at LOS “D” or better are expected to operate at LOS “E” or better during both peak-hours through 2021 with the eastbound left-turn movement operating at LOS “F” by 2022 in the afternoon peak-hour.
- **95<sup>th</sup> Avenue/W. 37<sup>th</sup> Street:** All movements at this stop-sign controlled intersection currently operate at LOS “C” or better during both peak-hours and are expected to do so through 2022.
- **US Highway 34/83<sup>rd</sup> Avenue:** This signalized intersection currently operate at an overall LOS “C” during the morning peak-hour and LOS “D” during the afternoon peak-hour and is expected to do operate at LOS “D” during both peak-hours through 2022. There are individual movements expected to operate at LOS “E” or “F”.
- **77<sup>th</sup> Avenue (Two Rivers Parkway)/W. 37<sup>th</sup> Street:** The northbound and southbound approaches currently operate at LOS “E” or “F” during the morning and/or afternoon peak-hours and are expected to do so through 2022. All other movements are expected to operate at LOS “A” during both peak-hours through 2022.

**TRIP GENERATION**

Table 2 shows the estimated average weekday daily and peak-hour trip generation by vehicle type based on information provided by the applicant. Estimates are given for six different phases of the project including:



1. Construction Phase 1 - earthwork of site and access road (36 one-way trips per day)
2. Construction Phase 2 - finishing work of site and access road (84 one-way trips per day)
3. Drilling Phase (50 one-way trips per day)
4. Completion Phase (82 one-way trips per day)
5. Flow Back Phase (24 one-way trips per day)
6. Production/Operations Phase (22 one-way trips per day)

The truck traffic generated by Construction Phase 2 is heavily dependent on the length of the access road being constructed. As many as 30 additional gravel trucks per day (60 trips) are expected while the site is being prepared and the access road is being finished.

The truck traffic generated by the Completion Phase is heavily dependent on how water is delivered to the site. The preferred delivery method is via a temporary overland pipeline which results in minimal trucks per day. Occasionally water has to be delivered via trucks which can increase the number of trucks per day from 20 (40 trips) to as many as 120 (240 trips). The water delivery method for this site will be via pipeline.

The impact will be highest in Scenarios 1 through 8 as shown in the following table.

One-Way Trips Per Day						
			AM Peak		PM Peak	
		ADT	In	Out	In	Out
2019	Scenario 1	126	7	7	7	7
2019	Scenario 2	128	7	7	7	7
2020	Scenario 3	190	12	12	12	12
2020	Scenario 4	164	10	10	10	10
2020	Scenario 5	182	11	11	11	11
2021	Scenario 6	106	6	6	6	6
2021	Scenario 7	90	6	6	6	6
2022	Scenario 8	42	2	2	2	2

## TRIP DISTRIBUTION

Figures 4a through 4e show the estimated haul routes and directional distribution of the site-generated traffic volumes on the area roadways based on coordination with the project team to minimize impacts to the surrounding roadway network.

## TRIP ASSIGNMENT

The eight highest daily trip-generating scenarios were analyzed as follows:

**Scenario 1** - Figure 5a shows the estimated 2019 site-generated traffic volumes expected to occur when the Bost Farms (S) Pads A & B are in Construction Phase 2 and the Bost Farms (NW) Pad is in the Completion Phase.

**Scenario 2** - Figure 5b shows the estimated 2019 site-generated traffic volumes expected to occur when the Ridge Pad is in Construction Phase 2, the Bost Farms (S) Pad A is in the Completion Phase, and the Bost Farm (NW) Pad is in the Production/Operations Phase.

**Scenario 3** - Figure 5c shows the estimated 2020 site-generated traffic volumes expected to occur when the Bost Farms (NE) Pad and the Bost Farms (S) Pad B Pad are in the Drilling Phase, the Denali (Row 1) Pad and the Bypass (Row 1) Pad are in the Completion Phase, and the Ridge Pad, the Bost Farms (S) Pad A, and the Bost Farm (NW) Pad are in the Production/Operations Phase.

**Scenario 4** - Figure 5d shows the estimated 2020 site-generated traffic volumes expected to occur when the Bost Farms (S) Pad B is in the Drilling Phase, the Bypass (Row 1) Pad and the Bost Farms (NE) Pad are in the Completion Phase, the Denali (Row 1) Pad is in the Flowback Phase, and the Ridge Pad, the Bost Farms (NW) Pad, and the Bost Farms (S) Pad A are in the Production/Operations Phase.

**Scenario 5** - Figure 5e shows the estimated 2020 site-generated traffic volumes expected to occur when the Stugart 16 Pad is in Construction Phase 2, the Bost Farms (S) Pad B is in the Completion Phase, the Bypass (Row 1) Pad and the Bost Farms (NE) Pad are in the Flowback Phase, and the Ridge Pad, the Denali (Row 1) Pad, the Bost Farms (NW) Pad, and the Bost Farms (S) Pad A are in the Production/Operations Phase.

**Scenario 6** - Figure 5f shows the estimated 2021 site-generated traffic volumes expected to occur when the Denali (Row 2) Pad is in the Drilling Phase, the Stugart 16 Pad is in the Completion Phase, and the Ridge Pad, the Denali (Row 1) Pad, the Bypass (Row 1) Pad, the Bypass (Row 2) Pad, the Bost Farms (NW) Pad, the Bost Farms (NE) Pad, the Bost Farms (S) Pad A, and the Bost Farms (S) Pad B are in the Production/Operations Phase.

**Scenario 7** - Figure 5g shows the estimated 2021 site-generated traffic volumes expected to occur when the Bypass (Row 2) Pad is in the Drilling Phase, the Denali (Row 2) Pad is in the Flowback Phase, and the Ridge Pad, the Stugart 16 Pad, the Denali (Row 1) Pad, the Bypass (Row 1) Pad, the Bost Farms (NW) Pad, the Bost Farms (NE) Pad, the Bost Farms (S) Pad A, and the Bost Farms (S) Pad B are in the Production/Operations Phase.

**Scenario 8** - Figure 5h shows the estimated 2022 site-generated traffic volumes expected to occur when the Bypass (Row 2) Pad is in the Flowback Phase and the Ridge Pad, the Stugart 16 Pad, the Denali (Row 1) Pad, the Denali (Row 2) Pad, the Bypass (Row 1) Pad, the Bost Farms (NW) Pad, the Bost Farms (NE) Pad, the Bost Farms (S) Pad A and the Bost Farms (S) Pad B are in the Production/Operations Phase.

## **TOTAL TRAFFIC**

**Scenario 1** - Figure 6a shows the 2019 total traffic volumes expected to occur in Scenario 1.

**Scenario 2** - Figure 6b shows the 2019 total traffic volumes expected to occur in Scenario 2.

**Scenario 3** - Figure 6c shows the 2020 total traffic volumes expected to occur in Scenario 3.

**Scenario 4** - Figure 6d shows the 2020 total traffic volumes expected to occur in Scenario 4.

**Scenario 5** - Figure 6e shows the 2020 total traffic volumes expected to occur in Scenario 5.

**Scenario 6** - Figure 6f shows the 2021 total traffic volumes expected to occur in Scenario 6.

**Scenario 7** - Figure 6g shows the 2021 total traffic volumes expected to occur in Scenario 7.

**Scenario 8** - Figure 6h shows the 2022 total traffic volumes expected to occur in Scenario 8.

## **PROJECTED LEVELS OF SERVICE**

The intersections in the study area were analyzed as appropriate to determine the total levels of service during the various scenarios. Table 1 shows the level of service analysis results. The level of service reports are attached.

- **US Highway 34 (Business)/95<sup>th</sup> Avenue:** The northbound and southbound left/through movements are expected to operate at LOS “F” during the morning and afternoon peak-hours through 2022 with or without development of the sites. All other movements are expected to operate at LOS “C” or better during both peak-hours through 2022.
- **95<sup>th</sup> Avenue/Bost Farms Access:** All movements at this unsignalized intersection are expected to operate at LOS “A” during both peak-hours through 2020.
- **US Highway 34/95<sup>th</sup> Avenue:** The northbound and southbound approaches are expected to operate at LOS “F” during the morning and afternoon peak-hours and is expected to do so through 2022. All other movements are expected to operate at LOS “E” or better during both peak-hours through 2021 with the eastbound left-turn movement operating at LOS “F” by 2022 in the afternoon peak-hour, with or without development of the sites.
- **95<sup>th</sup> Avenue/Bypass Site Access:** All movements at this unsignalized intersection are expected to operate at LOS “A” during both peak-hours through 2020.
- **95<sup>th</sup> Avenue/Denali Site Access:** All movements at this unsignalized intersection are expected to operate at LOS “A” during both peak-hours through 2020.
- **95<sup>th</sup> Avenue/W. 37<sup>th</sup> Street:** All movements at this stop-sign controlled intersection are expected to operate at LOS “C” or better during both morning and afternoon peak-hours and are expected to do so through 2022.
- **US Highway 34/83<sup>rd</sup> Avenue:** This signalized intersection is expected to operate at an overall LOS “D” or better during both morning and afternoon peak-hours through 2022. There are individual movements expected to operate at LOS “E” or “F” with or without development of the sites.
- **77<sup>th</sup> Avenue (Two Rivers Parkway)/W. 37<sup>th</sup> Street:** The north and south approaches are expected to operate at LOS “E” or “F” during the morning and/or afternoon peak-hours

through 2022 with or without development of the sites. All other movements are expected to operate at LOS “A” during both peak-hours through 2022.

- **83<sup>rd</sup> Avenue/Ridge Site Access:** All movements at this unsignalized intersection are expected to operate at LOS “B” or better during both peak-hours through 2019.
- **77<sup>th</sup> Avenue (Two Rivers Parkway)/Stugart 16 Site Access:** All movements at this unsignalized intersection are expected to operate at LOS “B” or better during both peak-hours through 2020.

## CONCLUSIONS AND RECOMMENDATIONS

### Trip Generation

1. The impact will be highest at about 190 trips per day in Scenario 3.
2. The long-term impact will be minimal due to product being removed from the sites via pipeline.

### Projected Levels of Service

3. All movements at the unsignalized intersections analyzed are expected to operate at LOS “D” or better during both morning and afternoon peak-hours through 2022 with the following exceptions: The northbound and southbound approaches of 77<sup>th</sup> Avenue (Two Rivers Parkway) to W. 37<sup>th</sup> Street, 95<sup>th</sup> Avenue to US Highway 34 (Business), and 95<sup>th</sup> Avenue to US Highway 34 are expected to continue to operate at LOS “F” during the peak-hours with or without development of the sites. The eastbound left-turn movement from US Highway 34 to 95<sup>th</sup> Avenue is expected to operate at LOS “F” in the 2022 afternoon peak-hour with or without development of the sites.
4. The signalized US Highway 34/83<sup>rd</sup> Avenue intersection is expected to operate at an overall LOS “D” with some individual movements operating at LOS “E” or “F” with or without the addition of site traffic.

### Conclusions

5. The impact of the five proposed SRC well sites known as the Bost Farms Pad, the Bypass Pad, the Denali Pad, the Ridge Pad, and the Stugart 16 Pad can be accommodated by the existing and planned roadway network with the following recommendations.

### Recommendations

6. Signing should be provided on the roadways approaching each site during the construction phases to notify motorists of the site access intersection. An example sign would be the intersection warning sign (W2-2).
7. The haul routes shown in Figures 4a through 4e were carefully chosen by the project team to avoid the more difficult movements to make in the study area. Following these recom-

mended haul routes will minimize the overall impacts to the surrounding roadway network. Adjustments to these routes should be considered if significant changes to existing traffic patterns occur prior to 2022.

\* \* \* \* \*

We trust our findings will assist you in gaining approval of the proposed SRC well sites development. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC

By

Christopher S. McGranahan, PE, PTOE  
Principal



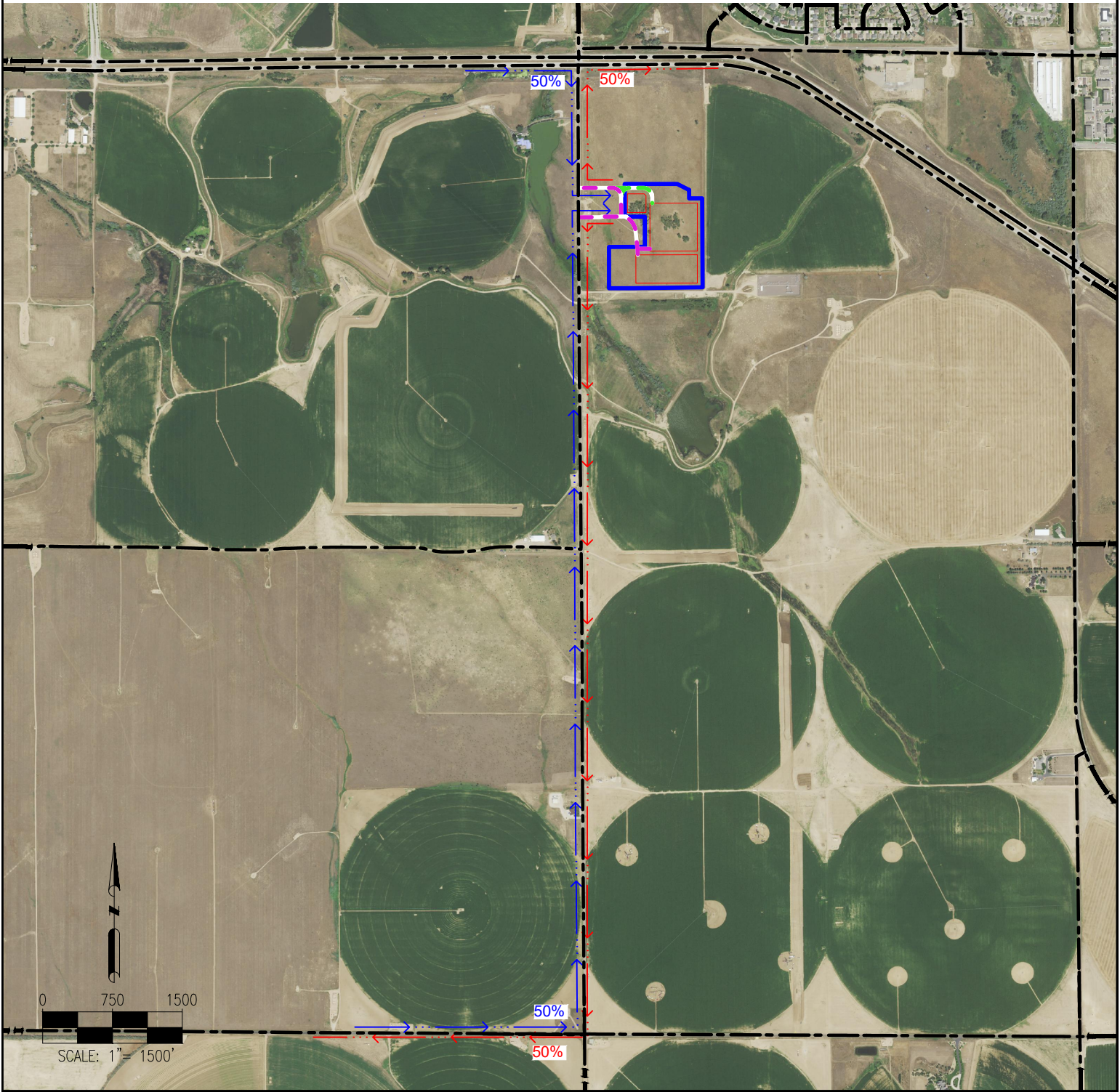
3-15-19

CSM/wc

Enclosures: Tables 1 and 2  
Figures 1 - 6h  
Gantt Chart  
Traffic Count Reports  
CDOT Straight Line Diagram  
Level of Service Definitions  
Level of Service Reports



**BYPASS STATE 05N66W18 1-23 PAD  
TRAFFIC DIRECTION EXHIBIT**



**LEGEND:**

- = PROPOSED PERMANENT ACCESS ROAD
- = PROPOSED TEMPORARY ACCESS ROAD
- = PROPOSED DISTURBANCE AREA
- = PROPOSED PAD
- ... = INCOMING TRAFFIC
- ... = OUTGOING TRAFFIC

DISCLAIMER:  
THIS PLOT DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND SHOULD NOT BE RELIED UPON TO DETERMINE  
BOUNDARY LINES, PROPERTY OWNERSHIP OR OTHER PROPERTY INTERESTS. PARCEL LINES, IF DEPICTED HAVE NOT BEEN  
FIELD VERIFIED AND MAY BE BASED UPON PUBLICLY AVAILABLE DATA THAT ALSO HAS NOT BEEN INDEPENDENTLY VERIFIED.

DATA SOURCE:  
AERIAL IMAGERY: NAIP 2019

PUBLICLY AVAILABLE DATA SOURCES HAVE NOT  
BEEN INDEPENDENTLY VERIFIED BY ASCENT.



FIELD DATE:  
**08-16-18**

DRAWING DATE:  
**03-28-22**

BY:  
**IJM**

CHECKED BY:  
**CSG**

SITE NAME:  
**BYPASS STATE 05N66W18 1-23 PAD**

SURFACE LOCATION:  
**LOT 2 NW 1/4 SEC. 18, T5N, R66W, 6TH P.M.  
WELD COUNTY, COLORADO**

PREPARED FOR:





# Attachment G - CITY OF GREELEY LAND USE APPLICATION/USE BY SPECIAL REVIEW

## Emergency Response and Fire Protection Plan

A comprehensive and complete Emergency Response Plan will be submitted to the City of Greeley, which is a site-specific review of the risks to structures and land uses in the immediate vicinity, and addresses the risks presented by the proposed facility while considering the setbacks or distances. PDC will comply with all applicable sections of the 2018 International Fire Code, as amended and adopted by the City of Greeley and Greeley Fire Protection District:

Section 5706.1	General	Section 5706.3.2	Waste Control
Section 5706.3	Well Drilling and Operating	Section 5706.3.3	Sumps
Section 5706.3.1	Location	Section 5706.3.4	Prevention of Blowouts
Section 5706.3.1.1	Storage tanks and sources of Ignition	Section 5706.3.5	Storage Tanks
Section 5706.3.1.2	Streets and Railways	Section 5706.3.6	Soundproofing
Section 5706.3.1.3	Buildings	Section 5706.3.7	Signs
COGCC Rule 912	Spills and Releases	Section 5706.3.8	Field Loading Racks

Per the Greeley Fire Department:

- City of Greeley Code Section 18.56.110: Sound walls or similar acoustical insulating materials shall be of a non-combustible material. A spec sheet of the proposed sound wall is submitted herewith as Exhibit O Sound Wall Design Specifications.
- City of Greeley Code Section 18.56.110: All wells shall be equipped with a blowout preventer during drilling operations at this location.
- Enclosed flares shall be utilized during the drilling, completion, recompletion, reworking, production, repair, and maintenance of the pad site.
- Routine fire inspections are required during the different phases of operation and, at a minimum, an annual inspection, upon completion of the wells and production facilities. The Greeley Fire Department will coordinate and schedule these inspections.

The road leading to the Bypass State 05N66W18 1-23 Pad/Facility and those contained within the pad will be designed and maintained to support fire apparatus and shall be provided with a surface to accommodate all weather driving capabilities. A circular turnaround shall be provided on site that is capable of allowing the turning around of all fire apparatus.

In addition to the above-referenced rules and regulations, PDC is also subject to COGCC Rules and Regulations pertaining to Fire Prevention and Protection.

PDC has support personnel in the field or on call at all times to provide technical assistance in fire prevention and elimination.

The following individuals may be notified at these numbers:

DESIGNATED OPERATOR  
PDC Energy, Inc.

PDC 24 Hour Emergency Hot Line 877-350-0169  
Brian DeRose, Surface Land Supervisor (970) 342-0135

# CITY OF GREELEY LAND USE APPLICATION/USE BY SPECIAL REVIEW

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## (A) GENERAL INFORMATION

The purpose of the Emergency Response Plan is to provide procedures to cover emergency conditions that may arise during the development of oil and gas resources. The procedures contain the policies applicable to facility emergencies.

The following information can be vital during emergencies. It may be used by outside agencies as well as company employees and contract labor to help secure a speedy recovery from an emergency situation:

### PDC Office Address

PDC Energy, Inc.  
1775 Sherman Street, Suite 3000  
Denver, Colorado 80203

### Landman, Operations Manager, Safety Manager

Brian DeRose, Surface Land Supervisor (970) 342-0135  
Paul Montville, Surface Landman (970) 459-7766  
Wes Hudkins, Production Manager (970) 573-0408  
Jason Thron, EH&S Manager (303) 831-3900

### Type of Facility

Oil and Gas Production Facility

### Location

W/2NW Section 18, Township 5 North, Range 66 West, 6<sup>th</sup> P.M.  
Weld County, Colorado

### The location will be accessed as follows:

Traffic for drilling, completions, flowback, and initial production operations will be routed 50% to the north on County Road 25/95<sup>th</sup> Avenue, and routed 50% to the south on County Road 25/95<sup>th</sup> Avenue.

### Operator

PDC Energy, Inc.  
1775 Sherman Street, Suite 3000  
Denver, Colorado 80203  
Brian DeRose, Surface Land Supervisor  
Cell: (970) 342-0135

### Corporate Manager in Charge of Facility

PDC Energy, Inc.  
1775 Sherman Street, Suite 3000  
Denver, Colorado 80203  
Wes Hudkins  
970-573-0408

## CITY OF GREELEY LAND USE APPLICATION/USE BY SPECIAL REVIEW

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### Tank and Piping Inspections

All tanks and above ground piping are visually inspected on a daily basis for leakage, malfunction of seals, and other problems. Inspections of all storage tanks are made by PDC personnel or contractors and reported to its headquarters. All storage tank material and construction comply with API specifications for hydrocarbon storage. All tanks shall be appropriately labeled indicating the material contained within the tank(s).

### Spill Containment

Tank berms are steel berm rings and are sized to contain 150% of the volume of the largest tank in the containment area. The inside of the tank berms are lined with impermeable and sealed material to prevent any leaks from leaving the containment. PDC operators or contract operators are equipped with spill cleanup kits for minor spills. Minor and major spills will be immediately reported to the Operations Superintendent and President of PDC in accordance with the SPCC plan. Berms will be inspected on a weekly basis and within forty-eight (48) hours of a precipitation event.

### Entrance/Exit Driveways

The access to the Bypass State 05N66W18 1-23 Pad/Facility will serve as both the entrance and exit. The fire code official shall have the authority to require an increase in the minimum access widths where they are inadequate for fire or rescue operations.

All access roads with two access points are 24 feet in width, with two (2) permanent access points on County Road 25/95<sup>th</sup> Avenue. Access roads with only one access point are 30 feet in width. The lease access roads will be constructed of a class 6 road base with a minimum depth of 4 inches at 80% compaction and surfaced so as to provide all-weather driving capabilities. The turnaround for the tank battery will be approximately 30 feet on the north side, 60 feet on the east side, 30 feet on the south side and 60 feet on the west side. These dimensions allow for safe access of tanker trucks and emergency equipment. The access road shall be graded to provide simple drainage from the roadway and allow for cross drainage by means of an adequate culvert pipe. The lease road shall be maintained so as to provide a roadway passable for emergency vehicles and shall be generally rut free. Measures will be taken to control mud on local roadways.

Signs will be posted in accordance with the City of Greeley, the Greeley Fire District, and the COGCC.

### Security

All proper warning signs and equipment guards will be installed. At this time there are no plans to have locked security gates. If the need should arise in the future a lockbox with a key will be on location so that the fire district has access in an emergency.

### (B) TRAINING

All facility personnel are trained in the operation and maintenance of equipment to prevent or control spills and are versed in the applicable pollution control laws, rules, and regulations. Company vehicles that visit the location will be equipped with shovels and materials necessary to contain spills.

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## CITY OF GREELEY LAND USE APPLICATION/USE BY SPECIAL REVIEW

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### (C) EMERGENCY CONTACT LIST

Following is a list of PDC personnel and emergency organizations that may be contacted in the event of an emergency occurring at the proposed Bypass State 05N66W18 1-23 Pad/Facility.

All emergencies shall be reported immediately to the appropriate Supervisor. In the event the Manager(s) cannot be reached, any of the following may be notified at their office number during normal working hours or at their home/cell number if during other than normal working hours.

<b><u>Name</u></b>	<b><u>Phone</u></b>
PDC Emergency Hotline	877-350-0169 – 24 Hour
Brian DeRose	(970) 342-0135
<b><u>City and County Agencies</u></b>	<b><u>Emergency</u></b>
Greeley Fire Department	911
Non-Emergency (970) 350-9600	
Greeley Police Department	911
Non-Emergency (970) 350-9600	
To report emergencies, call 911 for fires or spills that cannot be contained by employees.	
Weld County Office of Emergency Management	911
970-304-6540	
Weld County Sheriff Department	911 - Contact as emergencies dictate.
Non-Emergency (970) 356-4015	
Tri-County Health Department	Product or Wastewater Spill
Office: (303)220-9200	
<b><u>State Agencies</u></b>	<b><u>Emergency</u></b>
Colorado Oil & Gas Conservation Commission	As needed
(303) 894-2100	
Colorado Department of Public Health and Environment	As needed
Office: (303) 377-6326	
Emergency: (877)518-5608	
Division of Oil and Public Safety	As needed
Office: (303)318-8547	
Colorado Public Utilities Commission Gas Pipeline	As needed
Safety Division	
Office: (303)894-2851	

## CITY OF GREELEY LAND USE APPLICATION/USE BY SPECIAL REVIEW

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Colorado State Highway Patrol 911  
Non-Emergency (970) 506-4999

<b><u>Federal Agencies</u></b>	<b><u>Emergency</u></b>
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Environmental Protection Agency - Region VIII Emergency Response Number: (303) 293-1788 (24 hours)	As needed
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National Response Center Emergency Response Number: (800)424-8802	As needed
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### (D) EMERGENCY RESPONSE PROCEDURES

PDC has an Emergency Plan. A copy is available at their Headquarters. The Safety Supervisor and the Operations Manager are to assume full responsibility for implementing the Emergency Response Plan. Implementation will depend upon the type of emergency.

### (E) CONTINGENCY PROCEDURES/SPCC PLANS

A Spill Prevention Control and Countermeasure (SPCC) Plan is maintained at PDC's Headquarters. This would be referred to if a major product or produced water release occurs.

### (F) RELEASE OF INFORMATION

Release of information is the responsibility of PDC's Headquarters.

<u>Name</u>	<u>Office Phone</u>
Brian DeRose	(970) 342-0135

## WOGLA Emergency Plan Checklist

Per Weld County Code Sec. 21-5-3320 of the 1041 Weld Mineral Resource Oil and Gas Area (WOGLA) permitting process, both an Emergency Action Plan (EAP) and Tactical Response Plan (TRP) are required for a 1041 WOGLA Permit. The EAP template and the supporting Tactical Response Plan (TRP) also are designed to comply with the Colorado Oil and Gas Conservation Commission (COGCC) FORM 2 A and Rule 602. J Emergency Response Plan, Guidance Plan Elements.

The WOGLA Emergency Response Plan Checklist is for Oil and Gas Operators who use their own document formatting as long as the table of contents and information requested in the EAP template are utilized in the order provided. In addition, an Operator may submit their company Emergency Response Plan with the WOGLA Emergency Action Plan Checklist completed, however, site specific information will still need to be submitted with a TRP.

- Note: Submitting an area-wide ERP will also require site-specific information typically not covered in a company ERP, which focuses on a company's ER management system. Operators will still need to submit site-specific information and a TRP.



## WOGLA Emergency Plan Checklist

		Yes	No	Pg. #	TRP	COGCC Element	
<b>1.</b>							
	a. Approval Signatures					Element 2	
<b>2.</b>	<b>THE PLAN IDENTIFIES THE FACILITY(S)</b>						
	a. The plan includes the Facility Name*					602.j.a. (2)	
	b. The plan includes ingress and egress information					Element 4	
	c. The plan includes the Facility Street Address/Physical Address and GPS Coordinates					Element 3	
	d. The plan includes the Latitude/Longitude for the facility(s)*					Element 5	
	e. The plan lists Emergency Muster/Assembly point(s)					Element 4	
	f. Location of personal/visitor log sign-in sheets, JSA, safety forms					N/A	
<b>3.</b>	<b>THE PLAN IDENTIFIES THE LIST OF COMPANY AND CONTRACTOR EMERGENCY CONTACTS</b>						
	a. <b>Company Contact Information</b> i.) Corporate Contact and Address ( <i>may be in-or-out of state</i> ) ii.) Field Office and Address iii.) On-Call 24/7 Company Emergency Number iv.) EHS Supervisor/Manager v.) EHS Safety Representative/Advisor vi.) EHS Environmental Representative/Advisor					Element 6	
	b. <b>Company Community/Media Relations Contact Information</b>					N/A	
	c. <b>First Responder Contact Information</b> i.) Fire Department serving this jurisdiction ( <i>may require 1-2 Fire Station contacts</i> ) ii.) County Sheriff iii.) Colorado Highway State Patrol ( <i>responsible for Spill/Hazmat</i> ) iv.) Local Police Department					Element 1	
	d. <b>Local, State, and Federal Contacts</b> i.) Weld County O&G Energy Department ii.) Weld County Office of Emergency Management (OEM) iii.) Colorado Oil and Gas Commission (COGCC) iv.) Colorado Department of Public Health & Environment (CDPHE) v.) Colorado Parks and Wildlife (CPW) vi.) National Response Center (NRC)					N/A	
	e. <b>Nearest Medical Facilities/Hospital</b>					N/A	
	f. <b>Spill Response Organization Contact Information</b> i. Contracted Spill Response Company(s) ( <i>HAZMAT Oil Spill Response</i> )					N/A	
	g. <b>Loss of Well Control</b> ii. Contracted Well Control, e.g., <i>Wild Well Control or Boots &amp; Coots</i>					N/A	

## WOGLA Emergency Plan Checklist

			Yes	No	Pg. #	TRP	COGCC Element
	h.	<b>Railroad Emergency Response (If applicable)</b>					N/A
		i.) Union Pacific					
		ii.) BNSF					
		iii.) Great Western Railway/Omni Trax					
	i.	<b>Mutual Aid</b>					Element 7 & 8
<b>4.</b>	<b>THE PLAN IDENTIFIES SITE SPECIFIC INFORMATION</b>						
	a.	Site Description					Element 9, 10, 11
		i. Number of oil and gas wells, storage tanks, and produced water tanks					
	b.	The plan identifies nearby Schools and other High-Occupancy Buildings/Dwellings					Element 9, 10, 11
	c.	The plan lists Site Safety Requirements;					Element 9, 10, 11
		i.) Minimum PPE to enter facility					
		ii.) EHS Statement for contract personnel; understand and abide by Company EHS policies and procedures					
		iii.) Primary Hazards of the Facility location					
	d.	Location of SDS Sheets					N/A
<b>5.</b>	<b>THE PLAN IDENTIFIES MAPS AND DRAWINGS</b>						
	a.	<b>Site Map</b>					Element 9, 10, 11
		i.) Project Area Maps					
		ii.) Project Access Map and Muster Point(s)					
		iii.) Truck Haul Route Map					
		iv.) 2500' (800 meter) Buffer Zone (ERG Evacuation Radius)					
<b>6.</b>	<b>THE PLAN LISTS SPILL RESPONSE CLEAN UP AND REPORTING CRITERIA</b>						
	a.	Spill Response process statement for how the company manages a release/spill during oil and gas production and exploration.					Element 14 & 15
	b.	Spill Reporting process for notifying COGCC, CDPHE, and local authorities ( <i>if applicable</i> )					Element 12 & 13
		i.) Include reporting thresholds (e.g., <i>inside and outside secondary containment</i> )					
		ii.) Reporting timeframe/deadline for initial notification					
		iii.) Company commitment statement for Spill Reporting					
<b>6.</b>	<b>THE PLAN LISTS REPORTABLE STORAGE QUANTITY'S ON SITE</b>						
	a.	Quantity(s) of chemicals stored on site.					Element 11
	b.	Tier II Reporting Requirements; Notes if the facility meets threshold requirements, and date submitted to the State of Colorado each Year (March 1 <sup>st</sup> )					Element 11
<b>7.</b>	<b>EVACUATION INFORMATION</b>						
	a.	Evacuation plan procedures (public)					N/A
		i.) Process for how emergency evacuation, notifications and coordination with local authorities					

## WOGLA Emergency Plan Checklist

			Yes	No	Pg. #	TRP	COGCC Element
<b>8.</b>	<b>EVACUATION INFORMATION</b>						
	a.	Evacuation Plan procedures (public)					N/A
<b>9.</b>	<b>TRAINING AND EXERCISES</b>						
	a.	Statement with commitment the company will schedule training and exercises with County OEM and first responders.					Element 16
<b>10.</b>	<b>COORDINATION WITH FIRST RESPONDER AGENCIES</b>						
	a.	Statement with commitment the company will communicate drill spud, completion operations and Production Turn-In-Line dates to County OEM					Element 1
<b>11.</b>	<b>Plan Review</b>						
	a.	Statement on how the company will coordinate with County OEM and First responders on updating the WOGLA EAP and TRP					602.j.a. (2)
	b.	Operator has coordinated with local Fire Districts on applicable jurisdictional fire codes					N/A

## Weld County WOGLA EAP Template

Per Weld County Code Sec. 21-5-3320 of the 1041 Weld Mineral Resource Oil and Gas Area (WOGLA) permitting process, both an Emergency Action Plan (EAP) and Tactical Response Plan (TRP) are required for a 1041 WOGLA Permit. The EAP template and the supporting Tactical Response Plan (TRP) also are designed to comply with the Colorado Oil and Gas Conservation Commission (COGCC) FORM 2 A and Rule 602. J Emergency Response Plan, Guidance Plan Elements.

The EAP is designed to assist local agencies with critical information that may aid first responders and company personnel during an emergency. Local agencies may include but are not limited to, fire department(s), emergency medical service(s) (EMS), law enforcement agencies (LE), and City or County Office of Emergency Management (OEM). State and Federal agencies consisting of COGCC, Colorado Department of Public Health and Environment (CDPHE), and the Environmental Protection Agency (EPA), may also reference the EAP.

The intent of the WOGLA EAP is for emergency planning between Local agencies and Oil and Gas Operators. If applicable, all fire code requirements shall be coordinated with the fire district having jurisdiction. As the final approval signatory, Weld OEM will not delay signing an EAP due to fire code related issues or concerns. Weld County encourages Oil and Gas Operators to work with the local fire districts to ensure they are meeting their adopted fire codes and if applicable, their local jurisdictions permitting requirements.

### **WOGLA EAP and TRP Instructions**

Upon submission of your WOGLA permit, submit the completed following Emergency Planning documents:

- Site-specific Emergency Action Plan (EAP) & site-specific Tactical Response Plan (TRP) for the phases of oil & gas construction and development, up to transitioning to production.
  - Once the facility has transitioned into production, the operator is required to implement and utilize an area-wide company ERP for all-hazards emergencies.
  - In alignment with COGCC guidelines 602ja, (sec. 1-2), facilities which are in production, shall submit an area-wide plan annually if there are changes in contact information or change in response strategy.

WOGLA Emergency Response Plan Checklist; Oil and Gas Operators may use their own formatting as long as the table of contents and information requested in this template are utilized in the order provided. In addition, an Operator may submit their company Emergency Response Plan with the WOGLA Emergency Action Plan Checklist completed, however, site specific information will still need to be submitted with a TRP.

- Note: Submitting an area-wide ERP will also require site-specific information typically not covered in a company ERP, which focuses on a company's ER management system. Operators will still need to submit site-specific information and a TRP.

The WOGLA EAP and TRP permitting requirement also satisfies the Colorado Oil & Gas Conservation Commission (COGCC), *Rule 304.b.(8) Emergency Response Plan, Form 2 A and Rule 602. J Emergency Response Plan Guidance.*

# **SITE SAFETY AND EMERGENCY ACTION PLAN**

**PDC Energy, Inc.**



**District Office**

**1775 Sherman Street, Suite 3000**

**Denver, Colorado 80203**

**Bypass State 05N66W18 1-23 Pad**

**Address: TBD**

**Weld County, Colorado**

**Proposed Spud Date: 3rd Quarter 2023**

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**SECTION 1 – APPROVAL SIGNATURES**

**Instructions:** Company Representative to sign with concurrence review by local Fire District in alignment with COGCC FORM 2 A and Rule 602. J Emergency Response Plan, Guidance Plan Element 2.

PDC Energy, Inc.			
Name	Signature	Title	Date
Fire District			
Name	Signature	Title	Date

Weld County Office of Emergency Management

*Digitally Signed*



## **SECTION 2 – SITE ADDRESS AND DIRECTIONS**

**a) Directions:**

**From The North:**

From the intersection of State Hwy 34 Bypass and 95<sup>th</sup> Avenue, drive South .25 miles, turn East onto facility access road and drive .1 miles East into location.

**From the South:**

From the intersection of Weld County Road 54 and Weld County Road 25, drive North on WCR 25 (which becomes 95<sup>th</sup> Avenue) 1.7 miles, turn East onto facility access road and drive .1 miles East into location.

**b) Ingress and Egress information:**

All traffic into and out of the BYPASS 05N66W18 1-23 PAD will check-in and check-out with security. All ingress and egress routes will be clearly identified and kept clear from parked/staged vehicles at all times.

**c) Physical Address and GPS coordinates**

- **API#** – Pending COGCC Permit Approval
- **Legal Description** – Weld County, Colorado Parcel #095918200009, Lot 2, West Half of the Northwest Quarter, Section 18, Township 5 North, Range 66 West, 6<sup>th</sup> P.M., County of Weld, State of Colorado.
- **Address** - \* Address Pending (*Weld OEM will provide physical address for 911 dispatching*)
- **Town, CO, Zip** – Greeley, Colorado 80634
- **Lat/Long:** Lat: 40.401409°N Long: -104.828457°W

**d) Emergency Evacuation/Muster Assembly point(s)**

For incidents were remaining in a particular area could pose a hazard to personnel onsite, such as a fire or hazardous material release, evacuation may be required to ensure the safety of onsite personnel. In the event of an emergency, site personnel will initially be evacuated to pre-designated muster assembly points.

- The Muster assembly point is identified on the Facility Access and Muster Point map in this plan, and noted on the site-specific TRP.
- The Muster assembly points will be identified during all site safety briefings for visitors, employees, and contract personnel.
- **Sign-In Sheets:** During drilling and completion activities all employees and approved visitors to the **BYPASS STATE 05N66W18 1-23 PAD** will be required to enter through a manned security checkpoint. Upon checking in, employees and visitors will be provided a detailed safety briefing of current operations, all safety precautions that must be adhered to, and the site emergency evacuation plan. In addition, all personnel who enter the location must sign-out upon their departure. Security or Supervisory personnel are required to account for all persons entering or leaving during active operations and in the event of an incident.
- Once drilling and completion activities are finalized, the site will transition to its production phase and no unauthorized personnel will be allowed on location without first contacting a company representative.

**SECTION 3 – LIST OF EMERGENCY CONTACTS****a) PDC Energy, Inc.**

<b>Name</b>	<b>Office Phone</b>	<b>Emergency/Cell</b>
Corporate Office: 1775 Sherman Street Denver, CO 80203	303-860-5800	877-350-0169
Field Office: 4000 Burlington Avenue Evans, CO 80620	970-506-9272	877-350-0169
Energy Company EHS on-call Emergency Number	970-506-9272	303-831-3900
EHS Supervisor: Jason Thron	970-506-9272	303-831-3900
EHS: Safety	970-506-9272	303-831-3900
EHS: Environmental	970-506-9272	303-831-3900

**b) PDC Energy, Inc. Community/Media Relations**

<b>Name</b>	<b>Office Phone</b>	<b>Cell Phone</b>
Courtney Loper	303-831-3997	303-378-4322

**c) First Responders (Fire, EMS, HazMat)**

<b>Name</b>	<b>Emergency Number</b>	<b>Non-Emergency Number</b>
<b>*All emergency notifications require notification to 911 first</b>		
Greeley Fire Department	911	970-350-9600
Greeley Police Department	911	970-350-9600
Weld County Sheriff	911	970-356-4015
Colorado State Patrol	911	970-506-4999

**d) Local, State, and Federal Contacts**

<b>Name</b>	<b>Emergency Number</b>	<b>Non-Emergency Number</b>
Weld County Oil and Gas Energy Department	None	970-400-3580

Weld County WOGLA EAP Template

Weld County Office of Emergency Management	None	970-304-6540
COGCC	None	303-894-2100
CDPHE	None	303-692-2000 800-886-7689
Colorado Parks & Wildlife	None	303-291-7227
National Response Center	800-424-8802	None

e) **Medical Facilities** *(Nearest locations to site)*

Name	Office Phone
UC Health Greeley Hospital	970-652-2000
Medical Center of the Rockies	970-624-2500
Northern Colorado Medical Facility (Burn Unit)	970-810-4121

f) **Spill Response Organization** *(Contracted)*

Name	24/7 Emergency Number	Non-Emergency Number
Tasman Geosciences	303-487-1228	303-487-1228

g) **Loss of Well Control**

Name	24/7 Emergency Number	Non-Emergency Number
Wild Well Control, Inc. (Contracted Well Specialist)	281-784-4700	81-784-4700

h) **Railroad Emergency Response** *(if applicable)*

Name	24/7 Emergency Number
Union Pacific Railroad	888-877-7267

i) **Mutual-Aid –**

All mutual-aid coordination within Weld County will be in accordance with the current Weld County Fire Chiefs Association Mutual-Aid Agreement. In addition, due to the size of Weld County and the large number of Fire Departments that make up the Weld County Fire Chiefs Association's, Mutual-Aid may be a mixture of full-time, combination, and volunteer FD resources responding to an incident at BYPASS STATE 5N66W18 1-23 PAD.

## **SECTION – 4 SITE SPECIFIC INFORMATION**

**a) Site Description**

The BYPASS STATE 5N66W18 1-23 PAD is a PDC Energy, Inc. oil and gas production facility that will have twenty-three (23) horizontal oil and gas wells along with six (6) temporary 500-barrel crude oil storage tanks, two (2) temporary 400-barrel produced water tanks, two (2) permanent 500-barrel maintenance tanks, two (2) permanent 400-barrel water tanks and one (1) permanent partially buried water vault located inside a lined secondary containment structure.

As part of the Weld County 1041 WOGLA permit process, the following sections of County Code address site layout, site drawings, and identify any sensitive areas and discuss any mitigation measures needed.

- Sec. 21-5-312 – Comprehensive Development Plans (CDPs)
- Section 21-5-320 – Application requirements for 1041 WOGLA Permit

**b) Nearby Schools, High Occupancy Buildings, Waterways**

- Schools - None within 5,280' of location.
- High Occupancy Buildings - None within 4,200' of location.
- Waterways – Ditch 374' East, Ditch 551' West.

**c) Site Safety Requirements and General Safety Information**

The minimum personal protective equipment (PPE) to enter any PDC production location includes hard hat, safety glasses, safety toe boots, fire resistant clothing (FRC), and a 4-gas personal monitor. All contractors and visitors are responsible for providing their employees with the appropriate training on and use of PPE while on any PDC location. In addition, all contract personnel entering a PDC location to perform work must understand and abide by PDC's contractor expectations relating to environmental, health, and safety requirements.

The primary hazards that any person must be aware of while on a PDC production location include, but are not limited to, the potential for release of hydrocarbon gases and/or liquids from production equipment/tanks, heavy truck and equipment traffic, loud noise, high pressures, and the potential for a flash fire. These hazards can vary depending on the work being performed.

**d)**

**SDS:** Depending on the operations taking place on location, chemicals stored on-site may vary. In accordance with 49 CFR 1910.1200, Safety Data Sheets (SDS) will be made available for site personnel performing work and for first responders in a centralized location onsite.

e) **Equipment List**

Item Description	Quantity
Horizontal oil and gas wells	23
500-barrel Temporary Crude Oil Storage Tanks	6
400-barrel Temporary Produced Water Storage Tanks	6
500-barrel Long Term Maintenance Tanks	2
400-barrel Long Term Water Storage Tanks	2
Long Term Partially Buried Water Vault	1

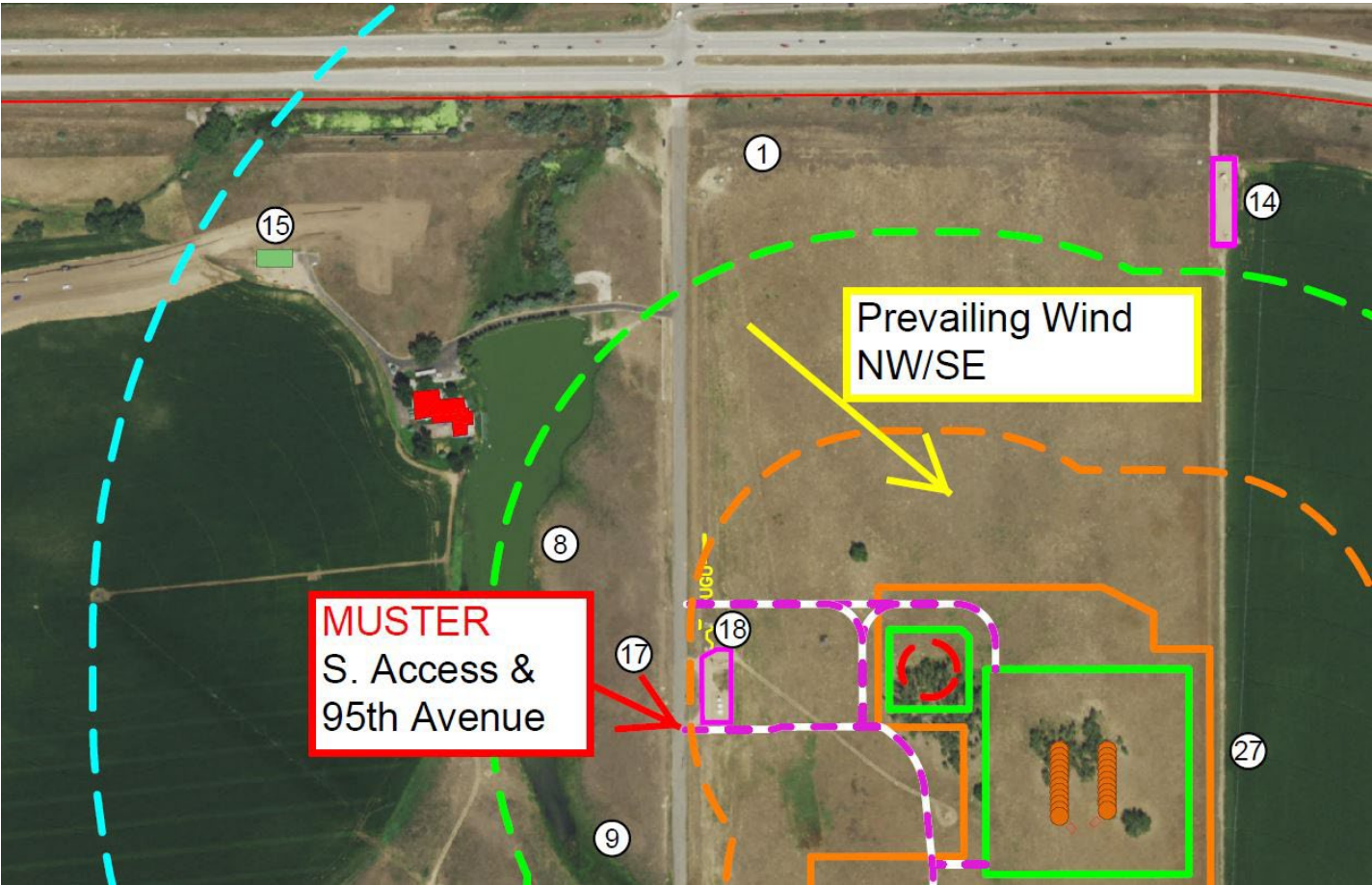
f) **Chemicals stored on-site (BBLs and Gallons)**

<b>Drilling</b>	Mud Tanks	1800 BBLs x 6 Tanks
	Fuel Tanks	20 BBLs x 2 Tanks
	Boilers	NONE
<b>Completions</b>	Frac Tanks	1500 BBLs x 3
	Chemical Tanks	NONE
<b>Flowback</b>	Open Tanks	1500 BBLs x 3 Tanks
	Sealed Tanks	500 BBLs x 1 Tank
<b>Production</b>	Crude Oil Tanks	500 BBLs x 8 Tanks
	Produced Water Tanks	400 BBLs x 2 Tanks
	Maintenance Tanks	500 BBLs x 2 Tanks

### Project Area Map 500', 1,000', 2000' Buffers



Project Location Access Map and Muster Point



Haul Route Map





## 2500 Foot Buffer Area Map



## **SECTION 6 – SPILL RESPONSE AND CLEAN-UP**

### **a) Spill Response**

There are multiple types of hydrocarbons and or chemicals stored onsite which can be released/spilled during oil and gas production and exploration. Most commonly released are unrefined products such as crude oil and produced water. Refined petroleum products such as diesel, gasoline, produced oils and motor oil spills are less common, but still equally important to mitigate. If a spill is discovered, it will be mitigated in accordance with Colorado Oil and Gas Conservation Commission (COGCC), Colorado Department of Public Health and Environment (CDPHE), and Weld County LEPC requirements.

Once a release has been discovered, it will be immediately stopped and contained if possible and is safe to do so. When containing a spill; a combination of sorbent rolls, pads, mats, socks, or containment boom may be deployed, or earthen berms will be constructed around the release to keep spilled material contained and from spreading. These materials will be provided by PDC and/or the contract company and kept on-site during all construction phases. During a spill, efforts will be made to minimize contact with live vegetation, nearby drainage, rivers, creeks, or streams. If the release is outside of secondary containment or poses a threat to flow off site, or impact environmentally sensitive areas, the spill response contractor should be notified for cleanup assistance, if needed, and for removal and disposal of spilled materials and contaminated areas.

In the event of a large incident requiring outside assistance/cascading resources, PDC has contracted with a Tasman Geosciences. Tasman Geosciences possesses a working knowledge of oil and gas operations, emergency response and the Incident Command System (ICS). Once notified Tasman Geosciences personnel can be on location within 12 hours.

### **b) Spill Reporting**

The person reporting a spill may be required to supply the minimum spill assessment information to provide as a complete understanding of the incident as possible to local, state, or federal agencies if applicable. Some initial spill response actions and information that may be reported are presented below:

- A spill/release will be reported to the COGCC if released material is property of PDC and meets the COGCC reporting thresholds (see below), an example would be crude oil released from a separator or produced water from a water vault.
- A spill/release will be reported to the Weld County LEPC if released material is property of PDC and meets the COGCC reporting thresholds (see below) Mandated by Section 304 of the Emergency Planning and Community Right-To-Know Act (EPCRA).

A spill/release will be reported to the CDPHE if released material is in the custody of a third party for spills meeting CDPHE reporting thresholds or are of any size that impact or threaten to impact waters of the state, a residence or occupied structure, livestock or public byway. An example would be an oil hauler over filling a truck and spills product onto the ground next to a flowing irrigation ditch.

Spills are reportable to the COGCC and/or to Weld County LEPC in the following circumstances:

- A. The spill or release impacts or threatens to impact any waters of the state, a residence or occupied structure, livestock, or a public byway.
- B. Spill or release in which 1 barrel or more is released outside of berms or other secondary containment.
- C. Any spill or release of 5 barrels or more. If the spill impacts or threatens to impact waters of the state (which include surface water, ground water and dry gullies or storm sewers leading to surface water), it must also be reported immediately to CDPHE (25-8-601 CRS). Petroleum releases of 25 gallons or more.

Once a spill is determined reportable, there is a 24-hour deadline to make initial notification to the COGCC/LEPC or CDPHE depending on the product ownership. Spills/releases in the custody of PDC will be reported by a Company representative. Spills/releases in the custody of a third party will be reported by the responsible company's EHS Department to the appropriate agency and to PDC.

These regulatory guidelines will be strictly followed by PDC and any contractors operating under PDC guidance during all activities at the **BYPASS STATE 5N66W18 1-23 PAD**.

## **SECTION 7 – REPORTABLE QUANTITIES**

### **a) Reportable Quantities**

Mandated by Section 312 of the Emergency Planning and Community Right-To-Know Act (EPCRA) – also known as SARA Title III – the Tier II form captures information about the types, quantities, and locations of hazardous chemicals at a given facility. The form also lists contact information for the facility's designated emergency point-of-contact.

- Any facility that is required to maintain MSDSs (or SDSs) under the Occupational Safety and Health Administration (OSHA) 49 CFR 1910.1200 regulations for hazardous chemicals stored or used in the workplace.
- Facilities with chemicals in quantities that equal or exceed the lists of lists thresholds must report.
- Propane, benzene, propane and methane are on the lists of lists and are known to be in crude oil. In addition, diesel is on the lists of lists and may be stored on oil and gas sites during construction and development.

### **b. Reportable Requirements**

Instructions: If your facility will meet the requirements under 40 CFR Part 370, you must submit your Tier II report to the State of Colorado every year before March 1<sup>st</sup>.

These regulatory requirements will be strictly followed by PDC and any contractors operating under PDC during all activities at the **BYPASS STATE 5N66W18 1-23 PAD**.

## **SECTION 8 – EVACUATION INFORMATION**

### **a. Evacuation Plan Procedures (public)**

The procedure to be used in alerting the public in the event of an incident which could pose a threat to life or property will be arranged and coordinated with first responders and Weld County Emergency Management.

In the event of an actual emergency, the following steps will be immediately taken:

1. The PDC representative will immediately notify first responders (911), to warn the public of a potential chemical exposure.
2. First responders may conduct door to door evacuation notices in addition to reverse 911 and utilizing the Integrated Public Alert and Warning System (IPAWS).
3. The Energy Company responsible for employees and contract personnel will monitor essential and non-essential personnel traffic on or near the incident site.
4. General:
  - a. The area included within the radius of exposure is considered to be the zone with the maximum potential hazard, per the Emergency Response Guide (ERG). When it is determined that conditions exist which create an additional area (beyond the initial zone of maximum potential hazard) vulnerable to possible

hazard, public areas in the additional hazardous area will be evacuated.

- b. In the event of an incident, after the public areas have been evacuated and traffic stopped, it is expected that local civil authorities will have arrived and within a few hours will have assumed direction of and control of the public, including all public areas.
- c. PDC will cooperate with these authorities to the fullest extent and will exert every effort by careful advice to such authorities to prevent panic or rumors.

PDC will dispatch appropriate personnel to the disaster site as soon as possible. The company's personnel will cooperate with and provide such information to civil authorities as they might require.

## **SECTION – 9 TRAINING AND EXERCISES**

TRAINING: The National Incident Management System (NIMS) guides all levels of government, nongovernmental organizations and the private sector to work together to prevent, protect against, mitigate, respond to and recover from incidents.

NIMS provides stakeholders across the whole community with the shared vocabulary, systems and processes to successfully deliver the capabilities described in the National Preparedness System. NIMS defines operational systems that guide how personnel work together during incidents.

PDC plays a vital role in the Incident Management System. PDC has a significant impact on local, regional, and national economic recovery, and is part of the whole community and essential to the function of the Community Lifelines.

To maximize PDC's impact and willingness to participate in incident operations, PDC will coordinate and integrate with first responders into a Unified Command (UC) on an as needed basis — including but not limited to planning, training, and preparedness exercises. In addition, it is also recommended all PDC employees who will respond to an incident have training in ICS 100, ICS 200, and ICS 700 at a minimum, for company and agency emergency response interoperability to manage a response.

EXERCISES: Exercises are an important component to test an organization's response readiness, training and familiarity with various emergency response scenarios, participation and engagement with local and or state agencies, and to develop lessons learned to improve emergency response capabilities. Per COGCC guidance number 16, a proposed schedule and type of exercises are provided below:

## **SECTION – 10 COORDINATION WITH FIRST RESPONDERS**

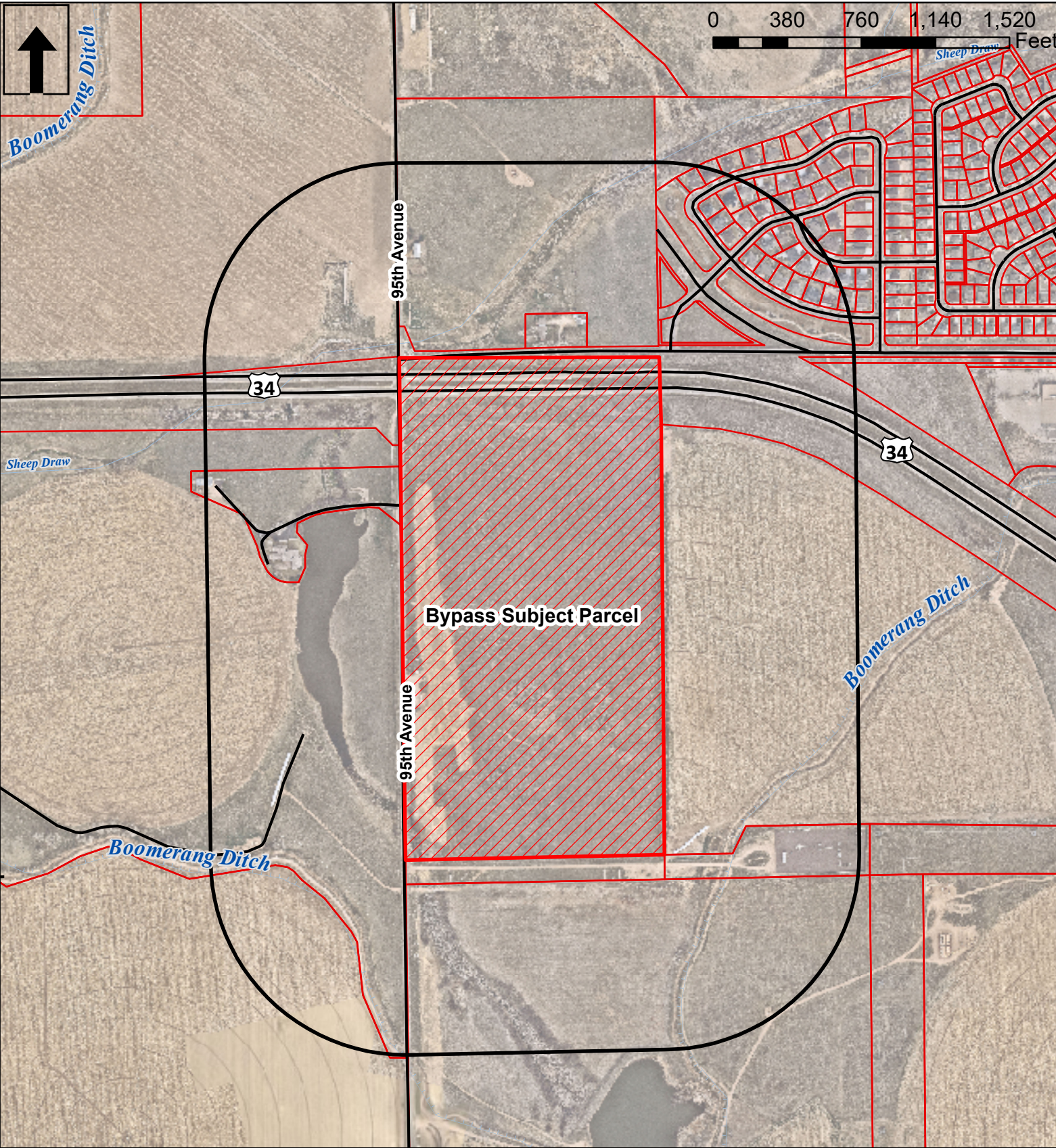
- a) PDC will communicate site construction, drill spud, completion operations and Production Turn-In-Line dates to the Weld County Office of Emergency Management for coordination/communication with local first responders. These start dates will be provided a minimum of 7 business days prior to commencement or change in oil and gas development operations.
- b) In the event of an emergency requiring First Responders, Unified Command will be established between the PDC appointed company man on location and First Responders present. Unified Command post will be established based on conditions present at time of incident.
- c) PDC EHS representative and first responders identified in this Emergency Action Plan and Tactical Response Plan have reviewed both documents and have discussed coordination efforts in the event of an emergency situation requiring first responder assistance.
- d) **Industry Mutual-Aid:** Energy companies operating in Weld County are encouraged to be members of the Colorado Preparedness Response Network (CPRN), to support mutual-aid collaboration between industry and public emergency response organizations to achieve a coordinated and effective response to an all-hazards event.

### **SECTION – 11 Plan Review and Update Procedures**

- a) Multi-year plan review and update:  
After development operations are complete and the wells are in production, the Bypass State location will fall under PDC's Basin Wide Emergency Response Plan. This plan is reviewed annually and updated accordingly.
- b) Post incident plan review and update:  
Any reportable or recordable incident that occurs within this area will be recorded with PDC's internal incident reporting system. These incidents will be reviewed by PDC management to identify areas of improvement or updates.



Attachment H - Bypass Oil & Gas Well and Production Facility Noticing Boundary Map



-  Greeley Parcels
-  Bypass Subject Parcel



COMMUNITY DEVELOPMENT