



Caerus Oil and Gas, LLC
Operator # 10456

E34-496 - Interim Reclamation Plan

COGCC Location ID #335928
SWNW Section 34, T4S, R96W
Garfield County

Site Description:

The E34-496 was drilled and completed in 2018/2019. The disturbance is on Fee surface with Federal minerals. The site elevation is 8,324 feet. Caerus plans to complete the interim reclamation in the summer of 2021.

Soils Description:

The USDA National Soils Cooperative website was used to identify boundaries of the soils mapping units. The well pad falls within two primary soil types; (~70%) 53 – Parachute Rhone Loams, 5 to 30 percent slopes and (~30%) 52 – Parachute Loam, 25-65 percent slopes. The soils are classified as well drained.

Pre-Disturbance Vegetation Composition:

The vegetation listed under – Parachute Mountain Loam consists of Letterman’s needlegrass 15%, Mountain big sagebrush 10%, Elk sedge 10%, Bluebunch wheatgrass 5%, Mountain snowberry 5%, Utah Serviceberry 5%, Yellow rabbitbrush 5%, Idaho fescue 5%, and Sandberg Bluebunch 5%.

Known Weed Infestations:

There are no known or identified Colorado list A or B weed infestations at this location.

Management of Waste Material:

There is one historical pit on this location that was closed in 2015. If material from the historical pit or cuttings are encountered and impacts are observed (sheen, odor, etc.) the Caerus EHS and Construction departments will be notified. Caerus will assess and determine what steps need to be taken to ensure compliance with COGCC regulations.

All drill cuttings produced during the drilling of wells in 2018 and 2019 were remediated to comply with COGCC Table 910-1 Concentration Levels (except for the EC, SAR, and pH measurements) as approved under COGCC Rule 915.f. via COGCC Document 402577375. Cuttings will be placed in the eastern cut slope of the auxiliary pad disturbance as seen on the attached drawings (Appendix A) in varying thickness based on where in the reclaim area they are placed. Thickness could vary from five to 20 feet. Once the cuttings have been placed in the cut slope, they will be covered with topsoil and non-top soil deposits taken from the cut and fill slopes which are also detailed on the attached drawings (Appendix A). Covering the remediated cuttings with native soil will serve to stabilize the cuttings until interim reclamation is achieved.

In order to address the EC, pH, and SAR exceedances, all cuttings will be placed in the cut slope of the southwestern auxiliary pad as described above and covered with at least three feet of soil. Under Rule 915.b., the COGCC conditionally allows operators to bury (*in situ*) soil exhibiting EC, SAR, and pH measurements that do not meet Soil Suitability for Reclamation Cleanup Concentrations.

Gathering Lines:

There is no pipeline reclamation associated with this project.

Access Road:

The access road associated with this location will remain as is. No reclamation is required for the access road.

Recontouring:

Reclaimed topographic conditions should be similar to pre-disturbance conditions as described in the pre-construction, site specific document and the surveyor plats. The reclaimed landscape should blend with the surrounding contours, historic hydrology should be restored and erosion control BMPs should be installed to prevent stormwater discharges from the

disturbance. The topsoil should be spread at appropriate depths to the geographic topography. In most cases, to a depth of 4 to 6 inches (or if topsoil is scarce, as deep as possible) across the disturbed areas.

The site specific recontouring or landforming design will be installed at the direction of the construction department. Operational equipment will be moved according to the site diagram shown below to maximize the interim reclaim area.

Re-establish and Stabilize Drainage Features:

The goal for stormwater management on this location will be to stabilize soils, prevent excessive erosion, soil instability, subsidence and or slumping. Landforming and successful vegetation will be employed as the best management practices to achieve these goals. Site specific BMPs will be installed at the direction of the construction department.

Seedbed Preparation and Seeding:

Seed beds will be prepared by surface roughening prior to seeding activities. Special effort will be made to salvage and transplant shrubs, trees and other available vegetative growth, during the reclamation process. Seeding will take place as soon as possible following completion of the seed bed preparation, weather permitting. Amendments for this reclaim area shall include: 2000 lbs./acre Richlawn 3-6-3™ organics and 3500 lbs./acre Biotic Earth™ topsoil replacement and growth medium. Crimped straw mulch shall be applied for soil moisture retention and stormwater stabilization. A natural, fiber mulch (hydraulically applied) may also be utilized for areas that are too steep to drill seed and crimp.

Seed will be certified weed free. Seed weight will be calculated in pounds per acre. Seeding may need to be repeated until successful. Caerus will monitor and ensure successful vegetation establishment.

Establish desired self-perpetuating plant community:

The following seed mix will be used on this well pad. The estimated total disturbed acreage for the well pad is approximately 12 acres. The recommended seed rate will depend on the final seed mix selection and application method. See the seed mix listed below.

Interim Reclamation – E34 496 Seed Mix

SEED MIX	BULK LBS PER ACRE *DRILLED RATE*	LBS
Indian Ricegrass (native)	1.00	
Mountain Brome (native)	3.00	
Bluebunch Wheatgrass (native)	1.00	
Meadow Brome	1.00	
Orchard Grass	2.00	
Perineal Ryegrass	2.00	
Tall Fescue	2.00	
Western Wheatgrass (native)	3.00	
Western Yarrow (native)	1.00	
Lewis Blue Flax (native)	1.00	
Sulphur Buckwheat (native)	1.00	
Small Burnett	4.00	
Cicer Milkvetch (legume)	3.00	
Alfalfa, Ladak or Ranger (legume)	2.00	
Sainfoin (legume)	1.00	
Strawberry Clover (legume)	1.00	
Winterfat	1.00	
Oats	10.00	
Total BULK LBS PER ACRE >>>	40.00	

Fencing:

A standard wildlife friendly fence will be installed around the reclaimed well pad to ensure that the interim reclaim does not get overgrazed.

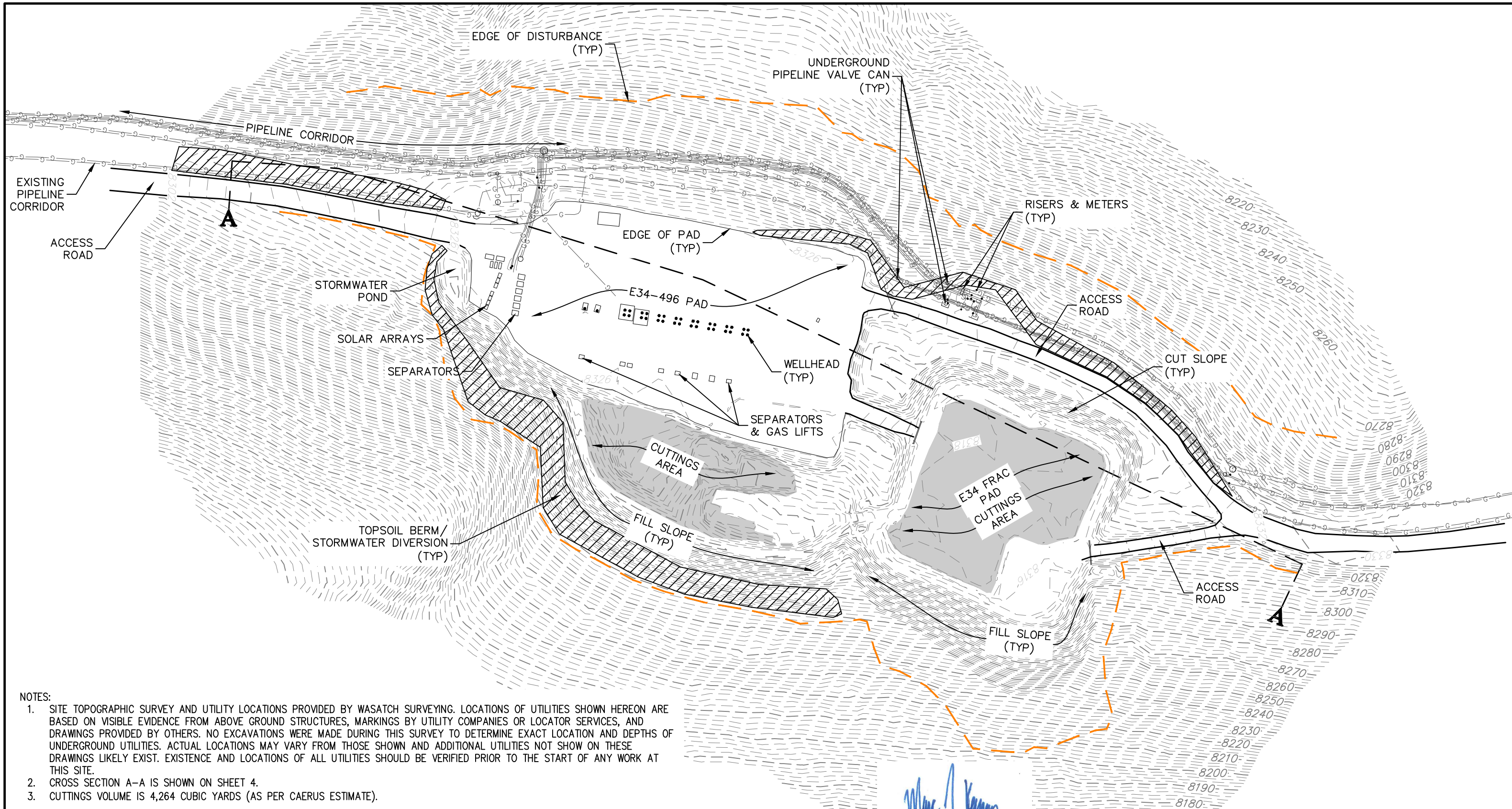
Manage Invasive Plants:

Through annual site visits, noxious and invasive weeds will be identified, inventoried and treated by licensed contracted herbicide applicators or mechanically removed. Caerus will monitor, control and reduce the spread of noxious and invasive weed species within Caerus' disturbances as determined in the Colorado Noxious Weed Act and rules pertaining to the administration and enforcement of the Colorado Noxious Weed Act.

Reclamation Monitoring and Reporting:

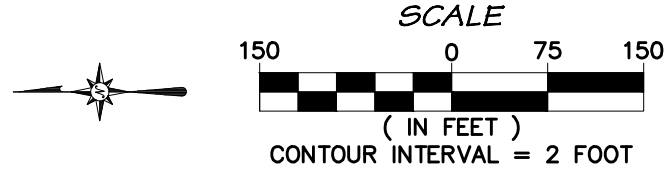
State regulations and Caerus' Best Management Practices require routine site visits and active management over construction activities, along with annual reclamation reporting requirements. For compliance with Colorado Department of Public Health and Environment (CDPHE) Stormwater rules, the location will be visited every 14 days during active construction and monthly thereafter until the vegetation has reached 70% cover of pre-disturbance levels, with the focus on stabilizing the site post-construction. Annual inspections (at a minimum), will then take place on the location, for compliance with COGCC, until the location reaches 80% pre-existing vegetative cover. Focus for this phase will be to further stabilize soils, preventing erosion and site degradation, and to monitor for and treat invasive species.

APPENDIX 1
RECLAMATION FIGURES



NOTES:

1. SITE TOPOGRAPHIC SURVEY AND UTILITY LOCATIONS PROVIDED BY WASATCH SURVEYING. LOCATIONS OF UTILITIES SHOWN HEREON ARE BASED ON VISIBLE EVIDENCE FROM ABOVE GROUND STRUCTURES, MARKINGS BY UTILITY COMPANIES OR LOCATOR SERVICES, AND DRAWINGS PROVIDED BY OTHERS. NO EXCAVATIONS WERE MADE DURING THIS SURVEY TO DETERMINE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN AND ADDITIONAL UTILITIES NOT SHOWN ON THESE DRAWINGS LIKELY EXIST. EXISTENCE AND LOCATIONS OF ALL UTILITIES SHOULD BE VERIFIED PRIOR TO THE START OF ANY WORK AT THIS SITE.
2. CROSS SECTION A-A IS SHOWN ON SHEET 4.
3. CUTTINGS VOLUME IS 4,264 CUBIC YARDS (AS PER CAERUS ESTIMATE).



CAERUS OIL & GAS, LLC

E34-496 WELL PAD

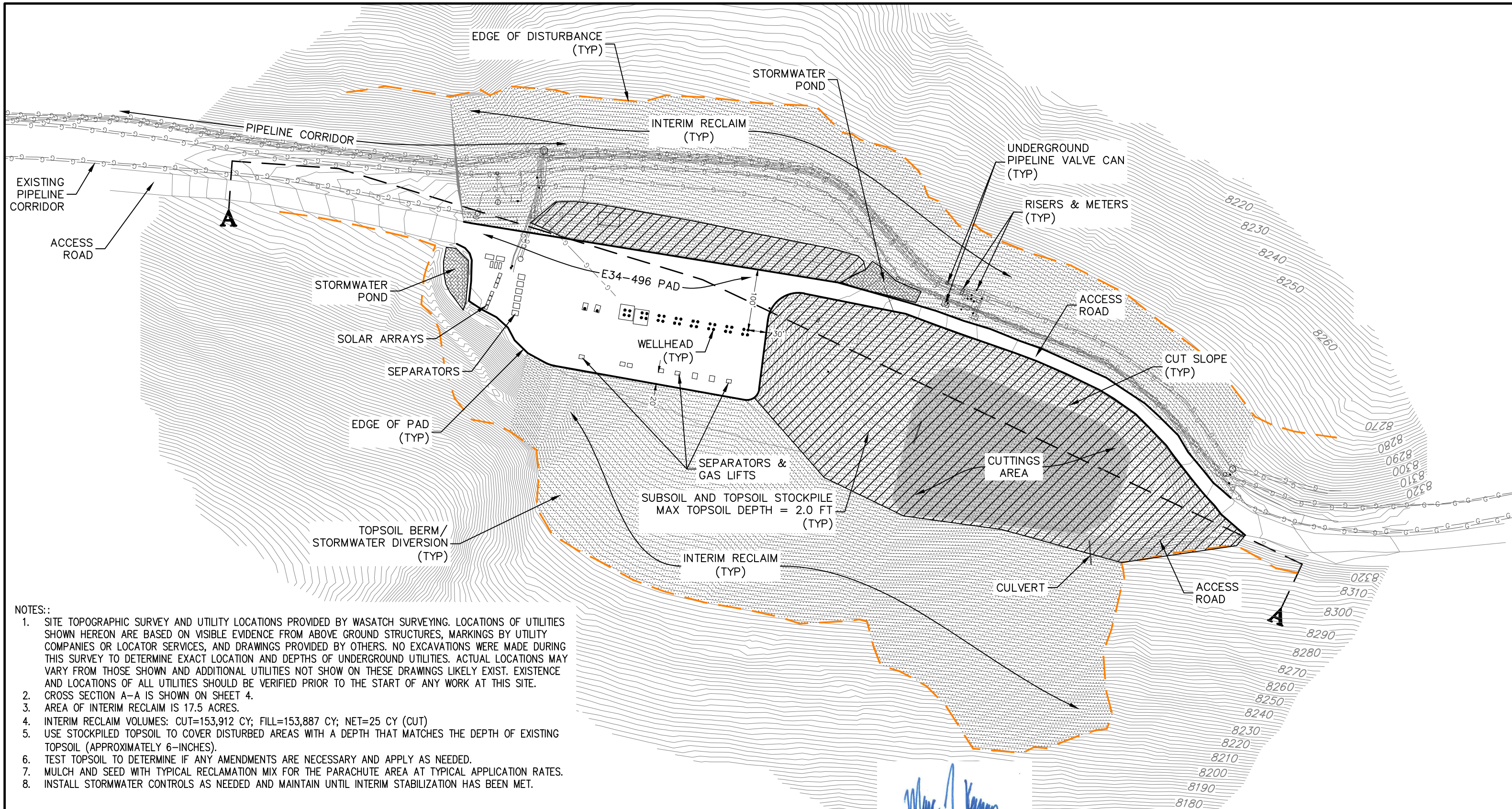
RECLAMATION PLANS

EXISTING CONDITIONS AND CUTTINGS AREA

NO.	DATE	REVISIONS DESCRIPTION	BY

DRAWN BY:	mjk	RCC PROJECT #:	1770-020
CHECKED BY:	mjk	DATE ISSUED:	2020.08.24
HORZ SCALE:	AS SHOWN	ORIGINAL SHEET SIZE:	11 x 17
VERT SCALE:	N/A		

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



- NOTES:
1. SITE TOPOGRAPHIC SURVEY AND UTILITY LOCATIONS PROVIDED BY WASATCH SURVEYING. LOCATIONS OF UTILITIES SHOWN HEREON ARE BASED ON VISIBLE EVIDENCE FROM ABOVE GROUND STRUCTURES, MARKINGS BY UTILITY COMPANIES OR LOCATOR SERVICES, AND DRAWINGS PROVIDED BY OTHERS. NO EXCAVATIONS WERE MADE DURING THIS SURVEY TO DETERMINE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN AND ADDITIONAL UTILITIES NOT SHOWN ON THESE DRAWINGS LIKELY EXIST. EXISTENCE AND LOCATIONS OF ALL UTILITIES SHOULD BE VERIFIED PRIOR TO THE START OF ANY WORK AT THIS SITE.
 2. CROSS SECTION A-A IS SHOWN ON SHEET 4.
 3. AREA OF INTERIM RECLAIM IS 17.5 ACRES.
 4. INTERIM RECLAIM VOLUMES: CUT=153,912 CY; FILL=153,887 CY; NET=25 CY (CUT)
 5. USE STOCKPILED TOPSOIL TO COVER DISTURBED AREAS WITH A DEPTH THAT MATCHES THE DEPTH OF EXISTING TOPSOIL (APPROXIMATELY 6-INCHES).
 6. TEST TOPSOIL TO DETERMINE IF ANY AMENDMENTS ARE NECESSARY AND APPLY AS NEEDED.
 7. MULCH AND SEED WITH TYPICAL RECLAMATION MIX FOR THE PARACHUTE AREA AT TYPICAL APPLICATION RATES.
 8. INSTALL STORMWATER CONTROLS AS NEEDED AND MAINTAIN UNTIL INTERIM STABILIZATION HAS BEEN MET.

UNCC
UTILITY NOTIFICATION CENTER OF COLORADO
Know what's below.
Call before you dig.
800.922.1987
www.uncc.org

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

SCALE

(IN FEET)
CONTOUR INTERVAL = 2 FOOT

REVISIONS

NO.	DATE	DESCRIPTION	BY

RIVER CITY
CONSULTANTS

744 Horizon Court, Suite 110
Grand Junction, CO 81506
www.rccwest.com
Phone: 970.241.4722
Fax: 970.241.8841

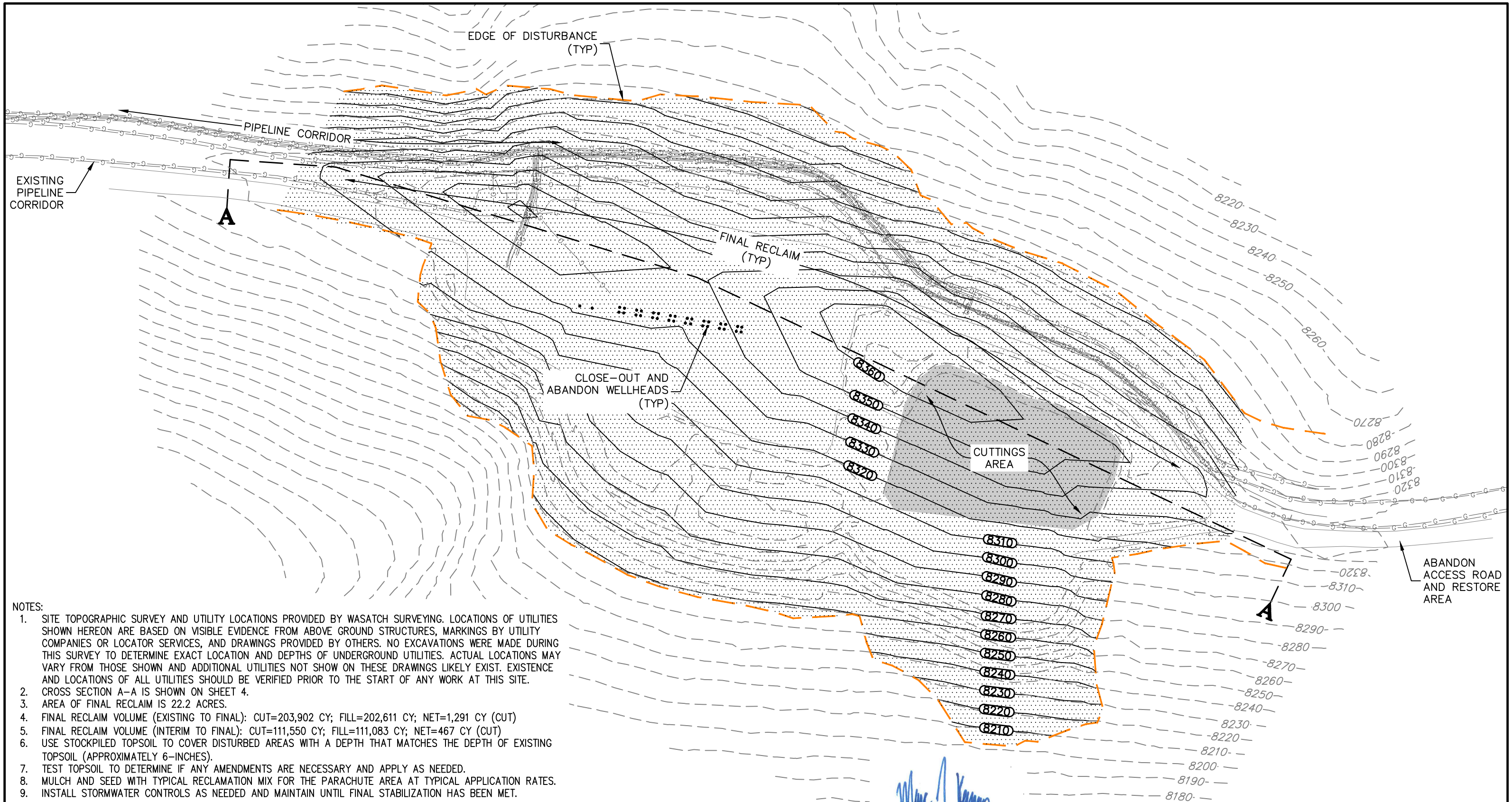
COLORADO LICENSED
ERIC JAMISEN
41215
2020-08-24
PROFESSIONAL ENGINEER

CAERUS OIL & GAS, LLC

E34-496 WELL PAD
RECLAMATION PLANS
INTERIM RECLAMATION GRADING

DRAWN BY:	mjk	RCC PROJECT #:	1770-020
CHECKED BY:	mjk	DATE ISSUED:	2020.08.24
HORZ SCALE:	AS SHOWN	ORIGINAL SHEET SIZE:	11 x 17
VERT SCALE:	N/A		

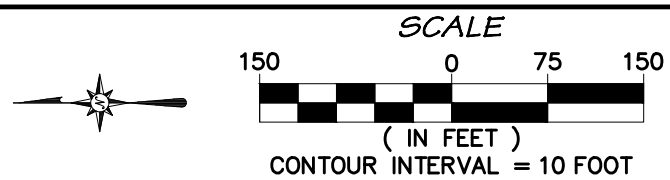
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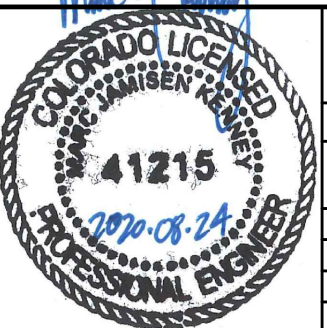
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 2. CROSS SECTION A-A IS SHOWN ON SHEET 4.
 3. AREA OF FINAL RECLAIM IS 22.2 ACRES.
 4. FINAL RECLAIM VOLUME (EXISTING TO FINAL): CUT=203,902 CY; FILL=202,611 CY; NET=1,291 CY (CUT)
 5. FINAL RECLAIM VOLUME (INTERIM TO FINAL): CUT=111,550 CY; FILL=111,083 CY; NET=467 CY (CUT)
 6. USE STOCKPILED TOPSOIL TO COVER DISTURBED AREAS WITH A DEPTH THAT MATCHES THE DEPTH OF EXISTING TOPSOIL (APPROXIMATELY 6-INCHES).
 7. TEST TOPSOIL TO DETERMINE IF ANY AMENDMENTS ARE NECESSARY AND APPLY AS NEEDED.
 8. MULCH AND SEED WITH TYPICAL RECLAMATION MIX FOR THE PARACHUTE AREA AT TYPICAL APPLICATION RATES.
 9. INSTALL STORMWATER CONTROLS AS NEEDED AND MAINTAIN UNTIL FINAL STABILIZATION HAS BEEN MET.



CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



RIVER CITY CONSULTANTS
 744 Horizon Court, Suite 110 Grand Junction, CO 81506 Phone: 970.241.4722 Fax: 970.241.8841



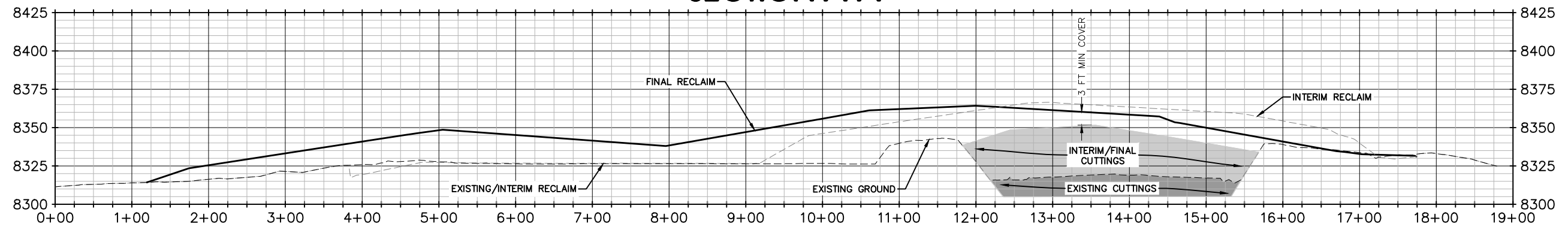
CAERUS OIL & GAS, LLC

E34-496 WELL PAD RECLAMATION PLANS FINAL RECLAMATION GRADING

NO.	DATE	DESCRIPTION	BY

DRAWN BY:	mjk	RCC PROJECT #:	1770-020
CHECKED BY:	mjk	DATE ISSUED:	2020.08.24
HORZ SCALE:	AS SHOWN	ORIGINAL SHEET SIZE:	11 x 17
VERT SCALE:	N/A		

SECTION A-A

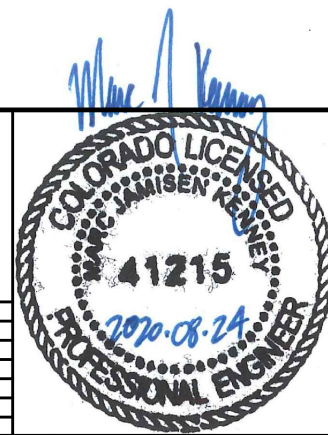
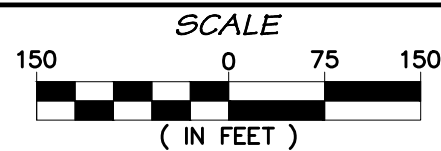


NOTES:

1. FIGURE 1 SHOWS THE CURRENT E34-496 WELL PAD GRADING.
2. FIGURE 2 SHOWS INTERIM RECLAMATION GRADING.
3. FIGURE 3 SHOWS FINAL RECLAMATION GRADING.
4. USE STOCKPILED TOPSOIL TO COVER DISTURBED AREAS WITH A DEPTH THAT MATCHES THE DEPTH OF EXISTING TOPSOIL (APPROXIMATELY 6-INCHES).
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CAERUS OIL & GAS, LLC

E34-496 WELL PAD
RECLAMATION PLANS
SECTION A-A

REVISIONS			
NO.	DATE	DESCRIPTION	BY

DRAWN BY:	mjk	RCC PROJECT #: 1770-020
CHECKED BY:	mjk	DATE ISSUED: 2020.08.24
HORZ SCALE:	1"=150'	ORIGINAL SHEET SIZE: 11 x 17
VERT SCALE:	1"=75'	