Chevron Rockies Business Unit
Noble Energy, Inc.
1625 Broadway Ste 2200
Denver, Colorado, 80220

COGCC Wildlife Protection Plan- Wells Ranch Comprehensive Drilling Plan OGDP 1- A07-08 Production Facility Pad

Per Colorado Oil and Gas Conservation Commission (COGCC) 300 Series and 1200 Series Rules for the protection of wildlife and habitat, Chevron/Noble (Noble) is presenting this Wildlife Protection Plan (WPP) for the proposed Wells Ranch Comprehensive Drilling Plan (CDP) and Oil and Gas Development Plan 1 (WR OGDP 1) and specifically the A07-08 Production Facility Pad, presented as Figure 1. WR OGDP 1 includes four separate drill pads reporting to a centralized production facility and lies within T6N, R64W, Section 7 (NW/NW, NE/NE, SE/NE and SE/SE) and Section 18 (NE/SE). The evaluations herein are submitted in support of the COGCC 2A permitting process and specifically the A07-08 Facility Pad, pursuant to Rule 304.c.(17) Wildlife Protection Plan, and Rule 1201.a for an Oil and Gas Location outside of High Priority Habitat (HPH). It should be noted that figures supporting this WPP are schematic representations used for approximate presentation of environmentally sensitive habitat in the project area, and that full design drawings should be referenced for detailed location placement and analysis.

Operating Requirements

Pursuant to Rule 1202.a, Noble commits to the following Operational Requirements in protection of the WR OGDP 1, A07-08 Facility Pad environment.

- Black Bear Habitat 1202.a.(1)- The proposed A07-08 Facility Pad is not within black bear habitat.
- Water Transportation 1202.a.(2)- Noble will follow appropriate protocols for disinfecting water collection and transportation equipment and thereby protecting any surface water sources utilized by Noble operations.
- Refueling/Chemical Storage Areas 1202.a.(3)- Willow Creek, Greeley #2 Canal and their associated fringe-wetlands are located in the immediate area of the A07-08 Facility Pad (Figure 2). As described below under Environmental Review, a Professional Wetland Scientist (PWS) provided full hydrologic review of surface waterway, wetlands, irrigation channel, and riparian areas potentially impacted by the A07-08 pad construction and operations (full reporting is attached to this plan). Based on this detailed review, Noble may be situating new staging, refueling, or chemical storage areas within 500 feet of the Ordinary High-Water Mark (OHWM) of the Greeley #2 Canal.
- Wildlife Exclusions 1202.a.(4)- Noble will implement appropriate wildlife exclusion devices for facility production operations. Noble will not construct or utilize drilling pits or production pits on location.

The following wildlife exclusion devices will be installed:

- Fencing may be installed and maintained around the pad perimeter following drilling and completion activities and in coordination with surface landowner preferences
- Netting will be installed and maintained on all small-volume secondary containment structures that may hold precipitation and liquids
- Drip pans will have functional lids and be kept closed
- Bird exclusion devices will be installed on the vent stacks for all separation and combustion devices
- All produced water and fluid collection vessels will be close-topped, and all access ports will be sealed or netted
- Administrative Controls- daily inspections and good housekeeping practices will be followed for early prevention/detection of wildlife-related issues

- Trenching 1202.a.(5)- Any flowline/pipeline trenches left open for more than five consecutive days will have wildlife escape ramps at a minimum of one ramp per ¼ mile of trench.
- Reclamation and Seed Mix 1202.a.(6)- While conducting interim and final reclamation activities (pursuant to 1000 Series Rules), Noble will use CPW-recommended seed mixes when consistent with the Surface Owner's approval and any Soil Conservation District requirements.
- Fencing 1202.a.(7)- Noble will use CPW-recommended fence designs when consistent with the Surface Owner's approval and any relevant Local Government requirements.
- Migratory Birds 1202.a.(8)- Noble will conduct all vegetation removal necessary for Oil and Gas Operations outside of the established nesting season for migratory birds (April 1-July 31). For any vegetation removal activities performed between April 1 and July 31, Noble will conduct pre-construction nesting surveys within the proposed disturbance area prior to vegetation removal. Should active nests be located, Noble will establish appropriate work zone buffers.
- West Nile Virus and Mosquito Larvae Control 1202.a.(9)- Noble will not utilize drilling or production pits. All facility vessels will be closed topped.
- 1202.a.(10) Best Management Practices for activities in Proximity to Aquatic HPH 1202.c.(1).Q-S- Noble has not proposed any activities within 500-1000 feet from Aquatic HPH areas for the WR OGDP 1 development.

Additional Committed BMPs

- Best Management Practices- The following additional BMPs are committed under this Wildlife Protection Plan and are standard Noble processes for new development.
  - Noble will pre-clear all proposed disturbances according to CPW guidance meeting Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA) and Endangered Species Act (ESA) laws in protection of active nesting activities, observe CPW/USFWS requested protected buffers for active nesting species, and consult with CPW/USFWS as warranted.

- Noble will install and maintain bird-deterrent devices on all open-vent exhaust stacks on production equipment to discourage perching, roosting and nesting activities.
- Will employ Noble's Stormwater Management Program to protect soil resources, minimize erosion, identify pollutants, apply pollutant control measures, and conduct regular inspections.
- All interim and final reclamation areas will be contoured and re-vegetated to a stable condition to restore natural habitats for wildlife species.
- Noble will meet weed management targets during construction, drilling, production and reclamation lifecycles.
- Noble commits to employ Noise, Light, Dust and Odor mitigation efforts meeting COGCC Series 400 Rules in the protection of Wildlife Resources. A general summary of wildlife BMP commitments under the Series 400 aesthetic rules and incorporated by this WPP include:

    - Prior to the commencement of Production Operations, Noble will take all necessary and reasonable precautions to ensure that lighting, dust, noise and odor from the Oil and Gas Location does not unnecessarily impact the health, safety, and welfare of Wildlife occupying any High Priority Habitat within 2,000 feet of the Oil and Gas Location. For permanent facilities this includes:
        - Identify permanent and temporary housing of resident wildlife and ensure locations are recorded in wildlife reports kept in-house by HSE
        - Conduct a daily walkthrough of the location to ensure no wildlife have built nest(s) in/around lighting or noise sources. If nest(s) are found, HSE reporting will be issued to appropriate personnel to either remove the nest and/or temporarily abandon the lighting source until nest is abandoned.
    - Inform and educate all field employees and contractors on wildlife conservation practices, including no harassment or feeding of wildlife.
    - Utilization of telemetry equipment for remote monitoring to limit in-person visitation by production operations personnel.
- Institute the Noble safety program meeting Operational Excellence Management System initiatives and "Stop Work" authority.
- Construct pipeline infrastructure to provide takeaway of oil, natural gas, and fresh and produced water from the CDP development, eliminating truck traffic and emissions associated with hauling product from the oil and gas development and limiting vehicle/wildlife interactions.
- Any encroachment of wetlands or active water ways potentially considered Waters of the United States (WOTUS) will be reviewed and/or protected under USACE Nationwide or General Permit processes.

Environmental Review

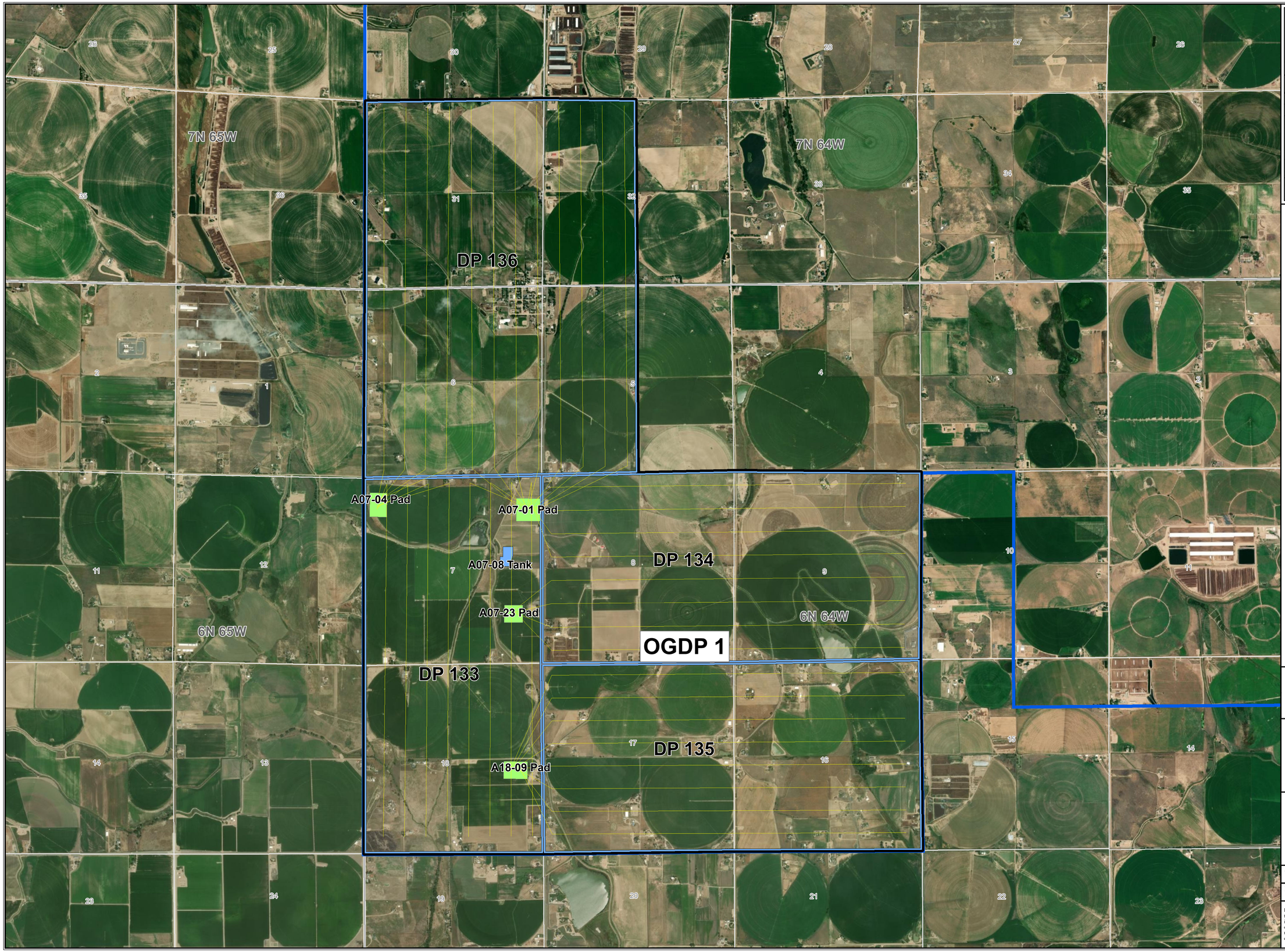
Noble's WR OGDP 1 will include four drill pads and one production facility. The development does not encroach upon any 1202.c. or 1202.d. HPH, and Willow Creek and the Greeley #2 Canal irrigation structure are within the proposed development area, as depicted on Figure 2. Potential environmental constraints for the project include these water-way structures, their associated wetland areas, and the FEMA 100-year Floodplain associated with Willow Creek.

Hydrologic field review by SWCA Environmental Services Professional Wetland Scientist (PWS) was performed the week of November 1st, 2021. Survey activities were performed based on existing hydrologic features identified in the field including National Wetland Inventory (NWI)-mapped wetlands and National Hydrography Dataset (NHD) delineations, and the features presented on the A07-09 Facility Pad Hydrology Map submitted with the 2A packet. As depicted on Figure 3, SWCA confirmed that the Greeley #2 Canal and its defined Ordinary High-Water Mark (OHWM) is located ±174 feet west of the proposed pad surface; no associated fringe wetland was delineated on the immediate channel bank and no hydric soils were present. The Willow Creek/Greeley #2 Canal FEMA 100-year Floodplain is ±46' west of the proposed pad and extends north to south. The freshwater pond ±75' to the northwest does contain OHWM and wetland habitat. Intermittent streambed wetlands approximately ±177' west were inundated and the outfall ditch structure ±176' west has an OHWM and appears to discharge directly from the Greeley #2 Canal. No other associated wetlands, water features or hydrophytic plant or soil indicators were identified within 500' of the pad area or within the proposed pad disturbance footprint.

The recent hydrology field investigation suggests that per Rule 1202.a.(3) facility pad placement, construction, and production operations could potentially impact the Greeley #2 Canal, freshwater pond and FEMA 100-year floodplain west of the proposed pad and within 500' of the pad surface (Figure 3). Noble commits to obtaining CPW Waiver approval for A07-08 Facility Pad construction and to institute the following BMPs to be protective of the canal, pond, wetland/outfall and floodplain.

- Noble will construct the A07-08 facility pad with 4-6" of clay and 3-5" of road-based cuttings;
- All surficial activities performed by Noble during facility construction and operation activities will be protective of the environment. Bulk liquids used or stored during facility production activities including chemical injection skids, condensate blowdown tanks, and the maintenance tank will be underlain by an impervious liner and secondary containment system capable of containing any spill or leak from that vessel;
- Telemetric and automation technology will be utilized to monitor any variations in facility pressures and fluid gauges which could indicate a leak and provide remote shut-in capabilities of the facility in the event of any discharge or emergency;
- The facility pad will be engineered with a permanent, raised earthen berm along the entire western pad edge to protect the FEMA Floodplain, Greeley #2 Canal, and freshwater pond from any fluid-upset condition. Structural controls within the remainder of the pad perimeter will ensure flow off the pad to the perimeter channel and into a detention-pond structure at the southwestern pad edge, further protecting downgradient surface water features.

Flowline installation between the northern A07-04 and A07-01 drill pads, and between the southern A18-09 drill pad and the A07-08 centralized production facility pad will be subsurface-bored underneath Willow Creek (and its associated FEMA Floodplain) and the Greeley #2 Canal, respectively. The remaining flowline installation will avoid impact to any sensitive water way, floodplain, or wetland.



Legend

- Oil & Gas Development Plan
- Wells Ranch CDP
- Well Pad
- Planned Wells
- Township/Range
- Sections

noble energy

N
W E
S

0 0.175 0.35 0.7

Miles

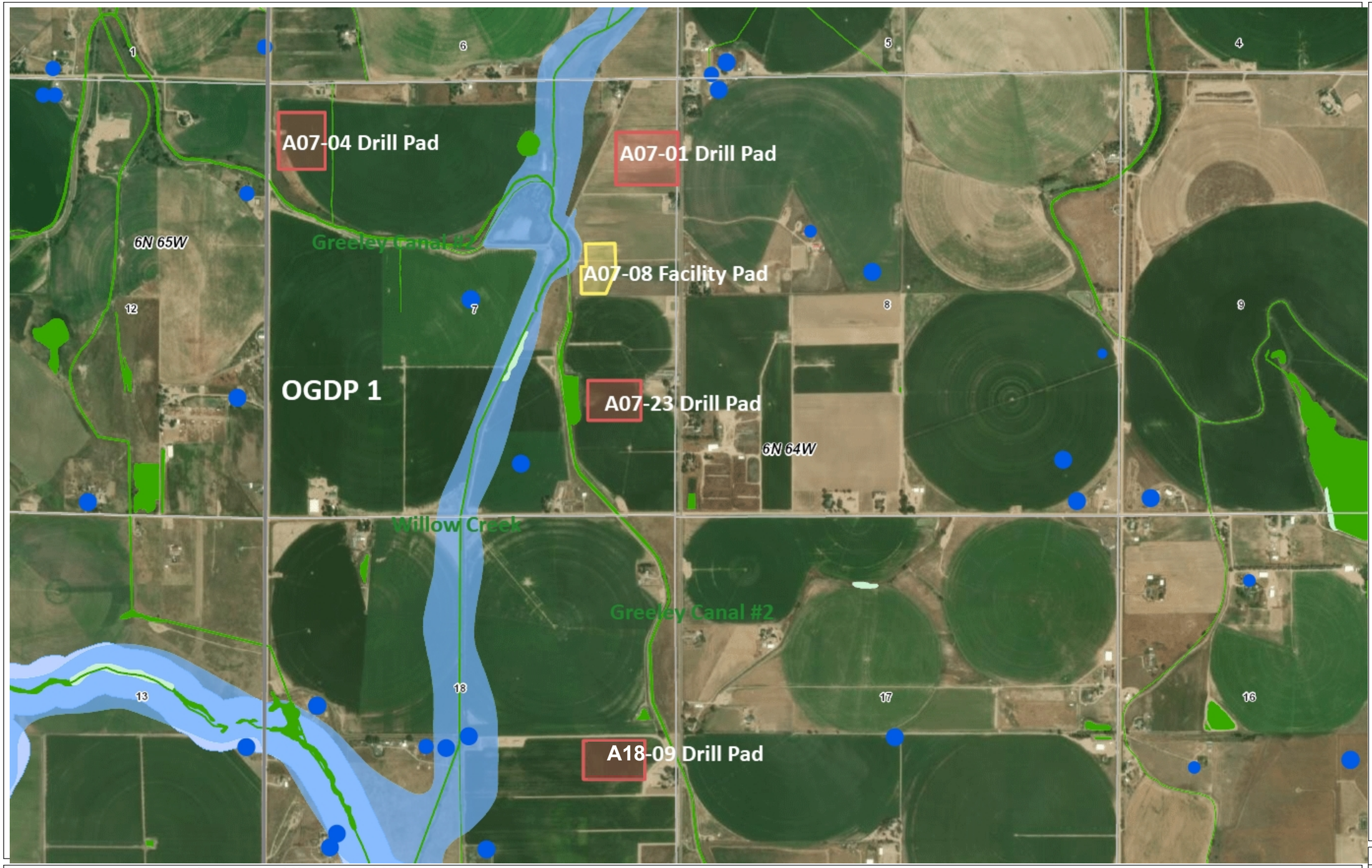
Wells Ranch CDP OGDP 1

Weld County, Colorado

CSR:	NAD 1983 UTM Zone 13N		
Revised by:	jacobfrost	Date:	2/26/2021

\\gis\Noble\Land_Admin_GIS\PROJECTS\DJ\OPERATIONS\GISREQ_1669_WellsRanchCDP_Facilities\MXD\WellsRanchCDP_OGDPs_imagery.mxd

FIGURE 2 - Chevron RBU Wells Ranch CDP- OGDP 1



PLSS Townships
PLSS Sections
GRB Proposed DSU
Contested
Water Wells- feet below ground surf
0 - 25 ft
25 - 100 ft
100 - 200 ft
200 - 400 ft
> 400 ft
USFWS Wetlands
USFWS Riparian Areas
FEMA 100 yr Floodplain
Facilities
Gathering
Bald Eagle Nest Sites 10/7/19
Bald Eagle Roost Sites 10/7/19
Bald Eagle WCA 10/7/19
Bald Eagle Winter Forage
Cutthroat Trout Designated Crucial Habitat 5/21/20
Aquatic Sport Fish Management Waters 5/21/20
Aquatic Native Species Conservation Waters 5/21/20
Pronghorn Migration Corridors 10/7/19
Pronghorn Severe Winter Range 10/7/19
Pronghorn Winter Concentration 10/7/19
Pronghorn Winter Range 10/7/19
Mule Deer Severe Winter Range 10/7/19
Mule Deer Winter Concentration Area 10/7/19

1 : 18,056

0.6 0 0.28 0.6 Miles

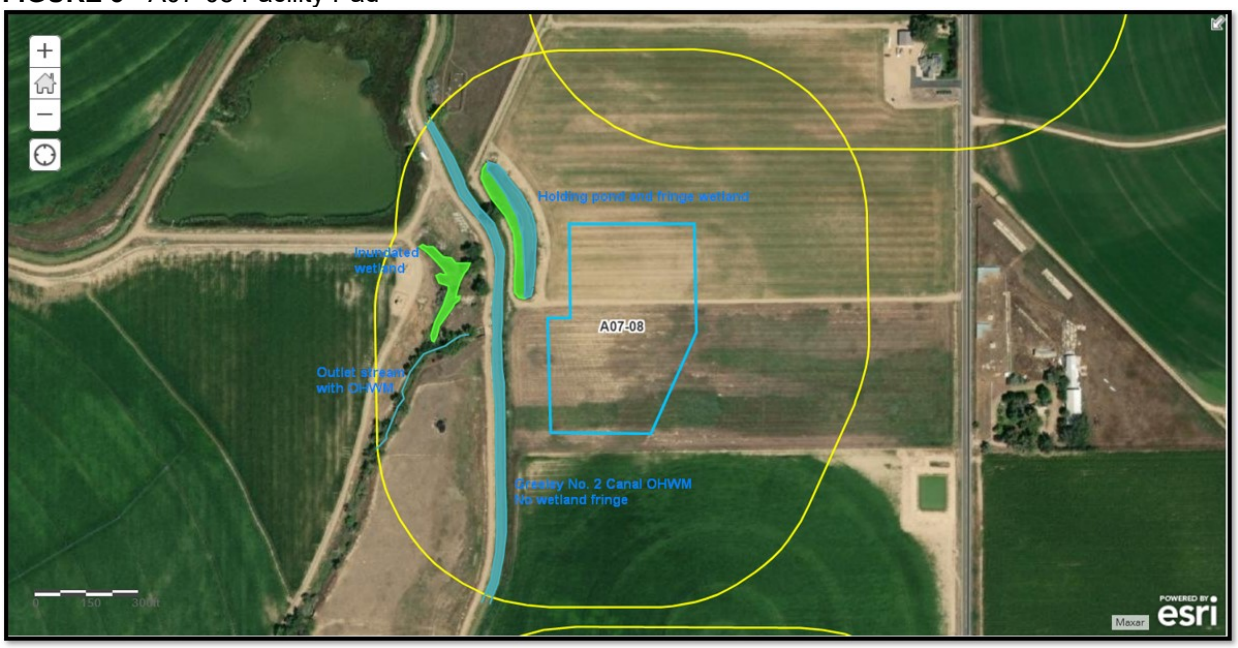
WGS_1984_Web_Mercator_Auxiliary_Sphere

Source: iNAV
Map Date: 11/23/2021

Notes

FIGURE 2

FIGURE 3- A07-08 Facility Pad



The complete Hydrologic Survey Report for the A07-08 Facility Pad is attached to this Wildlife Protection Plan.

Wildlife Protection Plan References and Sources

State of Colorado Rulemaking in support of Sensitive and Protected Species/Habitat:

Document references to COGCC Rules in support of this Wildlife Protection Plan include:

- 300 Series Rules:
  - Rule 304: Form 2A: Oil and Gas Location Assessment Application
  - Rule 309: CPW Consultation
- 400 Series Rules:
  - Dust, Light, Noise and Odor Mitigation
- 500 Series Rules:
  - 529: Rulemaking Proceedings
- 1200 Series Rules: Protection of Wildlife Resources

Source: COGCC Regulation (state.co.us)

Colorado Parks and Wildlife:

Colorado Parks and Wildlife High Priority Habitat maps in support of COGCC Rule Making and supporting this Wildlife Protection Plan:

Source: COGCC Maps (state.co.us)

Colorado Parks and Wildlife, Department of Natural Resources- Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors (2020):

Colorado Parks and Wildlife, Department of Natural Resources- Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls (revised 4/6/21):

Source: Colorado Parks and Wildlife (state.co.us)

U.S. Endangered Species Act (ESA):

"Take" (as defined by ESA) of a federally-protected threatened and endangered species is illegal without permit. The project analysis must take into consideration threatened and endangered species as well as candidate and/or petitioned species. Species information may be obtained by contacting a local U.S. Fish and Wildlife field office with project information and/or accessed via the source below:

Source: https://ecos.fws.gov/ipac/

Critical Habitat under ESA

Critical habitat are specific areas deemed essential to the conservation of (ESA) endangered and threatened species and may need special management or protections. Projects must be evaluated for the presence of critical habitat.

Source: https://www.fws.gov/southeast/endangered-species-act/critical-habitat/

Migratory Bird Treaty Act (MBTA):

The MBTA prohibits intentional take of federally-protected birds without permit. Projects shall be evaluated for risk of take of MBTA-listed species, focusing on those species listed Birds of Conservation Concern (BCC) and Birds of Management Concern (BMC). This information may be obtained by contacting a local U.S. Fish and Wildlife field office with project information and/or may be accessed at the source below:

Source: https://ecos.fws.gov/ipac/

Bald and Gold Eagle Protection Act (BGEPA):

"Take" (as defined by BGEPA) of federally protected eagles is illegal without permit. Projects shall be evaluated for risk of take of bald and golden eagles. Species information may be obtained by contacting a local U.S. Fish and Wildlife office with project information and/or may be accessed at the source below:

Source: https://ecos.fws.gov/ipac/

Clean Water Act (CWA):

The CWA regulates the discharge of pollutants into the Waters of the United States and quality standards for surface waters. CWA makes it unlawful to intentionally or negligently discharge any pollutant from a point source into navigable waters, unless a permit is obtained.

Waters of the United States (WOTUS):

The Department of the Army, acting through the U.S. Army Corps of Engineers, has authority to permit the discharge of dredged or fill material in waters of the U.S. under Section 404 of the CWA, and permit work and the placement of structures in navigable waters of the U.S. under Sections 9 and 10 of the Rivers and Harbors Act of 1899. Projects resulting in impacts to WOTUS are subject to federal permitting requirements. Projects shall be evaluated for risk of impacts to jurisdictional Waters of the United States.

In addition to the use of topographic maps, the following information is useful for WOTUS determinations:

National Hydrography Dataset (NHD)/Watershed Boundary Dataset:

Source: https://nhd.usgs.gov/NHD_High_Resolution.html

USFWS National Wetland Inventory (NWI) Mapper:

Source: https://www.fws.gov/wetlands/

NOTE: National Resource Conservation Service (NRCS) Soil and Topography Data (*see section below*) must be utilized to ascertain presence of hydric soils and flood risk.

National Historic Preservation Act (NHPA)/Colorado Historical, Prehistorical and Archaeological Resources Act of 1973):

Projects shall be evaluated for presence of cultural resources and historical artifacts.

NOTE: Archaeological investigations must be performed or supervised by an archaeologist who meets the U.S. Secretary of the Interior's Professional Qualification Standards for Archaeology (48FR 22716 or 36 CFR Part 61); or meets the requirements for Principal Investigator defined in 8 CCR 1405-7.

Federal Emergency Management Administration (FEMA) Floodplain;

Projects constructed in floodplains may require additional permitting. Projects shall be evaluated for potential impacts to floodplains and flood risk.

Source: https://msc.fema.gov/portal

NOTE: If floodplain maps are not available (i.e. "unmapped"), NRCS Soil and Topography Data must be used for planning purposes (See NRCS data below).

Aquatic Resources Inventory Report for Proposed Development of the A07-08 Facility, Weld County, Colorado

NOVEMBER 2021

PREPARED FOR

Chevron Rockies Business Unit

PREPARED BY

SWCA Environmental Consultants

AQUATIC RESOURCES INVENTORY REPORT FOR PROPOSED DEVELOPMENT OF THE A07-08 FACILITY, WELD COUNTY, COLORADO

Prepared for

Chevron Rockies Business Unit
1625 Broadway Street, Suite 2200
Denver, Colorado 80202

Prepared by

SWCA Environmental Consultants
295 Interlocken Boulevard, Suite 300
Broomfield, Colorado 80021
(303) 487-1183
www.swca.com

November 2021

CONTENTS

Appendices

Tables

This page intentionally left blank.

1 INTRODUCTION

On behalf of Chevron Rockies Business Unit, SWCA Environmental Consultants (SWCA) completed an aquatic resources inventory, commonly referred to as a wetland delineation, for the proposed development of the A07-08 facility located in Weld County, Colorado (Figure A1 in Appendix A). SWCA evaluated and delineated wetlands and other aquatic resources that are located within 500 feet of the proposed facility area that includes Greely Number 2 Canal, and the holding ponds and ditches identified west of the canal (collectively, these areas are hereafter referred to as the survey area). The project survey area also consisted of a 0.5-mile buffer for potential raptor nests that was briefly assessed during the survey period. The approximate center point of the project is located at the center of the proposed facility, latitude 40.501672°, longitude -104.587189° (see Figure A1). The goal of conducting an aquatic resources inventory is to identify aquatic resources containing an ordinary high water mark (OHWM) or wetland within 500 feet of the proposed project in order to comply with Colorado Oil and Gas Conservation Commission's (COGCC) Rule 1202(3).

The inventory of aquatic resources included the identification and recording of features that may be determined to be waters of the U.S. by the U.S. Army Corps of Engineers (USACE). Waters of the U.S. include waterbodies such as rivers, creeks, streams, arroyos, lakes, and associated wetlands, which have connectivity to downstream navigable waters or tidal seas. Under the Clean Water Act, wetlands are aquatic resources that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 1987). Non-wetland waters are generally identified and delineated by the presence of an ordinary high-water mark (OHWM), which is a defined boundary on the shore or bank of an aquatic resource established by water fluctuations and movement.

2 METHODS

The aquatic resources inventory included a desktop review of existing data and field surveys. The following sections provide a summary of the methods used to generate the collected data and aquatic resource mapping.

2.1 Existing Data Review

SWCA conducted a desktop review of existing spatial data prior to the field surveys to identify areas with the greatest potential for aquatic resources. Sources used during the existing data review included U.S. Geological Survey (USGS) 7.5-minute quadrangles, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps (USFWS 2021), the National Hydrography Dataset (NHD) (USGS 2015), the USGS StreamStats tool (Version 4.6.1) (USGS 2020), Natural Resources Conservation Service (NRCS) soil survey maps (NRCS 2020), and historic and current aerial photographs of the survey area (Google Earth 2020; NETROnline 2021).

2.2 Field Surveys

The aquatic resources inventory included a desktop review of existing data and field surveys. The following sections provide a summary of the methods used to generate the collected data and aquatic resource mapping. SWCA conducted the aquatic resources field surveys on November 9, 2021.

2.2.1 Mapping

A handheld global positioning system (GPS) receiver with submeter accuracy was used to record the spatial extent of features, geographically reference data points, and demarcate wetland and waterbody boundaries during the field surveys. Geographic information system (GIS) software was used to analyze recorded features, calculate areas, and generate the survey area maps. When wetland or non-wetland waters within the survey area extended outside of the survey area boundaries, SWCA occasionally mapped the portions of these features outside of the survey area, if this additional information appeared potentially useful (e.g., if avoidance of impacts during construction might be feasible or if these features may be relevant to the jurisdictional status of areas within the survey area).

2.2.2 Wetlands

The presence/absence of wetlands was determined in the field using delineation methods provided in the *Corps of Engineers Wetlands Delineation Manual* (Manual) (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region* (Version 2.0) (Regional Supplement) (USACE 2010). Data at each potential wetland were recorded on the Regional Supplement wetland determination data forms (datasheet). Determination of wetland habitat (type) is based on the classification system developed by Cowardin et al. (1979). Per the Manual and Regional Supplement, wetlands are present in areas where three wetland parameters (i.e., wetland hydrology, hydric soils, and hydrophytic vegetation community) are present under normal circumstances. The presence of these wetland parameters is determined using the indicators provided in the Regional Supplement. One data point is recorded within each potential wetland (or wetland type for proximate, similar wetlands) along with a corresponding upland data point. These data provided the basis for mapped wetland–upland boundaries.

2.2.3 Non-Wetland Waters

The presence and extent of non-wetland waters (e.g., constructed ditches and reservoirs, active channels, and ponds) was determined in the field using the guidance and methods provided in USACE Regulatory Guidance Letter 05-05 (USACE 2005) and the USACE technical guidance *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008). An OHWM is the line on a shore established by fluctuations of water and is typically identified by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas. The spatial extent of non-wetland waters is delineated using the identified OHWM for each feature.

Non-wetland waters were characterized hydrologically as ephemeral, intermittent, or perennial waters. Ephemeral features flow only in direct response to precipitation or snowfall and flow for a brief period of time. Intermittent waters have prolonged flow that is sustained (at least in part) by melting snowpack or a groundwater source. Perennial waters flow continuously but may have periods of less flow. According to the USACE Manual and policy (USACE 1987, 2008), erosional features that lack an OHWM, or lack a continuous OHWM, are not waters of the U.S.

3 RESULTS

The results of the existing data review and field surveys for the A07-08 facility project are presented in the following sections. Project maps are provided in Appendix A; copies of the wetland determination data forms are provided in Appendix B; representative photographs of the field-delineated wetland and

waterbody features are provided in Appendix C; and the NRCS soil report for the survey area is provided in Appendix D.

3.1 General Observations and Desktop Review Results

The survey area is in the South Platte basin, roughly 4,735 feet above sea level (see Appendix A). The survey area terrain ranges from flat to undulating, and primarily consists of cultivated cropland and oil and gas development. Based on data provided by the USGS StreamStats tool, the project survey area is in an approximately 15.4-square-mile drainage basin that receives approximately 13.76 inches of mean annual precipitation.

The western portion of the A07-08 facility survey area is located within a 100-year floodplain, associated with Willow Creek, Zone A, without base flood elevation (see Figure 2), and therefore is designated by the Federal Emergency Management Agency to have a 1% annual chance for flooding within that area (Colorado Oil and Gas Conservation Commission 2021; Federal Emergency Management Agency 2020). Geologic mapping for this area indicates that the survey area is in upper cretaceous shale, claystone, siltstone, and other rock types (Tweto 1979). According to the NRCS soil surveys for Weld County, Colorado, one of the five soil map units within the survey area has a strong potential to satisfy the hydric soil criteria: Aquolls and Aquepts, flooded, described as poorly drained with recorded depths to groundwater ranging from 6 to 36 inches (NRCS 2020) (see Appendix D). Other dominant soil map units present within the survey area include Otero sandy loam, Olney fine sandy loam, Nelson fine sandy loam 0-3% and Nelson fine sandy loam 3-9% which are described as well drained and have recorded depths to groundwater greater than 80 inches.

The latest NHD and NWI maps indicate that the A07-08 facility survey area encompasses a riverine feature, Greely Number 2 Canal, located west of the proposed facility area (USFWS 2021).

Based on SWCA's review of available data and observations made at the time of the surveys, hydrologic conditions in the vicinity of the survey area are generally representative of typical conditions for this time of year. The recorded rainfall amounts for September through November 2021 are compared with normal rainfall amounts for these months in Table 1. According to data obtained from Weather Underground (2021), in the 3-month period preceding SWCA's site visit the project area received less than the normal rainfall amount, showing less than normal precipitation levels in all three months assessed.

Table 1. Monthly Recorded Precipitation at the Greeley, Colorado, Weather Station

Month	Recorded Rainfall (inches)	Normal Rainfall (inches)	Difference (inches)
September 2021	0.23	1.11	0.88
October 2021	0.11	1.01	0.90
November 2021	0.06	0.74	0.68
Total	**0.40**	**2.86**	**2.46**

Source: U.S. Climate Data (2020); Weather Underground (2021).

3.2 Field Survey Results

Qualified SWCA biologists conducted the on-site field surveys on November 9, 2021. A pedestrian survey covering the entire 500-foot survey area was performed.

3.2.1 Wetlands

SWCA identified and delineated approximately 0.49 acres of wetlands in the survey area (Table 2) (see Appendix A). The delineated wetland acreage presented in Table 2 is presented as the total area of delineated wetland features within the 500-foot survey area and the distance from the proposed A07-08 facility.

Table 2. Wetlands Identified within A7-08 Survey Area

Wetland ID	500-foot Survey Area (acres)	Dist. from Facility (feet)	Direction from facility
WL01	0.26	90.45	West
WL02	0.23	262.84	West
Total	**0.49**		

3.2.1.1 WETLAND FRINGE ON HOLDING POND (WL01)

SWCA identified approximately 0.26 acre of a palustrine emergent (PEM) fringe wetland that has formed along the bank of a holding pond (WB02) located west-northwest of the proposed facility. This fringe wetland is located on the west side of the pond feature. See Figure A-2; representative photographs are provided as Figures C3 through C4.

Vegetation: The dominant plant species present within the wetland is broadleaf cattail (*Typha latifolia*).

Soils: Soils are characterized as sandy clay loam in composition, Depleted Matrix (F3) hydric soil criterion.

Hydrology: SWCA identified the primary indicator of wetland hydrology, Saturation (A3), and the secondary indicators Drainage Patterns (B10), Geomorphic Position (D2), Saturation Visible on Aerial Imagery (B8) and FAC-Neutral Test (D5).

3.2.1.2 EMERGENT WETLAND DEPRESSION (WL02)

SWCA identified approximately 0.23 acre of a palustrine emergent (PEM) wetland depression (see Figure A-2). The completely inundated wetland depression located west of the proposed facility relies on waters from the adjacent drainage feature (WB03) that diverts from Greely Number 2 Canal (WB01) and reservoir the northwest. The ponded portion of the wetland and the fringes are dominated by hydrophytic vegetation; however, the wetland boundary consists of steep banks and was unable to record a test pit data point. See Figure A-2; representative photograph is provided as Figure C2.

Vegetation: The dominant plant species observed within wetland depression are broadleaf cattail (*Typha latifolia*), reed canarygrass (*Phalaris arundinacea*), and Russian olive (*Elaeagnus angustifolia*)

Soils: Soils completely inundated; unable to test.

Hydrology: SWCA observed the primary indicator Saturation (A3) and secondary indicators Geomorphic Position (D2), Drainage Patterns (B10), Saturation Visible on Aerial Imagery (B8) and FAC-Neutral Test (D5) associated with wetland hydrology.

3.2.2 Non-Wetland Waters

SWCA delineated three non-wetland water features totaling approximately 1.173 acres within the survey area (Table 3). These features, all located west of the proposed facility area, consist of the Greely Number 2 Canal (WB01), two adjacent farm ponds and a drainage associated with the canal.

Table 3. Waterbodies Identified within A07-08 Survey Area

Waterbody ID	500-foot Survey Area (ac.)	500' Survey Area (linear ft.)	Dist. from pad (ft.)	Direction from pad
WB01	0.80	1448.52	132.96	West
WB02	0.33		78.23	West
WB03	0.043	481.42	226.59	West
Total	**1.173**	**1929.94**		

The following subsections provide additional information regarding these features.

3.2.2.1 GREELY NUMBER 2 CANAL (WB01)

Greely Number 2 Canal (WB01) is an intermittent riverine feature (R4SBCx) that flows north to south crossing through the survey area, receiving waters primarily from upstream reservoirs and runoff, located approximately 1448.52 feet west of the proposed A07-08 facility area (see Figures C5). The canal will typically have flowing water only during peak flow events and throughout the growing season, depending primarily on agricultural/municipal water supply demands. The segment of the canal within the project area is comprised of steep, undercut banks, showing signs of significant erosion.

The banks of the Greely Canal are dominated mostly by hydrophytic vegetation, which typically consists of only reed canarygrass. The canal banks encompassing the reed canarygrass did not show signs of hydric soils, therefore not meeting the criterion of a wetland habitat.

3.2.2.2 FARM POND ADJACENT TO THE GREELY NUMBER 2 CANAL (WB02)

SWCA delineated approximately 0.33 acre of a freshwater pond (WB02). The farm pond feature, located approximately 78.23 feet west of the proposed facility, relies on seasonal water supplies provided by the Greely Number 2 Canal and agricultural ditch with no OHWM located north of the pond feature (see Appendix A).

Vegetation communities observed above the OHWM of the pond where WL02 is located is comprised of broadleaf cattail and the upland from the riparian the dominant vegetation consisted of low-growing herbaceous species, such as alfalfa (*Medicago sativa*), kochia (*Bassia scoparia*), cheatgrass (*Bromus tectorum*) and sunflower (*Helianthus annuus*) (see Figure C4).

3.2.2.3 DRAINAGE ASSOCIATED WITH GREELY NUMBER 2 CANAL (WB03)

SWCA delineated approximately 0.043 acres of an ephemeral drainage (WB03) associated with Greely Number 2 Canal, located approximately 226.59 feet west of the proposed drill pad (see Figure A1). This drainage feature relies on water diversions from Greely Number 2 Canal, flowing during precipitation events and seasonally when the canal is full during the growing season. The surrounding vegetation community consisted of woody species, including Russian olive and cottonwood (*Populus deltoides*) (see Figure C6).

4 SUMMARY AND RECOMMENDATIONS

Two wetlands and three waterbodies with an ordinary high water mark, totaling 1.663 acres were recorded within the A07-08 project survey area. No of the potentially jurisdictional aquatic resources were recorded within the proposed pad boundary and construction is not expected to require permitting under Section 404 of the CWA.

COGCC Rule 1202(3) states that operators will not situate new staging, refueling, or chemical storage areas within 500 feet of the OHWM of any river, perennial or intermittent stream, lake, pond, or wetland. Based on our understanding of the proposed project, the delineated wetlands are located 90 feet (WL01), and 260 feet (WL02) from the disturbance boundary. These wetlands are located 303 feet west (WL01) and 404 feet west (WL02) of the center of the A07-08 facility. Waterbodies containing an ordinary high water mark are located 133 feet (WB01), 78 feet (WB02) and 227 feet (WB03) from the A07-08 disturbance boundary. Respectively, these waterbodies are 282 feet (WB02), 386 feet (WB01), and 474 feet (WB03) west of the center of the A07-08 facility.

5 LITERATURE CITED

Colorado Oil and Gas Conservation Commission. 2021. COGCC Interactive Map. Available at: http://cogcc.state.co.us/maps.html#/gisonline. Accessed September 2021.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31. Washington, D.C.: U.S. Fish and Wildlife Service.

Federal Emergency Management Agency. 2020. FEMA Flood Map Service Center. Available at: https://msc.fema.gov/portal/home. Accessed September 2021.

Google Earth. 2020. Available at: https://www.google.com/earth/. Accessed September 2021.

Natural Resources Conservation Service (NRCS). 2020. Natural Resources Conservation Service, National Lists of Hydric Soils (December 2015). Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed September 2021.

NETROnline. 2021. Historic Aerials. Historic Aerial Image Database Viewer. Available at: https://www.historicaerials.com/viewer. Accessed September 2021.

Tweto, O. 1979. Geologic Map of Colorado: U.S. Geological Survey Special Geologic Map, scale 1:500,000. Available at: https://ngmdb.usgs.gov/Prodesc/proddesc_68589.htm. Accessed September 2021.

U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1.* Vicksburg, Mississippi: U.S. Army Engineers Waterways Experiment Station.

———. 2005. *Regulatory Guidance Letter No. 05-05, Subject: Ordinary High Water Mark Identification.* Signed by Major General Don T. Riley, Director of Civil Works.

———. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*, edited by R.W. Lichvar and S.M. McColley. ERDC/CRREL TR-08-12. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center.

———. 2010. *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region (Version 2.0)*, edited by J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-12. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.

U.S. Climate Data. 2020. Climate Denver – Colorado. Available at: https://www.usclimatedata.com/climate/denver/colorado/united-states/usco0746. September July 2021.

U.S. Environmental Protection Agency (EPA). 2008. *2008 Rapanos Guidance and Related Documents under CWA Section 404*. Available at: https://www.epa.gov/cwa-404/2008-rapanos-guidance-and-related-documents-under-cwa-section-404. Accessed September 2021.

U.S. Fish and Wildlife Service (USFWS). 2021. National Wetlands Inventory. U.S. Fish and Wildlife Service Ecological Services. Available at: http://www.fws.gov/wetlands/Data/State-Downloads.html. Accessed September 2021.

U.S. Geological Survey (USGS). 2015. National Hydrography Dataset. Available at: http://nhd.usgs.gov/index.html. Accessed September 2021.

———. 2020. StreamStats Web Tool. Available at: https://streamstats.usgs.gov/ss/. Accessed September 2021.

Weather Underground. 2021. Greeley, CO, Weather Conditions. Available at: https://www.wunderground.com/history/monthly/us/co/denver/KDEN. Accessed September 2021.

APPENDIX A

Aquatic Resources Inventory Maps

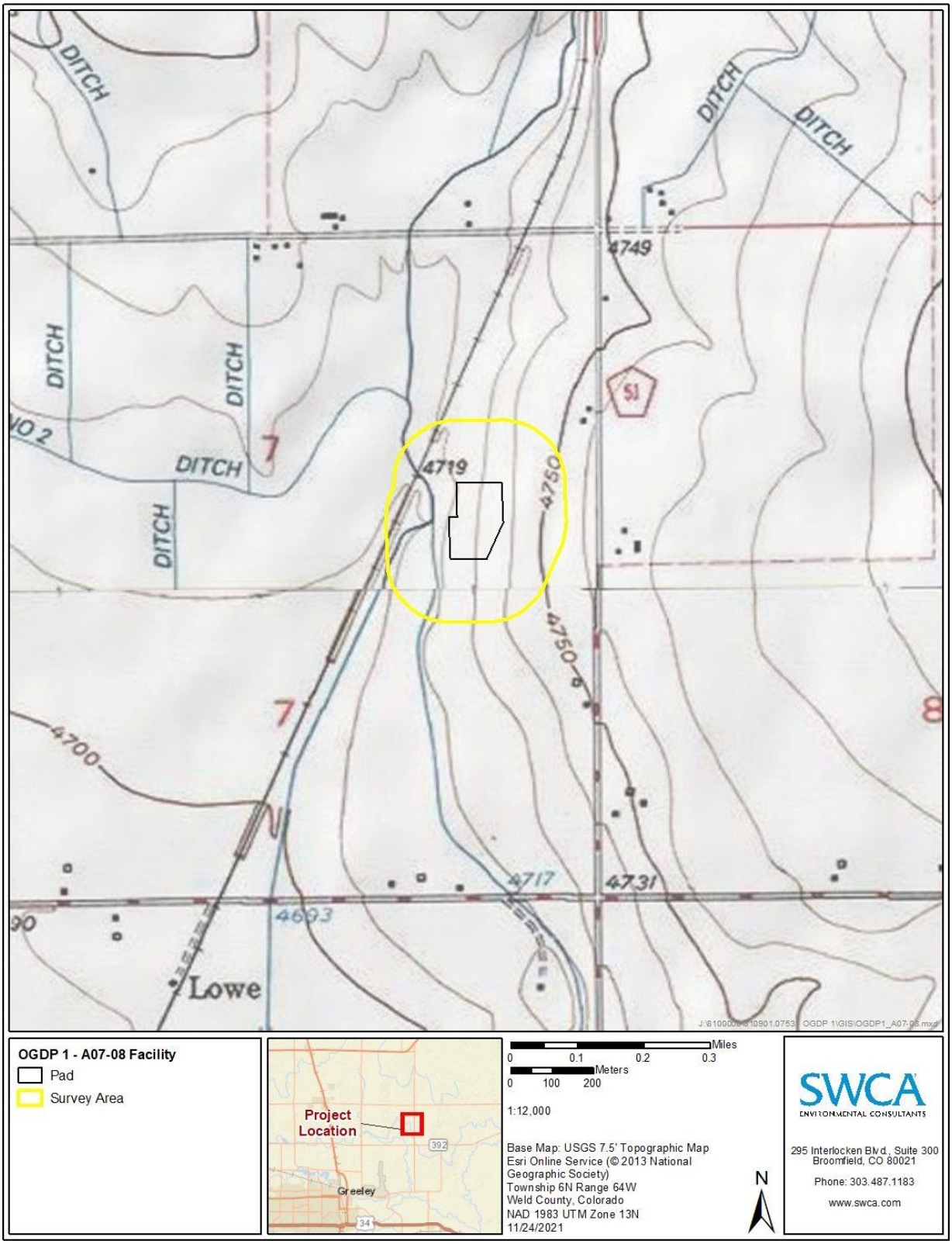


Figure A1. Overview of survey area.

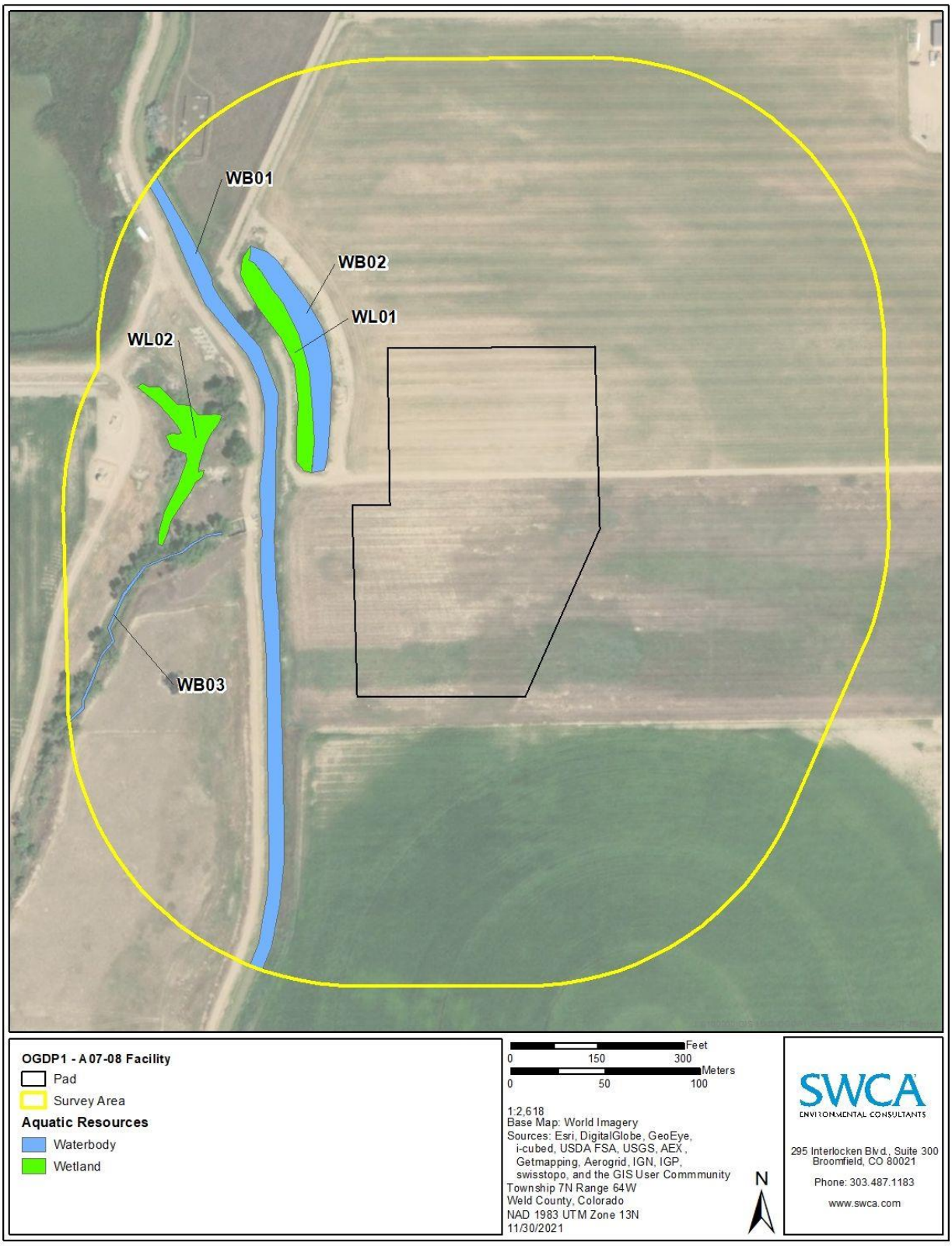


Figure A2. Delineated aquatic resources in survey area.

APPENDIX B

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: A07-08 Facility County: Weld County Sampling Date: November 9, 2021
Applicant/Owner: Chevron Rockies Business Unit State: CO Sampling Point: DP01
Investigator(s): Peter Gordon and Chase Westbrook Section, Township, Range: S7 T6N R64W
Landform (hillslope, terrace, etc.): fringe of pond Local relief (concave, convex, none): concave Slope (%): 1—5
Subregion (LRR): G Lat: 40.502443 Long: -104.588512 Datum: NAD83
Soil Map Unit Name: Aquolls and Aquepts flooded NWI Classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (if no, explain in Remarks.)
Are Vegetation **No** ,Soil **No** ,or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No _____
Are Vegetation **No** ,Soil **No** ,or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes **X** No _____
Hydric Soil Present? Yes **X** No _____
Wetland Hydrology Present? Yes **X** No _____

Is the Sampled Area within a Wetland? **Yes** X **No** _____

Remarks:
This point was determined to be within a wetland due to the presence of all 3 wetland criteria.

VEGETATION - Use scientific names of plants.

	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	100	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
100 = Total Cover			
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**100**	x 1 =	**100**
FACW species	**0**	x 2 =	**0**
FAC species	**0**	x 3 =	**0**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**100** (A)		**100** (B)

Prevalence Index = B/A = **1.00**

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤ 3.0[1]
_____ 4 - Morphological Adaptations[1] (Explain)
_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** _____

Remarks:
A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).
A positive indication of hydrophytic vegetation was observed (Prevalence Index is ≤ 3.0).

SOIL

Sampling Point: **DP01**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/2	85	10YR 5/8	15	C	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** **X** **No** ___

Remarks:

A positive indication of hydric soil was observed.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- **X** Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- **X** Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- **X** FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present?	Yes	___	No	**X**	Depth (inches): **N/A**
Water Table Present?	Yes	___	No	**X**	Depth (inches): **>20**
Saturation Present? (includes capillary fringe)	Yes	**X**	No	___	Depth (inches): **0**

Wetland Hydrology Present? **Yes** **X** **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

A positive indication of wetland hydrology was observed (at least two secondary indicators).

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: A07-08 Facility County: Weld County Sampling Date: November 9, 2021
Applicant/Owner: Chevron Rockies Business Unit State: CO Sampling Point: DP02
Investigator(s): Peter Gordon and Chase Westbrook Section, Township, Range: S7 T6N R64W
Landform (hillslope, terrace, etc.): upland terrace Local relief (concave, convex, none): none Slope (%): 1—5
Subregion (LRR): G Lat: 40.502605 Long: -104.588182 Datum: NAD83
Soil Map Unit Name: Nelson fine sandy loam 3-9% NWI Classification: UPL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (if no, explain in Remarks.)
Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No
Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No **X**
Hydric Soil Present? Yes No **X**
Wetland Hydrology Present? Yes No **X**

Is the Sampled Area within a Wetland? **Yes** **No** **X**

Remarks:
This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION - Use scientific names of plants.

	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5 ft.)			
1. *Medicago sativa*	75	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
75 = Total Cover			
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 25

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)
Total Number of Dominant Species Across All Strata: **1** (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: **0** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**0**	x 2 =	**0**
FAC species	**0**	x 3 =	**0**
FACU species	**0**	x 4 =	**0**
UPL species	**75**	x 5 =	**375**
Column Totals:	**75** (A)		**375** (B)

Prevalence Index = B/A = **5.00**

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤ 3.0[1]
___ 4 - Morphological Adaptations[1] (Explain)
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No** **X**

Remarks:
No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FACU or drier).

SOIL

Sampling Point: **DP02**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 5/3	100	None	—	—	—	Sandy Clay	Rock refusal at 6"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ Coast Prairie Redox (A16) **(LRR F, G, H)**
- ___ Dark Surface (S7) **(LRR G)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 6":

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present? Yes ___ No **X** Depth (inches): **N/A**

Water Table Present? Yes ___ No **X** Depth (inches): **>20**

Saturation Present? (includes capillary fringe) Yes ___ No **X** Depth (inches): **>20**

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

APPENDIX C

Wetland and Waterbody Photographs

Figure C1. Overview of A07-08 Facility pad, facing east.

Figure C2. Overview of WL02, facing south.

Figure C3. Overview of WL01 and DP01, facing west.

Figure C4. Overview of farm pond feature (WB02) and WL01, facing north.

Figure C5. Overview of Greely Number 2 Canal (WB01) in A07-08 survey area, facing south.

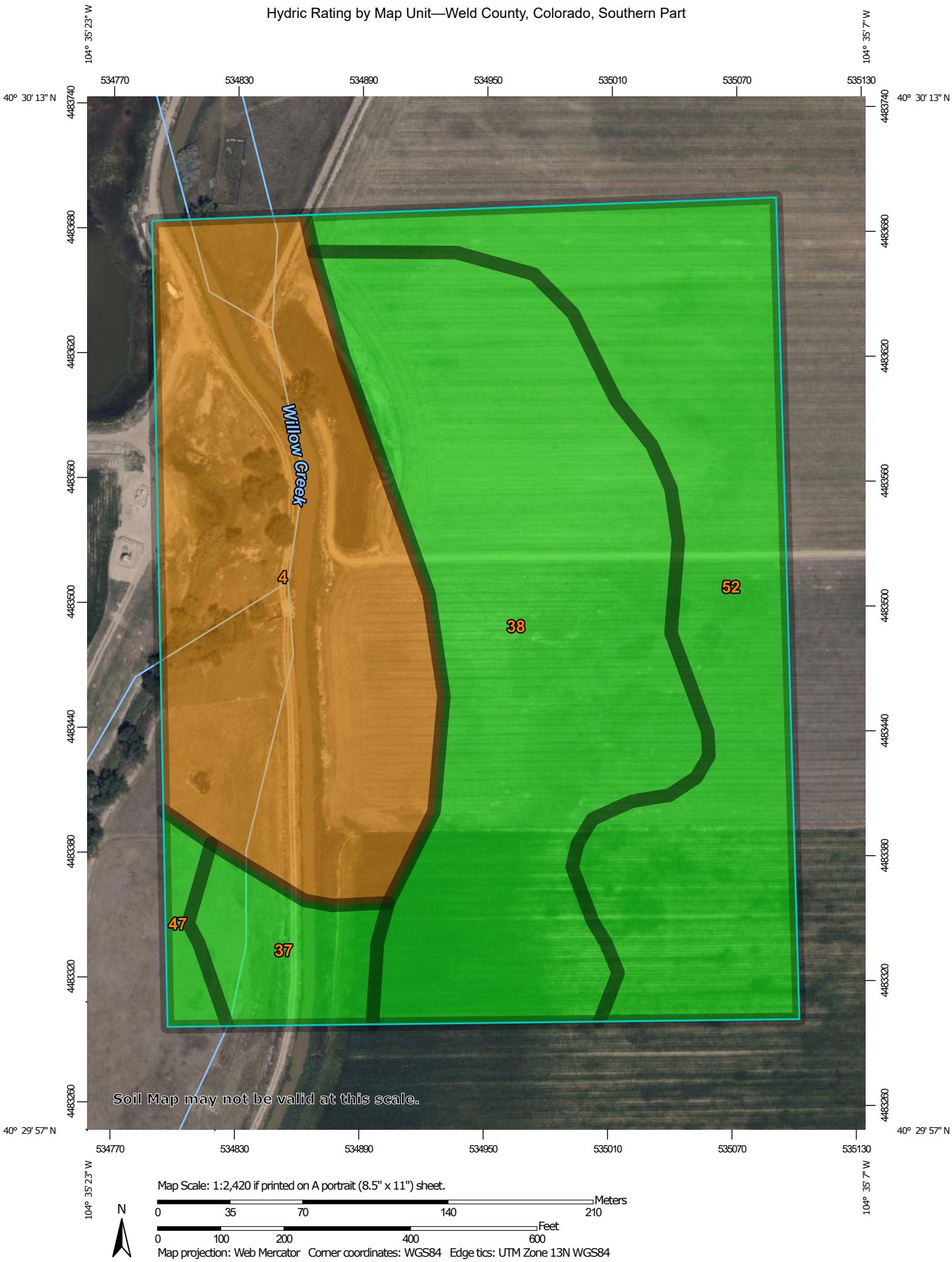
Figure C6. Overview of drainage (WB03) associated with canal, facing west.

This page intentionally left blank.

Appendix D

NRCS Soil Report for Survey Area

Hydric Rating by Map Unit—Weld County, Colorado, Southern Part



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 20, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 19, 2018—Aug 10, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
4	Aquolls and Aquepts, flooded	80	8.9	30.2%
37	Nelson fine sandy loam, 0 to 3 percent slopes	0	1.4	4.8%
38	Nelson fine sandy loam, 3 to 9 percent slopes	0	10.5	35.8%
47	Olney fine sandy loam, 1 to 3 percent slopes	0	0.5	1.6%
52	Otero sandy loam, 3 to 5 percent slopes	0	8.1	27.7%
Totals for Area of Interest			**29.4**	**100.0%**