STATE OF COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

Cross/Caribou Storm Water Management Plan

DPollock@nedmining.com <DPollock@nedmining.com> Thu, Dec 30, 2021 at 1:33 PM
To: "Eschberger - DNR, Amy" <amy.eschberger@state.co.us>
Cc: "Cunningham - DNR, Michael" <michaela.cunningham@state.co.us>, jacob.dyste@state.co.us, Daniel Takami <danieltakami@gmail.com>

Amy,

Attached is the Stormwater Management Plan (SWMP), Permit COR-040242 as required by the M-1977-410 permit.

Please note the Ground Water Plan is being finalized and will be submitted by the 12/31/2021 deadline.

Thank you,

Daniel Pollock

Grand Island Resources

Nederland Mining Consultants

720.207.5154 – Office

312.342.6145 – Cell

2010 RULE SWMP_GIR_V1_R3.pdf
15237K

STATE OF COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

Cross/Caribou Storm Water Management Plan

Eschberger - DNR, Amy <amy.eschberger@state.co.us> Tue, Jan 4, 2022 at 8:15 AM
To: "Daniel V. Pollock" <DPollock@nedmining.com>
Cc: "Cunningham - DNR, Michael" <michaela.cunningham@state.co.us>, Jacob Dyste - CDPHE <jacob.dyste@state.co.us>, Daniel Takami <danieltakami@gmail.com>, RIchard Mittasch <rmittasch@nedmining.com>

Hello Daniel,

Thank you for providing a copy of your stormwater permit.

Just to clarify, this document is not being reviewed by our agency, as it is reviewed by WQCD as part of your stormwater permit held with their office. However, this document will be added to the permit file for M-1977-410 as documentation of compliance with WQCD with regard to stormwater management.

Best Regards,

Amy Eschberger
Environmental Protection Specialist

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

I am working remotely and can be reached at 303-945-9014.

O: 303.866.3567 x 8129 | F: 303.832.8106 | C: 303.945.9014
Physical Address: 1313 Sherman Street, Room 215, Denver, CO 80203
Mailing Address: 1001 E 62nd Ave, Denver, CO 80216
Amy.Eschberger@state.co.us | https://drms.colorado.gov

[Quoted text hidden]

Stormwater Management Plan (SWMP)
Colorado Metal Mining Operations
Permit COR-040242

Cross-Caribou Mine
Grand Island Resources, LLC
4415 Caribou Road
Nederland, CO 80466
(720) 893-3749
Permit COR-040242

SWMP Contact

Daniel Pollock
Director of Regulations and Permitting
Grand Island Resources, LLC
4415 Caribou Road
Nederland, CO 80466
(720) 893-3749
admin@nedmining.com

SWMP Preparation Date

September 2021

CONTENTS

1. CONTACT INFORMATION, FACILITY DESCRIPTION, AND MINING ACTIVITIES DESCRIPTION

A. *Facility Information*

Name of Facility: Cross – Caribou Mine

Street: 4415 Caribou Road

City: Nederland State: CO ZIP Code: 80466

County or Similar Subdivision: Boulder

Permit tracking number: COR-040242 and CO-0032571

Primary Industrial Activity SIC code, Sector and Subsector 1041 Gold Mining, Sector G, Subsector G2

Co-located Industrial Activity SIC code, Sector and Subsector 1044 Silver Mining, Sector G, Subsector G2

Latitude/Longitude

Latitude: Longitude:

39.978056º N (decimal degrees) 105.572194º W (decimal degrees)

Method for determining latitude/longitude (check one):

☐USGS topographic map ☐GPS

☒Other (please specify): Google Earth Pro

Horizontal Reference Datum (check one):

☐NAD 27 ☒NAD 83 ☐WGS 84

Is the facility located in Indian country?

☐Yes ☒No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable."

Are you considered a “federal operator” of the facility?

☐Yes ☒No

Estimated area of industrial activity at site exposed to stormwater: 3.0 (12.9 total) (acres)

Discharge Information

Name(s) of surface water(s) that receive stormwater from your facility: COSPBO03, Coon Track Creek, North Beaver Creek, Middle Boulder Creek

Does this facility discharge industrial stormwater directly into any segment of an “impaired water”? ☒Yes ☐No

Arsenic, 303(d) Low Priority. Aquatic Life (provisional), 303(d) Low Priority.

Does this facility discharge industrial stormwater into a receiving water designated as a Tier 2, Tier 2.5 or Tier 3 water? ☐Yes ☒No

Are any of your stormwater discharges subject to effluent limitation guidelines (ELGs)? ☐Yes ☒No

B. *Site Description and Activities*

Grand Island Resources LLC owns and operates the Cross-Caribou Mine (Mine). The historic site is reopening as an underground gold and silver mine. The Mine holds Colorado Division of Reclamation, Mining, and Safety 110(2) Permit M1977-410, issued 11/3/1980 and is located 3 miles west of Nederland, Colorado on lands adjacent to the Roosevelt National Forest, at an elevation of 9700 feet (Map 1). The site is subject to snow and ice conditions that impedes inspection of sediment and erosion control and stabilization and revegetation Best Management Practices (BMPs) for about 75% of the year (290 days/yr) and many areas of the property are inaccessible under those conditions.

This Stormwater Management Plan (SWMP) covers the activities associated with mine construction and development under an active Mining Operations permit (COR-040242). Changes to BMPs or changes in operations will be addressed in revisions to this SWMP. The majority of current operations at this facility are construction activities that have the potential to impact surface water quality from stormwater runoff.

The site description here is current with the date of this document. Part of the construction activities at the site are related to identifying and correcting historic site conditions that are out of compliance with modern standards for an operating mine. This upgrade has included permit review and inspections for underground and surface facilities.

The previous operators had obtained a Metal Mining Operations Stormwater Permit (COR-040242) in 2008, renewed in 2011. The permit status is Active Mining. The SWMP used by the previous operators has been lost to time. This SWMP identifies remedial measures that are needed to meet current Mining Stormwater Permit requirements, specifically, stormwater routing and sediment control, and, revegetation and erosion control.

The mine is located on both sides of the East-West trending Coon Track Creek (Map 2). Coon Track Creek is the receiving water body for stormwater runoff; it is the water body that needs protection from mine-related stormwater pollution. Stream channels and overland routing is depicted in Attachments A and B (location and site maps). Stormwater is not collected or routed to outfalls at the site. All stormwater flow from the mine property to Coon Track Creek is overland flow. Details on ground conditions, slopes, sediment generation, controls, sediment control BMP’s, and flows from design storm calculations found in Attachment C. Mine-site sediment generation and control have been studied and control structures required are presented in the Attachment C.

The surface area permitted for mining activities is less than 10 acres, about 3 acres being disturbed lands or structures. The surface runoff from about 12 acres is routed

through the property to Coon Track Creek. There is a vegetation buffer between the disturbed lands and Coon Track Creek, however it is often less than the suggested 50 feet for sediment control.

The property is a historic mining site in steep terrain; much of the disturbed 3 acres was created by cut and fill, with additional fill from mine waste rock. Previous operators of the property have not revegetated these slopes and natural revegetation has been slow. Stabilization of excavated slopes is needed. A revegetation and stabilization program to implement is described here in Attachment D.

The mine treats groundwater intercepted by two mine tunnels and discharges the treated water under CDPHE Permit CO-0032571. This CPDS system does not treat stormwater and its management is not addressed under this SWMP, with exception of treatment operations or facilities that could impact stormwater quality.

The industrial areas and activities that could be exposed to precipitation and stormwater are:

1. Material handling, including treated and untreated mine timbers, construction steel, petroleum, oils and lubricants, cement, gravel, sand and rock, and solid waste management.
2. Construction activities involve underground mining work in addition to surface grading, stabilization, building construction, utility construction, sediment control, and reclamation/revegetation of disturbed areas.
3. Equipment cleaning, maintenance, and fueling is conducted outside as well as construction fabrication, welding and cutting.
4. The facility manages waste rock in piles exposed to the elements until removal from the site. Explosives are used to produce the waste rock.
5. Public roads leading to the facility are unpaved.
6. The site is subject to run-on from adjacent properties and is bisected by Coon Track Creek.

2. AREA SUBJECT TO EFFLUENT LIMITATIONS

The site consists of a Historic Mining District and the surface facilities and disturbance have existed for decades. The permitted disturbance area of the mine is 9.99 acres in total. This includes the Caribou 300 Level Portal and Potosi Shaft areas that are not included in this SWMP at this time. The Caribou 300 Level Portal and Potosi Shaft areas are not in use at this time and have been undisturbed for decades.

The main GIR Permit Boundary encompasses 9.6 acres of land. Because all of the 9.6 acre surface drains to Coon Track Creek the main mine property is subject to effluent limitations. These areas run off as overland flow to Coon Track Creek. There are no stormwater impoundments or routing that creates point discharges to the creek. These discharges are not subject to monitoring under the 2006 CPDS General Permit for Stormwater Discharges Associated with Metal Mining Operations and Mine-waste Remediation (Attachment H, COR-040000, pg 13, Section D.6. Monitoring) which states:

> ***"****Sampling and testing of stormwater for specific parameters is not required on a routine basis under this permit. The Division reserves the right to require sampling and testing, on a case-by-case basis, in the event that there is reason to suspect that compliance with the SWMP is a problem, or to measure the effectiveness of the BMPs in removing pollutants from the discharge."*

The general permit COR-040000 effective dates ended on September 30, 2011. Existing permits have been administratively continued until a new general permit is issued by the state.

3. SITE MAP

A. General Location Map

The general location map for this facility can be found in Attachment A.

B. Site Map

The site map for this facility can be found in Attachment B.

4. STORMWATER MANAGEMENT CONTROLS

A. *SWMP Administrator*

Facility Operator

Name: Grand Island Resources LLC
Address: 4415 Caribou Road
City, State, Zip Code: Nederland, CO 80466
Telephone Number: (720) 893-3749
Email address: admin@nedmining.com

Facility Owner

Name: Grand Island Resources LLC
Address: 12567 W. Cedar Dr.
City, State, Zip Code: Lakewood, CO, 80228
Telephone Number: 720-667-4833
Email address: admin@nedmining.com

SWMP Administrator

SWMP Contact Name (Primary): Daniel Pollock, Regulations and Permitting
Telephone number: (720) 893-3749
Email address: dpollock@nedmining.com

SWMP Contact Name (Backup): Richard Mittasch
Telephone number: (720) 893-3749
Email address: rmattasch@nedmining.com

Staff Names	Individual Responsibilities
Daniel Pollock, Director of Regulations and Permitting, SWMP Administrator and Team Leader	SWMP Team Leader. Responsibilities include SWMP development and management, facility inspections, stormwater monitoring, annual training, annual reporting, spill response and reporting, evaluation of spill data to identify preventative measures. Responsible for budgeting, scheduling, and executing any required stormwater water quality sampling and reporting. Coordinates SWMP development, reviews and submits required CDPHE reporting, acts as lead inspector for monthly and annual comprehensive site assessments, completes endangered species and historic places assessments, and updates pollution prevention plan as required. Primary contact for SWMP questions.

Site Foreman	Responsibilities include BMP installation, maintenance and repair, spill response and containment.
Sergio Rivera, Mine Manager	Manages SWMP compliance across all mine departments. Evaluates reporting from Regulations and Permitting on SWMP implementation, training, and proposed changes including approval of corrective actions or additional implementation measures. Supports Team Leader in promoting good housekeeping and providing manpower and equipment necessary to implement and maintain storm water pollution prevention activities and controls as outlined in this plan. Ensures required reporting is submitted and coordinates employee training across departments.
Richard Mittasch, Surface Manager	Responsibilities include: planning and oversight of good housekeeping efforts, coordination of daily site activities to comply with the requirements listed in this plan including BMP installation, and budgeting for BMP installation, maintenance and repair. Surface staff will perform monthly inspections, quarterly benchmark, quarterly visual monitoring and, observe for abnormal conditions. The Surface Manager acts as spill response coordinator, participates in initial and annual comprehensive site assessments, and updates BMP design and implementation as site conditions require. Prepares assessment reporting and submits to Regulations and Permitting and ensures that changes to the site or the plan are reported to the Director of Regulations and Permitting for inclusion in SWMP revisions.
Dr. Gregory Miller, Hydrologist	Provides technical support to Regulations and Permitting including SWMP development and management plans, stormwater compliance monitoring plan development, SOP preparation, data evaluation, regulatory interpretation, annual training development, annual reporting forms, and spill response and reporting guidance.

B. *Potential Pollutant Sources and Best Management Practices*

Potential Pollutant Sources

Construction Activity	Associated Pollutants
Mine and Road Construction Access roads are constructed to facilitate future activities. Activities that may contribute to storm water pollution include earth disturbance, handling of concrete, aggregate materials and soil, and operation of petroleum powered and lubricated heavy earth moving equipment, surface and underground works and building construction, utility relocation, septic system installation, and heavy industrial equipment installation and commissioning. Chemical toilets may be present as part of this activity.	Primarily Total Suspended Solids and Dust. Suspended solids resulting from entrainment of particles native to the parent materials, or created during the mining operations, are the primary pollutant of concern from mine construction, ore extraction, processing, storage, and reclamation activities. Other potential contaminants of concern are nitrate / nitrite from explosives, trace metals from groundwater discharge and the parent material, and oil & grease from heavy equipment operation. Floatable pollutants including trash and debris may result from inadequate trash control and housekeeping procedures incidental to the mining activity. See below for pollutants associated with subtasks.
Heavy Equipment and Vehicle Fueling	Gasoline, Diesel, Sheen, O&G, PAH
Heavy Equipment and Vehicle Maintenance	Gasoline, Diesel, Sheen, O&G, PAH, Battery Acid, Oils and Lubricants, Grinding and Welding (Fe, Mn).
Petroleum, Oils and Lubricants Storage	Gasoline, Diesel, Sheen, O&G, PAH, Oils and Lubricants
Foundation Excavation	TSS, Dust, Nitrates/Nitrites (explosives)
Underground Excavation/Waste Rock	TSS, Dust, Nitrates/Nitrites (explosives)
Building Construction	TSS, Dust, Paints, Glues and Solvents, Scrap Metal and Grinding and Welding (Fe, Mn), Refuse and Debris.
Salt Storage	Salt storage is indoors at the warehouse on the Cross Mine site.

Areas of Site Where Potential Spills/Leaks Could Occur

Location	Discharge Points
Oil Storage Building – Caribou Mine Parking Lot	Coon Track Creek
Diesel Fueling Station – Caribou Mine Parking Lot	Coon Track Creek

Cross Mine Building and Parking - Maintenance	Coon Track Creek
Caribou Mine Parking and Maintenance Yard	Coon Track Creek
Cross Mine Access Road	Coon Track Creek

Description of Past Spills/Leaks

Date	Description	Discharge Points
2020-7/2021	Occasional fuel spills to soil at the Diesel Fueling Station – Caribou Mine Parking Lot	None – Never reached discharge
2020-7/2021	Septic leakage from Cross Mine Privy and showers	None – Never reached discharge
2020-7/2021	Lime spills and over-application – Pond 1	Coon Track Creek Outfall 001 high pH
2020-7/2021	Vehicle maintenance petroleum, oils and lubricants, metals, and cleaners – Caribou Mine Parking Lot	None – Never reached discharge
2020-7/2021	Vehicle maintenance petroleum, oils and lubricants, metals, and cleaners – Cross Mine Parking Lot	None – Never reached discharge

Best Management Practices (BMPs)

1) Stormwater diversion.

Best Management Practices for stormwater routing and sediment control are contained in Attachment C. BMPs selected for the site include approximately 4,000 feet of silt fence and a single rock check dam. Following implementation of a soil stabilization, erosion control, and revegetation program that achieves 70% established cover, silt fence may be considered for removal. BMPs contained in Attachment C are to be implemented within 60 days of publication of this SWMP, weather allowing. Sediment control structures are inspected weekly by the Site Forman as weather allows.

2) Materials handling and spill prevention.

In order to minimize the exposure of material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff; and minimize pollutant discharge from industrial activities performed at the mine, performing and locating these activities indoors or protecting them with storm resistant cover will be implemented.

Dumpsters will be located so that any discharge from the dumpster is retained on site and not co-mingled with stormwater discharges. Any dumpsters that cannot be located in general secondary containment will be covered to prevent stormwater from accumulating in the dumpster. The following should be performed as needed:

- Use grading, berming or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;

- Locate materials, equipment, and activities so that potential leaks and spills are contained or able to be contained or diverted before discharge;
- Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;
- Impacted soils and synthetic spill absorbents are placed in empty oil, grease, or lubricant containers and removed from the site for disposal;
- Store leaky vehicles and equipment indoors or, if stored outdoors, use drip pans and absorbents;
- Use spill/overflow protection equipment; and,
- Perform all vehicle and/or equipment cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray.

3) Sediment and erosion prevention.

The soil stabilization, erosion control, and revegetation BMPs are found in Attachment D.

4) Other pollution prevention measures.

Dust control on mine roads is managed on a daily basis. If dusty conditions from traffic are noted, the on-site water truck is used to wet roads enough to prevent dust but not so much as to cause runoff. The application rate is dependent on pre-existing soil and road moisture conditions and an observational approach is used.

The county-maintained access road to the mine, and the Cross mine and Caribou mine roads on private land are all unpaved with a gravel surface. Material tracking into and out of the site is minimal and not obvious on inspection.

C. *Preventative Maintenance*

Daily inspections of all working areas are performed by the Surface and Underground manager (as appropriate) and the Health and Safety Officer

All needed repairs to prevent stormwater contamination will be completed the same day as the issue was identified. If the issue was identified at the end of the shift, repairs will begin at the start of the next day. Final repairs must be in place with 14 days, or if not feasible within 45 days. The SWMP Administrator must be notified of any repairs that cannot be completed with the initial 14-day period.

Good engineering practices are performed to prevent spills and leaks from occurring when performing maintenance outdoors. During routine facility inspections, the Mine employees inspect all pieces of equipment and machinery to ensure it is in good repair with no drips or leaks evident. Drip pans and adsorbents are used as needed.

D. *Good Housekeeping*

Inside refuse is moved to a central dumpster at the Caribou parking lot daily. Other refuse and wase from outside operations are transported to the dumpster daily. Management calls the waste management company for dumpster exchange, usually every 1-2 weeks.

Reusable metal and lumber are segregated from waste and accumulated outdoors below the Caribou parking lot in a bermed area. Materials are accessed as needed and replenished as available. Annually this “bone pile” is evaluated for the next year’s use and may be recycled off site or sold. Waste wood may be offered to employees for firewood. Staff-use recyclables (water bottles, aluminum cans, etc.) are transported to the Nederland recycling center weekly. When porta-potties are in use they are serviced weekly.

Good housekeeping inspections are conducted daily at all areas of the Mine by the manager responsible for the area.

The Mine employees inspect the facility weekly for presence of potential stormwater pollutants (solid waste, hazardous fluids, leaks, etc.), which are properly disposed of if present.

All exposed areas of the facility that may contribute to storm water pollution will be kept in a clean, orderly fashion. These areas include the fueling area, the shops and parking lots, storage buildings, underground facilities, and the mining area. These areas will be inspected on a monthly basis for spills, leaks, accumulated garbage, impending container failure and other problems that may contribute to storm water pollution. The monthly inspections will be documented on the inspection form (Attachment E).

E. *Spill Prevention and Response Procedures*

The Mine has a Spill Prevention, Control and Countermeasure (SPCC) Plan**.** A facility-specific Spill Response Plan, as presented in the SPCC, is posted in all areas where spills and/or leaks are likely to occur. At the Mine, Spill Response Plans are posted in conspicuous places and if possible, near a telephone. Plans also have instructions to use Mine radio and personal phones. Spill response plans shall be posted at the:

- Cross Mine Building and Shops,
- Caribou Mine Building and Shops,
- Fueling Station,
- Oil and Lubricant Storage Building,
- Cross Mine Warehouse, and
- Water Treatment Facility

Spill response procedures and contact information can be found on the spill response plans and the SPCC plan. A copy of the SPCC, as presented as part of Technical Revision 6 to the DRMS permit, is located in Attachment F.

Spill prevention and response procedures should be assessed on a quarterly basis for any facility and personnel changes that might affect the efficiency in responding to a spill or release, to include:

- Develop training on the procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases from new or modified sources.
- As appropriate, test execution of such procedures as soon as possible;
- Conduct a “lessons learned” training based on any leak, spill, or other release occurs in the previous quarter.
- Documentation and recordkeeping of any changes that result from quarterly assessments.

Spill cleanup materials (spill kits) are adequately stocked, readily accessible, and labeled at all times. Spill kits are located at:

- Cross Mine Building Tool Room,
- Cross Mine Building Warehouse (former Ore House) Hazardous Area,
- Caribou Mine Building Geology/Tool Room Area,
- Caribou Mine Maintenance Area (Parking Lot),
- Fueling Station,
- Petroleum Oil and Lubricant Storage Building (former Fuel Building)

Spent cleanup materials are disposed of immediately and properly. All tanks, drums, buckets, and other storage containers are properly labeled and if stored outdoors, or indoors directly adjacent to a doorway, they require secondary containment. Specific areas where secondary containment is required include:

- Oil and Lubricant Storage Building and Distributed Storage,
- Fuel storage tanks at fueling station, and
- Used oil storage

F. *Employee Education.*

The SWMP Administrator is responsible for providing training to Mine employees regarding the components and goals of this SWMP. The miners and other employees who work in areas where industrial materials and activities are exposed to stormwater, or who are responsible for implementing activities to meet the conditions of the permit are expected to participate in annual SWMP training.

Training will be provided to Mine employees by qualified trainers at least annually, with additional training made available as required by new hires. Elements to be included in the training sessions include the following:

- Purpose, need, and requirement for stormwater pollution prevention;
- Examples of unallowable non-stormwater discharges;
- Availability, layout, and contents of the SWMP;
- Description and applicability of the BMPs;
- Good housekeeping and preventative maintenance requirements;

- Material management practices;
- Sampling;
- Spill response procedures;
- Spill reporting requirements;
- Corrective action reporting; and
- Documentation requirements.

All training events are documented including the date of training, identification of the trainer and attendees, and subjects covered. Training records shall be included in Attachment G of this SWMP. Reporting Process: Following each training session, Mine will distribute training certificates by email to all staff and PPT members that attend training and submit a training assessment.

G. *Identification of Discharges Other Than Stormwater.*

Unauthorized Non-Stormwater Discharges Documentation

The following are Authorized Non-Stormwater Discharges for Construction and Mining and Milling that may occur:

1. Discharges from emergency/unplanned fire-fighting activities;
2. Potable water, including uncontaminated water line flushings;
3. Uncontaminated condensate from air conditioners, coolers/chillers, and other compressors and from the outside storage of refrigerated gases or liquids;
4. Irrigation/landscape drainage, provided all pesticides, herbicides, and fertilizers have been applied in accordance with the approved labeling;
5. External building/structure washdown / power wash water that does not use detergents or hazardous cleaning products (e.g., those containing bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols) and you have implemented appropriate control measures to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention, settlement);
6. Uncontaminated ground water or spring water; and.
7. Foundation or footing drains where flows are not contaminated with process materials.

Description of this facility’s unauthorized non-stormwater discharge evaluation:

- Date of evaluation: June 23-25, 2021
- Description of the evaluation criteria used: Unauthorized non-Stormwater discharges at the facility are discharges that are not connected to our sanitary systems (Cross Mine drain field or Caribou Mine drain field) or our CPDS treated groundwater discharge collection system (Pond’s).

  The site evaluation determined if discharges were unauthorized by inspection of all wastewater discharges and tracing to outfall or treatment.

- List of the drainage points that were directly observed during the evaluation:

  Groundwater collection points (mine tunnels) are routed to CPDS treatment (Ponds) then to Outfall 001 on Coon Track Creek. Pipes were traced from inflow to outfall, no unauthorized or non-groundwater connections were noted.

  All wastewater connections in the Caribou Mine building were traced to the sanitary system. One exception was noted. Water containing sediment from diamond sawing of rock core (20-100 gallons) was being disposed of to the parking lot at approximately weekly intervals.

  Waste water connections from sinks and showers at the Cross Mine are not connected to a sanitary system. Subsurface investigation (mini back hoe) was used to verify lack of connection or a treatment vault or drain field. Similarly, a privy was investigated and found to also be unconnected to sanitary drain field.

  A collection pipe for groundwater discharge in the Cross Mine snow shed was found to be routed to discharge to Coon Track Creek.

- Describe action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), or documentation that a separate CPDS permit was obtained.

  Caribou Mine core sawing waste is being taken to the waste rock area for storage at weekly intervals. The core debris is waste rock and the waste rock storage area has sediment control BMP's.

  Cross Mine sinks and showers will be connected to a sanitary system in 2021. The privy has been deconstructed and the hole lime-treated and filled in compacted lifts. The collection pipe for groundwater discharge that reported to Coon Track Creek has been rerouted to Pond 1 for treatment and discharge to Pond 2 then Outfall 001.

5. ADDITIONAL SWMP ITEMS FOR SITES SEEKING MINE REMEDIATION/PERMIT TERMINATION

Not applicable at this time

6. COMPREHENSIVE INSPECTION

A. *Inspections and Assessments*

Two types of detailed and documented inspections are conducted at the facility. Routine Monthly Facility Inspections and Routine Semi-Annual Visual Assessment Inspections. Routine Facility Inspections are documented on standardized inspection forms. Forms will be updated to reflect the current conditions at each facility as required. All completed inspection forms and associated reports will be attached to this SWMP.

During normal facility operating hours inspections of areas of the facility covered by the requirements in this permit are conducted, including, but not limited to, the following:

- Areas where industrial materials or activities are exposed to stormwater;
- Areas identified in the SWMP and those that are potential pollutant sources;
- Areas where spills and leaks have occurred in the past three years;
- Discharge points; and
- Control measures used to comply with the effluent limits contained in this permit.

During the inspection, the inspector will examine or look out for the following:

- Solid waste handling, storage, and disposal areas;
- Stormwater outfalls and areas susceptible to erosion;
- Industrial materials, residue or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks and other containers;
- Offsite tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
- Tracking or blowing of raw, final or waste materials from areas of no exposure to exposed areas;
- Control measures needing replacement, maintenance or repair.

During an inspection occurring during a stormwater event or discharge, control measures implemented to comply with effluent limits must be observed to ensure they are functioning correctly. It is expected that snow cover will limit inspections to early summer and fall. Discharge points must also be observed during this inspection. If such discharge locations are inaccessible, nearby downstream locations must be inspected. Further procedures for routine facility inspections are provided here.

Routine Facility Inspections must document the findings of the facility inspections and the documents are used to maintain this report. The inspection findings must be summarized in the annual report. Document all findings, including but not limited to, the following items and notes:

- The inspection date and time;
- The name(s) and signature(s) of the inspector(s);

- Weather information;
- All observations relating to the implementation of control measures at the facility, including:
  - A description of any discharges occurring at the time of the inspection;
  - Any previously unidentified discharges from and/or pollutants at the site;
  - Any evidence of, or the potential for, pollutants entering the drainage system;
  - Observations regarding the physical condition of and around all drainage points, including any flow dissipation devices, and evidence of pollutants in discharges and/or the receiving water;
  - Any control measures needing maintenance, repairs, or replacement;
- Any additional control measures needed to comply with the permit requirements;
- Any incidents of noncompliance; and
- A signed and certified statement.

Specific areas of the facility to be inspected include:

- Material Storage Areas;
- Fuel storage and dispensing areas;
- Maintenance areas;
- Maintenance fluid storage area;
- Used oil storage area;
- Mine portals and underground workings;
- Outdoor materials handling and storage areas;
- Truck entrances and exits;
- Areas susceptible to erosion; and
- Areas where spills and leaks have occurred in the past three years.

B. *Semi-Annual Visual Assessment of Stormwater Discharges*

Twice a year for the entire permit term, a stormwater sample must be collected from each drainage point (except as noted below) and conduct a visual assessment of each of these samples. These samples are not required to be collected consistent with 40 CFR Part 136 procedures but must be collected in such a manner that the samples are representative of the stormwater discharge. The visual assessment must be made:

- Of a sample in a clean, colorless glass or plastic container, and examined in a well-lit area;
- 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 the sample within the first 30 minutes. In the unexpected case of snowmelt, samples must be taken during a period with a measurable discharge from the site; and

- For storm events, on discharges that occur at least 72 hours (three days) from the previous discharge. The 72-hour (three-day) storm interval does not apply if you document that less than a 72-hour (three-day) interval is representative for local storm events during the sampling period.

You must visually inspect or observe the sample for the following water quality characteristics:

- Color
- Odor
- Clarity (diminished)
- Floating solids
- Settled solids
- Suspended solids
- Foam
- Oil sheen
- Other obvious indicators of stormwater pollution

Whenever the visual assessment shows evidence of stormwater pollution, initiate corrective action procedures.

C. *Documentation*

Document the results of the visual assessments and maintain this documentation. The visual assessment findings must be included in the annual report. The documentation of the visual assessment must include, but not be limited to:

- Sample location(s);
- Sample collection date and time, and visual assessment date and time for each sample;
- Personnel collecting the sample and performing visual assessment, and their signatures;
- Nature of the discharge (i.e., runoff or snowmelt);
- Results of observations of the stormwater discharge;
- Probable sources of any observed stormwater contamination; and
- If applicable, why it was not possible to take samples within the first 30 minutes.

Whenever the visual assessment shows evidence of stormwater pollution, initiate corrective action procedures.

D. *Water Quality Monitoring for Regulated Effluent*

Water quality monitoring is not required under the General Stormwater Permit COR-040000 for mining. There are no site-specific monitoring requirements under site permit COR-040242 Semi-annual visual assessment will be performed and documented using the inspection forms in Attachment E.

7. SWMP CERTIFICATION.

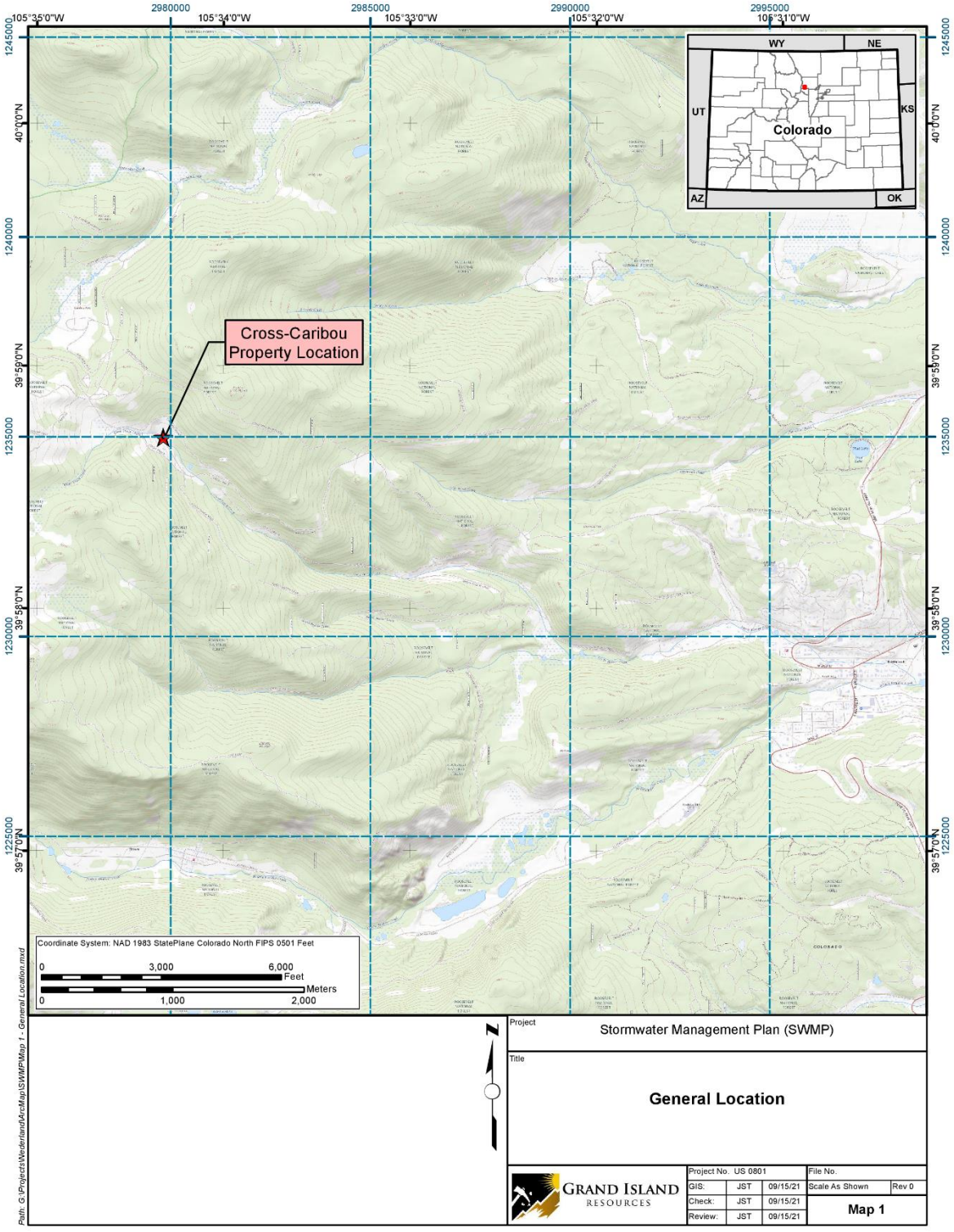
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage 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.

Name: Title:

Signature: Date:

8. SWMP ATTACHMENTS

Attachment A – General Location Map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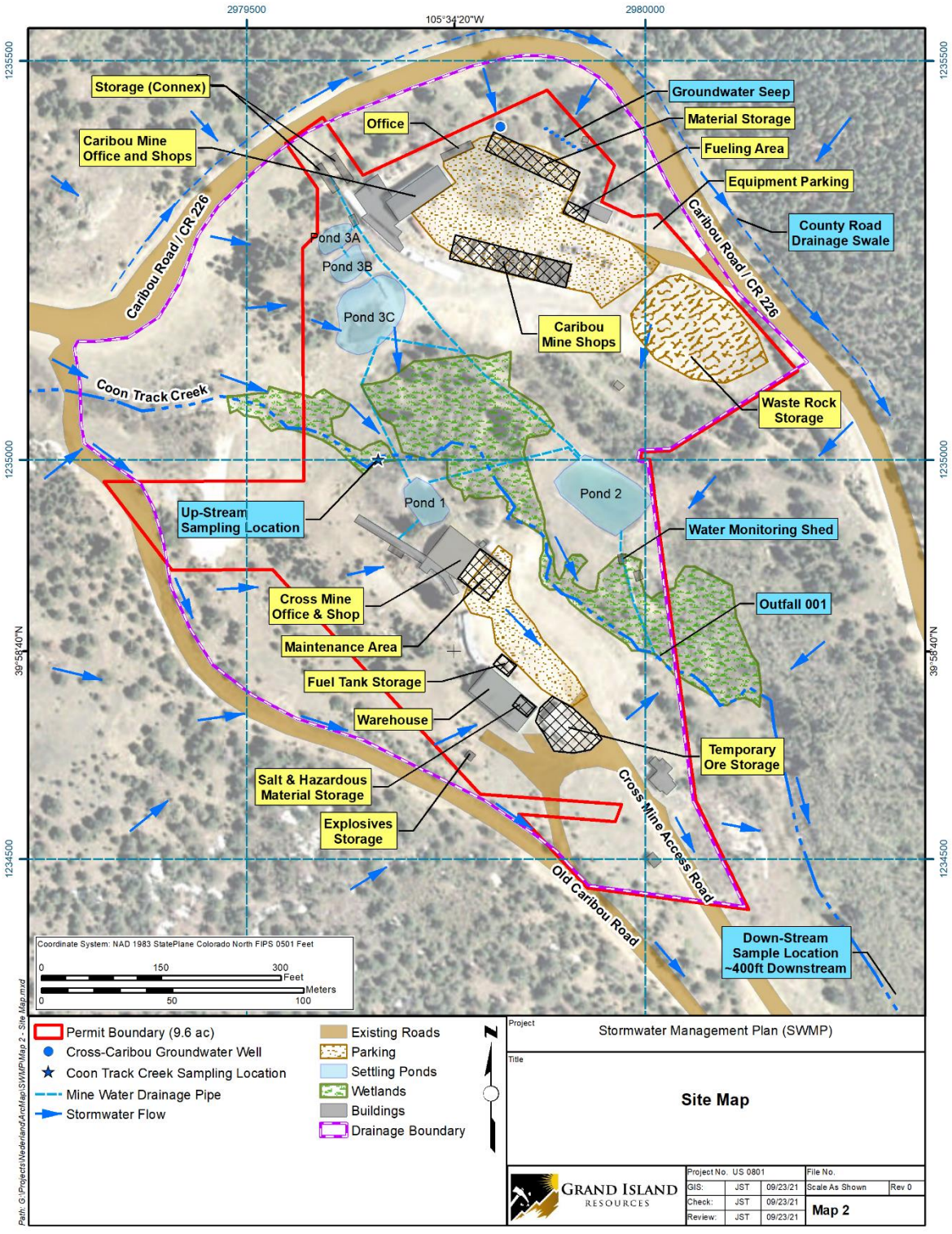
1240000
1235000
1230000
1225000
40°0'0"N
39°59'0"N
39°58'0"N
39°57'0"N
Cross-Caribou
Property Location
WY
NE
UT
KS
Colorado
AZ
OK
Coordinate System: NAD 1983 StatePlane Colorado North FIPS 0501 Feet
0
3,000
6,000
Feet
0
1,000
2,000
Meters
Path: G:\Projects\Nederland\ArcMap\SWMP\Map 1 - General Location.mxd
Project
Stormwater Management Plan (SWMP)
Title
General Location
GRAND ISLAND RESOURCES
Project No. US 0801
File No.
GIS: JST 09/15/21
Scale As Shown
Rev 0
Check: JST 09/15/21
Review: JST 09/15/21
Map 1

Attachment B – Site Map


2979500
105°34'20"W
2980000
1235500
1235000
1234500
39°58'40"N
Storage (Connex)
Caribou Mine Office and Shops
Office
Groundwater Seep
Material Storage
Fueling Area
Equipment Parking
County Road Drainage Swale
Caribou Road / CR 226
Pond 3A
Pond 3B
Pond 3C
Caribou Mine Shops
Coon Track Creek
Waste Rock Storage
Pond 1
Pond 2
Up-Stream Sampling Location
Water Monitoring Shed
Cross Mine Office & Shop
Outfall 001
Maintenance Area
Fuel Tank Storage
Warehouse
Temporary Ore Storage
Salt & Hazardous Material Storage
Explosives Storage
Cross Mine Access Road
Old Caribou Road
Down-Stream Sample Location ~400ft Downstream
Coordinate System: NAD 1983 StatePlane Colorado North FIPS 0501 Feet
0 150 300 Feet
0 50 100 Meters
Permit Boundary (9.6 ac)
Cross-Caribou Groundwater Well
Coon Track Creek Sampling Location
Mine Water Drainage Pipe
Stormwater Flow
Existing Roads
Parking
Settling Ponds
Wetlands
Buildings
Drainage Boundary
Project
Stormwater Management Plan (SWMP)
Title
Site Map
GRAND ISLAND RESOURCES
Project No. US 0801
File No.
GIS: JST 09/23/21
Scale As Shown
Rev 0
Check: JST 09/23/21
Review: JST 09/23/21
Map 2
Path: G:\Projects\Nederland\ArcMap\SWMP\Map 2 - Site Map.mxd

Attachment C – Stormwater and Sediment Load Calculations

GRAND ISLAND RESOURCES LLC
STORMWATER MANAGEMENT PLAN (SWMP)
SEDIMENT LOAD AND CONTROL EVALUATION
CROSS AND CARIBOU MINES
NEDERLAND, COLORADO

PREPARED BY:
GRAND ISLAND RESOURCES LLC
CROSS AND CARIBOU MINES
4415 CARIBOU ROAD
NEDERLAND, CO 80466

Table of Contents

1 CERTIFICATION

Name and Location of Project:
Grand Island Resources, LLC
Cross and Caribou Mines
4415 Caribou Road
Nederland, CO 80466

Operator:
Name: Richard Mittasch
Address: 4415 Caribou Road, Nederland, CO 80466
Phone Number: 720-893-3749

Person Responsible for Implementing SWMP (SWMP Administrator):
Name: Daniel Pollock
Address: 4415 Caribou Road, Nederland, CO 80466
Phone Number: 312-342-6145

Name, Address, Phone Number, and Email Address
Richard Mittasch – Operator
Daniel Pollock – Administrator
4415 Caribou Road
Nederland, CO 80466
720-893-3749
rmittasch@nedmining.com
dpollock@nedmining.com

County Permit Number: SU-08-006

CDPHE Stormwater Permit Number: CO-0032751

2 INTRODUCTION

This stormwater management plan (SWMP) update was prepared, and is being submitted, as part of compliance with Colorado Division of Public Health and Environment (CDPHE) regulated stormwater requirements. This application amends the current CPDES Permit CO-0032751and replaces the SWMP contained in the current #COR 040242..

The SWMP addresses current surface conditions at the Grand Island Resources (GIR) permitted properties in Nederland, Colorado. The site consists of a Historic Mining District and the surface facilities and disturbance have existed for decades.

The GIR Permit Boundary encompasses 9.6 acres of land (Figure 1 Appendix A; and Appendix B). DRMS Permit # M1977-410. However, due to site topography, the Study Area comprises approximately 12.9 acres of land (Figure 2)

Potential sediment generation from the property is estimated via the Revised Universal Soils Loss Equation (RUSLE) methodology an empirical erosion model recognized as a standard method to calculate the average risk of erosion on arable land. RUSLE developed from the Universal Soil Loss Equation (USLE) developed in the US Department of Agriculture. (Home | NRCS (usda.gov)

The maximum allowable soil discharge from the site has been set to 5 tons per acre per year. Table 1 provides potential sediment yield estimates for the sites.
Sediment control and removal actions via Best Management Practice (BPM) implementation are proposed (Figure 12 and, Tables 2 and 3).

3 SITE DESCRIPTION

The site is an active gold and silver mine (Colorado Division of Reclamation, Mining, and Safety 110 (2) Permit M1977-410, issued 11/3/1980), located 3 miles west of Nederland, Colorado on lands adjacent to the Roosevelt National Forest, at an elevation of 9700 feet, Mean Sea Level (MSL). The proposed expanded permit boundary will be on private property owned or controlled by GIR (Figure 1).

3.1 VEGETATION

The following vegetation information is taken from the "Cross Mine Vegetation Ecological Site Survey and Assessment" prepared by Walsh Environmental Scientists and Engineers, LLC, March 12, 2008 .

This study was conducted to identify, delineate, and describe the plant communities at the Cross Mine, Boulder County, Colorado. The Cross Mine is located five miles west of Nederland, Colorado adjacent to the Roosevelt National Forest, at an elevation of approximately 9,700 ft., MSL. The site is bisected by Coon Track Creek, a tributary of Beaver Creek which flows into Middle Boulder Creek before delivering flows to Barker Reservoir.

3.1.1 Identification Methods

Walsh ecologists were familiarized with the project site at a kick-off meeting on May 24, 2006. Additional site visits were conducted on June 12 and October 5, 2006. Initial plant community identifications were made from a recent aerial photograph of the site. The site was traversed on foot and these identifications were confirmed or modified with additional observations and information. Confirmed community boundaries were drawn over the aerial photo image and digitized. A brief description of each community was composed, including a list of dominant plant species.

Thirteen plant communities (comprising 25.1 acres) were described and mapped. These include 11 upland and two wetland communities. Each community is described below.

3.2 Upland Plant Communities

3.2.1 Aspen Woodland

Aspen woodland is the most widespread plant community on the site, comprising three individual polygons and representing 7.33 acres (29.2 percent) of the site.

This community is dominated by a relatively closed quaking aspen (Populus tremuloides) canopy. A few scattered limber coniferous species contribute a minor component to this canopy and include limber pine (Pinus flexilis) and lodgepole pine (Pinus contorta) as well as subalpine fir (Abies bifolia), Engelmann spruce (Picea engelmannii) and blue spruce (Picea glauca).

A lush understory is dominated by graminoids including mountain brome (Bromus marginatus), Timothy (Phleum pratense), and bluegrasses (Poa spp.) Wood's rose (Rosa woodsii) and shrubby cinquefoil (Pentaphylloides floribunda) represent a limited shrub stratum. A diverse forb component is dominated by Alsike clover (Trifolium hybridum), yarrow (Achillea lanulosa), wild strawberry (Fragaria vesca), silver lupine (Lupinus argenteus), and black-eyed Susan (Rudbeckia hirta).

3.2.2 Limber/Lodgepole Pine Parkland

The limber/lodgepole pine parkland includes three polygons comprising 5.44 acres (21.7 percent) of the site. Parklands refer to areas of scattered trees with canopy cover of 50 percent or less. In these areas, limber and lodgepole pine trees are scattered amidst meadows comprising the same species found in the upland meadow

community.

3.2.3 Aspen/Lodgepole Pine Parkland

Aspen/lodgepole pine parkland includes less than a half-acre (1.1 percent) of the site. Aspen and lodgepole pine trees are scattered throughout open meadows with an herbaceous component comprising essentially the same species as found in the upland meadows. This portion of the site represents areas not having vegetation due to on-going mining activities.

3.2.4 Disturbed Upland Meadow

The second-most extensive community of the project site, the disturbed upland meadow area, comprises 4.3 acres (17.3 percent) of the site. It appeared that this community more closely resembles the upland meadow areas. However, the plant community has been modified in response to surface disturbances caused by human activities such as livestock grazing and construction. Fewer native species occur in these areas, which are notably dominated by planted pasture or reclamation grasses such as smooth brome, Timothy, and Kentucky bluegrass (Poa pratensis).

3.2.5 Lodgepole Pine Parkland

The lodgepole pine parkland comprises less than an acre (2.7 percent) of the site. This parkland community is named for the lodgepole pine scattered throughout a generally upland meadow herbaceous community dominated by Timothy and smooth brome, intermixed with yarrow and wild strawberry. Common juniper, shrubby cinquefoil, and mountain snowberry (Symphoricarpos oreophilus) represent a scattered shrub story.

3.2.6 Planted Grasses

This community comprises less than an acre (1.8 percent) of the site. These areas appear to be locations where the native plant community has been completely removed during human activities and replaced by planted pasture and reclamation grasses such as smooth brome, mountain brome, Timothy, and Kentucky bluegrass.

3.2.7 Rocky Outcrop

A rock outcrop includes approximately a tenth of an acre (0.6 percent) in the north portion of the site. This feature supports a few trees and shrubs including subalpine fir, Englemann spruce, lodgepole, limber pine, and broom huckleberry (Vaccinium scoparium). Forbs such as pussytoes and golden banner (Thermopsis montana) were also present.

3.2.8 Spruce/Fir Woodland

Limited spruce/fir woodland occurs in the north part of the site, comprising approximately a third of an acre (1.5 percent of land). This community is characterized by a dense Englemann spruce and subalpine fir canopy with a sparse understory of shrubs including broom huckleberry, twinberry honeysuckle (Lonicera involucrata), fireweed (Chamerion danielsii), whisk broom parsley (Harbouria trachypleura), and heartleaf arnica (Arnica cordifolia).

3.2.9 Upland Meadow

The upland meadow compromises a small portion of the northern part of the site and accounts for less than an acre (2.9 percent of the site). The area is characterized by Kentucky bluegrass and prairie sagewort forb (Artemisia ludoviciana) as co-dominants in a species-rich herbaceous community. Other common grasses include smooth brome (Bromopsis inermis), Timothy, Canada bluegrass (Poa compressa), and sun sedge (Carex pensylvanica subsp. heliophila). The most common forbs include sedum (Amerosedum lanceolatum), pussytoes (Antennaria parviflora), fringed sage (Artemisia frigida), wild geranium (Geranium richardsonii and G. viscossisimum), yarrow (Achillea lanulosa), fringed thistle (Cirsium centaureae) and wild strawberry.

The only weed noted includes scattered small populations of Canada thistle (Breea arvensis) at the community edges where it grades into more mesic areas. (The SWMP includes a commitment to control noxious weeds which may occur within the proposed permit area.). Scattered, low-growing shrubs include Wood's rose, shrubby cinquefoil, broom huckleberry and common juniper (Juniperus communis). Occasional clumps of Scouler's willow (Salix scouleriana) also occur in the upland meadow.

3.2.10 Willow/Spruce/Fir Woodland

The willow/spruce/fir woodland represents an intermediate community that grades into both the spruce/fir woodland as well as the willow woodland. This community represents slightly more than an acre (4.1 percent) of the site. The canopy is dominated by a number of willow species including Geyer (Salix geyeriana), plane-leaf (S. planifolia), mountain (S. montana), and sandbar (S. exigua) intermixed with Colorado blue spruce (Picea pungens) and subalpine fir. This community also supports a diverse shrub story with dense stands of thin-leaf alder (Alnus incana subsp. Tenuifolia) and bog birch (Betula pumila) as well as wax currant (Ribes cereum), prickly currant (R. lacustre), twinberry honeysuckle and Wood's rose.

A lush herbaceous understory includes wild strawberry, wild geranium, large-leaved avens (Geum macrophyllum), yellow bedstraw (Galium verum), bluebells (Mertensia ciliata), dandelion (Taraxacum officinale), clover (Trifolium spp.), and death camas (Zigadenus venenosus).

3.2.11 Willow Woodland, a Wetland Community

The willow woodland community occurs adjacent to the creek channel, in the most mesic portion of the site. This woodland comprises almost a half-acre (1.7 percent) of the site. The area is characterized by a dense willow canopy composed of the same species found in the willow/spruce/fir woodland. The same dense shrub and lush herbaceous components that are present in the willow/spruce/fir woodland also occur in this community.

3.3 SURFACE WATER RESOURCES

Coon Track Creek bisects the proposed permit area. Associated with the drainage are some wetlands on either side of Coon Track Creek. Surface water quality impacts are not expected. Where needed, appropriate Best Management Practice (BMP) storm water controls will be implemented during the construction and reclamation of the proposed activities.

No hazardous or toxic chemicals will be used during any of the proposed construction. GIR currently manages and treats one permitted mine water discharge point, which discharges directly into Coon Track Creek under Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division (WQCD) Colorado Pollutant Discharge Elimination System (NPDES) Permit CO-0032751.

No actual stream flow or surface water quality data are available for Coon Track Creek or North Beaver Creek into which Coon Track Creek and Hicks Gulch flow. North Beaver Creek flows into Middle Boulder Creek at Nederland, CO. Stream flow data from Middle Boulder Creek at Nederland, CO, USGS Station ID 06725500 is used below to provide stream flow data. Stream Flow data (shown below) are from the following source: Colorado Division of Water Resources, data retrieved, May 4, 2021. No site-specific surface water quality data is available from the Coon Track Creek..

4 RUSLE DATA

Potential sediment generation for the Study Area (~ 12.9 acres of land. see Figure 2) was estimated based on the Revised Universal Soils Loss Equation (RUSLE) methodology.

4.1 STUDY AREA SUB-DIVISION

The Study Area was divided based on two criteria: 1) ground cover conditions and 2) topographic features.

The 8 distinct ground cover conditions identified; topographic features definition resulted in 23 sub-areas. The following Table provides general information of resulting Area Sub-Division.

Area Name	Figure Number	Surface Area (acres)
Wetland	4	1.0
Natural Undisturbed	5	8.7
Natural Scarp	6	0.3
Bare Soil	7	0.5
Bare Rock	8	0.9
Rockfill Slope	9	0.7
Compacted Rock	10	0.5
Unpaved Road	11	0.4

4.2 RAINFALL EROSIVITY FACTOR "R"

A rainfall erosivity factor (R factor) for the Study Area (Lat. 39.97566º Long. -105.56885º) of 27.72 was obtained from the National Pollutant Discharge Elimination System (Rainfall Erosivity Factor Calculator | Water Data and Tools | US EPA). (Appendix A)

4.3 HYDROLOGIC SOILS UNITS

Hydrologic Soils Units for the Study Area were obtained from the National Resources Conservation Service (Appendix B, Soil Map – Arapaho - Roosevelt National Forest Area, Colorado, parts of Boulder, Clear Creek, Gilpin, Grand, Park and Larimer Counties, Web Soil Survey - Home (usda.gov)).

The specific Hydrologic Soil Unit for each of the Study Area watersheds are shown on Figure 13, and Tables 1, 2 and 3); these include the following units: 6102A, 7702B, 7700B and 7755B.

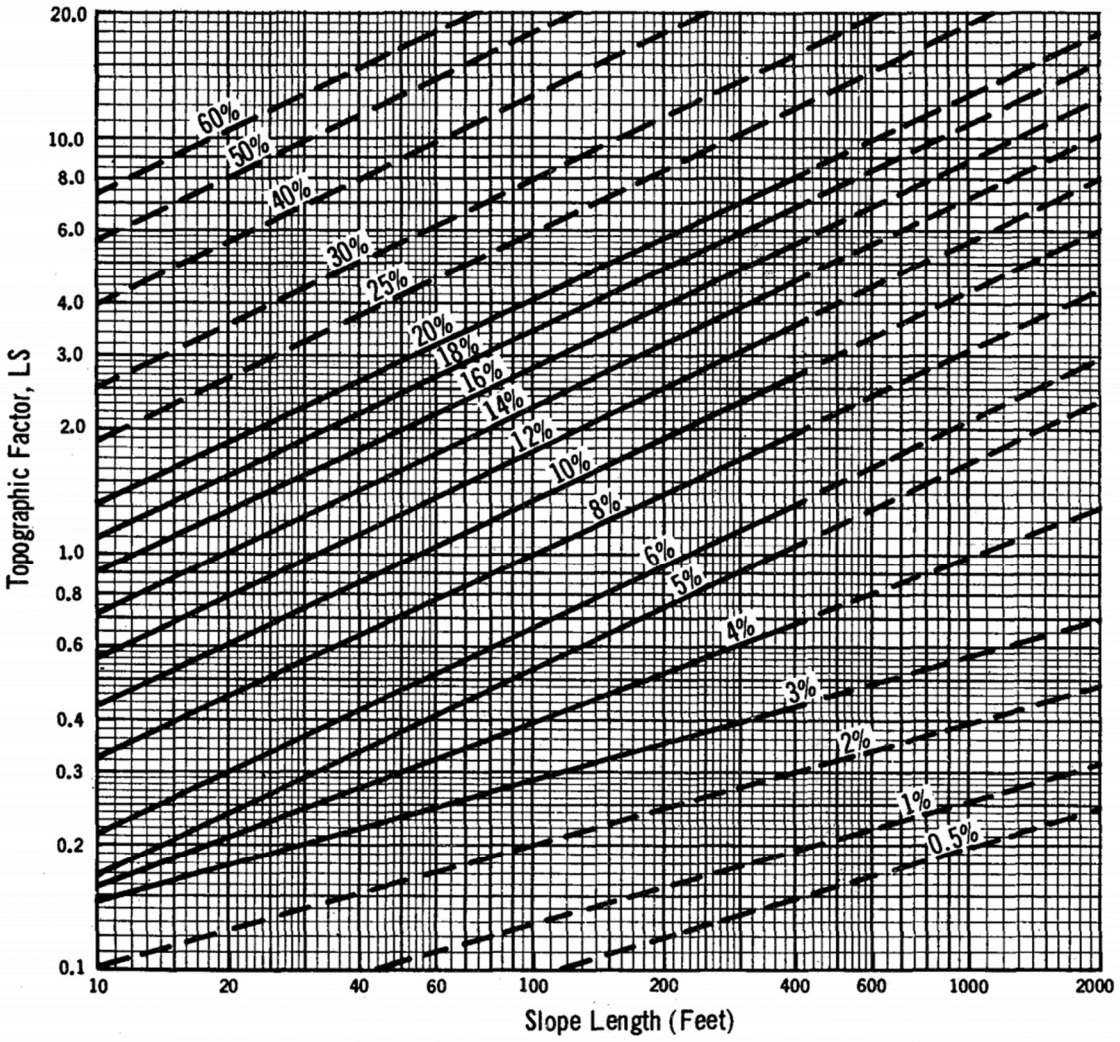
4.4 RUSLE RELATED HYDROLOGIC SOILS UNITS FACTOR "C"

Specific "K" Factor Values for the corresponding Soil Units were obtained from the National Resources Conservation Service (RUSLE 2 related attributes – Arapaho - Roosevelt National Forest Area, Colorado, parts of Boulder, Clear Creek, Gilpin, Grand, Park and Larimer Counties, Web Soil Survey - Home (usda.gov)). The "K" Factors used are shown on Tables 1, 2 and 3.

4.5 SLOPE EFFECT FACTOR "Ls"

The "Ls" Factor was estimated from each of the 23 physical location areas described under 4.1 above, depicted on Figures 2 through 11 and listed on Tables 1, 2 and 3.

"Ls" values were obtained from the following nomograph based on slope lengths and elevation delta obtained from site topography (Figure 1). menu-NEH3.PDF (usda.gov)



*The dashed lines represent estimates for slope dimensions beyond the range of lengths and steepnesses for which data are available. The curves were derived by the formula:

$$LS = \left(\frac{\lambda}{72.6}\right)^{m} \left(\frac{430x^2 + 30x + 0.43}{6.57415}\right)$$

where λ = field slope length in feet and $m = 0.5$ if $s = 5\%$ or greater, 0.4 if $s = 4\%$, and 0.3 if $s = 3\%$ or less; and $x = \sin\theta$. θ is the angle of slope in degrees.

Figure 3–2.—Slope-effect chart (topographic factor, LS).

4.6 PRACTICE FACTOR "P"

A "P" Factor of 1 was applied to all areas. This conservative approach results in high sediment yield estimates. The factor will be adjusted to reflect field conditions at the time of preparation of subsequent studies.

5 SEDIMENT MANAGEMENT

5.1 SEDIMENT YIELD ESTIMATE

Table 1 below provides details of the Estimated Sediment Yield for 18 of 23 physical location areas under Pre-BMP Conditions. Sediment Yield was not estimated for the 4 Wetland surface areas total 1.0 acres (Figures 2 and 3)

Table 1 - PRE-BMP CONDITION

														No BMP	0%	
Area ID	Area Name	Surface Area (ft^2)	Surface Area (acres)	Activity/Surface Condition	Soil Class	Slope Length (ft)	Top Elev (ft)	Bottom Elev (ft)	Segment Slope (%)	Soil Erodibility "K" Factor	"Ls" Factor	Land Cover "C" Factor	Soil Loss "A" (tons/acre/ year)	Sediment Control "P" Practice Factor	Structure Sediment Removal (% Eff)	Estimated Sediment Yield (tons/acre/year)
N	Natural Undistrubed N	61,634	1.41	Natural	7702B	127	9795	9740	43%	0.20	15.00	0.050	4.20	1.0	0%	4.20
E	Natural Undistrubed E	56,441	1.30	Natural	6102A	303	9705	9670	12%	0.24	3.20	0.050	1.08	1.0	0%	1.08
C	Natural Undistrubed C	21,420	0.49	Natural	7700B	105	9685	9665	19%	0.49	3.40	0.050	2.33	1.0	0%	2.33
NW	Natural Undistrubed NW	65,954	1.51	Natural	6102A	345	9815	9695	35%	0.24	18.00	0.050	6.05	1.0	0%	6.05
WC	Natural Undistrubed WC	70,187	1.61	Natural	7700B	510	9815	9700	23%	0.49	12.00	0.050	8.23	1.0	0%	8.23
SW	Natural Undistrubed SW	21,694	0.50	Natural	7700B	239	9710	9655	23%	0.49	7.50	0.050	5.15	1.0	0%	5.15
SC	Natural Undistrubed SC	21,027	0.48	Natural	6102A	160	9705	9690	9%	0.24	1.40	0.050	0.47	1.0	0%	0.47
NC	Natural Undistrubed NC	61,850	1.42	Natural	7755B	418	9815	9720	23%	0.49	8.00	0.050	5.49	1.0	0%	5.49
B	Natural Bare Soil	21,015	0.48	Natural	7755B	136	9745	9742	2%	0.49	0.22	1.000	3.02	1.0	0%	3.02
RF1	Rockfill Slope NE	4,780	0.11	Bare Rock	7755B	24	9740	9730	42%	0.49	7.00	0.050	4.80	1.0	0%	4.80
RF2	Rockfill Slope SE	11,260	0.26	Bare Rock	7755B	39	9725	9705	51%	0.49	12.00	0.050	8.23	1.0	0%	8.23
RF3	Rockfill Slope SW	13,300	0.31	Bare Rock	7755B	46	9690	9670	43%	0.49	10.00	0.050	6.86	1.0	0%	6.86
BR1	Bare Rock (Caribou Parking)	14,806	0.34	Bare Rock	7755B	54	9742	9740	4%	0.49	0.30	0.050	0.21	1.0	0%	0.21
BR2	Bare Rock (Cross Parking)	23,268	0.53	Bare Rock	7700B	61	9693	9690	5%	0.49	0.42	0.050	0.29	1.0	0%	0.29
R1	Unpaved Road (Caribou)	11,036	0.25	Bare Rock	7755B	127	9745	9725	16%	0.49	3.20	0.150	6.59	1.0	0%	6.59
R2	Unpaved Road (Cross)	4,618	0.11	Bare Rock	7700B	218	9680	9650	14%	0.49	3.40	0.150	7.00	1.0	0%	7.00
NS	Natural Scarp	11,464	0.26	Rock	7700B	102	9755	9695	59%	0.49	20.00	0.020	5.49	1.0	0%	5.49
CR	Compacted Rock (pile storage)	21,396	0.49	Rock	7755B	166	9743	9720	14%	0.49	3.00	0.050	2.06	1.0	0%	2.06

The sediment yield limit of 5 tons per acre per year is exceeded in 9 of the 18 areas; therefore, BMPs are recommended and will be implemented as shown on Figure 12.

5.2 ROCK CHECK DAM BMP

Table 2 below presents the effects that implementing a Rock Check Dam BMP at the outlet of the Caribou Area would have on Sediment Yield reduction.

The BMP will be constructed at the outlet of the Caribou Mine Site; runoff from 6 areas will report to the BMP as shown on Figure 12.

Table 2 - BMP ROCK CHECK DAM																	
											Rock Check Dam Sediment Removal Efficiency				90%		
Area ID	Area Name	Surface Area (ft^2)	Surface Area (acres)	Activity/Surface Condition	Soil Class	Slope Length (ft)	Top Elev (ft)	Bottom Elev (ft)	Segment Slope (%)	Soil Erodibility "K" Factor	"Ls" Factor	Land Cover "C" Factor	Soil Loss "A" (tons/acre/ year)	Sediment Control "P" Practice Factor	Structure Sediment Removal (% Eff)	Estimated Sediment Yield (tons/acre/year)	
N	Natural Undistrubed N	61,634	1.41	Natural	7702B	127	9795	9740	43%	0.20	15.00	0.050	4.20	1.0	90%	0.42	
B	Natural Bare Soil	21,015	0.48	Natural	7755B	136	9745	9742	2%	0.49	0.22	1.000	3.02	1.0	90%	0.30	
RF1	Rockfill Slope NE	4,780	0.11	Bare Rock	7755B	24	9740	9730	42%	0.49	7.00	0.050	4.80	1.0	90%	0.48	
RF2	Rockfill Slope SE	11,260	0.26	Bare Rock	7755B	39	9725	9705	51%	0.49	12.00	0.300	49.39	1.0	90%	4.94	
BR1	Bare Rock (Caribou Parking)	14,806	0.34	Bare Rock	7755B	54	9742	9740	4%	0.49	0.30	0.050	0.21	1.0	90%	0.02	
R1	Unpaved Road (Caribou)	11,036	0.25	Bare Rock	7755B	127	9745	9725	16%	0.49	3.20	0.150	6.59	1.0	90%	0.66	

5.3 SILT FENCE BMP

Silt Fences will be installed downstream of areas where, due to topography, property boundary limitations or increased disturbance, construction of a Check Dam is not possible.

Table 3 presents the sediment yield reduction as a result of installing Silt Fences

Table 3 - BMP SILT FENCE																	
												Silt Fence Sediment Removal Efficiency				70%	
Area ID	Area Name	Surface Area (ft^2)	Surface Area (acres)	Activity/Surface Condition	Soil Class	Slope Length (ft)	Top Elev (ft)	Bottom Elev (ft)	Segment Slope (%)	Soil Erodibility "K" Factor	"Ls" Factor	Land Cover "C" Factor	Soil Loss "A" (tons/acre/ year)	Sediment Control "P" Practice Factor	Structure Sediment Removal (% Eff)	Estimated Sediment Yield (tons/acre/year)	
SW	Natural Undistrubed SW	21,694	0.50	Natural	7700B	239	9710	9655	23%	0.49	7.50	0.050	5.15	1.0	70%	1.54	
RF3	Rockfill Slope SW	13,300	0.31	Bare Rock	7755B	46	9690	9670	43%	0.49	10.00	0.050	6.86	1.0	70%	2.06	
BR2	Bare Rock (Cross Parking)	23,268	0.53	Bare Rock	7700B	61	9693	9690	5%	0.49	0.42	0.050	0.29	1.0	70%	0.09	
R2	Unpaved Road (Cross)	4,618	0.11	Bare Rock	7700B	218	9680	9650	14%	0.49	3.40	0.150	7.00	1.0	70%	2.10	
NS	Natural Scarp	11,464	0.26	Rock	7700B	102	9755	9695	59%	0.49	20.00	0.020	5.49	1.0	70%	1.65	
CR	Compacted Rock (pile storage)	21,396	0.49	Rock	7755B	166	9743	9720	14%	0.49	3.00	0.050	2.06	1.0	70%	0.62	

5.4 ADDITIONAL SEDIMENT YIELD REDUCTION

While care and reasonable design standards have been used for sediment reduction, field opportunities will present themselves for additional sediment reduction effort. For example, certain surface construction activities, such as road building and maintenance may require additional sediment attenuation structures such as silt fences, in addition to and other than those depicted here. New disturbances may need additional sediment attenuation such as additional silt fence, or stapled wattles to reduce velocities upslope of sediment retention structures. We will use Terzaghi and Peck's[1] "observational approach" to refine the design and add structures opportunistically.

Similarly, the design and techniques presented here may need be modified to cope with field conditions. Placement of sediment control structures may deviate from design, again using an observational approach. Structures require inspection and maintenance at regular intervals. These inspectons provide opportunities to note deficiencies or non-optimal performance. Corrective measures should bring about further sediment load reduction beyond current design.

The area of the mine site that is exposed soil or rock changes over time due to mining activities and vegetative succession. A new plant community survey and wetland soil determination will be performed in the Summer of 2021. The changes in vegetative community since the 2008 survey may suggest alternatives for reducing sediment load. Current mine planning will result in additional changes to vegetation. Under the current DRMS permit we will be revegetating previously disturbed areas (Idaho Tunnel Rehabilitation, Ponds 3 A, B, and C berms, New Road construction berms) as we finish those construction activities. This will increase the amount of vegetation on-site over the current condition, reducing sediment load. Revegetation is accomplished using DRMS approved mixes and methods.

[1] Peck, R. B. (1969). Advantages and limitations of the observational method in applied soil mechanics. Geotechnique 19(2)
Terzaghi, K. (1943) Theoretical Soil Mechanics. Ed. John Wiley and Sons, Inc.

6 Conclusions

Potential sediment yields were estimated for 18 land surface areas, which range from 0.11 to 1.6 acres of land. Estimates were based on two criteria: 1) ground cover conditions and 2) topographic features. Eight distinct ground cover conditions were identified; topographic features definition resulted in 23 sub-areas (Figures 1 through 11). Hydrologic conditions (soil unit and surface cover conditions) and topographic (slope length and gradient) parameters were used to determine RUSLE "C", "K" and "Ls" factors for each sub-area; a standard "P" factor of 1 was applied to all sub-areas. A rainfall erosivity factor "R" of 27.72 for the site (NPDES calculator) was applied to all sub-areas.

The calculations indicate that, possibly due to long slope lengths and steep terrain, Natural Undisturbed Land could potentially yield sediment in excess of 8 tons/acre/year (area I.D. "WC", 1.6 acres of land, Table 1). Bare Rock placed at angle of repose and unpaved access roads are the primary sources of sediment yield from undisturbed land, 8.2 and 6.9 tons/acre/year, respectively (Table 1).

Due to steep terrain, available surface area within the property boundary and, avoiding large disturbance of vegetated land, GIR proposes the construction of one Rock Fill Check Dam (Table 2) and the installation of close to 4,000 feet of Silt Fence (Table 3) as Best Management Practice (BMP) to reduce sediment discharge.

The installation of the proposed BMPs would result in a Weighted Sediment Yield of approximately 3 tons/acre/year from the entire 11.9 acres of land.

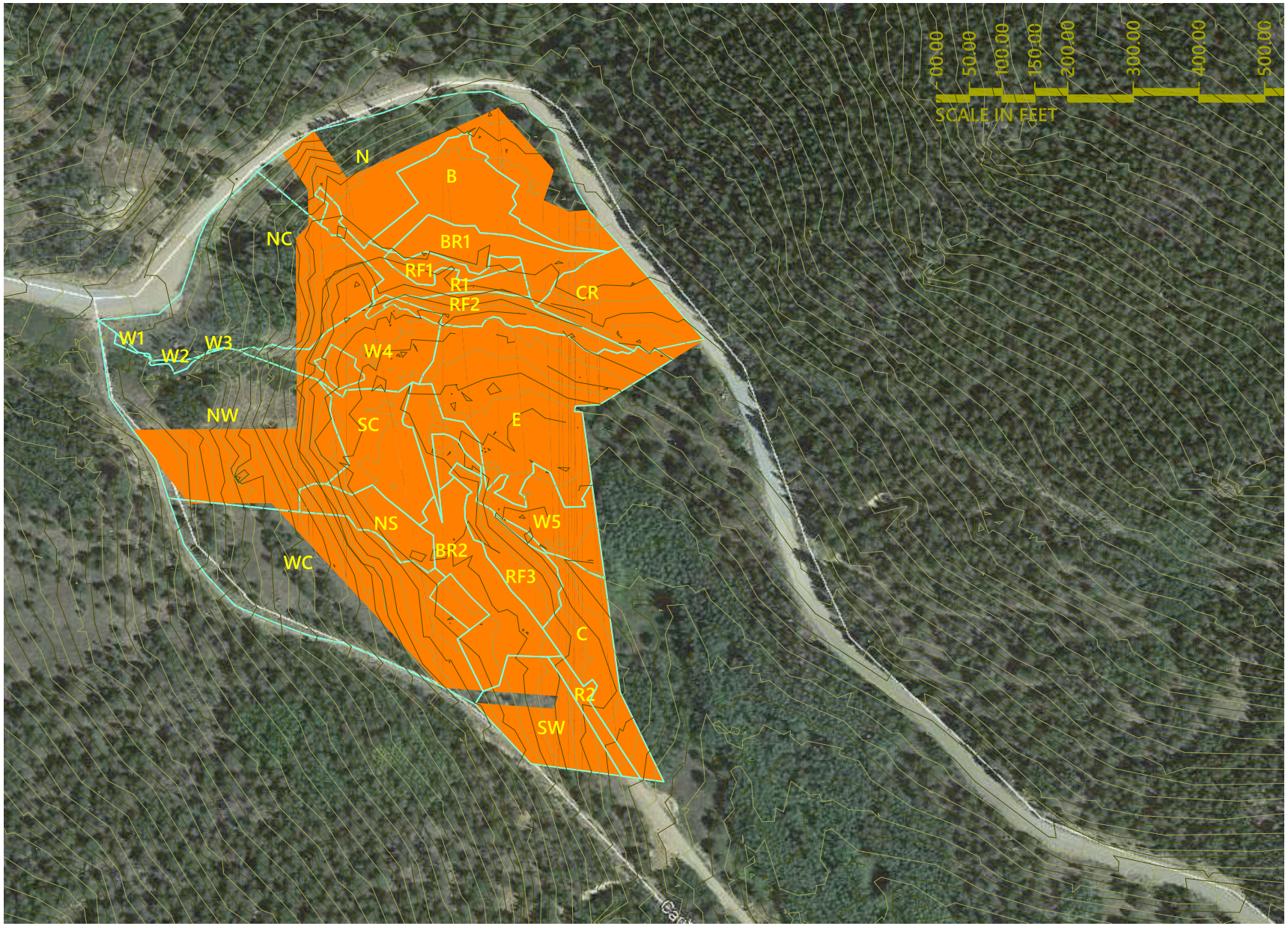


Figure 1

PERMIT BOUNDARY AND AREA I.D. MAP

SURFACE AREA: 9.6 ACRES

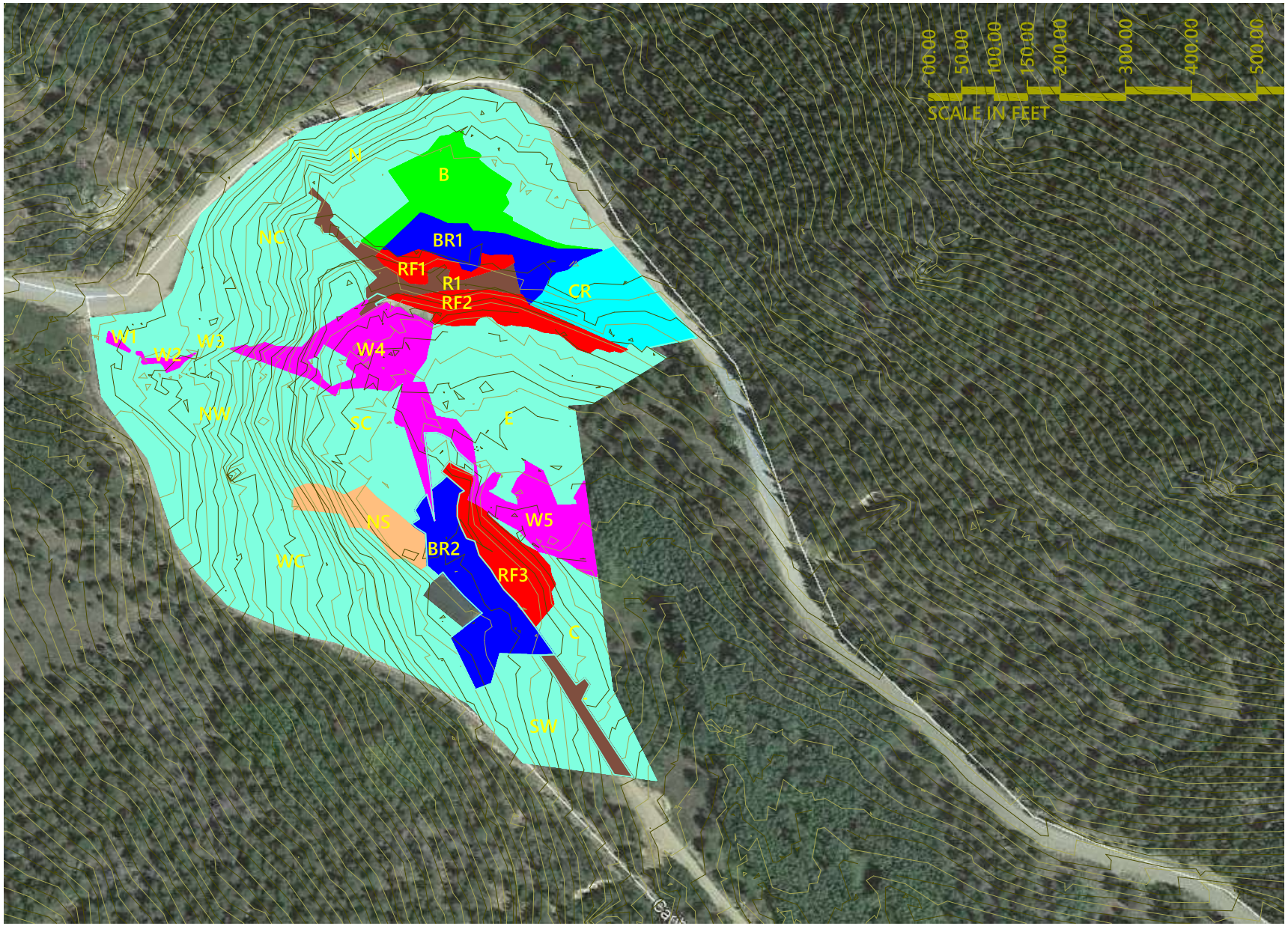


Figure 2

STORMWATER MANAGEMENT PLAN DELINEATION MAP

SURFACE AREA: ~12.9 ACRES

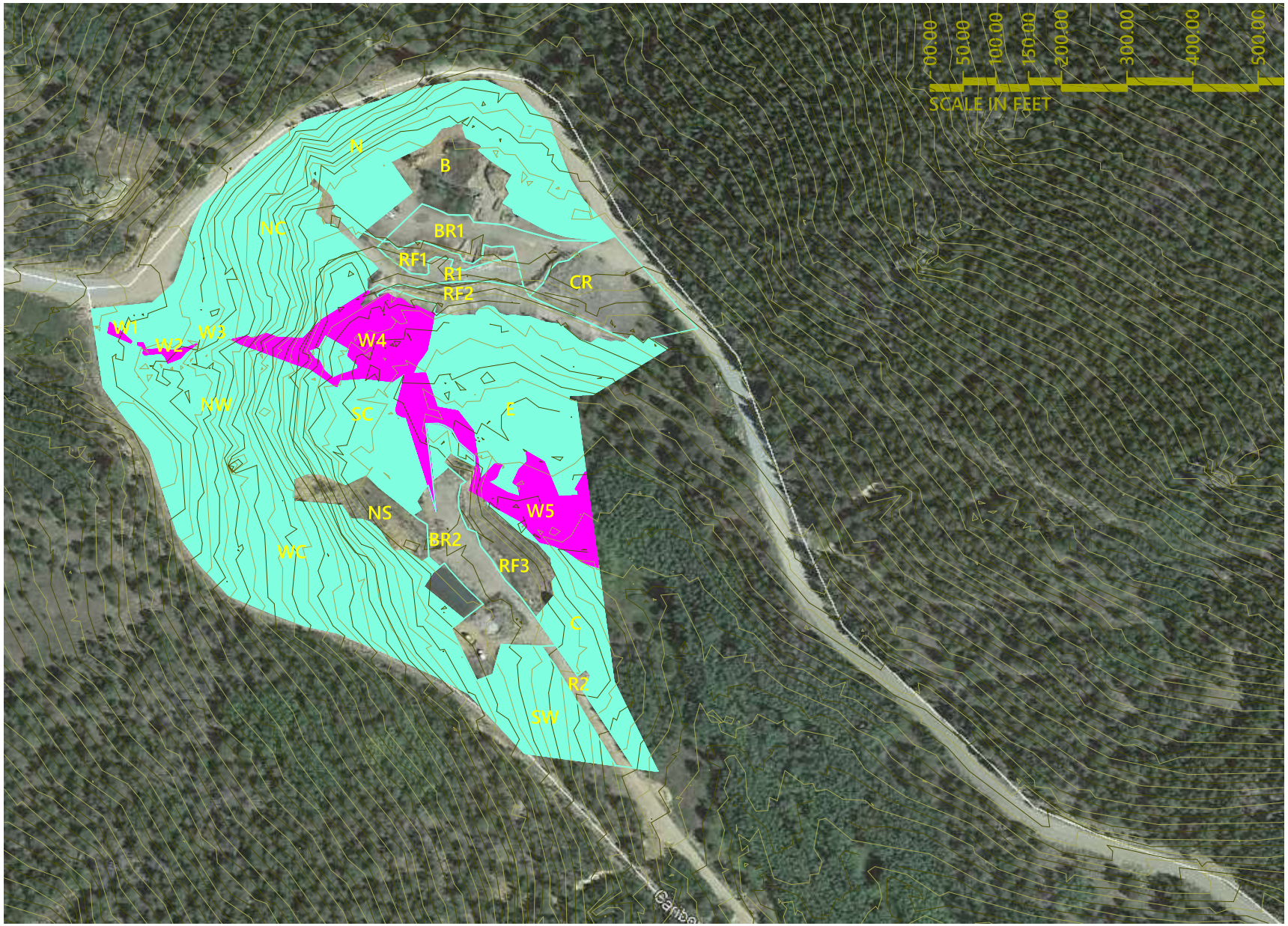


Figure 3

NATURAL UNDISTURBED LAND AND WETLAND LIMITS MAP

SURFACE AREA: ~9.7 ACRES

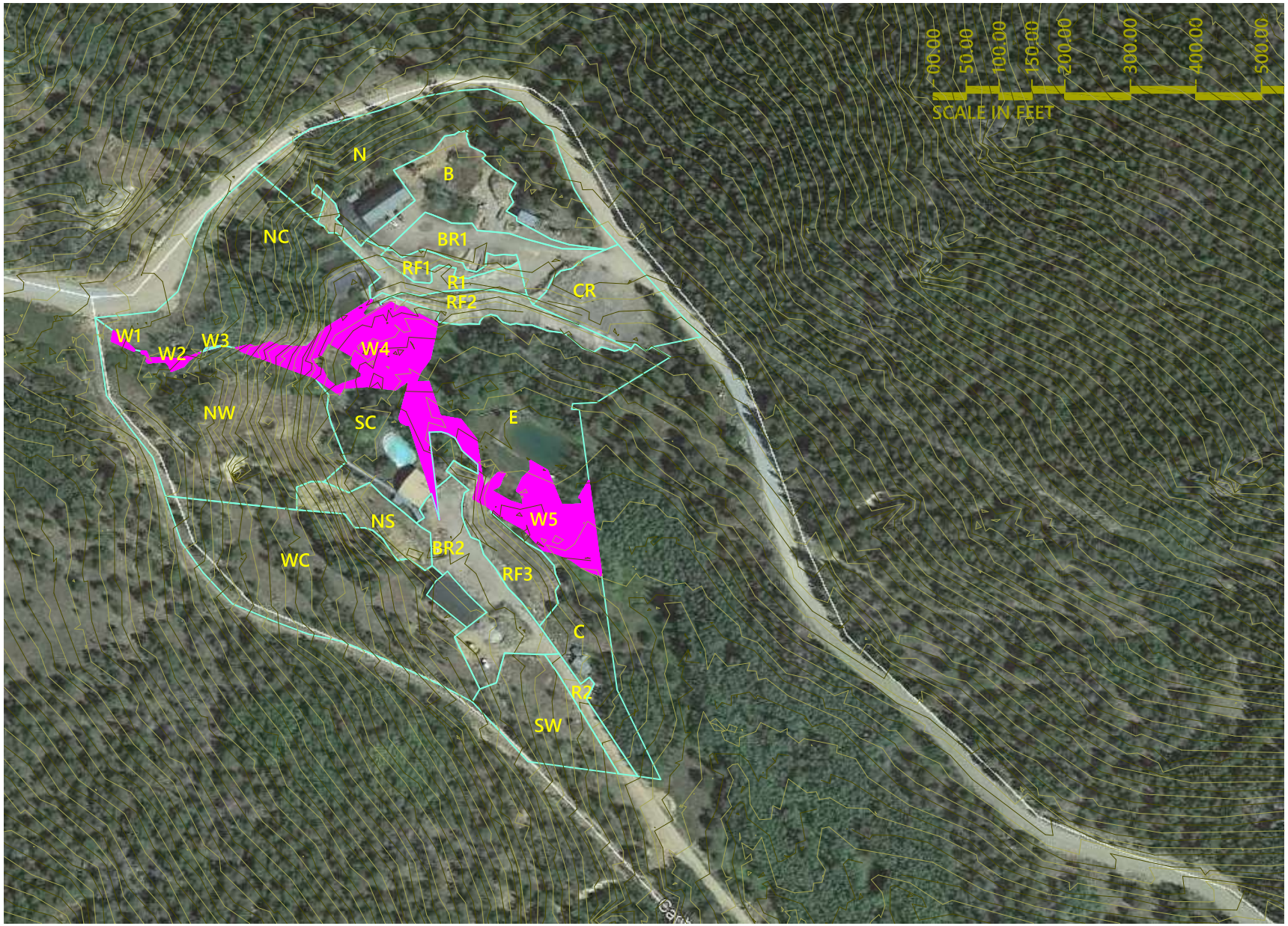


Figure 4

WETLAND LIMITS MAP

SURFACE AREA: ~1.0 ACRES

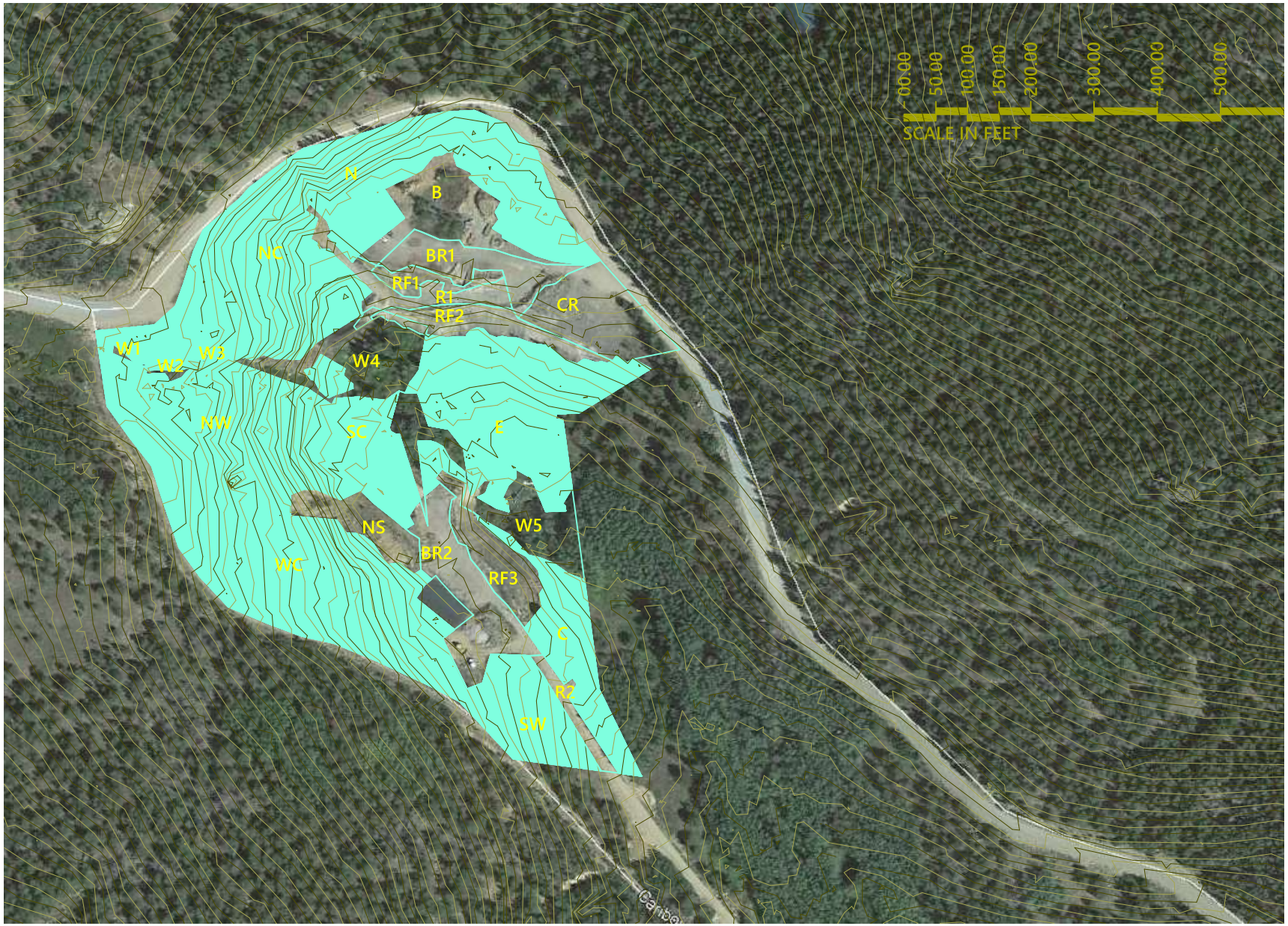


Figure 5

NATURAL UNDISTURBED LAND LIMITS MAP

SURFACE AREA: ~8.7 ACRES

Figure 6

NATURAL SCARP LIMITS MAP

SURFACE AREA: ~0.3 ACRES

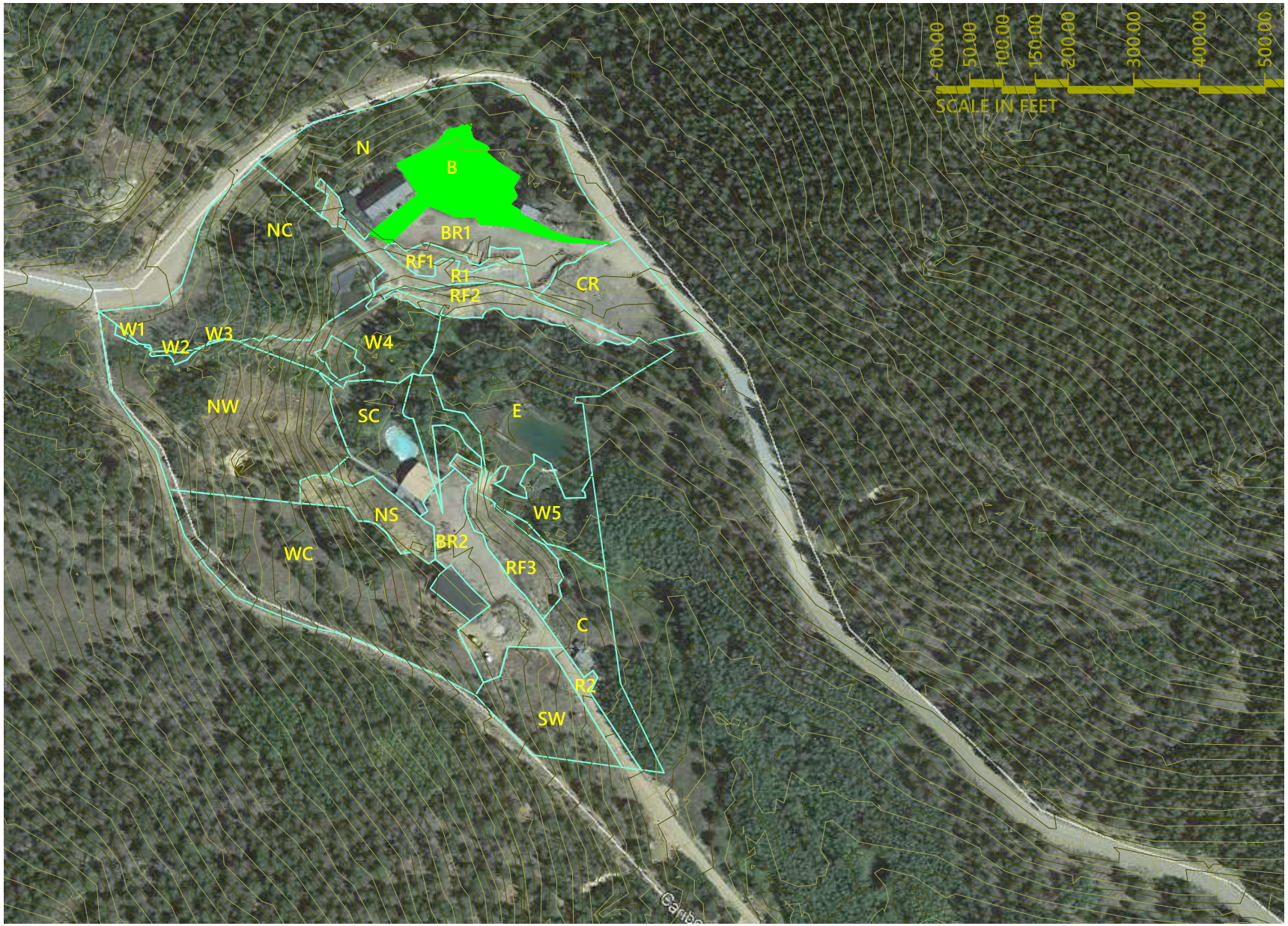


Figure 7
BARE SOIL LIMITS MAP
SURFACE AREA: ~0.5 ACRES

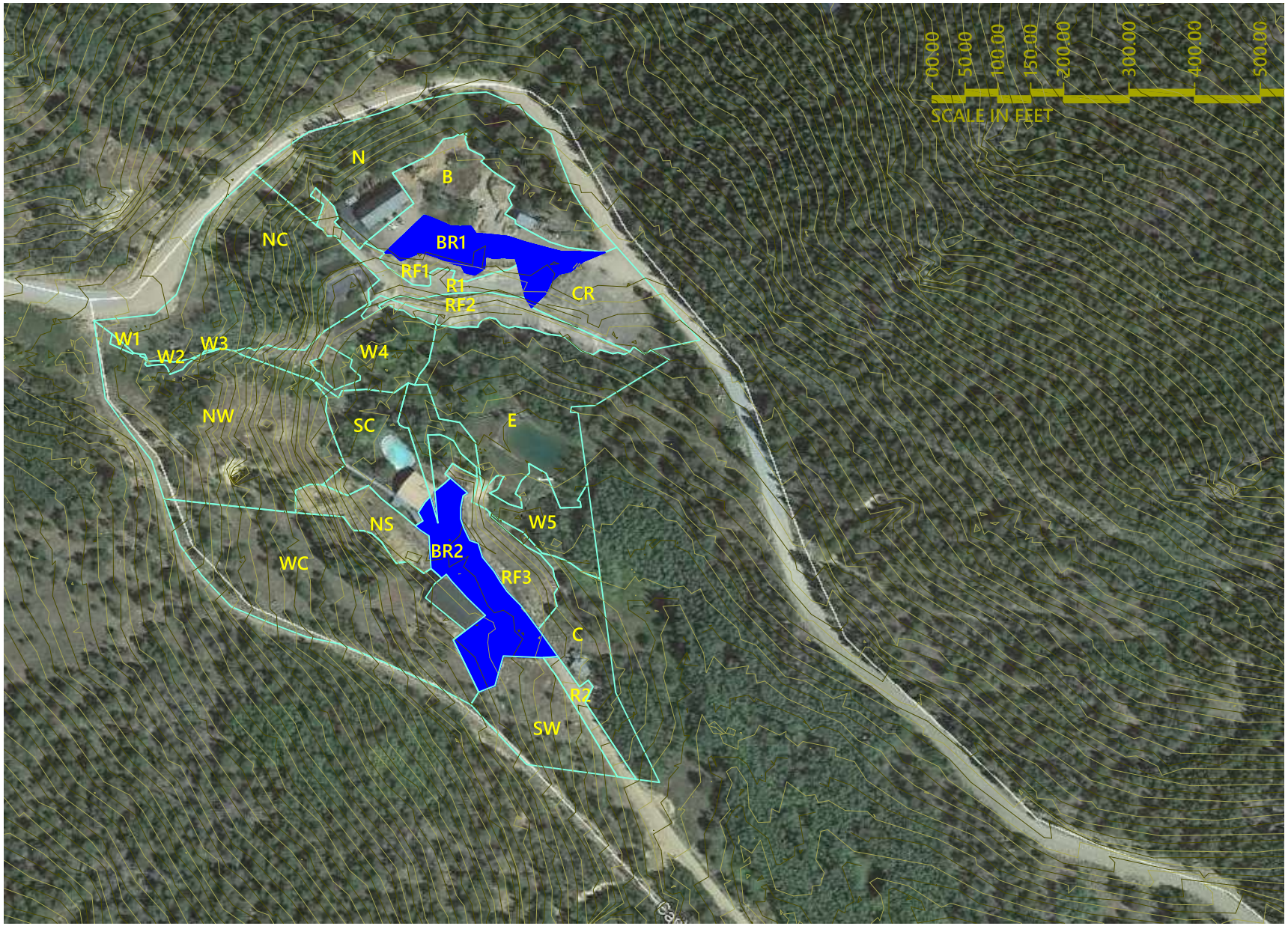


Figure 8

BARE ROCK LIMITS MAP

SURFACE AREA: ~0.9 ACRES

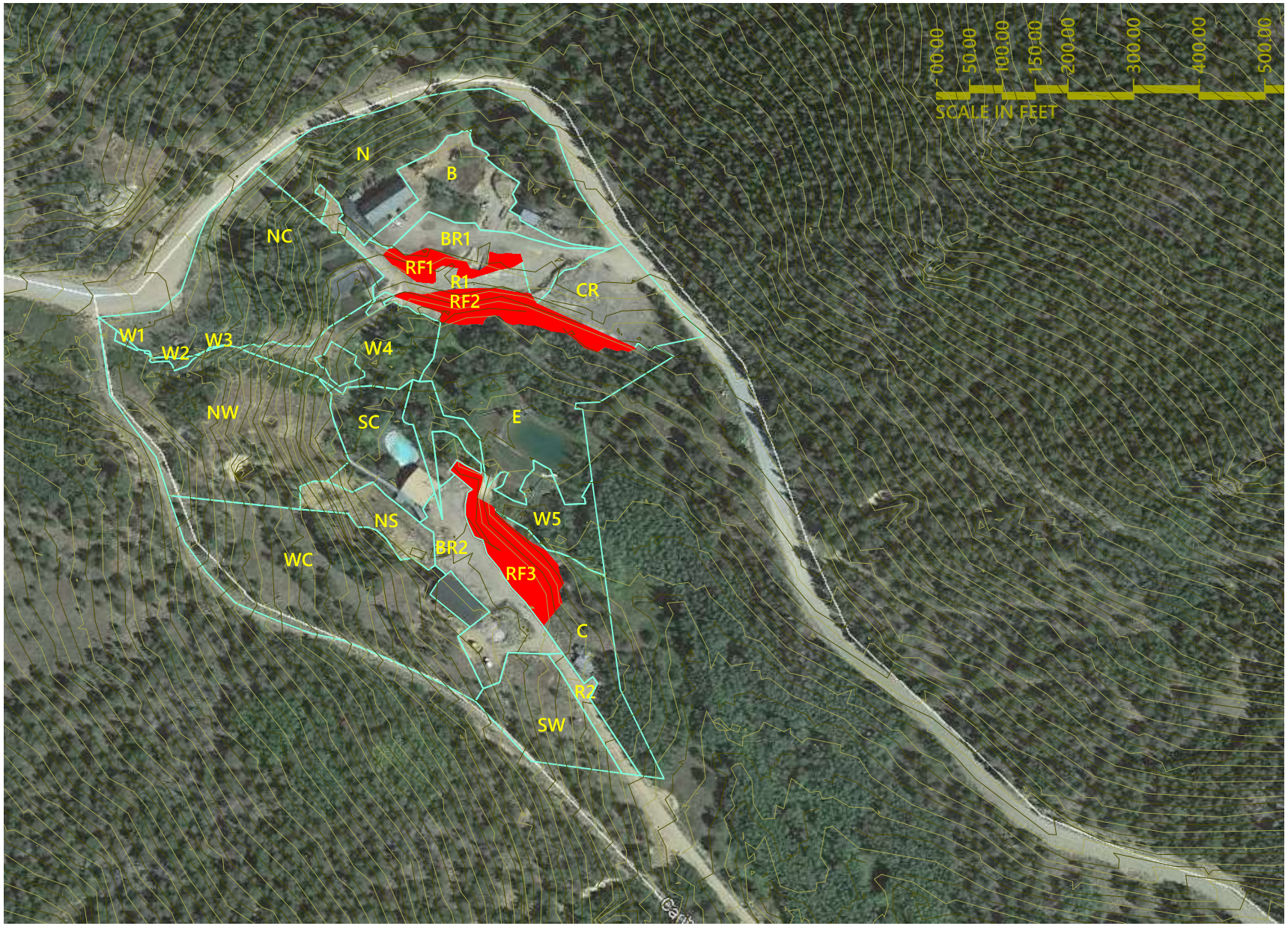


Figure 9

ROCKFILL SLOPE LIMITS MAP

SURFACE AREA: ~0.7 ACRES

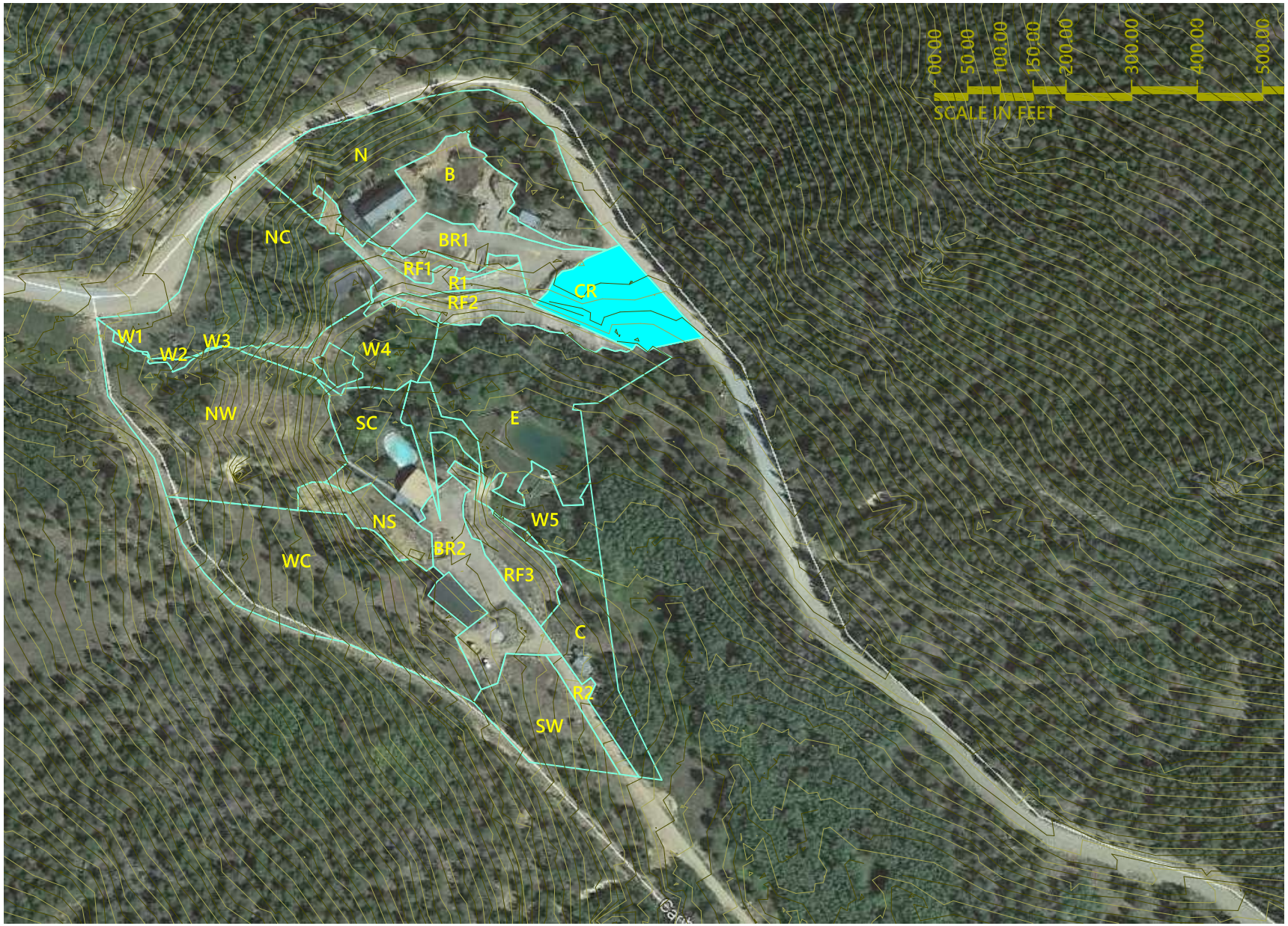


Figure 10

COMPACTED ROCK LIMITS MAP

SURFACE AREA: ~0.5 ACRES

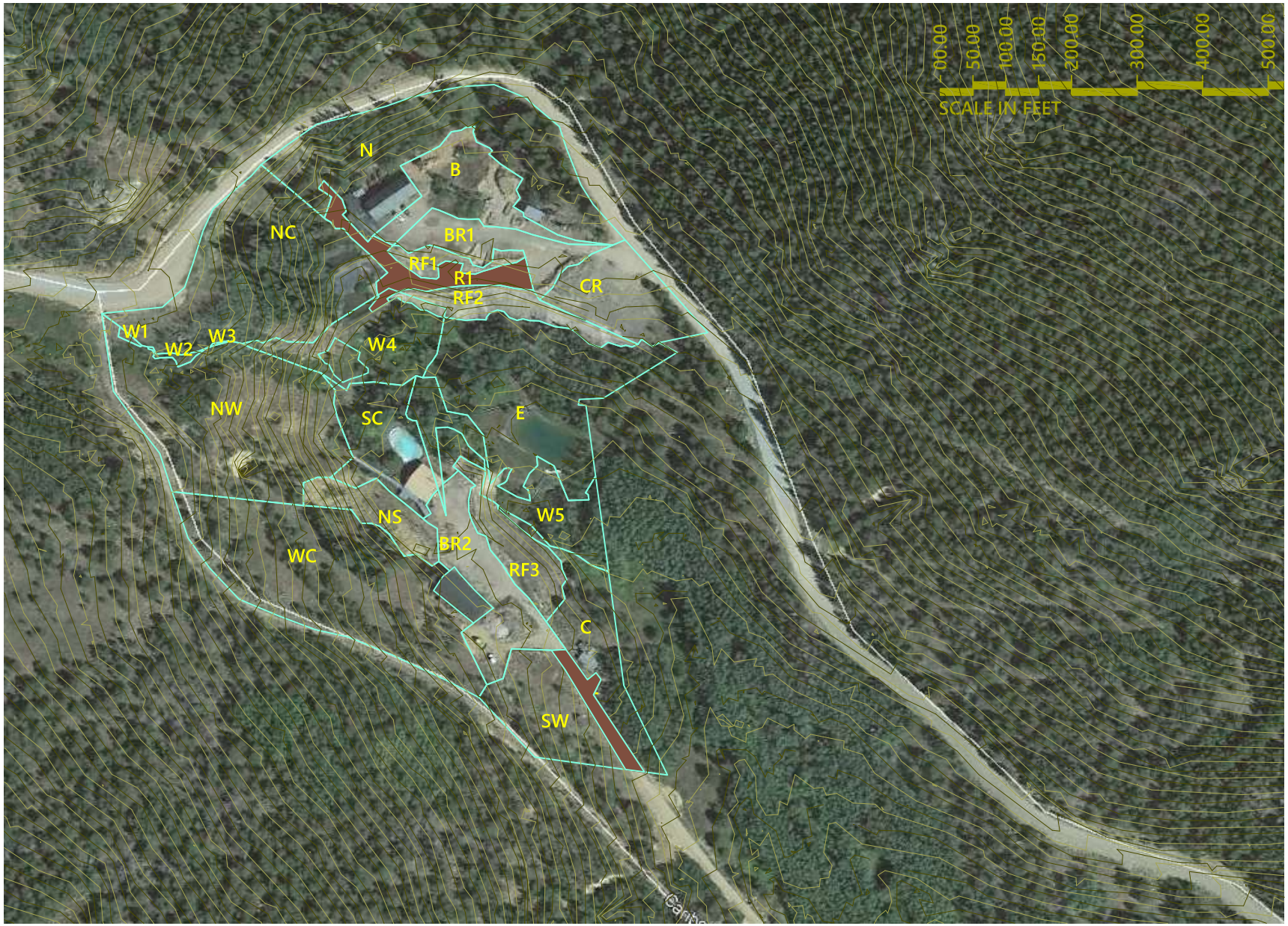


Figure 11

UNPAVED ROAD LIMITS MAP

SURFACE AREA: ~0.4 ACRES

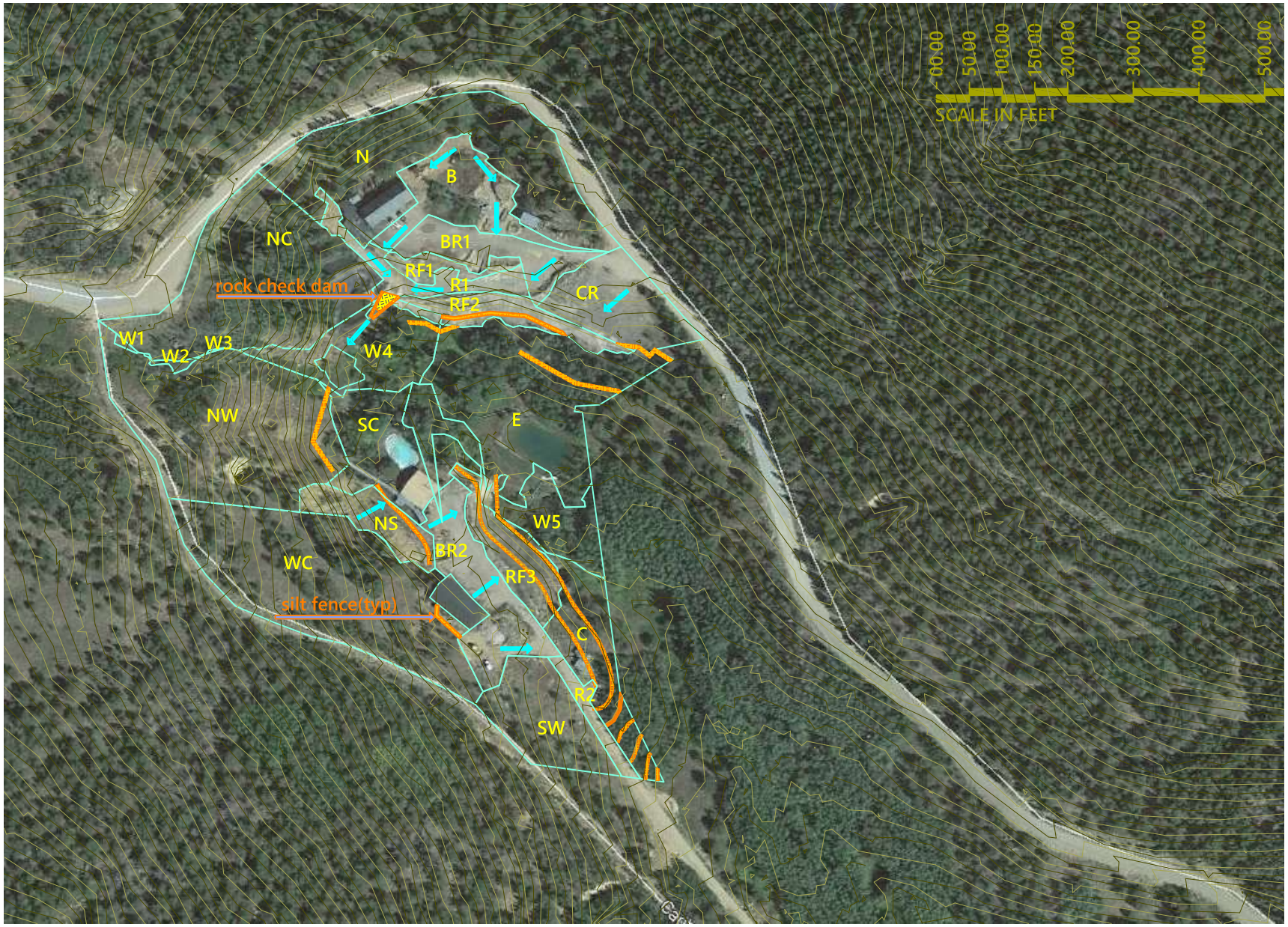


Figure 12

BMP LOCATION MAP

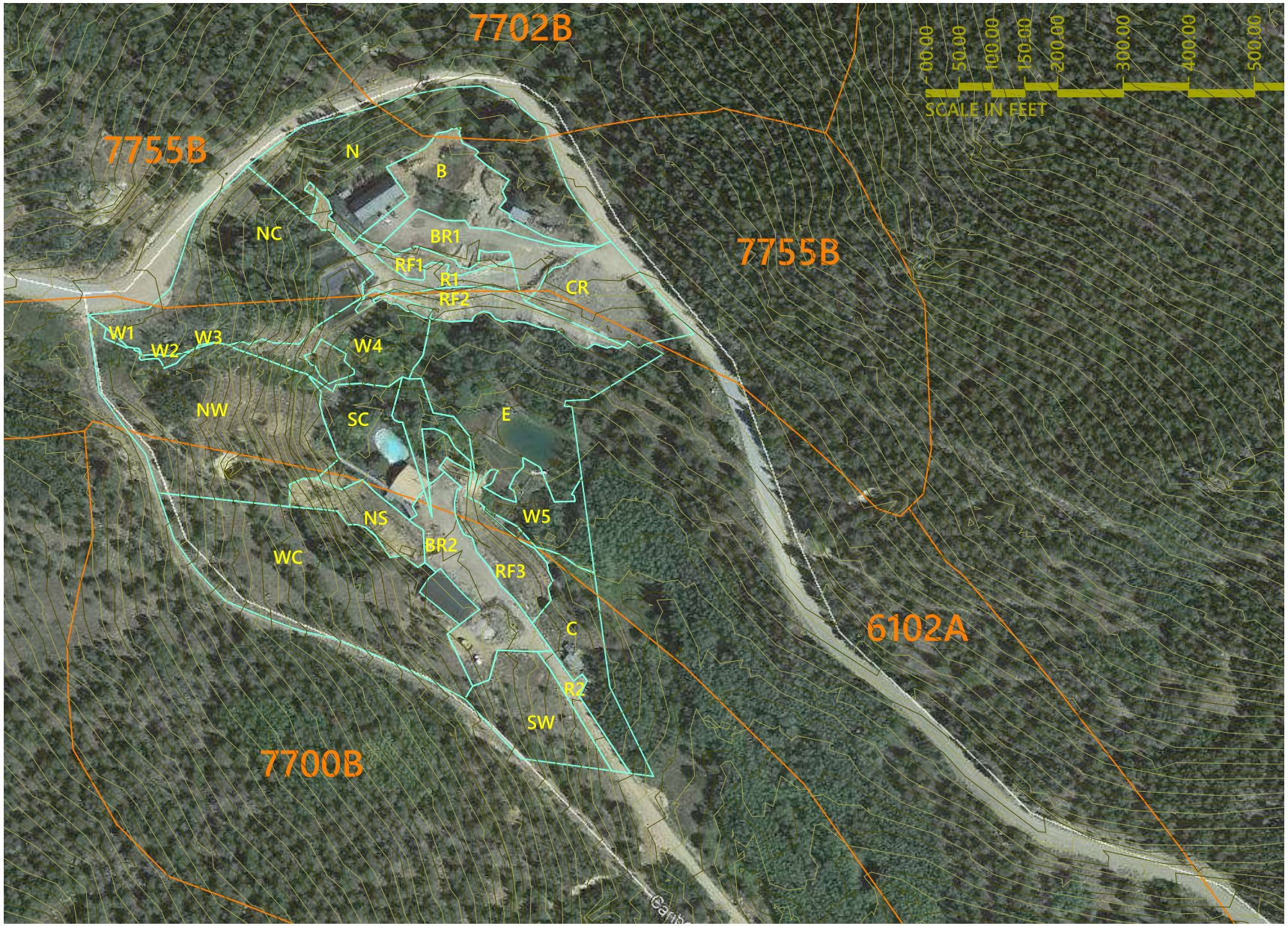


Figure 13
SOIL CLASSIFICATION MAP

Source: National Resources Conservation Service

APPENDIX A

Rainfall Erosivity Factor Calculator for Small Construction Sites

EPA's stormwater regulations allow NPDES permitting authorities to waive NPDES permitting requirements for stormwater discharges from small construction sites if:

- the construction site disturbs less than five acres, and
- the rainfall erosivity factor ("R" in the revised universal soil loss equation, or RUSLE) value is less than five during the period of construction activity.

If your small construction project is located in an area where EPA is the permitting authority and your R factor is less than five, you qualify for a low erosivity waiver (LEW) from NPDES stormwater permitting. If your small construction project does not qualify for a waiver, then NPDES stormwater permit coverage is required. Follow the steps below to calculate your R-Factor.

LEW certifications are submitted through the NPDES eReporting Tool or "CGP-NeT". Several states that are authorized to implement the NPDES permitting program also accept LEWs. Check with your state NPDES permitting authority for more information.

- Submit your LEW through EPA's eReporting Tool
- List of states, Indian country, and territories where EPA is the permitting authority
- Construction Rainfall Erosivity Waiver Fact Sheet
- Appendix C of the 2017 CGP – Small Construction Waivers and Instructions

The R-factor calculation can also be integrated directly into custom applications using the R-Factor web service.

For questions or comments, email EPA's CGP staff at cgp@epa.gov.

● Select the estimated start and end dates of construction by clicking the boxes and using the dropdown calendar.

The period of construction activity begins at initial earth disturbance and ends with final stabilization.

Start Date: 05/03/2021 **End Date:** 04/30/2022

● Locate your small construction project using the search box below or by clicking on the map.

Location: -105.56885737609886 , 39.975661462226185 **Search**

Click the "Calculate R Factor" button below to calculate an R Factor for your small construction project.

Calculate R Factor

Facility Information

Start Date: 05/03/2021	**Latitude:** 39.9757
End Date: 04/30/2022	**Longitude:** -105.5689

Calculation Results

Rainfall erosivity factor (R Factor) = **27.72**

A rainfall erosivity factor of 5.0 or greater has been calculated for your site's period of construction.

You do NOT qualify for a waiver from NPDES permitting requirements and must seek Construction General Permit (CGP) coverage. If you are located in an area where EPA is the permitting authority, you must submit a Notice of Intent (NOI) through the NPDES eReporting Tool (NeT).Otherwise, you must seek coverage under your state's CGP.

Map Scale: 1:4,010 if printed on D landscape (34" x 22") sheet.

Meters: 0, 50, 100, 200, 300

Feet: 0, 150, 300, 600, 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N 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 1:24,000.

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: Arapaho-Roosevelt National Forest Area, Colorado, Parts of Boulder, Clear Creek, Gilpin, Grand, Park and Larimer Counties
Survey Area Data: Version 8, Jul 15, 2020

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

Date(s) aerial images were photographed: Sep 30, 2010—Oct 7, 2017

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
4704B	Bullwark-Catamount families-Rubble land complex, 10 to 40 percent slopes	0.4	0.1%
4758D	Catamount family-Rubble land-Bullwark family complex, 40 to 150 percent slopes	215.0	28.4%
6102A	Gateview family-Cryaquolls complex, 0 to 15 percent slopes	59.2	7.8%
6731B	Rogert family, 5 to 40 percent slopes	11.1	1.5%
7700B	Leighcan family, 5 to 40 percent slopes	35.3	4.7%
7700C	Leighcan family, 40 to 75 percent slopes	47.2	6.2%
7702B	Frisco-Catamount, moist families complex, 5 to 40 percent slopes	135.9	18.0%
7755B	Leighcan-Catamount, moist families complex, 5 to 40 percent slopes	237.4	31.4%
7790B	Lithic Cryorthents, subalpine-Rubble land complex, 5 to 40 percent slopes	14.2	1.9%
Totals for Area of Interest		**755.7**	**100.0%**

Cross-Caribou			
Line		Length ft.	Bearing
L1	POB	204.414	N 82° 18' 56.87" W
L2	Thence	126.268	N 43° 00' 52.78" W
L3	Thence	121.461	S 85° 35' 51.79" E
L4	Thence	22.479	N 20° 31' 56.22" E
L5	Thence	177.625	N 85° 47' 58.79" W
L6	Thence	383.792	N 42° 47' 11.84" W
L7	Thence	126.053	S 89° 40' 40.12" W
L8	Thence	139.869	N 37° 45' 56.90" W
L9	Thence	251.135	N 89° 40' 40.11" E
L10	Thence	291.427	N 00° 19' 19.88" W
L11	Thence	26.840	N 44° 40' 40.12" E
L12	Thence	55.221	N 00° 19' 19.88" W
L13	Thence	69.704	N 34° 50' 24.47" W
L14	Thence	56.697	N 55° 09' 35.53" E
L15	Thence	88.561	S 34° 50' 24.46" E
L16	Thence	254.498	N 65° 15' 13.12" E
L17	Thence	126.268	S 41° 46' 28.81" E
L18	Thence	48.527	S 18° 59' 37.69" W
L19	Thence	43.650	S 65° 26' 48.35" E
L20	Thence	31.020	N 85° 04' 40.17" E
L21	Thence	262.951	S 41° 46' 28.81" E
L22	Thence	188.212	S 57° 55' 06.21" W
L23	Thence	36.387	S 86° 49' 33.08" W
L24	Thence	8.319	S 10° 01' 04.02" W
L25	Thence	11.830	S 85° 30' 30.81" E
L26	Thence	430.712	S 07° 39' 42.79" E
L27	Thence	152.299	S 25° 58' 47.74" E

Legend

Permit Boundary - Modified (9.60 ac)

Permit Boundary - Current (8.96 ac)

New Section	Name	Area (ac)
A	Idaho Tunnel & Slope	0.11 ac
B	Oil Building Parking Lot	0.27 ac
C	Pond 2 Water Pipes	0.13 ac
D	Pond 3 & Road	0.13 ac

Project: DRMS Amendment 2

Title: **Proposed Permit Boundary Modifications Cross-Caribou Site**

Project No. 0801			File No.
GIS:	JST	01/04/21	Scale As Shown Rev 0
Check:	JST	01/04/21	**Map 2**
Review:	DP	01/04/21	

Path: G:\Projects\Nederland\ArcMap\DRMS\Amendment 2\Map 2 - Cross-Caribou.mxd

RUSLE2 Related Attributes

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factor Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic layer.

Report—RUSLE2 Related Attributes

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed or the first mineral horizon below an organic surface horizon. Organic horizons are not displayed.

RUSLE2 Related Attributes–Arapaho-Roosevelt National Forest Area, Colorado, Parts of Boulder, Clear Creek, Gilpin, Grand, Park and Larimer Counties

Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
4704B—Bullwark-Catamount families-Rubble land complex, 10 to 40 percent slopes								
Bullwark family	50	49	B	.20	3	70.0	20.0	10.0
Catamount family	25	49	D	.43	2	48.0	40.0	12.0
4758D—Catamount family-Rubble land-Bullwark family complex, 40 to 150 percent slopes								
Catamount family	40	49	D	.43	2	48.0	40.0	12.0
Bullwark family	15	49	B	.20	3	70.0	20.0	10.0
6102A—Gateview family-Cryaquolls complex, 0 to 15 percent slopes								
Gateview family	60	69	B	.24	3	50.0	34.0	16.0
Cryaquolls	25	197	B/D	.32	5	25.0	55.0	20.0
6731B—Rogert family, 5 to 40 percent slopes								
Rogert family	85	69	D	.28	1	70.0	20.0	10.0
7700B—Leighcan family, 5 to 40 percent slopes								
Leighcan family	85	49	C	.49	3	15.0	67.0	18.0
7700C—Leighcan family, 40 to 75 percent slopes								
Leighcan family	85	49	C	.49	3	15.0	67.0	18.0

RUSLE2 Related Attributes–Arapaho-Roosevelt National Forest Area, Colorado, Parts of Boulder, Clear Creek, Gilpin, Grand, Park and Larimer Counties								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
7702B—Frisco-Catamount, moist families complex, 5 to 40 percent slopes								
Frisco family	45	157	B	.20	3	60.0	30.0	10.0
Catamount family, moist	40	49	D	.43	2	48.0	40.0	12.0
7755B—Leighcan-Catamount, moist families complex, 5 to 40 percent slopes								
Leighcan family	45	49	C	.49	3	15.0	67.0	18.0
Catamount family, moist	40	49	D	.43	2	48.0	40.0	12.0
7790B—Lithic Cryorthents, subalpine-Rubble land complex, 5 to 40 percent slopes								
Lithic Cryorthents, subalpine	60	98	D	.24	1	66.9	23.1	10.0

Data Source Information

Soil Survey Area: Arapaho-Roosevelt National Forest Area, Colorado, Parts of Boulder, Clear Creek, Gilpin, Grand, Park and Larimer Counties
Survey Area Data: Version 8, Jul 15, 2020

Attachment D – Stabilization, Erosion Control, and Revegetation

Stabilization, Erosion Control, and Revegetation (SER) Plan

Overview

The Cross-Caribou mine has limited areas of exposed soil and rock remaining post-construction. Some of the post-construction areas that require stabilization, erosion control, and revegetation (SER) remain from previous operators, others are from activities conducted in 2020-2021.

There are regulatory requirements for SER to be applied to exposed areas once construction in those areas is complete. Reclamation normally occurs concurrently with the mining and/or construction operations. Existing vegetation is providing sediment and erosion control and efforts to minimize the disturbance and/or removal of the existing vegetation is important. This SER plan relies on DRMS standards for reclamation.[1]

There is insufficient time remaining in the 2021 growing season to implement revegetation this year. Stabilization, erosion control, and particularly revegetation activities should be started where it is practical to complete the activity in 2021, before snow cover and winter weather. Required surveying, stability analysis, grading design and weed control can be started in 2021 continuing into 2022 in preparation for the 2022 construction season.

Although the areas needing SER have the potential to contribute to sediment load in stormflow, sediment control in stormwater is addressed in a separate plan.

Regulatory Conditions

DRMS specifies that stabilization, erosion control and revegetation be started as soon as feasible after the mining process. CDPHE stormwater requirements are more specific, requiring that temporary stabilization to prevent erosion be complete within 14 days of construction completion or temporary cessation. Acceptable methods for sediment and erosion control in Colorado are found in the CDPHE General Permits:

> *"Control measures for erosion and sediment control may include, but are not limited to, wattles/sediment control logs, silt fences, earthen dikes, drainage swales, sediment traps, subsurface drains, pipe slope drains, inlet protection, outlet protection, gabions, sediment basins, temporary vegetation, permanent vegetation, mulching, geotextiles, sod stabilization, slope roughening, maintaining existing vegetation, protection of trees, and preservation of mature vegetation."*

It is an objective to maintain at least 50 feet of vegetation between Coon Track Creek and disturbed land, roads, or parking areas. Vegetation provides very efficient and sustainable sediment removal from stormflow.

[1] General Bid Specifications, Colorado Inactive Mine Reclamation Program, Division of Reclamation, Mining & Safety, Department of Natural Resources, State of Colorado, March 2009

The mine has tentative construction plans that could impact some of the areas proposed for reclamation in this plan, namely the inter-mine road. Regulations do not allow deferment of needed SER based on future plans; reclamation proceeds concurrently with disturbance.

Site Conditions

Areas of rockfill slopes, excavations and earthworking, and other areas of bare ground are the subject of this SER Plan. All of the disturbed areas to be addressed under this plan are depicted in Figure 1. Figure 1 uses photography from 2008 for background because of the general clarity of the imagery as compared to more recent years. Disturbed areas and ponds outlined in Figure 1 have been determined using a combination of useable portions of more recent aerial photography, Google Earth imagery, and mine surface surveying.

All disturbed area outlines are approximate and subject to field verification and boundary revision. Several of the disturbed areas, or portions thereof, were photo-mapped for the purposes of creating material type areas to be used in the sediment generation and management study. Those areas are called out as appropriate for detail. The acreage of disturbed areas in Figure 1 has been derived independent of the mapping completed for the sediment calculations.

Rockfill Slopes

There are rockfill slopes at the angle of repose at the Cross and Caribou mines. The rockfill slopes in the Cross Mine area remain after reclamation of Cross Mine waste rock piles and expansion of the Cross parking area in 2008-2010. The Cross Mine Rockfill Slope area of about 0.3 acre is depicted in Figure 1 as Area E and in Figure 2 as RF3. The southeastern 1/3 of the area is partially revegetated and at a moderate slope (≥3:1) but steepens to northwest, becoming waste rock without soil at the angle of repose at the Cross Mine parking lot. The Cross Mine Rockfill Slope needs evaluation for stability, and a stabilization, erosion control, and revegetation program implemented.

The Caribou Mine rockfill slopes (RF1, ~0.11 acre, and RF2, ~0.26 acre, in Figure 2) were created of waste rock from operation of the historic Idaho Hill mines, driving the ‘shotgun” of the Idaho Tunnel, operation of the Caribou Mine, relocated material from the Cross Mine reclamation in 2008-2010, and material from the initial excavation of the planned Cross decline. The RF1 upper slope area is within active mine operations area the RF2 lower slope area is closer to Coon Track Creek. A mine road runs between the two slopes, the sides of the road and RF1 slope area being used for material storage. The slopes are at angle of repose with rock berms for traffic safety.

The upper RF1 rockfill slope is not going to be revegetated at this time, the area being used for operations and material storage. Sediment from the upper slope is managed by a check dam, silt control fencing, and a vegetated buffer to Coon Track Creek. The lower RF2 rockfill slope is a source of sediment to Coon Track Creek. Sediment

controls are implemented below the slopes (silt fence). Revegetation of this slope will create a significantly better vegetative buffer at the site and is required for ongoing reclamation. The lower Caribou Mine Rockfill Slope needs evaluation for stability and a stabilization, erosion control, and revegetation program implemented. Because RF2 merges into the pond and road disturbance area it is included with that area for SER and is depicted as Area B in Figure 1.

Natural Scarp

The Natural Scarp (Area D in Figure 1, NS in Figure 2) is a construction feature remaining from a 2010-2011 excavation in preparation for driving a decline from the surface to Cross Mine workings. The decline is no longer planned for construction. This area was noticed by DRMS in 2021 to have a potentially over-steepened slope. The rectangular portion of the area that lies along contour is reported to be material from the excavation, stockpiled on the slope, with another 500 cubic yards of the excavation having been used for fill at Caribou Mine parking lot.

Some 10's of cubic yards of waste rock have been placed at the toe of the steepest slope. DRMS has requested that this waste rock pile be included in the reclamation plan, or moved to an area permitted for waste rock. It is possible that it be included in material used for Area D slope stabilization.

DRMS has requested a geotechnical evaluation of slope stability, and a plan for stabilizing the Area D slope during operations, and bonding for final reclamation of the disturbance. The Natural Scarp needs evaluation for stability, creation of a stabilization plan acceptable to DRMS, and an erosion control and revegetation program implemented.

Idaho Tunnel

An area inside the portal of the Idaho Tunnel (Figure 1) collapsed forming a small sinkhole on the slope between the portal and Caribou Road to the north. The portal was stabilized in 2021 and a TR submitted to DRMS on the methods and materials used for stabilization, including an engineering analysis of the resultant stability. A permit amendment (AM 2) has been submitted to include the newly disturbed area (Area A in Figure 1) within the DRMS permitted disturbance area. Stabilization of the portal is complete. Construction of the new entrance portal is ongoing as of the date of this plan. Engineered drawings and specifications have been prepared to complete to portal entrance, including recontouring of the hillside from the new entrance to the disturbance boundary at Caribou Road, and submitted to DRMS. Following completion of the portal soil will be recontoured, stabilized, erosion control applied, and revegetation begun using the seed mixes, live plantings, and methods presented in a following section.

Ponds 3 A, B, C and Road Below Ponds

When Ponds 3 A, B, and C were re-constructed in 2020 the pond slopes and road below were not stabilized or revegetated. The road below the ponds, and bare soil in the pond area, is contributing sediment to Coon Track Creek. Coon Track Creek broke through its banks in this vicinity in 2021 further eroding the road. Rock placement to keep the creek in bank required enlarging the road disturbance. As shown in Figure 1 the bare soils around the pond and road now merge with the RF2 area. The area around the ponds and road needing SER is estimated to be 0.3 acres.

The sediment control plan places a check dam at the top of this road, eliminating future use. Surveying and construction plans are needed to restore the slope below the ponds, and the road, to a contour that will help keep Coon Track Creek in its current location. These disturbed areas will need stabilization, erosion control and revegetation. Fill and topsoiling may be needed to restore contour efficiently.

The road area below the ponds is currently and historically used as a footpath between the mines. It is steeply sloped (>10%) and denuded. Following recontouring and revegetation foot traffic will rapidly re-expose bare soil, or compromise erosion control. An erosion resistant pathway, elevated walkway, or other measures will need to be considered to prevent damage to erosion controls and the reestablished vegetative buffer.

Caribou Parking Lot Slope

The Caribou Parking Lot, area B in Figure 2, is currently larger than depicted and has been stripped of vegetation. The area was leveled, graveled, and is being used for an office trailer location, parking, machinery parking, and materials unloading and handling. Earthmoving created a partially denuded rough slope 3- 5 feet high on the north and west sides of the expanded parking area as shown in Figure 1. Access to the Caribou Well is now up this slope. The north slope is also the location of a groundwater seep that requires drainage across the parking lot to prevent parking lot ground saturation and mud tracking. The denuded portion of slope requires erosion control and revegetation. Following recontouring and revegetation foot traffic to the well will rapidly re-expose bare soil. A set of steps or stairs is needed to protect the slope near the well from foot traffic.

Ore Storage Area

DRMS has commented that the two waste rock piles near the southern corner of the Warehouse (Ore Building) be included in the reclamation plans or moved to an approved waste rock area. The area was included in the AM 2 reclamation plan. These two piles are not waste rock, but ore remaining from the end of previous operations. Plans are in progress to transport the ore off-site for processing, or, the ore could be moved to a segregated part of the permitted waste rock area at the Caribou mine. If the area is cleared, and not reused for waste rock or ore storage after approval of AM 2, a portion the area will be stabilized from erosion to be used for additional parking and

deliveries to the warehouse and adjacent explosives magazines, and the unused portion stabilized, erosion control applied, and revegetated.

Summary

Table 1 lists the disturbed area, using the letter identifiers in Figure 1 providing a summary of conditions and SER tasks. The total acreage requiring SER in 2021-2022 is 1.23 acres.

Table 1

Figure 1	Name	Area (acres)	Notes
A	Idaho Tunnel	0.08	Steep slope above work area. Fill, stabilize, revegetate with detailed erosion control.
B	Ponds, Road, RF2	0.59	Steep slopes in RF2 area requires stability analysis. Fill needed to recontour.
C	Caribou Parking	0.06	Small area needs erosion control and revegetation. Groundwater seep complicates effort
D	Natural Scarp	0.13	Potentially over steepened slope requires geotechnically engineered solution and reclamation plan for submission to DRMS
E	Cross Parking RF3	0.30	Steep rockfill slope. Fill, stabilize, revegetate with detailed erosion control. Proximity to Coon Track Creek complicates soil placement and erosion control.
F	Ore Storage	0.07	This location may remain in use through 2022. If ore is removed, implement SER based on new use of area.

Stabilization, Erosion Control, and Revegetation Methods

All of the areas currently requiring SER will use the methods and materials outlined below. Using Figure 1 as a guide the areas for SER will be reviewed in the field in 2021-2022 and the boundaries adjusted accordingly. The sequence of activities at each SER area is:

1. Field verify and survey the perimeter of each SER area. Collect slope and material type data to support stability analysis.
2. Conduct and document a stability analysis for each SER area. Prepare engineered stability designs where required.
3. Prepare construction diagrams and material lists detailing cuts, fills, recontouring, erosion control placement following revegetation, required earthen material, quantities of mulch, fertilizer, plants, and seed, erosion control material volumes and quantities, and, temporary sediment and stormwater controls to be used during SER.
4. Construct, revegetate, and install erosion control.
5. Monitor and maintain each SER as needed, document inspections, conduct weed control, and remove temporary silt and stormwater controls when vegetation has achieved 70% cover.

Stability Analysis

It is important to assess slope stability before beginning conducting activities on slopes. The mine will conduct an internal geotechnical analysis of slope stability to inform if slopes can have erosion control applied, and revegetation initiated, as is, or determine if are there factors requiring correction for stability or safety reasons. In the case of the excavated Natural Scarp and Idaho Tunnel, DRMS is requiring a formal stability analysis of the slope and a geotechnically based plan to correct any excessive risk. This analysis has been completed and submitted to DRMS for the Idaho Tunnel. The rockfill slopes require this same analysis without submission to DRMS. It is assumed that the Pond and Road Area, Ore Storage Area, and Caribou Parking Lot Slope will not need a stabilization design analysis to proceed.

If stabilization is required those activities must precede revegetation and final erosion control. If slopes are stable, but present safety factors for predominantly manual techniques of erosion control emplacement and reseeding, the engineering analysis should specify any additional equipment that may be needed such as temporary stairs, lifelines, or cranes for delivering material down steep slopes safely.

Slopes

Slopes will be reconfigured to Approximate Original Contour (AOC) in the area below the ponds and the Natural Scarp. The rockfill slopes will remain as close to current contour as stability, subsoil and topsoil placement, seeding, and erosion control allow. blend in with the surrounding topography or match the AOC. Where possible, regraded slopes will be 3:1 or less. Areas steeper than 2:1 will be kept to a minimum.

At the Idaho Tunnel hillside and the Natural Scarp, the vertical slope is currently steeper than 3:1. However, as per approved TRs the final reclamation of the hillsides will meet all slope requirements and Approximate Original Contour (AOC). If necessary, the stability of replaced topsoil on graded slopes will be assured by roughing in final grading to eliminate slippage zones. Grading will be conducted on the contour where it does not pose a safety hazard to operators and equipment.

Soil and Surface Preparation

Much of the area to be reclaimed has limited or soil cover (rockfill slopes) or requires borrow material to reclaim to contour. Topsoil will be sourced locally in Nederland, CO. Because of the thin soil types at this site, there is no available site soil for reclamation.

Because these are fertile, mountain soils, we do not intend to routinely take samples of existing subsoil and topsoil for analysis. Because the majority of soils will be obtained from off site, soil sources will be characterized before use and where soil amendments are necessary, they will be applied as appropriate. Soil amendments will be as recommended by the local NRCS. Currently, they recommend that if soil tests are not performed, forty (40) pounds per acre of each of the major nutrients (nitrogen and phosphoric acid [H_3PO_4]) be applied. If phosphoric acid is applied, it will be applied on

the overburden prior to plant growth medium replacement. This nutrient is not mobile. Placing it in the root zone prior to plant growth medium replacement will ensure optimal utilization by plant roots.

Topsoil will be replaced to a depth of between 8 to 12 inches similar to native soil in rocky areas. Soil will need to be deep enough to encourage root growth. Other areas (rock slope areas for instance) topsoil will be placed to a depth of 2 feet, depending on the condition of the surface. The mine will replace topsoil in as even a manner as equipment allows.

The Rockfill Slope SER will be similar to that planned for reclamation of waste rock post-closure, except that rockfill slopes will be not be contoured to 3H:1V. The stability evaluation will determine if SER is possible at existing slopes. Void spaces within the top layer of the Rockfill Slope will be filled with suitable subsoil that will facilitate revegetation. Then, the Rockfill Slope will be covered with a 2-ft thick topsoil mixture to support revegetation.

Surfaces for revegetation will be roughed to gain a mechanical bond between the subgrade and the replaced topsoil. Where the subgrade is of acceptable quality, it may include disc plowing the topsoil and subgrade together where there is access and safety is not compromised. Where equipment can operate without compromising safety, the seedbed will be loosened (four to six inches (4" to 6") deep) and smoothed. At locations where equipment cannot operate, the seedbed will be prepared by hand, scarifying to a minimum depth of one inch (1").

The seedbed will be well settled and firm, but friable enough so the seed can be drilled at the recommended depth. Soils having been compacted by traffic or other equipment will be tilled (deep- chiseled or ripped if necessary) breaking up restrictive or compacted layers, and then harrowed and rolled or packed to produce the required firm seedbed. If the seed is to be broadcast seeded, then the seedbed will be settled and fairly firm, but left rough enough to catch the seed and allow some coverage by soil when tracked in by equipment or harrowed and packed into the soil surface. Seedbed preparation will be avoided when the soil is wet to prevent seedbed compaction. Planting depth will be less than one inch. Drill row spacing will be approximately 8 inches. Mulching is described in the erosion control descriptions that follow.

Volume estimates for earthen materials, mulch, seed, and erosion control materials are not provided here. Those estimates will be created after field verification of area boundaries and construction design.

Seed Mixes

The seed and planting mixes suggested below are the same as proposed in the Amendment 2 reclamation plan. Seeds and plantings may change because of availability at the time of reclamation or if site conditions change.

The designated seed mixture shall be sown uniformly on the prepared areas during the fall to take advantage of winter moisture and cover. Seeding shall not be conducted if the ground is frozen.

The seed mix recommended by the DRMS Inactive Mine Lands Program for sub-alpine elevations (9,000 ft. to timberline) will be used to revegetate the site (Table 2). The Table 2 seed mix is presented as pure live seed (pls) and weights per acre are for drilled seeding. The rates for broadcast seeding are double the drilled rate All mixes also contain species currently at the site.

The Table 2 mix will be used across the areas requiring reclamation. Specific areas will be supplemented by upland tree and shrubs and wetland species (Tables 3 and 4). Quantities for supplemental species have not been provided, but will depend of the final reclamation slope configurations and the best chance of success for each species.

All planting will take place in the fall of the year to take advantage of winter moisture, ensuring a satisfactory level of establishment. Where practical, seed will be drilled. Where not practical due to slope steepness, the areas will be broadcast seeded at twice the drill seeding rate. The seeded areas will be mulched and crimped or tackifier to control wind and water erosion.

Dependent on the ability to gain access in a safe manner some areas will be broadcast seeded. If the seed is to be broadcast, the seedbed will be settled and fairly firm, but left rough enough to catch the seed and allow some coverage by soil when tracked in by equipment or harrowed and packed into the soil surface.

Tree and shrub seedlings will be hand planted in all areas. Shrubs will dominate these areas and will be planted at a rate that considers the final topography and species success at being established.

Table 2
Sub-Alpine Areas Mix

Species	**Scientific Name**	**Variety**	**lbs/acre**
Yarrow*	*Achillea lanulosa*	-	0.1
Groundsel	*Senecio atratus*	-	0.1
Lupine	*Lupinus alpestris*	-	1.0
Slender wheatgrass	*Elymus trachycaulus*	San Lois	1.4
Nodding brome	*Bromus anomalous*		2.5
Sheep fescue	*Festuca ovina*	Cover	0.5
Hard fescue	*Festuca ovine duriuscula*	Durra	0.5
Red fescue	*Festuca rubra*	Penn lawn	0.5
Tufted hairgrass	*Deschampsia caespitosa*		0.5
Redtop	*Agrostis alba*		0.1
Blue wildrye	*Elymus glaucus*		1.15
Mutton grass	Poa fendleriana	San Lois	0.5

TOTAL pls lbs./acre (drilled)	**9.45**

*To be bagged separately from mix. Bag to be attached outside of primary seed bag.

Table 3 **Upland Tree and Shrub Reclamation Mix**	
Species	**Scientific Name**
Ponderosa Pine	*Pinus ponderosa*
Mountain Mahogany	*Cerocarpus montanus*
Rocky Mountain Juniper	*Juniperus scopulorum*
Quaking Aspen	*Populus tremuloides*
Wild Rose	*Rosa woodsii*
Chokecherry	*Padus virginiana*
Waxcurrent	*Ribes cereum*
Shrubby cinquefoil	*Pentaphylloides floribunda*
Black eyed susan	*Rudbeckia hirta*
Rocky Mountain penstemon	*Penstemon strictus*

Table 4 **Wetland Reclamation Mix**	
Species	Scientific Name
Colorado Blue Spruce	*Picea pungens*
Thin-leaf alder	*Alnus incana*
Willow	*Salix*
Wax currant,	*Ribes cereum*
Woods Rose	*Rosa woodsii*
Chokecherry	*Padus virginiana*
Waxcurrent	*Ribes cereum*
Wild strawberry	*Fragaria vesca*)
Wild Geranium	*Geranium richardsonii*
Blue Bells	*Mertensia ciliata*

Erosion Control

After reseeding, mulch will be applied. Mulch will consist of hay or straw mulch, pest-free or weed-free to the extent possible. Care must be taken to stabilize much and soil surfaces. Runoff along the slope will be controlled with erosion and sediment control structures to minimize rill and gully formation, especially prior to establishment of vegetation. Rolled mulch may be appropriate for steep slopes. Typical placement is shown in Figure 3. Final erosion control is placed after seeding and mulching.

Approximately 30 percent by weight of the mulch material shall be ten inches (10") in length or longer. Rotted, caked, decayed or moldy material will not be accepted. Hay or straw mulch will be applied uniformly at the rate of two (2) tons per acre. Hydraulic

mulch seeding may be used in some areas that may be difficult to access. Hydro mulch will be applied at the rate of one and a half (1 1/2) tons per acre.

During SER, storm water control practices will be in place to control erosion and siltation. Slides and other damage should not be a factor since only small areas will likely need to be graded.

Weed Control

Measures will be employed for the control of noxious weeds in the revegetated areas. A Weed Control Plan will be as follows:

Every April and October, a weed survey will be taken of the permitted disturbance area to identify and map the presence of any noxious weeds listed by the county and the state.

If any patches or plants are identified, they will be controlled within 30 days. This may include mowing, tillage, or spraying them with an herbicide approved for use by the weed control staff of Boulder County. Other methods of weed control (i.e. biological) may be employed from time to time depending on the nature and extent of the targeted species.

After SER, weed surveys and controls will continue until perennial vegetation cover on the site meets 70% areal cover requirements.

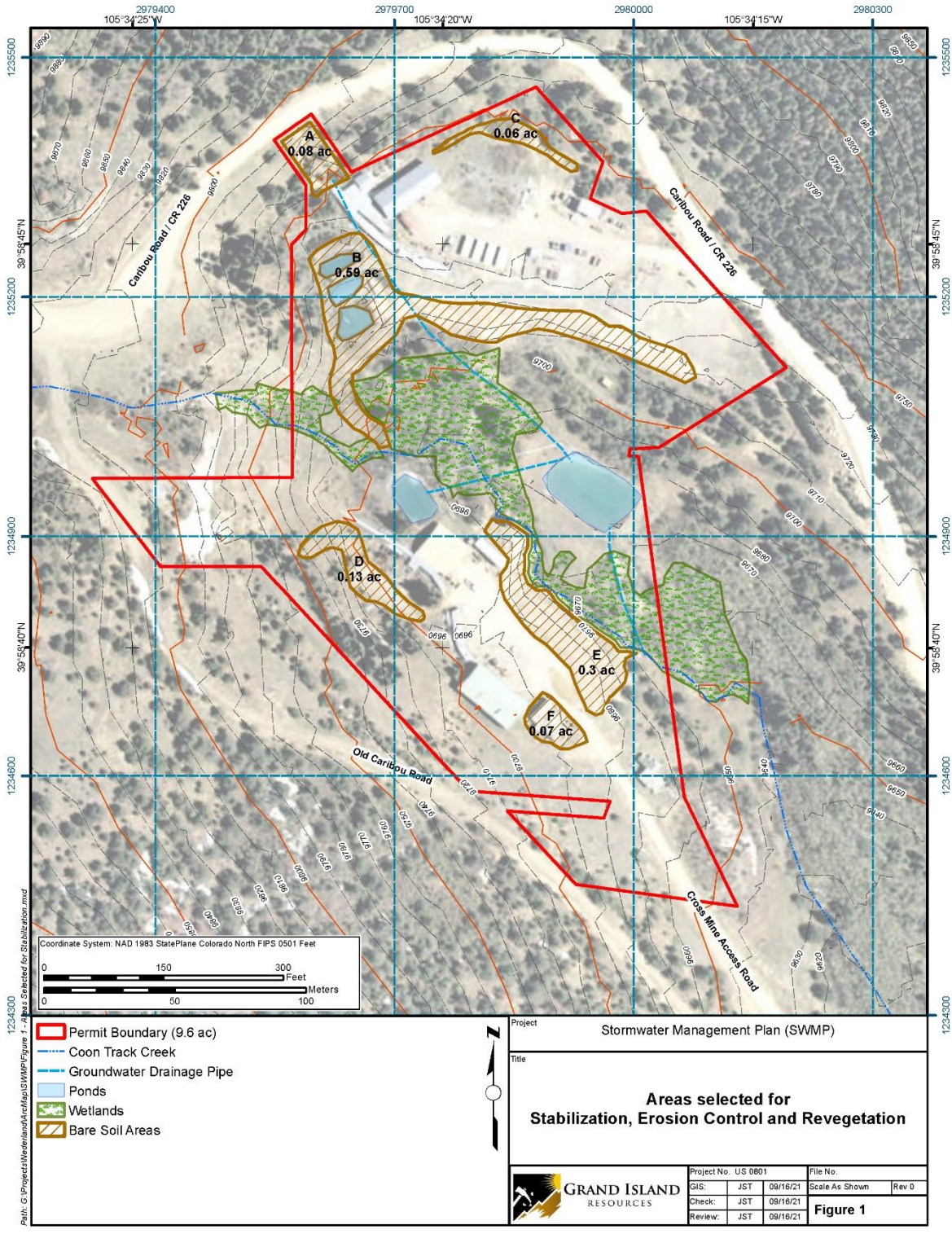


Figure 1 Areas selected for stabilization, erosion control, and revegetation.

Figure 2 Outlines of sediment generation areas from the Stormwater Management Plan.

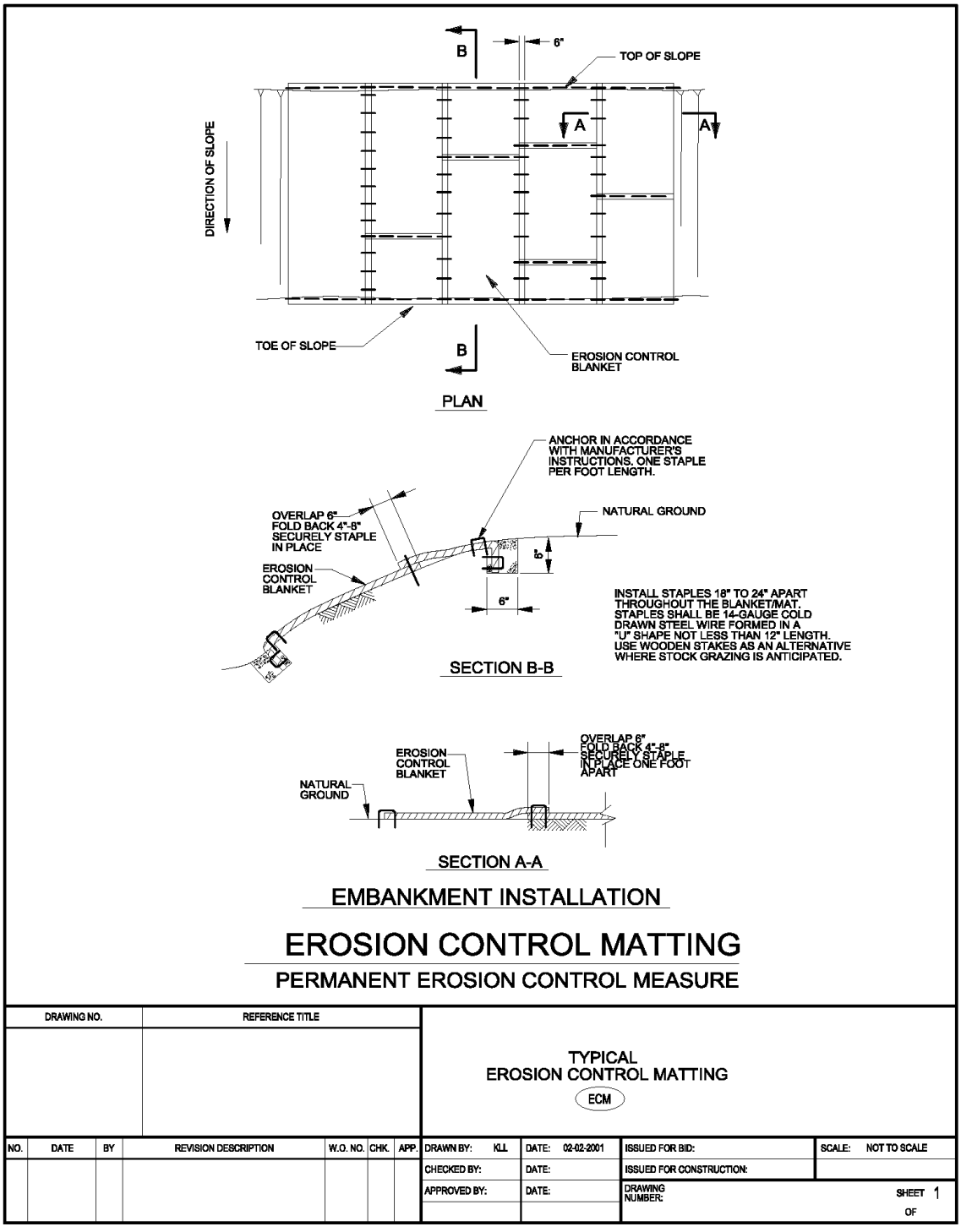


Figure 3. Erosion Control Blankets.

Attachment E – Inspection Forms

Grand Island Resources, Inc.

STORMWATER INSPECTION REPORT
(one inspection each quarter)

General Information			
Facility Name	Cross and Caribou Mines		
CDPS Tracking No.	COR040242		
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? O Clear O Cloudy O Rain O Sleet O Fog O Snow O High Winds O Other: Temperature:
Have any previously unidentified discharges of pollutants occurred since the last inspection? O Yes O No **If yes, describe:**
Are there any discharges occurring at the time of inspection? O Yes O No **If yes,**

Control Measures

- *Number the structural stormwater control measures identified in your SWMP 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 (add more rows if necessary).*
- *Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log*

	Structural Control Measure	Control Measure Operating Effectively?	If 'no,' in need of maintenance, repair, or replacement?	Corrective Action needed and notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
1	Temporary Channel Diversions[1]	O Yes O No O N/A	O Maintenance O Repair O Replacement	
2	Revegetation	O Yes O No	O Maintenance O Repair O Replacement	
3	Straw Bale Barriers/ Check Dams	O Yes O No	O Maintenance O Repair O Replacement	
4	Vehicle Tracking Control	O Yes O No	O Maintenance O Repair O Replacement	
5	Sediment Ponds	O Yes O No	O Maintenance O Repair O Replacement	
6	Perimeter Channels/ Ditches	O Yes O No	O Maintenance O Repair O Replacement	
7	Borrow Ditches	O Yes O No	O Maintenance O Repair O Replacement	
8	Vegetation and Wetlands	O Yes O No	O Maintenance O Repair O Replacement	
8	Stormwater Retention Area	O Yes O No	O Maintenance O Repair O Replacement	
9	Outlet/ Outfall Protection	O Yes O No	O Maintenance O Repair O Replacement	

[1]Channel diversions installed as needed (may not always exist)

Non-Compliance

Describe any incidents of non-compliance observed and not described above:

Corrective Action

Provide a summary report and a schedule of implementation of the corrective actions that the permittee has taken or plans to take if the site inspection indicates that the site is out of compliance

Notes

Use this space for any additional notes or observations from the inspection:

CERTIFICATION AND COMPLIANCE STATEMENT

In the judgment of either 1) the person conducting the site inspection, or 2) the permittee or duly authorized representative, the facility is in compliance with the terms and condition of the COG500000 Permit, with respect to Part I.J.2 (Page 20, Inspection Scope):
O Yes O No

"I certify that this report is true, accurate, and complete, to the best of my knowledge and belief."

Inspector: Print name and title

_____

Signature: _____Date:_____

Permittee or Duly Authorized Representative: Print name and title

_____

Signature: _____Date:_____

Visual Monitoring Example Tracking Form

Visual Monitoring (One Sample per Form)		
Year:_____	**Quarter (circle one): 1 2 3 4**	**Date: _____**
Visual monitoring must be conducted once each quarter for the entire permit term. The permittee must collect a stormwater sample from each outfall (or a substantially identical outfall) and conduct a visual assessment of each sample.		
Required Documentation:		
Personnel collecting the sample and performing visual assessment:	**Print Name:_____** **Title:** **_____** **Provide Signature:_____**	
Sample location:		
Sample collection date and time:		
Visual assessment date and time:		
Nature of the discharge (i.e., runoff or snowmelt):		
Results of observations of the stormwater discharge:		
Probable sources of any observed stormwater contamination:		
If applicable, why it was not possible to take samples within the first 30 minutes:		
The visual assessment must be made of a sample in a clean, clear glass, or plastic container, and examined in a well-lit area. The permittee must visually inspect the sample for the presence of the following water quality characteristics, and document the visual assessment results:		
*	Color	
*	Odor	
*	Clarity	
*	Floating Solids	
*	Settled Solids	
*	Suspended Solids	
*	Foam	
*	Oil sheen	
*	Other obvious indicators of stormwater pollution	
Required Documentation Regarding Corrective Action:		
If the visual monitoring indicates the control measures are inadequate or are not being properly operated and maintained, the permittee must conduct corrective actions. ****Use the **Corrective Action Summary Sheet** to provide a summary and schedule of implementation of any corrective action(s) that has or will be taken based on this visual monitoring.		

Corrective Action Summary of Requirements

<table>
<tr><th colspan="5">Summary of Corrective Action Requirements</th></tr>
<tr><th rowspan="2">Permit Ref.
Part:</th><th rowspan="2">Condition</th><th rowspan="2">Required Action</th><th colspan="2">Required Reporting</th></tr>
<tr><th>5-day documentation</th><th>Annual Report</th></tr>
<tr><td>I.K.1.a</td><td>An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another permit) occurs</td><td rowspan="4">The permittee must review and revise the selection, design, installation, and implementation of facility control measures to ensure that the condition is eliminated and will not be repeated in the future.</td><td rowspan="6">Within five (5) days of discovery, document the following:
• Identification of the condition triggering the need for corrective action review
• Description of the problem identified
• Date the problem was identified
• Summary of corrective action taken or to be taken (or, for “triggering events” where the permittee determines that corrective action is not necessary, the basis for this determination)
• Notice of whether SWMP modifications are required as a result of this discovery or corrective action
• Date corrective action initiated
• Date corrective action completed or expected to be completed</td><td rowspan="6">Among other requirements, annual reports must include the 5-day corrective action documentation and the status of any outstanding corrective action(s).</td></tr>
<tr><td>I.K.1.b</td><td>Facility control measures are not stringent enough for the discharge to meet applicable water quality standards</td></tr>
<tr><td>I.K.1.c</td><td>Modifications to the facility control measures are necessary to meet the practice-based effluent limits in this permit</td></tr>
<tr><td>I.K.1.d</td><td>The permittee finds in a facility inspection, that facility control measures are not properly selected, designed, installed, operated or maintained</td></tr>
<tr><td>I.K.2.a</td><td>Construction or a change in design, operation, or maintenance at the facility significantly changes the nature of pollutants discharged in stormwater from the facility, or significantly increases the quantity of pollutants discharged</td><td rowspan="2">The permittee must review the selection, design, installation, and implementation of facility control measures to determine the appropriate modifications necessary to attain the effluent limits in this permit.</td></tr>
<tr><td>I.K.2.b</td><td>The average of quarterly sampling results exceeds an applicable benchmark</td></tr>
</table>

Corrective Action Example Tracking Form

Note: Modification of any control measure as part of the corrective action required by Parts I.K.1 and I.K.2 of the permit must be performed consistent with Part I.C (Control Measures) of the permit.

Provide the Permit Reference: *(Example: I.K.1.a)*	Required 5-day documentation						
	Date the problem was identified	Description of the problem identified (i.e., What's wrong?)	The condition triggering the need for corrective action review (i.e., How was this discovered? Example, through visual inspection, Benchmark sampling)	Summary of corrective action taken or to be taken (or, for "triggering events" where the permittee determines that corrective action is not necessary, the basis for this determination)	Are SWMP modifications are required as a result of this discovery or corrective action? (Yes/No)	Date corrective action initiated	Date corrective action completed or expected to be completed

Attachment F – Spill Prevention and Response Plan

Spill Prevention, Control and Countermeasure (SPCC) Plan

Facility Name: Cross Mine
Address: 4415 Caribou Rd
Nederland, CO 80466

Contact Name: Richard Mittasch
Phone: (720) 893-3749
Email: rmittasch@nedmining.com

I. Facility Information

a. Facility Name: Cross Mine (DRMS Permit M1977-410)

b. Mailing Address: Grand Island Resources LLC
PO Box 3395
Nederland, CO 80466

c. Physical address: Grand Island Resources LLC
4415 Caribou Rd
Nederland, CO 80466

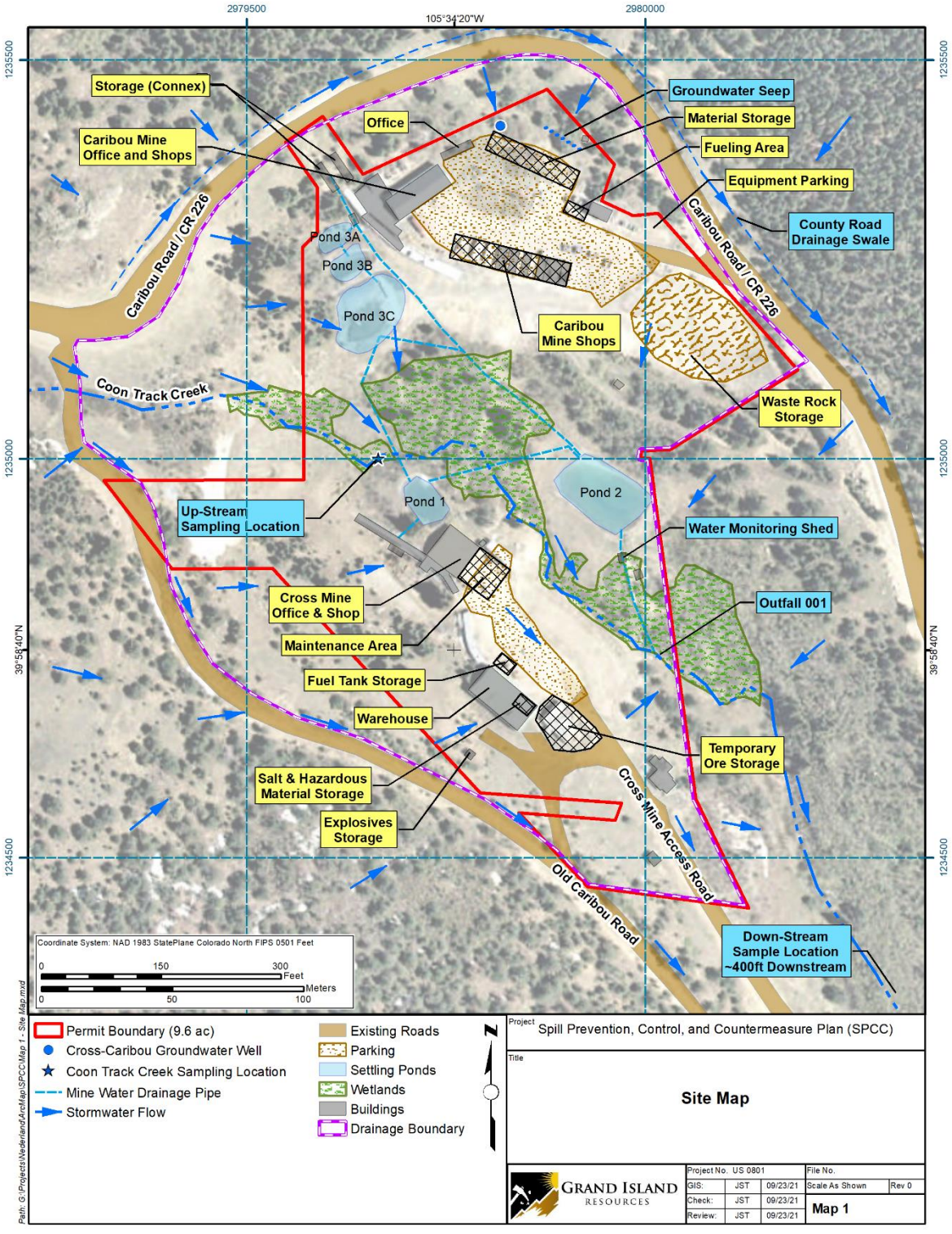
d. Owner Name: Grand Island Resources, Inc.

e. Site Contact Name: Daniel Pollock
Work Phone Number: (720) 207-5154
Mobile Phone Number: (312) 342-6145
Email: dpollock@nedmining.com

II. Site Assessment

a. Location

The Cross Mine site is located approximately 3 miles west of Nederland, Colorado adjacent to the Roosevelt National Forest, at an elevation of about 9700 feet above mean sea level. The general location is parcels of land in Section 9, Township 1 South, Range 73 West of the 6 Principal Meridian, County of Boulder, State of Colorado, as shown on Map 1. This is a permitted existing hard rock mining operation owned by Grand Island Resources Inc. (GIR), although at present, no active mining is being conducted. This SPCC is a requirement of the DRMS permit. The entire permit area and locations relevant to this SPCC are depicted in Map 1.


2979500
105°34'20"W
2980000
1235500
1235000
1234500
39°58'40"N
Storage (Connex)
Caribou Mine Office and Shops
Office
Groundwater Seep
Material Storage
Fueling Area
Equipment Parking
County Road Drainage Swale
Caribou Road / CR 226
Pond 3A
Pond 3B
Pond 3C
Caribou Mine Shops
Coon Track Creek
Waste Rock Storage
Up-Stream Sampling Location
Pond 1
Pond 2
Water Monitoring Shed
Cross Mine Office & Shop
Outfall 001
Maintenance Area
Fuel Tank Storage
Warehouse
Temporary Ore Storage
Salt & Hazardous Material Storage
Explosives Storage
Cross Mine Access Road
Old Caribou Road
Down-Stream Sample Location ~400ft Downstream
Coordinate System: NAD 1983 StatePlane Colorado North FIPS 0501 Feet
0 150 300 Feet
0 50 100 Meters
Permit Boundary (9.6 ac)
Cross-Caribou Groundwater Well
Coon Track Creek Sampling Location
Mine Water Drainage Pipe
Stormwater Flow
Existing Roads
Parking
Settling Ponds
Wetlands
Buildings
Drainage Boundary
Path: G:\Projects\Nederland\ArcMap\SPCC\Map 1 - Site Map.mxd
Project Spill Prevention, Control, and Countermeasure Plan (SPCC)
Title
Site Map
GRAND ISLAND RESOURCES
Project No. US 0801
File No.
GIS: JST 09/23/21
Check: JST 09/23/21
Review: JST 09/23/21
Scale As Shown
Rev 0
Map 1

III. Facility Description

a. Acres of land: 9.99 permitted for disturbance.

b. Facilities and Equipment:

Spill kits and emergency equipment, parts washer, 300-gallon waste oil storage, Two (2) 500-gallon diesel storage tanks, Petroleum, Oil and Lubricant (POL) Building, Outdoor Covered Mechanics Bays, Cross Mine Repair Garage, Warehouse Garage, Warehouse Hazardous Materials Storage

c. Services:

In-house small engine, vehicle, and heavy equipment maintenance. Fueling.

d. Fixed Storage:

Two 500-gallon capacity above-ground double walled diesel fuel tanks with secondary containment are located outside the former Fuel Building. The fuel tanks are equipped with electric pumps. The tanks and secondary containment are grounded. The fixed storage location needs a covering to prevent the secondary containment from filling with snow, rainfall and debris. A 300-gallon waste oil tank is located inside the Fuel Building. The Fuel Building is to be demolished and the 300-gallon waste oil tank is to be moved to the Cross Mine warehouse.

e. Non-Fixed Storage:

The Mine maintains non-fixed (small container ≤ 55 gallons) storage of petroleum, oil and lubricants in the following locations:

Cross Mine Warehouse – Main Hazardous Storage. This consists of a 4-level anchored shelving system used to store any hazardous liquids or solids in small quantities. Total amount of POL in storage – 200 gallons. No secondary containment.

Cross Mine Fuel Storage Box – Centrally located flammable liquid box used to store pre-mixes fuel for chainsaws, and other straight gasoline cans. Approved containers 2 gallons or less are used. Box maximum capacity 8 containers, ~ 16 gallons. Fuel box is secondary containment.

Cross Mine Tool Room and Shop – Small cans of paints, lubricants, sprays and solvents are stored and used in this area. No secondary containment. Maximum volume about 20 gallons.

Caribou Mine Tool Rooms and Shops – Small cans of paints, lubricants, sprays and solvents are stored and used in this area. No secondary containment. Maximum volume about 20 gallons.

Caribou Mine Fuel Shed – Formerly utilized central storage building contains approximately 200 gallons of waste POL awaiting disposal in containers 55 gallons and less. Limited secondary containment (drip trays).

f. Total quantity of stored materials

The combined quantity of the materials listed above: 1756 gallons

IV. Oil Spill History

There has never been a significant spill at the mine. Significant is defined as above the reportable quantity of 25 gallons for a transportation spill. 7CCR 1101-14 Section 4-1 to 4-3 and CRS 25-8-601.

V. Potential Spill Volumes and Rates

Potential Event	Volume Released	Spill Rate
Complete failure of a full tank*	500 gallons	instantaneous
Partial failure of a full tank*	1 to 500 gallons	gradual to instantaneous
Tank overflow**	1 to 25 gallons	up to 25 gpm
Leaking during unloading***	up to 25 gallons	up to 25 gpm
Fueling operations****	several ounces to gallons	up to 25 gpm
Oil and grease	several ounces to quarts	spotting

* Volume of largest tank
** Calculate using the rate at which fuel is dispensed from the delivery truck into your tank(s).
*** Calculate using the rate at which petroleum would be withdrawn from the tank if it should have to be emptied (*e.g.,* if it were being taken out of service).
**** Calculate based on the specifications of your equipment.

VI. Spill Prevention and Control

a. Spill Prevention

In order to minimize the exposure of material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff; and minimize pollutant discharge from industrial activities performed at the mine, performing and locating these activities indoors or protecting them with storm resistant cover will be implemented.

The following should be performed as needed:

- Provide spill response kits of adequate size at all POL and fueling locations;

- Use grading, berming or curbing to prevent runoff of contaminated flows and divert run-on away from fuel and POL areas;
- Locate materials, equipment, and activities so that potential leaks and spills are contained or able to be contained or diverted before discharge;
- Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;
- Impacted soils and synthetic spill absorbents are placed in empty oil, grease, lubricant, or spill-response-kit containers and removed from the site for disposal;
- Store leaky vehicles and equipment indoors or, if stored outdoors, use drip pans and absorbents;
- Use spill/overflow protection equipment;
- Perform all vehicle and/or equipment cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray;
- Use double-walled tanks for bulk fuel storage; and
- Use secondary containment for all fuel and POL storage regardless of size.

Employees are trained annually and on hire regarding the SPCC policies and procedures including:

- The necessity for environmental controls and facility setting;
- Regulations that require spill prevention and response planning;
- Specific descriptions of containment facilities and practices;
- Description location and use of items such as double-walled tanks, containment berms, emergency shut-offs, drip pans,
- Specific fueling procedures; and,
- Spill response kit availability, use, and location.

b. Spill discharge and flow

Because the Cross/Caribou Mines have limited fuel and oil on-site, the potential for discharge and flow to water is limited. All the roads and parking areas on-site have a 2-10-foot berm built in so that if there were to be a spill, it would be contained to the road or parking areas. This includes the Fueling Area and current POL storage.

c. Spill response plan

In the event of a spill on the road or fueling area, the clean-up process would follow these procedures.:

1. **Always wear Personal Protective Equipment (PPE).** PPE is a critical piece of dealing with any oil or fuel spill and cleanup.
2. **Assess the spill and determine whether help is needed.** Making sure that the source of the spill is stopped/contained as soon as safely possible is paramount.
3. **Contain the spill to prevent it from spreading. When possible, absorb the spill with absorbents** It is vital to keep an oil or fuel spill away from drains or water. The

goal is to remove all the spill from the ground, even if it means digging up some soil where oil has penetrated the surface. Use the contents of the closest Spill Kit.

4. **Notify Supervisors and/or Management that a spill has occurred.** If other local authorities need to be informed, management will make that decision.
5. **Dispose of waste absorbent by placing it into sealed plastic bags.** The bags of refuse will be disposed of by Management. Assist in making an estimate of amount spilled.
6. **Dig up contaminated soil.** Manually dig up soil/rock that has been contaminated and place in metal drums. Label drums and inform Management of volume. Cover drum and protect from damage.

Similar procedures (containment, use of spill kit, proper disposal of waste) apply to indoor spills. Buildings are considered secondary containment unless POL storage is large (25 gallons or greater) and near a building doorway.

A poster containing spill response information is attached. It is to be posted in all areas where spills and/or leaks are likely to occur. The spill response plans are posted in conspicuous places and if possible, near a telephone. Spill response plans shall be posted at the:

- Cross Mine Building and Shops,
- Caribou Mine Building and Shops,
- Fueling Station,
- Oil and Lubricant Storage Building,
- Cross Mine Warehouse, and
- Water Treatment Facility

Spill kits are kept at the following locations:

- Cross Mine Building Tool Room,
- Cross Mine Building Warehouse (former Ore House) Hazardous Area,
- Caribou Mine Building Geology/Tool Room Area,
- Caribou Mine Maintenance Area (Parking Lot),
- Fueling Station,
- Petroleum Oil and Lubricant Storage Building (former Fuel Building)

If a spill causes violation of any effluent limitation in the general wastewater discharge permit, GIR will report the violation in accordance with that permit – orally within 24-hours, followed by a written report within 5-days.

Oral Notification:
Water Quality Protection Section – Industrial Compliance Program
Water Quality Control Division
303-692-3500 (during normal business hours)

Written Notification:
Water Quality Protection Section – Industrial Compliance Program
Water Quality Control Division
Colorado Department of Public Health and Environment
WQCD-WQP-B2
4300 Cherry Creek Drive South

Denver, CO 80246-1530

Other regulatory agencies that may require reporting include the following:

Environmental Protection Agency (EPA), Region 8
303-312-6132

Colorado Department of Public Health and Environment
Toll-Free 24-hour Environmental Spill Reporting Line
1-877-518-5608

Division of Reclamation Mining and Safety – Dept of Natural Resources
303-866-3567

Colorado Division of Water Resources
303-866-3581

Boulder County Health Department, Emergency Response
970-498-6739

Boulder County Sheriff's Office
970-416-1985 (24-hour non-emergency contact)
970-498-5100

Should a major release (>25 gallons) occur, the following GIR personnel will be contacted immediately:

Richard Mittasch, VP Operations
720-893-3749 Office
516-582-0833 Mobile

Daniel Pollock, Director of Permitting and Regulations
720-207-5154 Office
312-342-6145 Mobile

In an emergency, such as fire, emergency responders will be contacted immediately.

Boulder County Sheriff / Nederland Fire Dept. 911

The following list of vendors are available and will be contracted on an as needed basis to assist with the containment and clean-up of any release.

Custom Environmental Services (800) 310-7445
Western Cleanup Corp (970) 867-9507
Restoration Logistics (303) 657-1400

d. Security

Security at the site begins with posting of the property for trespassing. The mine is located in a remote area that discourages passersby from visiting. Staff live on site and there is a high-resolution video monitoring system with signs posted regarding use. The camera system is accessible by management and security staff from off-site. When the site is unoccupied, gates, outdoor fuel dispensers, and buildings are locked, preventing unauthorized access or use.

VII. Facility Inspections

a. Routine Inspections

The facilities that require routine inspections are:

- Cross Mine Building Tool Room,
- Cross Mine Building Warehouse (former Ore House) Hazardous Area,
- Caribou Mine Building Geology/Tool Room Area,
- Caribou Mine Maintenance Area (Parking Lot),
- Fueling Station,
- Petroleum Oil and Lubricant Storage Building (former Fuel Building)

Daily inspections for fuel and POL spills are conducted by the Surface Foreman
The Surface Manager has responsibility to implement preventative maintenance programs, oversee on-site inspections, coordinate employee training, maintain records, update the plan as necessary, and ensure that reports are submitted to the proper authorities.

b. Annual Inspections

A site inspection is also conducted annually by Surface Management and Permitting personnel to verify that the description of potential pollutant sources is accurate, that the map reflects current site conditions, and that the controls to reduce the pollutants identified in this plan are being implemented and are adequate. This annual inspection will be conducted above and beyond the routine inspections done focusing on designated equipment and areas where potential sources are located.

VIII. Training and Record Keeping

Record keeping procedures consist of maintaining all records a minimum of three years. The following items will be kept on file: current SPCC plan, internal site reviews, training records, documentation of any spills or maintenance conducted in regard to spills at the site. Following each training session, Mine will distribute training certificates by email to all staff that attend training and submit a training assessment.

The Surface Manager is responsible for providing training to mine employees regarding the components and goals of this SPCC. The miners and other employees who work in areas where hazardous materials or POL are used, or who are responsible for implementing activities to meet the conditions of the DRMS permit are expected to participate in annual SPCC training.

Training will be provided to mine employees by qualified trainers at least annually, with additional training made available as required by new hires. Elements to be included in the training sessions include, but are not limited to, the following:

- Purpose, Need, and Requirement for SPCC;
- Locations and Quantities of Hazardous Materials and POL
- Good Housekeeping and Preventative Maintenance Requirements;
- Material Management Practices;
- Inspections and Reporting;
- Spill Response Procedures;
- Spill Reporting Requirements;
- Corrective Action Reporting; and
- Documentation Requirements.

All training events are documented including the date of training, identification of the trainer and attendees, and subjects covered. Training records shall be attached to the SPCC.

SPILL RESPONSE

All Spills Require Action!
Fuel, Oil, or Hazardous Liquids

Always Wear Personal Protective Equipment.

Evaluate the Spill - Is Help Needed?

More than 10 Gallons? Call Management Channel 1.
Use personal phone to call Topside (720) 893-3749.

Contain the Spill to Prevent it from Spreading.

When Possible, Absorb the Spill with Absorbents.

Keep Spill Away from Water.

Notify Supervisors and/or Management that a Spill Occurred.

Dispose of Waste Absorbent by Placing it into Sealed Plastic Bags.

Dig Up Contaminated Soil and Rock and Place into Drums or Leakproof Containers.

Attachment G – Training Records

ANNUAL TRAINING REVIEW for STORMWATER MANAGEMENT PLAN (SWMP)
and
SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC)

All employees at Grand Island Resources, Inc. shall be trained in the operation and maintenance of equipment to prevent and clean up spills; proper reporting and handling of stormwater or process water discharges; spill procedure protocols; general facility operations; current rules, regulations, and pollution control laws; SWMP State permit regulations; and the contents of the SPCC Plan and SWMP for this site.

- This facility is required to prepare and implement an SPCC plan in accordance with Federal rules and regulations established by the EPA.
- This facility has been issued a Wastewater Discharge Permit by the Colorado Department of Health and Environment and is required to prepare and implement a Storm Water Management Plan (SWMP) in accordance with Colorado discharge permit system regulations.
- Any known spill events or failures, malfunctioning components, or recently developed precautionary measures as well as near misses or incidents have been discussed.
- Signature below signifies that the employee has received oral and written SWMP and SPCC training, materials, and understand their individual responsibilities under the SWMP or SPCC.

Trainer Name Title Date

SPCC AND SWMP ANNUAL TRAINING REVIEW

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN – SPCC
Federal Requirement, Rules and Regulations established by EPA
Any facility with petroleum storage greater than 1320 gallons
STORM WATER MANAGEMENT PLAN – SWMP
Colorado Department of Health and Environment - CDPHE
Requirement of CDPHE Industrial Stormwater Permit
Permit Number is posted on site.
Ensures stormwater does not impact the creek.

REPORT ANY KNOWN DISCHARGES OR FAILURES, MALFUNCTIONING COMPONENTS

DIESEL FUEL, UNLEADED GASOLINE
Storage Tanks and transfer points
MOTOR OIL, MISCELLANEOUS PETROLEUM PRODUCTS
Storage Drums larger than 44 gallons and transfer points
Used oil storage
Discharge into Coon Track Creek

Water from the settling ponds that is discharged to the creek is tested monthly, any spills inside the mine area, or unusual discharges should be reported to Mine Manager.

OPERATION AND MAINTENANCE OF EQUIPMENT TO PREVENT SPILLS AND DISCHARGES

O & M PROCEDURES

SPCC Manual and SWMP are available for review on site
Importance of good housekeeping - Ensures that stormwater, process water, petroleum or other chemicals do not leave site
Daily/Weekly/Monthly/Quarterly/Annual inspections and maintenance

SECONDARY CONTAINMENT

Concrete bunkers, floor curbs, storage sheds
Secondary Containment around Fuel Tanks
Berms or other best management practices (straw waddles, silt fences, earthen berms) around stockpiles and site drainage
Monthly inspections and maintenance

DISCHARGE PROTOCOLS

SPILLS – CLEAN UP AND REPORT

Small spills clean up and/or report to Mine Manager or other key personnel
Spill kits or drums on site with material to absorb small spills
Contain and Clean Up

LARGE DISCHARGES or “RELEASES” TO PONDS, DITCHES, CREEK

A “release” is over: 659 gallons from a State Regulated Tank
1,000 gallons any container
2 spills of over 42 gallons in one month period
A Release comes in contact with water and creates a “sheen”
Must be reported to Mine manager, and other key personnel
Must be reported to regulatory agencies shown on FIRST RESPONDER CALL LIST

Attach Dated Employee Signatures

Attachment H – Permit COR-040240

STATE OF COLORADO

Bill Ritter, Jr., Governor
James B. Martin, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado

http://www.cdphe.state.co.us

Laboratory Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department
of Public Health
and Environment

June 16, 2008

Thomas S. Hendricks, VP
Calais Resources Inc
PO Box 653,
Nederland, CO 80466
303/258-3806

RE: Final Permit, Colorado Discharge Permit System – Stormwater
Certification No: COR-040242
Cross Gold Mine Operation
Boulder County

Local Contact: Tom Hendricks, VP
303/258-3806

Dear Sir or Madam:

Enclosed please find a copy of the permit certification which was issued to you under the Colorado Water Quality Control Act.

Your certification under the permit requires that specific actions be performed at designated times. You are legally obligated to comply with all terms and conditions of the permit.

Please read the permit and certification. If you have any questions, contact Matt Czahor at (303) 692-3575.

Sincerely,

Kathryn Dolan
Stormwater Program Coordinator
Permits Unit
WATER QUALITY CONTROL DIVISION

xc: Regional Council of Governments
Boulder County Health Department
District Engineer, Technical Services, WQCD
Permit File
Fee File

STATE OF COLORADO

John W. Hickenlooper, Governor
Christopher E. Urbina, MD, MPH
Executive Director and Chief Medical Officer

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Denver, Colorado 80246-1530
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Denver, Colorado 80230-6928
(303) 692-3090

http://www.cdphe.state.co.us

Colorado Department
of Public Health
and Environment

October 4, 2011

Thomas S Hendricks, VP
Calais Resources Inc
PO Box 653
Nederland, CO 80466

RE: Renewal of Permit/Certification
Administrative Continuation
For: Cross & Caribou Mines
Located at: 4415 Caribou Rd, Nederland, Boulder County
Permit No.: COR040242

Dear Mr. Hendricks;

The Water Quality Control Division (the Division) received an application to renew the above permit/certification, and determined there is sufficient information to make this permit/certification eligible for renewal.

The General Permit for Stormwater Discharges Associated with Metal Mining Operations and Mine-Waste Remediation expired on September 30, 2011. The Division administratively continued this permit; therefore, all effluent limitations, monitoring requirements, and other permit terms and conditions in the current permit remain in effect under Section 104(7) of the Administrative Procedures Act, C.R.S. 1973, 24-4-101, et seq (1982 repl. vol. 10) until a new permit/certification is issued and effective.

The Division may request additional information of the permittee as it develops a new permit/certification for the above listed facility. Permittees must provide this additional information to the Division when requested to complete the permit process. Please direct questions to cdphe.wqstorm@state.co.us, (303) 692-3517, or visit the Division's website at www.coloradowaterpermits.com.

Sincerely,

Debbie Jessop

Debbie Jessop
Permits Section
WATER QUALITY CONTROL DIVISION

xc:
Permit File

Colorado Department
of Public Health
and Environment

CERTIFICATION TO DISCHARGE
UNDER
CDPS GENERAL PERMIT COR-0400000
STORMWATER ASSOCIATED WITH METAL MINING INDUSTRIAL ACTIVITIES

Certification Number: **COR040242**

This Certification to Discharge specifically authorizes:

Calais Resources Inc

to discharge stormwater from the facility identified as

Cross and Caribou Mines

to:

Coon Track Creek - North Beaver Creek

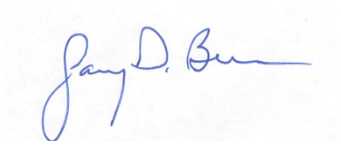
Facility Located at: 4415 Caribou Rd, Nederland, Boulder County, CO 80466

Latitude 39.977777, Longitude -105.571388

Certification is effective:6/16/2008 **Certification Expires:** 9/30/2011

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

Signed,



Gary Beers, Unit Manager
Water Quality Control Division

STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
TELEPHONE: (303) 692-3500

CERTIFICATION TO DISCHARGE
UNDER
CDPS GENERAL PERMIT COR-0400000
METAL MINING INDUSTRY

Calais Resources Inc
Certification Number **COR040242**

This Certification to Discharge specifically authorizes:

LEGAL CONTACT:
Thomas S. Hendricks, VP
Calais Resources Inc
PO Box 653
Nederland, CO 80466
Phone # 303/258-3806
thomassh@earthlink.net

LOCAL CONTACT:
Tom Hendricks, VP,
Phone # 303/258-3806
thomassh@earthlink.net

Industrial Activity : **Small Underground Hard rock Gold & Silver Mine & Mill**
Primary SIC Code: **1041**
to discharge stormwater from the facility identified as
Cross Gold Mine Operation
which is located at:
4415 Caribou Rd
Nederland, CO

Latitude **39/58/40,** Longitude **105/34/17**
In **Boulder County**

to: Coon Track Creek, Middle Boulder Creek

Certification is effective: **06/16/2008** Certification Expires: **September 30, 2011**

First Annual Report Due: 02/15/2009

Annual Fee: $375.00 (**DO NOT PAY NOW** – A prorated bill will be sent in 2-3 weeks.)

CDPS GENERAL PERMIT

STORMWATER DISCHARGES ASSOCIATED WITH
METAL MINING OPERATIONS AND MINE-WASTE REMEDIATION

AUTHORIZATION TO DISCHARGE UNDER THE

COLORADO DISCHARGE PERMIT SYSTEM

In compliance with the provisions of the Colorado Water Quality Control Act, (25-8-101 et seq., CRS, 1973 as amended) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"), this permit authorizes the discharge of stormwater associated with metal mining operations, mine-waste remediation sites, and some coal mines certified under this permit, from those locations specified throughout the State of Colorado to specified waters of the State. Such discharges shall be in accordance with the conditions of this permit.

This permit specifically authorizes the facility listed on page 1 of this permit to discharge stormwater associated with metal mining operations, mine-waste remediation sites, and some coal mines, as of this date, in accordance with the permit requirements and conditions set forth in Parts I and II hereof. All discharges authorized herein shall be consistent with the terms and conditions of this permit.

This permit and the authorization to discharge shall expire at midnight, **September 30, 2011**.

Issued and Signed this **28TH** day of **August, 2006**

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Janet S. Kieler
Permits Section Manager
Water Quality Control Division

ISSUED AND SIGNED AUGUST 28, 2006

EFFECTIVE OCTOBER 1, 2006

PART I

A. COVERAGE UNDER THIS PERMIT

1. Authority to Discharge

Under this permit, active and inactive metal mining operations, mine-waste remediation projects at inactive mine sites, and coal mines with process water discharge sources which are authorized under individual CDPS permits, where stormwater has come into contact with any overburden, raw material, intermediate products, byproducts, finished products or waste products located at the mining site, are permitted to discharge stormwater associated with those operations into waters of the state of Colorado. The term mining operation includes active and inactive mining activities.

2. Industries Covered Under this Permit

a. Types of Activities Covered by this Permit:

1) This permit authorizes all new and existing discharges composed **entirely** of stormwater associated with active and inactive metal mining operations. (See Rationale, Section III for an explanation of exemptions for uncontaminated stormwater and reclaimed mines.)

2) This permit authorizes all new and existing discharges composed **entirely** of stormwater associated with mine-waste remediation projects at the mine-waste site. Separate coverage under this permit is necessary to address stormwater discharges from off-site disposal areas.

3) This permit may also authorize existing discharges composed **entirely** of stormwater from any mining operation that is currently covered by an individual CDPS permit for discharge of process water. See Section IV.C of the Rationale for a discussion of stormwater discharges from coal mines with process water discharge sources which are authorized under individual CDPS permits.

b. Definitions

1) **Stormwater** is precipitation-induced surface runoff.

2) **Mining operations** include facilities classified as Standard Industrial Classification Codes 10 through 14 (metal mining), including active or inactive mining activities. This definition includes operations that have temporarily ceased mining and are in "temporary cessation" status with the Colorado Division of Reclamation, Mining, And Safety, or CDRMS (formerly the Division of Minerals and Geology, or DMG).

3) **Active metal mining facility:** a place where work or other activity related to the extraction, removal, or recovery of metal ore is being conducted. Mines that are in temporary cessation are considered active.

4) **Inactive metal mining facility:** a site or portion of a site where metal mining and/or milling occurred in the past but is no longer actively occurring.

5) **Mine-waste remediation projects:** projects undertaken to reduce or eliminate environmental impacts of mine waste.

6) **Mine waste,** for the purposes of this permit, means any mineral material such as overburden, raw materials, intermediate products, byproducts, finished products or waste products, which is or has been disturbed or moved from its naturally occurring location as part of a mineral extraction (mining) activity. Examples of mine waste include: mine tailings, which is ore that has gone through a milling process and then been discarded, and waste rock, which is rock that has been moved from its natural location, but not processed.

7) **Best Management Practices (BMPs)**: schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment, operating procedures, and practices to control site runoff, spillage or leaks, waste disposal, or drainage from material storage. BMPs include structural and nonstructural controls.

A. **COVERAGE UNDER THIS PERMIT (cont.)**

8) **Operator:** the individual who has day-to-day supervision and control of activities occurring at the mine site.

9) **Qualified personnel**, for purposes of site inspections (see Part I.D5) are those who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility, and who can also evaluate the effectiveness of BMPs selected.

10) **Remediation**, as used in this permit, means actions taken to reduce or eliminate the overall adverse environmental impact associated with a pollutant source. The term includes actions such as re-routing of surface flows, re-location or a pollutant source, the addition of pollutant neutralizing or immobilizing substances, capping and re-vegetation.

11) **Significant Materials** include but are not limited to: raw materials; fuels; materials such as metallic products; hazardous substances designated under section 101(14) of CERCLA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharge.

12) **Vegetative Cover:** the aerial projection of all grasses, forbs, mosses (living or dead) onto the ground.

3. **Application, Due Dates**

a. **Application Due Dates**: At least **thirty days** prior to the anticipated date of discharge, the owner (or operator when the owner does not operate the facility) of the facility shall submit an application provided by the Division.

The original completed permit application shall be submitted to:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD-P-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

b. **Summary of Application:** The application requires, at a minimum, the following information:

1) Name and address of the applicant;
2) Site address and location;
3) Facility contact person, telephone number, and email address (if available);
4) Standard Industrial Classification (SIC) code(s);
5) The size of the mining operation in acres;
6) Status as active, inactive, or in remediation;
7) List of any other environmental permits currently held by the facility;
8) Activities which take place at the site;
9) Receiving waters; and
10) Certification as to the completion of a SWMP.

4. **Permit Certification Procedures**

If this general permit is appropriate, the Division will issue a certification and the applicant will be authorized to discharge stormwater under this general permit.

a. **Request for Additional Information**: The Division shall have up to **thirty days** after receipt of the above information to request additional data and/or deny the authorization for any particular discharge. Upon receipt of additional information, the Division shall have an additional **fifteen days** to issue or deny authorization for the particular discharge.

b. **Automatic Coverage**: If the applicant does not receive a request for additional information or a notification of denial from the Division dated within thirty days of receipt of the application by the Division, authorization to discharge in accordance with the conditions of this permit shall be deemed granted.

A. **COVERAGE UNDER THIS PERMIT (cont.)**

c. **Individual Permit Required**: If, after evaluation of the application (or additional information, such as the SWMP), it is found that this general permit is not applicable to the operation, then the application will be processed as one for an individual permit or a more appropriate general permit. The applicant will be notified of the Division's decision to deny certification under this general permit. For an individual permit, additional information may be requested, and 180 days will be required to process the application and issue the permit. Temporary coverage under this general permit may be allowed until the individual permit goes into effect.

d. **General vs. Individual Permit Coverage**: Any owner or operator authorized by this permit may request to be excluded from the coverage of this permit by applying for an individual CDPS permit. The owner or operator shall submit an individual application, with reasons supporting the request, to the Division at least 180 days prior to any discharge.

5. **Individual Permit Criteria**

Aside from the operation type, the Division may use other criteria in evaluating whether an individual permit is required instead of this general permit. This information may come from the application, SWMP, or additional information as requested by the Division, and includes, but is not limited to, the following:

a. the quality of the receiving waters (e.g., the presence of downstream drinking water intakes or a high quality fishery, or for preservation of high quality water);
b. the type of mining operation, including pollution potential;
c. the volume and type of materials handled;
d. the size of the facility;
e. evidence of noncompliance under a previous permit for the operation;
f. the use of chemicals within the stormwater system; or
g. discharges of pollutants of concern to waters for which there is a Total Maximum Daily Load (TMDL) established.

In addition, an individual permit may be required when the Division has shown or has reason to suspect that the stormwater discharge is a significant contributor of pollutants to waters of the State.

6. **Permit Expiration Date/Reapplication**

Authorization to discharge under this general permit shall expire on September 30, 2011. The Division must evaluate and reissue this general permit once every five years and must recertify the applicant's authority to discharge under the general permit at such time. Any permittee desiring continued authorization under the general permit must reapply by June 30, 2011. The Division will initiate the renewal process; however, it is ultimately the permittee's responsibility to ensure that the renewal is submitted. The Division will determine if the applicant may continue to operate under the terms of the general permit. An individual permit may be required for any facility not reauthorized to discharge under the reissued general permit. For facilities wishing to terminate authorization under the new permit, provisions of Part I.F will be applicable.

B. **STORMWATER MANAGEMENT PLAN - ACTIVE MINES**

A Stormwater Management Plan (SWMP) shall be developed for the portion of each facility covered by this permit. The SWMP shall include best management practices (BMPs) that are selected, installed, implemented and maintained in accordance with good engineering practices. (The plan need not be completed by a registered engineer.) The plan shall identify potential sources of pollution (including sediment) which may reasonably be expected to affect the quality of stormwater discharges associated with the mining operation. In addition, the plan shall describe and ensure the implementation of BMPs which will be used to reduce the pollutants in stormwater discharges associated with mining activity and to assure compliance with the terms and conditions of this permit.

Permittees must implement the provisions of their SWMP as a condition of this permit. The Division reserves the right to review the plan, and to require additional measures to prevent and control pollution as needed.

Any SWMP prepared before September 30, 2006 that does not meet all of the requirements listed herein (especially those items required for the site map) must be amended to conform with the SWMP requirements in this permit. Such amendments must be completed within 60 days of the certification effective date (which is typically October 1, 2006).

B. **STORMWATER MANAGEMENT PLAN - ACTIVE MINES (cont.)**

The SWMP for active mines shall include the following items, at a minimum:

1. **Description of Mining Activities**

The plan shall provide a narrative description of the mining and associated activities taking place at the site which affect or may affect stormwater runoff intended to be covered by this permit. The narrative description shall report the total acreage within the mine site and an estimate of the number of acres of disturbed area. A general description of the location of the mining site relative to major transportation routes and communities shall also be provided.

2. **Area Subject to Effluent Limitations Guidelines**

Each plan shall describe the portion of the mining site (if any) which contributes runoff to areas subject to effluent limitations guidelines contained in 40 CFR subchapter N.

3. **Site Map**

Each plan shall provide a site map or maps which indicate at a minimum:
- mining/milling site boundaries and access and haul roads;
- equipment storage, fueling and maintenance areas;
- materials handling areas;
- areas used for storage of overburden, materials, soils or wastes;
- areas used for outdoor manufacturing, heap leach pads, storage or disposal of materials;
- location of mine drainage or any other process water;
- tailings piles/ponds, both new and pre-existing;
- mine drainage or any other process water discharge points;
- existing structural control measures to reduce pollutants in stormwater runoff;
- springs, streams, wetlands and other surface waters; and
- boundary of area that contributes runoff to outfalls that are subject to effluent limitations guidelines.
- all areas of soil disturbance

For those areas outside of the area that contributes runoff to outfalls that are subject to effluent limitations guidelines:
- an estimate of the direction(s) of surface flow;
- stormwater outfalls and an approximate outline of the areas draining to each outfall;
- each existing and new structural control measure to reduce pollutants in stormwater runoff;
- the location of impervious structures (e.g. parking lots, roofs, etc.);
- the locations of all surface water bodies, including dry water courses, located in or next to the facility; and
- the locations of all potential pollutant sources identified under Part I.B.4.b.

4. **Stormwater Management Controls**

Each mining site certified under by this permit shall develop a description of stormwater quality controls appropriate for that site, and implement such controls. The appropriateness and priorities of controls in the plan shall reflect identified potential sources of pollutants at the mining site. The description of stormwater quality controls shall address the following minimum components, including a schedule for implementing such controls. For newly-certified facilities, if existing controls are inadequate to achieve the general objective of controlling pollutants in stormwater discharges associated with industrial activity, any schedule to implement additional controls to meet this objective shall not exceed 60 days from when the facility begins operations, or from when the general permit certification is issued, whichever is later, unless permission for a later deadline is obtained from the Division. New controls that will replace or modify existing controls that are already adequately addressing a pollutant source are not required to meet this schedule (e.g., replacing a control with a less resource-intensive practice).

a. **SWMP Administrator** - The SWMP shall identify a specific individual or individuals within the mining organization who is responsible for developing the SWMP and assisting the mine operator in its implementation, maintenance, and revision. The activities and responsibilities of the administrator shall address all aspects of the facility's SWMP.

B. **STORMWATER MANAGEMENT PLAN - ACTIVE MINES (cont.)**

b. **Identification of Potential Pollutant Sources and Best Management Practices** - The SWMP shall identify potential sources of pollutants at the site, and assess the potential of these sources to contribute pollutants to stormwater discharges associated with mining activities. The SWMP must also describe appropriate Best Management Practices (BMPs) to reduce the potential of these sources to contribute pollutants to stormwater discharges. At a minimum, each of the following shall be evaluated for the reasonable potential for contributing pollutants to runoff:
- loading and unloading operations;
- outdoor storage of chemicals or equipment;
- outdoor milling or processing activities;
- crushing facilities or significant dust and particulate generating activities;
- on-site waste disposal practices;
- stockpiles of overburden, raw material, intermediate products, byproducts, finished products or waste products; and
- disturbed areas.

Factors to consider include the toxicity of the material; quantity of chemicals used; amount of material processed; the likelihood of contact with stormwater; and history of significant drainage, leaks or spills of toxic or hazardous pollutants.

The description of the BMPs shall include:

1) **Stormwater diversion**: Describe how and where stormwater will be diverted away from material handling and storage areas to prevent stormwater contamination.

2) **Materials handling and spill prevention**: For materials that could impact stormwater runoff, all existing and planned BMPs that prevent the contamination of stormwater runoff at the site shall be included and described.

3) **Sediment and erosion prevention**: Describe practices that will be used to reduce erosion and prevent sediment delivery to State waters. These could include structural (such as silt fences, sediment ponds, drop structures, check dams) and non-structural (such as mulching and revegetation) methods.

4) **Other pollution prevention measures:** The plan shall identify any other structural and non-structural measures for stormwater quality control on-site.

In each case where stormwater pollution potential exists, appropriate preventive measures must be identified and implemented.

c. **Preventive Maintenance** - A preventive maintenance program is required, and shall involve inspection and maintenance of stormwater management devices (maintenance of dikes separating mine drainage from stormwater, cleaning oil/water separators and catch basins, etc.) as well as inspecting and testing of equipment and systems to prevent conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters. These periodic inspections are different from the comprehensive site evaluation (see Part I.D.5), although the former may be incorporated into the latter. Equipment, area, or other inspections are typically visual and are normally conducted on a regular basis (e.g., daily inspections of loading areas).

d. **Good Housekeeping** - The SWMP shall identify good housekeeping procedures that will be followed by the mining operation. Good housekeeping requires the maintenance of a clean, orderly facility. This part of the SWMP shall address cleaning and maintenance schedules, trash collection and disposal practices, grounds maintenance, etc.

e. **Spill Prevention and Response Procedures** - Areas where potential spills can occur, and their accompanying drainage points, shall be identified clearly in the SWMP. Where appropriate, specifying material handling procedures and storage requirements in the plan shall be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean-up shall be available to personnel.

f. **Employee Education** - The SWMP shall describe employee education programs to inform personnel at all levels of responsibility (who are involved in mining activities that may impact stormwater runoff) of the components and goals of the SWMP. Education shall address topics such as spill response, good housekeeping and material management practices. The SWMP shall identify periodic dates for such instruction. Contractor or temporary personnel shall be informed of mine operations and control features in order to prevent stormwater pollution from occurring.

B. **STORMWATER MANAGEMENT PLAN - ACTIVE MINES (cont.)**

g. **Identification of Discharges other than Stormwater** - The stormwater conveyance system on the site shall be evaluated for the presence of discharges other than stormwater. The SWMP shall include a description of the results of any evaluation for the presence of discharges other than stormwater, the method used, the date of any evaluations and the on-site drainage points that were directly observed during the evaluation.

A number of discharges other than stormwater may not require a CDPS Wastewater Discharge permit and are considered Allowable Non-stormwater Discharges. These are listed at Part I.D.3, below. Any of these discharges that exist at the site must be identified in the SWMP.

5. **Comprehensive Inspection**

The SWMP shall identify qualified personnel that shall inspect designated equipment and mine areas at appropriate intervals specified in the plan, at least twice a year (in the spring and fall). The operator shall keep a record of such inspections. This record shall be made available to the Division upon request and shall be summarized in the Annual Report (see Part I.E.1.a of the permit).

6. **Consistency with Other Plans**

SWMPs may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under section 311 of the CWA, or Best Management Practices (BMPs) Programs otherwise required by a CDPS permit, and may incorporate any part of such plans into the SWMP by reference. The SWMP may rely upon information developed for other similar pollution control programs, including the Mined Land Reclamation Plan. Appropriate portions of these other plans may be incorporated in the SWMP by reference, as long as a **complete** SWMP can be reproduced and submitted to the requesting agency within the time frame specified in the request. Those portions of the referenced documents must be included in the submittal. The SWMP must also be readily available to an on-site inspector.

C. **STORMWATER MANAGEMENT PLAN - INACTIVE MINES**

A Stormwater Management Plan (SWMP) shall be developed for each inactive mine covered by this permit. The SWMP shall include best management practices (BMPs) that are selected, installed, implemented and maintained in accordance with good engineering practices. (The plan need not be completed by a registered engineer.) The plan shall identify potential sources of pollution (including sediment) which may reasonably be expected to affect the quality of stormwater discharges associated with the inactive mining operation. In addition, the plan shall describe and ensure the implementation of BMPs which will be used to reduce the pollutants in stormwater discharges associated with the inactive mining operation and to assure compliance with the terms and conditions of this permit.

Inactive mining operations must implement the provisions of their SWMP as a condition of this permit. The Division reserves the right to review the plan, and to require additional measures to prevent and control pollution as needed.

Any SWMP prepared before September 30, 2006 that does not meet all of the requirements listed herein (especially those items required for the site map) must be amended to conform with the SWMP requirements in this permit. Such amendments must be completed within 60 days of the certification effective date (which is typically October 1, 2006).

The SWMP shall include the following items, at a minimum:

1. **Description of Mining Activities**

The plan shall provide a narrative description of the mining and associated activities that took place at the site which affect or may affect stormwater runoff intended to be covered by this permit. The narrative description shall report the approximate dates of operation, the total acreage within the mine site and an estimate of the number of acres of disturbed area. A general description of the location of the mining site relative to major transportation routes and communities shall also be provided.

C. **STORMWATER MANAGEMENT PLAN - INACTIVE MINES (cont.)**

2. **Site Map**

Each plan shall provide a generalized site map or maps which indicate any of the following which may be applicable:
- mining/milling site boundaries and access and haul roads;
- equipment storage, fueling and maintenance areas;
- materials handling areas;
- areas used for storage of overburden, materials, soils, tailings or wastes;
- areas used for outdoor manufacturing, heap leach pads, storage or disposal of materials;
- location of mine drainage or any other process water;
- tailings piles and ponds;
- an estimate of the direction(s) of surface flow;
- stormwater outfalls and an approximate outline of the areas draining to each outfall;
- existing structural control measures to reduce pollutants in stormwater runoff;
- springs, streams, wetlands and other surface waters; and
- all areas of soil disturbance.

3. **Stormwater Management Controls - Identification of Sources and Best Management Practices**

Each mining site certified under by this permit shall develop a description of stormwater quality controls appropriate for that site, and implement such controls. The appropriateness and priorities of controls in the plan shall reflect identified potential sources of pollutants at the mining site. The description of stormwater quality controls shall address the following minimum components, including a schedule for implementing such controls. For newly-certified facilities, if existing controls are inadequate to achieve the general objective of controlling pollutants in stormwater discharges associated with industrial activity, any schedule to implement additional controls to meet this objective shall not exceed 60 days from when the facility begins operations, or from when the general permit certification is issued, whichever is later, unless permission for a later deadline is obtained from the Division. New controls that will replace or modify existing controls that are already adequately addressing a pollutant source are not required to meet this schedule (e.g., replacing a control with a less resource-intensive practice).

a. **SWMP Administrator** - The SWMP shall identify a specific individual or individuals within the mining organization who is responsible for developing the SWMP and assisting the mine operator in its implementation, maintenance, and revision. The activities and responsibilities of the administrator shall address all aspects of the facility's SWMP.

b. **Identification of Potential Pollutant Sources and Best Management Practices** - The SWMP shall identify potential sources of pollutants at the site, and assess the potential of these sources to contribute pollutants to stormwater discharges associated with mining activities. The SWMP must also describe appropriate Best Management Practices (BMPs) to reduce the potential of these sources to contribute pollutants to stormwater discharges.

At a minimum, each of the following shall be evaluated for the reasonable potential for contributing pollutants to runoff:
- outdoor storage of chemicals or equipment;
- on-site waste disposal practices;
- overburden, raw material, intermediate products, byproducts, finished products or waste products; and
- disturbed areas

Factors to consider include the toxicity of the material; quantity of chemicals used; the likelihood of contact with stormwater; and history of significant drainage, leaks or spills of toxic or hazardous pollutants.

The description of the BMPs shall include:

1) **Stormwater Diversion**: Describe how and where stormwater will be diverted away from potential pollutant sources to prevent stormwater contamination.

2) **Sediment and Erosion Prevention**: Describe practices that will be used to reduce erosion and prevent sediment delivery to State waters. These could include structural (such as silt fences, sediment ponds, drop structures, check dams) and non-structural (such as mulching and revegetation) methods.

C. **STORMWATER MANAGEMENT PLAN - INACTIVE MINES (cont.)**

3) **Other pollution prevention measures:** The plan shall identify any other structural and non-structural measures for stormwater quality control on-site.

In each case where stormwater pollution potential exists, appropriate preventive measures must be identified and implemented.

Inactive mining sites that have non-mining activity occurring (such as remediation) must also evaluate the other potential sources listed in Part I.B.4.b, and must include in their SWMP the items listed in Parts I.B.4.c, d, e, f and g, as applicable.

4. **Comprehensive Inspection**

The SWMP shall identify qualified personnel that shall inspect designated equipment and mine areas at appropriate intervals specified in the plan, at least annually. Where annual inspections are impracticable, certification is required once every three years by a Registered Professional Engineer that the site is in compliance with the SWMP. The operator shall keep a record of such inspections. This record shall be made available to the Division upon request and shall be summarized in the Compliance Report (see Part I.E.1.b of the permit).

5. **Additional SWMP Items for Sites Seeking Mine Remediation/Permit Termination**

Additional requirements apply in the event that the permittee wishes to remediate the inactive mine site and terminate permit coverage. If the site is already covered by this permit, the permittee shall notify the Division as to the change in status. Notification shall be prior to the implementation of the remediation work, if possible. The SWMP must be amended to include the following items, prior to implementation of the remediation work, if possible:

a. **Documentation of Permission**: The plan shall include documentation of permission from the land owner, if the remediation work is undertaken by someone other than the land owner.

b. **Photographs**: The plan shall include photographs documenting the condition of the inactive mine site before any remedial action has occurred. For recently active mines, photographs of the active mining phase may be substituted.

c. **Description of Remedial Action:** The plan shall describe the remedial action that will take place to minimize or eliminate the water quality impacts from the mine waste. The description shall include:
- Remediation Goal Statement;
- the characteristics of the mineralogical content of the mine waste, and estimated volume of the waste;
- description of any materials that will be mixed into the mine waste on site; and
- estimated surface area of the final site, and estimated angle of side slopes.

d. **Description of BMPs during Remediation Activities:** The plan shall describe the BMPs that will be implemented to reduce the potential of remediation activities to contribute pollutants to stormwater discharges. Activities that shall be addressed include, at a minimum, vehicle maintenance, earth moving, revegetation, material storage and spill prevention.

e. **Procedures for Disposal of Water Stored Within Mine Waste**: The permittee must describe how any water stored within the mine waste will be collected and/or routed to any storage or treatment facilities. No discharge of this water shall be made to waters of the state, unless separate CDPS permit coverage is obtained.

f. **Description of Permanent BMPs, Final Site Stabilization, and Ultimate Land Use:** The plan shall include a description of the specific permanent measures that will be installed or used at the mine waste site. The description shall include any of the following if appropriate: specifications for capping or isolation of the mine waste, method and type of revegetation, and other permanent BMPs. The plan shall also include a description of the ultimate land use after remediation is complete.

C. **STORMWATER MANAGEMENT PLAN - INACTIVE MINES (cont.)**

6. **Consistency with Other Plans**

SWMPs may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under section 311 of the CWA, or Best Management Practices (BMPs) Programs otherwise required by a CDPS permit, and may incorporate any part of such plans into the SWMP by reference. The SWMP may reflect information contained in approved plans submitted for other similar pollution control programs, including the Voluntary Clean Up Program, (Voluntary Cleanup and Redevelopment Act, CRS 25-16-303) as long as they contain the elements described above. These plans must have been approved by the implementing agency prior to application for the stormwater permit. Appropriate portions of these other plans may be incorporated in the SWMP by reference, as long as a **complete** SWMP can be reproduced and submitted to the requesting agency within the time frame specified in the request. Those portions of the referenced documents **must** be included in the submittal. The SWMP must also be readily available to an on-site inspector.

D. **BASIC TERMS AND CONDITIONS -- ALL FACILITIES**

1. **General Limitations**

The following limitations shall apply to all discharges authorized by this permit:

a. Stormwater discharges from mining operations or mine-waste remediation projects shall not cause or threaten to cause pollution, contamination or degradation of State waters.

b. Bulk storage structures for petroleum products and any other chemicals shall have secondary containment or equivalent adequate protection so as to contain all spills and prevent any spilled material from entering State waters.

c. No chemicals are to be added to the discharge unless permission for the use of a specific chemical is granted by the Division. In granting the use of such chemicals, special conditions and monitoring may be addressed by separate letter.

d. All dischargers must comply with the lawful requirements of counties, drainage districts and other state or local agencies regarding any discharges of stormwater to storm drain systems or other water courses under their jurisdiction.

2. **SWMP Requirements**

The following conditions must be met to achieve compliance with this permit:

a. **SWMP Preparation and Implementation**: The SWMP shall be prepared prior to applying for coverage under the general permit, and certification of completion submitted with the application. **The SWMP shall be implemented when the facility begins operation, or when the general permit certification is issued, whichever is later, and updated as appropriate (see paragraph c., below).**

b. **SWMP Retention**: For **active** mining operations, the plan shall be retained on site. For **inactive** mining operations, the plan shall be retained by the permittee.

c. **SWMP Review/Changes**:

1) Division Review: The Division reserves the right to request and review the plans, and to require additional measures to prevent and control pollution, as needed. Upon review of the SWMP, the Division may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this permit. After such notification, the permittee shall make changes to the plan and shall submit to the Division an update to the plan including the requested changes. Unless otherwise provided by the Division, the permittee shall have 30 days after such notification to both make the necessary changes to the plan and to implement them.

If the Division determines that the permittee's discharges may cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard, the Division may require the permittee, within a specified time period, to develop and implement a supplemental BMP action plan describing SWMP modifications to adequately address the identified water quality concerns.

D. **BASIC TERMS AND CONDITIONS -- ALL FACILITIES** (cont.)

2) Permittee Review/Change: The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the potential for the discharge of pollutants to the waters of the State, or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with mining activity. If existing BMPs need to be modified or if additional BMPs are necessary, the plan changes and implementation must be completed before the next anticipated storm, or not more than **60 days** after: the change in design, construction, operation, or maintenance, or; the SWMP has been determined to be ineffective, unless this time frame is extended by the Division. Amendments to the plan shall be summarized in the Annual or Compliance Report. The Division reserves the right to require additional measures to prevent and control pollution, as needed.

3. **Prohibition of Non-stormwater Discharges**

a. Except as provided in paragraph b, below, **all discharges authorized by this permit shall be composed entirely of stormwater**. Discharges of water other than stormwater must be addressed in a separate CDPS permit issued for that discharge.

b. Discharges from the following sources that are combined with stormwater discharges associated with mining activity may be authorized by this permit, provided that the non-stormwater component of the discharge is identified in the SWMP (see Part I.B.4.g of the permit): fire fighting activities, uncontaminated compressor condensate, irrigation drainage, lawn watering, air conditioner condensate, uncontaminated seeps and springs, and foundation or footing drains where flows are not contaminated.

4. **Releases in Excess of Reportable Quantities**

This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117 or 40 CFR 302. Any discharge of hazardous material must be handled in accordance with the Division's Notification Requirements (see Part II.A.3 of the permit).

5. **Facility Inspections**

a. **Active Mining Operations**. In addition to the inspections necessary to comply with the preventive maintenance program requirements in Part I.B.4.c, qualified personnel identified by the permittee shall make a thorough inspection of their stormwater management system, at least twice per year (in the spring and fall). Where semi-annual site inspections are shown in the plan to be impracticable because an employee is not stationed at or does not routinely visit the site, inspections as required in this part shall be conducted at appropriate intervals specified in the plan, but never less than once in two years. These inspections must be documented and summarized in the Annual Report (see Part I.E.1 of the permit).

b. **Inactive Mining Operations**. Qualified personnel identified by the permittee shall make a thorough inspection of their stormwater management system, at least once per year. Where annual inspections are shown in the plan to be impracticable, because an employee is not stationed at or does not routinely visit the site, an inspection is required at least once every three years by a Registered Professional Engineer. The inspector must certify that the site is in compliance with the plan. If the site is not in compliance with the plan, it must be brought into compliance, reinspected, and plan compliance then certified by the inspector. These inspections must be documented and summarized in the Compliance Report (see Part I.E.1 of the permit).

c. **Remediation Operations.** Qualified personnel identified by the permittee shall make a thorough inspection of their stormwater management system, at least once per year (in the field season). Where annual site inspections are shown in the plan to be impracticable, because an employee is not stationed at or does not routinely visit the site, inspections as required in this part shall be conducted at appropriate intervals specified in the plan, but never less than once in two years. These inspections must be documented and summarized in the Annual Report (see Part I.E.1 of the permit).

D. **BASIC TERMS AND CONDITIONS -- ALL FACILITIES** (cont.)

d. **Inspection Requirements - ALL Operations.** The inspections as required above must include the following:

1) Disturbed areas, areas used for material storage or handling that are exposed to precipitation, and other potential sources of pollution identified in the SWMP in accordance with Part I.B.4.b or Part I.C.3.b shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures and other structural pollution prevention measures identified in the SWMP shall be observed to ensure that they are operating correctly.

2) Any repairs or maintenance needs identified by the inspection shall be completed immediately. Based on the results of the inspection, if revisions to the description of the potential pollutant sources and the pollution prevention and control measures identified in the SWMP are needed, the plan shall be revised as appropriate as soon as practicable after such inspection. Revised control measures shall be implemented in a timely manner, but in no case more than 90 calendar days after the inspection, unless otherwise provided by the Division, and in compliance with the requirements of Part I.D.2.c.2.

3) A report summarizing the scope of the inspection, personnel making the inspection, the date(s) of the inspection, significant observations relating to the implementation of the SWMP, and actions taken in accordance with paragraph (b), above, shall be made and retained for at least three years after the date of the inspection. Significant observations include such things as the locations of discharges of pollutants from the site; locations of previously unidentified sources of pollutants; locations of BMPs needing maintenance or repair; locations of failed BMPs that need replacement; and locations where additional BMPs are needed. The report must also document any incidents of noncompliance observed. This record shall be made available to the Division upon request and summarized in the Annual or Compliance Report.

6. **Monitoring**

Sampling and testing of stormwater for specific parameters is not required on a routine basis under this permit. The Division reserves the right to require sampling and testing, on a case-by-case basis, in the event that there is reason to suspect that compliance with the SWMP is a problem, or to measure the effectiveness of the BMPs in removing pollutants from the discharge.

7. **SWMP Availability**

Upon request, the permittee shall submit a copy of the SWMP to the Division, the Colorado Division of Reclamation, Mining, And Safety, or CDRMS (formerly the Division of Minerals and Geology, or DMG) and/or EPA, and any local agency approving sediment and erosion plans or stormwater management plans, within the time frames specified in the request. If the SWMP is required to be submitted to any of these entities, it must include a signed certification in accordance with Part I.E.5 of the permit, certifying that the SWMP is complete and meets all permit requirements.

All SWMPs required under this permit are considered reports that shall be available to the public under Section 308(b) of the CWA. The owner or operator of a facility with stormwater discharges covered by this permit shall make plans available to members of the public upon request. However, the permittee may claim any portion of a SWMP as confidential in accordance with 40 CFR part 2.

8. **Total Maximum Daily Load (TMDL)**

If a TMDL has been approved for any waterbody into which the permittee discharges, and it has been determined that the types of discharges covered under this permit are or have the potential to be identified as a significant source of the pollutant in question, the permittee will be notified by the Division. The permittee will be required to do the following:

a. Under the permittee's SWMP, implement specific management practices based on requirements of the TMDL, and evaluate whether the requirements are being met through implementation of existing stormwater BMPs or if additional BMPs are necessary. Document the calculations or other evidence that show that the requirements, including any specific pollutant wasteload allocations (WLAs), are expected to be met; and

D. **BASIC TERMS AND CONDITIONS -- ALL FACILITIES** (cont.)

b. If the evaluation shows that additional or modified BMPs are necessary, describe the type and schedule for the BMP additions/revisions. A description of the SWMP changes shall be included with the next Annual or Compliance Report, or if requested by the Division, whichever is sooner.

Discharge monitoring may also be required. The permittee may maintain coverage under the general permit provided they comply with the applicable requirements outlined above. The Division reserves the right to require individual or alternate general permit coverage.

E. **REPORTING REQUIREMENTS**

1. **Reporting**

a. **Annual Report for Active Mining Operations.** The permittee will be required to submit an Annual Report, covering January 1 through December 31 of each year, on their compliance with the SWMP. The Annual Report will contain, at a minimum:

1) Name of permittee, address, phone number, and permit certification number.
2) A report on the facility's overall compliance with the SWMP.
3) A summary of each comprehensive stormwater facility inspection made, including date, findings, and action taken. If the inspection frequency that is less than twice per year, in accordance with the allowable reduced inspection frequencies in Part I.D.5.a of this permit, the Annual Report must indicate the reason.
4) Results and interpretation of any stormwater monitoring performed.
5) Certification language and signature by the permittee. (See Part I.E.5 of the permit.)

The Annual Report will be due to the Division on or before **February 15** of the following year. The exact due date for the permittee's first Annual Report will be listed in their permit certification. The Division reserves the right to require additional information in the report, on a case-by-case basis, as needed.

b. **Compliance Report for Inactive Mining Operations:** The permittee will be required to submit a report on the compliance with the SWMP. The report shall contain, at a minimum:

1) Name of permittee, address, phone number, and permit certification number.
2) A report on the facility's overall compliance with the SWMP.
3) A summary of the annual inspection reports, including date, findings, and action taken, or the triennial certification by a Professional Engineer (based on one or more inspections) that the facility is in compliance with the permit. If the inspection frequency that is less than once per year, in accordance with the allowable reduced inspection frequencies in Part I.D.5.b of this permit, the Annual Report must indicate the reason.
4) Certification language and signature by the permittee. (See Part I.E.5 of the permit.)

The report will be due to the Division on or before **February 15, 2011** and cover the period of time between the coverage by this version of the general permit and December 31, 2010. The Division reserves the right to require additional information in the report, and more frequent reports, on a case-by-case basis, as needed.

c. **Annual Report for Remediation Operations:** The permittee will be required to submit an Annual Report, covering January 1 through December 31 of each year, on the overall compliance with the SWMP. The Annual Report shall contain, at a minimum:

1) Name of permittee, address, phone number, and permit certification number.
2) A report on the facility's overall compliance with the SWMP, including a progress report on all remediation activities.
3) A summary of each comprehensive stormwater facility inspection made, including date, findings, and action taken. If the inspection frequency that is less than once per year, in accordance with the allowable reduced inspection frequencies in Part I.D.5.c of this permit, the Annual Report must indicate the reason.
4) Results and interpretation of any stormwater monitoring performed.
5) Certification language and signature by the permittee. (See Part I.E.5 of the permit.)

E. **REPORTING REQUIREMENTS (cont.)**

The Annual Report will be due to the Division on or before **February 15** of the following year. The exact due date for the permittee's first Annual Report will be listed in their permit certification. The Division reserves the right to require additional information in the report, and more frequent reports, on a case-by-case basis, as needed.

d. **Reporting Address:** A signed copy of the above report forms(s) shall be submitted to the following address:

Colorado Department of Public Health & Environment
Water Quality Control Division
WQCD-P-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

2. **Monitoring**

Sampling and testing of stormwater for specific parameters is not required on a routine basis under this permit. The Division reserves the right to require sampling and testing, on a case-by-case basis, in the event that there is reason to suspect that compliance with the SWMP is a problem, or to measure the effectiveness of the BMPs in removing pollutants in the effluent.

If monitoring is required, the following definitions apply:

a. The **thirty (30) day average** shall be determined by the arithmetic mean of all samples collected during a thirty (30) consecutive-day period.

b. A **grab** sample, for monitoring requirements, is a single "dip and take" sample.

3. **Reporting of Data**

Reporting of any monitoring data gathered in compliance with Part I.D.6 or I.D.8 shall be on an annual basis, unless otherwise specified by the Division.

Monitoring results shall be summarized for each year (January 1-December 31) and reported on Division-approved discharge monitoring report forms and submitted to the Division with the Annual Report due **February 15** of each year at the address above.

4. **Reporting to Municipality**

Any permitted facility discharging to a municipal storm sewer shall provide the municipality with a copy of the permit application, and/or Annual Reports, upon request. A copy of the SWMP shall also be provided to the municipality upon request.

5. **Signatory Requirements**

a. All reports and applications submitted to the Division and/or EPA shall be signed and certified for accuracy by the permittee in accordance with the following criteria:

1) In the case of corporations, by a principal executive officer of at least the level of vice-president or his or her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the form originates;
2) In the case of a partnership, by a general partner;
3) In the case of a sole proprietorship, by the proprietor;
4) In the case of a municipal, state, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee, if such employee is responsible for the overall operation of the facility from which the discharge described in the permit originates.

E. **REPORTING REQUIREMENTS (cont.)**

b. **Changes to authorization**. If an authorization under paragraph a. of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph a. of this section must be submitted to the Division, prior to or together with any reports, information, or applications to be signed by an authorized representative.

c. **Certification**. Any person signing a document under paragraph a. of this section shall make the following 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 gather and evaluate 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."

6. **Record-keeping and Internal Reporting Procedures**

The permittee shall retain a copy of the SWMP required by this permit for the duration of this permit.

Incidents such as spills or other discharges, along with other information describing the quality and quantity of stormwater discharges, shall be included in the records. Inspections and maintenance activities shall be documented and recorded. (This does not relieve the permittee of the responsibility of reporting spills as required under section 25-8-601(2) of the Colorado Water Quality Control Act.) The permittee shall retain such records for a minimum of three (3) years from the date generated. All reports required by the permit and/or the Division, and any relevant correspondence, shall be retained for a minimum of five (5) years from the date generated.

F. **TERMINATION OF PERMIT COVERAGE**

1. **Termination Criteria**

a. **Reclamation Permit Release:** When a site has been reclaimed in accordance with the Colorado Division of Reclamation, Mining, And Safety, or CDRMS (formerly the Division of Minerals and Geology, or DMG) requirements and the site has been released from State reclamation requirements, the permittee may request stormwater permit termination.

b. **Termination in the absence of CDRMS Permit:** For facilities without CDRMS permits, permittees wishing to terminate stormwater permit coverage through mine waste remediation must amend their SWMP to include the items listed in Part I.C.5, above, prior to implementation of the remediation work. In addition, permittees seeking coverage under the Voluntary Cleanup Act must notify the Division of their intent 30 days before any remediation activities commence. The notification must include certification language and signature by the permittee. (See Part I.E.5 of the permit.)

Certification under this permit may be terminated once raw materials, intermediate products, byproducts, finished products and waste products (including acid generating material exposed by the mining activity) have been permanently removed or isolated and the site has been stabilized (with little evidence of soil erosion or other runoff problem) and revegetated. The following criteria must be met for the entire mine site, including any on-site disposal areas:

1) all raw materials, intermediate products, byproducts, finished products and waste products (including acid generating material exposed by the mining activity) have been removed or permanently isolated from stormwater; and
2) all soil disturbing activities at the site have been completed; and
3) vegetation has been established with an average cover or density, over the previously disturbed area, of a minimum of 40 percent vegetative cover over the area, or 70 percent of the vegetative cover of a similar undisturbed site, whichever is higher (vegetative cover or density determinations need not be determined scientifically by extensive measurement and statistical analyses; simple representative transects are adequate.); or equivalent permanent physical erosion reduction methods have been employed.

F. **TERMINATION OF PERMIT COVERAGE (cont.)**

The Division may, after consultation with the permittee and upon good cause being shown, revise the vegetative cover requirements on a case-by-case basis.

2. **Request for Termination**

When a site has been reclaimed in accordance with the CDRMS requirements and the site has been released from State reclamation requirements, or the above Termination Criteria have been met, the permittee may request certification termination. The Division will consider termination of permit coverage when:

a. the permittee has submitted a completed Inactivation Form as provided by the Division which summarizes the work accomplished;

b. In the case of mine waste remediation projects, the permittee has submitted photographic documentation of the post remediation conditions at the mine site;

c. All stormwater discharges to state waters associated with mining activities have ceased and the permittee has demonstrated to the Division the termination criteria have been met or the CDRMS performance bond has been released;

d. The Division finds that the permittee has shown reasonable grounds consistent with the Federal and State statutes and regulations for such termination; and

e. Fee requirements of Section 61.15 of State Discharge Permit System Regulations have been met.

Continued coverage may be required after reclamation or remediation has been completed if the Division has shown or has reason to suspect that the stormwater discharges may contribute to a violation of a water quality standard.

PART II

A. **MANAGEMENT REQUIREMENTS**

1. **Change in Discharge**

The permittee shall inform the Division (Permits Section) in writing of any intent to construct, install, or alter any process, facility, or activity that is likely to result in a new or altered discharge that is not composed entirely of stormwater and/or allowable non-stormwater discharges identified in Part I.D.3.b. Division notification is also required if the permittee significantly changes the industrial activities at the site such that the industrial activities are no longer consistent with the activity description and/or SIC Code(s) originally identified in the permit application. The permittee shall furnish the Division such plans and specifications which the Division deems reasonably necessary to evaluate the effect on the discharge and receiving stream. If applicable, this notification may be accomplished through submittal of an application for a CDPS process water permit authorizing the discharge. The SWMP shall be updated and implemented prior to the changes. Also see Part I.D.2.c.2).

Any discharge to the waters of the State from a point source other than specifically authorized by this permit or a different CDPS permit is prohibited.

2. **Special Notifications - Definitions**

a. **Spill**: An unintentional release of solid or liquid material which may cause pollution of state waters.

b. **Upset**: An exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

A. **MANAGEMENT REQUIREMENTS (cont.)**

3. **Noncompliance Notification**

a. If, for any reason, the permittee does not comply with or will be unable to comply with any discharge limitations, standards or permit requirements specified in this permit, except as addressed in sub-paragraph c. of this section, the permittee shall, at a minimum, provide the Water Quality Control Division and EPA with the following information:

1) A description of the discharge and cause of noncompliance;

2) The period of noncompliance, including exact dates and times and/or the anticipated time when the discharge will return to compliance; and

3) Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

b. The permittee shall report the following instances of noncompliance orally within twenty-four (24) hours from the time the permittee becomes aware of the noncompliance, and shall mail to the Division a written report within five (5) days after becoming aware of the noncompliance (unless otherwise specified by the Division):

1) Any instance of noncompliance which may endanger health or the environment;

2) Any spill or discharge of oil or other substance which may cause pollution of the waters of the state;

3) Any discharge of stormwater which may cause an exceedance of a water quality standard.

c. The permittee shall report all other instances of non-compliance to the Division in the following Annual or Compliance Report. The reports shall contain the information listed in sub-paragraph a. of this section.

4. **Submission of Incorrect or Incomplete Information**

Where the permittee failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or report to the Division, or relevant new information becomes available, the permittee shall promptly submit the relevant application information which was not submitted or any additional information needed to correct any erroneous information previously submitted.

5. **Bypass**

The bypass of treatment facilities is generally prohibited.

6. **Upsets**

a. **Effect of an Upset**

An upset constitutes an affirmative defense to an action brought for noncompliance with permit limitations and requirements if the requirements of paragraph b. of this section are met. (No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.)

b. **Conditions Necessary for a Demonstration of Upset**

A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed contemporaneous operating logs, or other relevant evidence that:

1) An upset occurred and that the permittee can identify the specific cause(s) of the upset;

2) The permitted facility was at the time being properly operated;

A. **MANAGEMENT REQUIREMENTS (cont.)**

3) The permittee submitted notice of the upset as required in Part II.A.3. of this permit (24-hour notice); and

4) The permittee complied with any remedial measures required under Section 122.7(d) of the federal regulations.

c. **Burden of Proof**

In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

7. **Removed Substances**

Solids, sludges, or other pollutants removed in the course of treatment or control of discharges shall be properly disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State.

8. **Minimization of Adverse Impact**

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the State resulting from noncompliance with any terms and conditions specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

9. **Reduction, Loss, or Failure of Stormwater Controls**

The permittee has the duty to halt or reduce any activity if necessary to maintain compliance with the permit requirements. Upon reduction, loss, or failure of the stormwater control, the permittee shall, to the extent necessary to maintain compliance with its permit, control production, or remove all pollutant sources from exposure to stormwater, or both until the stormwater controls are restored or an alternative method of treatment/control is provided.

It shall not be a defense for a permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

10. **Proper Operation and Maintenance**

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

B. **RESPONSIBILITIES**

1. **Inspections and Right to Entry**

The permittee shall allow the Director of the State Water Quality Control Division, the EPA Regional Administrator, and/or their authorized representative(s), upon the presentation of credentials:

a. To enter upon the permittee's premises where a regulated facility or activity is located or in which any records are required to be kept under the terms and conditions of this permit;

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit and to inspect any monitoring equipment or monitoring method required in the permit; and

c. To enter upon the permittee's premises to investigate, within reason, any actual, suspected, or potential source of water pollution, or any violation of the Colorado Water Quality Control Act. The investigation may include, but is not limited to, the following: sampling of any discharge and/or process waters, the taking of photographs, interviewing permittee staff on alleged violations and other matters related to the permit, and access to any and all facilities or areas within the permittee's premises that may have any effect on the discharge, permit, or any alleged violation.

B. **RESPONSIBILITIES (cont.)**

2. **Duty to Provide Information**

The permittee shall furnish to the Division, within the time frame specified by the Division, any information which the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating coverage under this permit, or to determine compliance with this permit. The permittee shall also furnish to the Division, upon request, copies of records required to be kept by this permit.

3. **Transfer of Ownership or Control**

Certification under this permit may be transferred to a new permittee if:

a. The current permittee notifies the Division in writing 30 days in advance of the proposed transfer date; and

b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them; and

c. The current permittee has met all fee requirements of the State Discharge Permit System Regulations, Section 61.15.

4. **Modification, Suspension, or Revocation of Permit By Division**

All permit modification, termination or revocation and reissuance actions shall be subject to the requirements of the State Discharge Permit System Regulations, Sections 61.5(2), 61.5(3), 61.7 and 61.15, 5 C.C.R. 1002-61, except for minor modifications.

a. This permit, and/or certification under this permit, may be modified, suspended, or revoked in whole or in part during its term for reasons determined by the Division including, but not limited to, the following:

1) Violation of any terms or conditions of the permit;

2) Obtaining a permit by misrepresentation or failing to disclose any fact which is material to the granting or denial of a permit or to the establishment of terms or conditions of the permit;

3) Materially false or inaccurate statements or information in the application for the permit;

4) Promulgation of toxic effluent standards or prohibitions (including any schedule of compliance specified in such effluent standard or prohibition) which are established under Section 307 of the Clean Water Act, where such a toxic pollutant is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit.

b. This permit, and/or certification under this permit, may be modified in whole or in part due to a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge, such as:

1) Promulgation of Water Quality Standards applicable to waters affected by the permitted discharge; or

2) Effluent limitations or other requirements applicable pursuant to the State Act or federal requirements; or

3) Control regulations promulgated; or

4) Data submitted pursuant to Part I.E or other available information indicates a potential for violation of adopted Water Quality Standards or stream classifications.

B. **RESPONSIBILITIES (cont.)**

c. This permit, or certification under this permit, may be modified in whole or in part to include new effluent limitations and other appropriate permit conditions where information submitted pursuant to Part I indicates that such effluent limitations and permit conditions are necessary to ensure compliance with applicable water quality standards and protection of classified uses.

5. **Permit Violations**

Failure to comply with any terms and/or conditions of this permit shall be a violation of this permit. Dischargers of stormwater associated with industrial activity, as defined in the EPA Stormwater Regulation (40 CFR 122.26(b)(14), which do not obtain coverage under this or other Colorado general permits, or under an individual CDPS permit regulating industrial stormwater, will be in violation of the federal Clean Water Act and the Colorado Water Quality Control Act, 25-8-101. Failure to comply with CDPS permit requirements will also constitute a violation. Civil penalties for such violations may be up to $10,000 per day, and criminal pollution of state waters is punishable by fines of up to $25,000 per day.

6. **Legal Responsibilities**

The issuance of this permit does not convey any property or water rights in either real or personal property, or stream flows, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 (Oil and Hazardous Substance Liability) of the Clean Water Act.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority granted by Section 510 of the Clean Water Act.

7. **Severability**

The provisions of this permit are severable. If any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the application of the remainder of this permit shall not be affected.

8. **Renewal Application**

If the permittee desires to continue to discharge, a permit renewal application shall be submitted at least ninety (90) days before this permit expires. If the permittee anticipates that there will be no discharge after the expiration date of this permit, the Division should be promptly notified so that it can terminate the permit in accordance with Part I.F.

9. **Confidentiality**

Except for data determined to be confidential under Section 308 of the Federal Clean Water Act and Regulations for the State Discharge Permit System 61.5(4), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division. The permittee must state what is confidential at the time of submittal.

Any information relating to any secret process, method of manufacture or production, or sales or marketing data which has been declared confidential by the permittee, and which may be acquired, ascertained, or discovered, whether in any sampling investigation, emergency investigation, or otherwise, shall not be publicly disclosed by any member, officer, or employee of the Commission or the Division, but shall be kept confidential. Any person seeking to invoke the protection of this section shall bear the burden of proving its applicability. This section shall never be interpreted as preventing full disclosure of effluent data.

B. **RESPONSIBILITIES (cont.)**

10. **Fees**

The permittee is required to submit payment of an annual fee as set forth in the Water Quality Control Act. Failure to submit the required fee when due and payable is a violation of the permit and will result in enforcement action pursuant to Section 25-8-601 et seq., C.R.S. 1973 as amended.

11. **Requiring an Individual CDPS Permit**

The Director may require any owner or operator covered under this permit to apply for and obtain an individual or alternate general CDPS permit if:

a. The discharger is not in compliance with the conditions of this general permit;

b. Conditions or standards have changed so that the discharge no longer qualifies for a general permit; or

c. Data/information become available which indicate water quality standards may be violated.

The owner or operator must be notified in writing that an application for an individual or alternate general CDPS permit is required. When an individual or alternate general CDPS permit is issued to an owner or operator otherwise covered under this General Permit, the applicability of this general permit to that owner or operator is automatically terminated upon the effective date of the individual or alternate general CDPS permit.

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