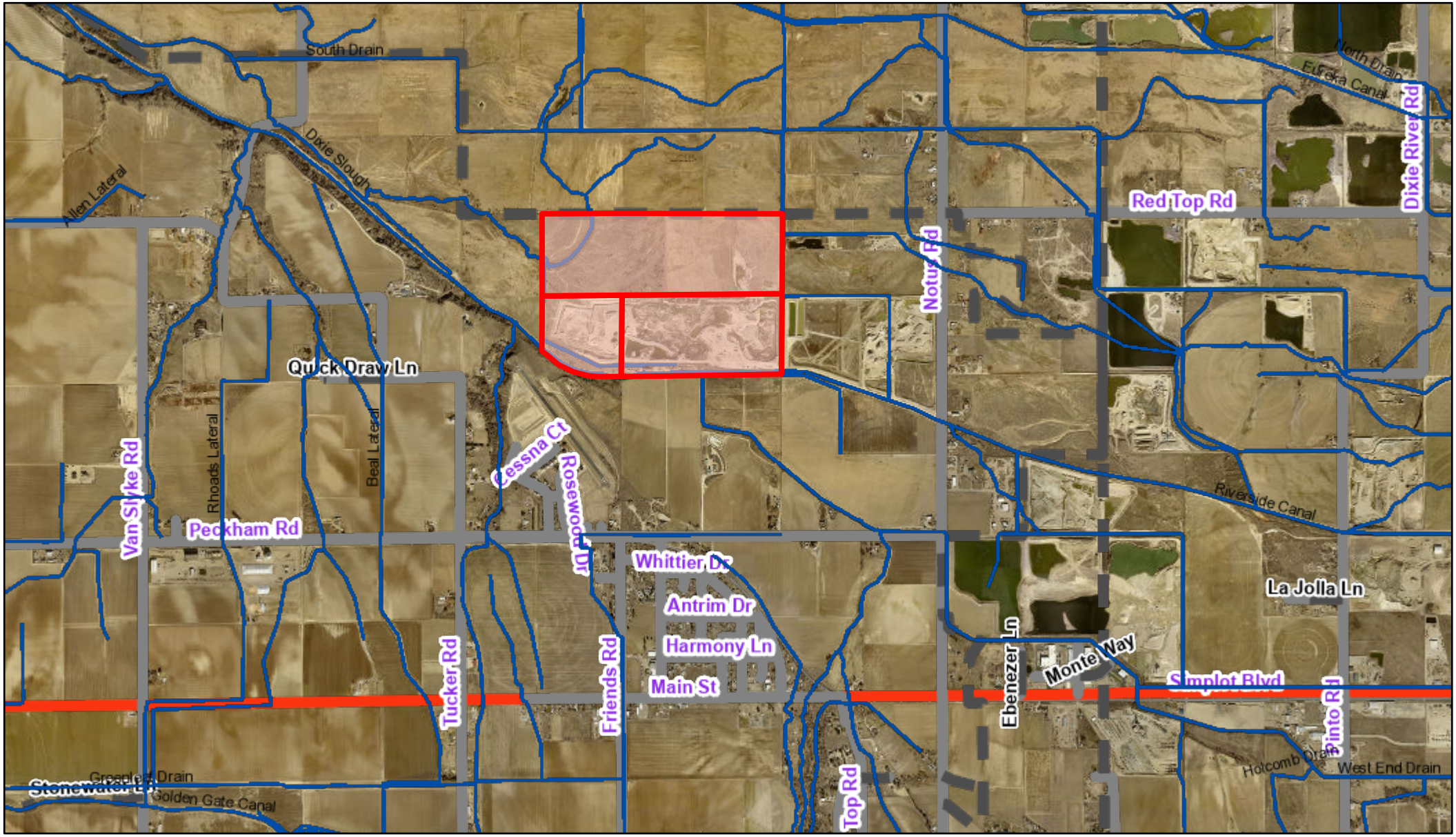
Canyon County, ID Web Map



2/20/2024, 3:49:31 PM

Multiple Parcel Search _Query result

Hydro_NHDFlowline

RAILROAD

CanyonCountyRoads

Hwy

Roads

CC_PrivateRoads

Urban_2023

Red: Red

Green: Green

Blue: Blue

Imagery_2022

Red: Band_1

Green: Band_2

Blue: Band_3

1:36,112

0 0.23 0.45 0.9 mi

0 0.35 0.7 1.4 km

Bureau of Land Management, State of Oregon, State of Oregon DOT, State of Oregon GEO, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

Canyon County, ID

CONDITIONAL USE PERMIT
PUBLIC HEARING - MASTER APPLICATION

PROPERTY OWNER	OWNER NAME: REDMON FAMILY TRUST (KATHY REDMON, TRUSTEE)	
	MAILING ADDRESS: 22204 TUCKER RD., GREENLEAF, ID 83626	
	PHONE: [redacted]	EMAIL: [redacted]

I consent to this application and allow DSD staff / Commissioners to enter the property for site inspections. If the owner(s) is a business entity, please include business documents, including those that indicate the person(s) who are eligible to sign.

Signature: Kathy Redmon *Date:* 12/26/23

APPLICANT: IF DIFFERING FROM THE PROPERTY OWNER	APPLICANT NAME: JUSTON EKART	
	COMPANY NAME: JMAC RESOURCES, INC.	
	MAILING ADDRESS: PO BOX 760, CALDWELL, ID 83606	
	PHONE: 208 809 9768	EMAIL: JUSTONE@jmacresources.com

SITE INFO	STREET ADDRESS: 21225 NOTUS RD., GREENLEAF, ID 83626	
	PARCEL NUMBER: 36106000 0, 36107000 0, 36106010 0	
	PARCEL SIZE: 80.16, 36.91, 120.77 TOTAL: 237.84 AC	
	REQUESTED USE: LONG TERM MINERAL EXTRACTION, CRUSHING & WASHING, BATCH PL.	
	FLOOD ZONE (YES/NO) NO	ZONING DISTRICT: AG

FOR DSD STAFF COMPLETION ONLY:

CASE NUMBER	CU2024-0007	DATE RECEIVED:	2/16/24
RECEIVED BY:	CA	APPLICATION FEE: $950.00	(CK) MO CC CASH

Complete: 2/16/24
(check in sale)

CONDITIONAL USE PERMIT
PUBLIC HEARING - CHECKLIST

CONDITIONAL USE PERMIT - CCZO Section 07-07-05

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS APPLICATION TO BE DEEMED COMPLETE (PLEASE CHECK OFF THE ITEMS REQUIRED):

Description	Applicant	Staff
Master Application completed and signed	X	✓
Letter of Intent (see standards on next page)	X	✓
Site Plan (see standards on next page)	X	✓
Land Use Worksheet	X	✓
Neighborhood Meeting sheet/letter completed and signed	X	✓
Proof of application/communication with (varies per application):	X	✓
Southwest District Health		✓
Irrigation District	X	✓
Fire District		✓
Highway District/ Idaho Transportation Dept.	X	✓
Area of City Impact	X	✓
Deed or evidence of property interest to the subject property	X	✓
Fee: $950.00 **$600.00 (CUP Modification)**		
Fees are non-refundable		

An application that requires additional Use Standards per Chapter 7, Article 14 of the Canyon County Code:

☐Contractor Shop

☑Mineral Extraction (Long Term)

☐Wind Farm

☐Staging Area

☐Manufacturing or processing of hazardous chemicals or gases

☐Ministorage Facility

**If applicable, review the Additional Use Standards Below, if not applicable, please disregard them.*

*DISCLAIMER: The subject property shall be in compliance with the public nuisance ordinance, the building code and the zoning code before the Director can accept the application.

STANDARDS

SITE/OPERATION PLAN – CCZO Section 07-02-03
A scaled drawing showing: - The parcel and all existing and proposed uses and structures and roads all with dimensions, distances, and private and public road names. - Includes lot lines, lot area, parking spaces, private roadways, walkways, topographic features, reserved open space, buildings and other structures, major landscape features, and the location of proposed utility easements.
A plan of action to include: - Time requirements, the commencement of the operation, hours of operation, noise levels, dust levels, air and water quality, raw material delivery, finished product and marketing, site improvements, public and private facilities, public amenities, and infrastructure.

LETTER OF INTENT – CCZO Section 07-07-05
State the nature of the request. Include, a description of business operations, such as a number of employees, hours of operation, delivery and shipping.
Consistency with the Comprehensive Plan (CCZO Section 07-07-05(3))
Address potential impacts to property in the immediate vicinity and character of the area (CCZO Section 07-07-05(4))
Demonstrate how facility and utilities such as water, sewer, irrigation, drainage and stormwater drainage, will be provided.
Demonstrate legal access
Address potential impacts to existing or future traffic patterns.
Address potential impacts to essential services such as schools, irrigation facilities and emergency services.
If the use will create impacts, provide measures to mitigate impacts.

CONTRACTOR SHOP (07-14-09) - REQUIRED	Applicant	Staff
Demonstrate how the use will be contained within a building or behind a sight-obscuring fence.		

MINERAL EXTRACTION (07-14-19) - REQUIRED	Applicant	Staff
Show how the 30' setbacks on all sides will be met.	X	
Name of operator/extractor	X	
Duration of proposed use: Commencement & Completion dates	X	
Provide an approved reclamation from Idaho Dept. Of Lands	X	
Location of proposed pits and accessory uses	X	

WIND FARM (07-14-33) - REQUIRED	Applicant	Staff
Need to include on the site plan: lot size, configuration, proximity to structures, topography, viewsheds.		

MINISTORAGE FACILITY (07-14-29) - REQUIRED	Applicant	Staff
Demonstrate how materials will not be sold or delivered to customers directly from the storage compartment.		

MANUFACTURING/PROCESSING OF HAZARDOUS CHEMICALS/GASES (07-14-15) - REQUIRED	Applicant	Staff
Show 300' setbacks from any property line		
Show 1,000 setback from any residential district		
Demonstrate how chemicals/gases will be stored within an enclosed structure.		
Demonstrate how the use will be gates and fenced with 8' high security fencing.		
Provide documentation from the local fire district approving the location and plan.		
Include maps and engineering drawings showing proposed drainage, proposed sewer system design, the depth of the water table, soil composition, all existing surface water, and all existing uses within one-fourth ($^1/_4$) mile of the property. The applicant shall also furnish evidence that the dangerous characteristics of the particular process or activity in question have been, or shall be, eliminated or minimized sufficiently so as not to create a public nuisance or be detrimental to the public health, safety, or welfare.		
The facility must register and maintain current hazardous waste generation notification as required by Environmental Protection Agency and/or Idaho Department of Environmental Quality and provide such proof of registration		

STAGING AREA (07-14-15) - REQUIRED	Applicant	Staff
Demonstrate how all work will be conducted off-site, business vehicles will remain operable and parked on-site, and employees/persons on the premises for parking and business vehicle pickup all maintained ono-site.		

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Letter of Intent

Redmon Family Trust ~ Long Term Mineral Extraction
Conditional Use Permit Application
Operator: *JMAC Resources*
PO Box 760
Caldwell, ID 83606
208 506 2952

January 11, 2024

Canyon County Development Services
111 North 11th Ave
Caldwell, ID 83605

Subject: Letter of Intent for Conditional Use Application:
for Long Term Mineral Extraction

Dear Canyon County Development Services and Planning and Zoning Commission or Hearing Examiner:

On behalf of the Applicant, JMAC Resources, and the Owner, Redmon Family Trust, Kyle Cooper and Orton Engineering provide this letter of intent seeking a Conditional Use Permit for a Long Term Mineral Extraction Project, Concrete Batch Plant, and expansion of a currently operational mineral extraction and aggregate crushing and washing operation.

Owner Information:

Redmon Family Trust (Kathy Redmon, Trustee), 22204 Tucker Road, Greenleaf, ID 83626

Owner Parcel Information:

Parcel ID: 36106000 0, 36107000 0, 36106010 0
Legal Description: *The Northeast Quarter AND the East half of the Northwest Quarter of Section 16, Township 4 North, Range 4 West, Boise Meridian, Canyon County, Idaho less that portion of the Southeast Quarter of the Northwest Quarter of Section 16, Township 4 North, Range 4 West, Boise Meridian that is South and West of the Riverside Canal.*
Deeded Acres: 237.84 Acres
Zone: Agricultural

Applicant Information:

JMAC Resources, Inc.

Applicant Contact Information:
Juston Ekart for JMAC Resources
PO Box 760, Caldwell, ID 83606
208 506 2952 ~ justone@jmacresources.com

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Letter of Intent

Redmon Family Trust ~ Long Term Mineral Extraction
Conditional Use Permit Application
Operator: *JMAC Resources*
PO Box 760
Caldwell, ID 83606
208 506 2952

Nature of Request

The Redmon Family Trust desires a conditional use permit to allow their operator JMAC Resources to perform mineral extraction, aggregate crushing and washing (as have been performed on parcel 36106000 0 under a previous conditional use permit (CU2004-242)) as well as a concrete batch plant.

The subject parcels are outlined in red in Figure 1. The Site is one-half mile West of Notus Road and one-half mile North of Peckham Road.

Figure 1 Subject Parcels from Canyon County Assessor's Webmap, accessed 10Jan2024

The Redmon Family Trust intends for the lake resulting from the mining operation to be incorporated as a residential development amenity. The applicant team discussed this with the City of Greenleaf (Lee Belt, City Clerk) as well as capacities for city services at that time.

While it is expected that the mineral extraction will be complete sooner, a duration of 40 years is requested in alignment with the previously issued CUP.

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Description of Operations

An excellent Narrative letter from Juston Ekart of JMAC Resources is included with the application. This letter describes expected hours of operation for the Aggregate Crushing and Washing Operation from 4 AM to 10 PM with expected normal operation hours from 6 AM to 4 PM.

The Batch Plant operation hours would be 24 hours a day, six days a week (important for serving concrete needs of highway projects and other projects needing to be done at night or during low highway or facility use hours) and maintenance on the seventh day. The Batch Plant is intended to be located in the Southeast corner of the property (see Figure 2). Parking needs are estimated but not limited to 15 concrete trucks, five aggregate trucks, plus related employee parking as well as scale building employee and equipment operator parking.

Figure 2 Crushing & Washing, Batch Plant Schematic by JMAC Resources, Inc.

Washout for concrete trucks will be contained in a constructed washout pond. Lighting will be directed into the site away from surrounding areas. Stormwater will be contained on site.

The State of Idaho owns the mineral rights on this property and will receive a $0.70/ton royalty to the State of Idaho.

Mineral extraction will be conducted in accordance with the approved reclamation plan with the department of lands in Six Phases. An excerpt from the Reclamation Plan showing the phases is included below as Figure 3. Overburden and topsoil will form a berm around the Northern and Eastern boundaries of the expansion to the site (other sides are already bermed). The Reclamation Plan is included in the submittal documents.

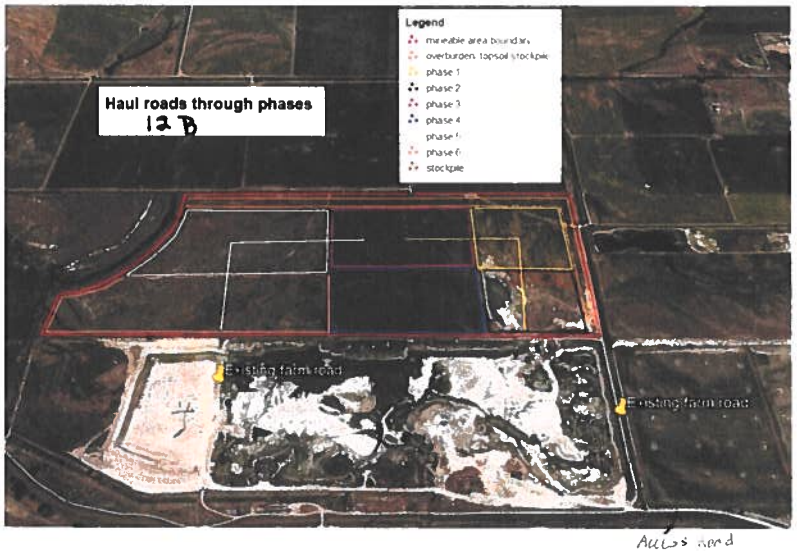


Figure 3 Site Phasing Excerpted from the Reclamation Plan Submitted to Idaho Department of Lands

Character of the Area

The Subject Parcels are situated amongst mineral extraction operations, pastureland, and the Greenleaf Air Ranch. Reportedly, high groundwater and alkaline soil conditions make crop agriculture less feasible in this vicinity. This indication is confirmed by National Resource Conservation Service (NRCS) Soil Data (discussed more below).

Abutting the site to the North is irrigated pastureland owned by Staker and Parson Companies. East of the site is an active mineral extraction site also owned by Staker and Parson Companies, and privately owned pasture lands - two with a residence at the Notus Roadside. The site is bound on the South by the Riverside Canal. South of the canal are sectioned pastureland (in the same parcel with the Greenleaf Wastewater Treatment Plant – Incorporated into City of Greenleaf), Cultivated Land, and at the Southwest end, property containing the Greenleaf Air Ranch (Incorporated into City of Greenleaf). West of the site is pastureland.

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Alignment with the Canyon County Comprehensive Plan

While this use is not appropriate within a city, it aligns with Policy P12.01.02 of the 2030 Comprehensive Plan encouraging non-agricultural uses in cities and their areas of impact. This site is obviously near Greenleaf and does reside in the area of impact for Greenleaf. This use is appropriate out of a City, but will prepare the land for a wonderful inclusion appropriate for City Development at the completion of the extraction and conclusion of the subject use.

Policy P12.01.05 encourages the situation of development on lands of poorer irrigability. The presence of sand and gravel makes this land valuable for access to aggregate resources. These resources are permeable, with possible impacts on the ability of the land to retain water in the root zone. Soils present on the proposed additions to the site are dominated by Letha Fine Sandy Loams (LtA) with strongly saline-alkali characteristics (NRCS). The National Resource Conservation Service Soil designations are visible in Figure 4.

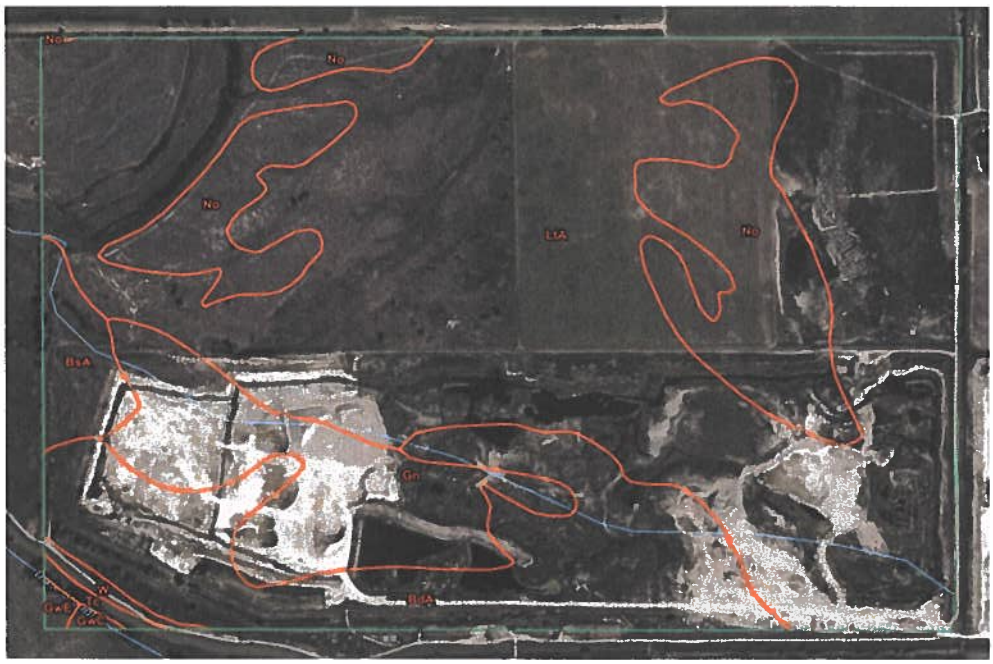


Figure 4 National Resource Conservation Service Soil Survey from the Web Soil Survey Tool, Accessed January 10, 2024

Potential Impacts to Property in the Immediate Vicinity

Potential impacts that could arise from this operation could include additional traffic, sound, dewatering water, and dust.

Traffic Impacts:
30 employees are expected to operate the site. This would result in 60 trips per day. Presuming that the estimated 15 concrete trucks could make up to five deliveries per day (possibly optimistic) would add another 75 outbound and inbound return trips (150). The estimated five aggregate trucks, presuming nine deliveries per truck per day would produce 45 outbound and inbound return trips (90). This totals 300 trips per day. Approximately half of this traffic is already present at the site for the existing operation. The new traffic generated will be consistent (Concrete Trucks) like the aggregate deliveries through the day and is not expected to be concentrated during peak hours like most traffic generators. The traffic generated at the site is in company with the ordinary traffic loads on Peckham, Notus, and SH19 generated by agricultural operations and gravel industry traffic. The total traffic is insufficient to warrant a traffic study under Association of Canyon County Highway District Standards. The new traffic that would be generated with an approval is about half or a little less than half of the existing traffic load.

Sound generation:
The crushing and washing operation is already active. The concrete batch plant is planned to be situated far from the more noise sensitive uses near the neighboring mineral extraction site. The site will be bermed and is quite large. We are unaware of any noise related complaints with the past operation. Crushing is the most significant noise generator and has not yielded complaints (that we know of) in the past. Sound attenuates at the square of the distance meaning it diminishes exponentially with distance from the source. The large area of the site and situating of the greater noise generating elements are expected to produce an unchanged noise level to any proximate noise sensitive uses.

Dewatering:
Dewatering is the process of pumping groundwater down to allow access to the mineral resources. Dewater can be performed by pumping from one pond area to another or by pumping the water to drainage facilities. No changes are anticipated to the dewatering practices at the site.

Dust:
The site is currently operated with routine dust abatement and has not (to our knowledge) generated dust related complaints. The same dust prevention measures will remain in practice for the expansion of the site.

Utilities

A new well may be necessary for the addition of the Concrete batch plant. If it is needed, it will be constructed and situated so it can be usable for the future residential development of the site. For domestic sewer purposes portable restrooms have been and will continue to be used. No additional utilities are required during the mineral extraction segment of this property's future. At the

conclusion of mineral extraction operations, Sewer and Water utilities are available from the City of Greenleaf. Greenleaf has capacity and has verbally indicated the capability and willingness to serve the residential project on this site in the future.

Legal Access

Access to the site is via an easement shared by the Redmon Family Trust and Riverside Irrigation District (and has been since 1970). The easement and roadway are 25 feet wide and allow even heavy vehicles to pass one another (a full size travel lane is designed at 12 feet and sometimes smaller).

Potential Impact to Existing or Future Traffic Patterns

Immediate impacts to existing traffic patterns that would arise from expansion of the site under this requested permit were discussed above. Future traffic impacts from residential development will need to be evaluated as part of the planning and design effort for development that will utilize the lake as an amenity.

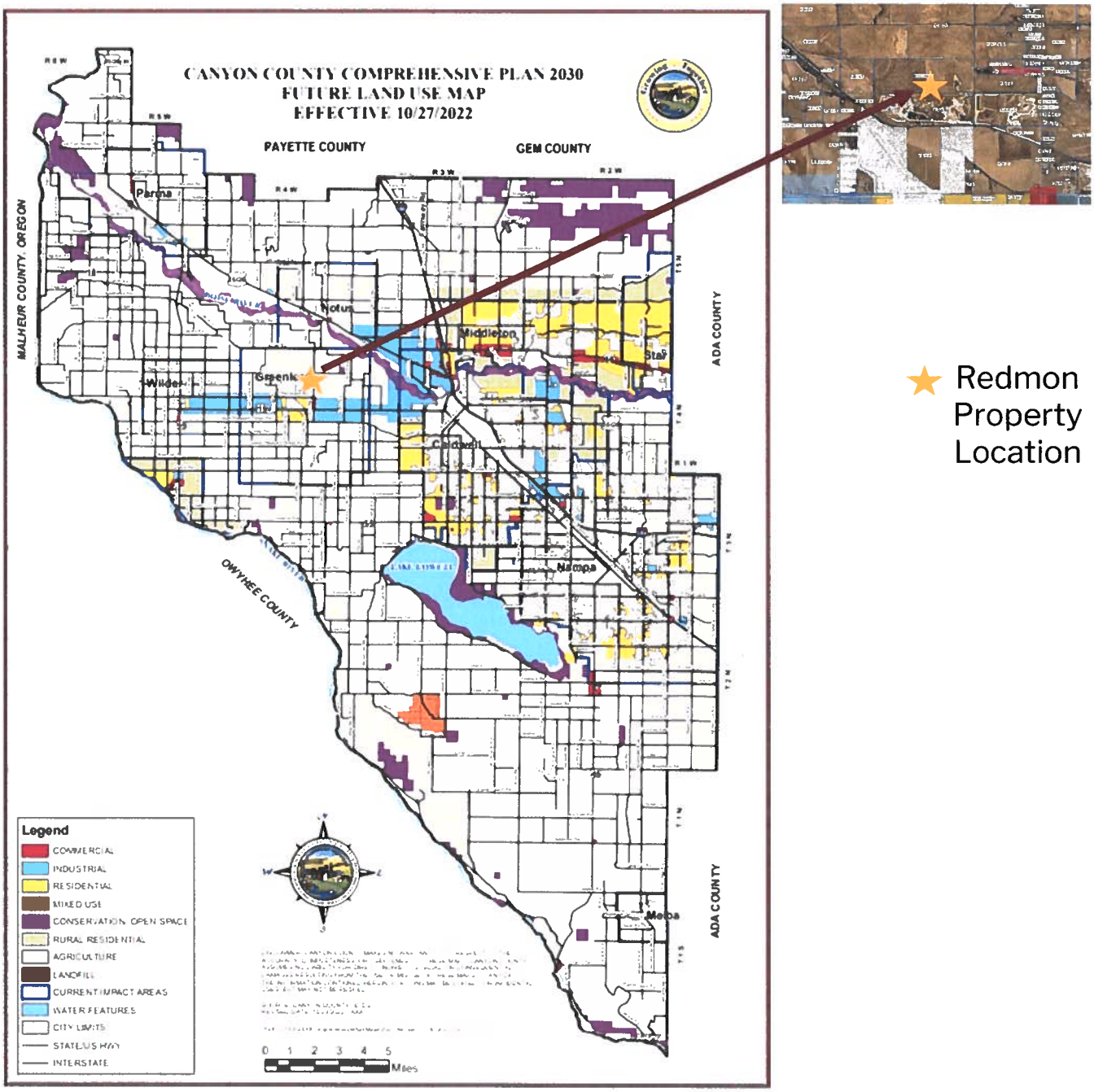
Potential Impact to Essential Services

No known impacts to essential services are foreseen with the actions proposed under this application.

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Letter of Intent

Redmon Family Trust ~ Long Term Mineral Extraction
Conditional Use Permit Application
Operator: *JMAC Resources*
PO Box 760
Caldwell, ID 83606
208 506 2952



★ Redmon Property Location

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Neighborhood Meeting

A neighborhood meeting was held on the 23rd of January, 2024 at 6:00 PM at the Notus Road Entrance to the Site (just North of the Riverside Canal). The Neighborhood Meeting Notice, Sign-up Sheet, and a petition in favor of the application that were made available to attendees of the meeting are included in the application package.

***

Thank you for your consideration of our application. Please let us know if you have further questions.

Respectfully,

Brent L. Orton, PE, MSCE
Orton Engineering, LLC

PROFESSIONAL ENGINEER REGISTERED 13359 25Jan2025 STATE OF IDAHO BRENT L. ORTON

PO Box 760 Caldwell, ID Phone (208) 506-2952

February 24th, 2023

Canyon County Planning and Zoning

Jmac Resources would like to amend the CUP for Parcel # R36106 located at Northeast Quarter of Section 16, Township 4 North, Range 4 West which is currently Zoned Agricultural. To include Parcel #R36106010 the state owns the mineral rights which would result in a $.70 per ton royalty to the State Of Idaho, This parcel is directly to the north of Parcel #R36106

Jmac Resources desires to erect a Redi-mix batch plant and expand our current crushing/washing operation as follows:

Crushing/ Washing Operation
From the original of 1 week every few years to operating 6 days a week 4am to 10pm with normal operation being 6am to 4pm.

Ready Mix Operation
Operation would include but not limited to approximately 30 employees from the surrounding areas. We are requesting a 6 day a week 24 hour a day operation with maintenance being done on the seventh day. All operational lighting will be directed inward away from surrounding areas. We will use berms, ditches and lower the existing area to ensure containment of stormwater.

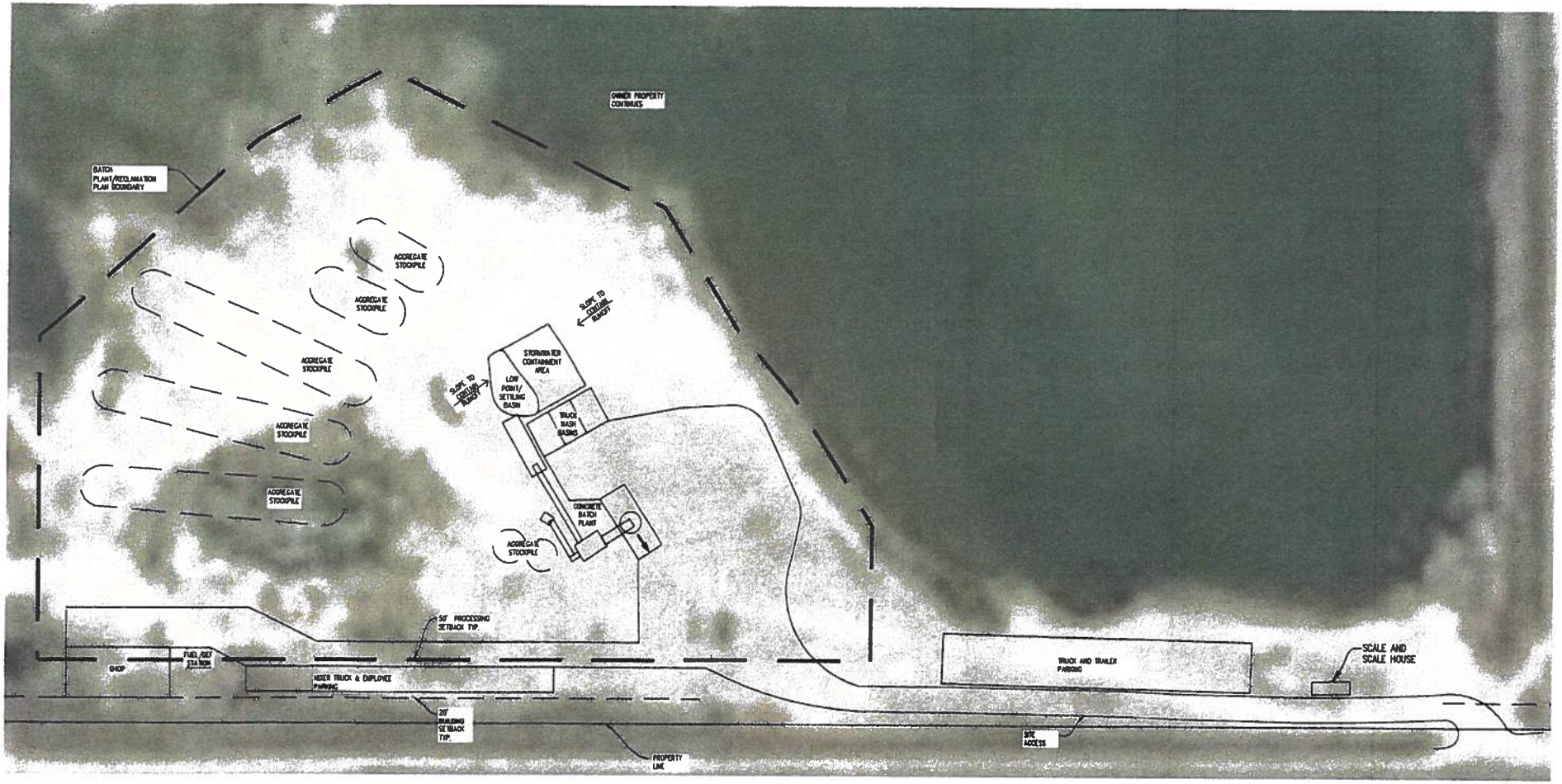
A washout pond for the Redi-mix trucks will be constructed to contain any washout from our equipment.

The property has a mining operation actively working which has been in operation intermittently since 1970. The access is on a 25 ft. wide easement, which allows for truck traffic to pass one another safely. Riverside Ditch Company and IMC share this easement.

Operation and placement of the Redi-mix plant will be in the southeast corner of the property. We will provide parking up to: 15 (but not limited to) Redi-mix trucks and employee vehicles, 5 (but not limited to) aggregate trucks and employee vehicles, and our scale building with parking for scale employee/equipment operators.

Sincerely,

Juston Ekart
JMAC Resources, Inc
justone@jmacresources.com



RECLAMATION NOTES

1. DUE TO EXISTING TOPOGRAPHY NO DRAINAGE WILL LEAVE THE AFFECTED LANDS.
2. APPROVED IDAHO DEPARTMENT OF LANDS BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE USED TO PREVENT AND CONTAIN RUNOFF AND EROSION
3. ROADS SHOWN ON THE RECLAMATION PLAN WILL BE STABILIZED WITH CRUSHED ROCK.
4. DISTURBED AREAS WILL BE SEEDED WITH NATIVE GRASSES USING MIXES AND BMP'S APPROVED BY THE CANYON COUNTY AND THE IDAHO DEPARTMENT OF LANDS

SCALE IN FEET
0 20 40

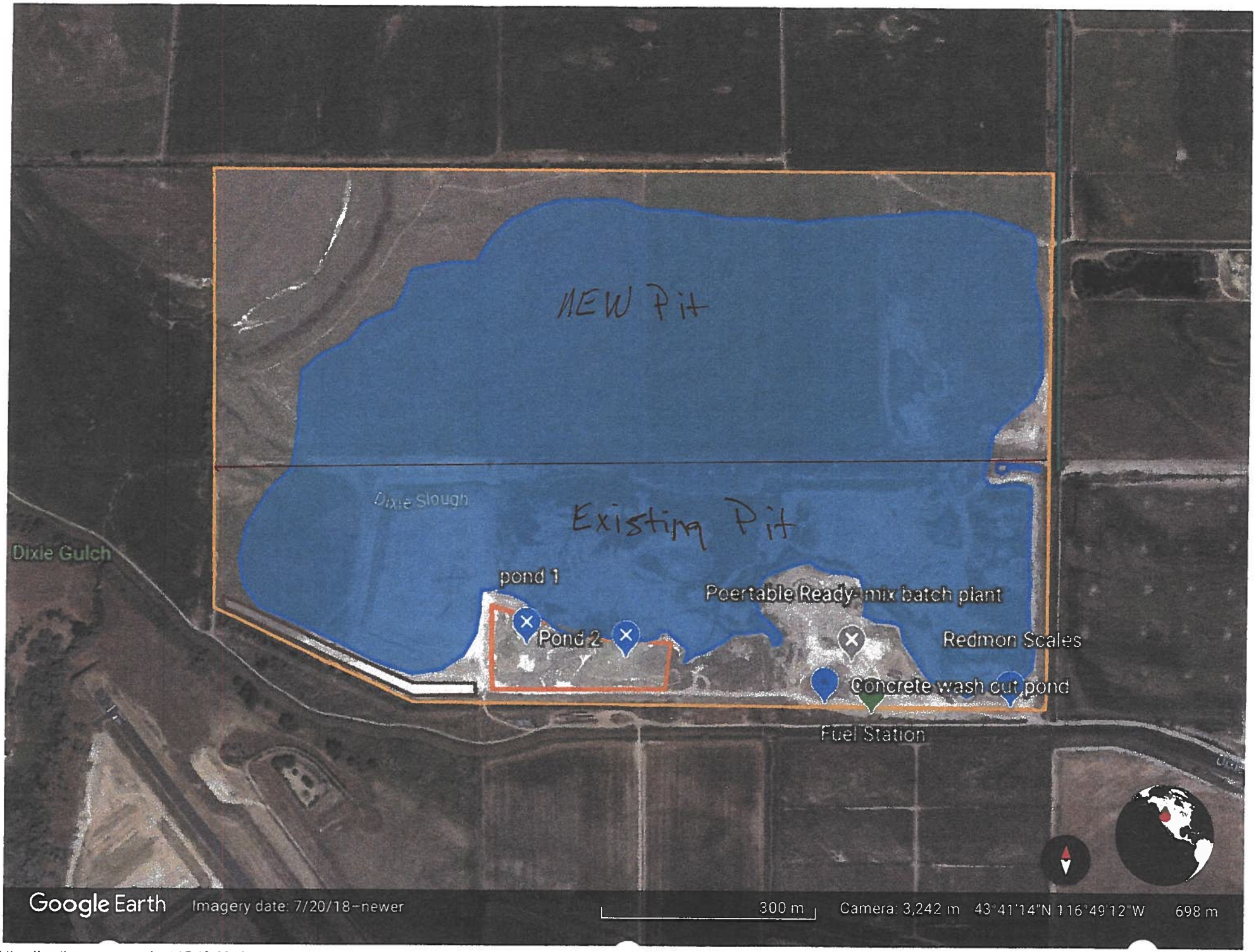
JMAC RESOURCES – NORTHERN TIER DEVELOPMENT – 1505 NORTH MILLER STREET, SUITE 260, WENATCHEE WA – 509.423.7494

REDMOND PIT
S16 T4N R4W - PARCEL #R36106
CANYON COUNTY, ID

CONDITIONAL USE PLAN

FIG No. FIG-A

SHEET No. 1 of 2


NEW Pit
Existing Pit
Dixie Slough
Dixie Gulch
pond 1
Pond 2
Portable Ready-mix batch plant
Redmon Scales
Concrete wash out pond
Fuel Station
Google Earth
Imagery date: 7/20/18–newer
300 m
Camera: 3,242 m 43°41'14"N 116°49'12"W 698 m

SCALE IN FEET
0 50 100

JMAC RESOURCES - NORTHERN TIER DEVELOPMENT - 1505 NORTH MILLER STREET, SUITE 260, WENATCHEE WA - 509.423.7494

REDMOND PIT
S16 T4N R4W - PARCEL #R36106
CANYON COUNTY, ID

CONDITIONAL USE PLAN

FIG No. FIG-A

SHEET No. 2 of 2

CONDITIONAL USE PERMIT
REDMON PIT

237.84 ACRE PORTION OF NORTH EAST SECTION 16, TOWNSHIP 4 NORTH, RANGE 4 WEST, B.M., CANYON COUNTY, IDAHO, 2024

REDMON FAMILY TRUST
Trustee Kathy Redmon
22204 Tucker Road
Greenleaf, ID 83626
(208)724-3977

JMAC RESOURCES
PO BOX 760
CALDWELL, ID 83606
(208)809-9768
justane@jmacresources.com

ORTON ENGINEERING LLC
17338 Sunnydale Place
Caldwell, ID 83607
(208)350-9422
brentorton@ortonengineers.com

NOT TO SCALE

1 PROJECT DATA: MINERAL EXTRACTION LONG TERM
ZONE DESIGNATION: Agricultural Zone A
TOTAL ACREAGE: 237.84 ACRES
PARCEL NUMBERS: R36106000, R36107000, R36106010
NEW MINING ACREAGE: +/- 98 ACRES

2 BUILDING SETBACKS AND DIMENSIONAL STANDARDS SHALL COMPLY WITH CANYON COUNTY STANDARDS FOR THE APPLICABLE ZONE. SETBACK 30' ON ALL SIDES

3 NEW WELLS TO BE CONSTRUCTED WITH A FULL DEPTH SEAL TO PROTECT AQUIFERS. AFTER RECLAMATION ANY WELLS SHALL BE REPURPOSED FOR RESIDENTIAL DEVELOPMENT

4 SEPTIC WILL NOT BE INSTALLED AT THIS TIME. PORTABLE RESTROOM FACILITIES WILL CONTINUE TO BE USE ON SITE FOR EMPLOYEES AND MAINTAINED REGULARLY

5 BERMS SHALL BE INSTALLED ON THE EDGES OF ALL TRAVELED ROADS TO CONTAIN STORMWATER AND PREVENT RUNOFF INTO WATER WAYS

6 CONCRETE PLANT NOT TO SCALE. JMAC RESOURCES CAN PROVIDED DETAILED PORTABLE CONCRETE BATCH PLANT INFO ON REQUEST

7 ALL MINING AND RECLAMATION ACTIVITIES WILL COMPLY WITH THE IDAHO MINED LAND RECLAMATION ACT, TITLE 47, CHAPTER 15 AND FOLLOW THE RECLAMATION PLAN APPROVED BY THE IDAHO DEPARTMENTS OF LANDS

8 MINING SHALL BE DONE IN 6 PHASES. ~4 FT OF TOPSOIL WILL BE REMOVED AND STOCKPILED ON PERIMETER OF PROPERTY IN 75 FT BUFFER ZONE ON NORTH AND EAST OF NEW MINABLE AREA. EACH PHASE WILL BE DUG OUT TO ~35 FEET DEEP. OPERATIONAL SLOPES WILL BE 3H:1V. VERTICAL SLOPES WILL BE NO TALLER THAN 15 FEET DURING EXCAVATION

9 GROUNDWATER MANAGEMENT PER SWPPP PLAN

10 HISTORIC SITE ACCESS WILL CONTINUE TO BE USED. ROADS WILL BE CONSTRUCTED ACROSS THE MINABLE AREAS WITHIN THE PROPERTY TO ACCESS PHASES OF MINING. WHEN MINING IS COMPLETE THE HAUL ROADS WILL BE CUT OUT AT 3H:1V SLOPE AROUND THE PIT AND BLENDED INTO THE FLOOR

11 FUEL, OIL, AND EQUIPMENT MAINTENANCE WILL BE STORED TO THE SOUTH ON THE PERIMETER OF THE PREVIOUSLY MINED OUT AREA PER RECLAMATION PLAN RP 2087. SPILL PREVENTION KITS STORED ON SITE

12 EROSION AND REVEGETATION PLAN: DUST WILL BE CONTROLLED BY WATER TRUCK AT ALL TIMES DURING WORKING HOURS. NOXIOUS WEEDS WILL BE CONTROLLED ON SITE DURING OPERATION. RESEEDING AND SITE RECLAMATION PER APPROVED RECLAMATION PLAN

13 PERMIT DURATION 40 YEARS. ANTICIPATED ACTUAL MINING PERIOD ~10 YEARS

ORTON ENGINEERING
Designing the Future
17338 Sunnydale Place ~ Caldwell, Idaho 83607
(208) 350-9422 ~ brentorton@ortonengineers.com

PROFESSIONAL ENGINEER 13359 STATE OF IDAHO BRENT L. ORTON

CONDITIONAL USE PERMIT
SITE PLAN
REDMON PIT, GREENLEAF, ID

JMAC Resources
2303KC-RPit
RedmonPitCUPJan2024.dwg
B.O. | T.O. | B.O. | 1/10/2024

REDMON PIT
21225 Notus Road, Greenleaf, Idaho

OPERATOR/EXTRACTOR:
JMAC RESOURCES
P.O. Box 760
CALDWELL, ID 83606
Contact: Justan Ekart (208) 809-9768

No.	DATE	BY	DESCRIPTION

REVISIONS

SCALE 1" = 200' | Sheet Number 1 OF 1

CONDITIONAL USE PERMIT
REDMON PIT

237.84 ACRE PORTION OF NORTH EAST SECTION 16,
TOWNSHIP 4 NORTH, RANGE 4 WEST, B.M.,
CANYON COUNTY, IDAHO, 2024

LANDOWNER

REDMON FAMILY TRUST
Trustee Kathy Redmon
22204 Tucker Road
Greenleaf, ID 83626
(208)724-3977

OPERATOR/EXTRACTOR

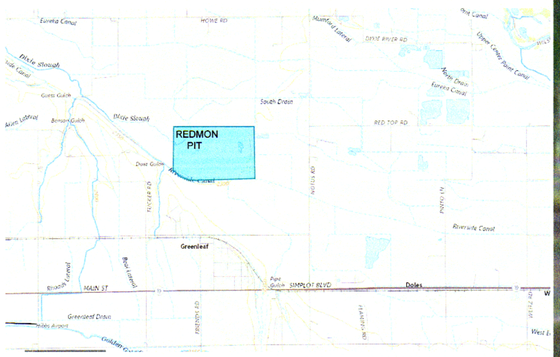
JMAC RESOURCES
PO BOX 760
CALDWELL, ID 83606
(208)869-9768
justane@jmacresources.com

ENGINEER

ORTON ENGINEERING, LLC
17338 Sunnydale Place
Caldwell, ID 83607
(208)350-9422
brentorton@ortonengineers.com

VICINITY MAP

NOT TO SCALE



PROJECT NOTES:

1. PROJECT DATA: MINERAL EXTRACTION LONG TERM
   ZONE DESIGNATION: Agricultural Zone A
   TOTAL ACREAGE: 237.84 ACRES
   PARCEL NUMBERS: R36106000, R36107000, R36106010
   NEW MINING ACREAGE: +/- 98 ACRES
2. BUILDING SETBACKS AND DIMENSIONAL STANDARDS SHALL COMPLY WITH CANYON COUNTY STANDARDS FOR THE APPLICABLE ZONE. SETBACK 30' ON ALL SIDES.
3. NEW WELLS TO BE CONSTRUCTED WITH A FULL DEPTH SEAL TO PROTECT AQUIFERS. AFTER RECLAMATION ANY WELLS SHALL BE REPURPOSED FOR RESIDENTIAL DEVELOPMENT.
4. SEPTIC WILL NOT BE INSTALLED AT THIS TIME. PORTABLE RESTROOM FACILITIES WILL CONTINUE TO BE USE ON SITE FOR EMPLOYEES AND MAINTAINED REGULARLY.
5. BERMS SHALL BE INSTALLED ON THE EDGES OF ALL TRAVELED ROADS TO CONTAIN STORMWATER AND PREVENT RUNOFF INTO WATER WAYS.
6. CONCRETE PLANT NOT TO SCALE. JMAC RESOURCES CAN PROVIDED DETAILED PORTABLE CONCRETE BATCH PLANT INFO ON REQUEST.
7. ALL MINING AND RECLAMATION ACTIVITIES WILL COMPLY WITH THE IDAHO MINED LAND RECLAMATION ACT, TITLE 47, CHAPTER 15 AND FOLLOW THE RECLAMATION PLAN APPROVED BY THE IDAHO DEPARTMENTS OF LANDS.
8. MINING SHALL BE DONE IN 6 PHASES. ~4 FT OF TOPSOIL WILL BE REMOVED AND STOCKPILED ON PERIMETER OF PROPERTY IN 75 FT BUFFER ZONE ON NORTH AND EAST OF NEW MINABLE AREA. EACH PHASE WILL BE DUG OUT TO ~35 FEET DEEP. OPERATIONAL SLOPES WILL BE 3H:1V. VERTICAL SLOPES WILL BE NO TALLER THAN 15 FEET DURING EXCAVATION.
9. GROUNDWATER MANAGEMENT PER SWPPP PLAN.
10. HISTORIC SITE ACCESS WILL CONTINUE TO BE USED. ROADS WILL BE CONSTRUCTED ACROSS THE MINABLE AREAS WITHIN THE PROPERTY TO ACCESS PHASES OF MINING. WHEN MINING IS COMPLETE THE HAUL ROADS WILL BE CUT OUT AT 3H:1V SLOPE AROUND THE PIT AND BLENDED INTO THE FLOOR.
11. FUEL, OIL, AND EQUIPMENT MAINTENANCE WILL BE STORED TO THE SOUTH ON THE PERIMETER OF THE PREVIOUSLY MINED OUT AREA PER RECLAMATION PLAN RP-2067. SPILL PREVENTION KITS STORED ON SITE.
12. EROSION AND REVEGETATION PLAN: DUST WILL BE CONTROLLED BY WATER TRUCK AT ALL TIMES DURING WORKING HOURS. NOXIOUS WEEDS WILL BE CONTROLLED ON SITE DURING OPERATION. RESEEDING AND SITE RECLAMATION PER APPROVED RECLAMATION PLAN.
13. PERMIT DURATION 40 YEARS. ANTICIPATED ACTUAL MINING PERIOD: <10 YEARS.

ORTON ENGINEERING
Designing the Future
17338 Sunnydale Place ~ Caldwell, Idaho 83607
(208) 350-9422 ~ brentorton@ortonengineers.com

PROFESSIONAL ENGINEER REGISTERED 13359 STATE OF IDAHO BRENT L. ORTON

CONDITIONAL USE PERMIT
SITE PLAN
REDMON PIT, GREENLEAF, ID

CLIENT: JMAC RESOURCES
JOB NUMBER: 2303KC-RPIT | CAD FILE: REDMONPITCUPJA2024.DWG | DRAWN BY: T.O. | CHECKED BY: B.O. | DESIGNED BY: B.O. | DRG DATE: 1/10/2024

REDMON PIT
21225 NOTUS ROAD, GREENLEAF, IDAHO

OPERATOR/EXTRACTOR:
JMAC RESOURCES
P.O. BOX 760
CALDWELL, ID 83606
CONTACT: JUSTAN EKART @208) 809-9768

NO	DATE	BY	DESCRIPTION

REVISIONS

SCALE: 1" = 200'
SHEET NUMBER: 1 OF 1

LAND USE WORKSHEET

PLEASE CHECK ALL THAT APPLY TO YOUR REQUEST:

GENERAL INFORMATION

1. **DOMESTIC WATER:** ☑ Individual Domestic Well ☐ Centralized Public Water System ☐ City
An Individual Well is expected to be needed for the Concrete Batch Plant

☐ N/A – Explain why this is not applicable: _____

☑ How many Individual Domestic Wells are proposed? One new expected (one small well exists on site)

2. **SEWER (Wastewater)** ☐ Individual Septic ☐ Centralized Sewer system

☑ N/A – Explain why this is not applicable: This site has previously and will continue to meet sewerage needs using portable restrooms
City Services are expected to be used for post-mineral extraction residential development from Greenleaf

3. **IRRIGATION WATER PROVIDED VIA:** Irrigation is not needed for this use.

☐ Surface ☐ Irrigation Well ☑ None

4. **IF IRRIGATED, PROPOSED IRRIGATION:**

☐ Pressurized ☐ Gravity

5. **ACCESS:**

☐ Frontage ☑ Easement Easement width 25 Feet Inst. # Prescriptive (since 1970)

6. **INTERNAL ROADS:** Internal Roads will serve only the project (and will adjust with mining operations)

☐ Public ☑ Private Road User's Maintenance Agreement Inst #_____

7. **FENCING** ☐ Fencing will be provided (Please show location on site plan)

Type: _____ Height: _____

8. **STORMWATER:** ☑ Retained on site ☐ Swales ☐ Ponds ☐ Borrow Ditches

☐ Other: See Stormwater Pollution Prevention Plan (included with application)

9. **SOURCES OF SURFACE WATER ON OR NEARBY PROPERTY:** (i.e. creeks, ditches, canals, lake)

Existing Ponds from previous mineral extraction could be a source of surface water

RESIDENTIAL USES

1. NUMBER OF LOTS REQUESTED:

☐ Residential _____ ☐ Commercial _____ ☐ Industrial _____

☐ Common _____ ☐ Non-Buildable _____

2. FIRE SUPPRESSION:

☐ Water supply source: _____

3. INCLUDED IN YOUR PROPOSED PLAN?

☐ Sidewalks ☐ Curbs ☐ Gutters ☐ Street Lights ☐ None

NON-RESIDENTIAL USES

1. SPECIFIC USE: Long term (40yrs) Mineral Extraction, Crushing & Washing, Concrete Batch Plant

2. DAYS AND HOURS OF OPERATION: Aggregate Crushing & Washing 6 days/wk 4A to 10p (6A to 4P Usual)
Concrete Batch Plant - 24 hrs/day, 6 days a week and 7th day maint. See also letter of intent.

☑	Monday	12AM	to 12AM
☑	Tuesday	12AM	to 12AM
☑	Wednesday	12AM	to 12AM
☑	Thursday	12AM	to 12AM
☑	Friday	12AM	to 12AM
☑	Saturday	12AM	to 12AM
☑	Sunday	12AM	to 12AM

3. WILL YOU HAVE EMPLOYEES? ☑ Yes If so, how many? Approx 30 ☐ No

4. WILL YOU HAVE A SIGN? ☑ Yes ☐ No ☐ Lighted ☐ Non-Lighted

Height: 4 ft Width: 8 ft. Height above ground: 4 ft to base

What type of sign: _____ Wall X Freestanding _____ Other

5. PARKING AND LOADING:

How many parking spaces? Est. 45

Is there is a loading or unloading area? Yes

ANIMAL CARE-RELATED USES

1. MAXIMUM NUMBER OF ANIMALS: _____

2. HOW WILL ANIMALS BE HOUSED AT THE LOCATION?

☐ Building ☐ Kennel ☐ Individual Housing ☐ Other _____

3. HOW DO YOU PROPOSE TO MITIGATE NOISE?

☐ Building ☐ Enclosure ☐ Barrier/Berm ☐ Bark Collars

4. ANIMAL WASTE DISPOSAL

☐ Individual Domestic Septic System ☐ Animal Waste Only Septic System

☐ Other: _____

ORTON ENGINEERING
Designing the Future
Orton Engineering, LLC
17338 Sunnydale Place
Caldwell, ID 83607
Ph 208 350 9422
brentorton@ortonengineers.com

Notice of Neighborhood Meeting Conditional Use Permit for Mineral Extraction, Aggregate Crushing & Washing, Concrete Batch Plant

Owner: Redmon Family Trust
Operator: *JMAC Resources*
22204 Tucker Road, Greenleaf, Idaho 83626
C/O Juston Ekart: 208 506 2952

Mailed Jan 12, 2024

Regarding: *Conditional Use Permit for Mineral Extraction, Aggregate Crushing & Washing, and Concrete Batch Plant with expanded land footprint.*

Dear Friends:

JMAC Resources, Inc. is in the process of applying for a Conditional Use Permit to Canyon County Development Services for a Mineral Extraction Operation on property owned by the Redmon Family Trust. 117 Acres of this 238 Acre property have been in mineral extraction operation under a previously approved conditional use permit for about 20 years including mineral extraction and aggregate crushing and washing. This application would include that property and add the 120 acre parcel due North of the existing pit. It also adds authorization for a concrete batch plant to be located in the Southeast area of the operation.

One of the requirements to seeking a conditional use permit is to invite all property owners within 600 feet of the subject property to an informal neighborhood meeting (Canyon County Zoning Ordinance 07-01-15). This is NOT a Public Hearing. This meeting is meant to provide neighbors with a chance to learn about what JMAC Resources, Inc. intends to apply for and get any questions answered. *No application has been submitted to Canyon County Development Services yet. – This is a preapplication requirement.*

Once the neighborhood meeting is complete and the application is turned in, the County will provide public notice as required by Idaho Law to all property owners within 300 feet of the subject property (different than the neighborhood meeting requirement) notifying about the public hearing that would then be held before the Canyon County Planning and Zoning Commission.

If you have any questions or concerns about this project, please feel free to reach out to Juston Ekart of JMAC Resources at 208 506 2952. If you are in favor of this request, we'll have a petition available to sign at the neighborhood meeting.

The Neighborhood Meeting will be held on:

Date: Tuesday, January 23rd
Time: 6:00 pm to 7:00 pm
Location: 21225 Notus Road ***(at the Site Entrance on the West side of Notus Road just north of Riverside Canal)***

If you can't make it to the neighborhood meeting, please send me an email or give me a call and I'll make notes of questions and concerns you may have. Thank you!

Sincerely,

NEIGHBORHOOD MEETING SIGN-UP

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT
111 North 11th Avenue, #310, Caldwell, ID 83605
zoninginfo@canyoncounty.id.gov Phone: 208-454-7458 Fax: 208-454-6633

NEIGHBORHOOD MEETING SIGN UP SHEET

CANYON COUNTY ZONING ORDINANCE §07-01-15

Applicants shall conduct a neighborhood meeting for any proposed comprehensive plan amendment, zoning map amendment (rezone), subdivision, variance, conditional use, zoning ordinance map amendment, or other requests requiring a public hearing.

SITE INFORMATION

Site Address: 21225 Notus Road (access)	Parcel Number:	36106000 0, 36107000 0, 36106010 0
City: Greenleaf	State: Idaho	ZIP Code: 83626
Notices Mailed Date: January 12, 2023	Number of Acres: 237.84	Current Zoning: Ag

Description of the Request: Long term (40yrs) Mineral Extraction, Crushing & Washing, Concrete Batch Plant

APPLICANT / REPRESENTATIVE INFORMATION

Contact Name: Juston Ekart, Brent Orton, Orton Engineers, LLC
Company Name: JMAC Resources, Inc.
Current address: PO Box 760

City: Caldwell	State: Idaho	ZIP Code: 83606
Phone: 208 506 2952	[redacted]	Fax:

Email: justone@jmacresources.com

MEETING INFORMATION	
DATE OF MEETING: 23 Jan 2024	MEETING LOCATION: Site Entrance 21225 Notus Road
MEETING START TIME: 6:00 pm	MEETING END TIME: 7:00 pm

ATTENDEES: See Prepared Sign-up Sheet

NAME (PLEASE PRINT)	SIGNATURE:	ADDRESS:
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		

Orton Engineering, LLC
17338 Sunnydale Place
Caldwell, ID 83607
Ph 208 350 9422
brentorton@ortonengineers.com

Sign-in Sheet
Neighborhood Meeting
Mineral Extraction CUP

Owner: Redmon Family Trust
Operator: JMAC Resources
21225 Notus Road, Greenleaf, Idaho 83626
C/O Juston Ekart: 208 506 2952

JMAC Resources, Inc. PO Box 760. Caldwell, ID 83606

23 January 2024 6:00 pm to 7:00 pm
at 21225 Notus Rd, Greenleaf, ID 83626
Notices Mailed 12Jan2024.

Parcels:36106000 0 (80.16AC), 36107000 0 (36.91AC), 36106010 0 (120.77AC) *Held Total Acreage 237.84AC; Currently Ag Zone (no change to zone proposed).*

JMAC Resources, Inc. is in the process of applying for a Conditional Use Permit to Canyon County Development Services for a Long-Term Mineral Extraction Operation, Aggregate Crushing and Washing, and a Concrete Batch Plant.

Please Sign-In.

Please sign in to allow us to illustrate attendance at the required neighborhood meeting to allow us to satisfy the requirements of Canyon County Code 07-10-27.

Name	Address	Phone Number
Jerry Stevenson	21494 Tucker Rd.	[redacted]

ORTON ENGINEERING
Designing the Future

Orton Engineering, LLC
17338 Sunnydale Place
Caldwell. ID 83607
Ph 208 350 9422
brentorton@ortonengineers.com

Sign-in Sheet

Neighborhood Meeting

Mineral Extraction CUP

Owner: Redmon Family Trust
Operator: JMAC Resources
21225 Notus Road, Greenleaf, Idaho 83626
C/O Juston Ekart: 208 506 2952

JMAC Resources, inc. PO Box 760, Caldwell, ID 83606

Name	Address	Phone Number

10.
11.

12.
13.
14.
15.
16.
17.
18.
19.
20.

NEIGHBORHOOD MEETING CERTIFICATION:

I certify that a neighborhood meeting was conducted at the time and location noted on this form and in accordance with Canyon County Zoning Ordinance § 07-01-15.

APPLICANT/REPRESENTATIVE (Please print):

Juston Ekart, Brent Orton

APPLICANT/REPRESENTATIVE (Signature): _____

DATE: 01 / 23 / 2024

ORTON ENGINEERING
Designing the Future

Orton Engineering, LLC
17338 Sunnydale Place
Caldwell, ID 83607
Ph 208 350 9422
brentorton@ortonengineers.com

Petition in Support For Mineral Extraction with Crushing, Washing, and Batch Plant

Owner: Redmon Family Trust
Operator: JMAC Resources
21225 Notus Road, Greenleaf, Idaho 83626
C/O Juston Ekart: 208 506 2952
Parcels:36106000 0, 36107000 0, 36106010 0

JMAC Resources, Inc. is in the process of applying for a Conditional Use Permit to Canyon County Development Services for a Mineral Extraction Operation, Aggregate Crushing and Washing, and a Concrete Batch Plant. *(117.1AC currently in operation-Adding 120.77AC – Total 237.84AC)*

Petition supporting authorizing JMAC Resources to be approved for a conditional use permit to expand the existing Mineral Extraction and Gravel Crushing & Washing Operations and add a Concrete Batch Plant (Near SW corner of project).

We the undersigned support the application for a Conditional Use Permit for JMAC Resources, Inc. as described above.

Name	Address	Phone Number

Orton Engineering, LLC
17338 Sunnydale Place
Caldwell, ID 83607
Ph 208 350 9422
brentorton@ortonengineers.com

Petition in Support For Mineral Extraction with Crushing, Washing, and Batch Plant

Owner: Redmon Family Trust
Operator: JMAC Resources
21225 Notus Road, Greenleaf, Idaho 83626
C/O Juston Ekart: 208 506 2952
Parcels:36106000 0, 36107000 0, 36106010 0

Name	Address	Phone Number

AGENCY ACKNOWLEDGMENT

Date:

Applicant:

Parcel Number:

Site Address:

SIGNATURES DO NOT INDICATE APPROVAL OR COMPLETION OF OFFICIAL REVIEW.

The purpose of this form is to facilitate communication between applicants and agencies so that relevant requirements, application processes, and other feedback can be provided to applicants early in the planning process. Record of communication with an agency regarding the project can be submitted instead of a signature. After the application is submitted, impacted agencies will be sent a hearing notification by DSD staff and will have the opportunity to submit comments.

Southwest District Health:

☑ Applicant submitted/met for informal review.

Date: 02/13/2024 Signed: Anthony Lee

Authorized Southwest District Health Representative
(This signature does not guarantee project or permit approval)

Fire District: District: SWDH

☐ Applicant submitted/met for informal review.

Date: 2/13/24 Signed:

Authorized Fire District Representative
(This signature does not guarantee project or permit approval)

Highway District: District: Golden Gate Hwy Dist #3

☑ Applicant submitted/met for informal review.

Date: 1/25/24 Signed: Bob Watkins

Authorized Highway District Representative
(This signature does not guarantee project or permit approval)

Irrigation District: District:

☑ Applicant submitted/met for informal review.

Date: Jan 18 - 2024 Signed: Manager Riverside Irrigation Dist LTD

Authorized Irrigation Representative
(This signature does not guarantee project or permit approval)

Area of City Impact City:

☑ Applicant submitted/met for informal review.

Date: 10 Jan 2024 Signed:

Authorized AOCI Representative
(This signature does not guarantee project or permit approval)

DISCLAIMER: THIS ACKNOWLEDGMENT IS ONLY VALID SIX MONTHS FROM THE DATE ISSUED

AGENCY LOCATION AND CONTACT		
Southwest District Health		
Address		Phone Number
13307 Miami Lane, Caldwell		(208) 455-5400
Highway Districts		
Agency	Address	Phone Number
Canyon	15435 ID-44, Caldwell	(208) 454-8135
Golden Gate	500 Golden Gate Ave. E, Wilder	(208) 482-6267
Nampa	4507 12th Ave Road, Nampa	(208) 467-6576
Notus-Parma	106 S. 4th Str., Parma	(208) 722-5343
Idaho Transportation Department		
Address		Phone Number
11331 W. Chinden Blvd., Boise		(208) 334-8300
Fire Districts		
Agency	Address	Phone Number
Caldwell Rural	310 S. Seventh Ave., Caldwell	(208) 896-4511
Homedale Rural	120 S. Main St., Homedale	(208 337-3450
Kuna Rural	150 W. Boise St., Kuna	(208) 922-1144
Marsing Rural	303 Main St., Marsing	(208) 896-4796
Melba Rural	408 Carrie Rex, Melba	(208) 495-2351
Middleton Rural	302 E. Star Blvd., Middleton	(208) 585-6650
Nampa Rural	820 Second Str. South, Nampa	(208) 468-5770
Parma Rural	29200 HWY 95, Parma	(208) 722-6753
Star Rural	11665 State Str., Suite B, Star	(208) 286-7772
Upper Deer Flat Rural	9500 Missouri Ave., Nampa	(208) 466-3589
Wilder Rural	601 Patriot Way, Wilder	(208) 482-7563
Irrigation Districts		
Agency	Address	Phone Number
Famer Cooperative Ditch Co/Si	PO Box 69, Parma	(208) 722-2010
Farmers Union Ditch Co	PO Box 1474, Eagle	(208) 870-7919
Black Canyon	474 Elgin Ave., Notus	(208) 459-4141
Boise-Kuna	129 N. School Ave., Kuna	(208) 922-5608
Boise project Board of Control	2465 Overland Road, Boise	(208) 344-1141
Eureka	21766 Howe Road, Caldwell	(208) 250-8000
Franklin Ditch Co	3401 W. Pine Ave., Meridian	(208) 466-3819
Middleton Mill Ditch Co	PO Box 848, Middleton	(208) 585-3207
Nampa-Meridian	1503 1st Str. South, Nampa	(208) 466-7861
New York	6616 W. Overland Road, Boise	(208) 378-1023
Pioneer	3804 S. Lake Ave., Caldwell	(208) 459-3617
Pioneer-Dixie	19724 Dixie River Road, Caldwell	(208) 454-1559
Riverside	PO Box 180, Greenleaf	(208) 722-2010
Settlers	PO Box 7571, Boise	(208) 343-5271
Siebenberg Cooperative Ditch Co	PO Box 642, Parma	kchamberlain.fcdc@gmail.com
Wilder	709 Cleveland Blvd., Caldwell	(208) 459-3421
Mason Creek Ditch Co	1905 Mason Rd., Caldwell	johnmcavoy48@yahoo.com
Poor Boy Ditch Co	PO Box 395, Greenleaf	(208) 407-7681 (F) 498-9690
Canyon County Water Co./Flake Ditch	PO Box 11/PO Box 6, Star	(208) 455-1735
City Impact Area		
Agency	Address	Phone Number
Caldwell	621 Cleveland Blvd., Caldwell	(208) 455-3000
Nampa	500 12th Ave. S., Nampa	(208) 468-4430
Middleton	1103 W. Main St., Middleton	(208) 585-3133
Parma	305 N. 3rd St., Parma	(208) 722-5138
Melba	401 Carrie Rex Ave., Melba	(208) 495-2722
Greenleaf	20523 Whittier Dr., Greenleaf	(208) 454-0552
Notus	375 Notus Road, Notus	(208) 459-6212
Homedale	31 W. Wyoming Ave., Homedale	(208) 337-4641
Star	10769 W. State St., Star	(208) 286-7247
Wilder	107 4th St., Wilder	(208) 482-6204

DISCLAIMER: THIS ACKNOWLEDGMENT IS ONLY VALID SIX MONTHS FROM THE DATE ISSUED

PUBLIC HEARING APPLICATION PROCESS

CANYON COUNTY DEVELOPMENT SERVICES DEPARTMENT
111 North 11th Avenue, #310, Caldwell, ID 83605
www.canyoncounty.id.gov Phone: 208-454-7458

1. • **DUE DILIGENCE BY APPLICANT (PARCEL INQUIRY OR PRE-APPLICATION MEETING)**

2. • **NEIGHBORHOOD MEETING (HOSTED BY APPLICANT) PER CCZO SECTON 07-01-15**

3. • **SUBMIT APPLICATION, SUBMITTAL MATERIALS & FEES TO DEVELOPMENT SERVICES**
   - Incomplete submittals will not be accepted

4. • **STAFF REVIEW OF APPLICATION**
   - APPLICATION WILL BE POSTED UNDER "LAND HEARINGS" ON THE COUNTY WEBSITE

5. • **SCHEDULE FOR PUBLIC HEARING (41-Day PROCESS)**
   - SUPPLEMENTAL CASE INFORMATION WILL BE POSTED UNDER "LAND HEARINGS" ON THE COUNTY WEBSITE
   - **DAY 1-5**: Hearing notices sent with comment deadline to affected agencies and proeprty owners
   - **DAY 19**: Comment deadline ends. Comments receieved late will not be accepted. Late comments may be provided during the public hearing as testimony if accepted by the hearing body.
   - **DAY 20-30**: Staff Report Packet preparation
   - **DAY 31**: Staff Report Packet sent to hearing body
   - STAFF REPORT WILL BE POSTED UNDER "LAND HEARINGS" ON THE COUNTY WEBSITE
   - **Day 41**: Public Hearing

6. • **PUBLIC HEARING**
   - Planning & Zoning Commission hearing (1st and 3rd Thursday evenings);
   - Hearing Examiner hearing (3rd Wednesday afternoon); or
   - Board of County Commissioners hearing (Day-time)
   - HEARING DECISIONS WILL BE POSTED UNDER "LAND HEARINGS" ON THE COUNTY WEBSITE

7. • **IF 2nd HEARING Required, SEE ITEM 5 & 6 SCHEDULING FOR HEARING AND PUBLIC HEARING**
   - Substantial changes to an application between hearings may be considered a new application and may be required to restart the process

8. • **CLOSED/REQUEST FOR RECONSIDERATION (IDAHO CODE SECTION 67-6535(b))**
   - FINAL DECISIONS WILL BE POSTED UNDER "LAND HEARINGS" ON THE COUNTY WEBSITE

22204 Tucker Road
Greenleaf, Idaho 83626

CANYON COUNTY RECORDER
Pgs=3 PBRIDGES $15.00
DEED
KATHLEEN REDMON

QUIT CLAIM DEED

Hillview Farms Trust grantor, hereby QUIT CLAIMS to **John G.Redmon or Kathleen Redmon, or their Successor, as Trustee Under Agreement with The Redmon Family Trust dated the 26th day of November, 2018,** grantee, for the sum of Ten and 00/100 ($10.00) DOLLARS and other good and valuable consideration, the following described tracts of land and all rights located in **CANYON COUNTY, IDAHO** and more particularly described as:

SEE ATTACHED EXHIBIT "A" (Zabala-36106010)

WITNESS the hand of said grantors, this 26th day of November, 2018

John G Redmon
John G. Redmon - Trustee Hillview Farms Trust

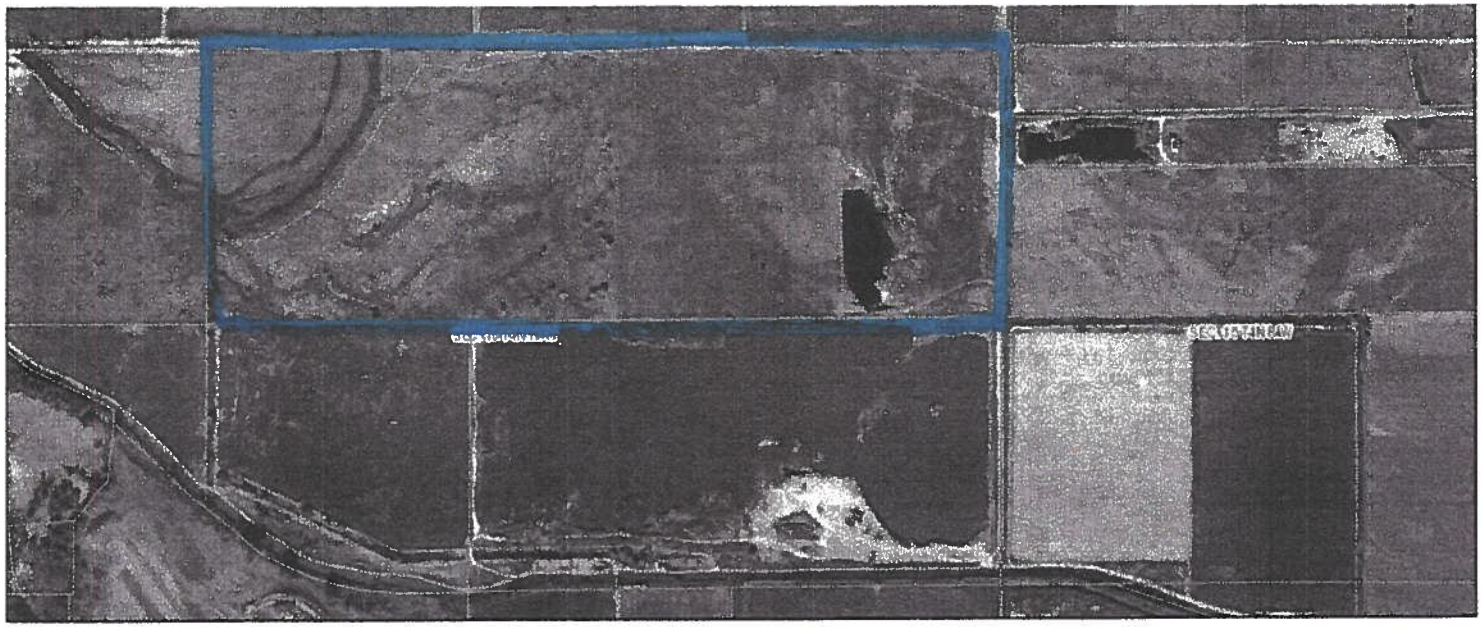
Kathy E. Redmon
Kathy E. Redmon - Trustee Hillview Farms Trust

State of Idaho)
: SS.
County of Canyon)

On this 04th day of FEBRUARY, in the year 2021, before me LEE C. BELT _____, personally appeared JOHN G. REDMON AND KATHY E. REDMON, proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is(are) subscribed to the within instrument, and acknowledged that he(she)(they) executed the same.

LEE C. BELT
NOTARY PUBLIC
STATE OF IDAHO
COMMISSION #43184
MY COMMISSION EXPIRES 10/29/2022

Notary Public
My Commission Expires on 10-29-2022



12/29/2020, 12.08:04 PM

36106 010

1:11,015

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Canyon County, Canyon County Assessor

Zabalas 121.17

Web AppBuilder for ArcGIS

The North one-half of the NorthEast quarter and the NorthEast quarter of the Northwest quarter of Section 16, Township 4 North, Range 4 West, Boise Meridian, Canyon County, Idaho

SOUTHWEST SUPERVISORY AREA
8355 West State Street
Boise ID 83714-6071
Phone (208) 334-3488
Fax (208) 853-6372

IDAHO DEPARTMENT OF LANDS

DUSTIN MILLER, DIRECTOR
EQUAL OPPORTUNITY EMPLOYER

July 24th, 2023

JMAC Resources
PO Box 760
Caldwell, ID 83606

To whom it may concern,

This correspondence is notification that the following reclamation plan was approved on 7/24/2023:

PLAN NO.	ACRES	COUNTY	LEGAL DESCRIPTION
S603005	100	Canyon	T04N R04W Section 16, NE1/4 Pts NW1/4

The plan was granted approval subject to the following terms and conditions:

1. All refuse, chemical and petroleum products and equipment shall be stored and maintained in a designated location, 100 feet away from any surface water and disposed of in such a manner as to prevent their entry into a waterway.

2. State water quality standards will be maintained at all times during the life of the operation. Should a violation of water quality standards occur, mining operations will cease immediately, corrective action will be taken, and the Department of Environmental Quality will be notified.

3. Erosion and non-point source pollution shall be minimized by careful design of the site access and implementing Best Management Practices, which may include, but are not limited to:

   a. Diverting all surface water flows around the mining operation.
   b. Removing and stockpiling vegetation and slash, except merchantable timber, for use in erosion control and reclamation;
   c. Removing and stockpiling all topsoil or suitable plant growth material for use in reclamation.

4. An initial reclamation bond in the amount of $57,400.00 for up to 10 acres of disturbance will be submitted to and maintained with the Idaho Department of Lands prior to conducting surface mining operations.

5. If the reclamation plan is not bonded within 18 months of approval, or if no operations are conducted within three years, the department may withdraw this plan. This shall not prevent the operator from re-applying for reclamation plan approval.

6. Acceptance of this permit does not preclude the operator from obtaining other necessary permits and approvals from state and federal authorities, i.e. Storm Water Pollution Prevention Plan (SWPPP), waste water generation and/or air quality permits, consultation with the National Oceanic and Atmospheric Administration Fisheries, U.S. Army Corps of Engineers 404 Permit and Stream Channel Alteration Permits for each production process.

8. At the beginning of each calendar year the operator or plan holder shall notify the director of any increase in the acreage of affected lands which will result from the planned surface mining activity within the next twelve (12) months. A correlative increase in the bond will be required for an increase in affected acreage.

Please note -- pursuant to Idaho Code section 47-1512(a), operations cannot commence until the bond established in Stipulation No. 4 is submitted to this department. Failure to submit payment before mining commences may subject you to legal action by the state pursuant to Idaho Code section 47-1513(d), which may include issuance of an order by the district court to temporarily restrain your mining operations without prior notice to you.

If the department does not receive a written notice of objection from you regarding these stipulations by August 14, 2023, the stipulations will be considered as accepted.

If you have any questions, you may contact me at the above address or telephone number.

Sincerely,

Connor MacMahon
Lands Resource Specialist—Minerals

IDAHO DEPARTMENT OF LANDS

APPLICATION FOR RECLAMATION PLAN APPROVAL

Reclamation Plan Number: ~~RP~~

GENERAL INFORMATION

The Idaho Mined Land Reclamation Act, Title 47, Chapter 15, Idaho Code requires the operator of a surface mine, a new underground mine, or an existing underground mine that expands the July 1, 2019 surface disturbance by 50% or more to obtain an approved reclamation plan and financial assurance. Fees are charged as shown on the attachment.

When an applicant is mining on lands administered by the U.S. Forest Service or Bureau of Land Management, it is necessary to obtain the proper federal approvals in addition to the Department of Lands. Each agency's application requirements are similar, but not exactly the same. Please review both state and federal application requirements, and develop one plan which meets the requirements of all the agencies involved.

If ponds or lakes are created during the mining process and will remain after reclamation is completed, the Idaho Department of Water Resources (IDWR) requires the operator or landowner to obtain a water right. If a water right cannot be obtained prior to a plan being submitted, then the reclamation plan must include backfilling to an elevation above the local ground water table. Bond calculations must include those backfilling costs.

After the reclamation plan has been finalized, an electronic copy or five (5) hard copies of the application package must be submitted to the appropriate Area office of the Idaho Department of Lands. When the application is received, the appropriate federal or state agencies will be notified of the application. The department shall deliver to the operator, if weather permits and the plan is complete, the notice of rejection or notice of approval of the plan within sixty (60) days after the receipt of the reclamation plan or amended plan.

All reclamation plan applications will be processed in accordance with Section 080 of the Rules Governing Mined Land Reclamation (IDAPA 20.03.02) and applicable Memorandums of Understanding with state and federal agencies.

APPLICATION INFORMATION

1. NAME: JMAC Resources d/b/a: _____
2. ADDRESS: P.O Box 760
   CITY, STATE, ZIP CODE: Caldwell ID 83606
3. TELEPHONE and EMAIL: 208-509-9765 (000-000-0000) Justine@jmacresources.com (e.g. john.doe@email.com)
4. DESIGNATED IN-STATE AGENT AND ADDRESS: (if Company's main place of business is 'out of state')
5. PROOF OF BUSINESS REGISTRATION (if applicable): If applicant is a business, please attach proof of registration with the Idaho Secretary of State.
6. LEGAL DESCRIPTION (Section, Township, and Range) TO THE QUARTER-QUARTER SECTION:
   Sec. 16, T4N, R4W
7. ACREAGE and COUNTY(ies): ~~171~~ 100 (Acres) Canyon, Idaho (e.g. Ada through Washington)
8. OWNERSHIP: (check applicable)
   ☑ Private ☐ U.S. Forest Service ☐ Bureau of Land Management ☐ Idaho Department of Lands
9. COMMODITY TYPE, PROPOSED START-UP DATE: Active
10. SITE NAME OR MINE NAME (if any): Redman Pit
11. TYPE OF MINING: (check applicable) ☑ Surface ☐ Underground ☐ Both

Fee: See Attached Schedule

12. Please provide the following maps of your mining operation (Subsections 069.04 or 070.03 of IDAPA 20.03.02):

    a. A vicinity map prepared on a standard USGS 7.5' quadrangle map or equivalent.

    b. A site map which adequately shows the location of existing roads, access roads, and main haul roads which would be constructed or reconstructed for the operation. Also, list the approximate dates for construction, reconstruction, and abandonment.

    c. On a site location map, show the following;

        i. The approximate location and names, if known, of drainages, streams, creeks, or bodies of water within 1,000 feet of the surface mining operation.

        ii. The approximate boundaries and acreage of the lands:

            1. That will become affected by the mining operation.

            2. That will be affected during the first year of operations.

            This map must be of appropriate scale for boundary identification.

        iii. The planned configuration of all pits, mineral stockpiles, overburden piles, topsoil stockpiles, sediment ponds, and tailings facilities that will be developed by the mining operation.

        iv. Location of all underground mine openings at the ground surface, if any.

        v. The planned location of storage for fuel, equipment maintenance products, wastes, and chemicals utilized in the surface mining operation.

    d. A surface and mineral control or ownership map of appropriate scale for boundary identification.

    e. Scaled cross-sections of the mine showing surface profiles prior to mining, at maximum disturbance, and after reclamation.

13. A reclamation plan must be developed and submitted in map and narrative form (Subsections 069.05 or 070.04 of IDAPA 20.03.02). The reclamation plan must include the following information:

    a. On a drainage control map show and list the best management practices which will be utilized to control erosion on or from the affected lands.

    b. A description of foreseeable, site specific water quality impacts from mining operations and proposed water management activities or BMPs to comply with water quality requirements.

    c. A description of post-closure activities, if any, such as water handling and treatment.

    d. Which roads will be reclaimed and a description of the reclamation.

    e. A revegetation plan which identifies how topsoil or other growth medium will be salvaged, stored and replaced in order to properly revegetate the area. Identify soil types, the slope of the reclaimed areas, and precipitation rates. Based on this information, identify the seed species, the seeding rates, the time and method of planting the soil, and fertilizer and mulch requirements.

    f. Describe and show how tailings facilities and process or sediment ponds will be reclaimed.

    g. Dimensions of underground mine openings at the surface and description of how each mine opening will be secured to eliminate hazards to human health and safety.

    h. For operations over five (5) acres, estimate the actual cost of third party reclamation including direct and indirect costs for mobilization, re-grading, seed, fertilizer, mulch, labor, materials, profit, overhead, insurance, bonding, administration, and any other pertinent costs as described in IDAPA 20.03.02.120.

APPLICANT SIGNATURE: _____ **DATE:** 5-30-23

Fee: See Attached Schedule

JMAC RESOURCES

REDMON PIT RECLAMATION PLAN

100 ~~98~~ acres in NE section 16, Township 4N, Range 4W

Operations

Excavation will be in 6 different phases starting with phase 1 in the NE section of mineable area and then continue on as in the planned configuration map phase 1-6. The first year of operation will be limited to the 10 acre section in the NE. As sections are mined out the crushing and stockpiling areas will be moved to the floor of each mined section and countinue on through remaining phases. When finished all mined out areas will add up to approximately 98 acres.

Access to the mineable area will be around the existing mined out pit to the south of the mineable area. Roads will be constructed across the mineable area to get to different phases of mining. When phases get mined out the roads will be reconstructed through the floor of the mined out phases. When mining is completed the haul roads will be cut out at 3H:1V slope around the pit area and blended into the floor.

The fuel, fuel containment, oil and equipment maintenance parts will not be stored on the disrupted area, but will be stored to the south on the perimeter of a previously mined out area in reclamation plan RP-2067. Spill prevention kits will be stored on site for availability to employees.

Approximately 4ft of a sandy loam topsoil will be removed from mining/crushing area and stockpiled around the perimeter of the property in a 75ft buffer zone on the north and east sides of mineable area. A traveable road will be left around the outside perimeter of the overburden/topsoil stockpiles. The overburden/topsoil stockpile will be shaped on the outside edge for visual appearance.

Each phase will be dug out to approximately 35ft deep. Operational slopes will be 3H:1V. Vertical slopes will be no taller than 15ft during excavation.

Groundwater will be contained in ditches dug around the perimeter of each phase on the pit floor and then pumped into and existing pond on phase 2 area which will then gravity flow through an existing pipe into the previously mined out area to the south. Water is pumped from existing mined out pond to the south of mineable area into an irrigation ditch, Information on that is in SWPPP plan.When all stockpiles are depleted and reclamation is finalized, all equipment removed from site the pumps will be shut off and the mined out areas will be allowed to fill up to ground water depth.

Dust on the site will be controlled by a water truck at all times during working hours. X-out/ backfill will not be allowed on site so we will have none to contend with.

Noxious weeds will be controlled on site during during time of operation.

A personal unnamed pond exists within 100ft just east of the mineable area which is not expected to be impacted by the mining operation. An irrigation ditch runs north and south on the east side of the property. Berms will be installed along the edges of all traveled roads to contain storm water or any other run off from entering the waterways. The riverside canal runs along the south side of the previously mined out section and will not be impacted by the mining process. Dixie slough runs along the outside of the NW section of the mineable area but will not be impacted by the mining process. Best management practices to control erosion of the impacted mining lands will be listed on the drainage control map.

Final Reclamation

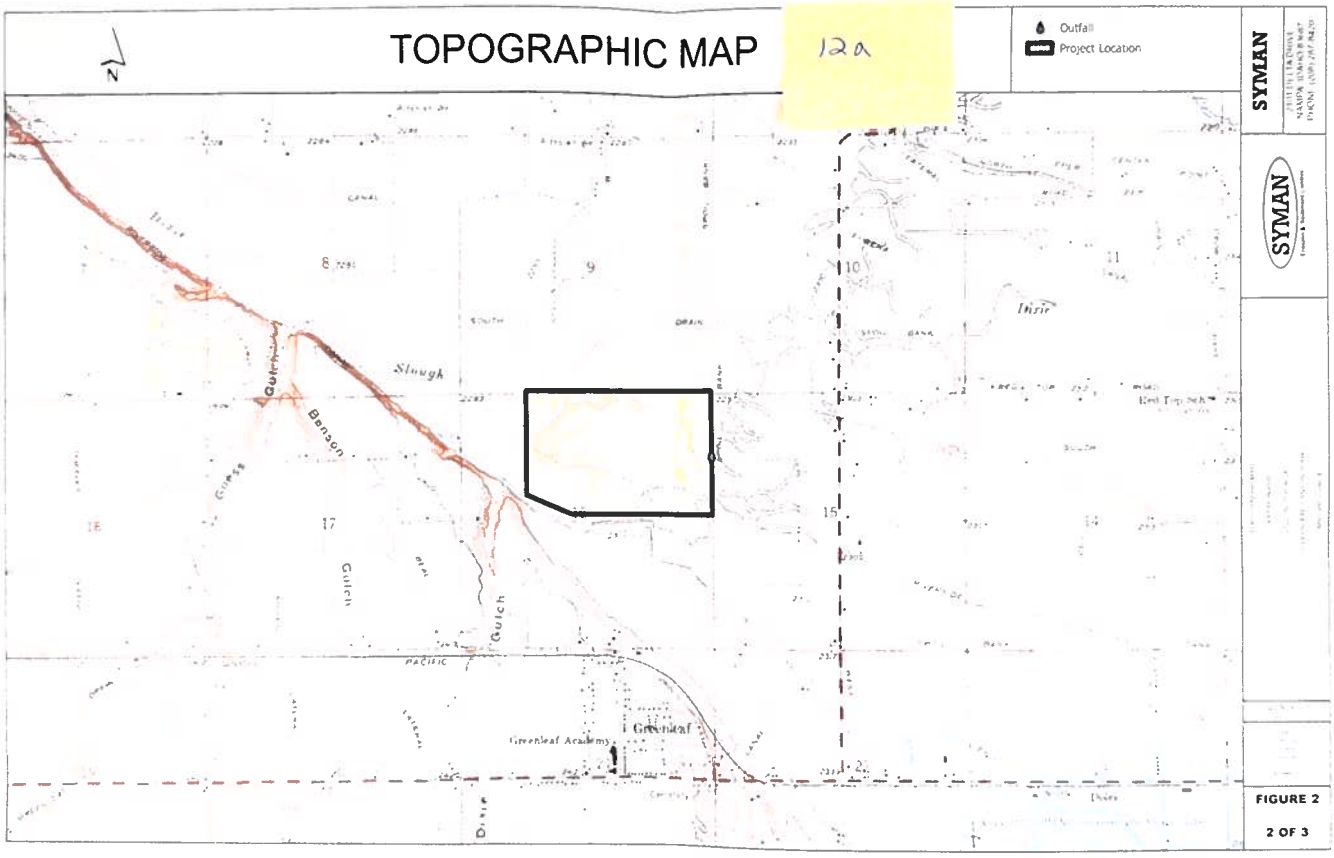
Reclamation of pit walls will occur as phases are mined out and will continue throughout each phase as they are mined out completely. Reclamation of the pit floor will occur when phases are mined out and the stockpiles are depleated. All access roads into the phases of mining will be removed and blended uniformly into the reclamation of the pit floor, the final haul road through phases 5 and 6 will be removed when mining is complete and stockpiles are depleated approximately 2028.

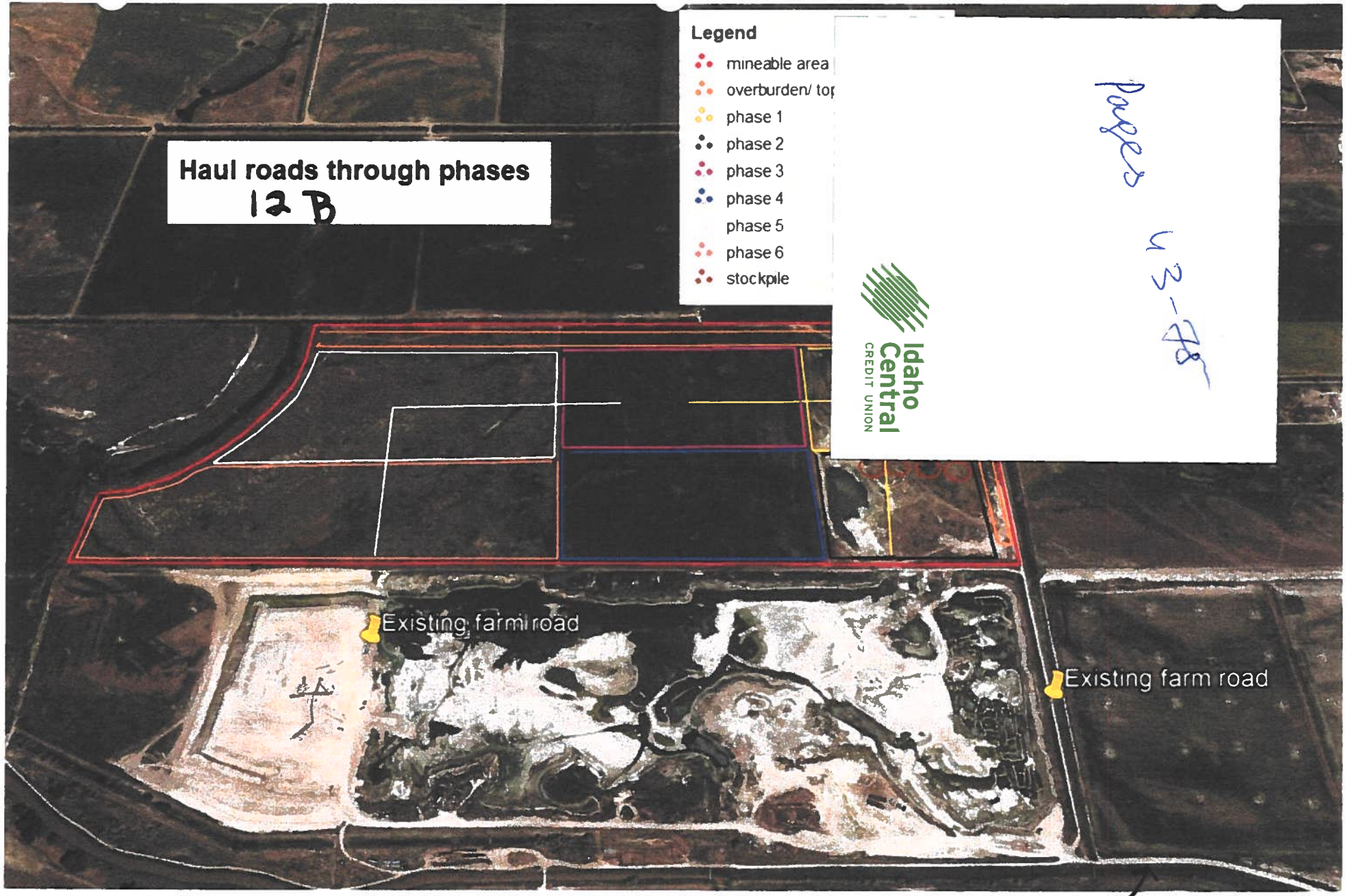
Final slopes of the pit walls will be uniformly covered in topsoil from around perimeter at a depth of approximately 12" down to the static water level approximately 20ft in width around the property.

No tailings/sediment ponds will be used during operation.

TOPOGRAPHIC MAP

12a




Haul roads through phases
12 B
Legend
mineable area
overburden/ top
phase 1
phase 2
phase 3
phase 4
phase 5
phase 6
stockpile
Idaho Central
CREDIT UNION
Existing farm road
Existing farm road
Access Road

Pages 43-78

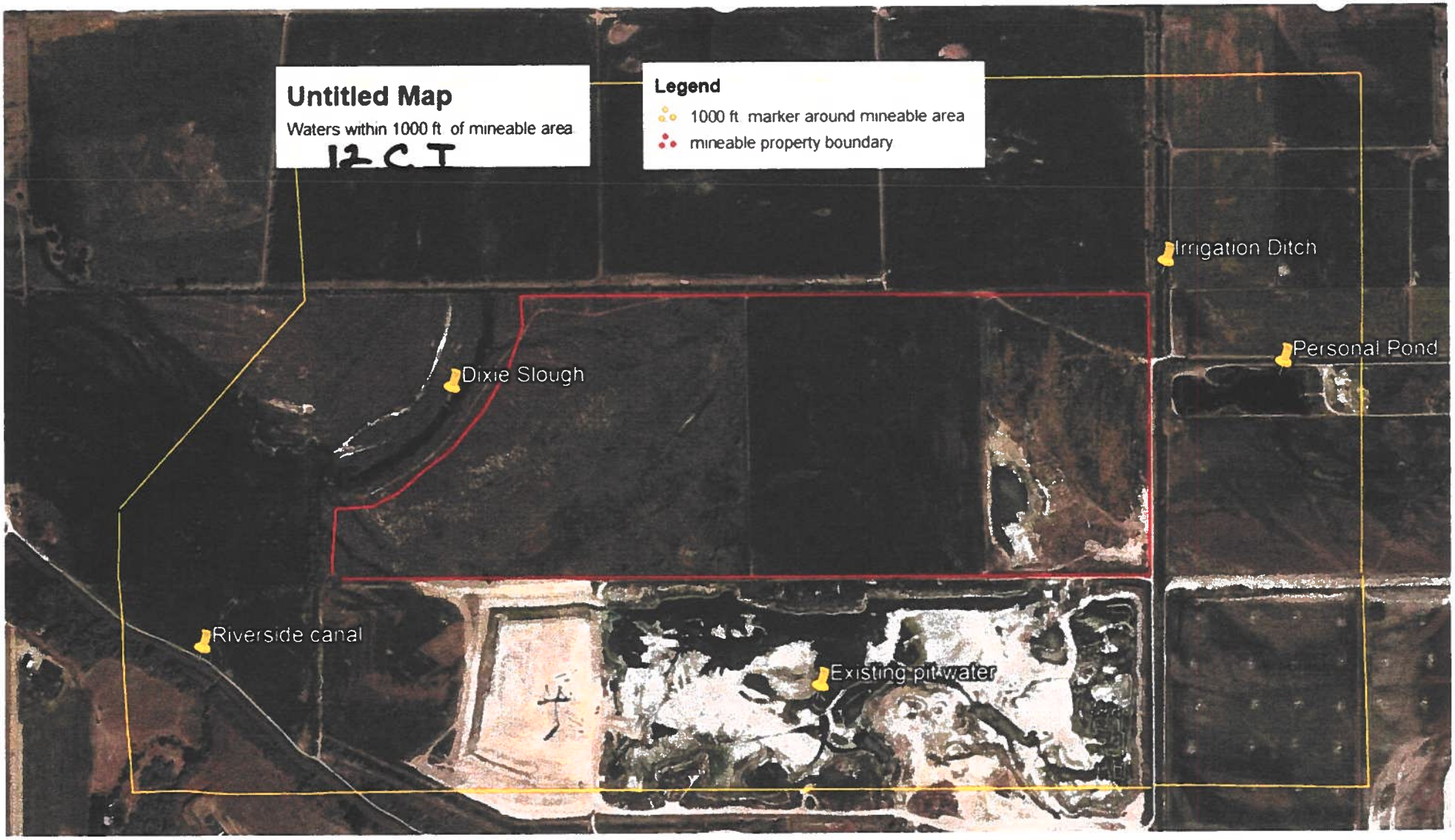
Mineable property outlined in red.

Haul road in yellow to be constructed as phase 1 starts and will follow through phases 1,2 and 3 as they are mined out. The haul road will be reconstructed to the floor of each mined out phase and follow throughtout mining phases.

Haul road in white will be constructed in 2025 and will be reconstructed onto the pit floors as the phases are mined out.

All haul roads will be deconstructed and blended into the reclamation of the pit floor when mining is completed in 2028.

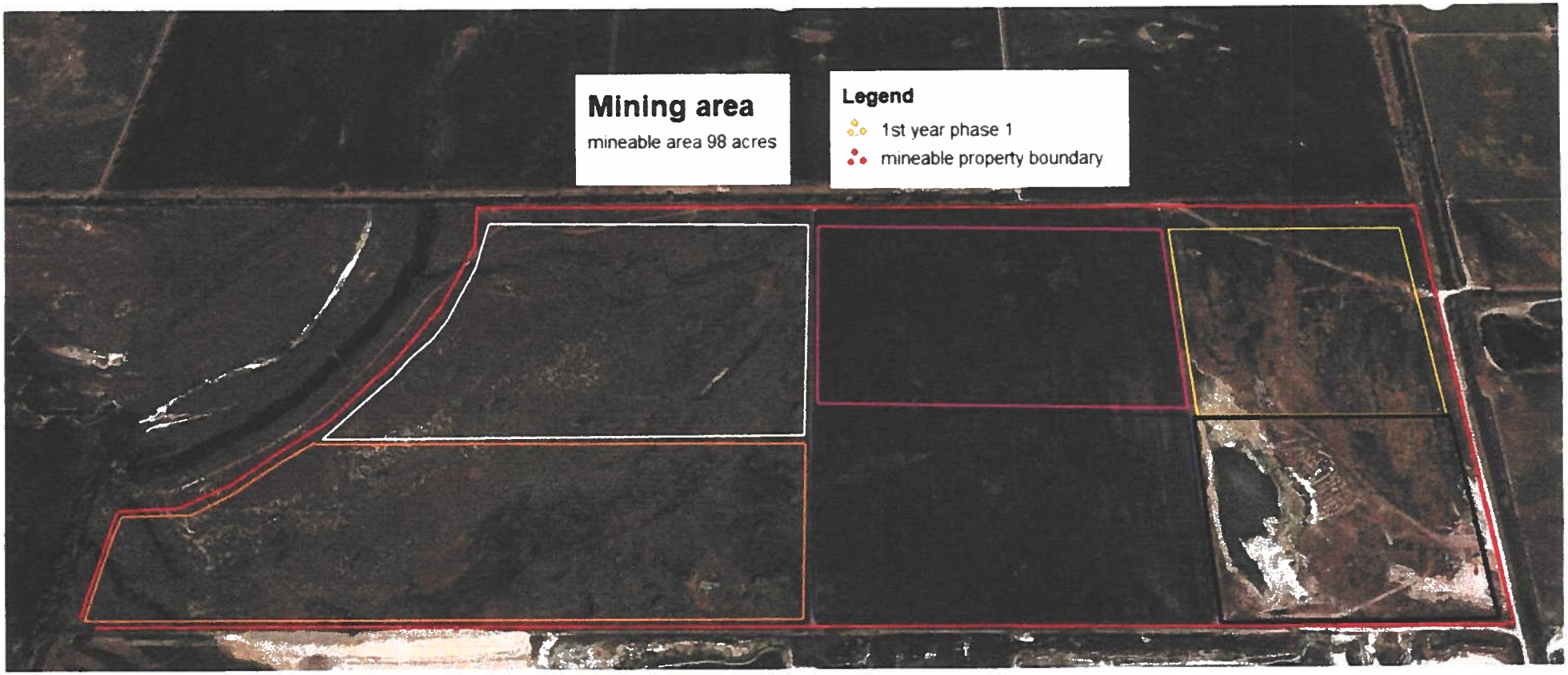
Access to the mining area will be on farm roads from the property to the south.


Untitled Map
Waters within 1000 ft of mineable area
12 C T
Legend
1000 ft marker around mineable area
mineable property boundary
Irrigation Ditch
Personal Pond
Dixie Slough
Riverside canal
Existing pit water

Redmon Pit

12, c, i

Redmon pit outlined in black.
1000ft. around pit is in yellow.
~~Untitled Placemark is the Riverside Canal.~~



10 Acres Phase 1 Yellow
10 Acres Phase 2 Black
14.5 Acres phase 3 Pink
14 Acres phase 4 Blue
18 Acres phase 5 White
20 Acres Phase 4 Orange

12 C II

Phase 1 is outlined in yellow. Its is approximately 10 acres in size.

Phase 2 is outlined in **black** and is approximately 10 acres in size.

Phase 3 is oulined in pink. and is approximately 14.5 acres in size.

Phase 4 is outlined in blue and is approximately 14 acres in size.

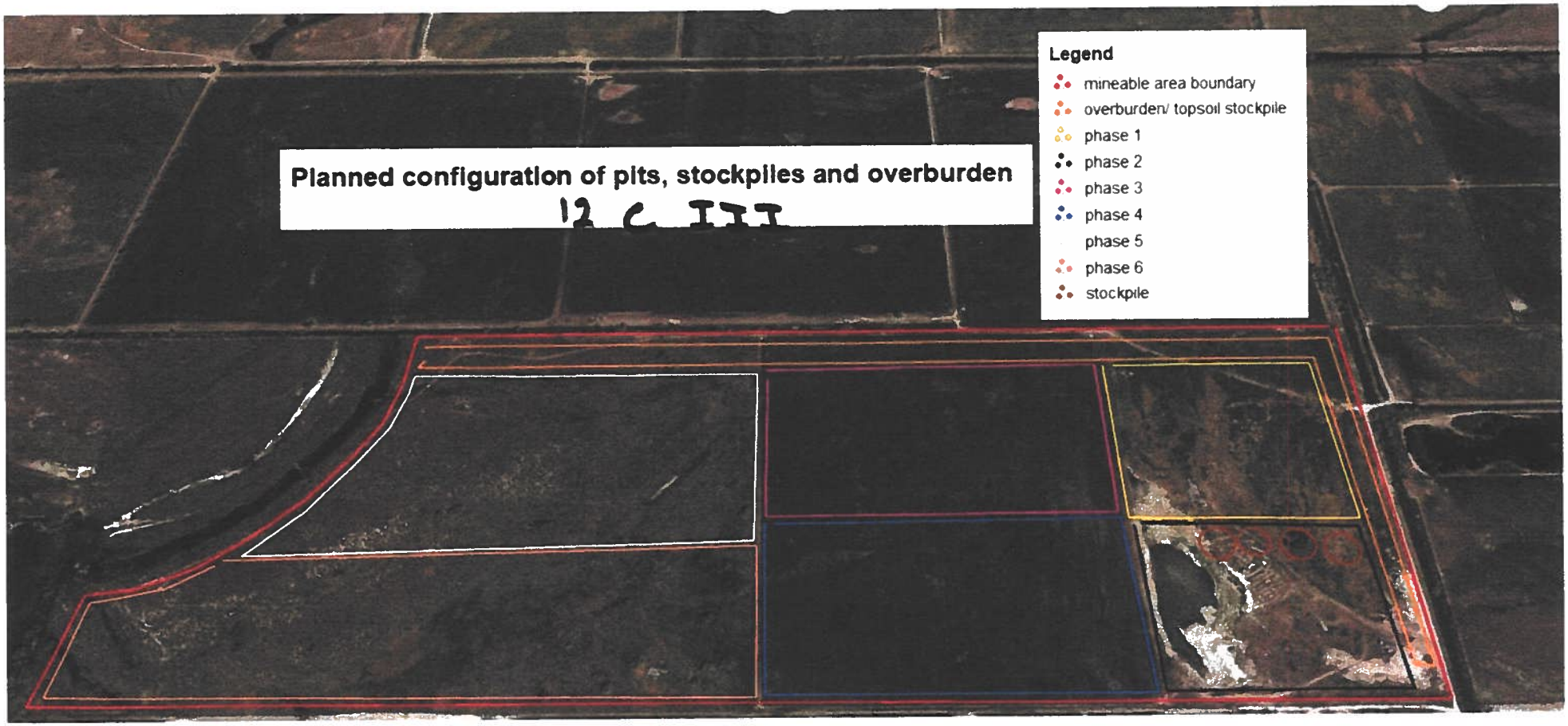
Phase 5 is outlined in white and is approximately 18 acres in size.

Phase 6 is outlined in orange and is approximately 20 acres in size.

The disturbed mineable area is approximately 98 acres in size.

Phase 1 will begin in 2023. Phase 2 will begin in 2024. Phase 3 will begin in 2025.

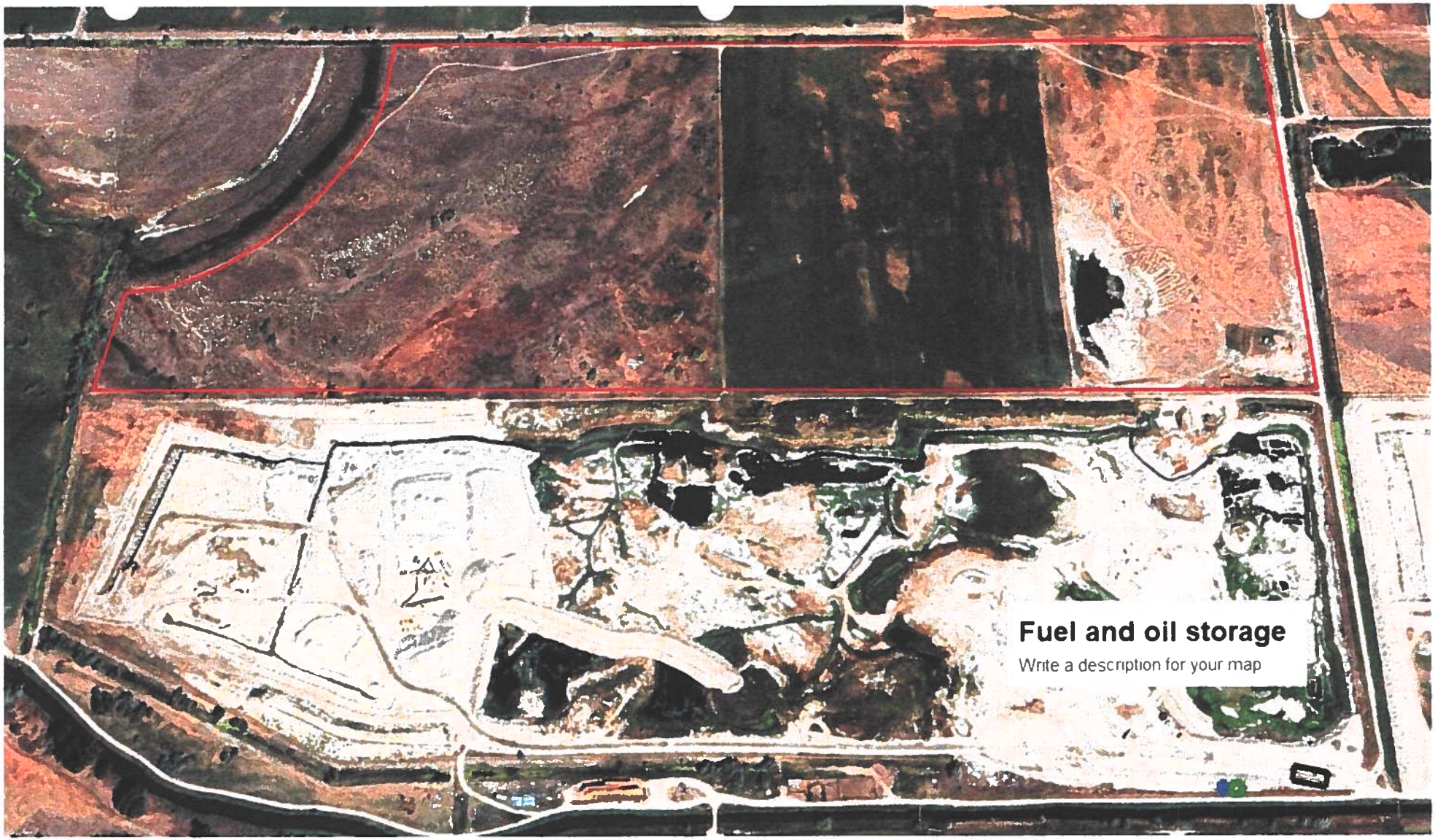
Phase 4 will begin in 2026. Phase 5 will begin in 2027. Phase 6 will begin in 2028.


Planned configuration of pits, stockpiles and overburden
12 C III
Legend
mineable area boundary
overburden/ topsoil stockpile
phase 1
phase 2
phase 3
phase 4
phase 5
phase 6
stockpile

Mineable area outlined in red. Overburden/topsoil stockpile will be around the east and north side of mineable property and is outlined in orange. Phase 1 is outlined in yellow, phase 2 outlined in black, phase 3 outlined in pink, phase 4 outlined in blue, phase 5 oulined in white and phase 6 is outlined in beige.

Stockpile areas are outlined in brown and shows location of stockpiles for phase 1 of mining.

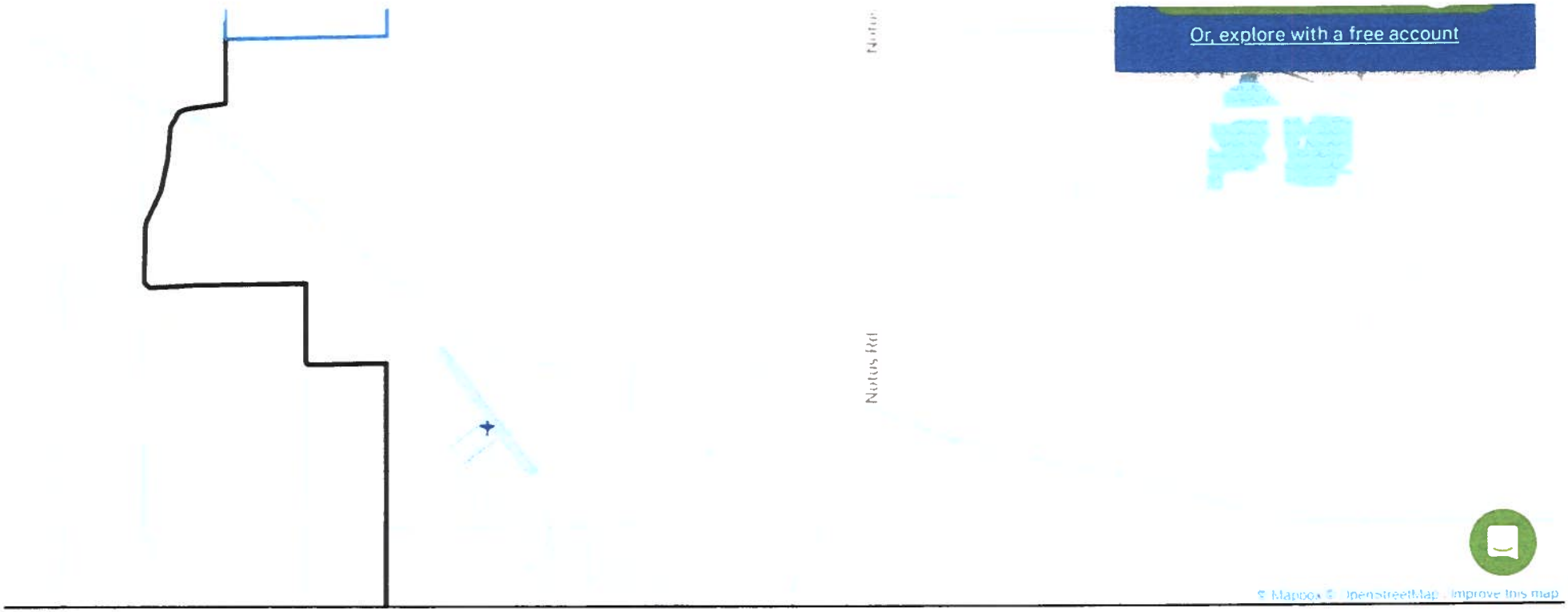
As phases are mined out the stockpiles will move to the floor of the previously mined out phase and continue throughout for all mining phases.



12 C U

Fuel and fuel containment along with oil for equipment and equipment maintenance parts will not be stored on site, they will be stored on existing site, reclamation plan # RP-2067.

Truck scale is outlined in black, Fuel and fuel containment is outlined in green, oil and equipment parts storage is outlined in blue.


Or, explore with a free account
Nobis Rd
© Mapbox © OpenStreetMap Improve this map

12 D

▼ Parcel Address

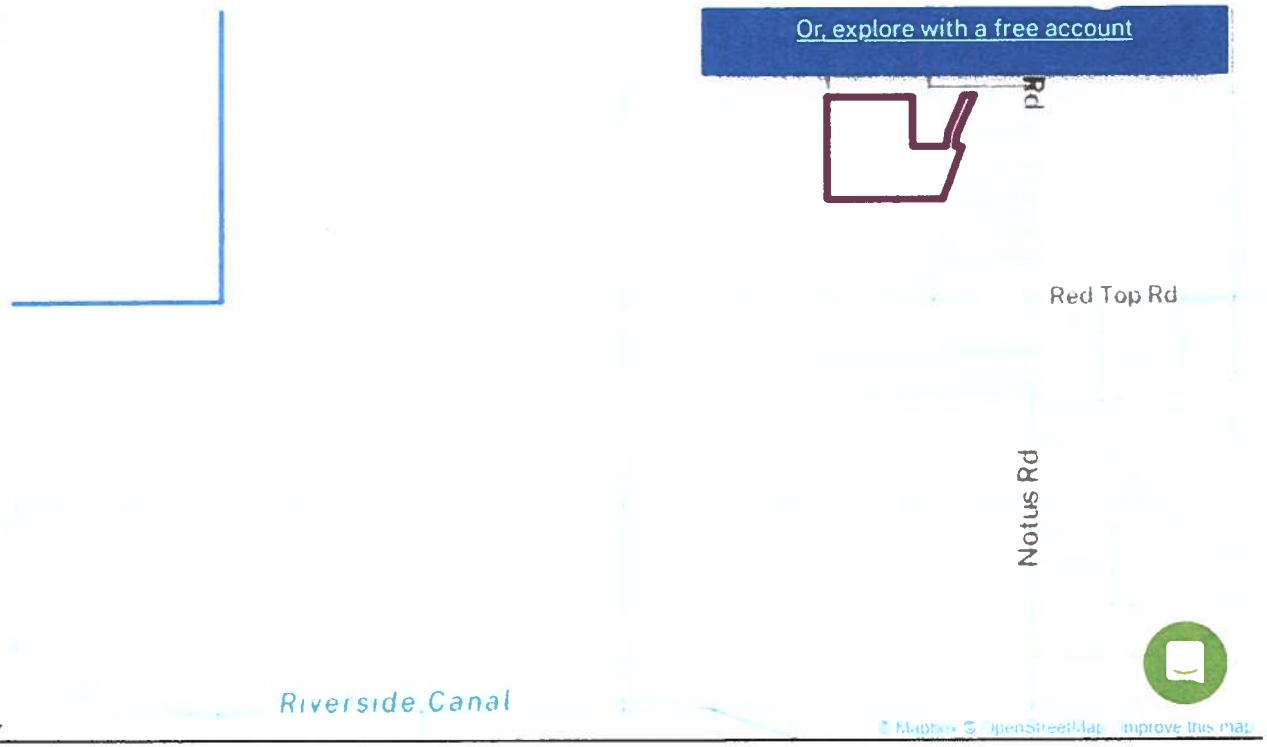
Parcel ID	R3602601000
Parcel Address	0 NOTUS RD
Parcel Address City	NOTUS
Parcel Address Zip Code	83656

▼ Owner Information

Owner Name	REDMON JOHN GLENN

Mailing Address

Mailing Address	21480 PECKHAM RD
Mailing Address City	GREENLEAF
Mailing Address State	ID
Mailing Address ZIP Code	83626



subscript...

▼ Parcel Address

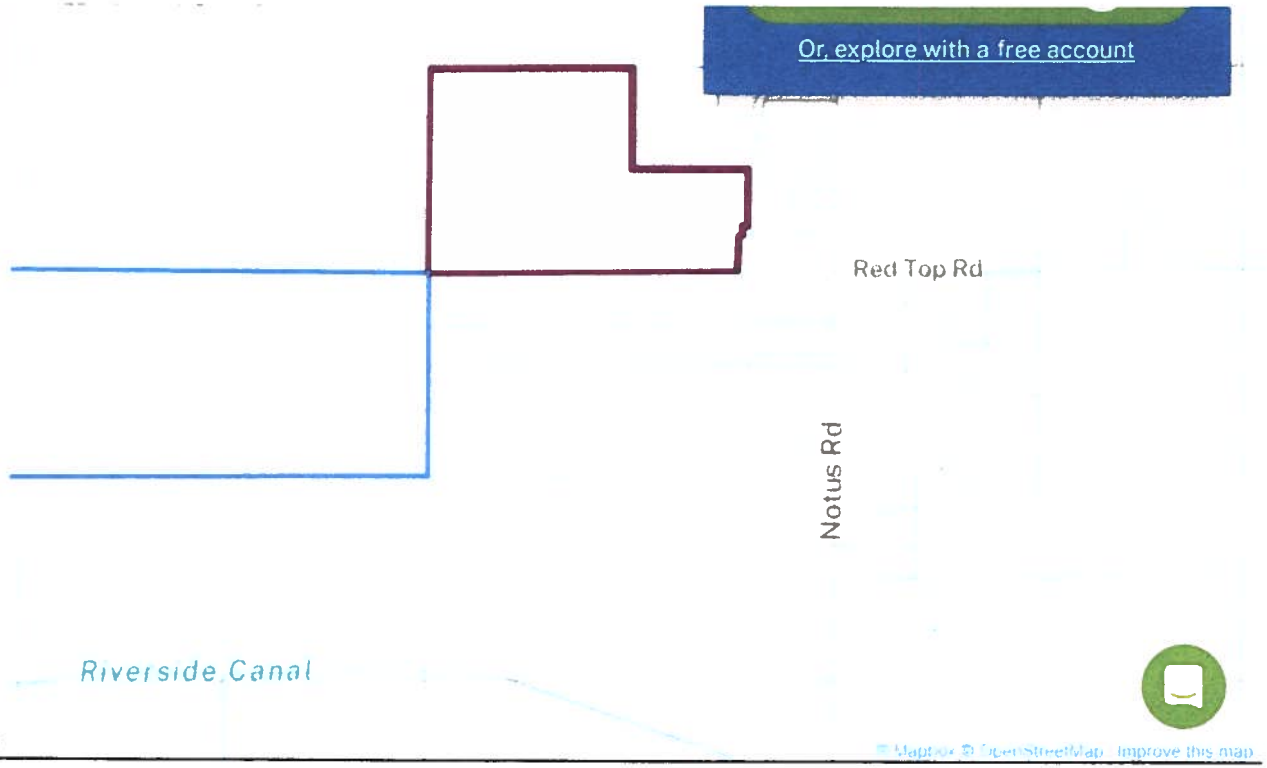
Parcel ID	R3602401000
Parcel Address	0 NOTUS RD
Parcel Address City	CALDWELL
Parcel Address Zip Code	83607

▼ Owner Information

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON JOHN G TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID



▼ Parcel Address

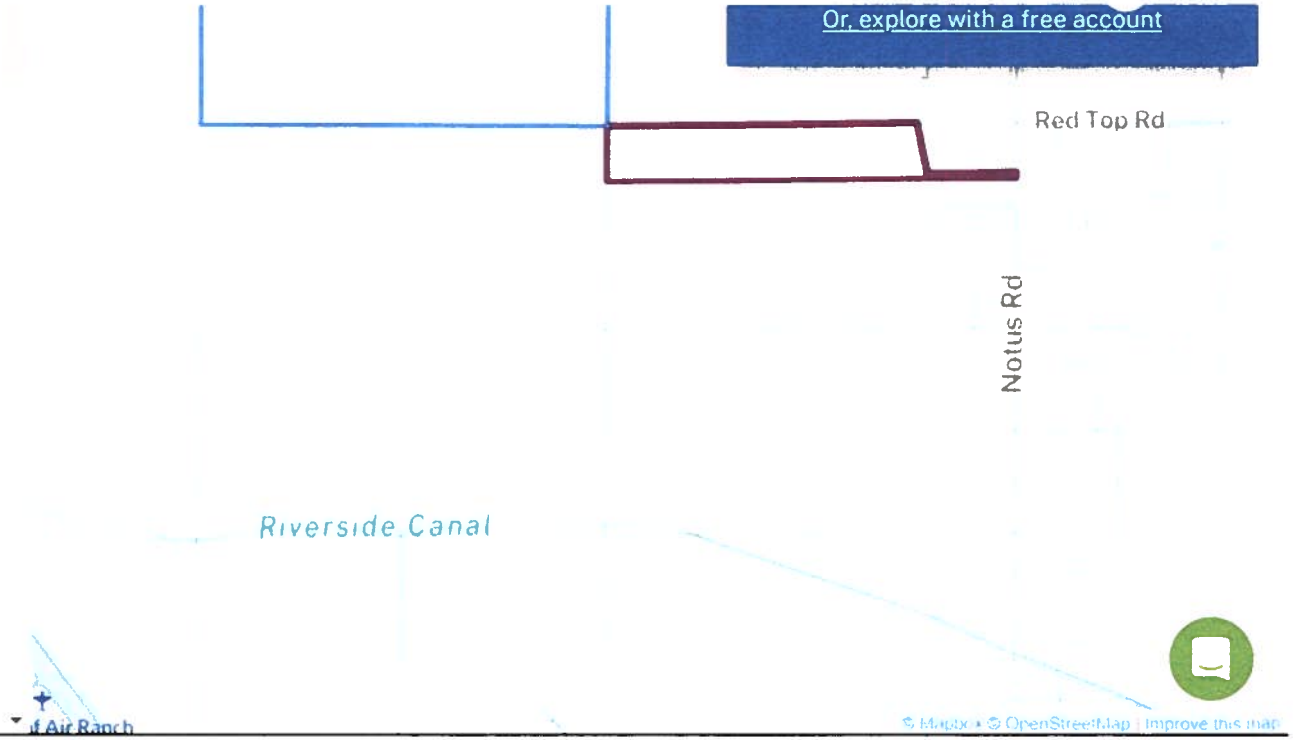
Parcel ID	R36103010A0
Parcel Address	0 NOTUS RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626

▼ Owner Information

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON KATHLEEN TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID



▼ Parcel Address

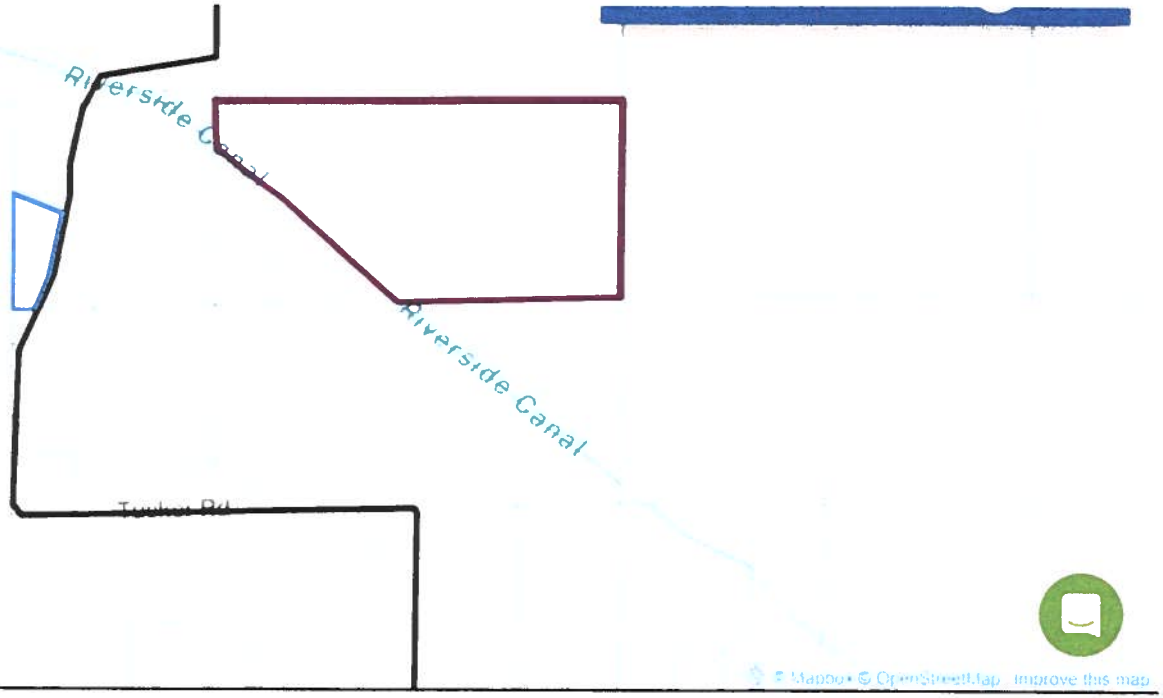
Parcel ID	R3600700000
Parcel Address	21988 TUCKER RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626-8986

▼ Owner Information

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON JOHN G TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID



▼ Parcel Address

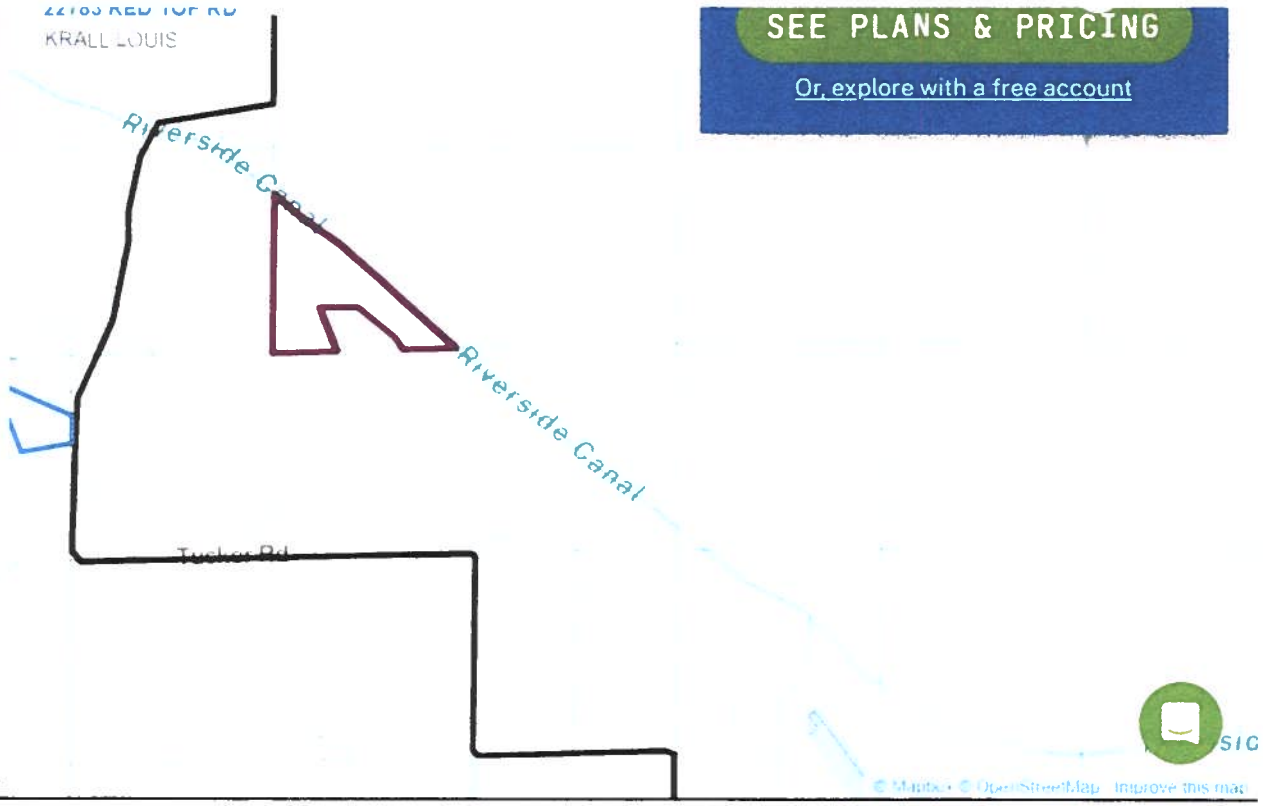
Parcel ID	R3600600000
Parcel Address	0 TUCKER RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626

▼ Owner Information

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON KATHLEEN TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID
Mailing Address ZIP Code	83626



▼ **Parcel Address**

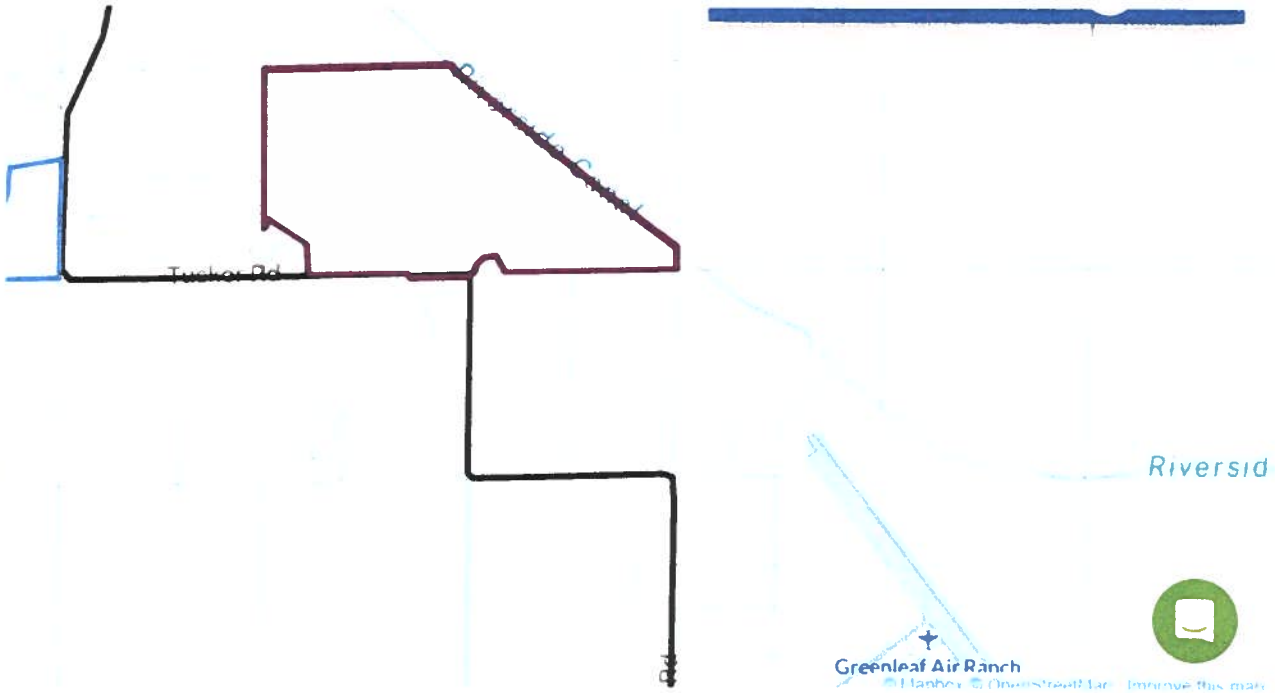
Parcel ID	R3611600000
Parcel Address	21980 TUCKER RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626

▼ **Owner Information**

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON JOHN G TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID



▼ Parcel Address

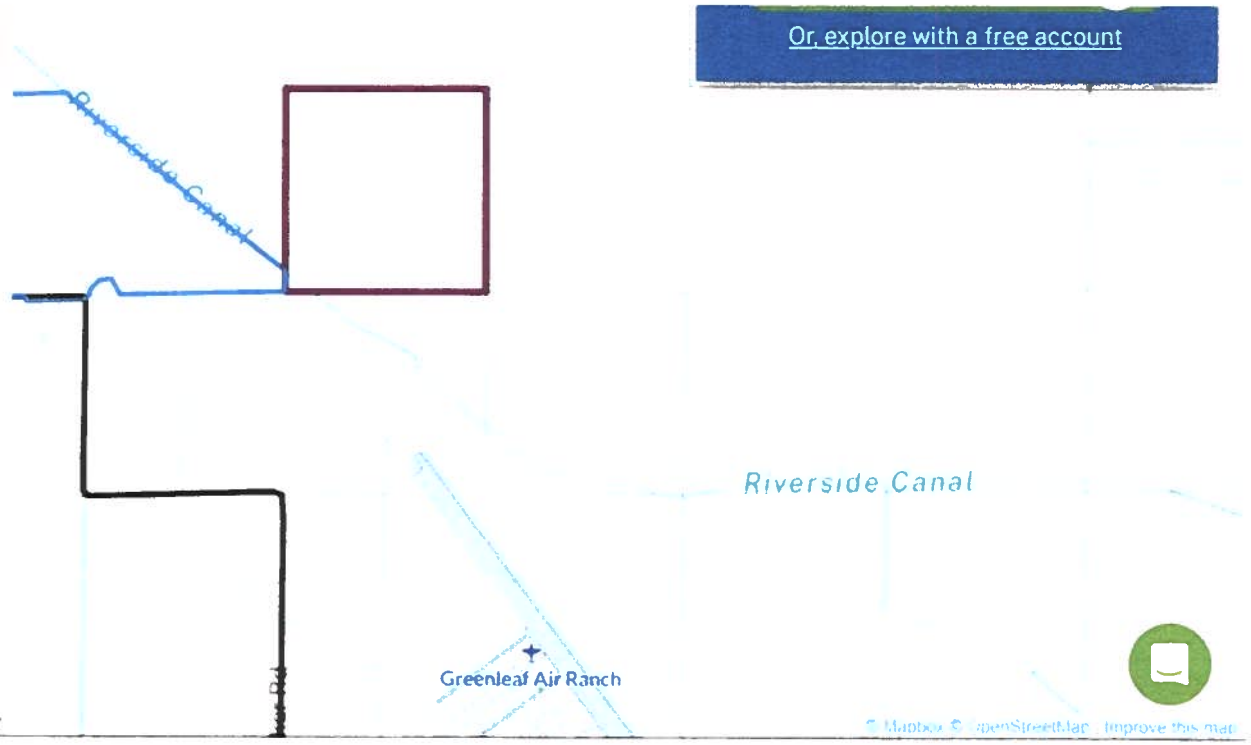
Parcel ID	R3611500000
Parcel Address	0 TUCKER RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626

▼ Owner Information

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON KATHLEEN TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID



▼ Parcel Address

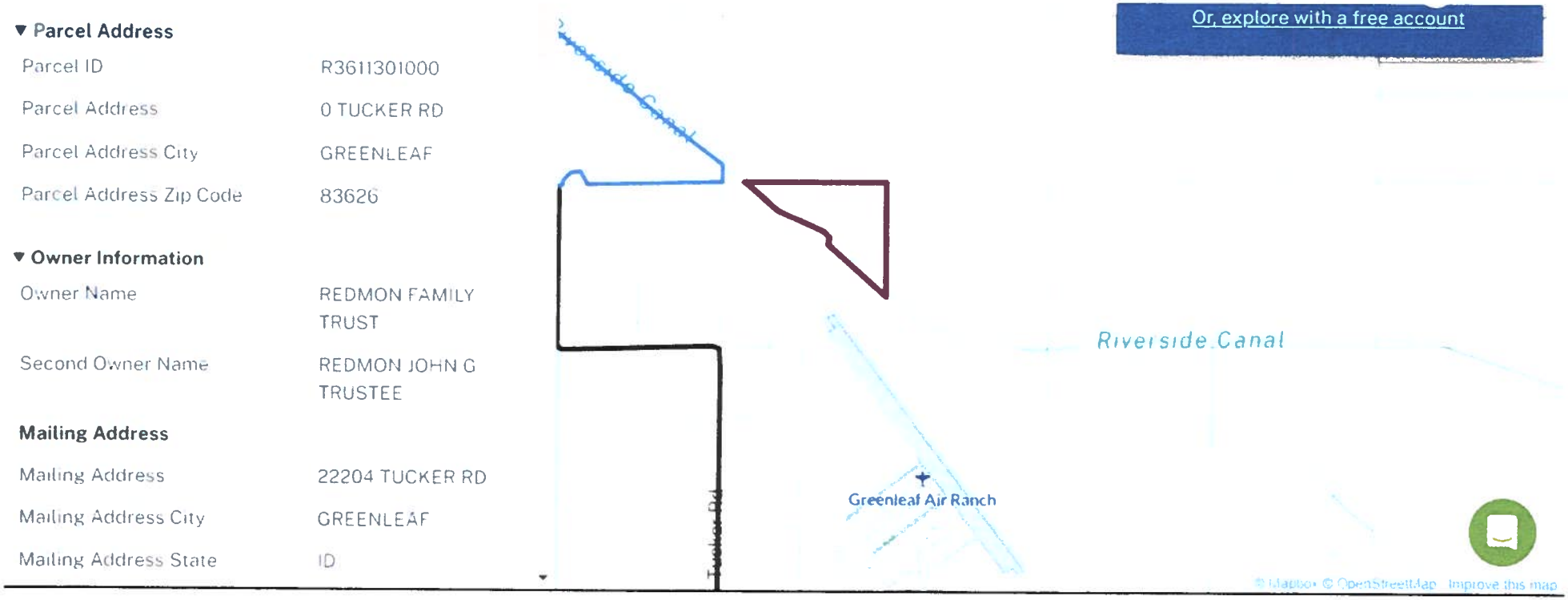
Parcel ID	R3611301000
Parcel Address	0 TUCKER RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626

▼ Owner Information

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON JOHN G TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID



▼ Parcel Address

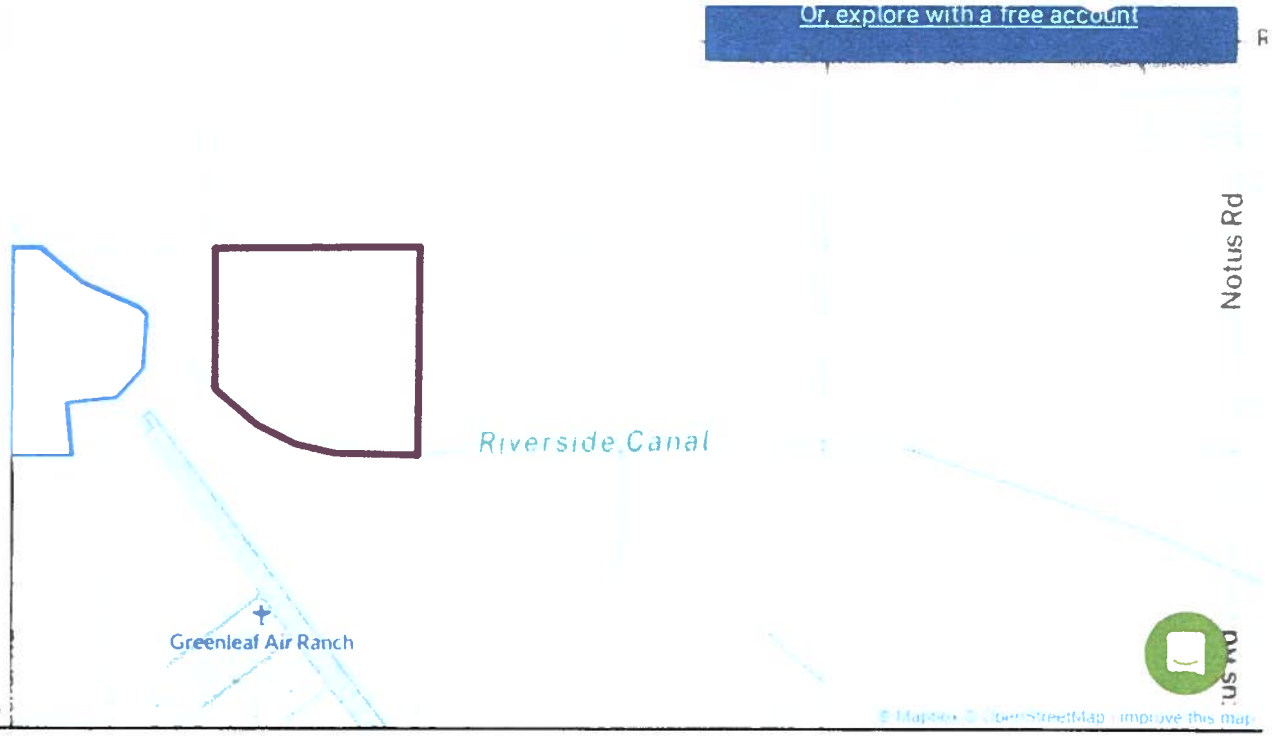
Parcel ID	R3610700000
Parcel Address	0 TUCKER RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626

▼ Owner Information

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON KATHLEEN TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF



▼ Parcel Address

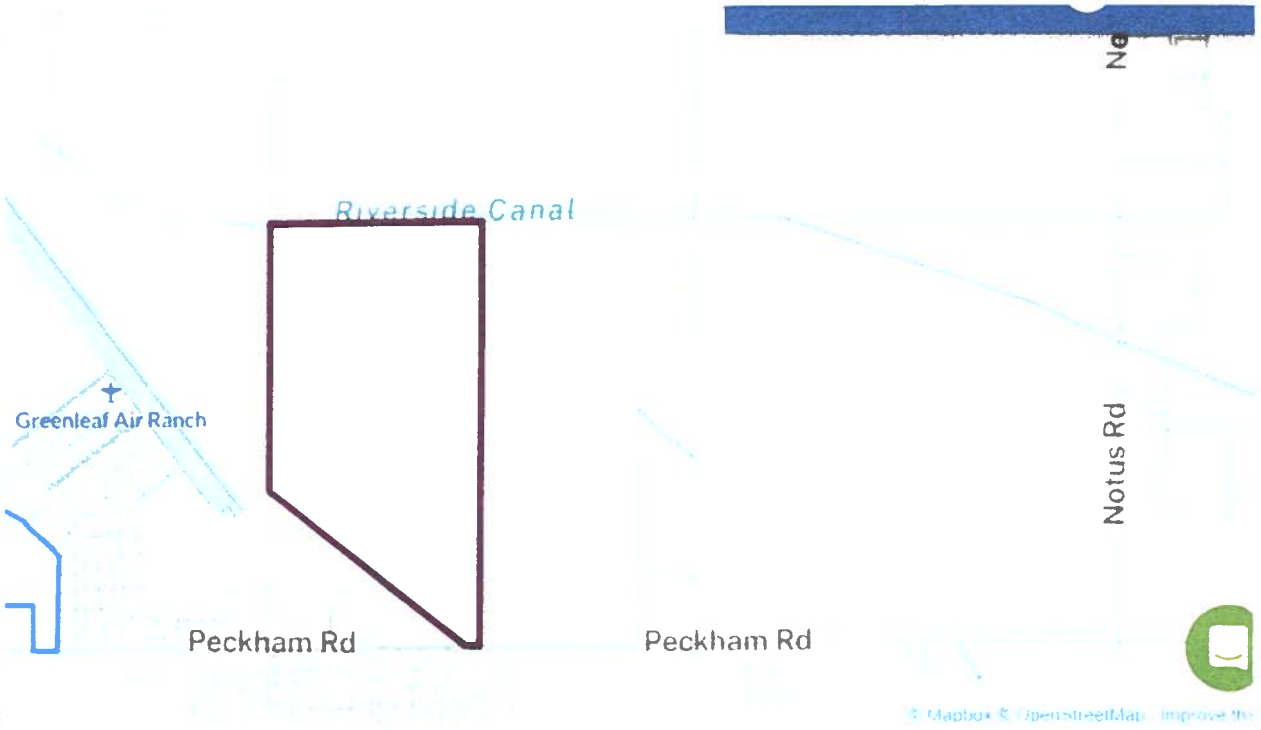
Parcel ID	R3610400000
Parcel Address	0 PECKHAM RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626

▼ Owner Information

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON JOHN G TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID



▼ Parcel Address

Parcel ID	R3610600000
Parcel Address	0 PECKHAM RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626

▼ Owner Information

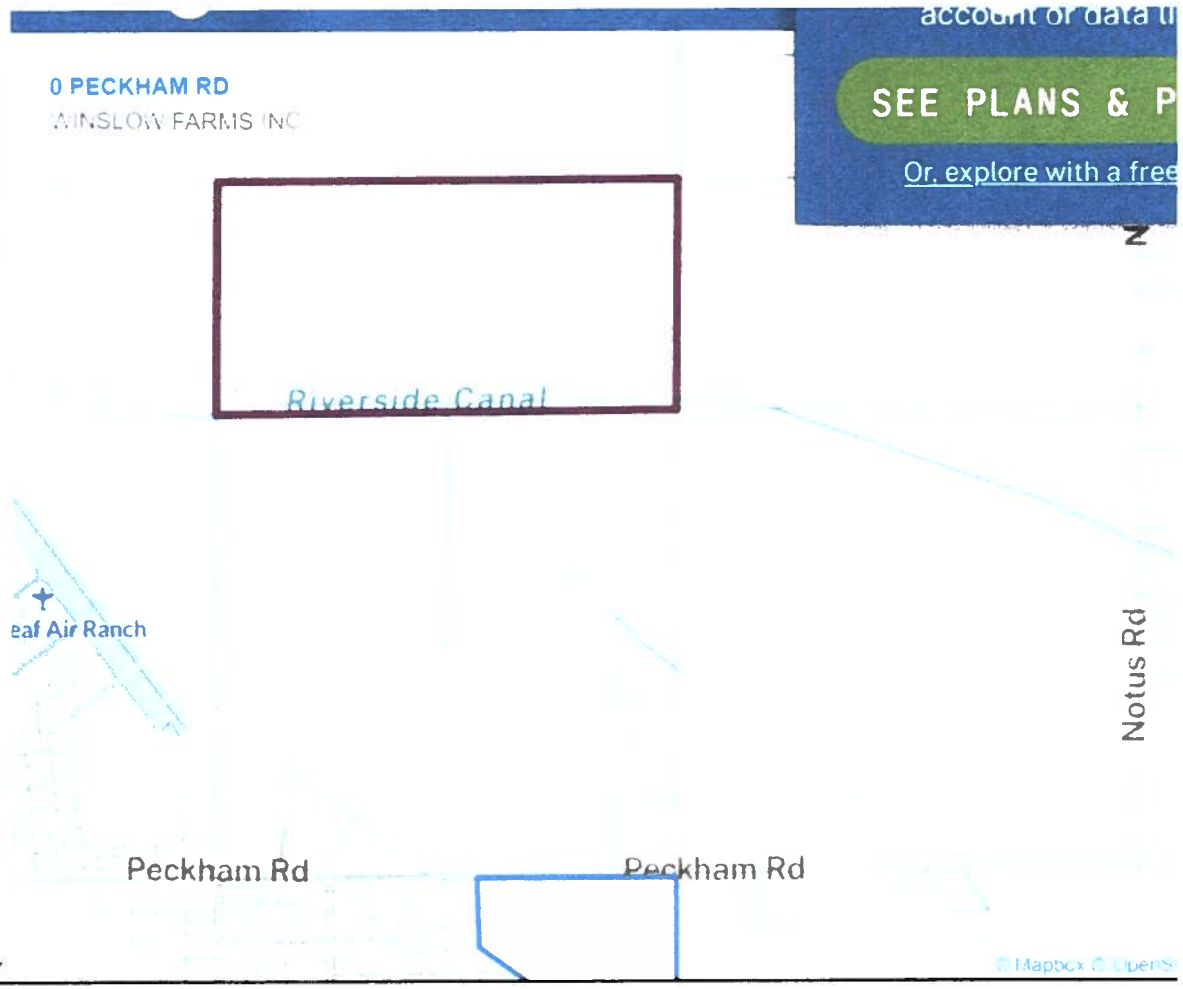
Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON JOHN G TRUSTEE

Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID
Mailing Address ZIP Code	83626

▼ Property Sales & Value

County Provided Values



Fields with this color can be unlocked with a Pro subscription	Unlock with Pro

▼ Parcel Address

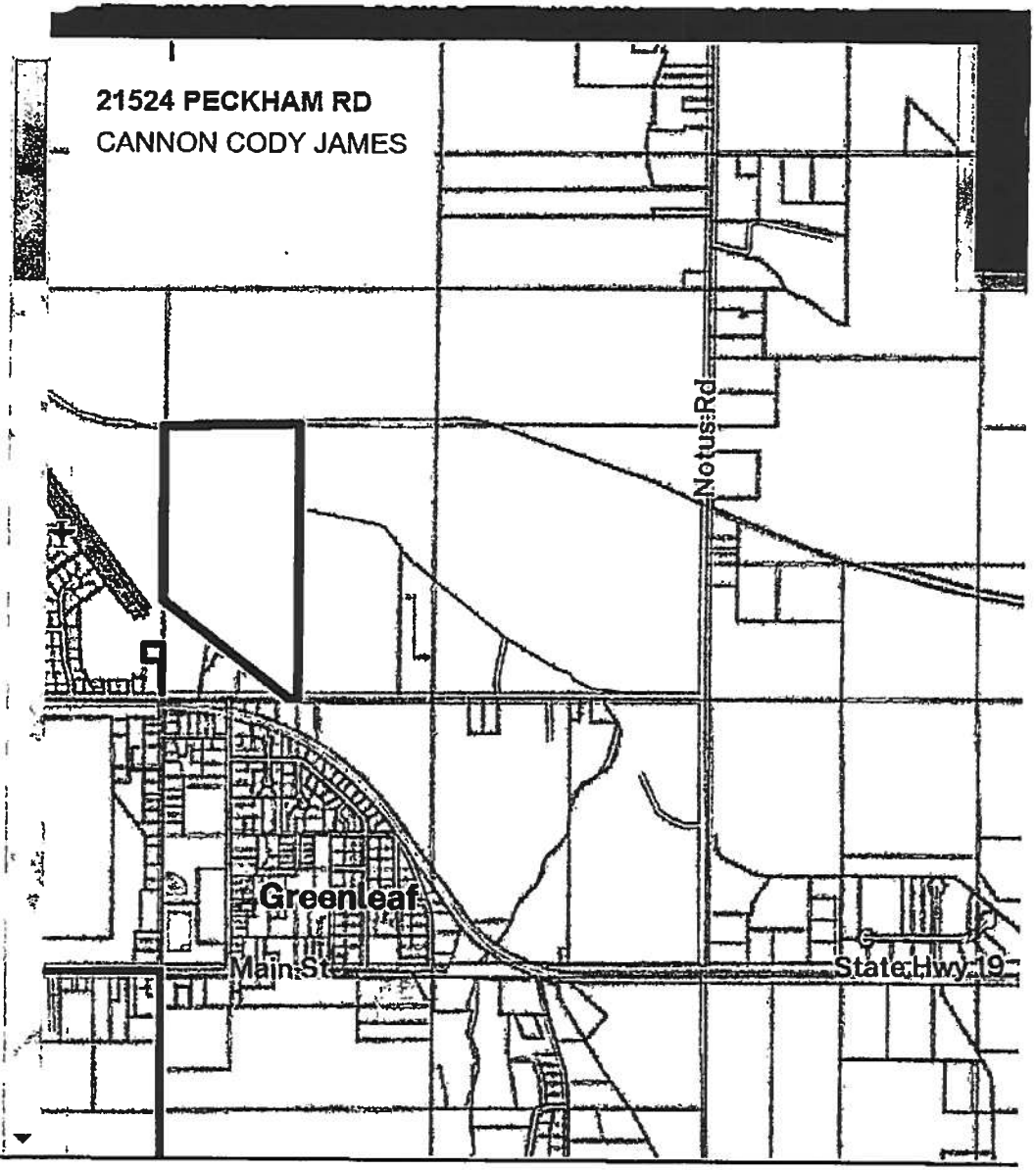
Parcel ID	R3610400000
Parcel Address	0 PECKHAM RD
Parcel Address City	GREENLEAF
Parcel Address Zip Code	83626

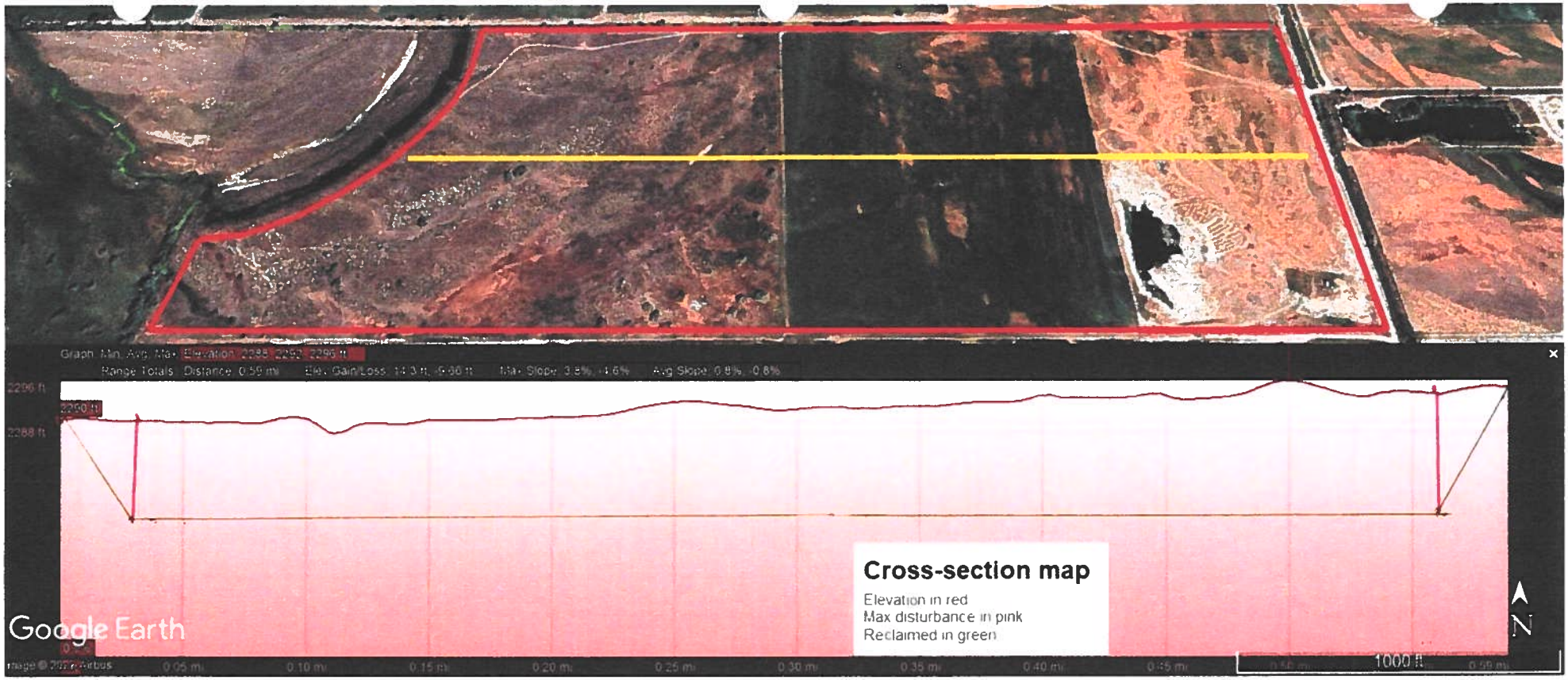
▼ Owner Information

Owner Name	REDMON FAMILY TRUST
Second Owner Name	REDMON JOHN G TRUSTEE

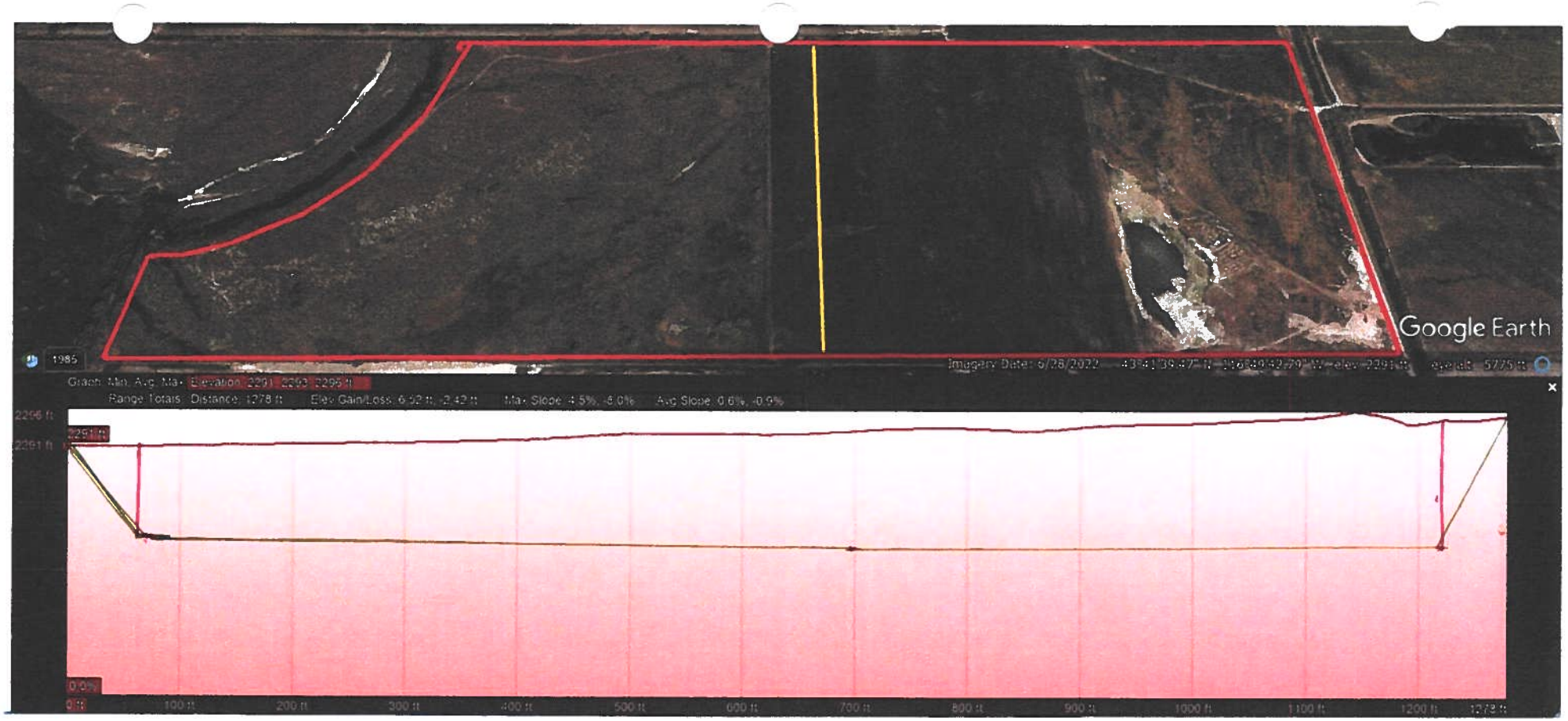
Mailing Address

Mailing Address	22204 TUCKER RD
Mailing Address City	GREENLEAF
Mailing Address State	ID




Cross-section map
Elevation in red
Max disturbance in pink
Reclaimed in green
Google Earth
1000 ft
N

12 E


Google Earth
1985
Graph Min, Avg, Max Elevation: 2291 2293 2295 ft
Range Totals: Distance: 1278 ft Elev Gain/Loss: 6.32 ft, -2.42 ft Max Slope: 4.5%, -5.0% Avg Slope: 0.6%, -0.9%
2296 ft
2291 ft
0.0%
0 ft
100 ft
200 ft
300 ft
400 ft
500 ft
600 ft
700 ft
800 ft
900 ft
1000 ft
1100 ft
1200 ft
1278 ft

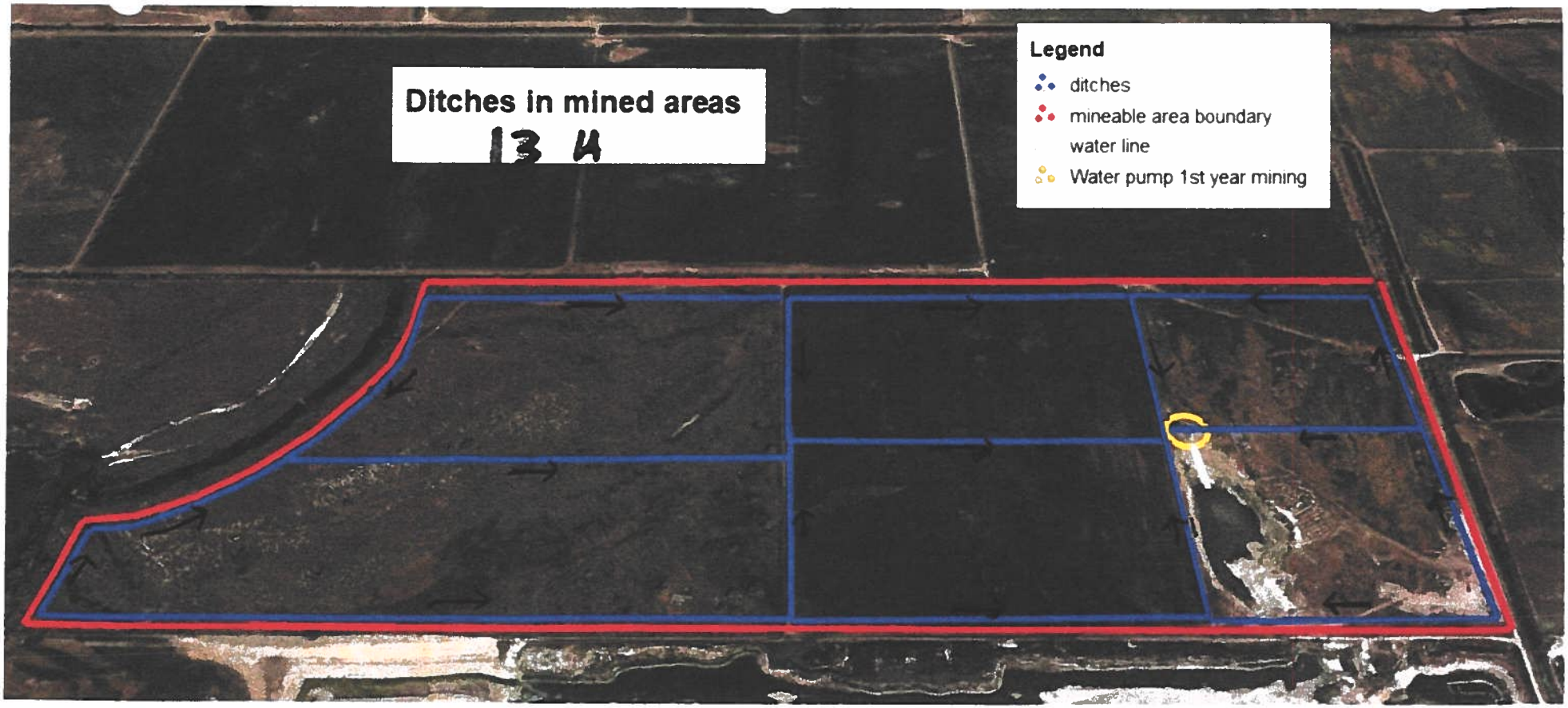
CROSS SECTION MAP

Elevation is in red.

Max disturbance is in pink. 35ft

Reclamation is in green. 3H:1V

Pit floor is dug out to the bottom of the reclamation boundary. An excavator is used to pull the slopes close to 3H:1V. When done with phase a dozer will be used to finish the slopes to final reclamation.



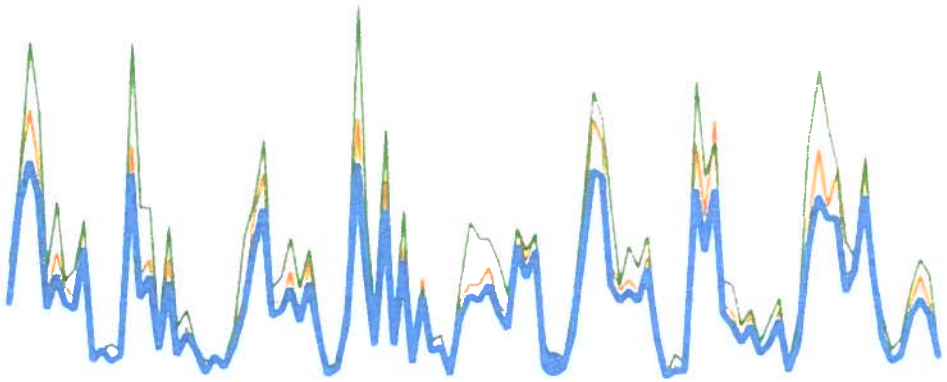
Drain Contol Map

Mineable area is outlined in red. Ditches are in blue. Water pump for the first year phase 1 is in yellow and the water line is in white.

Water from drain ditches in mining area will be pumped into existing pond on phase 2 area and will overflow through an existing overflow pipe into the existing pit to the south of the mineable area. In the existing pit to the south there is a pump that relieves the water into the irrigation ditch. Information for the water being pumped out of the existing pit to the south of mineable area will be in the SWPPP plan.

Water ditches in mineable areas will keep the water out of the pit which will keep the inside banks of the pits from eroding into the ditches. Any erosion from the overburden/topsoil stockpile from rain events will be captured by machinery on the outside of the stockpile from the road that will be left around the property of the mineable area.

0.35 mm/day (Dec 2100)



- Gem County
  0.17 mm/day
  (Jul 2097)
- Ada County
  0.26 mm/day
  (Jul 2097)
- Canyon County
  0.17 mm/day
  (Jul 2097)

Explore more →

13 E

Final slopes of the pit walls will be uniformly covered in a sandy loam topsoil from around perimeter at a depth of approximately 12" down to the static water level approximately 20ft in width around the property. The slopes will be cut at 3H:1V

The entire area reclaimed with topsoil will be spray seeded as follows:

Common Hard Fescue

Little Bighorn Sheep Fescue

High Plains Sandberg Bluegrass

Spray seeding will occur when reclamation is finished in 2028 approximately between September 1 and March 1 at the rate of $.09 per sq. ft. Mineable area is 194,000 sq ft around perimeter, at 20ft width that comes out to $17,460 for spray seeding. . Mobilization cost will be $700. Any clerical work would be a couple phone calls to get it set up and would be approximately $100.

The approximate acreage for reclamation around the perimeter is 4.5 acres. Sloped walls around mining area will be reclaimed as mining is done from static water level to pit floor.

Precipitation rates for the area are 0.35 MM/day.

THIRD PARTY RECLAMATION COSTS

It will take approximately 7 hours per acre to complete reclamation using a dozer, excavator, grader, loader and 4 employees.

The costs for third party reclamation will be approximately as follows per acre:

4 operators @ $45hr for 7hrs. is $1,260.

1 dozer @ $160hr for 7hrs. is $1,120.

1 excavator @ $160hr for 7hrs. is $1,120.

1 loader @ $120hr for 7hrs. is $840.

1 grader @ $110hr for 7 hrs. is $770.

For a total reclamation cost of $5110 per acre.

Mob costs are $200hr with a total of approximately 3 hours per piece of equipment which puts mob at $2400.

Any clerical costs would be a couple phone calls to get set up and would be approximately $100.

Reseeding costs will be approximately: 3,828ft around a 20 acre area at 20ft width is 76,560 sq.ft. At $.09 per sq.ft. that is approximately $6,890.40. Mob cost is $700 for and clerical cost would be a couple calls approximately $100 for a total of $7,690.40.

At 20 acres that would be $104,600 for reclamation work, $6,890.40 for reseeding, $3,100 for mob and $200 for clerical work with a total cost of approximately $114,790.

13 H

Reseeding costs are as follows,

Using a low maintenance mix which uses:

44.19% common hard fescue

44.18% little bighorn sheep fescue

9.37% high plains sandberg bluegrass

with no noxious weeds found per 50LB bag.

Spray seed is put down at 20LBS per acre at a rate of $.09 per sq.ft. For the mineable area perimeter of 100 acres at a 20 foot width down to static water level it comes out to approximately 194,00 sq.ft which is $17,460. The area around a 20 acre piece is 3,828ft., at 20ft. width that comes out to 76,560 sq.ft. At $.09 sq.ft. that is $6,890.

For bonding purposes we would like to bond 20 acres at a time. Reclamation costs will be approximately $114,790 including reseeding.

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 Canyon Area, Idaho

Redmon Family Trust

January 11, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

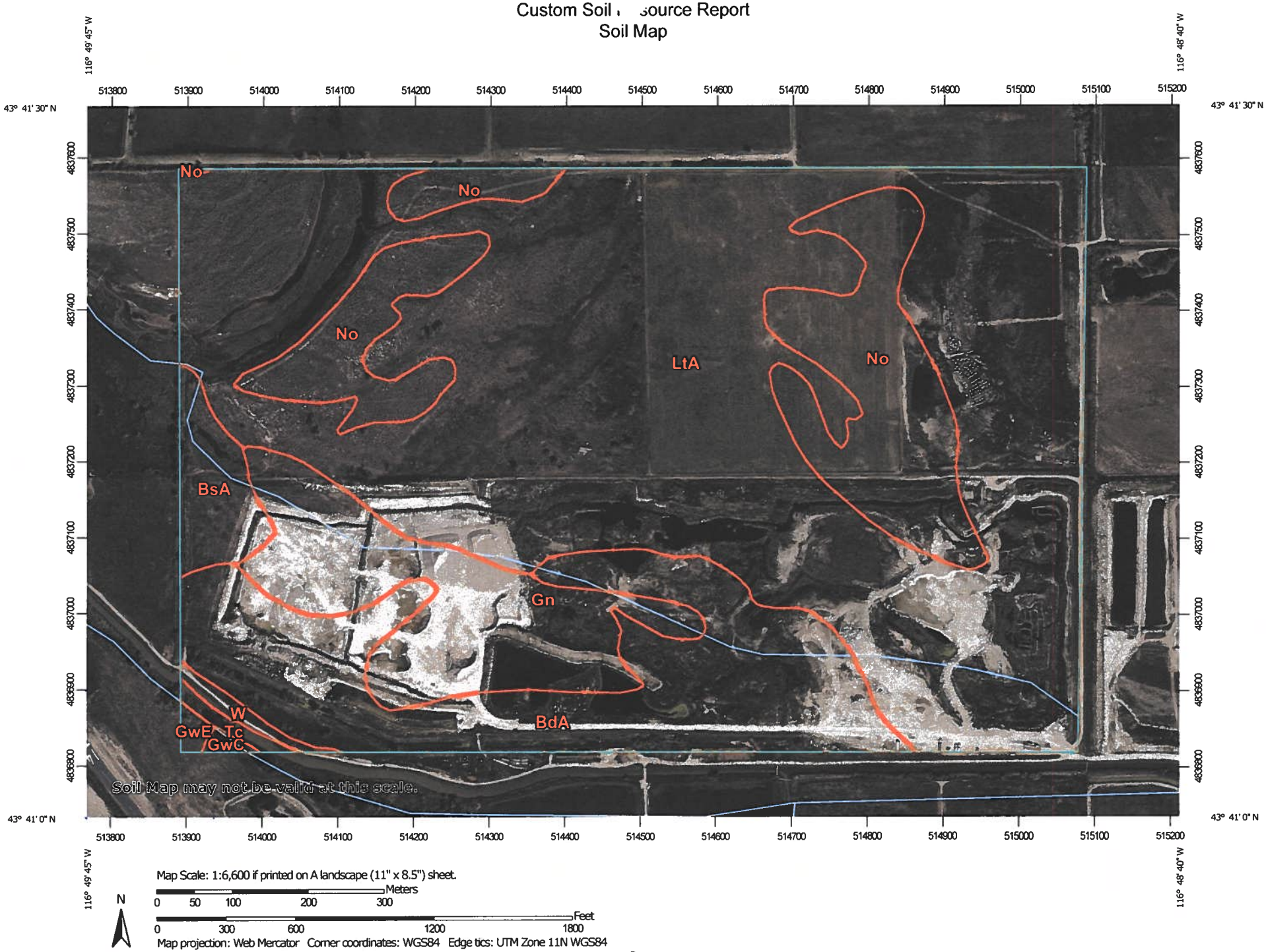
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


116° 49' 45" W
116° 48' 40" W
43° 41' 30" N
43° 41' 0" N
513800
513900
514000
514100
514200
514300
514400
514500
514600
514700
514800
514900
515000
515100
515200
4837600
4837500
4837400
4837300
4837200
4837100
4837000
4836900
4836800
No
No
No
No
LtA
BsA
Gn
BdA
W
GwE
Tc
GwC
Soil Map may not be valid at this scale.
Map Scale: 1:6,600 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 50 100 200 300
Feet
0 300 600 1200 1800
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Canyon Area, Idaho
Survey Area Data: Version 20, Aug 31, 2023

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

Date(s) aerial images were photographed: Sep 9, 2023—Sep 14, 2023

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BdA	Baldock loam, 0 to 1 percent slopes	35.2	15.5%
BsA	Bram silt loam, saline-alkali, 0 to 1 percent slopes	5.1	2.3%
Gn	Grandview loam	21.5	9.4%
GwC	Greenleaf-Owyhee silt loams, 3 to 7 percent slopes	0.3	0.1%
GwE	Greenleaf-Owyhee silt loams, 12 to 20 percent slopes	0.5	0.2%
LtA	Letha fine sandy loam, strongly saline-alkali, 0 to 1 percent slopes	133.8	58.9%
No	Notus soils	29.0	12.8%
Tc	Terrace escarpments	0.8	0.3%
W	Water	1.0	0.4%
Totals for Area of Interest		**227.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a

given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Canyon Area, Idaho

BdA—Baldock loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2q01
Elevation: 2,000 to 4,500 feet
Mean annual precipitation: 6 to 12 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 110 to 160 days
Farmland classification: Prime farmland if irrigated and reclaimed of excess salts and sodium

Map Unit Composition

Baldock and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Baldock

Setting

Landform: Stream terraces, flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

Ak - 0 to 16 inches: loam
Bk - 16 to 27 inches: loam
C - 27 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C
Ecological site: R011XY001ID - Loamy 8-12 PZ
Hydric soil rating: No

BsA—Bram silt loam, saline-alkali, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2q06
Elevation: 2,000 to 4,800 feet
Mean annual precipitation: 8 to 11 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Bram, saline-alkali, and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bram, Saline-alkali

Setting

Landform: River valleys, lakebeds, flood plains, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or lacustrine deposits

Typical profile

A - 0 to 17 inches: silt loam
Bk - 17 to 52 inches: silt loam
C - 52 to 65 inches: fine sandy loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: R011XY001ID - Loamy 8-12 PZ
Hydric soil rating: No

Gn—Grandview loam

Map Unit Setting

National map unit symbol: 2q1b
Elevation: 2,000 to 4,500 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 120 to 170 days
Farmland classification: Prime farmland if irrigated and reclaimed of excess salts and sodium

Map Unit Composition

Grandview and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Grandview

Setting

Landform: Terraces, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

Ap - 0 to 5 inches: loam
Bk - 5 to 38 inches: clay loam
Bz - 38 to 60 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 42 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: High (about 11.3 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C
Ecological site: R011XY010ID - Calcareous Loam 7-10 PZ ATCO-PIDE4/ACHY-ACTH7
Hydric soil rating: No

GwC—Greenleaf-Owyhee silt loams, 3 to 7 percent slopes

Map Unit Setting

National map unit symbol: 2q1k
Elevation: 2,000 to 4,500 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Farmland of statewide importance, if irrigated

Map Unit Composition

Greenleaf and similar soils: 50 percent
Owyhee and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Greenleaf

Setting

Landform: Drainageways, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or lacustrine deposits and/or loess

Typical profile

Ap - 0 to 8 inches: silt loam
Btk - 8 to 17 inches: silty clay loam
Bk - 17 to 60 inches: silt

Properties and qualities

Slope: 3 to 7 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C
Ecological site: R011XY001ID - Loamy 8-12 PZ
Hydric soil rating: No

Description of Owyhee

Setting

Landform: Drainageways, terraces

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Lacustrine deposits and/or loess and/or silty alluvium

Typical profile

A - 0 to 10 inches: silt loam
Bw - 10 to 22 inches: silt loam
Bk - 22 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 7 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C
Ecological site: R011XY001ID - Loamy 8-12 PZ
Hydric soil rating: No

GwE—Greenleaf-Owyhee silt loams, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: 2q1m
Elevation: 2,000 to 4,500 feet
Mean annual precipitation: 7 to 12 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Greenleaf and similar soils: 75 percent
Owyhee and similar soils: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Greenleaf

Setting

Landform: Drainageways, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or lacustrine deposits and/or loess

Typical profile

Ap - 0 to 8 inches: silt loam
Btk - 8 to 17 inches: silty clay loam
Bk - 17 to 60 inches: silt

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C
Ecological site: R011XY001ID - Loamy 8-12 PZ
Hydric soil rating: No

Description of Owyhee

Setting

Landform: Drainageways, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Lacustrine deposits and/or loess and/or silty alluvium

Typical profile

A - 0 to 10 inches: silt loam
Bw - 10 to 22 inches: silt loam
Bk - 22 to 60 inches: silt loam

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: C
Ecological site: R011XY001ID - Loamy 8-12 PZ
Hydric soil rating: No

LtA—Letha fine sandy loam, strongly saline-alkali, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2q26
Elevation: 2,000 to 4,000 feet
Mean annual precipitation: 8 to 13 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 110 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Letha, strongly saline-alkali, and similar soils: 75 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Letha, Strongly Saline-alkali

Setting

Landform: Terraces, stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 5 inches: fine sandy loam
C1 - 5 to 40 inches: fine sandy loam
2C2 - 40 to 58 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: About 36 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 25.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: R011XA007ID - Semiwet Saline Meadow SAVE4/DISP
Hydric soil rating: No

Minor Components

Chance

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

No—Notus soils

Map Unit Setting

National map unit symbol: 2q2y
Elevation: 2,000 to 4,500 feet
Mean annual precipitation: 7 to 13 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Notus and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Notus

Setting

Landform: Terraces, fan remnants
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 1 inches: sandy loam
C1 - 1 to 14 inches: fine sandy loam
2C2 - 14 to 60 inches: stratified sand to gravel

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 36 to 60 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A

Ecological site: R011XY016OR - Sandy 8-11 PZ
Hydric soil rating: No

Tc—Terrace escarpments

Map Unit Setting

National map unit symbol: 2q4h
Elevation: 2,250 to 4,400 feet
Mean annual precipitation: 8 to 11 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 100 to 150 days

Map Unit Composition

Terrace escarpments: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Terrace Escarpments

Typical profile

A - 0 to 5 inches: fine sandy loam
C - 5 to 60 inches: fine sandy loam

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the following National Soil Survey Handbook link: "National Soil Survey Handbook."

ABC soil

A soil having an A, a B, and a C horizon.

Ablation till

Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil

A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil

The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil

Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone

A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan

A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium

Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl

A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM)

The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions

Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon

A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo

The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in unconsolidated material. It is usually dry but can be transformed into a temporary watercourse or short-lived torrent after heavy rain within the watershed.

Aspect

The direction toward which a slope faces. Also called slope aspect.

Association, soil

A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity)

The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low: 0 to 3
Low: 3 to 6
Moderate: 6 to 9
High: 9 to 12
Very high: More than 12

Backslope

The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp

A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Badland

A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluves. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

Bajada

A broad, gently inclined alluvial piedmont slope extending from the base of a mountain range out into a basin and formed by the lateral coalescence of a series of alluvial fans. Typically, it has a broadly undulating transverse profile, parallel to the mountain front, resulting from the convexities of component fans. The term is generally restricted to constructional slopes of intermontane basins.

Basal area

The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation

The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology)

A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane

A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology)

from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system

A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock

The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography

A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace

A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum

Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout (map symbol)

A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed. The adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Borrow pit (map symbol)

An open excavation from which soil and underlying material have been removed, usually for construction purposes.

Bottom land

An informal term loosely applied to various portions of a flood plain.

Boulders

Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks

A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height

An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management

Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte

An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

Cable yarding

A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil

A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche

A general term for a prominent zone of secondary carbonate accumulation in surficial materials in warm, subhumid to arid areas. Caliche is formed by both geologic and pedologic processes. Finely crystalline calcium carbonate forms a nearly continuous surface-coating and void-filling medium in geologic (parent) materials. Cementation ranges from weak in nonindurated forms to very strong in indurated forms. Other minerals (e.g., carbonates, silicate, and sulfate) may occur as accessory cements. Most petrocalcic horizons and some calcic horizons are caliche.

California bearing ratio (CBR)

The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy

The leafy crown of trees or shrubs. (See Crown.)

Canyon

A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

Capillary water

Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena

A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation

An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity

The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps

See Terracettes.

Cement rock

Shaly limestone used in the manufacture of cement.

Channery soil material

Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment

Control of unwanted vegetation through the use of chemicals.

Chiseling

Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque

A steep-walled, semicircular or crescent-shaped, half-bowl-like recess or hollow, commonly situated at the head of a glaciated mountain valley or high on the side of a mountain. It was produced by the erosive activity of a mountain glacier. It commonly contains a small round lake (tarn).

Clay

As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions

See Redoximorphic features.

Clay film

A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clay spot (map symbol)

A spot where the surface texture is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser.

Claypan

A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community

The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil

Sand or loamy sand.

Cobble (or cobblestone)

A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material

Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility)

See Linear extensibility.

Colluvium

Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope

Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil

A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions

See Redoximorphic features.

Conglomerate

A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system

Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage

A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil

Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping

Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section

The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat)

A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology)

A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations)

Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop

A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management

Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system

Growing crops according to a planned system of rotation and management practices.

Cross-slope farming

Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown

The upper part of a tree or shrub, including the living branches and their foliage.

Cryoturbate

A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

Cuesta

An asymmetric ridge capped by resistant rock layers of slight or moderate dip (commonly less than 15 percent slopes); a type of homocline produced by differential erosion of interbedded resistant and weak rocks. A cuesta has a long, gentle slope on one side (dip slope) that roughly parallels the inclined beds; on the other side, it has a relatively short and steep or clifflike slope (scarp) that cuts through the tilted rocks.

Culmination of the mean annual increment (CMAI)

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave

The walls of excavations tend to cave in or slough.

Decreasers

The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing

Postponing grazing or resting grazing land for a prescribed period.

Delta

A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer

A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression, closed (map symbol)

A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage.

Depth, soil

Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement

A natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface. It forms where wind action and sheetwash have removed all smaller particles or where rock fragments have migrated upward through sediments to the surface. It typically protects the finer grained underlying material from further erosion.

Diatomaceous earth

A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope

A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace)

A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming

A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural)

Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface

Runoff, or surface flow of water, from an area.

Drainageway

A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw

A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Drift

A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin

A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff

A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune

A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill

See Mine spoil.

Ecological site

An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation

The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation

A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit

Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream

A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation

A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion

The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated)

Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion (geologic)

Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion pavement

A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface

A land surface shaped by the action of erosion, especially by running water.

Escarpment

A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Escarpment, bedrock (map symbol)

A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.

Escarpment, nonbedrock (map symbol)

A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.

Esker

A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left

behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock

Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

Fallow

Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant

A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil

The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat)

The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity

The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope

A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil

Sandy clay, silty clay, or clay.

Firebreak

An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom

An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material

Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone

A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain

The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms

A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay

A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step

An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial

Of or pertaining to rivers or streams; produced by stream or river action.

Foothills

A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope

The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb

Any herbaceous plant not a grass or a sedge.

Forest cover

All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type

A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan

A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil

The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai

Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glaciofluvial deposits

Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits

Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil

Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping

Growing crops in strips that grade toward a protected waterway.

Grassed waterway

A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel

Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit (map symbol)

An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel.

Gravelly soil material

Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Gravelly spot (map symbol)

A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments.

Green manure crop (agronomy)

A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water

Water filling all the unblocked pores of the material below the water table.

Gully (map symbol)

A small, steep-sided channel caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage whereas a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock

Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim

Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan

A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology)

A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat)

Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops

Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill

A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope

A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil

A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon: An organic layer of fresh and decaying plant residue.

L horizon: A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon: The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon: The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon: The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon: The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon: Soft, consolidated bedrock beneath the soil.

R layer: Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

M layer: A root-limiting subsoil layer consisting of nearly continuous, horizontally oriented, human-manufactured materials.

W layer: A layer of water within or beneath the soil.

Humus

The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups

Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock

Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation

The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil

A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers

Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration

The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity

The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate

The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate

The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Very low: Less than 0.2
Low: 0.2 to 0.4
Moderately low: 0.4 to 0.75
Moderate: 0.75 to 1.25
Moderately high: 1.25 to 1.75
High: 1.75 to 2.5
Very high: More than 2.5

Interfluve

A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology)

A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream

A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders

On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions

See Redoximorphic features.

Irrigation

Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin: Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border: Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding: Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation: Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle): Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow: Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler: Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation: Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding: Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame

A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography)

A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll

A small, low, rounded hill rising above adjacent landforms.

Ksat

See Saturated hydraulic conductivity.

Lacustrine deposit

Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain

A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace

A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landfill (map symbol)

An area of accumulated waste products of human habitation, either above or below natural ground level.

Landslide

A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones

Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Lava flow (map symbol)

A solidified, commonly lobate body of rock formed through lateral, surface outpouring of molten lava from a vent or fissure.

Leaching

The removal of soluble material from soil or other material by percolating water.

Levee (map symbol)

An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.

Linear extensibility

Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit

The moisture content at which the soil passes from a plastic to a liquid state.

Loam

Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess

Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength

The soil is not strong enough to support loads.

Low-residue crops

Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl

An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Marsh or swamp (map symbol)

A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Not used in map units where the named soils are poorly drained or very poorly drained.

Mass movement

A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses

See Redoximorphic features.

Meander belt

The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar

A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll

One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment

Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil

Very fine sandy loam, loam, silt loam, or silt.

Mesa

A broad, nearly flat topped and commonly isolated landmass bounded by steep slopes or precipitous cliffs and capped by layers of resistant, nearly horizontal rocky material. The summit width is characteristically greater than the height of the bounding escarpments.

Metamorphic rock

Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine or quarry (map symbol)

An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines.

Mine spoil

An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil

Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage

Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area

A kind of map unit that has little or no natural soil and supports little or no vegetation.

Miscellaneous water (map symbol)

Small, constructed bodies of water that are used for industrial, sanitary, or mining applications and that contain water most of the year.

Moderately coarse textured soil

Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil

Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon

A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine

In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil

The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil

Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain

A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can

occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck

Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat

See Hemic soil material.

Mudstone

A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation

A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon

A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil

A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules

See Redoximorphic features.

Nose slope (geomorphology)

A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant

Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter

Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low: Less than 0.5 percent
Low: 0.5 to 1.0 percent
Moderately low: 1.0 to 2.0 percent
Moderate: 2.0 to 4.0 percent
High: 4.0 to 8.0 percent
Very high: More than 8.0 percent

Outwash

Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain

An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace

An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan

A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan.*

Parent material

The unconsolidated organic and mineral material in which soil forms.

Peat

Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped

An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment

A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon

The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation

The movement of water through the soil.

Perennial water (map symbol)

Small, natural or constructed lakes, ponds, or pits that contain water most of the year.

Permafrost

Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

pH value

A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil

A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping

Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting

Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit

The moisture content at which a soil changes from semisolid to plastic.

Plasticity index

The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology)

A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Playa

The generally dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playa deposits are fine grained and may or may not have a high water table and saline conditions.

Plinthite

The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan

A compacted layer formed in the soil directly below the plowed layer.

Ponding

Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded

Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings

See Redoximorphic features.

Potential native plant community

See Climax plant community.

Potential rooting depth (effective rooting depth)

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning

Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil

The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil

A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use

Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and

promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland

Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil

A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid: Less than 3.5
Extremely acid: 3.5 to 4.4
Very strongly acid: 4.5 to 5.0
Strongly acid: 5.1 to 5.5
Moderately acid: 5.6 to 6.0
Slightly acid: 6.1 to 6.5
Neutral: 6.6 to 7.3
Slightly alkaline: 7.4 to 7.8
Moderately alkaline: 7.9 to 8.4
Strongly alkaline: 8.5 to 9.0
Very strongly alkaline: 9.1 and higher

Red beds

Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations

See Redoximorphic features.

Redoximorphic depletions

See Redoximorphic features.

Redoximorphic features

Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix

See Redoximorphic features.

Regolith

All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief

The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material)

Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill

A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser

The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut

A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments

Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop (map symbol)

An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where "Rock outcrop" is a named component of the map unit.

Root zone

The part of the soil that can be penetrated by plant roots.

Runoff

The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil

A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Saline spot (map symbol)

An area where the surface layer has an electrical conductivity of 8 mmhos/cm more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm or less.

Sand

As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone

Sedimentary rock containing dominantly sand-sized particles.

Sandy spot (map symbol)

A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer.

Sapric soil material (muck)

The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat)

The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are:

Very high: 100 or more micrometers per second (14.17 or more inches per hour)

High: 10 to 100 micrometers per second (1.417 to 14.17 inches per hour)

Moderately high: 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour)

Moderately low: 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour)

Low: 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour)

Very low: Less than 0.01 micrometer per second (less than 0.001417 inch per hour).

To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation

Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification

The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock

A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum

A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil

A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Severely eroded spot (map symbol)

An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which "severely eroded," "very severely eroded," or "gullied" is part of the map unit name.

Shale

Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion

The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope (map symbol)

A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

Shoulder

The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell

The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune

A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology)

A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica

A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio

The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt

As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone

An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils

Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole (map symbol)

A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index

A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic)

Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slide or slip (map symbol)

A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces.

Slope

The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium

Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill

The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement

Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodic (alkali) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodic spot (map symbol)

An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less.

Sodicity

The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to $Ca^{++} + Mg^{++}$. The degrees of sodicity and their respective ratios are:

Slight: Less than 13:1
Moderate: 13-30:1
Strong: More than 30:1

Sodium adsorption ratio (SAR)

A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock

Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil

A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates

Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand: 2.0 to 1.0
Coarse sand: 1.0 to 0.5
Medium sand: 0.5 to 0.25
Fine sand: 0.25 to 0.10
Very fine sand: 0.10 to 0.05
Silt: 0.05 to 0.002
Clay: Less than 0.002

Solum

The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spoil area (map symbol)

A pile of earthy materials, either smoothed or uneven, resulting from human activity.

Stone line

In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones

Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony

Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stony spot (map symbol)

A spot where 0.01 to 0.1 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones.

Strath terrace

A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace

One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping

Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil

The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are:

Platy: Flat and laminated
Prismatic: Vertically elongated and having flat tops
Columnar: Vertically elongated and having rounded tops
Angular blocky: Having faces that intersect at sharp angles (planes)
Subangular blocky: Having subrounded and planar faces (no sharp angles)
Granular: Small structural units with curved or very irregular faces

Structureless soil horizons are defined as follows:

Single grained: Entirely noncoherent (each grain by itself), as in loose sand
Massive: Occurring as a coherent mass

Stubble mulch

Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil

Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling

Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum

The part of the soil below the solum.

Subsurface layer

Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow

The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit

The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer

The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil

The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus

Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts

Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine

An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation)

An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field

generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology)

A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes

Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil

The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer

Otherwise suitable soil material that is too thin for the specified use.

Till

Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain

An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil

The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope

The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil

The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements

Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread

The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff

A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland

An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill

The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation

Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve

A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Very stony spot (map symbol)

A spot where 0.1 to 3.0 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surface of the surrounding soil is covered by less than 0.01 percent stones.

Water bars

Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering

All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded

Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot (map symbol)

A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit.

Wilting point (or permanent wilting point)

The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow

The uprooting and tipping over of trees by the wind.

Multi-Sector General Permit

Stormwater Pollution Prevention Plan (SWPPP)

for:

Redmon Pit

21225 Notus Road
Greenleaf, Idaho 83626

SWPPP Contact(s):

JMAC Resources
Juston Ekart
PO Box 760
Caldwell, Idaho 83606
Office: (208) 506-2952
Email: JustonE@JMACReasources.com

SWPPP Prepared by:

Syman, LLC
Alexia Berlanda
2101 Delta Dr.
Nampa, ID 83687
(208) 287-8420
A.Berlanda@SymanCompany.com
Syman File No. 221117

SWPPP Preparation Date:

January 17, 2023

Contents

Table of Contents

SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION

1.1 Facility Information.

Facility Information

Name of Facility: Redmon Pit

Street: 21225 Notus Road

City: Greenleaf State: Idaho Zip Code: 83626

County / Govt. Sub: Canyon County

NPDES ID (i.e., permit tracking number): (if covered under a previous permit)

Primary Industrial Activity SIC code, and Sector and Subsector (2021 MSGP, Appendix D and Part 8):

Sector J: Sub Sector, J1; Construction Sand and Gravel (SIC 1442)

Co-located Industrial Activity(s) SIC code(s), Sector(s) and Subsector(s) (2021 MSGP, Appendix D):

Sector J: Sub Sector; J2; Crushed Stone Manufacturing (SIC 1429)

Is your facility presently inactive and unstaffed and are there no industrial materials or activities exposed to stormwater? ☐ Yes ☒ No

Latitude/Longitude

Latitude: 43.6854° N (decimal degrees)

Longitude: -116.8131 ° W (decimal degrees)

Method for determining latitude/longitude (check one):

☐USGS topographic map (specify scale:_____): ☐GPS

☒Other (please specify): Google Earth

Horizontal Reference Datum (check one):

☐NAD 27 ☐NAD 83 ☒WGS 84

Is the facility located in Indian country? ☐Yes ☒No

If yes, provide the name of the Indian tribe associated with the area of Indian country (including name of Indian reservation, if applicable). N/A

Are you considered a "federal operator" of the facility?

Federal Operator – an entity that meets the definition of "operator" in this permit and is either any department, agency or instrumentality of the executive, legislative and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, operating for any such department, agency, or instrumentality.

☐Yes ☒No

Total facility acreage (to the nearest quarter acre):

200 acres

Estimated area of industrial activity at site exposed to stormwater (to the nearest quarter acre):

200 acres

Discharge Information

Does this facility discharge stormwater into a municipal separate storm sewer system (MS4)?

☐Yes ☒No

If yes, name of MS4 operator: N/A

Note: The access road to the site is paved. Stormwater infiltrates into the ground and does not leave the property.

Name(s) of surface water(s) that receive stormwater from your facility:

Riverside Canal

Dixie Slough

Does this facility discharge industrial stormwater directly into any segment of an "impaired water" (see definition in 2021 MSGP, Appendix A)? ☐Yes ☒No

The site is surrounded by berms. Stormwater inside the berms where industrial activities are taking place is pumped to the onsite excavated ponds. If the ponds get too full the upper cleanest part of the water will be discharged into the Riverside Canal, sample point 001. This is also the first receiving water body. This waterway has not been accessed for impairments.

If yes, identify name of the impaired water(s) (and segment(s), if applicable):

N/A

Identify the pollutant(s) causing the impairment(s):

N/A

Which of the identified pollutants may be present in industrial stormwater discharges from this facility?

N/A

Has a Total Maximum Daily Load (TMDL) been completed for any of the identified pollutants? If yes, please list the TMDL pollutants:

N/A

Does this facility discharge industrial stormwater into a receiving water designated as a Tier 2, Tier 2.5 or Tier 3 water (see definitions in 2021 MSGP, Appendix A)?

☐Yes ☒No

Are any of your stormwater discharges subject to effluent limitation guidelines (ELGs) (2021 MSGP Table 1-1)?

☐Yes ☒No

If yes, see 3.2 for which guidelines apply

1.2 Contact Information/Responsible Parties

Facility Operator:

Company: JMAC Resources
Contact: Juston Ekart
Address: PO Box 760
Caldwell, Idaho 83606
Office: (208) 506-2952
Email: Justone@jmacresources.com

Facility Owner:

Company: Jon Redmon (Redmon Family Trust)
Contact: Cathy Redmon
Address: 22204 Tucker Road
Greenleaf, Idaho 83626
Office: (208) 724-3877
Email: KRedmon2010@live.com

SWPPP Contact and 24-hour Emergency Contact:

Company: JMAC Resources
Name: Juston Ekart
Office: (208) 506-2952
Cell: (208) 809-9768
Email: Justone@jamcresources.com

SWPPP Preparation:

Company: Syman, LLC
Name: Alexia Berlanda
Office: (208) 287-8420
Fax: (208) 887-4927
Email: A.Berlanda@SymanCompany.com

Company: Syman, LLC
Name: Adam Lyman
Number: (208) 287-8420
Fax: (208) 887-4927
Email: A.Lyman@SymanCompany.com

1.3 Stormwater Pollution Prevention Team

The stormwater pollution prevention team is responsible for developing, implementing, and revising the facility's SWPPP. The team will also maintain control measures/BMPs and take corrective actions where required. Each member of the stormwater pollution prevention team must have ready access to either an election or paper copy of applicable portions of the MSGP and this SWPPP. If the stormwater pollution prevention team changes or papers(s) are added to the team, update the table below.

Staff Names	Individual Responsibilities
Owner: Cathy Redmon Redmon Family Trust	The owner will oversee project planning, managing the site, and will be responsible for general oversight. They will retain operational control over the site, review the MSGP-SWPPP, any amendments, inspection reports, corrective actions, and changes to stormwater conveyance or control designs.
Facility Manager: Justone Ekart JMAC Resources	The site manager will implement and oversee the MSGP-SWPPP and oversee all activities on site, including excavation, crushing, screening, stockpiling, mobilization, and schedules. They will implement and maintain the best management practices (BMPs) specified, training, manage stormwater over the entire site, including all areas disturbed by site activities and areas used for materials storage.
Stormwater Management Alexia Berlanda Syman, LLC	Preparation of the Stormwater Pollution Prevention Plan and consulting as needed, as well as conducting site inspections and stormwater monitoring/testing.
Stormwater Consultation Adam Lyman Syman, LLC	Consultation as needed and calculations for stormwater retention and dispersion

1.4 Site Description

This site is located just off Notus Road in Greenleaf, Idaho.
Current activities associated with this site are as follows.

1. Cleaning and stockpiling overburden silty and sandy loam soils.
2. Excavating and stockpiling sand and gravel materials.
3. Some materials are hauled away as raw sand and gravel sold as uncrushed pit-run aggregates.
4. Some materials are screened, sorted and crushed on site to create aggregates for road base, asphalt mixtures, concrete mixtures, drain rock and other similar materials.
5. Some aggregates are washed at the site and process water used in the wash plant is fully contained on-site.
6. The construction aggregate materials are hauled to job sites.

1.5 General Location Map

The general location map and site map for this facility can be found in Appendix A.

1.6 Site Map

The Site Map for this facility can be found in Appendix A.

SECTION 2: POTENTIAL POLLUTANT SOURCES

The entire facility will be exposed to stormwater at this site, except for a supervisor's shop (if applicable). As such, pollutants can be expected at any location during rainfall.

This site's industrial mining activity as follows:

The 200-acre active mining site has been bermed along entire perimeter. The upper northern area of the property, approximately 119 acres is undisturbed, and will be mined after the current mining location is complete. The mined aggregate will be screened and sorted into final stockpiles. The materials from these stockpiles will be hauled off site to construction projects or sold by a third party.

During all activities at the site, stormwater will be managed and contained by berms and other BMPs. Stormwater and wash water will be directed to a series of two settling ponds. Excess water after all the solids have settled, will be pumped into the Riverside Canal and water will be sampled according to the DEQ's protocol.

2.1 Potential Pollutants Associated with Industrial Activity

Industrial activities exposed to stormwater consists of handling construction aggregates and overburden soil at the site. There will be very little material stored at the site. Equipment and vehicle parking, fueling, and minor maintenance will take place at the site. Fuel and lubricating oils will be brought to the site on service vehicles as needed. Major maintenance and repairs will be done at the operator's main yard. Equipment will not be cleaned on site and will be taken to the operator's main site if necessary. Pollutants or pollutant constituents associated with these activities will be contained through active and passive measures as described in Section 2.2 below.

Industrial Activity	Associated Pollutants
Fueling area	Possible oil and fuel spill during transfer
Oil storage area	Oil spill from bulk containers Oil spill during storage tank filling
Excavation of aggregates	Sediment from exposed soils Dust from exposed soil
Crushing and sorting aggregates	Dust from crushing activities
Stockpiling aggregates	Sediment from exposed soils
Stockpiling overburden/Berm construction	Sediment from exposed soils Dust
All activities	Possible oil and fuel from machinery
Fueling/maintaining equipment	Oil and fuel

If you are a Sector S (Air Transportation) facility, do you anticipate using more than 100,000 gallons of pure glycol in glycol-based deicing fluids and/or 100 tons or more of area on an average annual basis?

☐ Yes ☐ No ☒ Not Sector S

If you are a Sector G (Metal Mining) facility, do you have discharges from waste rock and overburden piles?

☐ Yes ☐ No ☒ Not Sector G

2.2 Spills and Leaks

The perimeter berms will prevent stormwater runoff from leaving the site and potentially discharging to the waters of the US. These perimeter berms will be inspected regularly, ensuring their integrity is not compromised. The perimeter berm areas are not highly exposed to the facility's industrial activities and any stormwater discharges will be monitored.

Areas of Site Where Potential Spills/Leaks Could Occur

Location	Discharge Points
Equipment work area (equipment could malfunction or otherwise leak during normal operations)	Equipment work areas will be graded to contain stormwater on site.
Truck and equipment parking area	Areas will be graded to contain stormwater
Fuel storage	Bulk fuel tanks are inside secondary containment and fueling area is graded to contain stormwater
Fueling (equipment work areas)	Equipment work areas are graded to contain stormwater on site
Truck loading area (trucks could leak oil or fuel while being loaded	Areas exposed to truck traffic are graded to contain water on site
Crushing and screening equipment leak	The crushing/screening area is graded to contain water on site.

Spill containment of possible pollutants described in Section 2.1 above consists of:

1. Portable spill prevention pads will be used to re-fuel and maintain equipment on site.
2. Major maintenance and repairs will be performed off site, at the operator's main shop building where proper containment is available.
3. A spill kit is kept at each of the production/plant facilities to clean up spills from vehicles and equipment at the site.
4. Maintenance trucks have spill kits to clean up spills during minor maintenance or repairs.

Description of Past Spills/Leaks

Date	Description	Discharge Points
N/A	There have been no known past spills or leaks at this site.	

2.3 Unauthorized Non-stormwater Discharges Documentation

Description of this facility's unauthorized non-stormwater discharge evaluation:

Date of evaluation:

October 19, 2022

Description of the evaluation criteria used:

Site walk-through and review of Google Earth imagery.

List of the drainage points that were directly observed during the evaluation:

Riverside Canal

Action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), or documentation that a separate NPDES permit was obtained.:

- Perimeter berms approximately 10-12 feet high.

2.4 Salt Storage

There is no salt storage on the site. Salts for de-icing will not be used at this facility.

2.5 Sampling Data Summary

Historical sampling data was not available to include in this report.

Test Parameter	Analysis Results	Method	Date Completed

SECTION 3: STORMWATER CONTROL MEASURES

The stormwater is controlled on the site through site grading with permanent ditches and berms. The pit is excavated inside the earth berms and stormwater is allowed to pond inside the pit and pumped into a series of two settling ponds. The soils in the pit are sand and gravel with a very high permeability, therefore, the water will infiltrate into the floor and there will be no runoff from the pit floor.

The BMPs listed below will be monitored as described unless the site is inactive. Active or in active status changes will be documented on the SWPPP Amendment log in Appendix F and the inactive and unstaffed site statement in Appendix E will be completed.

3.1 Non-numeric Technology-based Effluent Limits (BPT/BAT/BCT)

This site will comply with the following non-numeric effluent limits (except where otherwise specified in Part 8) as well as any sector-specific non-numeric effluent limits in Part 8.

3.1.1 Minimize Exposure

Portions of the site will have the topsoil removed, sand and gravel extracted, and then the topsoil replaced to allow natural vegetation to grow. This will help to minimize erosion at the site. The sand and gravel that is extracted are granular and not naturally erosive.

CLEARING LIMITS – BMP #1

BMP Description: Minimize the total amount of bare soil exposed to erosive forces by (1) controlling the amount of ground that is cleared and grubbed at one time in preparation for mining, and (2) Keeping a minimum 50' buffer of natural vegetation around the perimeter of the clearing limits.

Site work: During construction, limit clearing of vegetated soils through the following

1. Use staking, coordination with project leaders, and existing fences to delineate areas off limits to equipment and materials that will cause soil disturbance.
2. Keep equipment as close to the excavation as possible.
3. Stage equipment at the designated staging area.
4. Uses temporary fence to delineate the edge of construction where needed.
5. Use existing areas stabilized with gravel and asphalt or concrete pavement whenever possible.

Installation Schedule:	Throughout the life of the facility.
Maintenance & Inspections:	Inspections shall occur at least quarterly. Conduct periodic inspections to check for unnecessary ground disturbance. Also check for clearing and grubbing beyond the contractor's authorization and progress in keeping grading and pollution control measures current (in accordance with accepted work schedule).

3.1.2 Good Housekeeping

The site will be maintained by the site manager.
As part of site management, the following good housekeeping BMPs will be maintained:

1. Adequate storage for solid waste
2. Adequate haul roads to prevent tracking of soil off site.
3. Adequate storage areas for hazardous materials.
4. Adequate parking areas for equipment and vehicles.
5. Clean loading and unloading areas to facilitate safe transfer of materials.
6. Designated washout areas for cleaning and detention of sediment laden wash water.
7. Adequate and regularly maintained sanitary facilities for the workers in the mining and batch plant areas.

See Section 3.1.4 for handling, and storage of hazardous materials.

SANITARY / SEPTIC WASTE MANAGEMENT – BMP #2

BMP Description: Prevent the discharge of pollutants to stormwater from sanitary/septic waste by providing convenient, well-maintained facilities, and arrange for regular service and disposal. For specific installation and location information, please refer to the site maps and project schedule. Use staking or other methods to ensure temporary sanitary facilities will not tip in high wind events.

Installation Schedule:	Prior to any full time operations at the site. During some periods there will likely be no activity at the site. During periods of inactivity, the temporary sanitary facilities may be removed or maintained at less frequent intervals.
Maintenance & Inspections:	A portable toilet is at the site at all times and is maintained at least monthly (except when the site is inactive) and more often when more personnel are working at the site. Inspect facilities at least each quarter.
Responsible Staff:	Juston Ekart – JMAC Resources

HAZARDOUS WASTE MANAGEMENT – BMP #3

BMP Description: This BMP entails meeting the regulatory requirements of hazardous waste management that includes hazardous waste determination, acquiring an EPA identification number, accumulation, record keeping reporting, and transportation manifesting. Good housekeeping will minimize the contribution of pollutants to stormwater discharges by handling and storing hazardous materials on site in a clean and orderly manner. See part 3.1.4 below for a complete description of procedures.

Installation Schedule:	Throughout the life of the facility.
Maintenance and Inspection:	Inspect whenever fueling occurs. Document fueling activities during regular inspections. Inspect drip pans for the possibility of leaks in the pan itself. Also check for random leaking of

	equipment and irregular slow drips that increase in volume. If drip pans are being used, conduct inspections before forecasted rainfall events to remove accumulated materials. Empty accumulations immediately after each storm event.
Responsible Staff:	Juston Ekart- JMAC Resources

VEHICLE FUELING AND MAINTENANCE – BMP #4

BMP Description: Several types of vehicles and equipment will be used on site. All major maintenance will be performed on site at the shop. Off-Road equipment and vehicle fueling will occur at the fueling area on site. Absorbent, spill-cleanup materials, drip pans, and spill kits will be available at the shop area.

Installation Schedule:	Throughout the life of the project.
Maintenance and Inspection:	Inspect whenever fueling occurs. Document fueling activities during regular inspections. Inspect drip pans for the possibility of leaks in the pan itself. Also check for random leaking of equipment and irregular slow drips that increase in volume. If drip pans are being used, conduct inspections before forecasted rainfall events to remove accumulated materials. Empty accumulations immediately after each storm event.
Responsible Staff:	Juston Ekart- **Error! Reference source not found.**

Sweeping, if needed, will be performed where the gravel road meets the paved road.

STREET SWEEPING – BMP #5

BMP Description: The contractor will perform street sweeping on paved roadways or parking areas. Sweeping may be accomplished manually or with a mechanical sweeper. The road may need to be moistened prior to sweeping to avoid generation of dust.

Installation Schedule:	Throughout the life of the project.
Maintenance and Inspection:	At least once every 7 days. Inspect for soil on roadways as well as fugitive dust. All materials collected during street sweeping will be disposed of at an off-site location by the contractor.
Responsible Staff:	Juston Ekart- **Error! Reference source not found.**

Currently the site does not have any storm drains. If plans change and storm drains are installed, the following will apply

INLET PROTECTION – BMP #6

BMP Description: Inlet protections consist of a filtering measure placed around an inlet or drain trap sediment and prevent the sediment from entering the storm drain system. Additionally, it serves to prevent the silting-in of inlets, storm drainage systems, or receiving channels. Manufactured products are also available that are designed to trap silt and sediment at the point of entry to a storm drain. Inserts can include bags, racks, baskets and other

materials that hang down into a catch basin or inlet. Inserts are made from filter fabric, wire mesh, various types of plastic products and combinations of these and other materials. Care should be taken not to cause flooding with diverting flow.

Installation Schedule:	Permanent BMP- as needed
Maintenance and Inspection:	Quarterly inspections and after every storm event. Make any repairs necessary to insure the measure is in good working order. Remove accumulated sediment and restore the trap to its original dimensions when sediment has accumulated to half the designed depth of the trap. All sediment removed should be disposed of properly.
Responsible Staff:	Juston Ekart- **Error! Reference source not found.**

3.1.3 Maintenance

BMP Maintenance

The site will use several BMPs to control stormwater runoff and possible pollution in stormwater runoff. Each BMP will be inspected and maintained regularly, as described in the specific BMP descriptions found in Section 3. Remove any debris or sediment regularly.

Equipment Maintenance

Vehicle fueling and minor equipment maintenance will be done at the staging area. Equipment will undergo cleaning at the site to knock off larger mud accumulations. Equipment and vehicle washing will be done at a designated location in the yard. Pollutants or pollutant constituents associated with these activities will be contained through active and passive measures, as described below.

Spill containment of possible pollutants described in Section 2.1 consist of:

1. Portable spill prevention pads will be used in equipment fueling and maintenance on site
2. Major maintenance and repairs will be performed at the shop where proper containment is available on site.
3. A spill kit is kept at the shop for cleanup of spills from vehicles and equipment at the site.

Fueling and maintenance trucks have spill kits to clean up spills during maintenance, fueling, or repairs.

Schedule for maintenance and repairs:

- When equipment is active, equipment will be inspected for leaks daily during operations.
- During inspections, the equipment on site will be inspected for leaks or similar problems that need maintenance.
- If leaks are detected, any spilled oil will be cleaned up immediately and a drip pan will be used to collect leaking fluids until maintenance can be performed. If required, the equipment will be covered to prevent contamination of precipitation.

3.1.4 Spill Prevention and Response

Spill prevention and response procedures are outline in Section 4.3 of this plan.

3.1.5 Erosion and Sediment Controls

Aggregate stockpiles will be kept throughout the site, primarily at the property boundary and near the crusher

STOCKPILE MANAGEMENT – BMP #7

BMP Description: Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, aggregates, paving materials such as Portland Cement Concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, aggregate sub-base, or pre-mixed aggregate. The stockpiles should be placed in an area where sediment from precipitation will not be discharged to waters of the US. Ensure that stockpiles are not placed in areas where runoff from the stockpiles can discharge beyond the site boundaries.

Stockpiles of the following materials are likely:

Stockpiles of overburden (topsoil): These stockpiles will be placed adjacent to the property lines as berms. Typically, these stockpiles will sit for more than 14 days without being actively worked. Topsoil will be seeded and tackified for stabilization until used.

Stockpiles of aggregates: These stockpiles will consist of aggregates such as sand and gravel for concrete batch manufacturing. These materials are less susceptible to erosion due to their granular nature and will be particularly less prone to dust. These aggregates will be brought or mined on site. These stockpiles will be created and then used in creating specified concrete mixes and hauled from the site. Because these stockpiles are less erodible and not prone to dust, they will not be stabilized except for being placed in areas where runoff from them will not discharge from the site.

To prevent stormwater pollution from stockpiles the following guidelines will be followed:

- Whenever possible, only stockpile materials that can be used within construction timelines.
- Never stockpile materials near or in a stormwater conveyance.
- Stockpile excavated materials up-slope of the excavation whenever possible.
- Excavate the site in stages to limit the size of overburden stockpiles.
- Apply dust control water regularly to stockpiles of materials susceptible to wind erosion.

Installation Schedule:	Throughout the life of the site. Stockpiles of topsoil must be stabilized no later than 14 days after the stockpile is no longer in use. Stabilization must consist of heavy poly sheeting secured with sandbags or covering with hydraulically applied mulch.
Maintenance and Inspection:	At least quarterly. Inspect and verify that BMPs are in place prior to the commencement of associated activities. While activities are associated with the BMPs are underway, inspect weekly during the rainy season and 2-week intervals in the non-rainy season to verify continued BMP implementation. Repair and/or replace perimeter controls to keep them functioning properly.

Responsible Staff:	Juston Ekart- JMAC Resources

STAGING AREAS – BMP #8

BMP Description: This BMP includes measures for collecting runoff from a staging area, materials storage site, or industrial activity area or for diverting water flow away from such areas so that pollutants do not mix with clean stormwater runoff. Staging areas will consist of stabilized parking areas and roadways used at the site. Roadways and parking areas will be stabilized with aggregates on site. Aggregates that are coarse and will limit sediment and tracking from the site will be used at the on-site roadways, areas around the crusher and scale or other areas accessed by vehicles that will be used off-site. Staging areas will be placed where stormwater will be diverted and prevented from discharging off site.

Installation Schedule:	Throughout the life of the project.
Maintenance and Inspection:	Inspections shall occur at least quarterly. Inspect unpaved, graded areas to check for gullies and other signs of erosion. Inspect paving regularly for areas that may allow fine grained soils to be tracked into the public right-of-way.
Responsible Staff:	Juston Ekart- JMAC Resources

SEEDING – BMP #9

BMP Description: Permanent Seeding means growing a long-term or permanent vegetative cover (plants) on disturbed areas that need assistance in re-vegetation. The purpose of permanent seeding is to reduce erosion and sedimentation and to establish desirable competitive ground cover for wildlife habitat and ease of erosion maintenance. Seeding at this site will be performed by drill seeding or broadcast seeding. Areas with slopes will be hydro-seeded with mulch and tackifier to keep the soil in place until vegetation is established. Seed will be placed with fertilizer to help ensure it will grow thick enough to provide the needed ground cover. Mulch and tackifier may be needed to stabilize soil on flat ground if seed is placed in dry months when it is unlikely to grow for long periods of time, or to suppress dust.

Installation Schedule:	Portions of the site where construction activities have permanently ceased will be stabilized, as soon as possible but no later than 14 days after construction ceases.
Maintenance and Inspection:	Inspections shall occur at least quarterly. After mineral mining is completed at the site, permanently stabilized areas will be monitored until final stabilization is reached.
Responsible Staff:	Juston Ekart- JMAC Resources

3.1.6 Management of Runoff

DITCHES & SWALES – BMP #10

BMP Description: Ditches and swales could be excavated along portions of the project to collect runoff, divert water flow through the site and allow retained water to be kept on site. Ditches will be placed generally along the perimeter of the property. Ditches and swales will vary in size and will be constructed with equipment at the site. If ditches are created in fine grained soil (topsoil), they should be re-vegetated to stabilize the ditch banks.

Installation Schedule:	Throughout the life of the project.
Maintenance and Inspection:	At least quarterly. All areas will be inspected during construction activities for failure after storm events. Inspect for blockage and that stormwater can pass through the ditches to the retention ponds.
Responsible Staff:	Juston Ekart- JMAC Resources

BERMS – BMP #11

BMP Description: Berms will be constructed of on-site soils to direct stormwater away from construction activity. Berms will generally be placed along the perimeter of the property. Berms will vary in size and will be constructed with equipment at the site. If berms are created in fine grained soil (topsoil) they should be re-vegetated to stabilize the berm from eroding. Locations are shown on the site drawings and details can be found in the Stormwater Drainage Report in Appendix D.

Installation Schedule:	Throughout the life of the project.
Maintenance and Inspection:	At least quarterly. All areas will be inspected during construction activities for failure after storm events. Check that berms/dikes are not breached, and that rill erosion is not developing.
Responsible Staff:	Juston Ekart- JMAC Resources

PONDS – BMP #12

BMP Description: There are two ponds at the site currently that serve to detain and settle both stormwater and runoff water before that water leaves the site. Locations of Ponds are shown on the site drawings. The ponds will be used as a BMP during the life of the site to collect, clean and possibly infiltrate both stormwater and dewatering water. The site is graded to slope to the ditches and ponds to control runoff from industrial areas.

The ponds are used as a settling ponds. Clean water settles and infiltrates into the ground. Solids settle to the bottom of the pond and later dredged out and disposed of according to EPA guidance.

Installation Schedule:	Already in place
Maintenance and Inspection:	At least every 14 days. To ensure proper capacity and that stormwater runoff is being directed to the ponds.
Responsible Staff:	Juston Ekart- JMAC Resources

Fiber rolls will not be installed on the site at this time. Currently the site is graded and bermed to retain stormwater on the site to protect waterways. If mining operations expand, fiber rolls may be recommended. If this happens, the site plans will be amended and the SWPPP will be updated in Appendix F.

FIBER ROLL – BMP #13

BMP Description: A fiber roll (wattle/compost-filled socks) consists of straw, flax, or other similar materials bound into a biodegradable tubular plastic or similar encasing material. When fiber rolls are placed at the toe and on the face of slopes, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff. By interrupting the length of a slope, fiber rolls can also reduce erosion. Fiber rolls will be placed on the perimeter of the site as needed when building near perimeter and will remain in place until berms are stabilized.

Installation Schedule:	N/A
Maintenance and Inspection:	Inspections shall occur at least quarterly. Repair or replace split, torn, unraveled, or slumping fiber rolls when damage will reduce their effectiveness. If the fiber roll is used as a capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed before sediment accumulation reaches one-half the height of the fiber roll.
Responsible Staff:	Juston Ekart- JMAC Resources

Silt Fence will not be installed on the site at this time. Currently the site is graded and bermed to retain stormwater on the site and protect waterways. Should that status change and silt fence is needed, the site plans will be amended and the SWPPP will be updated in Appendix F. The following procedures will apply.

SILT FENCE – BMP #14

BMP Description: A temporary sediment barrier consisting of a geotextile fabric stretched across and attached to supporting posts, which are entrenched. Adding rigid wire fence backing can strengthen silt fence. Silt fencing is used to reduce the transport of sediment by providing a temporary barrier to sediment and reducing the runoff velocities of sheet flow. Silt fence will be placed on the perimeter of the site as needed and will remain in place until berms are stabilized.

Installation Schedule:	N/A
Maintenance and Inspection:	Inspections shall occur at least quarterly. Repair or replace split, torn, unraveled, or slumping silt fence when damage will reduce effectiveness. If the silt fencing is used as a capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed before sediment accumulation reaches one-third the height of the silt fence.
Responsible Staff:	Juston Ekart- JMAC Resources

3.1.7 Salt Storage Piles or Piles Containing Salt

There is no salt stored on the site. De-icing is not performed on site.

3.1.8 Dust Generation and Vehicle Tracking of Industrial Materials

Dust is controlled using water, applied with a water truck.

Typically, the sand and gravel mined from the pit are course materials that are not subject to air erosion unless disturbed. The material handling areas and haul and access roads are gravel paved to limit dust. When needed, roadways material handling areas and stockpiles are sprayed with the water truck.

DUST CONTROL – BMP #15

BMP Description: This BMP describes products and measures used for reducing or preventing wind erosion by protecting the soil surface, roughening the surface, and reducing the surface wind velocity. The site may be sprinkled with water until the surface is wet. Sprinkling is especially effective for dust control on haul roads and other traffic routes. During summer months, dust control will likely need to be applied daily and constant monitoring will be required. This BMP will be implemented across the entire site but particularly where fine grained soils are exposed, and areas exposed to vehicle traffic.

Installation Schedule:	Throughout the life of the project.
Maintenance and Inspection:	At least every 14 days. Dust control requires constant attention: it is not a one-time or once-in-a-while activity. Dust control sprinkling may have to be done several times a day during hot dry weather. Inspect dust control activities to ensure that dust control water is not creating non-stormwater discharges.
Responsible Staff:	Juston Ekart- JMAC Resources

ELIMINATE TRACKING – BMP #16

BMP Description: The contractor will eliminate or control tracking of sediment from the site through implementation of the following:

- Establish stabilized staging areas
- Sweep hard surfaces exposed to cement products regularly (See BMP #7)
- Control construction traffic using project signs and coordination with project leaders.
- Always keep construction traffic on established roadways.
- If tires become excessively dirty, manually clean mud or dirt from tires with brooms and shovels prior to the equipment exiting the site.
- Only allow equipment and trucks on bare soil when necessary.
- Clean mud and/or dirt tracked into any roadway from the site daily.

Installation Schedule:	Throughout the life of the project.
Maintenance and Inspection:	At least quarterly. All materials collected during street sweeping will be disposed of at an off-site location by the contractor.

Responsible Staff:	Juston Ekart- JMAC Resources

3.2 Numeric Effluent Limitations Based on Effluent Limitations Guidelines (ELGs)

This site is subject to the ELG categories found in the table below.

Regulated Activity	40 CFR Part/Subpart	Effluent Limit
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B, C, or D	See Part 8.J.10

**See Section 3.4 for Water Quality-Based Effluent Limitations and Water Quality Standards.*

The procedures outlined in 3.1.6 Management of Runoff and 3.1.5 Erosion and Sediment Controls will be applied to the areas needing coverage, ensuring all contaminants are contained.

3.3 Water Quality-based Effluent Limitations and Water Quality Standards

The MSGP includes a pH range of 6.0-9.0 standard units, which does not comply with Idaho WQS (IDAPA 58.01.02.250.01.a.) Therefore, numeric effluent limitations and benchmark monitoring concentrations for pH shall be 6.5-9.0 standard units.

3.4 Sector-Specific Non-Numeric Effluent Limits

Sector specific limits are generally described in section 3.1 of this plan. Non-Numeric effluent limits apply to clearing, grading, and excavation activities being conducted as part of the exploration and construction phase of mining activities. The following technology based effluent limits will be implemented as described in sections 8.D.2 & 8.J.4.1 of the MSGP.

1. Management Practices for Clearing, Grading, and Excavation Activities:

   The BMPs described in sections 3.1.1, 3.1.2, 3.1.5, 3.1.6, & 3.1.8 will be implemented prior to clearing to control stormwater runoff from the site.

2. Selecting and installing control measures.

   The BMPs described in sections 3.1.1, 3.1.2, 3.1.5, 3.1.6, & 3.1.8 will be implemented prior to clearing to control stormwater runoff from the site.

3. Good Housekeeping

   Litter, debris, and chemicals must be prevented from becoming a pollutant source in stormwater discharges. See part 3.1.2 above for housekeeping BMPs.

4. Retention and Detention of Stormwater Runoff.

The drainage at this site serves more than one acre. Stormwater diversions are in place currently.

3.4.1 Requirements Applicable to Earth-Disturbing Activities

Stormwater discharges from earth-disturbing activities are covered under the 2021 MSGP. The following technology based effluent limits will be implemented as described in the MSGP.

1. Erosion and sediment control installation requirements:

All operational downgradient sediment controls will be installed prior to the commencement of construction activities. The BMPs described in Section 3.1.5 will be implemented and made operational as soon as conditions on each portion of the site allow.

2. Erosion and sediment control maintenance requirements:

   All erosion and sediment controls will be maintained to remain in effective operation condition. Where a stormwater control needs maintenance to continue operation effectively, efforts to fix the problem will begin immediately and will be completed by the end of the next work day. When a stormwater control must be replaced or significantly repaired, the work must be completed within 7 days, unless infeasible. If 7 days is infeasible, the installation or repair will be completed as soon as practicable.

3. Perimeter controls:

   Clearing limits will be established at the start of the project and will be maintained so that sediment does not accumulate.

4. Sediment track-out:

   Access roads will serve as the site's stabilized entrance for all activities at the site. Additional controls to remove sediment from vehicle and equipment tire prior to exit, will be utilized as necessary.

5. Soil or sediment stockpiles:

   Sediment from stormwater that runs off stockpiles will be minimized by diverting flow around the stockpiles.

6. Minimize dust:

   Dust will be minimized through the appropriate application of water or other dust suppression techniques that minimize pollutants being discharged to surface waters. See Section 3.1.8.

7. Restrictions of treatment chemicals:

   The only treatment chemical used onsite are polymers, which are used as part of the aggregate crusher's clarifier system and will not be used prior to active mining activities. All chemicals will be suited to the soil type, expected turbidity, pH, and flow rate.

8. Stabilization requirements:

   Stabilization measures must be initiated immediately in portions of the site where earth-disturbing activities performed for purposes of mine site preparation have temporarily ceased, but in no case, more than 14 days after such activities have temporarily ceased.

3.4.2 Technology Based Effluent Limits

Employee training will be conducted at the site on an annual basis at the minimum.

Numeric Effluent Limitations Based on Effluent Limitations Guidelines

Reference: MSGP Tables 8.D-3 & 8.J-2		
Industrial Activity	**Parameter**	**Effluent Limit**
Discharges from asphalt emulsion facilities	Total Suspended Solids (TSS)	23.0 mg/L. daily max 15.0 mg/L. 30-day avg.
	pH	6.0 – 9.0 s.u.
	Oil and Grease	15.0 mg/L. daily max
		10 mg/L. 30-day avg.
Mine dewatering discharges at construction sand and gravel and crushed stone mining facilities (SIC 1442-1429)	pH*	6.5-9.0
Mine dewatering discharges at industrial sand mining facilities. (SIC 1446)	Total Suspended Solids (TSS)	25 mg/L, monthly avg.
		45 mg/L, daily maximum
	pH*	6.5-9.0

[1]Monitor annually

SECTION 4: SCHEDULES AND PROCEDURES

4.1 Good Housekeeping

See Section 3.1.2 for itemized good housekeeping procedures. In general, maintaining good housekeeping is an ongoing task that will require daily maintenance. The site superintendent will be responsible for monitoring trash bins and sanitary facilities for maintenance, as needed. All trash bins and sanitary facilities will be emptied in a timely manner. All drums, tanks, and containers on site will be inspected weekly for any potential deterioration or leaks.

4.2 Maintenance

Formal documented quarterly inspections and informal daily observations will determine the need for site maintenance. Maintenance procedures and responsible personnel are outlined in Section 3.1 of this plan.

4.3 Spill Prevention and Response Procedures

The Spill Prevention Response Plan goals are to minimize the potential for hazardous material spills or discharges; to minimize health, safety, and environmental impacts due to hazardous material releases; and to outline and define exact emergency measures to be implemented in the event of a hazardous material spill or discharge. The operator is responsible for administering the Spill Prevention Response Plan.

Hazardous materials are considered to include solid wastes (SW), toxic substance control act (TSCA) regulated materials, resource conservation recovery act (RCRA) wastes, comprehensive environmental response compensation liability act (CERCLA) substances, and petroleum products and wastes.

It is the responsibility of the facility operator to abide by all Occupational and Safety Hazard Administration (OSHA) rules with regards to the storage, application, and use of any hazardous material. OSHA requirements include notification to all emergency agencies and hospitals within the vicinity of the project of the types and amounts of hazardous materials that will be used and applied within the project. Emergency phone numbers will be provided on site and located as required by OSHA.

The objectives of the Spill Prevention and Response Plan are as follows:

1. Minimize hazardous material spill and discharge potential by adherence to state, federal, and local guidelines for hazardous material transportation, transfer, storage, application, and use.
2. Provide emergency information for personnel so that quick and decisive discharge response measures are understood and implemented.
3. Clearly define personnel responsibilities in the event of a spill or discharge and clearly outline notification procedures.
4. Implement spill or discharge response, containment, and clean-up practices to minimize environmental impacts.
5. Educate personnel as to the location and types of hazardous materials on site, demonstrate day-to-day safety procedures to be implemented to reduce spill or discharge potential, and educate personnel about recycling petroleum materials and other hazardous materials. The

use of Material Safety Data Sheets (MSDS) will be kept on site for reference and use. More than 1320 gallons of fuel or other oils will be stored at this facility. A Spill Prevention Control and Countermeasure Plan (SPCCP) should be maintained at the site Once the fuel is transported onsite. The procedures outlined in Section 3.1.4 of this plan will also be followed.

HAZARDOUS MATERIAL MANAGEMENT PRACTICES

The primary spill or discharge hazards associated with transportation, transfer, storage, application, and usage of hazardous materials include, but are not limited to:

- Service truck or container distribution to equipment (i.e. mishandling)
- Service truck tank rupture
- Portable tank valve or hose failure
- Mishandling and misuse of common petroleum products
- Inadequate storage and containment parameters provided for hazardous materials
- Inadequate disposal of hazardous materials
- Petroleum products leaking from construction equipment
- Overall operator carelessness in hazardous material transfer, distribution handling, and usage in general; and poor housekeeping

All of which can result in an unwanted spill or discharge.

All hazardous materials transportation, transfer, storage, application, and usage will occur under the terms of this plan and utilize appropriate containment best management practices described herein. Portable fueling trucks or portable product containers will be compliant with state, federal, and local requirements and follow the manufacturer's specifications for transportation, transfer, and storage. When fueling or using other liquids that may be hazardous, spill kits (i.e. booms, absorbent rags, inert substances such as sand, perlite, zeolite, and/or drip trays) will be readily available in case of a spill. Hazardous material transfer will be completed in a manner that will minimize the potential for a spill or discharge. The following procedures will be followed prior to and during hazardous material transfer, distribution, handling, and usage:

1. All containers will be inspected prior to any use for ruptures, cracks, rust, evidence of leakage, or faulty seals.
2. All containers will be labeled properly to identify the contents and describe hazards as well as cleanup and handling procedures.
3. Transportation and transfer of products will require proper packaging, marking, labeling, and placarding identification.
4. All damaged, worn, or faulty parts will be repaired or replaced prior to using equipment that will be handling, transferring, or distributing the hazardous materials.
5. A tank valve and vent inspection will be completed on the tanker truck prior to transfer and departure, to assure no spills or discharges (including leaks) are present.
6. A tank hose disconnection and drain check will be completed prior to tanker transfer and departure from the fueling or dispensing site. Transfer hoses will be inspected for cracks and ruptures prior to use.
7. Hazardous materials (including portable services) will be dispensed directly to equipment or the intended purpose and will be completed according to state, federal, and the

manufacturer's guidelines. No transfer of hazardous materials to equipment will occur within 150 feet of any watershed, water feature (including irrigation amenities or domestic water sources), or area susceptible to storm water or surface water movement.

Spill containment of possible pollutants described in section 2.1 above consists of:

1. Portable spill prevention pads will be used to fuel and maintain equipment on site.
2. Major maintenance and repairs will be performed at the contractor's yard where proper containment is available and not on site.
3. A spill kit is kept inside the storage van for cleanup of spills from vehicles and equipment at the site.

The following procedures will be followed to ensure "good housekeeping" of all hazardous materials:

1. Only necessary quantities of hazardous materials (i.e. enough to do the job) will be brought to the facility. If a hazardous material is not needed, it will not be brought to the facility.
2. Hazardous materials on site will be stored in a neat and orderly fashion; kept in their original containers with the original manufacturer's label unless un-sealable; and enclosed or covered in a manner that eliminates to the maximum extent exposure to precipitation, storm water, and surface waters.
3. The contractor will inspect the hazardous material containment and spill kits area on a regular basis to ensure proper storage, use, and disposal of hazardous materials.
4. Hazardous materials will not be mixed with one another unless recommended by the manufacturer and will follow the manufacturer's specifications.
5. Whenever possible, all the product will be used up before disposing of containers. If the product cannot be used in entirety, the product will be recycled if possible. Hazardous wastes and unwanted hazardous materials will be disposed of or recycled at an approved licensed off-site hazardous material site in accordance with the manufacturer's specifications and all state and federal regulations.

***Original labels, containers, and material safety data sheets will be retained for use in the event of an emergency**.

EDUCATION AND TRAINING

Any personnel working directly with hazardous materials, including transportation, transfer, storage, application, and usage of hazardous materials will meet federal training requirements. In addition, all personnel will be educated concerning potential areas where a spill or discharge could occur and drainage routes or air-borne routes that could facilitate transport.

Personnel will be trained on how to handle (e.g. safe storage and transfer of products), use/apply (e.g. manufacturers specifications), know the consequences of (e.g. all safety, health, and environmental concerns), and know what do (e.g. proper containment) if there is a discharge of hazardous materials they may use or come in contact with. Personnel will be certified and trained on proper discharge clean up procedures and where the location and types of discharge clean up equipment are stored (e.g. spill kits). The primary emphasis of training is the administration and implementation of safe working habits and skills with the goal of achieving no hazardous

material discharges and, if a discharge does occur, will accordingly lead to minimization of impacts.

EMERGENCY OPERATING PLAN PROCEDURES

The emergency operating plan procedures and SPCCP will follow the existing **local, state and federal guidelines.** All operating procedures from this plan will be enacted in the event of a hazardous material spill or discharge incident. The following is a brief synopsis of procedure and plan details:

1. Determine from a safe distance, the type of hazardous material that was spilled or discharged. Observe packaging, markings, labels, and placards if possible (binoculars may become helpful in such circumstances). Observe weather, topography, and wind directions in relevance to the discharge. Notate the distances between surface waters and nearby amenities such as dwellings, equipment, and buildings, etc.
2. If contaminated, stay away (remain a safe distance) from direct contact with people, equipment, or other amenities to ensure no one else will become contaminated. Communicate from a safe distance to those responsible for initiating containment, decontamination, and clean-up procedures.
3. Do not allow other people to enter an area of contamination. Only those who are trained and certified and who are immediately involved with containment and cleanup will be admitted to the discharge site.

REPORTING SPILL INCIDENTS:

Hazardous material spills will be documented and reported in an incident report to the appropriate local, state, and federal regulatory agencies. Any release of hazardous materials that exceeds standards for a 24-hour period as, set in accordance with the Federal Codes of Regulation, will be reported to the National Response Center (1-800-424-8802, when necessary), immediately upon discovery. The contacted emergency agencies will coordinate the necessary response parameters dependent upon the emergency level. If a spill of any size creates a visible sheen on a tributary to the waters of the US, the spill must be reported.

1. When reporting a spill, to the best of your ability, please be ready with the following information:
    - Where is the spill?
    - What spilled?
    - How much spilled?
    - How concentrated is the spilled material?
    - Who spilled the material?
    - Is anyone cleaning up the spill?
    - Are there resource damages (e.g. dead fish or oiled birds)?
    - Who is reporting the spill?
    - How can we get back to you?

    If a cleanup contractor is required, call:

    Master Environmental

    P.O. Box 208

Meridian, ID 83680
Office: (208) 888-7979
24-Hour: (208) 490-8889

2. Until help arrives:
    - It may be possible to safely conduct containment efforts once communication and assistance have been verified through the Idaho Emergency Management Division;
    - Enter the incident area only when properly trained for the material spill (federal certification may be required) and equipped with appropriate protective clothing and equipment;
    - Render first aid to victims only if the substance is known and safe for responders, or after decontamination has been completed. Be sure to notify medical personnel if any exposure to a hazardous material is suspected;
    - Serve as an on-scene communication point and provide information to other incident responders.
    - Relinquish incident command as soon as possible to the appropriate authorities.
3. Containment and neutralization of spill or discharge will only be done after following all previous emergency procedures.
4. Document through an Incident Report the following:
    - Date and time of incident;
    - Location/area of incident;
    - Weather conditions—including wind direction and whether it is raining/snowing/sunny/cloudy;
    - Description (types and amounts of hazardous materials released) and circumstances that lead to spill or discharge release;
    - Identify the containment and clean up practices used
    - Identify other pertinent information of the surrounding area such as adjacent residencies or discharge points to waters of the United States.
5. After the incident, reassess the emergency response procedures, refine this response plan, and implement better response measures after cleanup.

    The SWPPP will be updated to ensure the incident report becomes a permanent part of the SWPPP. The SWPPP must be revised and adjusted within five calendar days of knowledge of the release to include measures and BMPs to prevent this type of spill or discharge from reoccurring and how to clean up the spill or discharge if there is another incident.

4.4 Erosion and Sediment Control

No polymers or other treatment chemicals will be used to manage erosion and sediment control.

4.5 Employee Training

Training staff and subcontractors is an effective BMP. As with the other steps taken to prevent stormwater contamination at the site, document the training conducted for your staff, for those with specific stormwater responsibilities (e.g. installing, inspecting, and maintaining BMPs.)

Individual(s) Responsible for Training:

Name:	Juston Ekart- JMAC Resources
Address:	PO Box 760
City, State, Zip:	Caldwell, ID 83606
Telephone:	(208) 506-2952
Email address:	JustonE@JMACResources.com

Training topics planned will include, but will not be limited to, the following:

1. Erosion control BMP installation and maintenance
2. Identifying potential for stormwater discharge
3. Non-stormwater discharges
4. Dust control practices
5. Spill prevention control and containment
6. Temporary and Final stabilization

Training activities will be recorded and kept as part of the SWPPP. Complete a Training Log located in Appendix G and keep completed Training Logs in same Appendix. Training Logs must include date of the training, number and names of attendees, subjects covered, and length of training.

4.6 Inspections and Assessments

Two types of inspections are required at the site:

- Routine Quarterly facility inspections (2021 MSGP, Part 4.6.1);
- Quarterly visual assessment of stormwater discharges (2021 MSGP, Part 4.6.2); and

Site inspections must be conducted by qualified personnel. At least one member of the site's stormwater pollution prevention team must participate in each site inspection, either by performing the inspection personally or reviewing the sample results and filing the report. For this site, Juston Ekart or Syman, LLC will conduct all inspections.

Inspections during stripping must include all areas of the site disturbed by clearing, grading, and/or excavation activities and areas used for storage of materials that are exposed to precipitation. Implemented sedimentation and erosion control measures must be observed to ensure proper operation. Locations where vehicles enter or exit the site must be inspected for evidence of significant off-site sediment tracking.

For each inspection during stripping, you must complete an inspection report. At a minimum, the inspection report must include the information required in MSGP Part 3.1.

Inspections and maintenance of control measures, including any BMPs, associated with clearing, grading, and/or excavation activities being conducted as part of the exploration and construction phase of a mining operation must continue until final stabilization has been achieved on all portions of the disturbed area or until the commencement of the active mining phase for those areas that have been temporarily stabilized as a precursor to mining.

4.6.1 Routine Facility Inspections

Routine facility inspections of the site will be performed quarterly, unless otherwise directed by IDEQ or EPA Region 10. At least once each calendar year, the routine inspection must be conducted during a period when a stormwater discharge is occurring. The inspections will verify that all BMPs required in Section 2 and 3 are implemented, effectively minimizing erosion and preventing stormwater contamination from industrial activities. Perform a walk-through inspection prior to known storm events to be sure BMPs are properly installed prior to runoff resulting from the storm. After storm events, remove any accumulated sediment and assess if BMPs need to be modified prior to the next storm event.

If corrective actions are identified by site inspections, during the inspection the deficiency will be recorded and reported. The corrected deficiency will be noted on the subsequent quarterly inspection report. The addition or modification of BMPs must also be documented in a manner similar to the regular inspections.

If a site inspection finds deficiencies in the SWPPP and BMPs specified, then revisions or additions to the SWPPP must be made within 7 calendar days of the inspection. Modified BMPs need to be in place before the next storm event, or as soon as possible, and at least within 7 calendar days of the inspection.

A copy of the inspection form is in Appendix D.

In addition to inspection reports, the following documentation must be available in their entirety during normal business hours.

- The latest revision of this plan tailored to current site conditions.
- Documentation of inspections, including completed inspection report forms.
- Documentation identifying the person responsible for stormwater compliance at the site.

Inspection reports must be completed for each inspection conducted and include the following;

1. The date and time of the inspection.
2. Names, titles, and qualifications of the personnel making the inspection.
3. Weather information
4. All observations relating to the implementation of stormwater control measures at the facility, including:
    a. A description of any stormwater discharges occurring at the time of the inspection;
    b. Any previously unidentified stormwater discharges from and/or pollutants at the facility;
    c. Any evidence of, or the potential for, pollutants entering the stormwater drainage system;
    d. Observations regarding the physical condition of and around all stormwater discharge points, including any flow dissipation devices, and evidence of pollutants in discharges and/or the receiving water;

e. Any stormwater control measures needing maintenance, repairs, or replacement;
f. Any additional stormwater control measures needed to comply with the permit requirements.

5. Any incidents of noncompliance observed.
6. A statement, signed and certified in accordance with Appendix B, Subsection 11 of the MSGP.

4.6.2 Quarterly Visual Assessment of Stormwater Discharges

This facility does not have a concentrated stormwater discharge. Stormwater will infiltrate through the pit floor or will be discharged from the site with dewatered groundwater. A stormwater sample will be collected once each quarter for the entire permit term, in such a manner that the samples are representative of the stormwater discharge

Once each quarter for the entire permit term, you must collect a stormwater sample from each outfall (except as noted in MSGP Section 3.2.4) and conduct a visual assessment of each of these samples. These samples should be collected in such a manner that the samples are representative of the stormwater discharge.

The visual assessment must be made:

1. Of a sample in a clean, clear glass, or plastic container, and examined in a well-lit area;
2. On samples collected within the first 30 minutes of an actual discharge from a storm event. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample must be collected as soon as practicable after the first 30 minutes and you must document why it was not possible to take samples within the first 30 minutes. In the case of snowmelt, samples must be taken during a period with a measurable discharge from your site; and
3. For storm events, on discharges that occur at least 72 hours (3 days) from the previous discharge. The 72-hour (3-day) storm interval does not apply if you document that less than a 72-hour (3-day) interval is representative for local storm events during the sampling period.

You must visually inspect the sample for the following water quality characteristics:

- Color
- Odor
- Clarity
- Floating solids
- Settled solids
- Suspended solids
- Foam
- Oil sheen
- Other obvious indicators of stormwater pollution

You must document the results of your visual assessments and maintain this documentation onsite with your SWPPP, as required in MSGP Section 6.5. You are not required to submit your

visual assessment findings to EPA unless specifically requested to do so. At a minimum, your documentation of the visual assessment must include:

1. Sample location(s)
2. Sample collection date and time and visual assessment date and time for each sample;
3. Personnel collecting the sample and performing visual assessment and their signatures
4. Nature of the discharge (i.e., runoff or snowmelt)
5. Results of observations of the stormwater discharge
6. Probable sources of any observed stormwater contamination
7. If applicable, why it was not possible to take samples within the first 30 minutes
8. A statement, signed and certified in accordance with Appendix B, Subsection 11

Any corrective action required as a result of a quarterly visual assessment must be performed and documented.

Visual Assessment Information:

1. Person(s) responsible for assessments: Justone Ekart -JMAC Resources, or Alexia Berlanda - Syman, LLC
2. Schedules for conducting assessments: Assessments will be conducted quarterly, with visual assessments conducted as necessary with irregular stormwater discharges.
3. Specific assessment activities:
    a. Sampling equipment: Extech Instruments PH100.
    b. Discharge Points: Outfall 001
    c. Documentation: Any additional documentation can be found in Appendix D

4.6.3 Exception to Routine Facility Inspections and Quarterly Visual Assessments for Inactive and Unstaffed Sites

If you are invoking the exception for inactive and unstaffed sites relating to routine facility inspections and/or quarterly visual assessments, you must include documentation to support your claim that your facility has changed its status from active to inactive and unstaffed.

☐ **This site is inactive and unstaffed, and has no industrial materials or activities exposed to stormwater, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii) as signed and certified in Section 7 below.**

4.7 Monitoring

Check the following monitoring activities applicable to your facility:

☒Indicator monitoring
☒Benchmark monitoring
☒Effluent limitations guidelines monitoring
☐State- or tribal-specific monitoring
☐Impaired waters monitoring
☐Other monitoring required by EPA
☐Other monitoring required by IDEQ

The monitoring requirements begin in the first full quarter following the current date of discharge authorization, whichever date comes later. The monitoring quarters are defined as:

January 1st through March 31st
April 1st through June 30th
July 1st through September 30th
October 1st through December 31st

This SWPPP will include the following information for each monitoring checked above:

1. Sample Locations.
2. Pollutants Sampled.
3. Monitoring Schedules.
4. Numeric Limitations.
5. Procedures.

☐ **This site is inactive and unstaffed, and has no industrial materials or activities exposed to stormwater, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii) as signed and certified in Section 7 below.**

Exception for Substantially Identical Discharge Points (SIDP)

This site does not contain a SIDPs, but may in the future.

- Location of SIDP:
  N/A
- General industrial activities discharge:
- Control measures at discharge point:
- Pollutants from stormwater discharge:
- Runoff coefficient estimate of discharge (low=<40%; medium=40-65%; High=>65%):
- Why discharge is expected to be identical effluents:

4.7.1 Indicator Monitoring

Indicator monitoring is not required for the industrial activities at this site related to Sector J.

INDICATOR MONITORING	
Sample Location(s):	Site does not regularly discharge. Indicator monitoring is not required for the industrial activities at this site. Should the activities change, and indicator monitoring be needed, the following will apply and this document will be updated.
Pollutants to Be Sampled:	Sector D: Polycyclic Aromatic Hydrocarbons (PAHs)

	Monitoring is required for the 16 individual PAHs identified in Appendix A to 40 CFR Part 423. naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene, indeno[1,2,3-c,d]pyrene, and dibenz[a,h]anthracene. Samples must be analyzed using EPA Method 625.1, or EPA Method 610/Standard Method 6440B if preferred by the operator, consistent with 40 CFR Part 136 analytical methods.
Monitoring Schedule:	Indicator monitoring for PAH must be conducted bi-annually, in the first and fourth year of permit coverage as identified in MSGP Part 4.2.1. As described above, the indicator monitoring will be performed if a sample can be collected for that specific quarter.
Numeric Limitations:	Indicator monitoring parameters are "report-only" and do not have thresholds or baseline values for comparison.
Procedures:	1. Select a point at the discharge location and collect water using a jar or bottle provided by Analytical Laboratories. 2. Remove lid from container and fill. Replace lid tightly. Keep samples as cool as possible. 3. Fill out information form as completely as possible. Include the water system name, number, sample type. **The location needs to be included for documentation in this SWPPP.** 4. **IMPORTANT:** Deliver sample to the lab within 48 hours after sampling. If the sample exceeds 48 hours upon final arrival in the lab, the sample will be declared invalid and discarded. 5. Collect a sample in identical fashion for TSS analysis. Collect a separate sample in a separate jar or bottle as required by Analytical Labratories. Obtain Chain of Custody form and remit samples to: Analytical Laboratories, Inc. 10804 N. 33rd. St. Boise, Idaho 83703 **Phone:** 208-342-5515 **Fax:** 208-342-5591 *Note that the lab is not open on Sunday or Holidays.*

4.7.2 Quarterly Benchmark Monitoring

QUARTERLY BENCHMARK MONITORING	
Sample Location(s):	If there are discharge locations along the perimeter for the site, take discharge samples and note on the site plans in Appendix A the location of the discharge.
Pollutants to Be Sampled:	See 2021 MSGP Table 4-2 below
Monitoring Schedule:	Benchmark monitoring must be conducted quarterly, as identified in MSGP Part 4.2.2, for 4 full quarters of year one permit coverage and 4 full quarters of year 4 of permit coverage. Facilities in climates with irregular stormwater runoff, as described in Part 4.2.2.4, may modify this quarterly schedule provided that this revised schedule is reported to EPA when the first benchmark sample is collected and reported, and that this revised schedule is kept with the facility's SWPPP as specified in the MSGP Part 6. If no sample can be collected, this needs to be documented and reported on the quarterly visual assessment form and routine facility inspection report.
Numeric Limitations:	Benchmark thresholds are in 2021 MSGP Table 4-2 below
Procedures:	1. Select a point at the discharge location and collect water using a jar or bottle provided by Analytical Laboratories. 2. Remove lid from container and fill. Replace lid tightly. Keep samples as cool as possible. 3. Fill out information form as completely as possible. Include the water system name, number, sample type. **The location needs to be included for documentation in this SWPPP.** 4. **IMPORTANT:** Deliver sample to the lab within 48 hours after sampling. If the sample exceeds 48 hours upon final arrival in the lab, the sample will be declared invalid and discarded. 5. Collect a sample in identical fashion for the other monitoring parameters. Collect a separate sample in a separate jar or bottle for each test if required by the laboratory. 6. Test the pH of one of the samples in the field at the time of sampling with a pH meter. Record the Temperature and pH. Obtain Chain of Custody form and remit samples to:

Analytical Laboratories, Inc.
10804 N. 33rd. St.
Boise, Idaho 83703
Phone: 208-342-5515
Fax: 208-342-5591
Note that the lab is not open on Sunday or Holidays.

After collection of 4 quarterly samples, if the average of the 4 monitoring values for any parameter exceeds the benchmark, or if a single sample, or sum of samples, exceed the benchmark threshold by more than four times for a parameter, the Additional Implementation Measures (AIM) response procedures will be followed as listed in section 6.2 of this SWPPP.

If the average of the 4 monitoring values for any parameter has not shown an exceedance of the benchmark, benchmark monitoring may be discontinued until monitoring resumes in year 4 of permit coverage, or for the remainder of the permit if all benchmark monitoring has been fulfilled.

Reference: 2021 MSGP Table 4-2		
Pollutant		**2021 MSGP Benchmark Threshold**
Total Recoverable Aluminum (T)		1,100 µg/L
Total Recoverable Beryllium		130 µg/L
Biochemical Oxygen Demand (5-day)		30 mg/L
pH		6.0 – 9.0 s.u.
Chemical Oxygen Demand		120 mg/L
Total Phosphorus		2.0 mg/L
Total Suspended Solids (TSS)		100 mg/L
Nitrate and Nitrite Nitrogen		0.68 mg/L
Turbidity		50 NTU
Total Recoverable Antimony		640 µg/L
Ammonia		2.14 mg/L
Total Recoverable Cadmium	Freshwater [1]	1.8 µg/L
	Saltwater	33 µg/L
Total Recoverable Copper	Freshwater	5.19 µg/L
	Saltwater	4.8 µg/L
Total Recoverable Cyanide	Freshwater	22 µg/L
	Saltwater	1 µg/L
Total Recoverable Mercury	Freshwater	1.4 µg/L
	Saltwater	1.8 µg/L
Total Recoverable Nickel	Freshwater [1]	470 µg/L

	Saltwater	74 µg/L
Total Recoverable Selenium	Freshwater	1.5 µg/L for still/standing (lentic) waters 3.1 µg/L for flowing (lotic) waters
	Saltwater	290 µg/L
Total Recoverable Silver	Freshwater [1]	3.2 µg/L
	Saltwater	1.9 µg/L
Total Recoverable Zinc	Freshwater [1]	120 µg/L
	Saltwater	90 µg/L
Total Recoverable Arsenic	Freshwater [1]	150 µg/L
	Saltwater	69 µg/L
Total Recoverable Lead	Freshwater [1]	82 µg/L
	Saltwater	210 µg/L

4.7.3 ELG Monitoring

EFFLUENT LIMITATION GUIDELINE MONITORING		
Sample Location(s):	Outfall 001 - If discharge is needed, clean water that has passed through the ponds to allow for settling will be discharged to the Riverside Canal described in section 1.1.	
Pollutants To Be Sampled:	pH, Total Suspended Solids (TSS), oil, and grease	
Monitoring Schedule:	Effluent limitation guideline monitoring must be conducted annually, as identified in MSGP Part 4.2.3. Monitoring will be conducted at the point of dewatering water discharge where the irrigation ditch leaves the site.	
Numeric Limitations:	pH	6.0 – 9.0
	TSS	25 mg/L monthly average
		45 mg/L daily maximum
	Oil and Grease	15 mg/L. daily maximum
		10 mg/L. 30-day avg.
Procedures:	1. Select a point at the discharge location and collect water using a jar or bottle provided by Analytical Laboratories. 2. Remove lid from container and fill. Replace lid tightly. Keep samples as cool as possible.	

	3. Fill out information form as completely as possible. Include the water system name, number, sample type. **The location needs to be included for documentation in this SWPPP.** 4. **IMPORTANT:** Deliver sample to the lab within 48 hours after sampling. If the sample exceeds 48 hours upon final arrival in the lab, the sample will be declared invalid and discarded. 5. Before sealing the sample test the water for pH using a portable pH meter. Record the temperature and pH at the time of the test. Obtain Chain of Custody form and remit samples to: Analytical Laboratories, Inc. 10804 N. 33rd Street Boise, Idaho 83703 **Phone:** 208-342-5515 **Fax:** 208-342-5591 *Note that the lab is not open on Saturday, Sunday or Holidays.*

If any effluent limitation monitoring value exceeds a numeric effluent limitation, the exceedance will be indicated with a "Change NOI" form using the NPDES eReporting Tool (NeT). Additionally, the operator will conduct follow-up monitoring within 30 calendar days (or during the next qualifying runoff event, should none occur within 30 days) of implementing corrective action(s) taken per Part 5of the 2021 MSGP.

If follow-up monitoring exceeds the applicable effluent limitation the operator will:

- Submit an exceedance report no later than 30 days after receiving laboratory results.
- Continue to monitor, at least quarterly, until the discharge is in compliance with the effluent limit or until EPA waives the requirement for additional monitoring. Once the discharge is back in compliance with the effluent limitation, it will be indicated on a "Change NOI" form.

4.7.4 State- or tribal-specific monitoring

At the time of writing this SWPPP, the state of Idaho does not require any additional monitoring to be performed and will defer to the 2021 MSGP.

This site will not affect any tribal lands and will not require any additional monitoring.

4.7.5 Impaired waters monitoring

At the time of writing this SWPPP, there are no impaired waterways near the facility and no additional monitoring will be required.

IMPAIRED WATERS GUIDELINE MONITORING	
Sample Location(s):	• Outfall 001 as shown on the site map, appendix A
Pollutants To Be Sampled:	E. Coli, Chlorpyrifos, & Total Suspended Solids (TSS),
Monitoring Schedule:	Impaired waters monitoring must be conducted annually, as identified in MSGP Part 4.2.5.1. If no sample can be collected, this needs to be documented and reported on in the Annual Report and routine facility inspection report.
Procedures:	1. Select a point at the discharge location and collect water using a jar or bottle provided by Analytical Laboratories. 2. Remove lid from container and fill. Replace lid tightly. Keep samples as cool as possible. 3. Fill out information form as completely as possible. Include the water system name, number, sample type. **The location needs to be included for documentation in this SWPPP.** 4. **IMPORTANT:** Deliver sample to the lab within 48 hours after sampling. If the sample exceeds 48 hours upon final arrival in the lab, the sample will be declared invalid and discarded. 5. Before sealing the sample test the water for pH using a portable pH meter. Record the temperature and pH at the time of the test. Obtain Chain of Custody form and remit samples to: Analytical Laboratories, Inc. 10804 N. 33rd Street Boise, Idaho 83703 **Phone:** 208-342-5515 **Fax:** 208-342-5591 *Note that the lab is not open on Saturday, Sunday or Holidays.*

SECTION 5: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS

5.1 Documentation Regarding Endangered Species

Criterion A - No listed species of critical habitat are in the action area.

Idaho Department of Fish and Game responded with "no comments on the proposal" when the project was being reviewed by the Idaho Department of Lands. Based on the data from Idaho Fish and Game, as well as the project's attached Information, Planning, and Conservation System Report (IPaC Report), there are no records of any federally listed threatened or endangered species, state sensitive species, or critical habitats within or immediately adjacent to the proposed project action area. The official species list from the IPaC Report website is available for review in Appendix H of this SWPPP.

A Species Diversity Database Shape file was downloaded from the Idaho Fish and Wildlife Information System (IFWIS). This Shape file contains county/site-specific information on observed locations of species with special conservation status. An endangered/sensitive species map has been created showing the project site location. Also on this map, from the center of the site and out to a radius of one mile all noted species observed from current date to ten years back from the IFWIS.

The site's action area is as follows:

Appendix A shows the perimeter of all waterbodies within one mile of the site. The perimeter of the property has a 10-15 foot surrounding berm. It is unlikely that any storm water will leave the facility.

5.2 Documentation Regarding Historic Properties

Criterion B - Subsurface stormwater controls will not affect historic properties

SECTION 6: CORRECTIVE ACTIONS AND ADDITIONAL IMPLIMENTATION MEASURES

6.1 Corrective Actions

If any of the following conditions occur or are detected during an inspection, monitoring or other means, or EPA or the operator of the MS4 through which you discharge informs you that any of the following conditions have occurred, you must review and revise, as appropriate, your SWPPP (e.g., sources of pollution; spill and leak procedures; non stormwater discharges; the selection, design, installation and implementation of your stormwater control measures) so that this permit's effluent limits are met and pollutant discharges are minimized:

1. An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit to the water of the United States) occurs at your facility;
2. A discharge violates a numeric effluent limit;
3. Your stormwater control measures are not stringent enough for your stormwater discharge to be controlled as necessary such that the receiving water of the United States will meet applicable water quality standards or to meet the non-numeric effluent limits in this permit.;
4. A required control measure was never installed; was installed incorrectly, or not in accordance with Parts 2 and/or 8; or is not being properly operated or maintained.
5. Whenever a visual assessment shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam).

If construction or a change in design, operation, or maintenance at your facility occurs that significantly changes the nature of pollutants discharged via stormwater from your facility, or significantly increases the quantity of pollutants discharged, you must review your SWPPP (e.g., sources of pollution, spill and leak procedures, non-stormwater discharges, selection, design, installation and implementation of your stormwater control measures) to determine if modifications are necessary to meet the effluent limits in this permit.

6.1.1 Corrective Action Deadlines

Actions must be taken immediately to perform reasonable steps to minimize or prevent the discharge of pollutants until you can implement a permanent solution, including cleaning up any contaminated surfaces so that the material will not discharge in subsequent storm events.

If additional actions are necessary beyond those implemented pursuant to Part 5.1.3.1, you must complete the corrective actions (e.g., install a new or modified control and make it operational, complete the repair) before the next storm event if possible, and within 14 calendar days from the time of discovery that the condition in Part 5.1.1 is not met. If it is infeasible to complete the corrective action within 14 calendar days, you must document why it is infeasible to complete the corrective action within the 14-day timeframe. You must also identify your schedule for completing the work, which must be done as soon as practicable after the 14-day timeframe but no longer than 45 days after discovery. If the completion of corrective action will exceed the 45-day timeframe, you may take the minimum additional time necessary to complete the corrective action, provided that you notify the appropriate EPA Regional Office of your intention to exceed

45 days, your rationale for an extension, and a completion date, which you must also include in your corrective action documentation (see Part 5.3). Where your corrective actions result in changes to any of the controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within 14 calendar days of completing corrective action work.

6.2 Additional Implementation Measures (AIM)

If an annual average discharge samples exceeds an applicable benchmark threshold, either by an average sum of monitoring samples or a single sample exceedance, by more than four times for a parameter, the AIM requirements have been triggered for that benchmark parameter and the following AIM-level response procedures will apply in accordance with MSGP Parts 5.2.3, 5.2.4, 5.2.5, and 5.2.6.

- AIM Level 1:
  - Review the selection, design, installation, and implementation of all control measures to determine if modifications are necessary to meet the benchmark threshold for the applicable parameter.
  - Implement additional measures that would reasonable be expected to bring your exceedances below the parameter's benchmark threshold. If it is determined that nothing further needs to be done to the stormwater control measures, documentation must be included in the annual report as to why the existing control measures bring the exceedances below the parameter's benchmark for the next 12-month period.
  - Any additional control measures must be implemented within 14 days of receiving laboratory results. If a 14 day timeframe is infeasible, it must be documented why it is infeasible and be implemented within 45 days.
  - After responses above are completed and the exceedance has been reduced below the benchmark threshold, return to baseline status and quarterly benchmark monitoring. If the exceedance remains above the benchmark threshold, advance to AIM Level 2.
- AIM Level 2:
  - Review the SWPPP and implementation of additional pollution prevention/good housekeeping measures beyond what was done in AIM Level 1. Make modifications to meet the benchmark threshold for the applicable parameter.
  - Any additional control measures must be implemented within 14 days of receiving laboratory results. If a 14 day timeframe is infeasible, it must be documented why it is infeasible and be implemented within 45 days.
  - After responses above are completed, benchmark monitoring must be conducted for the next 4 quarters for the parameter that caused the AIM triggering event at all affected discharge points, beginning at the next full quarter after compliance. If the exceedance has been reduced below the benchmark threshold, return to baseline status and quarterly benchmark monitoring. If the exceedance remains above the benchmark threshold, advance to AIM Level 3.
- AIM Level 3:

- Install permanent controls (e.g., permanent cover, berms, and/or secondary containment), and/or treatment controls (e.g., sand filters, hydrodynamic separators, oil-water separators, retention ponds, and infiltration structures) appropriate to the for the pollutants that triggered AIM Level 3.
- Establish the schedule for installing appropriate structural source and/or treatment stormwater control measures within 14 days and install the selected measures within 60 days. If a 60 day timeframe is infeasible, it must be documented why it is infeasible and be implemented within 90 days. If the installation will take longer than 90 days, the EPA must be contacted for an extension.
- After responses above are completed, benchmark monitoring must be conducted for the next 4 quarters for the parameter that caused the AIM triggering event at all affected discharge points, beginning at the next full quarter after compliance. If the exceedance has been reduced below the benchmark threshold, return to baseline status and quarterly benchmark monitoring. If the exceedance remains above the benchmark threshold, continue benchmark monitoring at AIM Level 3. If the exceedance continues, the EPA may require an individual permit.

In the event that the exceedance is triggered by one of the events in the list below and a review of the control measures is performed, documentation may be recorded and submitted as an AIM exemption and this site will not be required to comply with the AIM responses.

- Natural background pollutant levels exceed benchmark threshold.
- Run-on from a neighboring source is causing the exceedance.
- An abnormal event triggered the exceedance.
- Exceedance of benchmark threshold does not result in an exceedance of water quality standards.

6.3 Corrective Action and AIM Documentation

Documentation within 24 hours:

Document the existence of any of the conditions Corrective Actions that require SWPPP review and revision (MSGP 5.1.1) or AIM Level 1, 2, or 3 (MSGP 5.2.3, 5.2.4, or 5.2.5) within 24 hours of becoming aware of such condition. You are not required to submit this documentation to EPA, unless specifically required or requested to do so. However, you must summarize your findings in the annual report per Part 7.4. Include the following information in your documentation:

1. Description of the condition or event triggering the need for corrective action review and/or AIM response. For any spills or leaks, include the following information: a description of the incident including material, date/time, amount, location, and reason for spill, and any leaks, spills or other releases that resulted in discharges of pollutants to waters of United States, through stormwater or otherwise.
2. Date the condition/triggering event was identified
3. Description of immediate actions taken pursuant to Part 5.1.3.1 to minimize or prevent the discharge of pollutants. For any spills or leaks, include response actions, the date/time clean-up completed, notifications made, and staff involved. Also include any measures taken to prevent the reoccurrence of such releases (see Part 2.1.2.4); and

4. A statement, signed and certified in accordance with Appendix B, Subsection ll.

Documentation within 14 days:

Document the corrective actions and/or AIM responses you took or will take as a result of the conditions listed in Part 5.1.1, 5.2.3, 5.2.4, and/or 5.2.5 within 14 days from the time of discovery of any of those conditions/triggering events. Provide the dates when you initiated and completed (or expect to complete) each corrective action and/or AIM response. If infeasible to complete the necessary corrective actions and/or AIM responses within the specified timeframe, per Parts 5.1.1, 5.2.3, 5.2.4, or 5.2.5, you must document your rationale

If a violation should occur at a substantially similar discharge location with reduced monitoring, a corrective action is required at each of the similar discharge locations.

SECTION 7: SWPPP CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

SECTION 8: SWPPP MODIFICATIONS

All SWPPP modifications will be tracked in Appendix F.

SECTION 9: SWPPP AVAILABLITY

The current SWPPP will be kept onsite, along with the current NOI, in a publicly accessible location.

SWPPP APPENDICIES

Appendix A – Site Maps

Appendix B – 2021 MSGP

Appendix C – Notice of Intent

Appendix D – Inspection Forms and Reports

Appendix E – EPA Annual Reporting Form

Appendix F – SWPPP Amendment Log

Appendix G – Training Log

Appendix H – Endangered Species / Cultural Resources

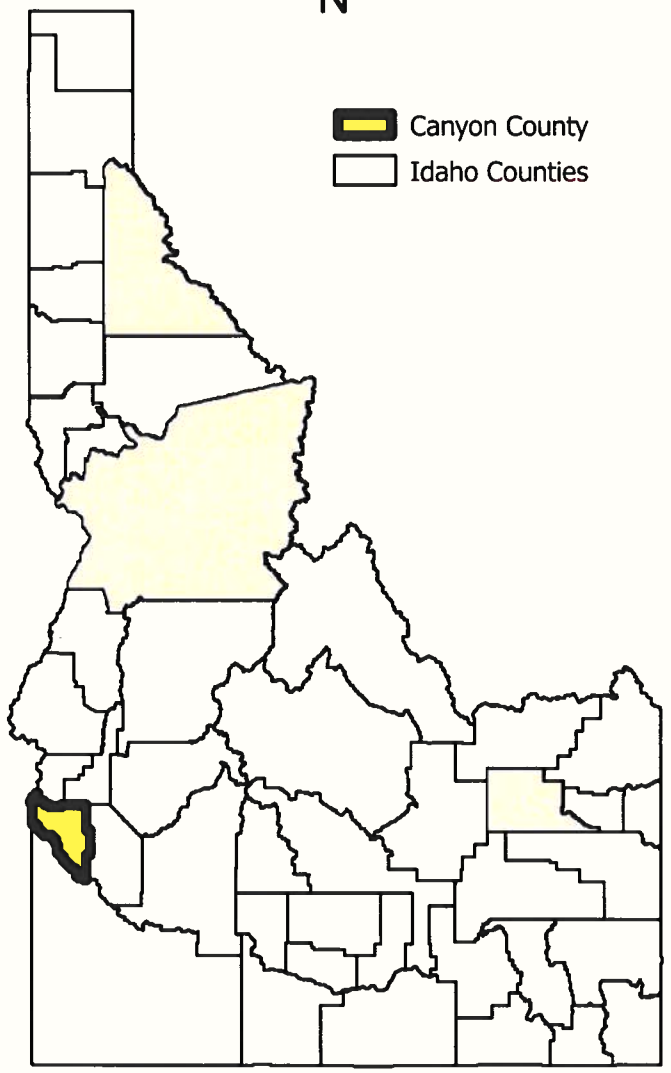
Appendix I – Environmental / Historical Documents

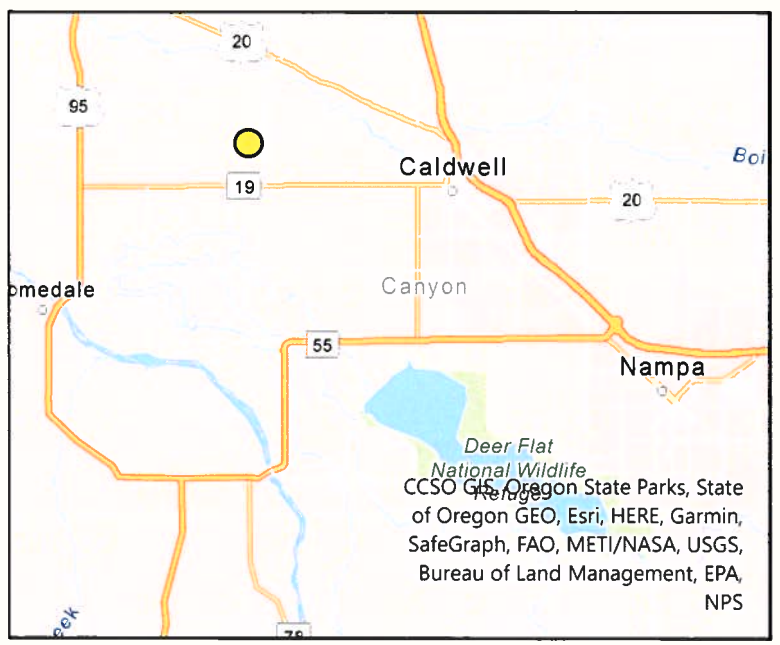
Appendix J – Additional MSGP Documentation

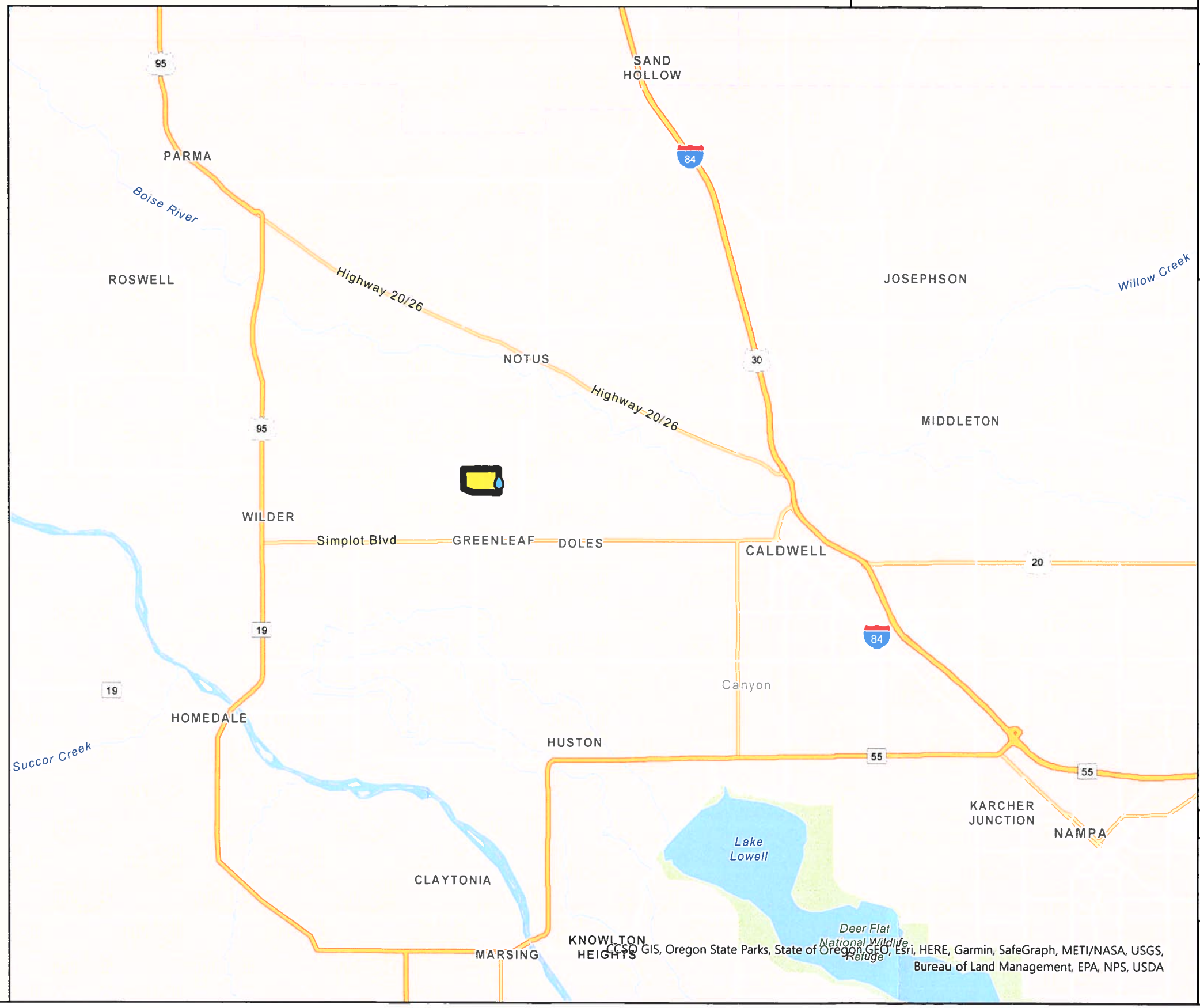
Appendix A – General Location and Site Maps

REDMON PIT

N







SYMAN
2101 DELTA DRIVE
NAMPA, IDAHO 83687
PHONE (208) 287-8420

SYMAN
Erosion & Sediment Control

VICINITY MAP
REDMON PIT
21225 NOTUS ROAD
GREENLEAF, CANYON, IDAHO
JMAC RESOURCES

FILE NUMBER
221117

DESIGNED BY
A. BERLANDA
CARTOGRAPHY BY
A. KARTCHNER
DATE
DECEMBER 2022

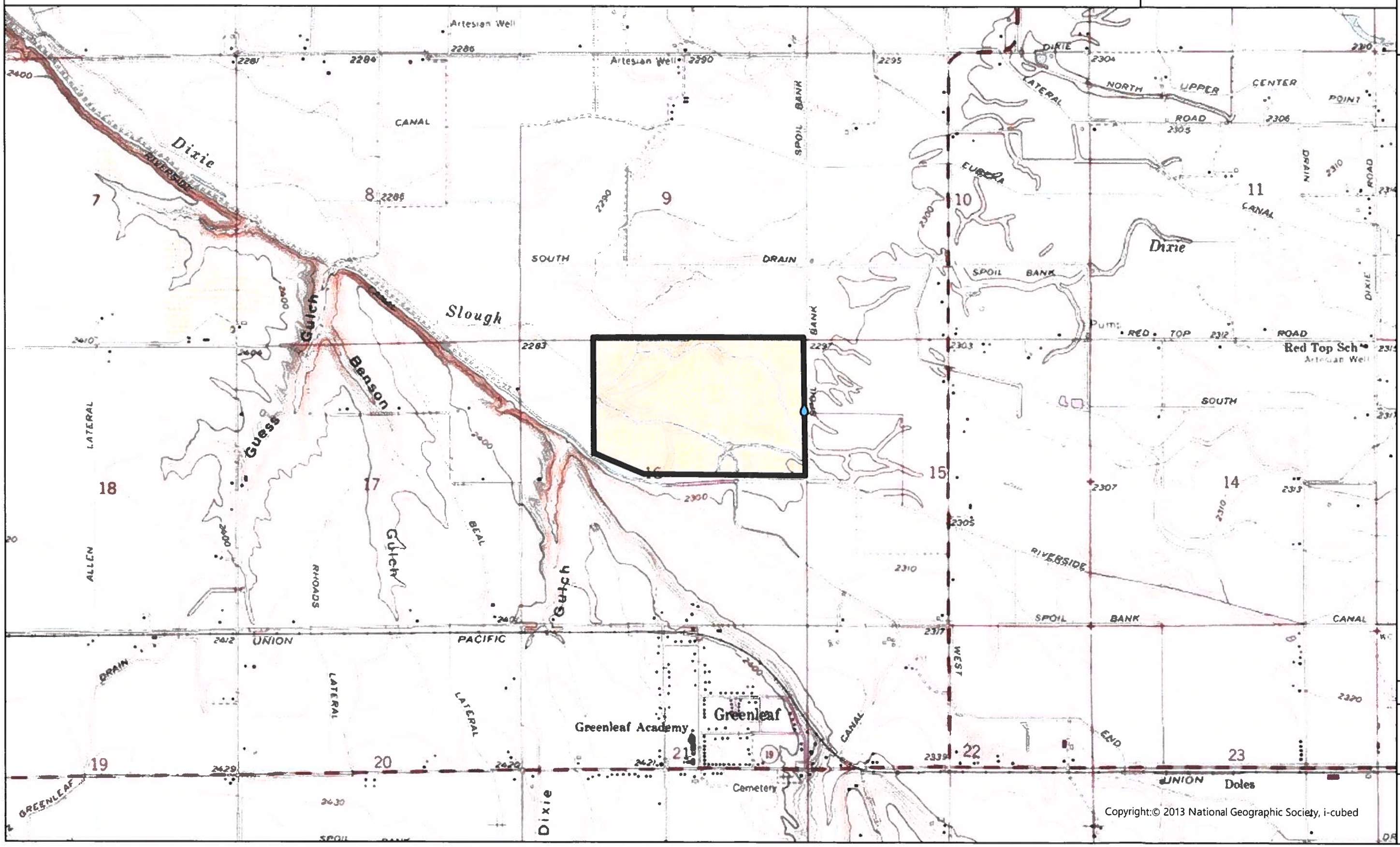
FIGURE 1

1 OF 3

TOPOGRAPHIC MAP

N

Outfall
Project Location



SYMAN
2101 DELTA DRIVE
NAMPA, IDAHO 83687
PHONE (208) 287-8420

SYMAN
Erosion & Sediment Control

TOPOGRAPHIC MAP
REDMON PUT
21225 NOTUS ROAD
GREENLEAF, CANYON, IDAHO
JMAC RESOURCES

FILE NUMBER
221117

DESIGNED BY
A. BERLANDA
CARTOGRAPHY BY
A. KARTCHNER
DATE
DECEMBER 2022

FIGURE 2

2 OF 3

ONE MILE RADIUS SURFACE WATERS MAP
IDEQ FINAL 2022 §305(B) INTEGRATED REPORT

N

Outfall
Project Location
1-Mile Radius
Waterway Status
Tier 2
Not Assessed
Impaired
Tribal Waters N/A

SYMAN
2101 DELTA DRIVE
NAMPA, IDAHO 83687
PHONE (208) 287-8420

SYMAN Erosion & Sediment Control

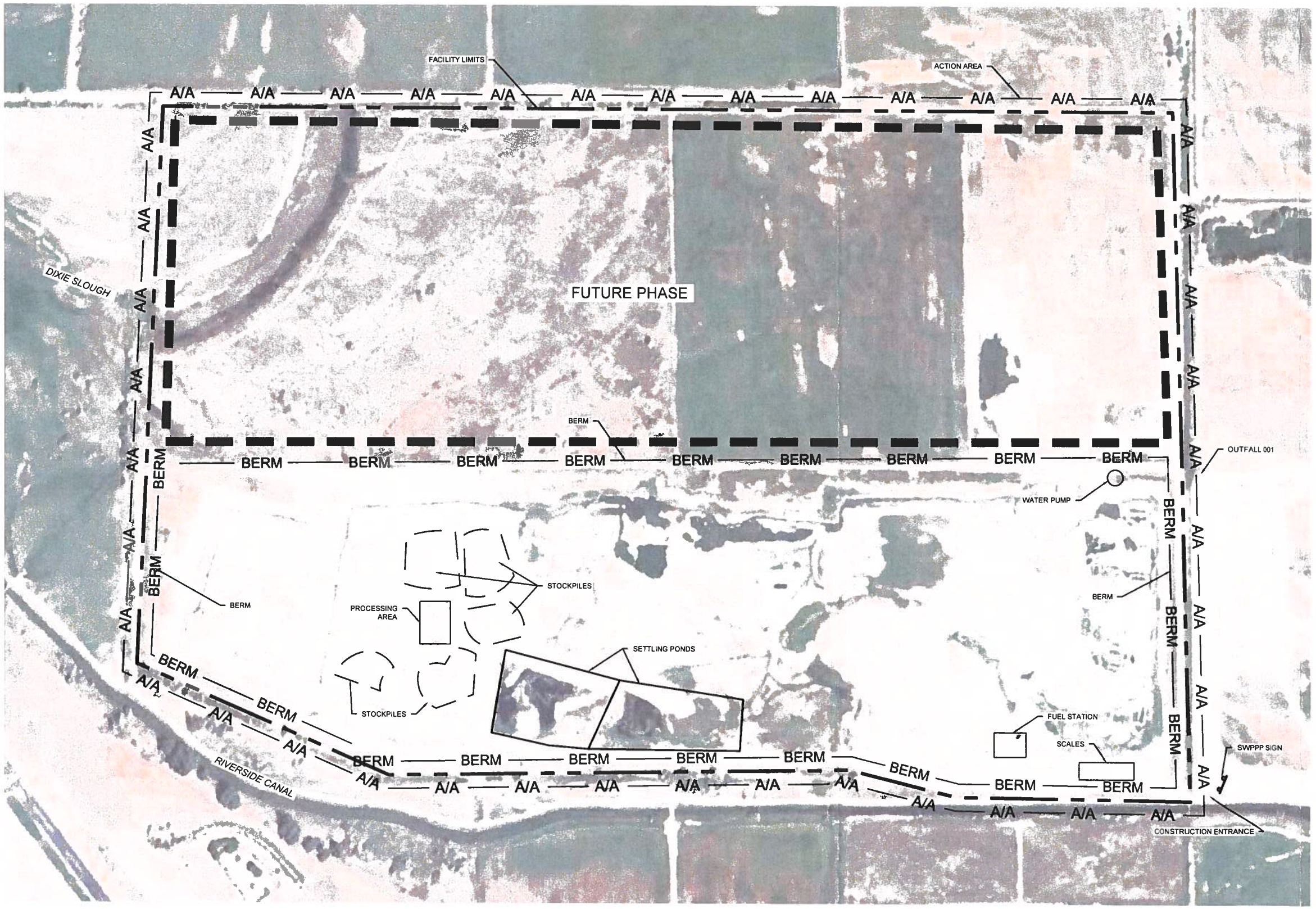
ONE MILE RADIUS SURFACE WATERS MAP
REDMON PIT
21225 NOTUS ROAD
GREENLEAF, CANYON, IDAHO
JMAC RESOURCES

FILE NUMBER
221117

DESIGNED BY
A. BERLANDA
CARTOGRAPHY BY
A. KARTCHNER
DATE
DECEMBER 2022

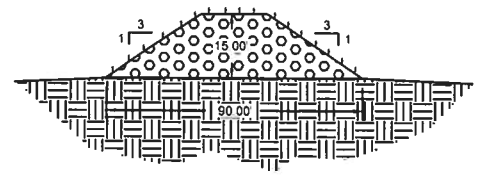
FIGURE 3

3 OF 3



LEGEND

1	FACILITY LIMITS	
2	PROPERTY LINE	P/L
3	PHASING	
4	STOCKPILE / STORAGE	
5	PARKING	
6	UNIT AREA	
7	CANAL / DITCH	
8	EDGE OF POND	
9	STRUCTURES	
10	ACTION AREA	A/A
11	BERM	



A1 BERM DETAIL
NTS

FACILITY POLLUTION CONTROL PLAN

1:200 (22x34 FULL SIZE)

200 100 0 200 600
(SCALE IN FEET)

SYMAN, LLC
2101 Delta Drive
Nampa, Idaho 83687
Phone (208) 287-8420

SYMAN

FACILITY POLLUTION CONTROL PLAN
REDMON PIT
NOTUS ROAD
CANYON COUNTY GREENLEAF, IDAHO
JMAC RESOURCES

REVISIONS			
NO	DATE	BY	DESCRIPTION

FILE NUMBER
221117

DESIGNED BY
A. BERLANDA

DRAWN BY
A. KARTCHNER

DATE
December 2022

SHEET NUMBER
FP-101

1 OF 1

PLOTTED BY: ANDREA... DATE PLOTTED: 12/20/2022 9:22:33 AM PATH: M:\01_SYMAN\01_JOBS\ALEXIA\02 LANDED\221117-REDMON PIT\04 L... 117 - 06 - FC-101.DWG

Appendix B – 2021 MSGP

2021 Multi-Sector General Permit (MSGP)

EPA Industrial SWPPP Template, June 26, 2021

Appendix C – Notice of Intent

Appendix D – Inspection Forms and Reports

Stormwater Industrial Routine Facility Inspection Report

General Information			
Facility Name	Redmon Pit		
NPDES Tracking No.			
Date of Inspection		**Start/End Time**	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			

Weather Information

Weather at time of this inspection?

❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds

❑ Other: Temperature:

Have any previously unidentified discharges of pollutants occurred since the last inspection? ❑Yes ❑No

If yes, describe:

Are there any discharges occurring at the time of inspection? ❑Yes ❑No

If yes, describe:

Control Measures

- *Number the structural stormwater control measures identified in your SWPPP on your site map and list them below (add as many control measures as are implemented on-site). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required control measures at your facility.*
- *Identify if maintenance or corrective action is needed.*
  - *If maintenance is needed, fill out section B of this template*
  - *If corrective action is needed, fill out section G of this template*

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Maintenance or Corrective Action Needed and Notes
1	CLEARING LIMITS	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Maintenance or Corrective Action Needed and Notes
2	SANITARY / SEPTIC WASTE MANAGEMENT	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
3	HAZARDOUS WASTE MANAGEMENT	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
4	VEHICLE FUELING AND MAINTENANCE	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
5	STREET SWEEPING	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
6	INLET PROTECTION	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
7	STOCKPILE MANAGEMENT	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
8	STAGING AREAS	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
9	SEEDING	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
10	DITCHES & SWALES	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
11	BERMS	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
12	PONDS	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
13 & 14	FIBER ROLL SILT FENCE	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Maintenance or Corrective Action Needed and Notes
15	DUST CONTROL	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	
16	ELIMINATE TRACKING	❑Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	

Areas of Industrial Materials or Activities Exposed to Stormwater

Below are some general areas that should be assessed during routine inspections. Customize this list as needed for the specific types of industrial materials or activities at your facility that are potential pollutant sources. Identify if maintenance or corrective action is needed. If maintenance is needed, fill out section B of this template. If corrective action is needed, fill out section G of this template.

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective and operating)?	Maintenance or Corrective Action Needed and Notes
1	**Material loading/unloading and storage areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
2	**Equipment operations and maintenance areas** **(Leaks or Spills)**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
3	**Fueling areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
4	**Outdoor vehicle and equipment washing areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
5	**Waste handling and disposal areas. Residue or trash that could contact stormwater**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
6	**Erodible areas/construction**	❑Yes ❑No ❑ N/A	❑Yes ❑No	

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective and operating)?	Maintenance or Corrective Action Needed and Notes
7	**Non-Authorized Non-stormwater/ illicit connections**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
8	**Salt storage piles or pile containing salt**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
9	**Dust generation and vehicle tracking**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
10	**Processing areas**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
11	**Areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
12	**Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
13	**(Other)**	❑Yes ❑No ❑ N/A	❑Yes ❑No	
14	**(Other)**	❑Yes ❑No ❑ N/A	❑Yes ❑No	

Discharge Points

At discharge points, describe any evidence of, or the potential for, pollutants entering the stormwater drainage system. Also describe observations regarding the physical condition of and around all stormwater discharge points, including any flow dissipation devices, and evidence of pollutants in discharges and/or the receiving water. Identify if any corrective action is needed.

Discharges/ Pollutants

Describe any previously unidentified stormwater discharges from and/or pollutants:

Non-Compliance

Describe any incidents of non-compliance observed and not described above:

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements:

Notes

Use this space for any additional notes or observations from the inspection:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature: _____ **Date:** _____

MSGP Quarterly Visual Assessment Form

(Complete a separate form for each outfall you assess)

Name of Facility: Redmon Pit NPDES Tracking No.

Outfall Name: "Substantially Identical Discharge Point"? ☐ Yes ☐ No

Person(s)/Title(s) collecting sample:

Person(s)/Title(s) examining sample:

Date & Time Discharge Began: Date & Time Sample Collected: Date & Time Sample Examined:

Substitute Sample? ☐ No ☐ Yes

Nature of Discharge: ☐ Rainfall ☐ Snowmelt

If rainfall: Rainfall Amount: _ Previous Storm Ended > 72 hours Before Start of This Storm? ☐ Yes ☐ No*

Pollutants Observed

Color ☐ None ☐ Other (describe): _____

Odor ☐ None ☐ Musty ☐ Sewage ☐ Sulfur ☐ Sour ☐ Petroleum/Gas ☐ Solvents ☐ Other (describe): _____

Clarity ☐ Clear ☐ Slightly Cloudy ☐ Cloudy ☐ Opaque ☐ Other

Floating Solids ☐ No ☐ Yes (describe): _____

Settled Solids** ☐ No ☐ Yes (describe): _____

Suspended Solids ☐ No ☐ Yes (describe): _____

Foam (gently shake sample) ☐ No ☐ Yes (describe): _____

Oil Sheen ☐ None ☐ Flecks ☐ Globs ☐ Sheen ☐ Slick ☐ Other (describe): _____

Other Obvious Indicators of Stormwater Pollution ☐ No ☐ Yes (describe): _____

* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.

** Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Identify probably sources of any observed stormwater contamination. Also, include any additional comments, descriptions of pictures taken, and any corrective actions necessary below (attach additional sheets as necessary).

Certification Statement (Refer to MSGP Subpart 11 Appendix B for Signatory Requirements)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name: B. Title:

C. Signature: D. Date Signed:

CONTROL MEASURE MAINTENANCE REPORT	
Control Measure:	
Regular Maintenance Activities:	
Regular Maintenance Schedule:	
Date of Maintenance Action:	**Reason for Action:** ☐ **Regular Maintenance** ☐ **Discovery of Problem**
If action was the result of a problem, provide a description of the required maintenance, the date control measures were returned to full function, and a justification for extended schedule if applicable:	
Notes:	

INDUSTRIAL EQUIPMENT AND SYSTEMS MAINTENANCE REPORT	
Date of Maintenance Action:	**Reason for Action:** ☐ **Regular Maintenance** ☐ **Discovery of Problem**
If action was the result of a problem, provide a description of the required maintenance, the date control measures were returned to full function, and a justification for extended schedule if applicable:	
Notes:	

Corrective Action Report Form – Field Version

Purpose

This Corrective Action Report Form is designed to assist you in preparing corrective action reports for EPA's 2021 Multi-Sector General Permit (MSGP). If you are covered under EPA's 2021 MSGP, this form will enable you to create a corrective action report that complies with the minimum reporting requirements of Part 5 of the permit.

You are only required to fill out this form if one of the corrective action triggering conditions in Part 6.1 occurs on your site. Routine maintenance and repairs are generally not considered to be a corrective action triggering condition. Corrective actions are triggered only for specific, more serious conditions that are identified below in the "Overview of Corrective Action Requirements."

If you are covered under a state MSGP, this form may be helpful in developing a report that can be used for that permit; however, it will need to be modified to meet the specific requirements of the permit. If your permitting authority requires you to use a specific corrective action report form, you should not use this form.

Notes:

While EPA has made every effort to ensure the accuracy of all instructions and guidance contained in the Corrective Action Report Form, the actual obligations of regulated construction activities are determined by the relevant provisions of the permit, not by the form. In the event of a conflict between the Corrective Action Report Form and any corresponding provision of the 2021 MSGP, you must abide by the requirements in the permit. EPA welcomes comments on the Corrective Action Report Form at any time and will consider those comments in any future revision of this document. You may contact EPA for MSGP-related inquiries at msgpesa@epa.gov.

Overview of Corrective Action Requirements

Construction operators covered under the 2021 MSGP are required to conduct corrective actions and report on progress made in correcting the problem condition(s) in accordance with the following requirements:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit to a water of the U.S.) occurs at your facility.
- A discharge violates a numeric effluent limit.
- The control measures are not stringent enough for the discharge to meet applicable water quality standards or the non-numeric effluent limits.
- A required control measure was never installed, was installed incorrectly, or not in accordance with the 2021 MSGP Parts 2 and/or 8, or is not being properly operated or maintained.
- Whenever a visual assessment shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, and foam).
- If construction or a change in design, operation, or maintenance at this facility

significantly changes the nature of pollutants discharged in stormwater from the facility, or significantly increases the quantity of pollutants discharged, a thorough review of the selection, design, installation, and implementation of the control measures must be performed to determine if modifications are necessary to meet the effluent limits in this permit.

Deadlines for Completing Corrective Actions (Part 4)

You must complete corrective action (e.g., installing and making operational any new or modified control, correcting errors in installation, preventing, mitigating, or cleaning up spills or leaks making repairs) by no later than14 calendar days from the time of discovery of the condition. If infeasible to complete the installation or repair within 14 calendar days, you must document why it is infeasible and document your schedule for completing the corrective action as soon as practicable.

Deadlines for Documenting Corrective Actions in a Report (Part 4)

You are required to complete a corrective action report for each of corrective action you take in accordance with the following deadlines.

- Within 24 hours of discovering the occurrence of a corrective action triggering condition, you must document the following:
  - The condition identified at your site;
  - The nature of the condition identified; and
  - The date and time of the condition identified and how it was identified
- Within 14 calendar days of discovering a triggering condition, you must document the following:
  - Any follow-up actions taken to review the design, installation, and maintenance of stormwater controls, including the dates such actions occurred;
  - A summary of stormwater controls modifications taken or to be taken, including a schedule of activities necessary to implement changes, and the date the modifications are completed or expected to be completed; and
  - Notice of whether SWPPP modifications are required as a result of the condition identified or corrective action.

Instructions for Using This Report Form

This Field Version of the Corrective Action Report Form is intended to be used in the field and filled out by hand.

The following tips for using this form will help you ensure that the minimum permit requirements are met:

- **Review the corrective action requirements.** Before you fill out this corrective action report form, read the MSGP's Part 5 corrective action requirements. This will ensure that you have a working understanding of the permit's underlying corrective action requirements.
- **Complete a separate report for each condition that triggers corrective action.** For each triggering condition on your site, you will need to fill out a separate corrective action report form.
- **Complete all required text fields.** Fill out all text fields. Only by filling out all fields will the form be compliant with the requirements of the permit. (Note: Where you do not need the number of rows provided in the corrective action report form, you leave those rows blank. Or, if you need more space to document your findings, you may add an additional sheet.)
- **Sign and certify each corrective action report.** Each corrective action report form must be signed and certified by the permittee to be considered complete. Where your corrective actions

are carried out by a contractor or subcontractor, it is recommended that you also have the form signed and certified by the inspector, in addition to the signature and certification required of the permitted operator. The form includes a signature block for both parties.

- **Include the corrective action report form with your SWPPP.** Once your form is complete, make sure to include a copy of the corrective action report form in your SWPPP in accordance with Part 6.5 of the 2021 MSGP.
- **Retain copies of all corrective action reports with your records.** You must retain copies of your corrective action reports in your records in accordance with the requirements in Part 6.5 of the 2021 MSGP. These reports must be retained for at least 3 years from the date your permit coverage expires or is terminated.

Section A – Initial Report

(Complete this section within 24 hours of discovering the condition that triggered corrective action)

Name of Project	Redmon Pit	CGP Tracking No.	Today's Date
Date Problem First Discovered		Time Problem First Discovered	
Name and Contact Information of Individual Completing this Form			

What site conditions triggered the requirement to conduct corrective action *(check the box that applies)*:

☐ An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit to a water of the U.S.) occurs at your facility.

☐ A discharge violates a numeric effluent limit.

☐ The control measures are not stringent enough for the discharge to meet applicable water quality standards or the non-numeric effluent limits.

☐ A required control measure was never installed, was installed incorrectly, or not in accordance with the 2021 MSGP Parts 2 and/or 8, or is not being properly operated or maintained.

☐ Whenever a visual assessment shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, and foam).

- ☐ If construction or a change in design, operation, or maintenance at this facility significantly changes the nature of pollutants discharged in stormwater from the facility, or significantly increases the quantity of pollutants discharged, a thorough review of the selection, design, installation, and implementation of the control measures must be performed to determine if modifications are necessary to meet the effluent limits in this permit.

Provide a description of the problem:

Deadline for completing corrective action (*Enter date that is either: (1) no more than14 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 14 days, enter the date that is as soon as practicable following the 14th day*):

Section B – Corrective Action Progress

(Complete this section no later than 14 calendar days after discovering the condition that triggered corrective action)

Section B.1 – Why the Problem Occurred

Cause(s) of Problem (Add an additional sheet if necessary)	How This Was Determined and the Date You Determined the Cause
1.	1.
2.	2.

Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem			
List of Stormwater Control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary)	**Date of Completion**	**SWPPP Update Necessary?**	**Notes**
1.		☐Yes ☐No If yes, provide date SWPPP modified:	
2.		☐Yes ☐No If yes, provide date SWPPP modified:	

Section C – Certification and Signature

Section C.1 – Certification and Signature by Contractor or Subcontractor

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Contractor or Subcontractor: _____

Date: _____

Printed Name and Affiliation: _____

Section C.2 – Certification and Signature by Permittee

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Permittee or "Duly Authorized Representative": _____
Date:

Printed Name and Affiliation: _____

QUARTERLY BENCHMARK EXCEEDENCE REPORT		
Date:		
Pollutant Exceeded & Results:		
Quarter	**Sample Date:**	**Result**
Quarter 1		
Quarter 2		
Quarter 3		
Quarter 4		
	Average Result:	
	Benchmark Value:	

Document how benchmark exceedance(s) responded to:

☐ **Corrective action review completed** (ensure documentation is included in section G of this Template)

☐ **Finding that the exceedance was due to natural background pollutant levels**

Pollutant(s):

Attach data and/or studies that tie the presence of the pollutant causing the exceedance in your discharge to natural background sources in the watershed.

☐ **Determination from EPA Regional Office that benchmark monitoring can be discontinued because the exceedance was due to run-on**

Pollutant(s):

Attach documentation from EPA Regional Office.

☐ **Finding that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice.**

Pollutant(s):

Attach documentation supporting this finding.

Appendix E – EPA Annual Reporting Form

Appendix E – EPA Annual Reporting Form

Per MSGP Section 7.1, all NOIs, NOTs, NOEs, annual reports, discharge monitoring reports, and other reporting information will be submitted electronically to the EPA's electronic NPDES eReporting tool (NeT).

Annual Reporting Forms will be filled out electronically, printed, and filed annually in Appendix E the SWPPP.

Appendix F – SWPPP Amendment Log

Appendix F – SWPPP Amendment Log

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

Appendix G – Training Log

Stormwater Pollution Prevention Training Log

Project Name: Redmon Pit

Project Location: 21225 Notus Road, Greenleaf, Idaho 83626

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: (check as appropriate)

- ❑ **Sediment and Erosion Controls**
- ❑ **Emergency Procedures**
- ❑ **Stabilization Controls**
- ❑ **Inspections/Corrective Actions**
- ❑ **Pollution Prevention Measures**

Specific Training Objective:_____

Attendee Roster: (attach additional pages as necessary)

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		

Appendix H – Endangered Species/Cultural Resources

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Idaho Fish And Wildlife Office
1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657
Phone: (208) 378-5243 Fax: (208) 378-5262

In Reply Refer To:
Project Code: 2023-0036277
Project Name: Redmon Pit

January 20, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

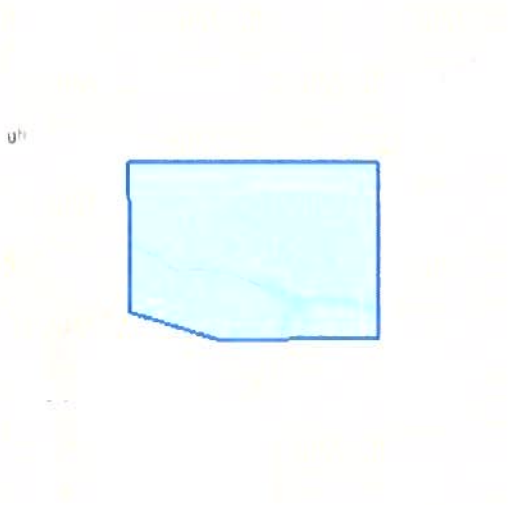
This species list is provided by:

Idaho Fish And Wildlife Office
1387 South Vinnell Way, Suite 368
Boise, ID 83709-1657
(208) 378-5243

Project Summary

Project Code: 2023-0036277
Project Name: Redmon Pit
Project Type: Subsurface Extraction - Non Energy Materials
Project Description: 200 acre gravel pit location
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.6876349,-116.8204003674264,14z



Counties: Canyon County, Idaho

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Slickspot Peppergrass *Lepidium papilliferum* Population: There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4027	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American White Pelican *pelecanus erythrorhynchos* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6886	Breeds Apr 1 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31

NAME	BREEDING SEASON
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Franklin's Gull *Leucophaeus pipixcan* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Rufous Hummingbird *selasphorus rufus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the

FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

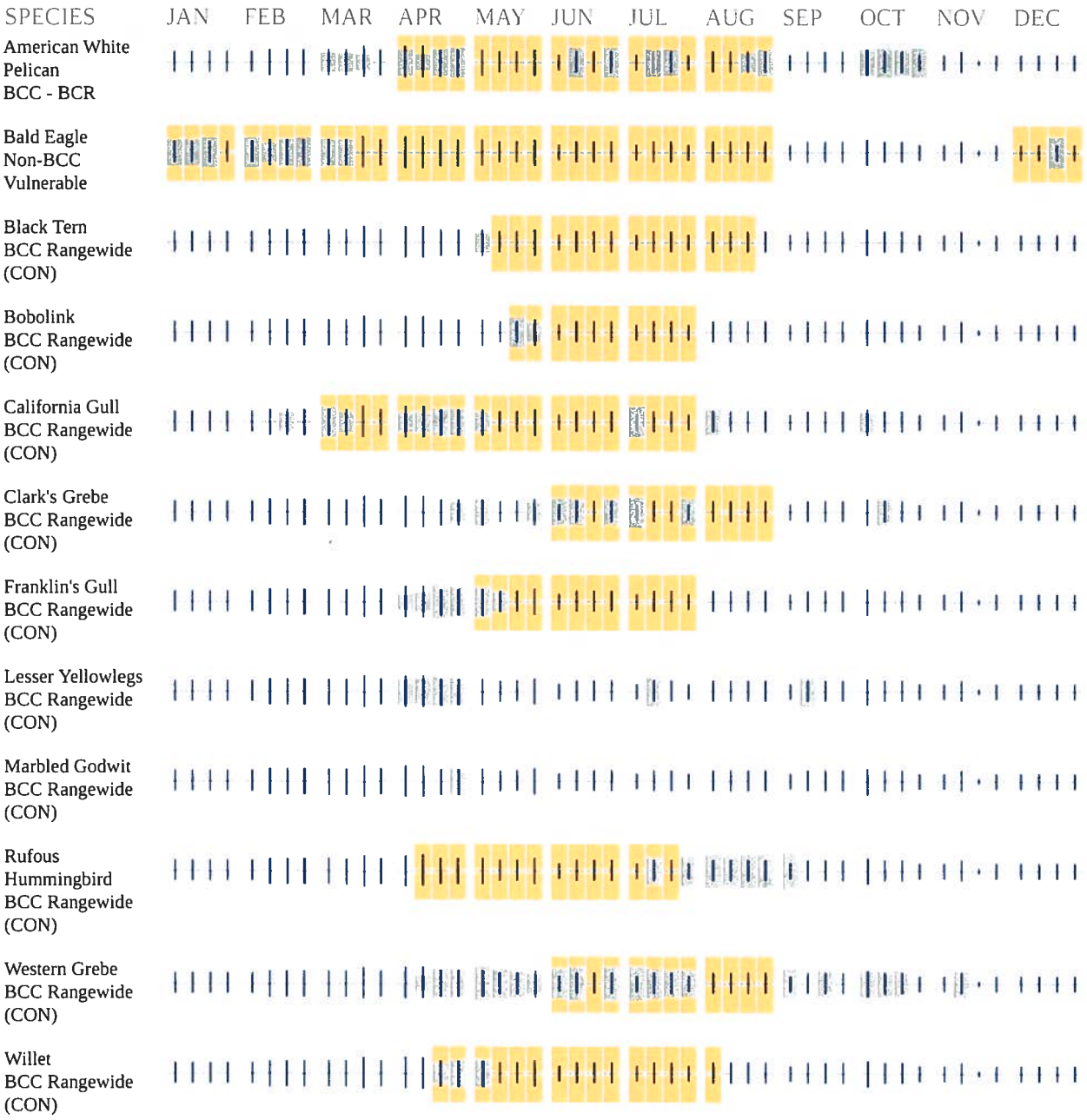
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

---

probability of presence breeding season survey effort – no data



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point

within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no

data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1C
- PEM1Cx
- PEM1F

RIVERINE

- R5UBFx
- R5UBH

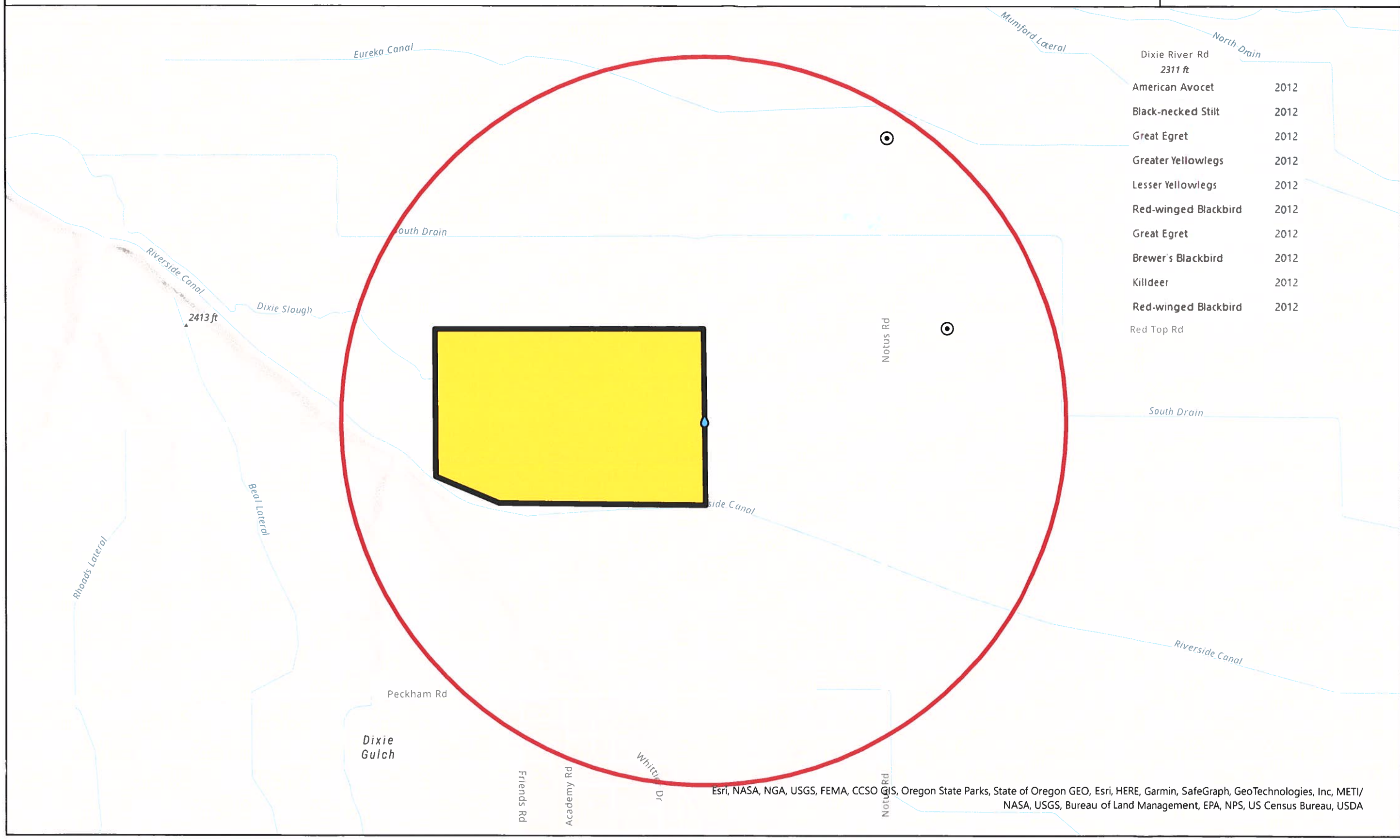
IPaC User Contact Information

Agency: Syman, LLC
Name: Adam Lyman
Address: 2101 Delta Dr.
City: Nampa
State: ID
Zip: 83687
Email designdepartment@symancompany.com
Phone: 2082878420

IDAHO FISH AND WILDLIFE INFORMATION SYSTEM MAP

N

Animal Sightings
Outfall
Project Location
1-Mile Radius



American Avocet	2012
Black-necked Stilt	2012
Great Egret	2012
Greater Yellowlegs	2012
Lesser Yellowlegs	2012
Red-winged Blackbird	2012
Great Egret	2012
Brewer's Blackbird	2012
Killdeer	2012
Red-winged Blackbird	2012

Esri, NASA, NGA, USGS, FEMA, CCSO GIS, Oregon State Parks, State of Oregon GEO, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/ NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

SYMAN
2101 DELTA DRIVE
NAMPA, IDAHO 83687
PHONE (208) 287-8420

SYMAN Erosion & Sediment Control

IFWIS MAP
REDMON PIT
21225 NOTUS ROAD
GREENLEAF, CANYON, IDAHO
JMAC RESOURCES

FILE NUMBER
221117

DESIGNED BY
A. BERLANDA
CARTOGRAPHY BY
A. KARTCHNER
DATE
DECEMBER 2022

IFWIS
1 OF 1

Appendix I – Environmental/Historical Documents

IDAHO DEPARTMENT OF LANDS

954 W. Jefferson St., PO Box 83720
Boise, Idaho 83720-0050
Phone (208) 334-0200 Fax (208) 334-2339

STANLEY F. HAMILTON - DIRECTOR

March 22, 1999

Hillview Farms Trust
P.O. Box 202
Greenleaf, Idaho 83626

SUBJECT: Reclamation Plan Approval Notice

This correspondence is notification that, subject to the stipulations listed below, your reclamation plan meets the requirements of the Surface Mining Act.

Plan No.	ACRES	COUNTY	LEGAL DESCRIPTION
RP-2067	-14	Canyon	S½NE¼, SE¼NW¼, Sec. 16, T4N, R4W, B.M.

1. All refuse, chemical and petroleum products and equipment shall be stored and maintained in a designated location 100 feet away from any surface waters, and disposed of in such a manner as to prevent their entry into a waterway.

2. State water quality standards will be maintained at all times during the life of the operation. Should a violation of water quality standards occur, mining operations on the site will cease immediately and corrective action will be taken, and the Department of Health and Welfare, Division of Environmental Quality, notified.

3. Erosion and non-point source pollution shall be minimized by careful design of the site access and implementing Best Management Practices; which may include but are not limited to:

   a. Diverting all surface water flows around the mining operation;
   b. Removing and stockpiling vegetation and slash, except merchantable timber, for use in erosion control and reclamation;
   c. Removing and stockpiling all topsoil or suitable plant growth material for use in reclamation.

4. An initial reclamation bond in the amount of $1,000 per acre, with a minimum of $3,000, will be submitted to and maintained with the Idaho Department of Lands prior to conducting any surface mining operations. The reclamation bond rate may be reviewed and updated annually to ensure adequacy.

5. If no operations are conducted within three years, the department may withdraw this plan. This shall not prevent the operator from re-applying for reclamation plan approval.

6. Acceptance of this permit does not preclude the operator from obtaining other necessary permits and approvals from local, state and federal authorities, i.e., Storm Water Pollution Prevention Plan (SWPPP), County Conditional Use Permit, waste water generation, National Marine Fisheries Service Consultation, U.S. Army Corps of Engineers, Stream Channel Alteration Permits, and/or air quality permits, for each production process.

If the department does not receive a written notice of objection from you regarding these stipulations within 15 days of receipt of this letter, the stipulations will be considered accepted.

For your convenience I have enclosed bond forms and instruction statement. Please note --Pursuant to Idaho Code section 47-1412(a), operations cannot commence unless the bond established in stipulation #4 is submitted to the State. Failure to submit the bond before mining commences may subject you to legal action by the State pursuant to Idaho Code section 47-1513(d), which may include issuance of an order by District Court to temporarily restrain your mining operation without prior notice to you.

If you have any questions concerning this approval, you may contact me at the above address, telephone (208) 334-0232.

ERIC WILSON
Mined Land Reclamationist

ijg

cc: Joe Drumheller, Southwest Idaho Area, Boise

CERTIFIED MAIL

IDAHO DEPARTMENT OF LANDS
1215 West State Street
Boise, Idaho 83720
Telephone: (208) 334-0261

DEPT. OF LANDS
97 JUL 15 PM 12:36
BOISE, ID

APPLICATION FOR RECLAMATION PLAN APPROVAL RP·2067

GENERAL INFORMATION

The Idaho Surface Mining Act, Idaho Code title 47, chapter 15, requires an operator of a surface mining operation to obtain an approved reclamation plan and bond. There is no fee required.

When an applicant is mining on lands administered by the U.S. Forest Service or Bureau of Land Management, it is necessary to obtain the proper federal approvals in addition to the Department of Lands. Each agency's application requirements are similar, but not exactly the same. Please review both state and federal application requirements, and develop one plan which meets the requirements of the agency(ies) involved.

After the mine plan has been finalized, five (5) copies of this application must be submitted to the Idaho Department of Lands, Bureau of Minerals, at the above address. When the department receives an application, the appropriate federal agency will be notified of said application, and it will be reviewed for completeness within seven (7) days.

All reclamation plan applications will be processed in accordance with Section 70 of the Administrative Rules Governing Exploration and Surface Mining Operations in Idaho and applicable Memorandums of Understanding with state and federal agencies.

APPLICATION INFORMATION

1. NAME VALLEY RANCH TRUST and d/b/a HILLVIEW FARMS TRUST

2. ADDRESS P.O. Box 202, Greenleaf, Idaho 83626 3. Telephone 459-6067

4. CLAIM NAME(S) _____

5. CLAIM OWNER(S) _____

6. DESIGNATED IN-STATE AGENT AND ADDRESS: JOHN REDMON
P.O.Box 202,Greenleaf,Idaho83626

7. LEGAL DESCRIPTION TO THE QUARTER-QUARTER SECTION: NW¼ SECTION 16-4-4 See exhibit A
N½NE¼, NE¼NW¼, Sec 16 T4N R4W. (SAW)

8. ACREAGE 120 9. County(ies) Canyon
(Include map outlined on page 2)

10. OWNERSHIP: | ~~Private,~~ U.S. Forest Service, Bureau of Land Management or Idaho Department of Lands (circle one)

11. COMMODITY TYPE, DURATION OF OPERATION, PROPOSED START-UP DATE _____

(over)

12. Please provide the following maps of your mining operation (Section 070.03):

a. A vicinity map prepared on a standard USGS 7.5' quadrangle map or equivalent.

b. A site map which adequately shows the location of existing roads, access roads, and main haul roads, which would be constructed or reconstructed for the operation. Also, list the approximate dates for construction, reconstruction and abandonment. (Section 070.03.a)

c. On a site location map show the location and names, if known, of all streams, creeks or bodies of water within 1,000 feet of the surface mining operation.

d. On a site location map show the approximate boundaries and acreage of the lands that will become affected by the mining operation. This map must be of adequate scale for boundary identification.

e. On a site location map show the approximate boundaries and acreage of the lands that will become affected by the mining operations during the first year of operations.

f. On a site location map show the planned location of all tailings ponds and ancillary structures associated with the mining operation.

g. On a site location map show the planned configuration of all pits, mineral stockpiles and overburden piles which will be developed by the mining operation.

h. Develop a surface and mineral control or ownership map of appropriate scale for boundary identification.

i. Develop scaled cross-sections of the mine showing surface profiles prior to mining at maximum disturbance and after reclamation.

13. A reclamation plan must be developed and submitted in map and narrative form (Section 070.04). The reclamation plan must include the following information:

a. On a drainage control map show and list the best management practices which will be utilized to control erosion on or from the affected lands

b. On a site map show which roads will be reclaimed, the approximate dates for reclamation, and describe the reclamation to be accomplished.

c. Develop a revegetation plan which identifies how topsoil or other growth medium will be salvaged, stored and replaced in order to properly revegetate the area, identify the type of soil to be replaced, the slope of the reclaimed areas, and precipitation rates. Based on this information, identify the seed species, the seeding rates, the time and method of planting the soil, and fertilizer and mulch requirements.

d. Describe and show how tailings or sediment ponds will be reclaimed.

e. Estimate the actual cost of reclamation which includes the cost for equipment mobilization, regrading, seed, fertilizer, mulch, labor and any other pertinent costs.

APPLICANT SIGNATURE: John Adams-Hunter **DATE** 7-11-97

RECLAMATION PLAN
OWNED AND OPERATED BY
VALLEY RANCH TRUST & HILLVIEW FARMS TRUST

OPERATIONS

- The operating pit will begin at the Southeast corner and Northeast corner of the property along the west side of the drainage. Plans call for extension of the pit to the north, south and west. The pit will then be worked from south to north in panels. Phase 1 will be worked first and Phase 2, after phase 1 has been depleated or reclaimed. Phase 2 will be worked the same as phase 1 and on the west side of the drainage.

- A 40 foot undisturbed buffer will be maintained along the intermittent drainage.

- Before excavation, vegetation and topsoil will be removed and stockpiled for use in reclamation. The material will be stockpiled on the South and West sides of the pit, above the working slopes.

- After gravels have been exposed, the sand and gravel will be excavated to a depth of approximately 25 feet and removed as pit run and smaller amounts will be processed through a screening plant and crusher as shown on the pit sketch.

- Salable material will be stockpiled around the screens and crusher.

- Any fuel storage area will be lined with an impermeable liner to contain all leaks and spills.

- Slopes will be excavated at 2.5:1 during the mining operation. The slopes will be reclaimed as described under the reclamation section.

- A 50 foot buffer strip will be maintained on all property boundaries to provide for reshaping during final reclamation.

RECLAMATION

- Reclamation will be completed by sloping the working face to 3:1 or flatter if necessary.

- Topsoil and/or suitable plant growth material will be regraded over the slopes and pit floor.

- The disturbed areas will be seeded between October31 and January 1 with a seed mix specified by the Department of

- A reclamation bond of 750$ per affected acre will be maintained for the operation, as required by the Surface Mining Rules.

- No surface or groundwater will be affected by the operations and there will be no runoff from the site.

WATER MANAGEMENT PLAN
REQUIRED BY SURFACE MINE RULE 070.04

This plan describes the specific plans to be implemented to control erosion during the mining operation and after the reclamation but before restored and renewed vegetation stabilizes the site. The plan includes this narrative information in addition to specific Best Management Practices (BMP's) show on the map.

SPECIFIC INFORMATION ADDED BY THE OPERATOR

Bermes will be constructed to prevent surface water from entering pit. Water from one pond will be pumped to second pond. If necessary water from holding pond may gravity flow to drain ditch.

INSTRUMENT NO. 9309759

QUITCLAIM DEED

THE GRANTOR is JOHN G. REDMON and BRENDA C. REDMON, husband and wife, (herein called grantor).

THE GRANTEE is John G. Redmon and Irene S. Redmon, husband and wife whose current address is 21988 Tucker Road, Caldwell, Idaho 83605.

FOR VALUE RECEIVED, the grantor hereby releases, remises and forever quitclaims unto the grantee those premises situated in Canyon County, Idaho and described as follows:

SEE EXHIBIT "A" ATTACHED HERETO.

Together with all and singular the tenements, hereditaments, appurtenances and easements of record thereunto belonging or in anywise appertaining.

DATED: August 21, 1992

John G. Redmon

JOHN G. REDMON,

Brenda C. Redmon

BRENDA C. REDMON, GRANTOR

STATE OF IDAHO)
: ss.
County of Canyon)

On this date, before me, the undersigned notary public for said state, personally appeared JOHN G.REDMON and BRENDA C. REDMON, known to me to be the persons whose names are subscribed to the within instrument, and acknowledged to me that they executed the same.

WITNESS my hand and seal in 21 day of August, 1992.

Notary Public for Idaho
Residing at: Caldwell, Idaho

EXHIBIT "A"

THE NORTH HALF OF THE NORTHEAST QUARTER AND THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER, SECTION 16 , TOWNSHIP 4 NORTH, RANGE 4 WEST, BOISE MERIDIAN, CANYON COUNTY, IDAHO.

9309759

RECORDED

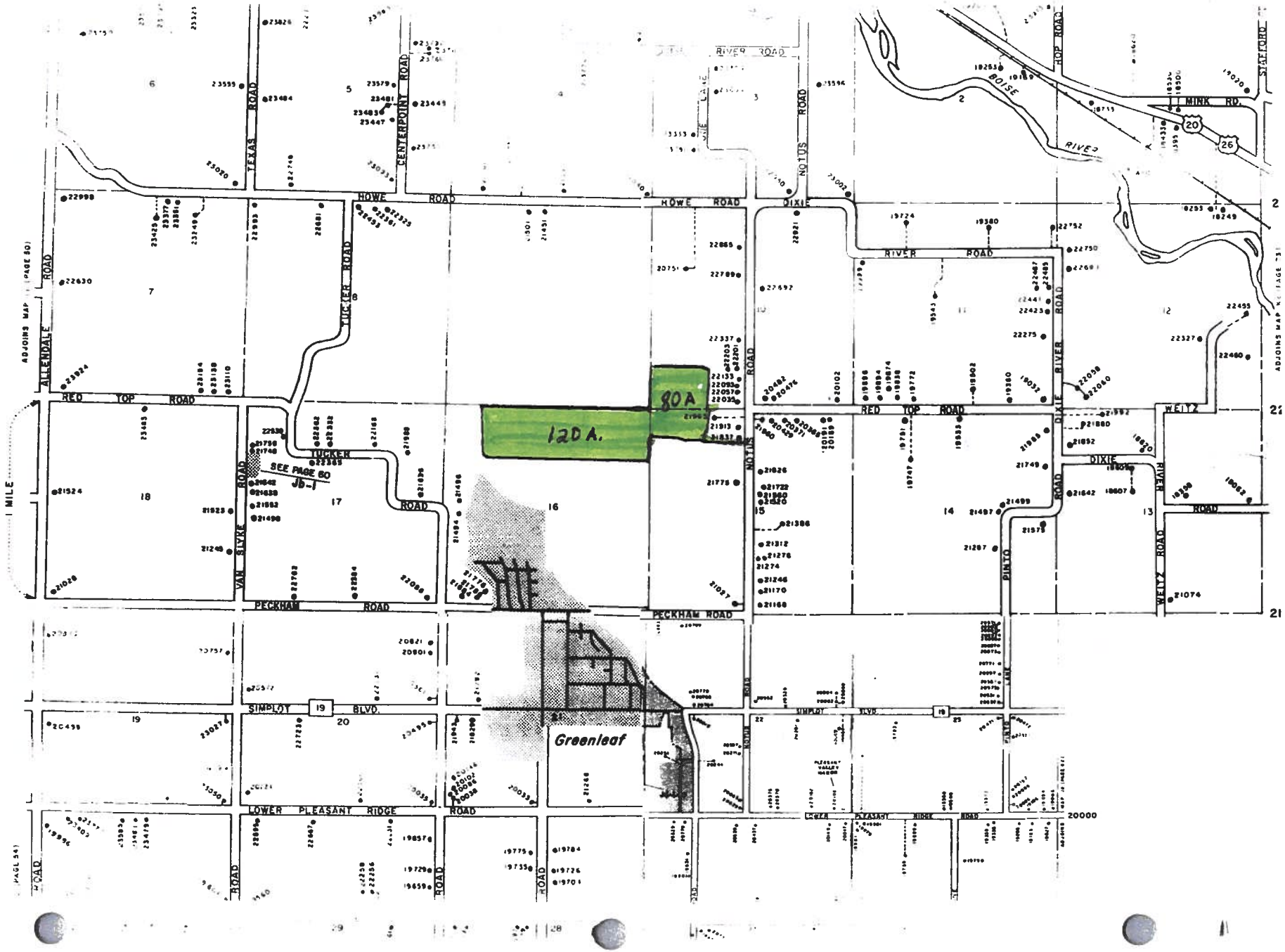
'93 MAY 6 PM 4 42

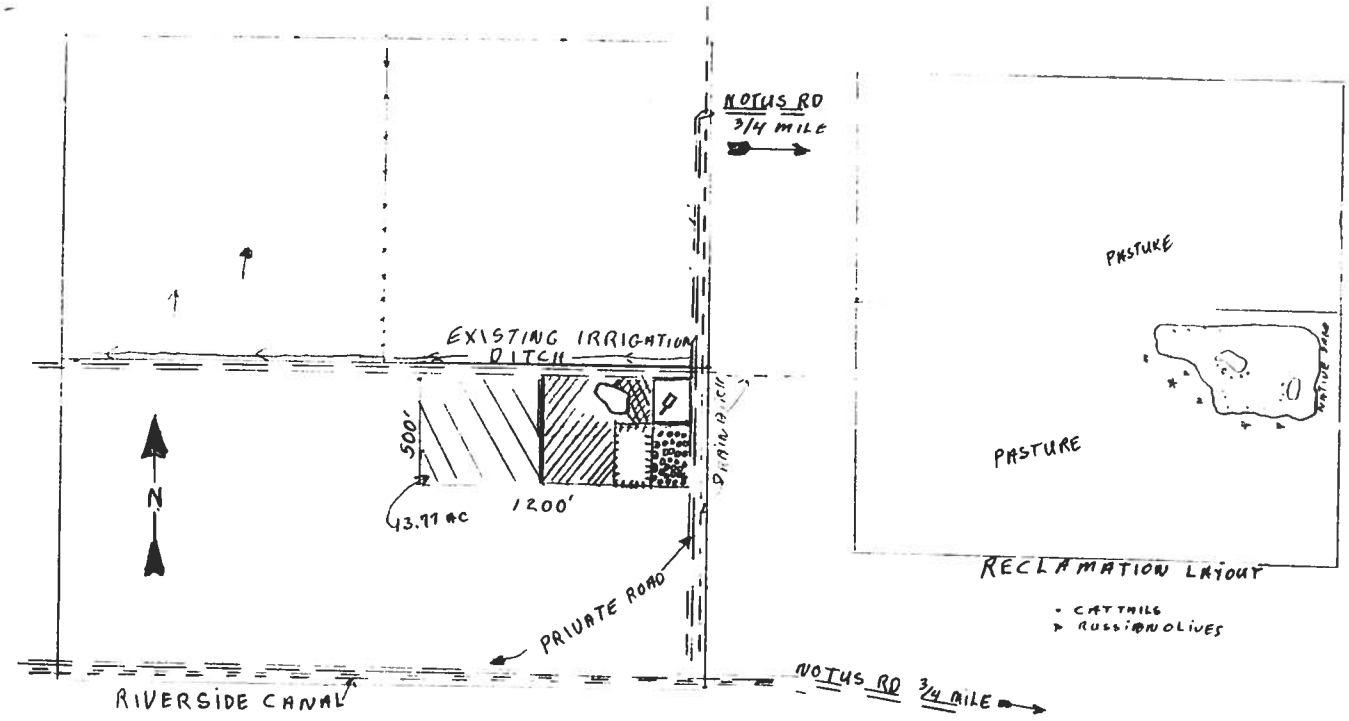
CANYON CO. RECORDER

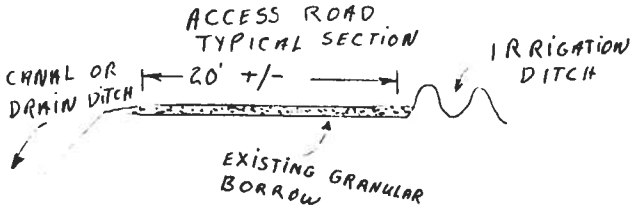
BY [illegible] Dep.

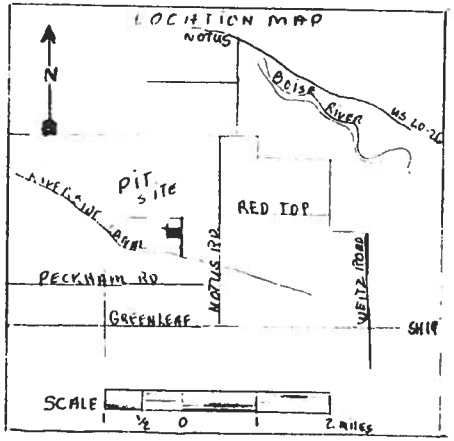
REQUEST [illegible]

FEE 6.00


80A
120A.
Greenleaf
HOWE ROAD
RIVER ROAD
RED TOP ROAD
PECKHAM ROAD
LOWER PLEASANT RIDGE ROAD
SIMPLOT BLVD.
TUCKER ROAD
ALLENDALE ROAD
TEXAS ROAD
CENTERPOINT ROAD
NOTUS ROAD
DIXIE ROAD
VAN RIVER ROAD
PINTO LANE
WEITZ ROAD
MINK RD.
BOISE RIVER
SEE PAGE 60 JB-1
ADJOINS MAP (PAGE 60)
ADJOINS MAP (PAGE 54)
1 MILE







OPERATION OF SOURCE

1. FINAL SOURCE RECLAMATION SHALL BE IMPLEMENTED ON THE ENTIRE SOURCE LYING WEST OF THE NORTH SOUTH DRAIN DITCH, INCLUDING AREAS WORKED ON PREVIOUS PROJECTS. OVERBURDEN SHALL BE REDISTRIBUTED SO AS TO CREATE IRREGULARITIES IN THE SHORELINE AS SHOWN.
2. EXCAVATION BELOW WATER WILL BE NECESSARY.
3. FENCE TYPE IB, ACCESS ROAD, GATES SHALL BE CONSTRUCTED ON THE EAST SIDE OF SOURCE AS SHOWN ON ACCESS ROAD TYPICAL SECTION AND SOURCE PLAT. OVERBURDEN SHALL BE STOCKPILED FOR FINAL REDISTRIBUTION FOR IRREGULAR SHORELINE, AND FOR ACCESS ROAD.
4. Pond water to be pumped into the existing and adjoining irrigation ditch for watering pasture land.

FINAL SOURCE RECLAMATION PLAN

THE FINAL EXCAVATION DESIGN SHALL BE TAKEN NO CLOSER THAN THAT SHOWN ON THE PIT SKETCH.

FINAL SLOPES SHALL BE 3:1 AND PIT WALLS AND FLOOR SHALL BE LEFT IN A REASONABLY SMOOTH CONDITION.

WHEN EXCAVATION HAS BEEN COMPLETED OR IN STAGES, THE PIT WILL BE RECLAIMED BY SPREADING 1 FOOT OF OVERBURDEN UNIFORMLY OVER THE FLOOR AND SLOPES AND SEEDED AS FOLLOWS.

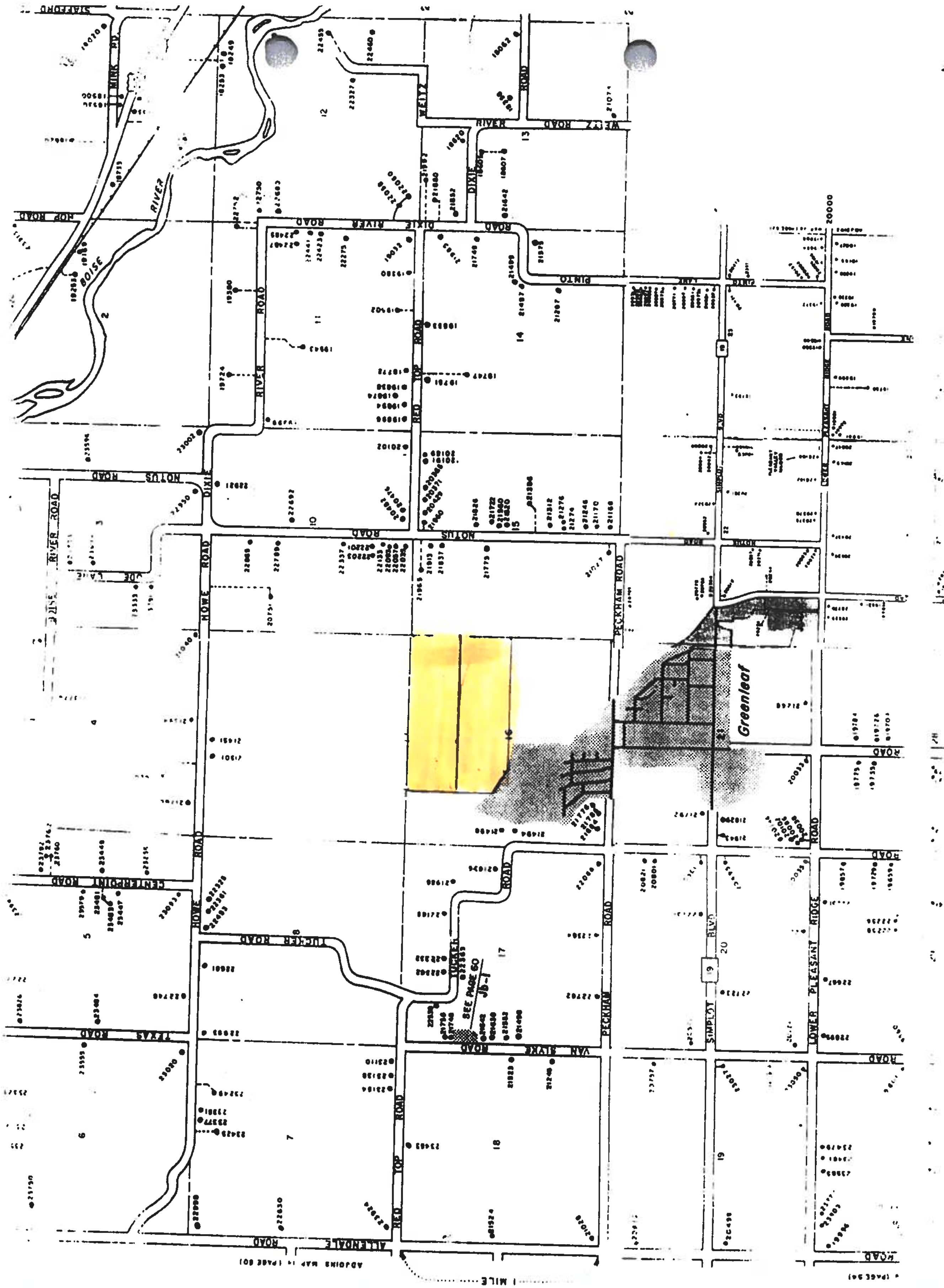
GRASSES

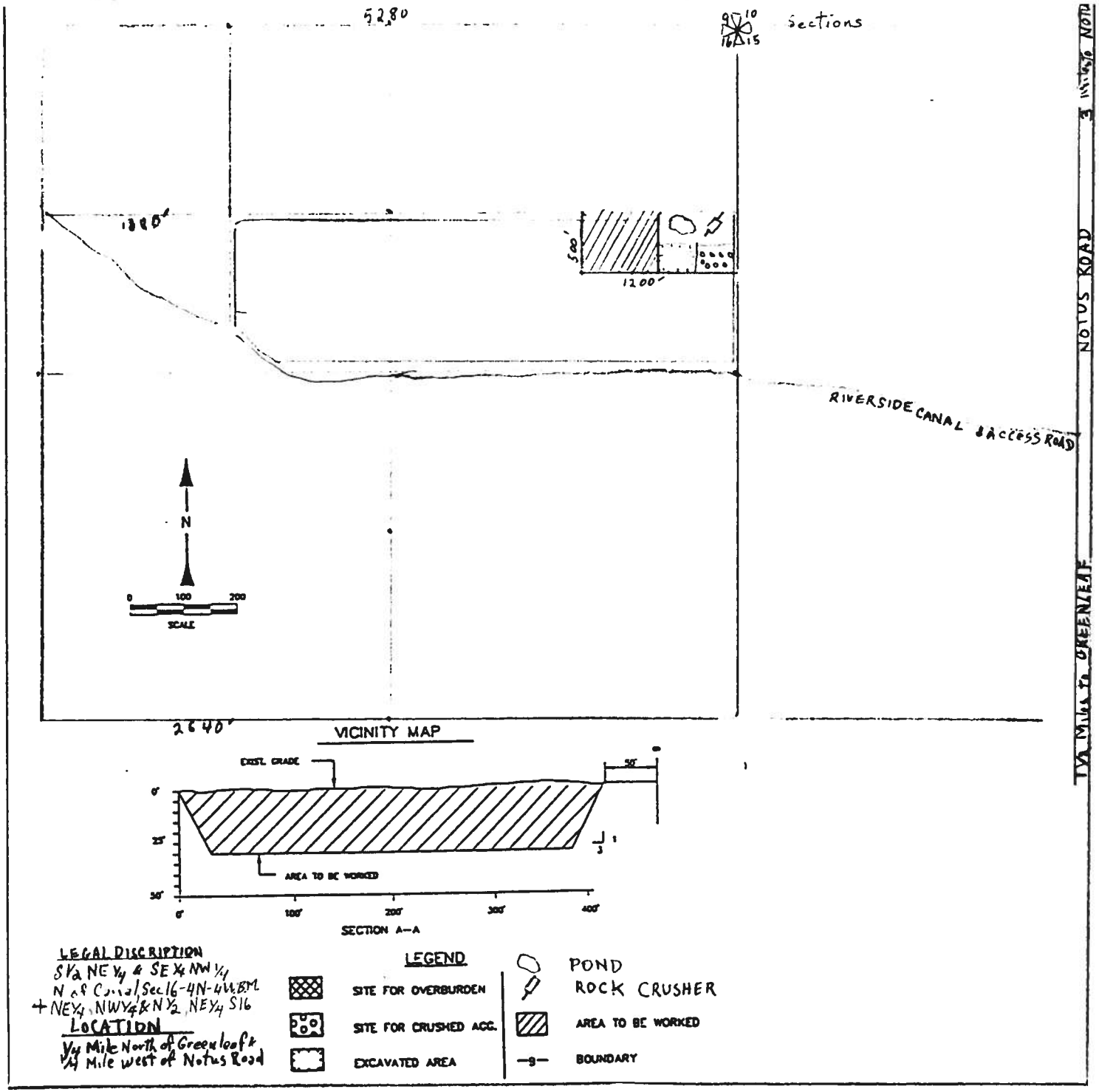
PAIUTE ORCHARD GRASS	3LBS/Ac.
FAWN FESCUE	3LBS/Ac.
ALTA FESCUE	3LBS/Ac.
LEGUME	
STRAWBERRY CLOVER	3LBS/Ac.
TOTAL	12LBS/Ac.

EXCAVATE PIT TO DEPTH NECESSARY TO CREATE A POND OF ABOUT 8 ACRES AT THE NORTHWEST CORNER OF THE PIT AND 1/3 ACRE AT THE EXISTING POND IN THE NORTHEAST CORNER. THE LARGE POND SHOULD HAVE 2 ISLANDS ABOUT 30 FEET SQUARE COVERED WITH TOP SOIL. THE LARGE POND SHOULD VARY IN DEPTH FROM 3-5 FEET. TOPSOIL SHOULD BE INTO THE POND TO ABOUT THE 1 FOOT WATER DEPTH CONTOUR SHAPE THE ISLANDS SO THAT THEIR EAST SHORE DROPS OFF QUICKLY TO A 3 FOOT DEPTH.

PLANT WILLOW CUTTINGS AROUND THE LARGE POND AND PLACE CLUMPS OF CATTAIL IN THE POND.

SEEDING PERIOD SEPTEMBER 1 TO DECEMBER 15


BOISE RIVER
DIXIE RIVER ROAD
WEITZ RIVER ROAD
PINTO LANE
NOTUS ROAD
RIVER ROAD
HOWE ROAD
RED TOP ROAD
PECKHAM ROAD
SIMPLOT BLVD
LOWER PLEASANT RIDGE ROAD
Greenleaf
CENTERPOINT ROAD
TUCKER ROAD
SEE PAGE 60 JB-1
TEXAS ROAD
VAN SLYKE ROAD
ALLENDALE ROAD
1 MILE


5280
9 10
16 15
Sections
1320'
500'
1200'
RIVERSIDE CANAL ACCESS ROAD
NOTUS ROAD
1/4 Mile to GREENLEAF
N
0 100 200
SCALE
2640'
VICINITY MAP
EXIST. GRADE
50'
0'
25'
50'
1
1/3
AREA TO BE WORKED
0'
100'
200'
300'
400'
SECTION A—A
LEGAL DISCRIPTION
S½ NE¼ & SE¼ NW¼
N of Canal Sec 16-4N-4W BM
+ NE¼, NW¼ & N½, NE¼ S16
LOCATION
¼ Mile North of Greenleaf &
¼ Mile west of Notus Road
LEGEND
SITE FOR OVERBURDEN
SITE FOR CRUSHED AGG.
EXCAVATED AREA
POND
ROCK CRUSHER
AREA TO BE WORKED
BOUNDARY

IDAHO DEPARTMENT OF ·DS
1215 West State Stree.
Boise, Idaho 83720
Telephone: (208) 334-0:

APPLICATION FOR RECLAMATION ·N APPROVAL

GENERAL INFORMATION

The Idaho Surface Mining Act, Idaho Code title 47, chapter 15, require an operator of a surface mining operation to obtain an approved reclamation plan and bond. There is no fee required.

When an applicant is mining on lands administered by the U.S. Forest Service or Bureau of Land Management, it is necessary to obtain the proper federal approvals in addition to the Department of Lands. Each agency's application requirements are similar, but not exactly the same. Please review both state and federal application requirements, and develop one plan which meets the requirements of the agency(ies) involved.

After the mine plan has been finalized, five (5) copies of this applicati must be submitted to the Idaho Department of Lands, Bureau of Minerals, at the above address. When the depa nent receives an application, the appropriate federal agency will be notified of said application, and it will be revie 1 for completeness within seven (7) days.

All reclamation plan applications will be processed in accordance with S tion 70 of the Administrative Rules Governing Exploration and Surface Mining Operations in Idaho and applicable morandums of Understanding with state and federal agencies.

APPLICATION INFORMATION

1. NAME VALLEY RANCH TRUST and d/b/a HILLVIEW FARMS TRUST
2. ADDRESS P.O. Box 202, Greenleaf, Idaho 83626 3. Telephone 459-6067
4. CLAIM NAME(S) ______
5. CLAIM OWNER(S) ______
6. DESIGNATED IN-STATE AGENT AND ADDRESS: JOHN REDMON
   P.O.Box 202, Greenleaf, Idaho 83626
   NE¼ OF NW¼ S½ NE¼
   SE¼ OF NW¼ N½ NE¼
   NORTH OF CANAL
7. LEGAL DESCRIPTION TO THE QUARTER-QUARTER SECTION: NW¼ SECTION 16-4-4
8. 1998 Working ACREAGE 6.88 OF 238 Acres 9. County(ies) Canyon
   (Include map outlined on page 2)
10. OWNERSHIP: ~~Private,~~ U.S. Forest Service, Bureau of Lan Management or Idaho Department of Lands (circle one)
11. COMMODITY TYPE, DURATION OF OPERATION, PRO ED START-UP DATE Sand & Gravel start up date April 1, 1998 initial operation to run 5 years.

(over)

2. Please provide the following maps of your mining operation (Section 070.03):

a. A vicinity map prepared on a standard USGS 7.5' quadrangle map or equivalent.

b. A site map which adequately shows the location of existing roads, access roads, and main haul roads, which would be constructed or reconstructed for the operation. Also, list the approximate dates for construction, reconstruction and abandonment. (Section 070.03.a)

c. On a site location map show the location and names, if known, of all streams, creeks or bodies of water within 1,000 feet of the surface mining operation.

d. On a site location map show the approximate boundaries and acreage of the lands that will become affected by the mining operation. This map must be at adequate scale for boundary identification.

e. On a site location map show the approximate boundaries and acreage of the lands that will become affected by the mining operations during the first year of operations.

f. On a site location map show the planned location of all tailings ponds and ancillary structures associated with the mining operation.

g. On a site location map show the planned configuration of all pits, mineral stockpiles and overburden piles which will be developed by the mining operation

h. Develop a surface and mineral control or ownership map of appropriate scale for boundary identification.

i. Develop scaled cross-sections of the mine showing surface profiles prior to mining at maximum disturbance and after reclamation.

13. A reclamation plan must be developed and submitted in map and narrative form (Section 070.04). The reclamation plan must include the following information:

a. On a drainage control map show and list the best management practices which will be utilized to control erosion on or from the affected lands

b. On a site map show which roads will be reclaimed the approximate dates for reclamation, and describe the reclamation to be accomplished.

c. Develop a revegetation plan which identifies how topsoil or other growth medium will be salvaged, stored and replaced in order to properly revegetate the area, identify the type of soil to be replaced, the slope of the reclaimed areas, and precipitation rates. Based on this information, identify the seed species, the seeding rates, the time and method of planting the soil, and fertilizer and mulch requirements.

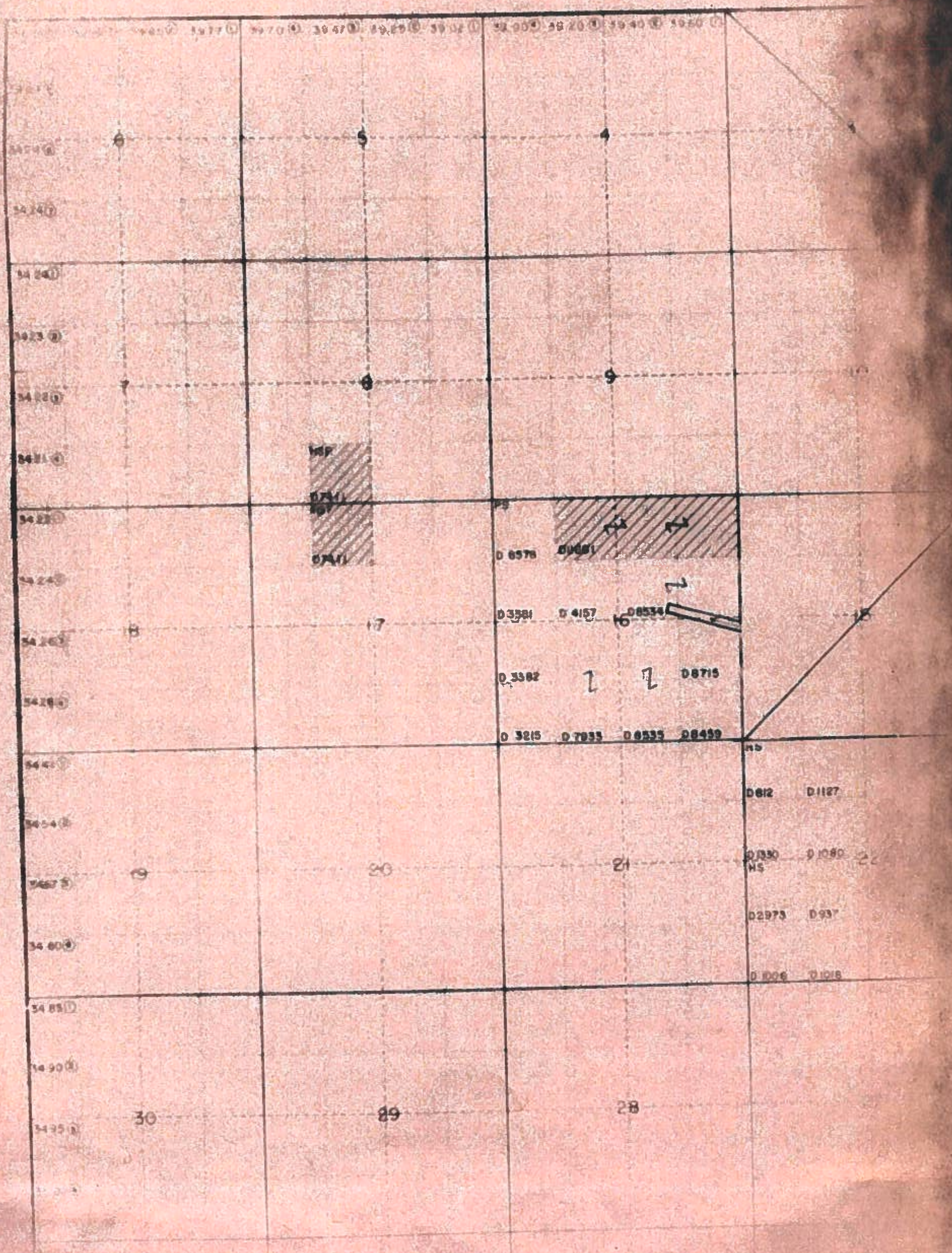
d. Describe and show how tailings or sediment ponds will be reclaimed.

e. Estimate the actual cost of reclamation which includes the cost for equipment mobilization, regrading, seed, fertilizer, mulch, labor and any other pertinent costs.

APPLICANT SIGNATURE: John Adams-Dunlea DATE 7-11-97

TOWNSHIP 4 NORTH   RANGE 4 WEST

CANYON   COUNTY



Appendix J – Additional MSGP Documentation

Deviations from Assessment or Monitoring Schedule

Date	Activity	Description of Deviation from Schedule	Reason for Deviation
	☐ Visual assessments ☐ Monitoring		
	☐ Visual assessments ☐ Monitoring		
	☐ Visual assessments ☐ Monitoring		
	☐ Visual assessments ☐ Monitoring		
	☐ Visual assessments ☐ Monitoring		
	☐ Visual assessments ☐ Monitoring		
	☐ Visual assessments ☐ Monitoring		

Active/Inactive Status Change

Date	New Facility Status	Reason for Change in Status
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	
	☐ Inactive and Unstaffed ☐ Active	

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

February 5, 2024

Canyon County Development Services
111 North 11th Ave
Caldwell, ID 83605

Subject: Operation Plan to accompany Conditional Use Application:
Long Term Mineral Extraction

Dear Canyon County Development Services and Planning and Zoning Commission or Hearing Examiner:

On behalf of the Applicant, JMAC Resources, and the Owner, Redmon Family Trust, Kyle Cooper and Orton Engineering provide this letter of intent seeking a Conditional Use Permit for a Long Term Mineral Extraction Project, Concrete Batch Plant, and expansion of a currently operational mineral extraction and aggregate crushing and washing operation.

Owner Information:

Redmon Family Trust (Kathy Redmon, Trustee), 22204 Tucker Road, Greenleaf, ID 83626

Owner Parcel Information:

Parcel ID: 36106000 0, 36107000 0, 36106010 0
Legal Description: *The Northeast Quarter AND the East half of the Northwest Quarter of Section 16, Township 4 North, Range 4 West, Boise Meridian, Canyon County, Idaho less that portion of the Southeast Quarter of the Northwest Quarter of Section 16, Township 4 North, Range 4 West, Boise Meridian that is South and West of the Riverside Canal.*
Deeded Acres: 237.84 Acres
Zone: Agricultural

Applicant Information:

JMAC Resources, Inc.

Applicant Contact Information:
Juston Ekart for JMAC Resources
PO Box 760, Caldwell, ID 83606
208 506 2952 ~ justone@jmacresources.com

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Operation Plan

Redmon Family Trust ~ Long Term Mineral Extraction
Conditional Use Permit Application
Operator: *JMAC Resources*
PO Box 760
Caldwell, ID 83606
208 506 2952

Nature of Request

The Redmon Family Trust desires a conditional use permit to allow their operator JMAC Resources to perform mineral extraction, aggregate crushing and washing (as have been performed on parcel 36106000 0 under a previous conditional use permit (CU2004-242)) as well as a concrete batch plant.

The subject parcels are outlined in red in Figure 1. The Site is one-half mile West of Notus Road and one-half mile North of Peckham Road.

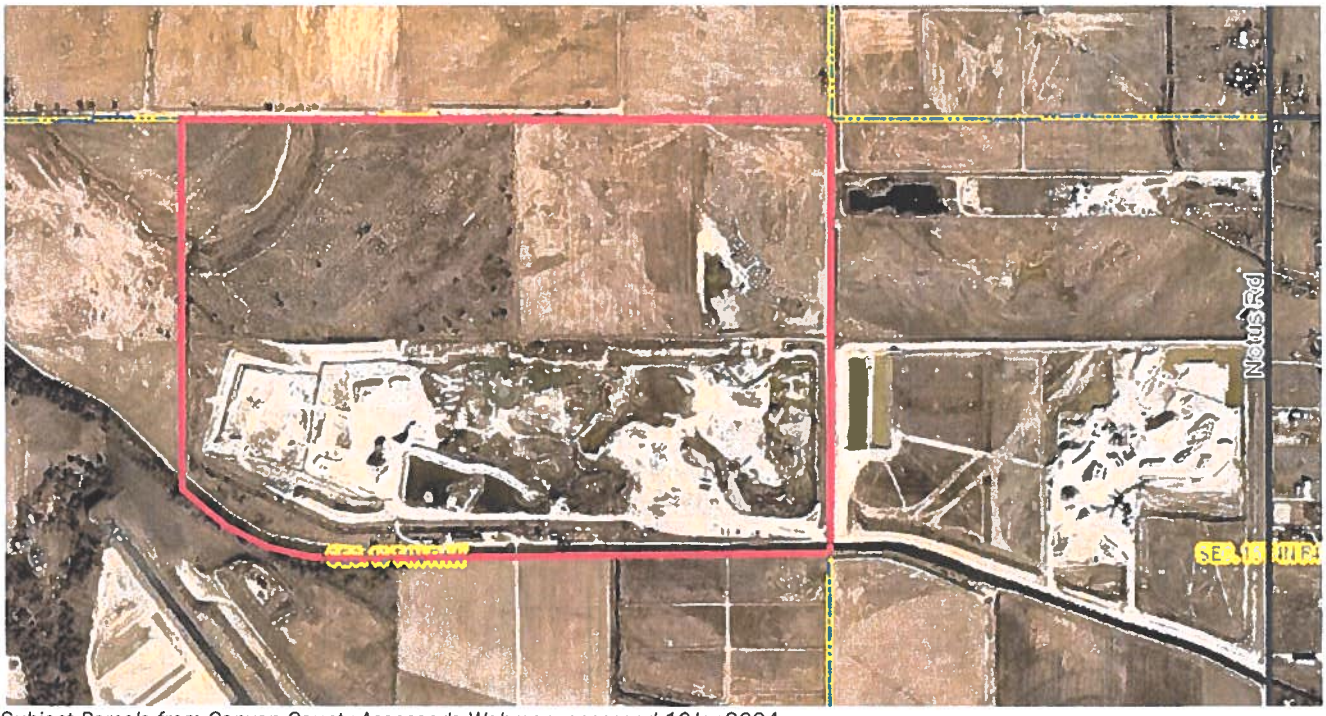


Figure 1 Subject Parcels from Canyon County Assessor's Webmap, accessed 10Jan2024

The Redmon Family Trust intends for the lake resulting from the mining operation to be incorporated as a residential development amenity. The applicant team discussed this with the City of Greenleaf (Lee Belt, City Clerk) as well as capacities for city services at that time.

While it is expected that the mineral extraction will be complete sooner, a duration of 40 years is requested in alignment with the previously issued CUP.

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Description of Operations

The conditional use permit application requests 40 years as the duration of the permit. This mirrors the current conditional use permit.

Commencement of Operation:
Operations are current under an existing permit. The source under that permit will soon be mined out (within the next few months) and the new permit would expand the area of the pit so operations can continue. Washing and crushing would continue as well with new hours of operation. The Concrete Batch plant would commence upon approval of the conditional use permit.

Hours of Operation:
Expected hours of operation for the Aggregate Crushing and Washing Operation from 4 AM to 10 PM with expected normal operation hours from 6 AM to 4 PM.

The Concrete Batch Plant operation hours will be 24 hours a day, six days a week (important for serving concrete needs of highway projects and other projects needing to be done at night or during low highway or facility use hours) and maintenance on the seventh day.

Description of Operations

The Batch Plant is intended to be located in the Southeast corner of the property (see Figure 2). Parking needs are estimated but not limited to 15 concrete trucks, five aggregate trucks, plus related employee parking as well as scale building employee and equipment operator parking.

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Figure 2 Crushing & Washing, Batch Plant Schematic by JMAC Resources, Inc.

Washout for concrete trucks will be contained in a constructed washout pond. Lighting will be directed into the site away from surrounding areas. Stormwater will be contained on site.

Mineral extraction will be conducted in accordance with the approved reclamation plan with the department of lands in Six Phases. An excerpt from the Reclamation Plan showing the phases is included below as Figure 3. Overburden and topsoil will form a berm around the Northern and Eastern boundaries of the expansion to the site (other sides are already bermed). The Reclamation Plan is included in the submittal documents.

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

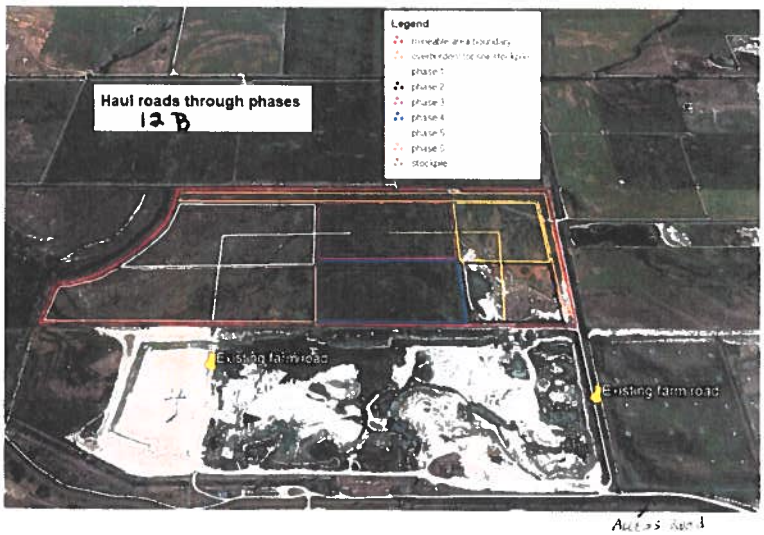


Figure 3 Site Phasing Excerpted from the Reclamation Plan Submitted to Idaho Department of Lands

Potential impacts that could arise from this operation could include additional traffic, sound, dewatering water, and dust.

Noise Levels

Sound generation:
The crushing and washing operation is already active. The concrete batch plant is planned to be situated far from the more noise sensitive uses near the neighboring mineral extraction site. The site will be bermed and is quite large. We are unaware of any noise-related complaints with the past operation. Crushing is the most significant noise generator and has not yielded complaints (that we know of) in the past. Sound attenuates at the square of the distance meaning it diminishes exponentially with distance from the source. The large area of the site and situating of the greater noise generating elements are expected to produce an unchanged noise level to any proximate noise sensitive uses.

Dust:
The site is currently operated with routine dust abatement and has not (to our knowledge) generated dust related complaints. The same dust prevention measures will remain in practice for the expansion of the site. These generally consist of watering roads. The crushing operation is abated with water as needed. Dust control water is insufficient to create runoff.

Air Quality

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

The air quality elements of this operation are closely related to dust management. Watering roads and use of water for management in the same fashion as the current operation should prevent any air quality impacts.

Water Quality
Dewatering is the process of pumping groundwater down to allow access to the mineral resources. Dewater can be performed by pumping from one pond area to another or by pumping the water to drainage facilities. Clean dewater is an exempt discharge under the National Pollutant Discharge Elimination System. Any dewatering to ditches is coordinated with the applicable irrigation/drainage entity – in this case, Riverside Irrigation District. No changes are anticipated to the dewatering practices at the site.

Raw Material Delivery
Raw Material Delivery to the site will be limited, but will include Portland cement. Other materials are generated on site.

Product
As described in the application, product will be trucked from the site to road and construction projects as has occurred in the past. Some additional traffic will be generated by the addition of the concrete batch plant and the proposed increase in the number of aggregate trucks as described below.

Traffic Impacts:
30 employees are expected to operate the site. This would result in 60 trips per day. Presuming that the estimated 15 concrete trucks could make up to five deliveries per day (possibly optimistic) would add another 75 outbound and inbound return trips (150). The estimated five aggregate trucks, presuming nine deliveries per truck per day would produce 45 outbound and inbound return trips (90). This totals 300 trips per day. Approximately half of this traffic is already present at the site for the existing operation. The new traffic generated will be consistent (Concrete Trucks) like the aggregate deliveries through the day and is not expected to be concentrated during peak hours like most traffic generators. The traffic generated at the site is in company with the ordinary traffic loads on Peckham, Notus, and SH19 generated by agricultural operations and gravel industry traffic. The total traffic is insufficient to warrant a traffic study under Association of Canyon County Highway District Standards. The new traffic that would be generated with an approval is about half or a little less than half of the existing traffic load.

Site Improvements
The site improvements relative to this site are described in the site plan and the reclamation plan included in the application.

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Facilities and Infrastructure
Facilities and Infrastructure relative to this operation are depicted on the site plan included in the application (in small format and in a large format folded map). This has also been supplied electronically. No public facilities are proposed as part of mineral extraction but could be expected of the long term development of this land after mineral extraction is complete.

Utilities

A new well may be necessary for the addition of the Concrete batch plant. If it is needed, it will be constructed and situated so it can be usable for the future residential development of the site. For domestic sewer purposes portable restrooms have been and will continue to be used. No additional utilities are required during the mineral extraction segment of this property's future. At the conclusion of mineral extraction operations, Sewer and Water utilities are available from the City of Greenleaf. Greenleaf has capacity and has verbally indicated the capability and willingness to serve the residential project on this site in the future.

Legal Access

Access to the site is via an easement shared by the Redmon Family Trust and Riverside Irrigation District (and has been since 1970). The easement and roadway are 25 feet wide and allow even heavy vehicles to pass one another (a full size travel lane is designed at 12 feet and sometimes smaller).

Potential Impact to Existing or Future Traffic Patterns

Immediate impacts to existing traffic patterns that would arise from expansion of the site under this requested permit were discussed above. Future traffic impacts from residential development will need to be evaluated as part of the planning and design effort for development that will utilize the lake as an amenity.

Potential Impact to Essential Services

No known impacts to essential services are foreseen with the actions proposed under this application.

Character of the Area ***(This section is also available in the Letter of Intent)***

The Subject Parcels are situated amongst mineral extraction operations, pastureland, and the Greenleaf Air Ranch. Reportedly, high groundwater and alkaline soil conditions make crop

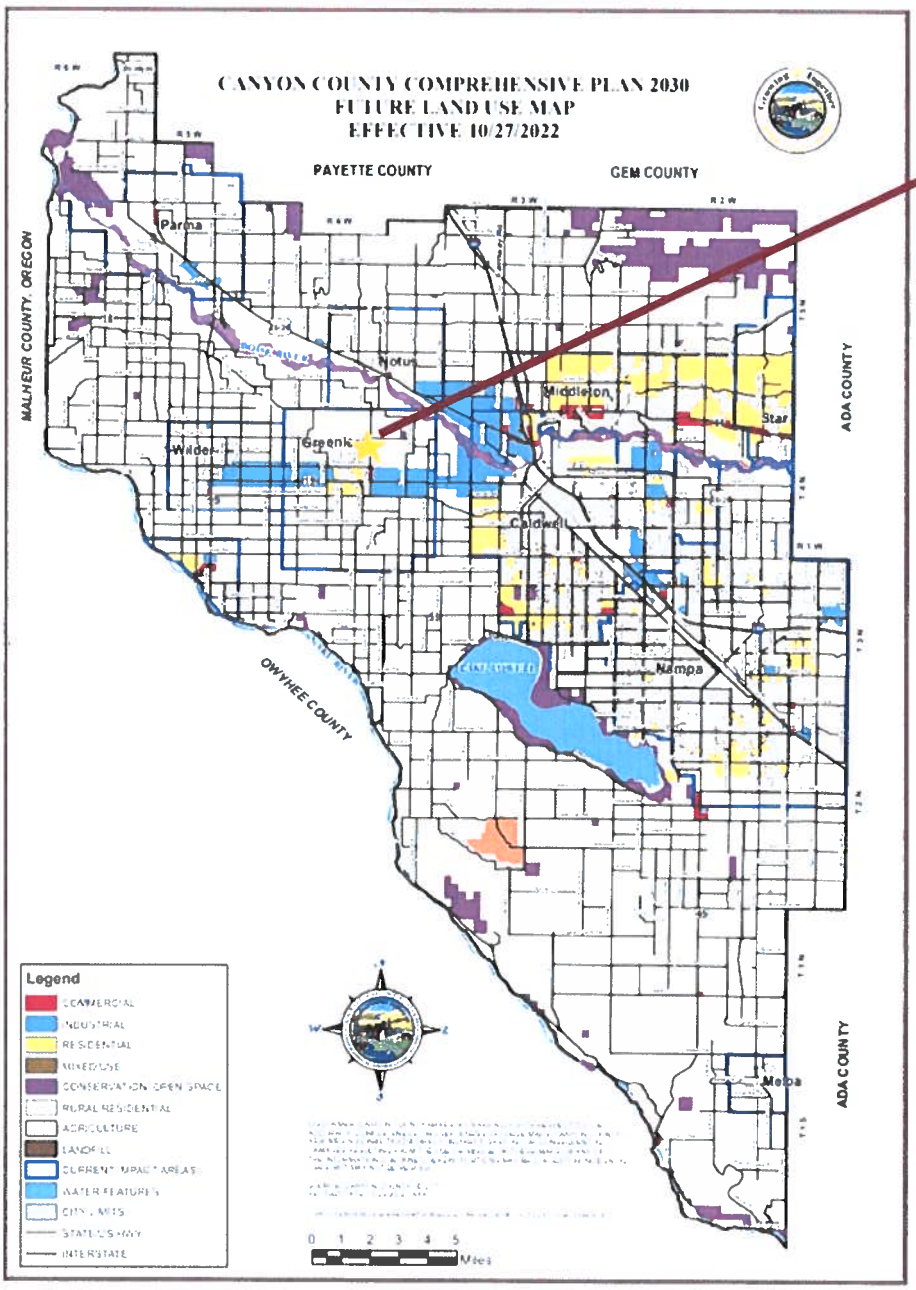
agriculture less feasible in this vicinity. This indication is confirmed by National Resource Conservation Service (NRCS) Soil Data (discussed more below).

Abutting the site to the North is irrigated pastureland owned by Staker and Parson Companies. East of the site is an active mineral extraction site also owned by Staker and Parson Companies, and privately owned pasture lands - two with a residence at the Notus Roadside. The site is bound on the South by the Riverside Canal. South of the canal are sectioned pastureland (in the same parcel with the Greenleaf Wastewater Treatment Plant – Incorporated into City of Greenleaf), Cultivated Land, and at the Southwest end, property containing the Greenleaf Air Ranch (Incorporated into City of Greenleaf). West of the site is pastureland.
Soils present on the proposed additions to the site are dominated by Letha Fine Sandy Loams (LtA) with strongly saline-alkali characteristics (NRCS). The National Resource Conservation Service Soil designations are visible in Figure 4.

Figure 4 National Resource Conservation Service Soil Survey from the Web Soil Survey Tool, Accessed January 10, 2024

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Redmon Family Trust ~ Long Term Mineral Extraction
Conditional Use Permit Application
Operator: *JMAC Resources*
PO Box 760
Caldwell, ID 83606
208 506 2952



★ Redmon Property Location

Orton Engineering
17338 Sunnydale Place
Caldwell, ID 83607
(208) 350 - 9416
brentorton@ortonengineers.com

Respectfully,

Brent L. Orton, PE, MSCE
Orton Engineering, LLC

Canyon County Development Services

111 N. 11th Ave. Room 310, Caldwell, ID 83605
(208) 454-7458

Building Divsn Email: buildinginfo@canyoncounty.id.gov **Planning Divsn Email:** zoninginfo@canyoncounty.id.gov

Receipt Number: 81848 Date: 2/20/2024

Date Created: 2/20/2024 **Receipt Type:** Normal Receipt **Status:** Active

Customer's Name: JMAC Resources

Comments: CU2024-0007

Site Address: 0 TUCKER RD, Greenleaf ID 83626 / Parcel Number: 36107000 0

CHARGES

Item Being Paid For:	Application Number:	Amount Paid:	Prevs Pymnts:	Unpaid Amnt:
Planning - Conditional Use Permit	CU2024-0007	$950.00	$0.00	$0.00

Sub Total:	$950.00
Sales Tax:	$0.00
Total Charges:	$950.00

PAYMENTS

Type of Payment:	Check/Ref Number:	Amount:
Check	1233	$950.00

Total Payments:	$950.00

ADJUSTMENTS

Receipt Balance:	$0.00

Issued By: pdilbeck