



Kerr-McGee Oil & Gas Onshore LP

Interim Reclamation Plan

**Charlene Nelson 12-34HZ Well Pad and Facility
NW ¼, SW ¼, Sec 34, T5N, R67W**

Weld County, Colorado

September, 2021

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1.0 INTRODUCTION

Kerr-McGee Oil & Gas Onshore LP (KMOG) has developed this site-specific Interim Reclamation Plan to establish proper planning and execution for reclamation of the land within areas that are affected by oil and gas location construction and development, but no longer in use by production operations once turned over. When all wells on a pad are completed and turned over to production, the drilling footprint will be reduced, and areas not needed for production will be restored and re-vegetated in accordance with Colorado Oil and Gas Conservation Commission (COGCC) Series 1000 Reclamation Rules and consistent with the requirements of Rule 1003 for Interim Reclamation. Reference shall also be made to Rules 304.c(14) Topsoil Protection Plan and 304.c(15) Stormwater Management Plan within this process.

2.0 SITE DESCRIPTION

Operator:	Kerr-McGee Oil & Gas Onshore LP
COGCC ID:	47120
Project / Site Name:	Charlene Nelson 12-34HZ Well Pad and Facility
Location:	Sec 34, T5N, R67W, Weld County, Colorado
Elevation:	4766.2'
Land Type:	FEE
Surface Owner:	Nelson Family LLC
Total Area of Project:	CONSTRUCTION PHASE: 10.47 acres WORKING PAD SURFACE AREA: 4.45 acres TOTAL AREA INTERIM RECLAIMED FOR PRODUCTION: 7.81 acres INTERIM RECLAIM / PRODUCTION AREA: 2.66 acres
Description of Existing Vegetation:	Existing vegetation on the subject location is corn, land use is agriculture
Soil Type(s):	32 – Kim loam, 1 to 3 percent slopes, HSG: A
Primary Receiving Water:	Unnamed, man-made, intermittent, riverine streambed approximately 56 feet northeast of location.
General Direction of Flow and Drainage:	South, southeast
Reclamation Manager/Contact:	Austin Lee – HSE Advisor Occidental Petroleum Corporation (970) 515-1058
Major Equipment List:	The Charlene Nelson 12-34HZ location will be a (7) well pad, with (4) tanks, (6) separators, (2) LACTs, (1) air compressor, and (1) meter building.

3.0 TENTATIVE DEVELOPMENT & OPERATION SCHEDULE

Phase	Work Activity	Estimated Start Date*
CON	Location construction	June 2023
SPUD	Surface drilling and well prep operations	July 2023
DRL	Horizontal drilling	September 2023
FRAC	Hydraulic fracturing operations and well completions	July 2024
FAC	Production facility construction	May 2023
INT	Interim reclamation of construction disturbance	September 2024

*Based on pending receipt of required permits, and drilling rig availability. Schedule is tentative and subject to change.

4.0 PROPOSED SEQUENCE OF MAJOR ACTIVITIES

4.1 Surface Owner Consultation and Timing

Surface owner consultation shall be conducted to minimize disruption of agricultural operations and designate final land use. Interim reclamation shall occur approximately no later than 9/30/2024 after conclusion of subsequent operations. If soil conditions are not conducive due to weather conditions, a Form 4 Sundry Notice shall be submitted, and reclamation commenced as soon as conditions allow and as practicable.

4.2 Removal of drilling and completions equipment and associated debris and waste

Debris and non-exploration and production (E&P) waste materials (concrete, sack bentonite and other drilling mud additives, sand, plastic, pipe, and cable) will be removed, and cellars, rat holes, and other boreholes unnecessary for further lease operations will be backfilled. Soil and aggregate mix used to build a compacted surface for construction and drilling purposes will be removed in areas no longer intended for production and interim reclamation and disposed of at an approved facility.

4.3 Recontouring, compaction relief and topsoil re-distribution

All segregated soil horizons removed for construction will be replaced to their original relative positions and contour and will be tilled adequately to alleviate compaction and re-establish a proper seedbed. Operator will be responsible for segregating topsoil, backfilling, re-compacting any backfill, reseeding, and re-contouring the surface on all disturbed areas of an oil and gas location, including that which is not being used for production or processing of E&P materials so as not to interfere with Surface Owner(s) operations.

4.4 Soil Preparation

Soil preparation for interim reclamation generally includes the following practices:

4.4.1 Compaction Alleviation

After topsoil re-distribution, the interim reclamation area shall be cross ripped to a depth of eighteen inches with an agricultural ripper/subsoiler; however, this depth may be adjusted in rocky or shallow soils. Chiseling/ripping will be performed at the minimum depth of topsoil. Cultipacking or disking may be required to reduce soil clod size. Ripping with construction style shanks, for the purpose of surface ridge roughness as a stormwater BMP, is only allowed to a six-inch depth, and will be maintained following any precipitation or surface erosion which has the potential to compromise the BMP.

4.4.2 Leveling

All areas will be leveled and graded to drain properly and blend to the adjacent, natural landscape. Leveling will generally be completed with a motor grader, but can also include a dozer, landplane and other pieces of equipment based on soil and topography.

4.4.3 Soil Amendments

Necessary amendments will be determined by soil analysis completed during Topsoil Protection Plan Site Investigation, land use, site conditions at time of interim reclamation, and surface owner consultation. Soil amendments will be incorporated during seedbed preparation.

4.4.4 Seedbed Preparation

Seedbed preparation will be completed by disking, harrowing or cultipacking disturbed soil to provide a seedbed that is firm and friable. Seeding will not occur until after a proper seedbed is prepared, soil amendments applied, and all disturbed soil is viable for germination.

4.4.5 Surface Rock Removal

Surface rocks that interfere with agricultural operations, seeding equipment or future mowing operations will be removed for the interim reclamation area.

4.5 Seeding

Seed mix is determined based on consultations with NRCS, CPW, and Surface Owner; also, by soil type, land use, adjacent reference area vegetation and in accordance with Rule 1202.a.6. Equipment shall be cleaned from previous mixes, soil, or debris, prior to mobilizing and commencing seeding operations between properties. In most cases, seed will be planted with a drill seeder and tractor at the appropriate depth and rate based on mix and manufacturer specifications, as referenced in Appendix B. Seeding shall not occur in windy conditions or when the soil is frozen or wet.

4.6 Mulching

Mulch will be applied within 48 hours after seeding on non-cropland. Mulch application in cropland shall be applied as requested by surface owner. If using straw or hay mulch, only mulch that has been certified as weed-free forage may be used. All mulch types must be anchored properly by methods such as crimping, disking and/or tackifier. Contractor may adjust the rate of mulch and type based on site location, soils, slopes, and time of year to maximize seeding and erosion control success.

4.7 Implement Post-Construction Stormwater Control Measures

Post-construction stormwater control measures will be installed during construction surface reduction and interim reclamation efforts. Erosion and sediment control measures will include consideration of land use, surface owner grazing practices, general location topography and flow, and potential damage to materials. Refer to Appendix C for the interim reclamation grading plan and design, as well as Section 5.0 of this plan for a list of site-specific stormwater control measures.

4.8 Weed control

Weed control measures shall be conducted in compliance with the Colorado Noxious Weed Act, C.R.S. §35-5.5-115 and the current rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act.

Weed control measures shall be conducted in consultation with the Surface Owner and County Weed Management Specialist(s) based on site specific conditions. KMOG will monitor and control noxious weeds until achieving reclamation threshold for release within reclaimed disturbance areas, including monitoring to measure success of treatments. Weed control measures employed may include mowing or removal and herbicide treatment during the appropriate growing season. During drilling, production, and reclamation operations, all disturbed areas shall be kept reasonably free of noxious weeds and undesirable species.

4.9 Interim Reclamation Completion Notice

Upon reaching desired and permitted reclamation goals based on COGCC Rule 1003.e, a Form 4 Interim Reclamation Completion Notice (IRCN) shall be submitted to document successful interim reclamation as compared to adjacent reference area(s).

5.0 INTERIM RECLAMATION STORMWATER, EROSION & SEDIMENT CONTROL MEASURES / BMPs

Measures for stormwater, erosion and sediment control will be accomplished through a combination of construction techniques, structural and non-structural controls, vegetation and re-vegetation, administrative controls, and good housekeeping practices during interim reclamation. Control measures will be implemented and adjusted with changing site conditions, as well as throughout all phases of construction. All control measures deployed will be identified on as-built maps.

A summary of stormwater control measures can be found in Appendix C of this document. A detailed description of intended structural and non-structural stormwater control measures for Charlene Nelson 12-34HZ is as follows.

5.1 Structural Control Measures / BMPs

Structural control measures are established to reduce erosion and site degradation, and to minimize or mitigate off-site sediment transport in a manner effective for development and operation of an oil and gas location. The following structural control measures will be implemented at the proposed location.

5.1.1 Diversion Ditch and Berm (DD)

- A diversion ditch and berm will be installed around the Charlene Nelson 12-34HZ facility pad and well pad to divert stormwater run-on & run-off to a designated outlet structure.
- This BMP will be installed during construction disturbance reduction, and prior to removal of construction perimeter controls.
- Diversion ditch and berm will remain in-place until final reclamation activities commence.

5.1.2 Culvert (C)

- Culverts are used to move water under a road or crossing, or to direct flow to a designated endpoint, and are sized to manage anticipated watershed and flow rates.
- Culverts will be installed at the northern access off Weld County Road 52, as well as along the southern portion of the access road for Charlene Nelson 12-34HZ. Culverts will be evaluated at the time of construction and installed as needed.
- Culverts will be reinforced with inlet and outlet protection to mitigate sediment transport and surface erosion.
- These BMPs will remain in place throughout the life of production for Charlene Nelson 12-34HZ and removed during final reclamation.

5.1.3 Inlet / Outlet Protection (IP/OP)

- Inlet / outlet protection is a permeable barrier installed around a drain or culvert to filter runoff and remove sediment.
- This BMP will be installed congruently with spillways and outlets.
- Inlet and outlet protection will be installed for all culverts at Charlene Nelson 12-34HZ.
- Inlet and outlet protection will remain in place throughout the life of production for Charlene Nelson 12-34HZ and removed with culverts and outlets during final reclamation.

5.1.4 Seed & Mulch (SM)

- Seed and mulch are utilized in disturbed areas to establish stabilization through vegetative cover.

- Seeding will take place once surface disturbing activities are complete. Topsoil stockpiles will be stabilized with seed and mulch no longer than 14-days after completion of stockpiling efforts unless weather or ground conditions are not suitable to properly create a seedbed and promote successful germination.
- Seed & mulch will be installed on all disturbed areas no longer utilized for construction, and on all topsoil stockpiles which will remain on Charlene Nelson 12-34HZ for use during final reclamation. Anticipated topsoil stockpiles will be situated along the southern perimeter of the facility and well pads.
- Seeding will remain in place until re-disturbed during final reclamation efforts.
- In areas to be returned to crop, the seed bed will be prepared and left for surface owner to plant during next agricultural season.

5.2 Non-Structural Control Measures / BMPs

Non-structural control measures / BMPs do not involve a structure or engineered solution. Non-structural control measures include:

5.2.1 Construction Phasing & Sequencing

- Construction phasing and sequencing will be implemented at Charlene Nelson 12-34HZ to minimize the amount of surface disturbance and exposed soils to the greatest extent practicable.

5.2.2 Protection and Preservation of Existing Vegetation

- Pre-existing vegetation cover will only be removed where necessary for the operation of construction and development at Charlene Nelson 12-34HZ. Trees will only be cut or trimmed to facilitate clearing, grading and safe installation of the location.
- Vegetative buffers will be preserved to the greatest extent practicable for construction and development.

5.2.3 Good Housekeeping

- Good housekeeping measures will be implemented to prevent sediment, trash and toxic or hazardous substances from entering surface waters or impacting soils. Housekeeping practices include routine inspections, regular cleaning, site and equipment organization and maintenance, and appropriate chemical storage.

6.0 INTERIM STABILIZATION

Interim reclamation will commence within twelve months from first date of production for all disturbed areas affected by construction and drilling operations which are no longer in use or needed for production. Interim reclaimed areas will be returned to their original condition as practicable, or their final land use as designated by the surface owner.

6.1 Non-Cropland

Non-crop locations will be reclaimed within six months from completion of final ground disturbing activities, per rule 1003.b. Interim stabilization in non-cropland will follow the Colorado Oil and Gas Conservation Commission (COGCC) definition and guidance: “all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed, and all disturbed areas have been either built on, compacted, covered, paved, or otherwise stabilized in such a way as to minimize erosion to the extent practicable, or a uniform vegetative cover has been established that reflects pre-disturbance or reference area forbs, shrubs, and grasses with total percent plant cover of at least eighty percent (80%) of pre-disturbance levels or reference areas, excluding noxious weeds”.

All non-cropland locations will be reclaimed within six months from completion of ground disturbing activities, per rule 1003.b.

6.2 Cropland

Per rule 1003.b., “All segregated soil horizons removed from crop lands shall be replaced to their original relative positions and contour and shall be tilled adequately to re-establish a proper seedbed. Any perennial forage crops that were present before disturbance shall be re-established”. All cropland locations will be reclaimed within three months from completion final ground disturbing activities.

7.0 INSPECTIONS AND MAINTENANCE

7.1 Inspections

Inspections will be conducted to document the status of construction activities, stormwater control measure placement, maintenance needs, and effectiveness, to evaluate pollution sources, and to document reclamation / interim stabilization progress. Inspections will be managed by the Stormwater Manager and SWMP Administrator and conducted by their designated representative(s). Inspection forms will document non-compliance conditions, including any release of sediment or other contaminants, additional control measures that are needed, or repair and maintenance work orders.

For sites earthwork and construction is completed, but final stabilization is not achieved due to vegetative cover, inspections shall be conducted every 30 days and exclude precipitation or melt event response. Inspections will continue until all reclaimed areas have achieved a cover of 70% the pre-construction reference vegetation (i.e., final stabilization).

Findings, inspection records and site maps are documented electronically and available within 24 hours of any inspection. All inspection records are stored for a minimum of three years after the location has achieved final stabilization.

7.2 Maintenance

For maintenance items discovered at active construction locations, action, and documentation towards completing repairs identified at the time of inspection, shall be made within 24 hours of discovery.

Maintenance items discovered post-construction will be documented and coordinate with production personnel.

Timeline for completion of maintenance items is a priority and will depend on scope; but in all cases, shall not be completed until field conditions allow for safe access, and utility clearance has been confirmed for actions requiring ground disturbance / earthwork.

APPENDIX A

SOIL PROPERTIES AND MAP



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Weld County, Colorado, Southern Part**

**Charlene Nelson 12-34HZ Well
Pad and Facility**



September 8, 2021

Weld County, Colorado, Southern Part

32—Kim loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 362b
Elevation: 4,900 to 5,250 feet
Mean annual precipitation: 13 to 17 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 125 to 150 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Kim and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kim

Setting

Landform: Alluvial fans, plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed eolian deposits derived from sedimentary rock

Typical profile

H1 - 0 to 12 inches: loam
H2 - 12 to 40 inches: loam
H3 - 40 to 60 inches: fine sandy loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Otero

Percent of map unit: 10 percent
Hydric soil rating: No

APPENDIX B

SEED MIX

FORM 2B INTERIM RECLAMATION PLAN
(Appendix A): Seed Mix

Project/Site Name	Location	Existing Vegetation	Operator ID
Charlene Nelson 12-34HZ	T 5N: 67W Sec 34	Corn, agricultural field	47120

Landowner Requested Seed Mix (Crop Location)

Due to the existing agricultural nature of the surrounding land to the proposed project, reclamation will be done to meet the requirements of Rule 1003.e.1. Segregated soil horizons will be replaced to their relative positions and contour, compaction alleviated, and proper preparation of the seed bed will occur.

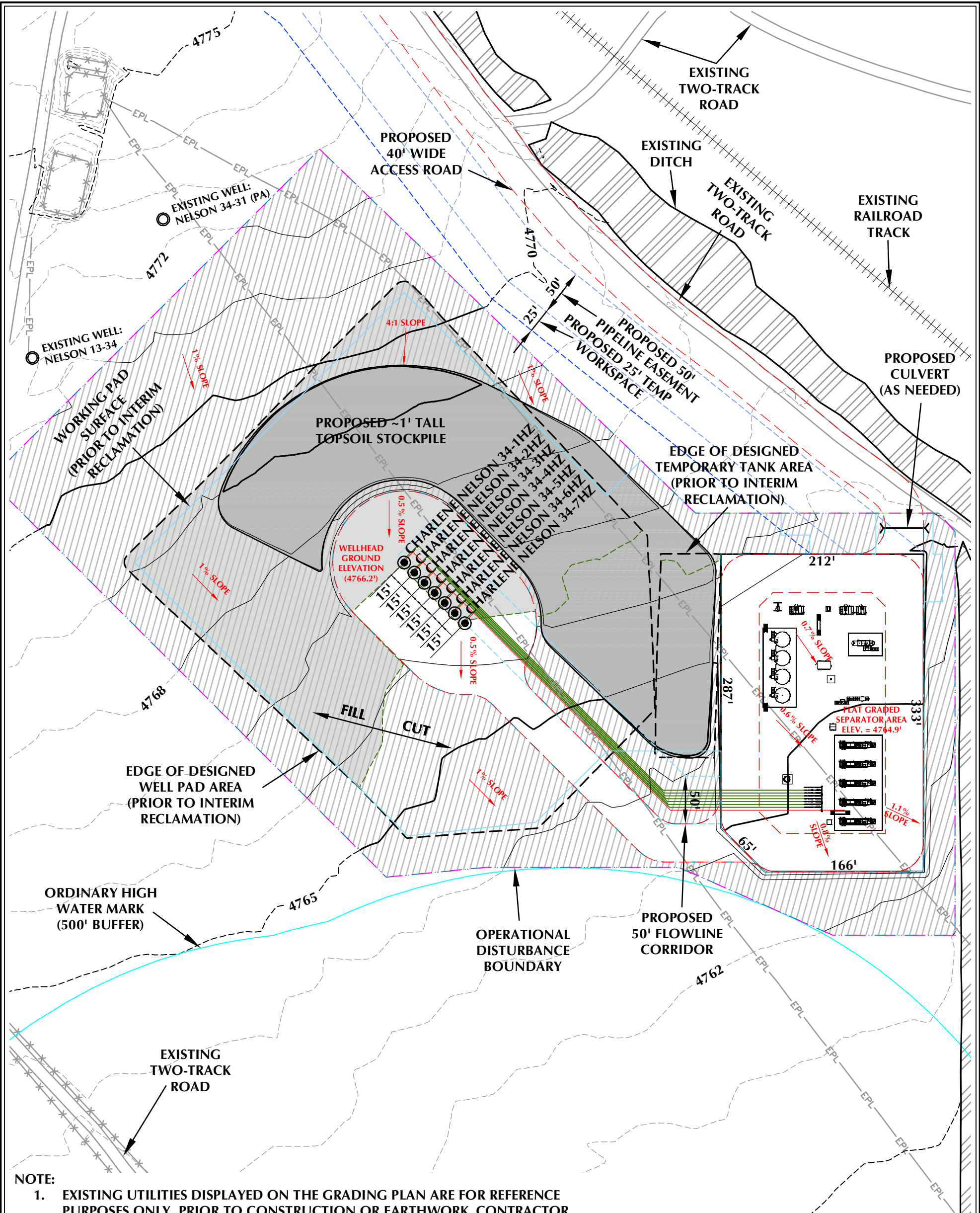
Landowner Requested Seed Mix (Areas not being returned to Agriculture)

SANDY SOIL MIX 3 (Granite Seed)

Species	% Mix
Western wheatgrass	15
Slender wheatgrass	25
Pubescent wheatgrass	10
Sideoats grama	10
Blue grama	10
Sand bluestem	5
Little bluestem	5
Sand dropseed	2
Switchgrass	11
Green needlegrass	2
Prairie sandreed	1
Alfalfa	4
*Drill Seed rate of 15 PLS LBS/Acre	
*Seed mix is dependent on availability and may require substitution in the event of a shortage of individual species.	

APPENDIX C

INTERIM RECLAMATION GRADING PLAN



NOTE:
1. EXISTING UTILITIES DISPLAYED ON THE GRADING PLAN ARE FOR REFERENCE PURPOSES ONLY. PRIOR TO CONSTRUCTION OR EARTHWORK, CONTRACTOR WILL BE RESPONSIBLE TO CALL FOR LOCATES: (800) 922-1987

FACILITY REVISION: CNELSON-PP-2020 REV F

PAD - CHARLENE NELSON 12-34HZ INTERIM RECLAMATION SUMMARY

QUANTITIES AND DESIGN PARAMETERS

SHRINKAGE FACTOR = 1.00
SWELL FACTOR = 1.00
TOTAL DISTURBANCE AREA = 10.47 ACRES
AREA RECLAIMED DURING INTERIM RECLAMATION = 7.81 ACRES
TOTAL WELL PAD AREA AFTER INTERIM RECLAMATION = 1.06 ACRES
TOTAL FACILITY PAD AREA AFTER INTERIM RECLAMATION = 1.60 ACRES

WELL PAD QUANTITIES

TOTAL CUT = 2,160 C.Y.
TOTAL FILL = 2,160 C.Y.
TOPSOIL @ 8" DEPTH FROM WELL PAD = 5,979 C.Y.
TOPSOIL @ 8" DEPTH FROM FACILITY/TEMP TANK PAD = 2,767 C.Y.
TOTAL TOPSOIL = 8,746 C.Y.
TOPSOIL USED FOR INTERIM REC = 5,379 C.Y.
TOPSOIL STORED FOR FINAL REC = 3,367 C.Y.

PAD - CHARLENE NELSON 12-34HZ

PAD - INTERIM RECLAMATION
CHARLENE NELSON 34-1HZ,
CHARLENE NELSON 34-2HZ, CHARLENE NELSON 34-3HZ,
CHARLENE NELSON 34-4HZ, CHARLENE NELSON 34-5HZ,
CHARLENE NELSON 34-6HZ & CHARLENE NELSON 34-7HZ
LOCATED IN SECTION 34, T5N, R67W, 6TH P.M.
WELD COUNTY, COLORADO

Kerr-McGee Oil &
Gas Onshore L.P.
1099 18th Street
Denver, Colorado 80202



CONSULTING, LLC

LOVELAND OFFICE
6706 North Franklin Avenue
Loveland, Colorado 80538
Phone 970-776-4331

SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609

LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (1' INTERVAL)
- PROPOSED CONTOURS (1' INTERVAL)
- EPL EXISTING PIPELINE
- PROPOSED FLOWLINE
- EXISTING FENCE
- RECLAMATION AREA



HORIZONTAL 0 50' 100' 1" = 100'

1' CONTOURS

SCALE: 1"=100' DATE: 8/6/21 SHEET NO:

REVISED: SRS 9/14/21 1 1 OF 1

APPENDIX D

SUMMARY OF SITE-SPECIFIC EROSION & SEDIMENT CONTROLS / BMPs

SUMMARY OF SITE-SPECIFIC STORMWATER, EROSION & SEDIMENT CONTROLS / BMPs FOR INTERIM RECLAMATION PHASE

Stormwater will be managed during construction by a combination of site-specific erosion and sediment control measures including: delineation of limits of construction to establish a work space; a temporary diversion ditch & berm around the entire location to manage run-on and run-off, and will be removed, seeded and stabilized with straw mulch; ~2 culverts with inlet and outlet protection in the access road to direct stormwater to designated discharge points; seed & mulch to stabilize areas no longer needed for construction, as well as for topsoil stockpiles which will remain in place until final reclamation. Post construction, daily inspections will be completed by on-site personnel. A contractor will conduct stormwater compliance inspections every 30-days and/or following a rain event which produces 0.25" of precipitation or equivalent snow melt which causes surface erosion. Inspections will review all control measures / BMPs implemented, their status, and whether repair or replacement is needed, including weed maintenance when necessary. Maintenance and repair will be completed as soon as practicable, immediately in most cases.