



**Kerr-McGee Oil & Gas Onshore LP**

**Stormwater Management Plan**

**Rainbow 24-9HZ Well Pad and Facility  
E ½, SEC. 9, T5N, R67W**

**Greeley, Colorado**

**May, 2022**

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## 1.0 INTRODUCTION

Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee) has prepared this site-specific Stormwater Management Plan (SWMP) for construction activities in Weld County, Colorado. The SWMP is intended to ensure construction activities adhere to good engineering, hydrologic, and pollution control practices, and to ensure erosion, sediment and stormwater control measures are selected, installed, implemented, and maintained to protect state waters, and minimize site erosion or degradation. This facility is a part of Kerr-McGee's Area 1 operations and is covered under CDPS Permit COR402542.

## 2.0 SITE DESCRIPTION

Operator / ID	Kerr-McGee Oil & Gas Onshore LP
Project / Site Name:	Rainbow 24-9HZ Well Pad and Facility
Location:	Sec. 9, T5N, R67W, Greeley, Colorado
Total Area of Project:	26.26 acres
Description of Existing Vegetation:	Existing vegetation on the subject location is in annual crop rotation, land use is agriculture.
Percentage of Existing Vegetation Cover:	Percentage of existing vegetation cover on the location is 100%, with exception to seasonal planting/harvest and crop rotation.  Method for determination: National Resource Conservation Service (NRCS) soil survey data, and on-site assessment at the time of pit excavation for planning and permitting purposes.
Soil Type(s):	15 – Colby loam, 1 to 3 percent slopes. HSG: B 18 – Colby-Adena loams, 3 to 9 percent slopes. HSG: B 34 – Kim loam, 5 to 9 percent slopes. HSG: A 79 – Weld loam, 1 to 3 percent slopes. HSG: C
Primary Receiving Water:	Unnamed freshwater emergent wetland approximately 3,750 ft northwest of the proposed pad.
Operator ID:	47120
CDPS Permit:	COR402542
Stormwater Manager:	Lynna Scranton, HSE Manager Occidental Petroleum Corporation Office: (720) 929-6317
SWMP Administrator:	Austin Lee, HSE Advisor Occidental Petroleum Corporation Office: (970) 515-1058
Emergency Contact:	Integrated Operation Center (IOC) Office: (970) 515-1500

### 3.0 PROPOSED SEQUENCE OF MAJOR ACTIVITIES

<input checked="" type="checkbox"/> Delineation of Disturbance Limits	<input checked="" type="checkbox"/> Access Road Construction	<input checked="" type="checkbox"/> Perimeter /Control Measures Installation	<input checked="" type="checkbox"/> Grading, stripping, excavation, earthwork	<input checked="" type="checkbox"/> Well drilling & Completions
<input checked="" type="checkbox"/> Facility Construction	<input checked="" type="checkbox"/> Pipeline & Flowline Installation	<input checked="" type="checkbox"/> Disturbance Reduction	<input checked="" type="checkbox"/> Interim & Final Reclamation	<input checked="" type="checkbox"/> Return to Agriculture

All construction and development shall be in accordance with the Colorado Department of Public Health and Environment’s CDPS General Permit for Stormwater Discharges Associated with Construction Activity, and the Colorado Oil and Gas Conservation Commission (COGCC) 304.c.15 and 1002.f rules and requirements.

### 4.0 POTENTIAL POLLUTANT SOURCES

Potential pollution sources shall be placed within the project construction boundary, designated staging area(s), working surface, contained by general or sized secondary containment, and stormwater perimeter controls. Anticipated pollution sources which will be managed by appropriate BMP fact sheets or operational best management standard operating procedures include, but are not limited to:

<input checked="" type="checkbox"/> Disturbed and stored soils	<input checked="" type="checkbox"/> Vehicle/equipment maintenance and fueling	<input type="checkbox"/> Non-industrial waste
<input checked="" type="checkbox"/> Vehicle tracking of sediments	<input checked="" type="checkbox"/> Dust generating processes	<input checked="" type="checkbox"/> Potential Spills
<input type="checkbox"/> Management of contaminated soils	<input checked="" type="checkbox"/> Routine maintenance activities	<input type="checkbox"/> Spill prevention and response
<input checked="" type="checkbox"/> Loading/unloading ops	<input checked="" type="checkbox"/> On-site waste management	
<input checked="" type="checkbox"/> Outdoor storage activities	<input type="checkbox"/> Concrete truck washing	

No dedicated concrete or asphalt batch plants will be at the project location. Safety Data Sheets (SDS) for materials to be used are maintained by Kerr-McGee. Pollutants shall be managed in accordance with waste regulations administered by COGCC 900 series rules.

### 5.0 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. Control measures will be implemented and adjusted with changing site conditions, as well as phases of construction. All control measures deployed throughout construction shall be identified on the site-specific stormwater management plan (grading plan), as well on as-built plans verified in the field.

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 measure for Rainbow 24-9HZ 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 Limits of Construction (LOC)

- Limits of construction will be used to designate the area of intended development and areas intended for surface disturbing activities.
- The LOC will be identified prior to commencement of surface disturbing activities, on the location grading plan, and in-field with wooden survey lathe / staking to delineate the boundary.
- The LOC surrounds the entirety of Rainbow 24-9HZ.
- LOC will remain in-place until interim reclamation activities are complete.

### 5.1.2 Vehicle Tracking Control (VTC)

- Vehicle tracking controls will serve as a stabilized site access point which removes sediment from vehicle tires and mitigates off-site tracking onto paved surfaces.
- VTC will be installed prior to commencement of surface disturbing activities.
- VTC will be installed at the primary access for Rainbow 24-9HZ, which is to the southeast of both the well pad and facility pad. The access road adjoins/intersects Weld County Road 19, approximately 0.31 miles north of the location.
- VTC will remain in place until interim reclamation activities are complete.

### 5.1.3 Temporary Diversion Ditch and Berm (DD)

- A diversion ditch and berm will be implemented to divert stormwater run-on & run-off throughout Rainbow 24-9HZ to a designated outlet structure(s).
- This BMP will be installed prior surface disturbing activities and will surround the entirety of the location to create continuous perimeter control.
- A diversion ditch and berm will serve as a continuous perimeter control for the location.
- Diversion ditch and berm will remain in-place until interim reclamation activities are complete.

### 5.1.4 Temporary Spillway and Outlet (SW/O)

- A temporary spillway and/or outlet are designed to capture sediment transported in surface runoff and slowly release flows to allow time for settling of sediment prior to discharge from the location.
- Spillway and/or outlet will be installed concurrently with the facility diversion ditch and berm, and prior to commencement of surface disturbing activities.
- A temporary spillway/outlet will be installed in the northeastern segment of the well pad ditch and berm for Rainbow 24-9HZ.
- All spillways and outlets will remain in-place until interim reclamation activities are complete.

### 5.1.5 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 southern location access point for Rainbow 24-9HZ. 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 Rainbow 24-9HZ and removed during final reclamation.

#### **5.1.6 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 prior to commencement of surface disturbing activities.
- Inlet and outlet protection will be installed for all culverts, temporary spillways, and temporary outlets at Rainbow 24-9HZ.
- Inlet and outlet protection will remain in place throughout the life of production for Rainbow 24-9HZ and removed with culverts and outlets during final reclamation.

#### **5.1.7 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 Rainbow 24-9HZ for use during interim and final reclamation. Anticipated topsoil stockpiles will be situated along the northwestern perimeter for the well pad.
- Seed and mulch will be disturbed and re-applied during topsoil application and final reclamation practices.

### **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 Rainbow 24-9HZ to minimize the amount of surface disturbance and exposed soils to the greatest extent practicable.

#### **5.2.2 Construction Site Waste Management**

- All waste from materials imported to Rainbow 24-9HZ will be placed in containment bins, and removed for disposal/recycling at an approved, licensed facility.
- Self-contained port-o-lets will be placed on both the facility and well pad at Rainbow 24-9HZ and maintained by a licensed contractor at a frequency appropriate based on daily use.
- No waste materials will be buried or dumped on Rainbow 24-9HZ.

#### **5.2.3 Protection and Preservation of Existing Vegetation**

- Pre-existing vegetation cover will only be removed where necessary for the operation of construction and development at Rainbow 24-9HZ. 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.

#### **5.2.4 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.

#### 5.2.5 Materials Management

- Materials stored on Rainbow 24-9HZ will be kept away from direct traffic to prevent accidents.
- Dumpsters and trash receptacles will be enclosed and/or covered to prevent dissemination of rubbish when not in use.
- Storage areas will be swept for trash / rubbish, and cleanup coordinated by construction personnel.
- Drums and chemical storage containers will be clearly labeled, and an appropriate SDS kept on file to be made available for on-site personnel as needed.

#### 5.2.6 Training and Certification

- All personnel involved with construction and stormwater activities will be adequately trained and familiarized with the applicable CDPS stormwater permit, local/State regulations, requirements for the stormwater permit, and identification of potential pollutant sources.
- Training(s) will cover information and procedures identified in this SWMP, and will be conducted prior to the start of construction, and as needed.
- Training is considered initial and ongoing for all personnel involved with construction and development at Rainbow 24-9HZ.

### 6.0 MATERIALS HANDLING AND SPILL PREVENTION

Discharges of hazardous substances or oil resulting from spills or construction operations are not authorized under the Construction General Permit or this plan. Spills and leaks will be managed by Kerr-McGee personnel or their designee, and according to the Kerr-McGee *Wattenberg Field, Colorado Spill Prevention, Control and Countermeasures (SPCC)* Plan. Kerr-McGee personnel and designees are trained to prevent, mitigate, evaluate, and response to spills and releases. **In the event of a spill, notify the Stormwater Manager, after taking emergency and internal procedures for notification.** Depending on the nature of the spill and material involved, the Colorado Department of Public Health and Environment 24-hour spill reporting line (877-518-5608) will be contacted and/or downstream water users notified, as necessary.

### 7.0 NON-STORMWATER DISCHARGES

Sources of non-stormwater discharges include emergency fire-fighting activities or a fire hydrant, uncontaminated springs which do not originate from an area of land disturbance, and construction dewatering. In the event of construction dewatering, control measures shall be implemented and Low Risk Discharge Guidance for Uncontaminated Groundwater to Land (WQP27) shall be followed.

### 8.0 FINAL STABILIZATION

All soil horizons segregated for the purpose of construction shall be replaced to their original relative positions and contour for reclamation and final stabilization. Following topsoil re-distribution, the reclamation area shall be cross ripped to alleviate compaction. Soil amendments will be determined and applied as necessary, and incorporated by disking, harrowing or cultipacking during seedbed preparation.

Seed used for reclamation will be determined based on surface owner consultation, and consider soil type, land use, and adjacent reference area(s) vegetation. The approved seed mix, in combination with certified weed-free mulch, will be installed when seasonal or weather conditions are most favorable to take advantage of moisture, such as early spring or late fall, and never during windy or frozen conditions.

The Colorado Department of Health and Environment (CDPHE) defines final stabilization as, “finally stabilized means that all ground surface disturbing activities at the site have been completed, and all disturbed areas have been either built on, paved, or a uniform vegetative cover has been established with

an individual plant density of at least 70 percent of pre-disturbance levels, and the vegetation cover is capable of providing erosion control equivalent to pre-existing conditions, or equivalent permanent, physical erosion reduction methods have been employed.” Stabilized unpaved surfaces, such as gravel access roads or working surfaces, necessary for the operation of the facility or nearby facilities, also qualifies as “final stabilized”.

## **9.0 POST-CONSTRUCTION STORMWATER**

Following final stabilization, and pursuant of COGCC rule 1002.f and rule 1004, BMPs shall be maintained under Kerr-McGee’s Post-Construction Stormwater Program, and evaluated for Tier 1 / Non-Tier 1 status as applicable and per COGCC 100 series definitions, until the facility is abandoned, and final reclamation is achieved.

## **10.0 INSPECTION AND MAINTENANCE PROCEDURES**

### **10.1 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 / final 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.

During construction, inspections shall be conducted every 14 days, and after a major precipitation or melt event, which has the potential to cause surface runoff.

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.

### **10.2 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 are 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**

**CDPS STORMWATER GENERAL PERMIT CERTIFICATION**



**COLORADO**  
Department of Public  
Health & Environment

**CERTIFICATION TO DISCHARGE  
UNDER  
CDPS GENERAL PERMIT COR400000  
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

Certification Number: **COR402542**

**This Certification to Discharge specifically authorizes:**

**Owner Kerr McGee Oil and Gas Onshore LP  
Operator Kerr McGee Oil and Gas Onshore LP**

to discharge stormwater from the facility identified as

**Kerr Area 1**

**To the waters of the State of Colorado, including, but not limited to:  
to South Platte River**

**Facility Activity :** Oil & Gas Field Development  
**Disturbed Acres:** >5 acres  
**Facility Located at:** See Map in File Uninc CO 80537  
Larimer County  
Latitude 40.279 Longitude -104.54

**Specific Information  
(if applicable):**

**Certification is issued 4/1/2019**

**Certification is effective 4/1/2019**

**Expiration date of general permit : 3/31/2024**

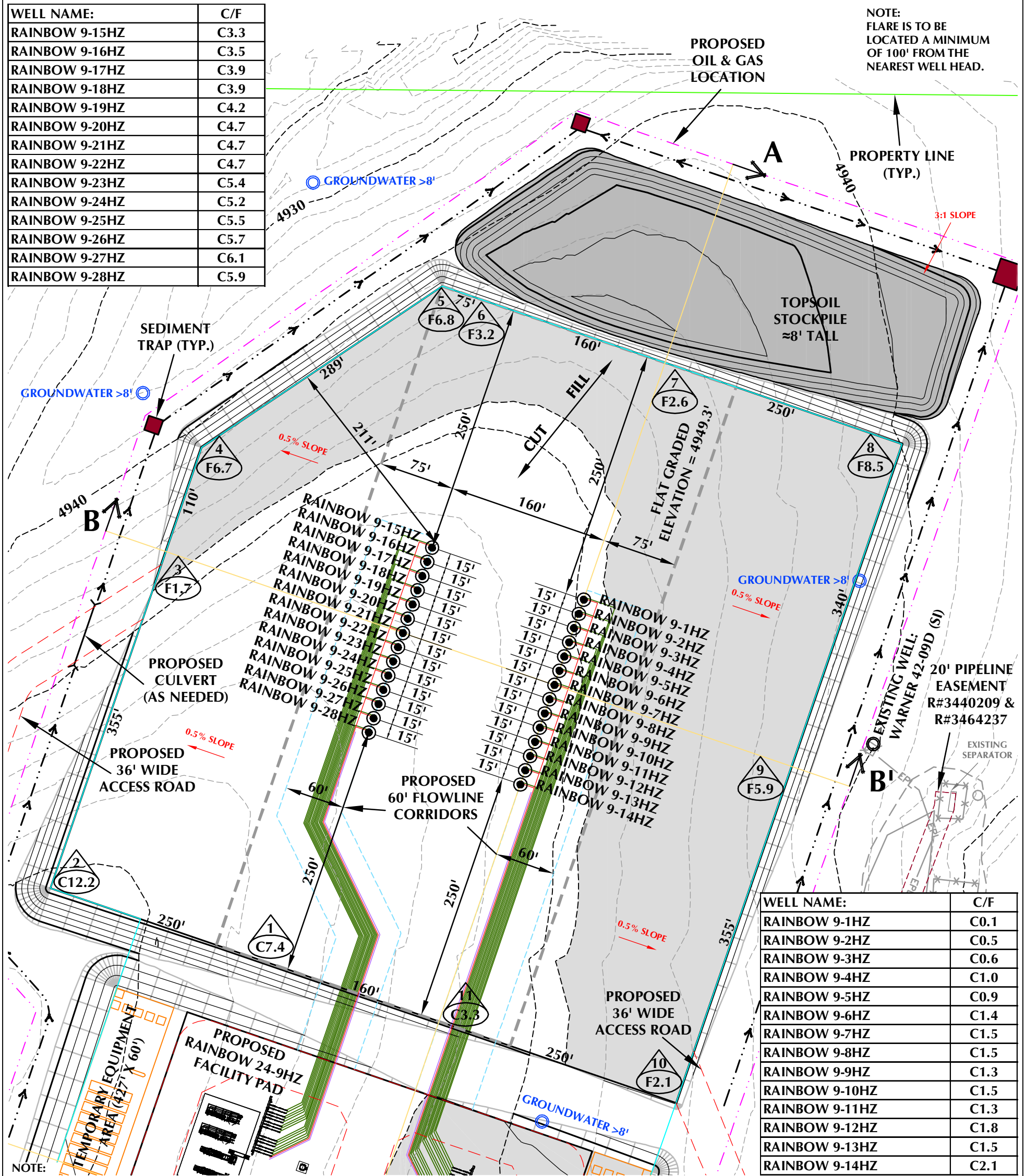
This certification under the permit requires that specific actions be performed at designated times. The certification holder is legally obligated to comply with all terms and conditions of the permit.

This certification was approved by:  
Meg Parish, Unit Manager  
Permits Section  
Water Quality Control Division



**APPENDIX B**  
**GRADING PLANS**

WELL NAME:	C/F
RAINBOW 9-15HZ	C3.3
RAINBOW 9-16HZ	C3.5
RAINBOW 9-17HZ	C3.9
RAINBOW 9-18HZ	C3.9
RAINBOW 9-19HZ	C4.2
RAINBOW 9-20HZ	C4.7
RAINBOW 9-21HZ	C4.7
RAINBOW 9-22HZ	C4.7
RAINBOW 9-23HZ	C5.4
RAINBOW 9-24HZ	C5.2
RAINBOW 9-25HZ	C5.5
RAINBOW 9-26HZ	C5.7
RAINBOW 9-27HZ	C6.1
RAINBOW 9-28HZ	C5.9



NOTE:  
FLARE IS TO BE  
LOCATED A MINIMUM  
OF 100' FROM THE  
NEAREST WELL HEAD.

WELL NAME:	C/F
RAINBOW 9-1HZ	C0.1
RAINBOW 9-2HZ	C0.5
RAINBOW 9-3HZ	C0.6
RAINBOW 9-4HZ	C1.0
RAINBOW 9-5HZ	C0.9
RAINBOW 9-6HZ	C1.4
RAINBOW 9-7HZ	C1.5
RAINBOW 9-8HZ	C1.5
RAINBOW 9-9HZ	C1.3
RAINBOW 9-10HZ	C1.5
RAINBOW 9-11HZ	C1.3
RAINBOW 9-12HZ	C1.8
RAINBOW 9-13HZ	C1.5
RAINBOW 9-14HZ	C2.1

- NOTE:
1. PIPELINE AND UTILITY CORRIDORS ARE PLANNED AND DETERMINED BY THIRD PARTY COMPANIES. SPECIFIC PIPELINE AND UTILITY CORRIDOR LOCATIONS WILL BE DECIDED BY THOSE THIRD PARTY COMPANIES CLOSER TO THE START DATE OF OPERATIONS BASED ON CONTRACT AND RIGHT-OF-WAY NEGOTIATIONS.
  2. 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
  3. DIVERSION DITCH AND/OR BERM TO BE CONSTRUCTED AROUND THE ENTIRE PAD LOCATION. BERM SECTIONS TO BE COMPACTED IN ACCORDANCE WITH STANDARD CONSTRUCTION PRACTICES.
  4. CENTER OF WELL PAD REFERENCED BELOW CORRESPONDS TO THE SURFACE LOCATION OF THE RAINBOW 9-7HZ WELL.
  5. FLAT GRADED AREA TO BE RECLAIMED DURING INTERIM RECLAMATION.

## WELL PAD - RAINBOW 24-9HZ CONSTRUCTION LAYOUT DRAWING - PLAN VIEW

### WELL PAD QUANTITIES AND DESIGN PARAMETERS

EXISTING GRADE @ CENTER OF WELL PAD = 4950.8'  
FINISHED GRADE ELEVATION = 4949.3'  
CUT SLOPES = 3:1  
FILL SLOPES = 3:1  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
GRADED WELL PAD SURFACE AREA = 10.07 ACRES  
TOTAL WELL PAD AREA = 11.16 ACRES  
PROPOSED OIL & GAS LOCATION = 26.26 ACRES

### WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 34,614 C.Y.  
TOTAL FILL FOR WELL PAD = 34,614 C.Y.  
TOPSOIL @ 12" DEPTH = 17,999 C.Y.  
IMPORT MATERIAL = 0 C.Y.  
TOTAL DISTURBANCE AREA  
OIL & GAS LOCATION = 26.26 ACRES  
WORKING PAD SURFACE = 16.17 ACRES  
ACCESS ROADS = 3.57 ACRES  
PIPELINE/UTILITY CORRIDOR = SEE NOTE 1

FACILITY REVISION: X00476-STOR-PP-2020 Rev M

### WELL PAD - RAINBOW 24-9HZ

CONSTRUCTION LAYOUT DRAWING - PLAN VIEW  
RAINBOW 9-1HZ, RAINBOW 9-2HZ, RAINBOW 9-3HZ, RAINBOW 9-4HZ,  
RAINBOW 9-5HZ, RAINBOW 9-6HZ, RAINBOW 9-7HZ, RAINBOW 9-8HZ,  
RAINBOW 9-9HZ, RAINBOW 9-10HZ, RAINBOW 9-11HZ, RAINBOW 9-12HZ,  
RAINBOW 9-13HZ, RAINBOW 9-14HZ, RAINBOW 9-15HZ, RAINBOW 9-16HZ,  
RAINBOW 9-17HZ, RAINBOW 9-18HZ, RAINBOW 9-19HZ, RAINBOW 9-20HZ,  
RAINBOW 9-21HZ, RAINBOW 9-22HZ, RAINBOW 9-23HZ, RAINBOW 9-24HZ,  
RAINBOW 9-25HZ, RAINBOW 9-26HZ, RAINBOW 9-27HZ & RAINBOW 9-28HZ  
LOCATED IN SECTION 9, T5N, R67W, 6TH P.M.  
GREELEY, COLORADO

**Kerr-McGee Oil &  
Gas Onshore LP**  
1099 18th Street  
Denver, Colorado 80202



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

### WELL PAD LEGEND

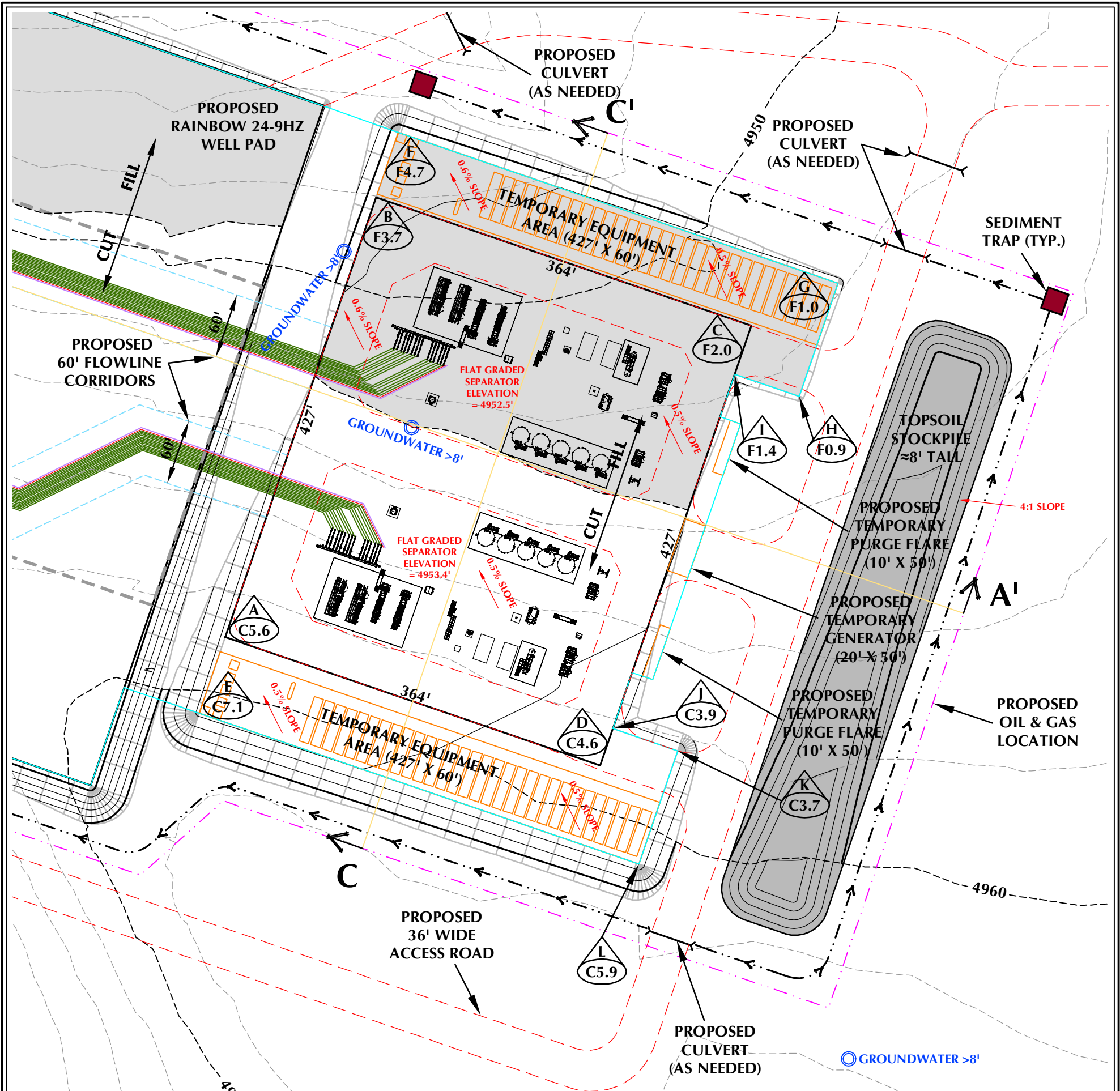
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- EPL
- EXISTING PIPELINE
- PROPOSED FLOWLINE
- EXISTING FENCE
- PROPOSED UNDERGROUND ELECTRIC LINE
- DIVERSION DITCH AND/OR BERM
- WORKING PAD SURFACE (WPS)



2' CONTOURS 0 50' 100'  
HORIZONTAL 1" = 100'

SCALE: 1"=100' DATE: 1/4/22 SHEET NO:  
HJL  
REVISED: 5/13/22 1 1 OF 1





- NOTE:
1. PIPELINE AND UTILITY CORRIDORS ARE PLANNED AND DETERMINED BY THIRD PARTY COMPANIES. SPECIFIC PIPELINE AND UTILITY CORRIDOR LOCATIONS WILL BE DECIDED BY THOSE THIRD PARTY COMPANIES CLOSER TO THE START DATE OF OPERATIONS BASED ON CONTRACT AND RIGHT-OF-WAY NEGOTIATIONS.
  2. TOTAL EARTHWORK BETWEEN THE FACILITY PAD AND TEMPORARY EQUIPMENT PAD BALANCE (0 C.Y. OF IMPORT MATERIAL). COMBINING THE PADS REQUIRE A TOTAL CUT OF 13,411 C.Y. AND FILL OF 13,411 C.Y.
  3. 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
  4. DIVERSION DITCH AND/OR BERM TO BE CONSTRUCTED AROUND THE ENTIRE PAD LOCATION. BERM SECTIONS TO BE COMPACTED IN ACCORDANCE WITH STANDARD CONSTRUCTION PRACTICES.

TEMPORARY EQUIPMENT PADS -  
RAINBOW 24-9HZ DESIGN  
SUMMARY

PAD QUANTITIES AND DESIGN PARAMETERS

CUT SLOPES = 5:1  
FILL SLOPES = 5:1  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
GRADED PAD AREA = 1.47 ACRES  
TOTAL PAD AREA = 1.80 ACRES

PAD QUANTITIES

TOTAL CUT FOR PAD = 7,013 C.Y.  
TOTAL FILL FOR PAD = 5,153 C.Y.  
TOPSOIL @ 12" DEPTH = 2,897 C.Y.  
EXCESS MATERIAL = 1,860 C.Y.

FACILITY PAD - RAINBOW 24-9HZ CONSTRUCTION LAYOUT DRAWING - PLAN VIEW

FACILITY PAD QUANTITIES AND DESIGN PARAMETERS

CUT SLOPES = 5:1  
FILL SLOPES = 5:1  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
GRADED FACILITY PAD SURFACE AREA = 3.58 ACRES  
TOTAL FACILITY PAD AREA = 4.19 ACRES  
PROPOSED OIL & GAS LOCATION = 26.26 ACRES

FACILITY PAD QUANTITIES

TOTAL CUT FOR FACILITY PAD = 6,398 C.Y.  
TOTAL FILL FOR FACILITY PAD = 8,258 C.Y.  
TOPSOIL @ 12" DEPTH = 6,763 C.Y.  
TOTAL IMPORT = 1,860 C.Y.  
TOTAL DISTURBANCE AREA  
OIL & GAS LOCATION = 22.26 ACRES  
WORKING PAD SURFACE = 16.17 ACRES  
ACCESS ROADS = 3.57 ACRES  
PIPELINE/UTILITY CORRIDOR = SEE NOTE 1

FACILITY REVISION: X00476-STOR-PP-2020 Rev M

FACILITY PAD - RAINBOW 24-9HZ

CONSTRUCTION LAYOUT DRAWING - PLAN VIEW  
RAINBOW 9-1HZ, RAINBOW 9-2HZ, RAINBOW 9-3HZ, RAINBOW 9-4HZ,  
RAINBOW 9-5HZ, RAINBOW 9-6HZ, RAINBOW 9-7HZ, RAINBOW 9-8HZ,  
RAINBOW 9-9HZ, RAINBOW 9-10HZ, RAINBOW 9-11HZ, RAINBOW 9-12HZ,  
RAINBOW 9-13HZ, RAINBOW 9-14HZ, RAINBOW 9-15HZ, RAINBOW 9-16HZ,  
RAINBOW 9-17HZ, RAINBOW 9-18HZ, RAINBOW 9-19HZ, RAINBOW 9-20HZ,  
RAINBOW 9-21HZ, RAINBOW 9-22HZ, RAINBOW 9-23HZ, RAINBOW 9-24HZ,  
RAINBOW 9-25HZ, RAINBOW 9-26HZ, RAINBOW 9-27HZ & RAINBOW 9-28HZ  
LOCATED IN SECTION 9, T5N, R67W, 6TH P.M.  
GREELEY, COLORADO

Kerr-McGee Oil &  
Gas Onshore LP  
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

FACILITY PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- EPL
- EXISTING PIPELINE
- PROPOSED FLOWLINE
- EXISTING FENCE
- PROPOSED UNDERGROUND ELECTRIC LINE
- DIVERSION DITCH AND/OR BERM
- WORKING PAD SURFACE (WPS)

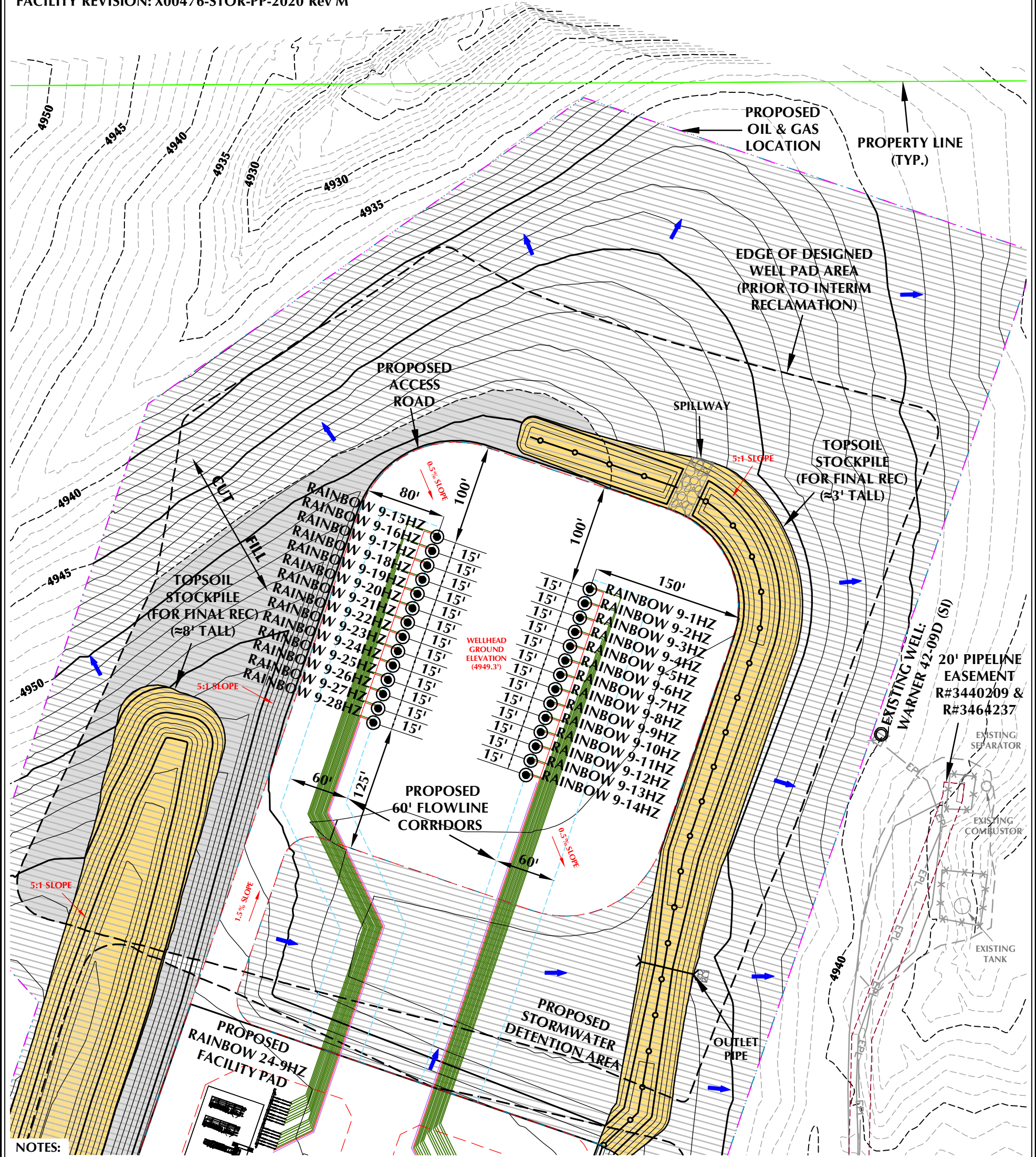


2' CONTOURS 0 50' 100'  
HORIZONTAL 1" = 100'

SCALE: 1"=100' DATE: 1/4/22 SHEET NO:

REVISED: GLK 5/13/22 1 1 OF 1





- NOTES:
- 1. PIPELINE AND UTILITY CORRIDORS ARE PLANNED AND DETERMINED BY THIRD PARTY COMPANIES. SPECIFIC PIPELINE AND UTILITY CORRIDOR LOCATIONS WILL BE DECIDED BY THOSE THIRD PARTY COMPANIES CLOSER TO THE START DATE OF OPERATIONS BASED ON CONTRACT AND RIGHT-OF-WAY NEGOTIATIONS.
  - 2. 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
  - 3. THE 8' TALL BERM IS TO BE CONSTRUCTED UTILIZING ±12,500 C.Y. OF BASE MATERIAL AT APPROXIMATELY 4.5' FEET OF HEIGHT AND COVERED WITH ±8,496 C.Y. OF TOPSOIL TO REACH THE EFFECTIVE 8' TALL BERM HEIGHT.
  - 4. RECLAIMED AREA WILL BE RE-SEEDING AND RE-VEGETATED DURING INTERIM RECLAMATION.

RAINBOW 24-9HZ FACILITY LAYOUT DRAWING

QUANTITIES AND DESIGN PARAMETERS

SHRINKAGE FACTOR = 1.00  
SWELL FACTOR = 1.00  
PROPOSED OIL & GAS LOCATION = 26.26 ACRES  
AREA RECLAIMED DURING INTERIM RECLAMATION = 18.02 ACRES  
TOTAL WELL PAD AREA AFTER INTERIM RECLAMATION = 4.66 ACRES  
TOTAL FACILITY PAD AREA AFTER INTERIM RECLAMATION = 3.58 ACRES

WELL/FACILITY PAD QUANTITIES

TOTAL CUT = 37,687 C.Y.  
TOTAL FILL = 37,687 C.Y.  
TOTAL EXPORT = 0 C.Y.  
TOPSOIL @ 12" DEPTH FROM WELL PAD = 17,999 C.Y.  
TOPSOIL @ 12" DEPTH FROM FACILITY/TEMP EQUIPMENT PADS = 9,660 C.Y.  
TOTAL TOPSOIL = 27,659 C.Y.  
TOPSOIL USED FOR INTERIM REC = 14,371 C.Y.  
TOPSOIL STORED FOR FINAL REC = 13,288 C.Y.  
LAND USE: DRYLAND CROP

RAINBOW 24-9HZ

FACILITY LAYOUT DRAWING  
RAINBOW 9-1HZ, RAINBOW 9-2HZ, RAINBOW 9-3HZ, RAINBOW 9-4HZ, RAINBOW 9-5HZ, RAINBOW 9-6HZ, RAINBOW 9-7HZ, RAINBOW 9-8HZ, RAINBOW 9-9HZ, RAINBOW 9-10HZ, RAINBOW 9-11HZ, RAINBOW 9-12HZ, RAINBOW 9-13HZ, RAINBOW 9-14HZ, RAINBOW 9-15HZ, RAINBOW 9-16HZ, RAINBOW 9-17HZ, RAINBOW 9-18HZ, RAINBOW 9-19HZ, RAINBOW 9-20HZ, RAINBOW 9-21HZ, RAINBOW 9-22HZ, RAINBOW 9-23HZ, RAINBOW 9-24HZ, RAINBOW 9-25HZ, RAINBOW 9-26HZ, RAINBOW 9-27HZ & RAINBOW 9-28HZ  
LOCATED IN SECTION 9, T5N, R67W, 6TH P.M.  
GREELEY, COLORADO

Kerr-McGee Oil &  
Gas Onshore LP  
1099 18th Street  
Denver, Colorado 80202



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

CONSULTING, LLC

LEGEND

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

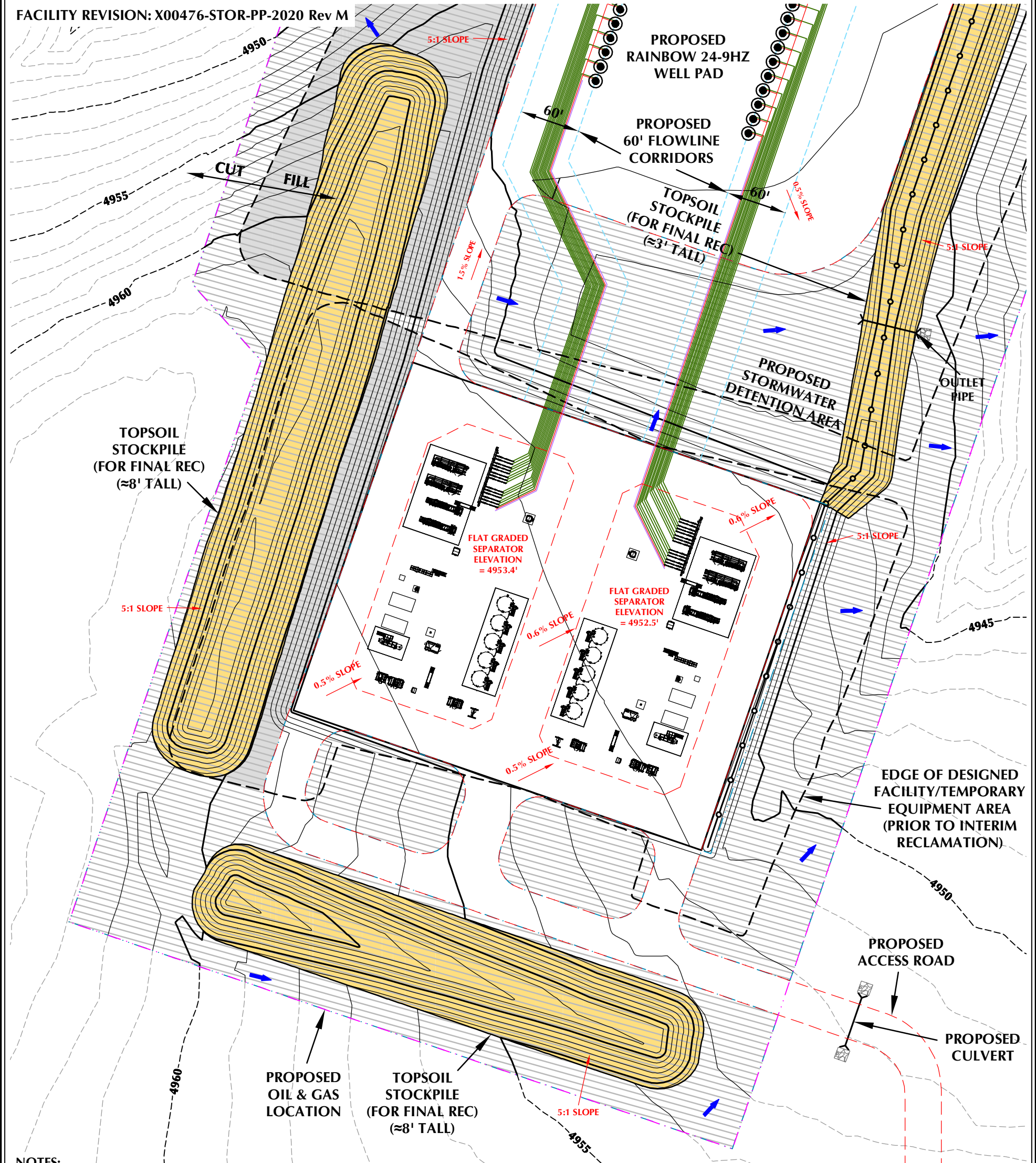


0 50' 100'  
HORIZONTAL 1" = 100'  
1' CONTOURS

SCALE: 1"=100' DATE: 2/10/22 SHEET NO:

REVISED: HJL 3/28/22 1 1 OF 4





- NOTES:
- PIPELINE AND UTILITY CORRIDORS ARE PLANNED AND DETERMINED BY THIRD PARTY COMPANIES. SPECIFIC PIPELINE AND UTILITY CORRIDOR LOCATIONS WILL BE DECIDED BY THOSE THIRD PARTY COMPANIES CLOSER TO THE START DATE OF OPERATIONS BASED ON CONTRACT AND RIGHT-OF-WAY NEGOTIATIONS.
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LAND USE: DRYLAND CROP

**LEGEND**

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

**609 CONSULTING, LLC**

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

SHERIDAN OFFICE  
1095 Saberton Avenue  
Sheridan, Wyoming 82801  
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**RAINBOW 24-9HZ**

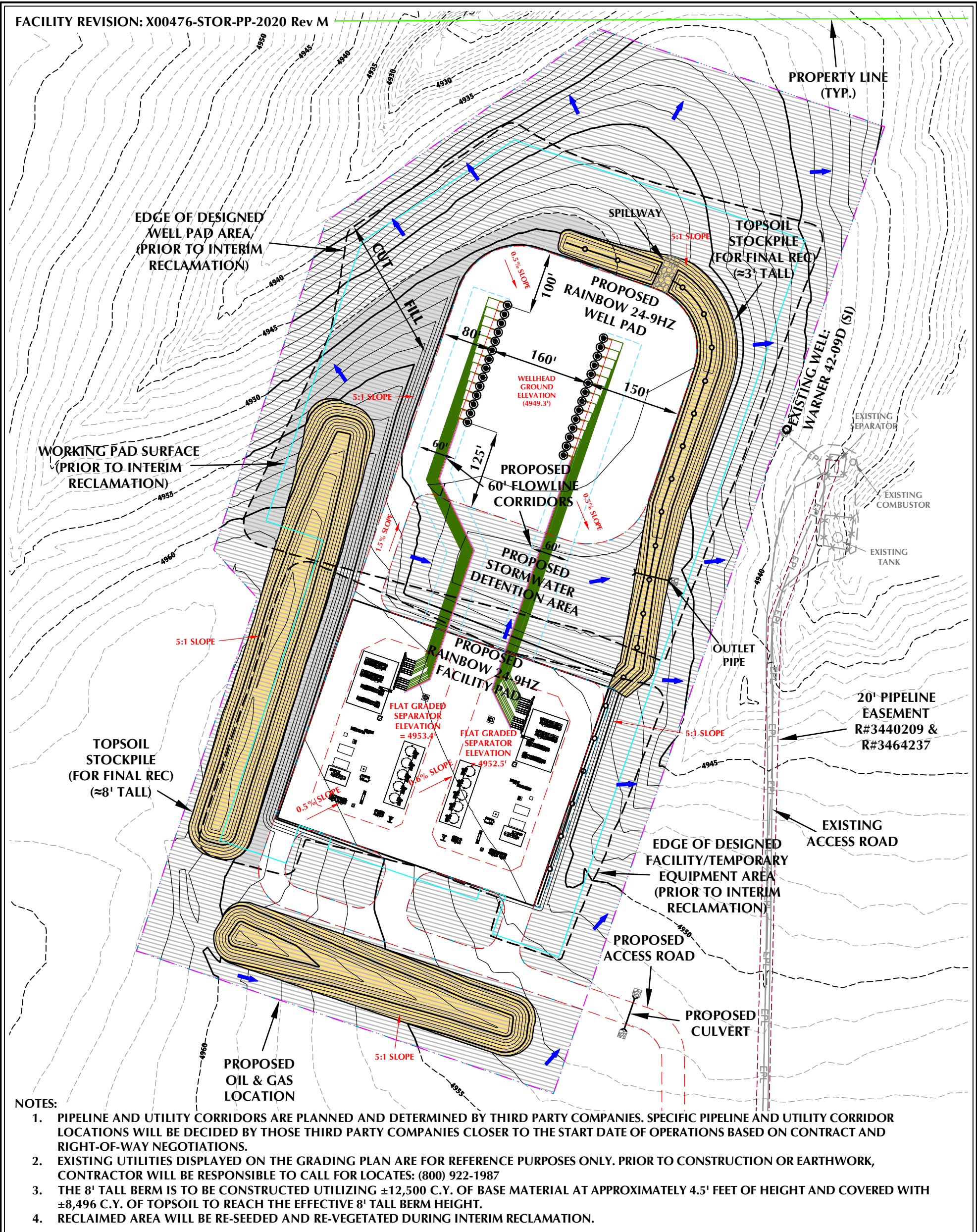
FACILITY LAYOUT DRAWING  
RAINBOW 9-1HZ, RAINBOW 9-2HZ, RAINBOW 9-3HZ, RAINBOW 9-4HZ, RAINBOW 9-5HZ, RAINBOW 9-6HZ, RAINBOW 9-7HZ, RAINBOW 9-8HZ, RAINBOW 9-9HZ, RAINBOW 9-10HZ, RAINBOW 9-11HZ, RAINBOW 9-12HZ, RAINBOW 9-13HZ, RAINBOW 9-14HZ, RAINBOW 9-15HZ, RAINBOW 9-16HZ, RAINBOW 9-17HZ, RAINBOW 9-18HZ, RAINBOW 9-19HZ, RAINBOW 9-20HZ, RAINBOW 9-21HZ, RAINBOW 9-22HZ, RAINBOW 9-23HZ, RAINBOW 9-24HZ, RAINBOW 9-25HZ, RAINBOW 9-26HZ, RAINBOW 9-27HZ & RAINBOW 9-28HZ  
LOCATED IN SECTION 9, T5N, R67W, 6TH P.M.  
GREELEY, COLORADO

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1099 18th Street  
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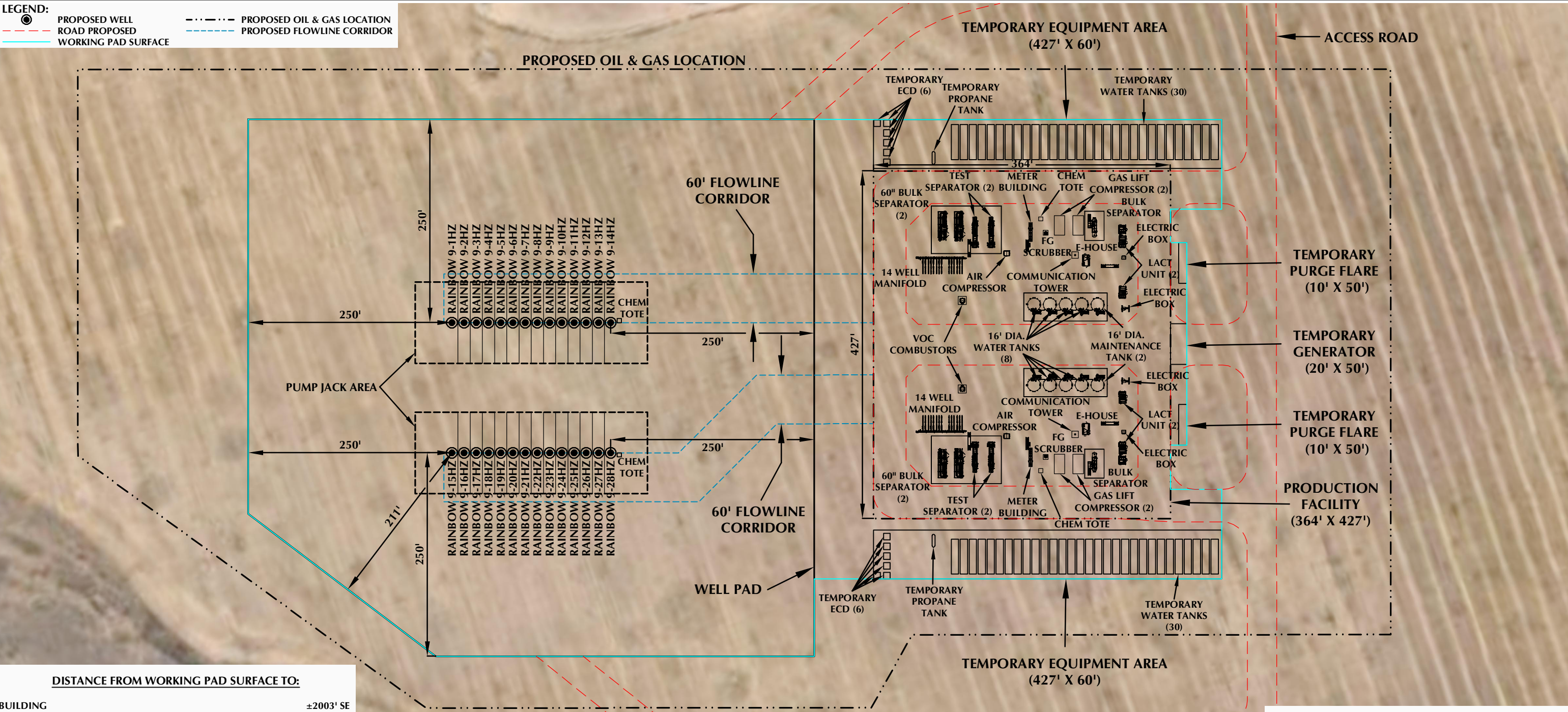
SCALE: 1"=100' DATE: 2/10/22 SHEET NO: 2 OF 4  
REVISED: HJL 3/28/22







**LEGEND:**  
 PROPOSED WELL  
 ROAD PROPOSED  
 WORKING PAD SURFACE  
 PROPOSED OIL & GAS LOCATION  
 PROPOSED FLOWLINE CORRIDOR



DISTANCE FROM WORKING PAD SURFACE TO:	
BUILDING	±2003' SE
RESIDENTIAL BUILDING UNIT (RBU)	±2887' W
HIGH OCCUPANCY BUILDING UNIT (HOBV)	5280'+ N
DESIGNATED OUTSIDE ACTIVITY AREA	5280'+ S
PUBLIC ROAD	±1103' E
ABOVE GROUND UTILITY	±618' N
RAILROAD	±3569' NW
PROPERTY LINE	±196' W
SCHOOL FACILITY	5280'+ N
CHILD CARE CENTER	5280'+ N
DISPROPORTIONATELY IMPACTED (DI) COMMUNITY	5280'+ W
RBU, HOBV, OR SCHOOL FACILITY WITHIN A DI COMMUNITY	5280'+ W

DISTANCE FROM NEAREST PROPOSED WELL TO:	
TEMPORARY WATER TANK	±431' E
PERMANENT WATER TANK	±512' E
PERMANENT MAINTENANCE TANK	±590' E
SEPARATOR	±402' E
TEMPORARY PURGE FLARE	±697' E
TEMPORARY ECD	±349' E
VOC COMBUSTOR	±427' E
WORKING PAD SURFACE	±211' SW

**NOTES:**

- EQUIPMENT PLACEMENT IS APPROXIMATE AND SUBJECT TO MINOR MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.
- FLOWLINE CORRIDOR IS APPROXIMATE AND SUBJECT TO MINOR MODIFICATION DUE TO SPECIFIC CIRCUMSTANCES.

**FACILITY COORDINATES:**  
LAT: 40.414437° LONG: -104.893659° (NAD83)

**DATA SOURCES:**  
- AERIAL COURTESY OF NEARMAP

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LOVELAND OFFICE  
6706 North Franklin Avenue  
Loveland, Colorado 80538  
Phone 970-776-4331  
SHERIDAN OFFICE  
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Sheridan, Wyoming 82801  
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**Kerr-McGee Oil & Gas Onshore LP**  
1099 18th Street  
Denver, Colorado 80202

SCALE: 1" = 120'  
DATE SURVEYED: 2/21/22  
DATE: 3/1/22  
DRAFTER: GLK  
REVISED: 5/13/22

**FACILITY LAYOUT DRAWING**  
RAINBOW 24-9HZ  
LOCATED IN SECTION 9, T5N, R67W, 6TH P.M.  
GREELEY, COLORADO

K:\ANADARKO\2018-160-BROOKSIDE-BROWN-S-RAINBOW-T5N-R67W-SEC-9\DWG\RAINBOW\_28\_WELL\_OPTION\_FINAL.DWG, 5/13/2022 8:58:41 AM, Hayden

## **APPENDIX C**

### **SUMMARY OF SITE-SPECIFIC EROSION & SEDIMENT CONTROLS / BMPS**

## **SUMMARY OF SITE-SPECIFIC STORMWATER, EROSION & SEDIMENT CONTROLS / BMPs FOR CONSTRUCTION, DRILLING & COMPLETIONS PHASES**

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 vehicle tracking control placed along the southeast portion of the access road to the well pad and the facility pad to mitigate off-site sediment migration from vehicle traffic onto Weld County Road 19, approximately 0.31 miles north of the location; a temporary diversion ditch & berm around the entire location to manage run-on and run-off; temporary spillways and outlet structure placed in the northeastern portion of the well pad ditch and berm which will allow for settling of sediment from stormwater prior to discharge; ~2 culverts with inlet and outlet protection will be installed in the primary location access point 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 interim and final reclamation. During active construction, daily inspections will be completed by on-site personnel. A contractor will conduct stormwater compliance inspections every 14-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. Maintenance and repair will be completed as soon as practicable, immediately in most cases.