SUMMIT OIL & GAS, LLC

Topsoil Importation and Interim Reclamation Report

FOR

Castor 7-59 12 Pad

Prepared For:

COLORADO
Energy & Carbon Management Commission
Department of Natural Resources

1120 Lincoln Street, Suite 801
Denver, Colorado, 80203

Prepared By:

RPG RESOURCES
a System One company

1720 Bellaire Street, Suite 202
Denver, CO 80222
www.rpgres.com

Date Prepared: September 2023

Revised: October 2023

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1. INTRODUCTION

This topsoil importation and interim reclamation report was prepared by RPG Resources (RPG), on behalf of Summit Oil and Gas, LLC (Summit), to identify and address outstanding corrective actions by providing site-specific guidance and recommended best management practices (BMPs) necessary to execute compliant topsoil salvage and interim reclamation for the Castor 7-59 12 Pad (Site). Contents of the report, including proposed measures to address topsoil and reclamation objectives will adhere to the Colorado Energy and Carbon Management Commission (ECMC) updated rules pursuant to 1002.b, 1003.b, and 606.c for Oil and Gas Locations for which operation activity has ceased and long-term production activities are set to begin. Ongoing implementation of the agreed upon topsoil importation and interim reclamation plan will serve to ensure that 1) the correct amount of topsoil is onsite, 2) appropriate surface stabilization is achieved via the establishment of desirable vegetative growth at the Site, and 3) current establishment of all undesirable growth associated previous reclamation efforts at the Site are remediated to meet ECMC and landowner expectations and standards.

This report addresses Summit's intent to comply with all applicable operating requirements. Additional measures may be implemented based on any new environmental constraints that arise or additional site-specific recommendations identified by Summit, ECMC, or the landowner.

2. SITE DESCRIPTION

The Site consists of an existing 10.6 acre well pad and associated 0.42-mile access road located entirely on fee (private) surface in Section 12 of Township 7 North, Range 59 West, in Weld County, CO. Current extent of the existing interim reclamation area recognized amounts to approximately 5.4 acres. For the purposes of this plan, any such area subject to proposed reclamation at the location will occur within a delineated area defined as the limits of disturbance (LOD). Note, ancillary vegetative remediation and/or rehabilitation occurring beyond the LOD identified may be necessary to accomplish reclamation requirements for the Site.

3. LAND USE, TOPOGRAPHY, AND NATURAL FEATURES

The area in which the Site is located generally slopes to the northeast at grades in the 0-2% range. Current land use is oil and gas and rangeland (non-crop) associated with ranging livestock managed by the existing surface owner. The nearest potential surface water is an unnamed NHD riverine feature approximately 1-mile south of the Site.

4. SITE-SPECIFIC IMPLEMENTATION PROTOCOL

This plan is being developed to comply with Rules 1002.b, 1003.b, 606.c and 303.c.(16) for Oil and Gas Locations as required by ECMC and other local government (Weld County) recommendations. The operator's acreage sits primarily within Weld County, Colorado. Additional and related information pertaining to interim reclamation procedures can be found in the operator's Field-Wide Stormwater Management Plan, which is updated periodically.

4.1. Construction Activities

4.1.1. Topsoil Importation

Topsoil depth was evaluated using physical and morphological soil characteristics. Two (2) soil test pits each measuring approximately 12 inches in total depth, were collected for laboratory analysis across the proposed topsoil strip area. Soil samples were analyzed by Weld Laboratories in Greeley, CO for baseline agronomic soil properties. The analytical results from the soil samples were found to be agronomically similar to the topsoil at the Site. See Appendix C for laboratory results. Suitable topsoil for vegetative growth was observed to a depth of 16 inches within the borrow area located approximately 965-feet east of the Site. Nine (9) inches of topsoil was stripped and imported from the borrow area, leaving seven (7) inches of suitable topsoil for reseeding and stabilization. Approximately 193,050 cubic feet (7,150 cubic yards) of total topsoil was imported onto the site. See Appendix B.

The offsite area used for topsoil will be stabilized and reseeded per the landowner's request.

4.1.2. Stockpile Management

Approximately 157,950 cubic feet (5,850 cubic yards) of imported topsoil was redistributed across the interim reclamation area of the Site. The remaining 35,100 cubic feet (1,300 cubic yards) of imported topsoil was stockpiled at the northwest corner of the Final Pad area. Prior to the stockpile being adequately stabilized, perimeter BMPs should be utilized to minimize any topsoil migration off Site due to a precipitation event. Perimeter BMPs can be removed after stabilization is achieved. Once vegetative cover begins, the stockpile should be mowed periodically to help promote even vegetative growth. Weeds should be removed if present.

4.1.3. Compaction Alleviation

All areas compacted by drilling and subsequent oil and gas operations which are no longer needed following a completion of such operations will be cross-ripped at the time of the seeding operations. Ripping will occur to a depth of eighteen (18) inches.

4.2. Reseeding Procedures

4.2.1. Revegetation

After the wells are completed for production, all disturbed areas no longer needed will be restored and revegetated in the fall of 2023. A CPW recommended mitigation sandy soils seed mix for deer will be used for the pad reclamation area and a loamy soils seed mix for deer will be used for the topsoil borrow area. The operator will follow the ECMC guidelines for restoration and revegetation on non-crop land, as detailed below:

(1) Revegetation of non-crop lands. All segregated soil horizons removed from non-crop lands were replaced to their original relative positions and contour as near as practicable to achieve erosion control and long-term stability. The disturbed area was then reseeded with the landowner/ECMC approved seed mix included in Appendix D below. Reseeding with species consistent with the adjacent native plant community is the intended approach to accomplish revegetation at this Site.

4.3. Post-Project Operator Obligations

The operator did not use any on-site drilling pits during any phase of construction.

4.3.1. Reporting

Interim reclamation work was initiated in July 2023 and is scheduled to be completed in Fall 2023. When reclamation work is complete, the operator shall provide the following forms to the ECMC documenting the work performed.

(1) *Form 4 Notice*. Upon completion of work, the operator will submit a Form 4 Sundry Notice detailing the work performed along with a minimum of four (4) photographs in each cardinal direction or one (1) aerial photograph image taken with an unmanned aerial vehicle during the growing season to document successful vegetative growth.

(2) *Form 45*. Whitin six (6) months of completion of reclamation work, the operator will submit a site As-built verifying the work completion and accuracy of acreage returned to original site conditions.

4.3.2. Inspections

Interim reclamation of 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. RPG will monitor the Site continually in accordance with ECMC and CDPHE requirements.

4.3.3. Weed Control

During production and reclamation operations, all disturbed areas shall be kept as free of all undesirable plant species designated to be noxious weeds as practicable. RPG, on behalf of Summit will continually monitor the site for the presence of noxious weeds. If encountered, the operator shall implement weed control measures consistent and in compliance with the Colorado Noxious Weed Act.

LITERATURE CITED

Colorado Oil and Gas Conservation Commission. 2021. 1000 Series: Reclamation Regulations.

APPENDIX A

Site Photos

Summit Oil and Gas Photo Pages
Castor 7-59 12

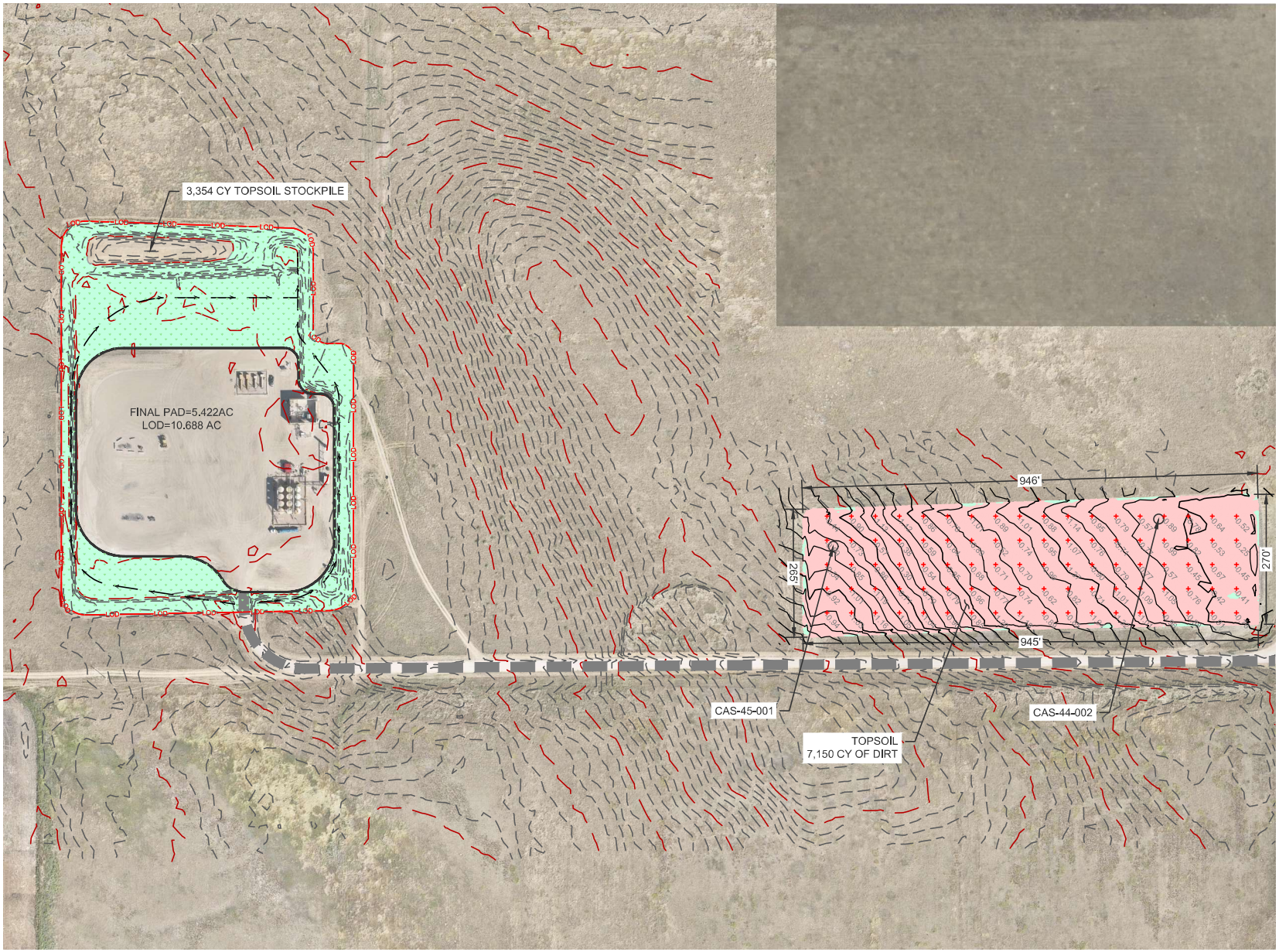
Photo #	Location	Description	Photo
1	Northeast corner of pad	Facing west along interim reclamation area on 07/26/2023.	
2	Southwest corner of pad	Facing southeast across interim reclamation area on 07/26/2023.	
3	Southeast corner of pad	Facing west across interim reclamation fill area on 07/27/2023.	
4	East side of topsoil cut area	Overview facing northwest prior to topsoil importation on 07/28/2023.	

Summit Oil and Gas Photo Pages
Castor 7-59 12

Photo #	Location	Description	Photo
5	East edge of the pad	Facing south along the east edge of the pad on 08/10/2023.	
6	Southern portion of pad, on lease road	Overview facing west on 08/16/2023.	
7	New stockpile on western side of pad	Overview of stockpile facing north on 08/16/2023.	
8	Southeastern corner of topsoil strip area.	Overview of topsoil strip area on 08/16/2023.	

APPENDIX B

Interim Reclamation Plan Exhibit



LEGEND

- LIMITS OF DISTURBANCE
- WELL PAD
- DIVERSION SWALE
- ACCESS ROAD
- NATIVE GRASS SEEDING
- CUT AREA
- FILL AREA

0 200' 400' FT

SCALE: 1" = 200'

RPG RESOURCES

CASTOR 7-59 12

SOIL IMPORT PLAN SET

SECTION 12, TOWNSHIP 07 NORTH, RANGE 58 WEST, WELD COUNTY, COLORADO

SHEET NAME:	SHEET NO.
SOIL IMPORT PLAN	01 OF 01

R:\00 projects\summit oil and gas\castor 7-59 12\1 - engineering\1 - design phase\1 - civil 3d\3 - EXHIBIT\01 SOIL IMPORT PLAN.dwg Last Saved By: jlewing 9/22/2023 2:21 PM Plotted By: Jacob Ewing 9/22/2023 4:00 PM

APPENDIX C

Soil Sample Laboratory Results

WELD LABORATORIES, INC.

1527 First Avenue • Greeley, Colorado 80631
Phone: (970) 353-8118 • Fax: (970) 353-1671
www.weldlabs.com

July 24, 2023

RPG Resources
Attn: Russell Beam
1313 Ben Nevis Ave
Broomfield, CO 80020

Laboratory No.	**E23170-4A**	**Extraction**
Sample ID	**Castor0144 0-6"**	**Method**
Sodium (ppm)	**5.30**	Saturated Paste
Calcium (ppm)	**123.00**	
Magnesium (ppm)	**19.60**	
pH	**6.65**	
EC (mS/cm)	**0.739**	
Saturated Paste %	**36.68**	
SAR	**0.12**	
Nitrate-N (ppm)	**1.83**	AB-DPTA
Phosphorus (ppm)	**12.83**	
Potassium (ppm)	**690.9**	
Copper (ppm)	**1.53**	
Iron (ppm)	**10.2**	
Manganese (ppm)	**4.5**	
Zinc (ppm)	**0.7**	
Ammonia-N (ppm)	**4.1**	KCl
Chloride (ppm)	**6.8**	Water
Boron (ppm)	**0.2**	
Sand (%)	**42.9**	
Fine Sand (%)	**15.2**	
Silt (%)	**37.7**	
Clay (%)	**4.2**	
Classification	**SANDY LOAM**	
Organic Matter (%)	**1.5**	Walkley-Black
% CaCO3-C equivalent	**0.79**	
CEC (meq/100g)	**19.59**	
ESP (%)	**0.12**	

Project Manager

7-24-23
Date

Sampling procedures can affect the value of analytical results – customers are advised to use appropriate sampling protocol to ensure samples are truly representative of the bulk sample.

WELD LABORATORIES, INC.

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July 25, 2023

RPG Resources
Attn: Russell Beam
1313 Ben Nevis Ave
Broomfield, CO 80020

Laboratory No.	**E23177-3B**	**Extraction**
Sample ID	**CAS-44-001b 6-12"**	**Method**
Sodium (ppm)	**2.10**	Saturated Paste
Calcium (ppm)	**91.50**	
Magnesium (ppm)	**14.75**	
pH	**6.95**	
EC (mS/cm)	**0.541**	
Saturated Paste %	**37.88**	
SAR	**0.05**	
Nitrate-N (ppm)	**0.93**	AB-DPTA
Phosphorus (ppm)	**1.16**	
Potassium (ppm)	**248.4**	
Copper (ppm)	**1.08**	
Iron (ppm)	**0.8**	
Manganese (ppm)	**1.1**	
Zinc (ppm)	**0.3**	
Ammonia-N (ppm)	**5.9**	KCl
Chloride (ppm)	**5.5**	Water
Boron (ppm)	**0.0**	
Sand (%)	**40.2**	
Fine Sand (%)	**15.8**	
Silt (%)	**33.6**	
Clay (%)	**10.4**	
Classification	**SANDY LOAM**	
Organic Matter (%)	**0.8**	Walkley-Black
% CaCO3-C equivalent	**0.42**	
CEC (meq/100g)	**19.85**	
ESP (%)	**0.05**	

Project Manager

7-25-23
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RPG Resources
Attn: Russell Beam
1313 Ben Nevis Ave
Broomfield, CO 80020

Laboratory No.	**E23170-4B**	**Extraction**
Sample ID	**Castor0245 0-6"**	**Method**
Sodium (ppm)	**3.55**	Saturated Paste
Calcium (ppm)	**156.80**	
Magnesium (ppm)	**11.40**	
pH	**7.21**	
EC (mS/cm)	**0.712**	
Saturated Paste %	**33.69**	
SAR	**0.07**	
Nitrate-N (ppm)	**2.39**	AB-DPTA
Phosphorus (ppm)	**3.09**	
Potassium (ppm)	**321.8**	
Copper (ppm)	**1.04**	
Iron (ppm)	**7.5**	
Manganese (ppm)	**3.1**	
Zinc (ppm)	**0.3**	
Ammonia-N (ppm)	**3.0**	KCl
Chloride (ppm)	**13.1**	Water
Boron (ppm)	**0.2**	
Sand (%)	**60.8**	
Fine Sand (%)	**13.9**	
Silt (%)	**22.9**	
Clay (%)	**2.4**	
Classification	**LOAMY SAND**	
Organic Matter (%)	**0.9**	Walkley-Black
% CaCO3-C equivalent	**5.28**	
CEC (meq/100g)	**24.41**	
ESP (%)	**0.06**	

Project Manager

7-24-23
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July 25, 2023

RPG Resources
Attn: Russell Beam
1313 Ben Nevis Ave
Broomfield, CO 80020

Laboratory No.	**E23177-3A**	**Extraction**
Sample ID	**CAS-45-002b 6-12"**	**Method**
Sodium (ppm)	**5.40**	Saturated Paste
Calcium (ppm)	**90.50**	
Magnesium (ppm)	**11.65**	
pH	**7.26**	
EC (mS/cm)	**0.506**	
Saturated Paste %	**32.47**	
SAR	**0.14**	
Nitrate-N (ppm)	**1.72**	AB-DPTA
Phosphorus (ppm)	**0.68**	
Potassium (ppm)	**261.6**	
Copper (ppm)	**0.63**	
Iron (ppm)	**0.8**	
Manganese (ppm)	**0.9**	
Zinc (ppm)	**0.1**	
Ammonia-N (ppm)	**26.7**	KCl
Chloride (ppm)	**21.2**	Water
Boron (ppm)	**0.0**	
Sand (%)	**64.9**	
Fine Sand (%)	**10.3**	
Silt (%)	**20.4**	
Clay (%)	**4.4**	
Classification	**LOAMY SAND**	
Organic Matter (%)	**0.4**	Walkley-Black
% CaCO3-C equivalent	**7.61**	
CEC (meq/100g)	**24.23**	
ESP (%)	**0.10**	

Project Manager

7-25-23
Date

Sampling procedures can affect the value of analytical results – customers are advised to use appropriate sampling protocol to ensure samples are truly representative of the bulk sample.

APPENDIX D

Seed Mix

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Grass Seeding Planned and Applied Worksheet

Grass Seeding PART I - Planned

Cooperator	CPW mitigation mix for deer, PSTG & GPC - Sandy Soils	Date	3/17/2021
Tract/Field No		Acres	1
Soil Survey Area		Map Unit (s)	
Contract No.		CIN	

Seeding dates	Nov 1 - May 1	Purpose	Other
Seedbed preparation	No Till	Seed rate	20
Drill type	no-till grass	Acres to be seeded	1.00
Planting depth-Drill spacing (in)	1/4" deep, 7-10" spacing		

	N	P_2O_5	K_2O
Planned fertilizer application (lb/ac)			

A Nutrient Management Plan is not required for the establishment of vegetative conservation practices.

Planned weed control activities	Description	Herbicide
	Date(s)	As needed prior to seeding

Attach WIN-PST Soil-Pesticide Interaction Risk Report for all chemical suppression activities

Planned residue cover or mulch	Type	Sorghum
	Amount (lb/ac)	
	Application method	

Seed Mix Recommendation, † ‡

Common name N=native, I=introduced		Genus, species	Recommended Cultivar	% of seed mix	Pounds (lbs) pure live seed (PLS)
Grasses, forbs					
Switchgrass	N	*Panicum virgatum*	Blackwell, Neb28, Pathfinder	10.0	0.22
Little bluestem	N	*Schizachyrium scoparium*	Pastura, Camper, Cimm., Blaze	10.0	0.34
Yellow indiangrass	N	*Sorghastrum nutans*	Cheyenne, Holt Llano	10.0	0.51
Sand bluestem	N	*Andropogon hallii*	Elida, Garden, Woodward, Gold	8.0	0.63
Prairie sandreed	N	*Calimovilfa longifolia*	Goshen, Pronghorn	5.0	0.16
Indian ricegrass	N	*Achnatherum hymenoides*	Paloma	1.0	0.06
Blanketflower	N	*Gaillardia aristata*		5.0	0.22
Maxmilian sunflower	N	*Helianthus maximilianii*	Prairie Gold	2.0	0.10
Prairie Coneflower	N	*Ratibida columnifera*		5.0	0.05
Purple prairie clover	N	*Dalea purpurea purpurea*	Kaneb	2.0	0.06
Annual sunflower	N	*Helianthus annuus*		1.0	0.15
Small burnet	I	*Sanguisorba minor*	Delar	4.0	0.83
Alfalfa	I	*Medicago sativa*	Ladak	3.0	0.12
Sainfoin	I	*Onobrychis vicifolia*	Shoshone	2.0	0.70
Yellow sweetclover	I	*Melilotus officinale*		2.0	0.07
Blue flax	I	*Linum perenne*	Appar	7.0	0.21
Black-eyed Susan	N	*Rudbeckia hirta*		8.0	0.04
Western Yarrow	N	*Achilea lanulosa*		5.0	0.02
Rocky mtn. penstemon	N	*Penstemon strictus*	Bandera	1.0	0.02
Plains coreopsis	N	*Coreopsis tinctoria*		3.0	0.02
Shrubs					
Fourwing Saltbush	N	*Atriplex canescens*		2.0	0.40
skunkbush sumac	N	*Rhus trilobata*		2.0	0.70
Winterfat	N	*Krascheninnikovia lanata*		2.0	0.14
				Total lbs PLS	5.77
				Seed Rate (lbs PLS/acre)	5.77

† Certified Seed is required for all NRCS cost share programs

‡ Complete a Tree and Shrub Establishment 612 Job Sheet for bare-root shrub plantings

ADDITIONAL REQUIREMENTS

Seed **MUST** be sorted by size and type (e.g., large hard, small, fluffy). All seed must be USA or Canada origin, unless approved by NRCS before seed purchase.

Pollinator Calculator

Desired Seeds/ft²	20

Species	Scientific Name	Bloom Time	Status (N/I)	Seed Rate	% Mix	Seeds/ft²	PLS/ AC	Cost/ PLS	Cost/ AC
Switchgrass	Panicum virgatum	0	N	2.24	10	1.96	0.22		0.00
Little bluestem	Schizachyrium scopa	0	N	3.35	10	2.03	0.34		0.00
Yellow indiangrass	Sorghastrum nutans	0	N	5.12	10	1.99	0.51		0.00
Sand bluestem	Andropogon hallii	0	N	7.92	8	1.59	0.63		0.00
Prairie sandreed	Calimovilfa longifoli	0	N	3.18	5	1.01	0.16		0.00
Indian ricegrass	Achnatherum hyme	0	N	6.22	1	0.19	0.06		0.00
Blanketflower	Gaillardia aristata	Mid Late	N	4.38	5	1.01	0.22		0.00
Maxmilian sunflower	Helianthus maximili	Late	N	4.84	2	0.41	0.10		0.00
Prairie Coneflower	Ratibida columnifer	Early Mid Late	N	0.97	5	1.03	0.05		0.00
Purple prairie clover	Dalea purpurea pur	Mid Late	N	3.17	2	0.38	0.06		0.00
Annual sunflower	Helianthus annuus	Mid-Late	N	14.52	1	0.21	0.15		0.00
Small burnet	Sanguisorba minor	Early Mid	I	20.74	4	0.80	0.83		0.00
Alfalfa	Medicago sativa	Early Mid Late	I	3.96	3	0.61	0.12		0.00
Sainfoin	Onobrychis vicifolia	Early Mid Late	I	34.85	2	0.40	0.70		0.00
Yellow sweetclover	Melilotus officinale	Early Mid Late	I	3.35	2	0.42	0.07		0.00
Blue flax	Linum perenne	Early Mid	I	2.95	7	1.42	0.21		0.00
Black-eyed Susan	Rudbeckia hirta	Mid Late	N	0.50	8	1.61	0.04		0.00
Western Yarrow	Achilea lanulosa	Early Mid	N	0.31	5	1.29	0.02		0.00
Rocky mtn. penstemon	Penstemon strictus	Early Mid	N	1.78	1	0.22	0.02		0.00
Plains coreopsis	Coreopsis tinctoria	Early Mid	N	0.62	3	0.64	0.02		0.00
Shrubs									
Fourwing Saltbush	Atriplex canescens	Late	N	19.80	2	0.40	0.40		0.00
skunkbush sumac	Rhus trilobata	Early	N	34.85	2	0.40	0.70		0.00
Winterfat	Krascheninnikovia la	Late	N	7.08	2	0.40	0.14		0.00
Total					**100**	**20.42**	**5.77**		**0.00**

% Grass % Introduced

Notes:

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Grass Seeding Planned and Applied Worksheet

Grass Seeding PART I - Planned

Cooperator	CPW mitigation mix for deer, PSTG & GPC - Loamy Soils	Date	113/17/21
Tract/Field No		Acres	1
Soil Survey Area		Map Unit (s)	
Contract No.		CIN	

Seeding dates	Nov 1 - May 1	Purpose	Other
Seedbed preparation	No Till	Seed rate	20
Drill type	no-till grass	Acres to be seeded	1.00
Planting depth-Drill spacing (in)	1/4" deep, 7-10" spacing		

	N	P_2O_5	K_2O
Planned fertilizer application (lb/ac)			

A Nutrient Management Plan is not required for the establishment of vegetative conservation practices.

Planned weed control activities	Description	Herbicide
	Date(s)	As needed prior to seeding

Attach WIN-PST Soil-Pesticide Interaction Risk Report for all chemical suppression activities

Planned residue cover or mulch	Type	Sorghum
	Amount (lb/ac)	
	Application method	

Seed Mix Recommendation, † ‡

Common name N=native, I=introduced		Genus, species	Recommended Cultivar	% of seed mix	Pounds (lbs) pure live seed (PLS)
Grasses, forbs					
Switchgrass	N	*Panicum virgatum*	Blackwell, Neb28, Pathfinder	10.0	0.22
Little bluestem	N	*Schizachyrium scoparium*	Pastura, Camper, Cimm., Blaze	10.0	0.34
Yellow indiangrass	N	*Sorghastrum nutans*	Cheyenne, Holt Llano	10.0	0.51
Big bluestem	N	*Andropogon gerardii*	Bison, Champ, Kaw, Pawnee	8.0	0.44
Green needlegrass	N	*Nassella viridula*	Lodorm	5.0	0.24
Indian ricegrass	N	*Achnatherum hymenoides*	Paloma	1.0	0.06
Blanketflower	N	*Gaillardia aristata*		5.0	0.22
Maxmilian sunflower	N	*Helianthus maximilianii*	Prairie Gold	2.0	0.10
Prairie Coneflower	N	*Ratibida columnifera*		7.0	0.07
Purple prairie clover	N	*Dalea purpurea purpurea*	Kaneb	2.0	0.06
Annual sunflower	N	*Helianthus annuus*		1.0	0.15
Small burnet	I	*Sanguisorba minor*	Delar	4.0	0.83
Alfalfa	I	*Medicago sativa*	Ladak	3.0	0.12
Sainfoin	I	*Onobrychis vicifolia*	Shoshone	2.0	0.70
Yellow sweetclover	I	*Melilotus officinale*		2.0	0.07
Blue flax	I	*Linum perenne*	Appar	7.0	0.21
Black-eyed Susan	N	*Rudbeckia hirta*		6.0	0.03
Western Yarrow	N	*Achilea lanulosa*		5.0	0.02
Rocky mtn. penstemon	N	*Penstemon strictus*	Bandera	1.0	0.02
Plains coreopsis	N	*Coreopsis tinctoria*		3.0	0.02
Shrubs					
Skunkbush Sumac	N	*Rhus trilobata*		2.0	0.70
Fourwing Saltbush	N	*Atriplex canescens*		2.0	0.40
Winterfat	N	*Krascheninnikovia lanata*		2.0	0.14
				Total lbs PLS	5.67
				Seed Rate (lbs PLS/acre)	5.67

† Certified Seed is required for all NRCS cost share programs

‡ Complete a Tree and Shrub Establishment 612 Job Sheet for bare-root shrub plantings

ADDITIONAL REQUIREMENTS

Seed **MUST** be sorted by size and type (e.g., large hard, small, fluffy). All seed must be USA or Canada origin, unless approved by NRCS before seed purchase.

Pollinator Calculator

Desired Seeds/ft²	20

Species	Scientific Name	Bloom Time	Status (N/I)	Seed Rate	% Mix	Seeds/ft²	PLS/ AC	Cost/ PLS	Cost/ AC
Switchgrass	Panicum virgatum	0	N	2.24	10	1.96	0.22		0.00
Little bluestem	Schizachyrium scoparium	0	N	3.35	10	2.03	0.34		0.00
Yellow indiangrass	Sorghastrum nutans	0	N	5.12	10	1.99	0.51		0.00
Big bluestem	Andropogon gerardii	0	N	5.45	8	1.62	0.44		0.00
Green needlegrass	Nassella viridula	0	N	4.81	5	1.00	0.24		0.00
Indian ricegrass	Achnatherum hymenoides	0	N	6.22	1	0.19	0.06		0.00
Blanketflower	Gaillardia aristata	Mid Late	N	4.38	5	1.01	0.22		0.00
Maxmilian sunflower	Helianthus maximilianii	Late	N	4.84	2	0.41	0.10		0.00
Prairie Coneflower	Ratibida columnifera	Early Mid Late	N	0.97	7	1.45	0.07		0.00
Purple prairie clover	Dalea purpurea purpurea	Mid Late	N	3.17	2	0.38	0.06		0.00
Annual sunflower	Helianthus annuus	Mid-Late	N	14.52	1	0.21	0.15		0.00
Small burnet	Sanguisorba minor	Early Mid	I	20.74	4	0.80	0.83		0.00
Alfalfa	Medicago sativa	Early Mid Late	I	3.96	3	0.61	0.12		0.00
Sainfoin	Onobrychis vicifolia	Early Mid Late	I	34.85	2	0.40	0.70		0.00
Yellow sweetclover	Melilotus officinale	Early Mid Late	I	3.35	2	0.42	0.07		0.00
Blue flax	Linum perenne	Early Mid	I	2.95	7	1.42	0.21		0.00
Black-eyed Susan	Rudbeckia hirta	Mid Late	N	0.50	6	1.21	0.03		0.00
Western Yarrow	Achilea lanulosa	Early Mid	N	0.31	5	1.29	0.02		0.00
Rocky mtn. penstemon	Penstemon strictus	Early Mid	N	1.78	1	0.22	0.02		0.00
Plains coreopsis	Coreopsis tinctoria	Early Mid	N	0.62	3	0.64	0.02		0.00
Shrubs									
Skunkbush Sumac	Rhus trilobata	Early	N	34.85	2	0.40	0.70		0.00
Fourwing Saltbush	Atriplex canescens	Late	N	19.80	2	0.40	0.40		0.00
Winterfat	Krascheninnikovia lanata	Late	N	7.08	2	0.40	0.14		0.00
Total					**100**	**20.46**	**5.67**		**0.00**

% Grass % Introduced

Notes: