



Manh Choh

A JV with Contango ORE

Manh Choh Project Reclamation and Closure Plan Revision 1

Prepared for

Peak Gold, LLC



Prepared by



SRK Consulting (U.S.), Inc.
503000.070
January 2023

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Appendix A – Basis of Estimation

List of Abbreviations

2D	Two-dimensional
3D	Three-dimensional
AAC	Alaska Administrative Code
ACOE	Army Corps of Engineers
ac-ft	Acre-feet
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Division of Fish and Game
ADNR	Alaska Department of Natural Resources
amsl	Above mean sea level
ARD	Acid rock drainage
ALPM	Assembly Line Preventive Maintenance
AS	Alaska Statute
BMP	Best Management Practice
CAT	Caterpillar (equipment)
cy	Cubic Yard
F	Fahrenheit
FA	Financial Assurance
FGMI	Fairbanks Gold Mining, Inc.
ft	Feet
GM	Growth Media
KG	Kinross Gold
LLC	Limited Liability Corporation
LOM	Life of Mine
ML	Metal Leaching
MSHA	Mining Safety & Health Administration
NAG	Non-acid Generating
PAG	Potentially-acid Generating
QMS	Quartz Muscovite Schist
QA/QC	Quality Assurance/Quality Control
RO	Reverse Osmosis
RCP	Reclamation and Closure Plan
SRCE	Standardized Reclamation and Closure Estimator
TDS	Total Dissolved Solids
tpd	Tons per day
USGS	United States Geologic Survey

WRD	Waste Rock Dump
WSE	Water Surface Elevation
WTP	Water Treatment Pad

1 Introduction

Peak Gold, LLC (Peak Gold)¹ is proposing the development of the Manh Choh Project (Project), an open pit, hardrock gold mine in east-central Alaska, approximately 10 miles south of Tok, and 15 miles west of the village of Tetlin (Figure 1). This document was prepared in accordance with state regulations governing the reclamation of mined lands and describes reclamation goals and techniques for the mine site and ancillary facilities.

The purpose of this Reclamation and Closure Plan (Plan) is to provide guidelines for implementing stabilization and reclamation procedures for the various facilities associated with the proposed Manh Choh Project. These guidelines are based on the best available reclamation technologies. Peak Gold is committed to concurrent reclamation of portions of the site during operations, these guidelines may be modified as actual reclamation data are gathered during field reclamation of individual facilities or reclamation test plots. Revisions to this Plan will be made to address changes in the design, construction, operations, and concurrent stabilization and reclamation of the facilities.

This approach will:

- A. Reflect changes in the operating plans and mining schedule;
- B. Account for the stabilization and reclamation of previous phases or specific components of the facility;
- C. Incorporate information and actual operating experience developed during the initial phases of the project;
- D. Allow the incorporation of new design information if subsequent phases of the project are developed; and
- E. Allow for the utilization of new, reasonable and practical reclamation techniques as they are developed.

Peak Gold is committed to protecting the environment and the people around the Project area. Part of that commitment includes developing plans for orderly closure of the Project and reclamation of disturbed areas.

Construction of support facilities (Manh Choh Twin Road and Manh Choh Site Road) for the Project commenced in 2022, with mining to commence sometime in 2023. The project has an expected mine life of approximately 4.5 years (see schedule Table 5.1). Ore mined from the Project will be trucked to Fort Knox for processing, further reducing the environmental footprint at the Project location by eliminating milling, tailings management and storage.

The name 'Manh Choh' was chosen by the Native Village of Tetlin Chief, Michael Sam, and the tribal Council and can be translated from the Upper Tanana Athabascan language to 'Big Lake,' referring to the nearby Tetlin Lake, a site of high cultural significance in the community.

¹ Peak Gold, LLC is the entity that owns the Manh Choh Project. KG Mining Alaska is a manager of Peak Gold, LLC.

1.1 Alaska Reclamation and Closure Requirements

Reclamation and closure of the proposed Manh Choh Project falls under the jurisdiction of the Alaska Department of Natural Resources (ADNR), Division of Mining, Land, and Water and the Alaska Department of Environmental Conservation (ADEC).

1.1.1 Alaska Department of Natural Resources

Alaska Statute (AS) 27.19, the Reclamation Act, applies to state, federal, municipal, and private land and water subject to mining operations. This statute is administered by the commissioner of ADNR. The Reclamation Act states that "a mining operation shall be conducted in a manner that prevents unnecessary and undue degradation of land and water resources and the mining operation shall be reclaimed as contemporaneously as practicable with the mining operation to leave the site in a stable condition" and Alaska Administrative Code 11 AAC 97.240 further states "a miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage."

An approved reclamation plan is required by the State mining regulations (11 AAC 97.300 – 97.350). The plan approval does not take effect, and the mining operation may not begin, until the miner satisfies the bond requirement under 11 AAC 97.400 - 11 AAC 97.450. The performance bond amount shall be set at a level not more than an amount reasonably necessary to ensure the faithful performance of the requirements of the reclamation plan. Alaska Administrative Code 11 AAC 97 Mining Reclamation applies to the approval of reclamation plans, reclamation bonding, and enforcement of reclamation requirements under AS 27.19 for locatable mineral, leasable mineral, and material mining operations on state, federal, municipal, and private land. Nothing in the Reclamation Act precludes a federal or state agency (including ADNR), acting under its own regulatory or proprietary authority, from establishing and enforcing additional requirements or higher standards for reclamation. The Reclamation Performance Standards are defined in 11 AAC 97.200.

1.1.2 Alaska Department of Environmental Conservation

ADEC Solid Waste Permit regulations (18 AAC 60.265) have comprehensive requirements for closure and reclamation planning, including provision for funding for long-term water treatment. Specifically, 18 AAC 60.265 states:

"...(ADEC) will require proof of financial responsibility to cover the cost of closing a landfill and, if monitoring is required, the cost of post closure monitoring, if the department determines proof of financial responsibility is necessary to protect the public health, safety, welfare, or the environment. Proof of financial responsibility under this section may be demonstrated by self-insurance, insurance, surety, or other guarantee approved by the department to assure compliance applicable closure standards and post closure monitoring requirements."

1.2 Purpose

This document presents a comprehensive Reclamation Plan for the Manh Choh Project. The Plan describes the procedures and processes used to return land disturbed by mining operations to a stabilized condition providing long-term protection of land and water resources. The Plan describes the schedule for reclamation activities, general reclamation procedures, and the methods for achieving the final closure requirements and objectives. In addition, the Plan serves as a basis for calculating reclamation costs and the amount of the financial assurance to satisfy bonding requirements.

1.3 Scope

Reclamation will include permanent stabilization of the following major facilities: North and South Pits, Main and North Waste Rock Dumps, site facilities and buildings, haul roads and other disturbances generated throughout mining activities. Reclamation will begin prior to cessation of mining operations and will be completed as expeditiously as feasible. Notification, in writing, of final closure will be provided to the ADNR, ADEC, and Army Corp of Engineers (ACOE) within 90 days after cessation of mining.

Access requests to the Manh Choh Project by Federal and State regulatory personnel for routine inspections will be honored by Peak Gold. All visitors are requested to contact mine security to ensure their safety. Mining is regulated under the Mine Safety and Health Administration (MSHA) and their regulations require minimum training for employees and visitors for Hazard Recognition and Safety. Visitors, as well as employees, must wear safety equipment approved by MSHA. Peak Gold requests that routine inspections be conducted during weekdays when administration and process managers are available to answer questions and, if necessary, accompany visitors to various process components.

2 Applicant Information

2.1 Applicant

Name: Peak Gold, LLC
Address: PO Box 73726
Fairbanks, AK 99707-3726
Telephone: (907) 490-2207

2.2 Corporation Officer Completing Application

Name: Martin Litt
Title: President and General Counsel, (KG Mining (Alaska), Inc., Manager)
Telephone: (303) 802-1445

2.3 Designated Contact Person

Name: Bartly Kleven
Title: Director of Environmental Affairs
Telephone: (907) 490-2207

2.4 Corporate Information

Business Name: Peak Gold. LLC, (KG Mining (Alaska), Inc., Manager)
Address: 5075 Syracuse St., Suite 800
Denver CO, 80237
Telephone: (303) 802-1445
President & General Council: Martin Litt
Vice President: Dennis McHarness
Treasurer: Carolyn Wild

2.5 Alaska Registered Agent

Name: United Agent Group, Inc
Address: 3085 Mountainwood Circle
Juneau, AK 99801
Telephone: 561-508-5033

3 Project Description

The Project will require approximately two years of construction, followed by an active mine life of approximately 4.5 years. Mining activity will be conducted by conventional truck and shovel operation, operating year-round, seven days per week, twenty-four hours a day. Ore will be mined from the pits and processed at Fort Knox Mine. A detailed description of the process can be found in the Plan of Operations (Peak Gold 2023). Detailed management plans have been prepared for the Project, including:

- Manh Choh Project Water Management Plan (Piteau 2022a)
- Manh Choh Project Monitoring Plan (Peak Gold 2022)
- Manh Choh Project Waste Rock Management Plan (SRK 2022a)
- Manh Choh Project Support Document for the Waste Management Permit and Plan of Operations (Peak Gold 2023)

Project infrastructure development is anticipated to begin in 2022, and mining is expected to start in 2023, a detailed project schedule can be found in Table 5.1. The current mine plan is based on the reserve estimate of approximately 1M oz of gold, with an average production rate of approximately 36,000 tons per day (tpd) of both ore and waste rock. Approximately 4,000 tpd of ore will be mined and hauled to the mine site's ore loadout area, ore will be transferred into highway capable tractor-trailer trucks, and shipped to Fort Knox Mine, approximately 240 miles north, for milling and refining.

The project consists of three major components:

- Haul road corridor including the Manh Choh Twin Road, Manh Choh Site Road material borrow sites, and the construction laydown area;
- Mine site infrastructure including ore loadout facility, water treatment pad and facility operations; and
- The mining area including pits, waste rock dumps haul roads and stockpile areas.

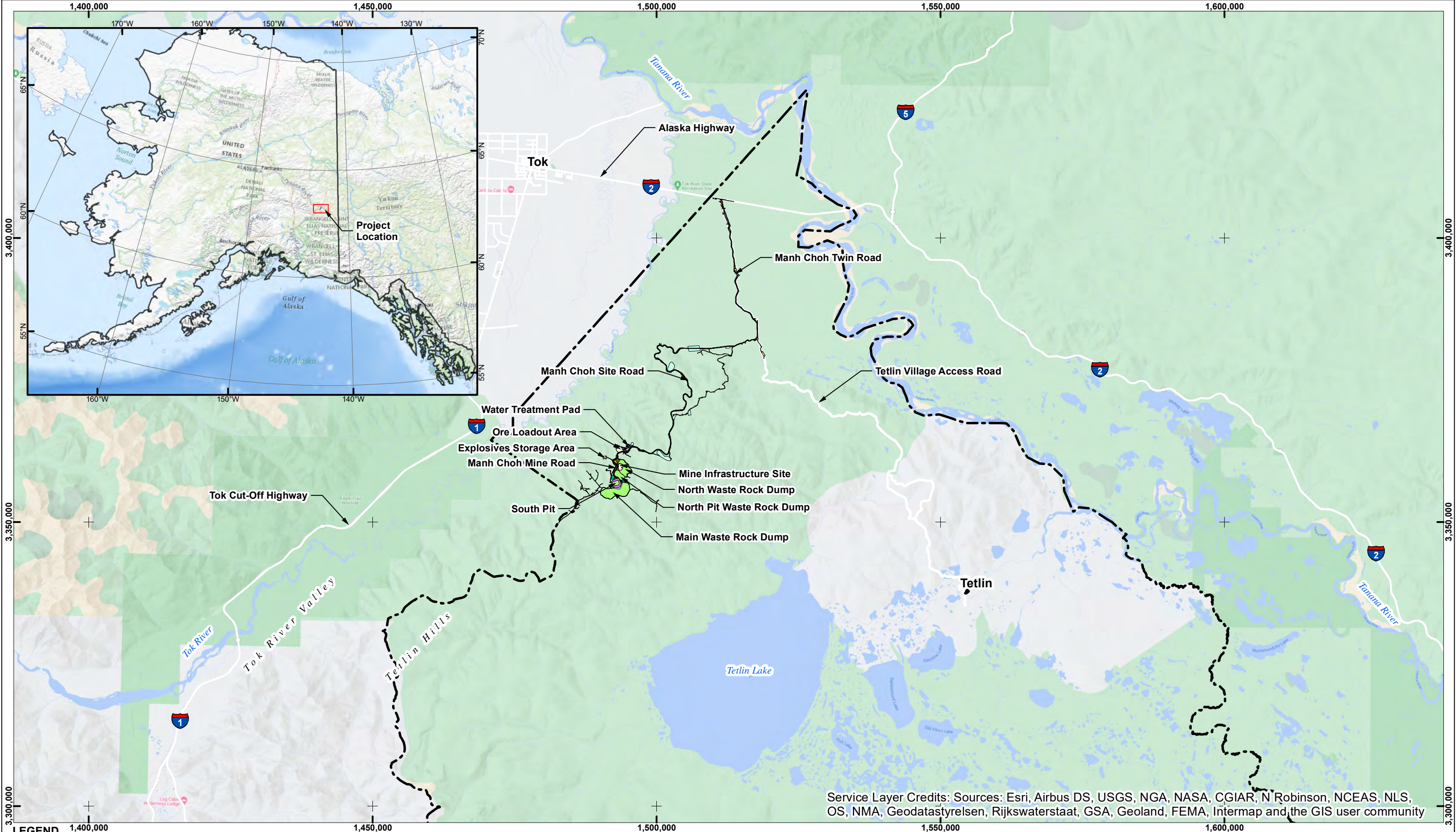
Construction of a new road (Manh Choh Twin Road) parallel to the Tetlin Village Road is needed to improve safety and separate non-mining related traffic from the mine traffic. Additionally, the existing project access road will be re-routed and improved (Manh Choh Site Road) connecting the Manh Choh Twin Road with the mine site area. Lastly the mine site consisting of the pits, waste rock dumps (WRD), haul roads, stockpiles, ore loadout area, and support facilities such as water treatment plant and surface water diversions.

The Project will employ approximately 200 miners including support staff. The mine will operate two shifts, 24 hours per day, 365 days per year.

Power requirements for the mine will be limited to support day-to-day operations including maintenance shops, lighting, ore loadout and administration activities and will be supplied by generators. Alaska Power and Telephone substation at Tok may supply power to other ancillary structures near the highway, but the remainder of power on site will be provided by diesel generators.

3.1 Location

The Project is located at an elevation of approximately 3,300 feet, along the apex of the Tetlin hills which bisect the Tok River Valley and Tetlin Lake Valley. The Tok River is located approximately six miles to the west of the Project and Tetlin Lake is located approximately 10 miles to the east. **Figure 1** illustrates the general vicinity of the Manh Choh Project and surrounding areas. Local names have been given to streams within the immediate area including: Thunder, Hillside and South Day Creeks located to the west, and Tors Creek located to the east. The upper reaches of these streams flow only during high precipitation events and during spring freshet. Year-round flowing streams are not located within the development footprint but can be found downstream of the site.



LEGEND

ROM Ore Stockpile

Access Road

Building

Water Treatment

Diversion

Waste Rock Dump

Pit

Existing Roads

Haul Road

Low Grade Ore Stockpile

Material Site

Overburden Stockpile

Yard

Tetlin Lease Boundary

N

0 1.5 3

Miles

1 inch = 3 miles

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REV.	DESCRIPTION	DATE	DRAWN: ML	APPROVED: IJC	<div><div><div><div></div></div><div>srk consulting</div></div><div><div><div>KINROSS</div><div>Manh Choh</div><div>A JV with Contango ORE</div></div></div></div>		RECLAMATION AND CLOSURE PLAN	
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						DRAWING NO.: FIGURE 1		
						SRK PROJECT NO.: 503000.070-0600		

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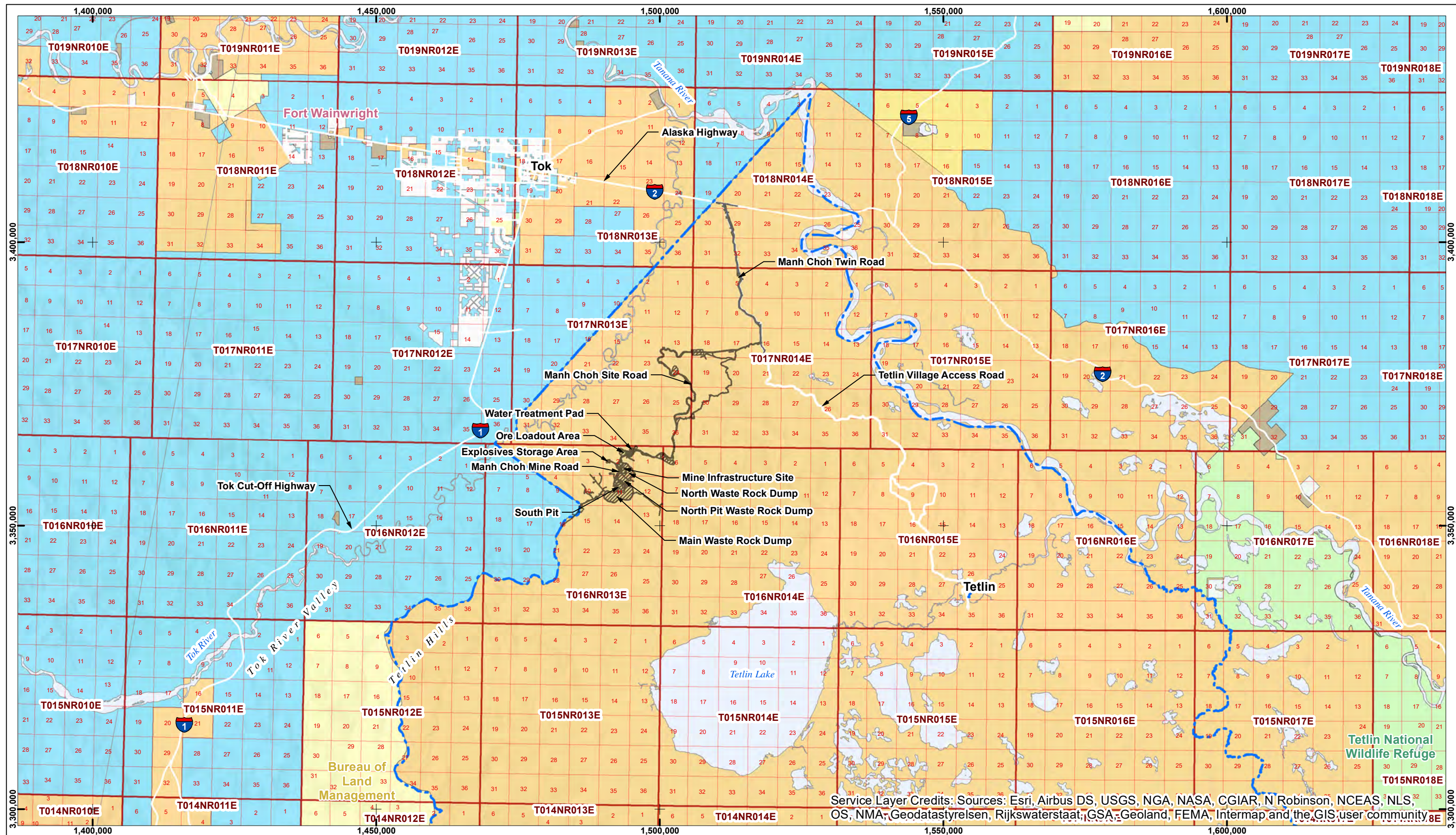
3.2 Land Status

The Project is located entirely within Native Village of Tetlin (Tetlin) owned lands, including the ore body, and all supporting mining facilities. Both surface and subsurface mineral rights are owned by Tetlin and leased for development. Detailed information for the location of the mine related infrastructure can be found in Table 3.1. **Figure 2** depicts the land status of the Project area.

Table 3.1 - Land Status

Infrastructure	Township*	Range*	Section
Manh Choh Twin Road	18N	14E	20, 29, 32
	17N	14E	5, 8, 9, 16
Manh Choh Site Road	17N	14E	16, 17, 18
	17N	13E	13, 14, 23, 24, 25, 36
	16N	14E	6
	16N	13E	1, 2
Material Site 1	16N	13E	1
Material Site 2	16N	13E	1
	16N	14E	6
Material Site 3	17N	13E	36
Material Site 4	17N	14E	30,31
Material Site 5	17N	13E	24
Material Site 6	17N	14E	18
Water Treatment Pad	16N	13E	1, 2
Ore Loadout Area	16N	13E	2
Explosive Storage	16N	13E	2
Manh Choh Mine Road	16N	13E	2, 11
Mine Site Infrastructure	16N	13E	2
North Pit	16N	13E	2, 11
South Pit	16N	13E	11
North Waste Rock Dump	16N	13E	1, 2, 11, 12
South Waste Rock Dump	16N	13E	11, 12

***Township and Range based off the Coper River Meridian**



LEGEND

- Facility Disturbance
- Bureau of Land Management (BLM)
- Tetlin Lease Boundary
- Tetlin National Wildlife Refuge
- Tetlin Land
- Alaska Native Lands (Patented or Interim Conveyed)
- State

0 1.5 3 Miles
1 inch = 3 miles

REVISIONS		DESIGN: IJC	REVIEWED: IJC
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FILE NAME: Fig2_Land_Status.mxd

COORDINATE SYSTEM:
NAD 1983 StatePlane Alaska 2 FIPS 5002 Feet

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PREPARED BY:

PREPARED FOR: A JV with Contango ORE

DRAWING TITLE: **RECLAMATION AND CLOSURE PLAN**

LAND STATUS

DATE: 11/14/2022	REVISION: 1	DRAWING NO.: FIGURE 2
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SRK PROJECT NO.: 503000.070-0600

3.3 Proposed Project Disturbance

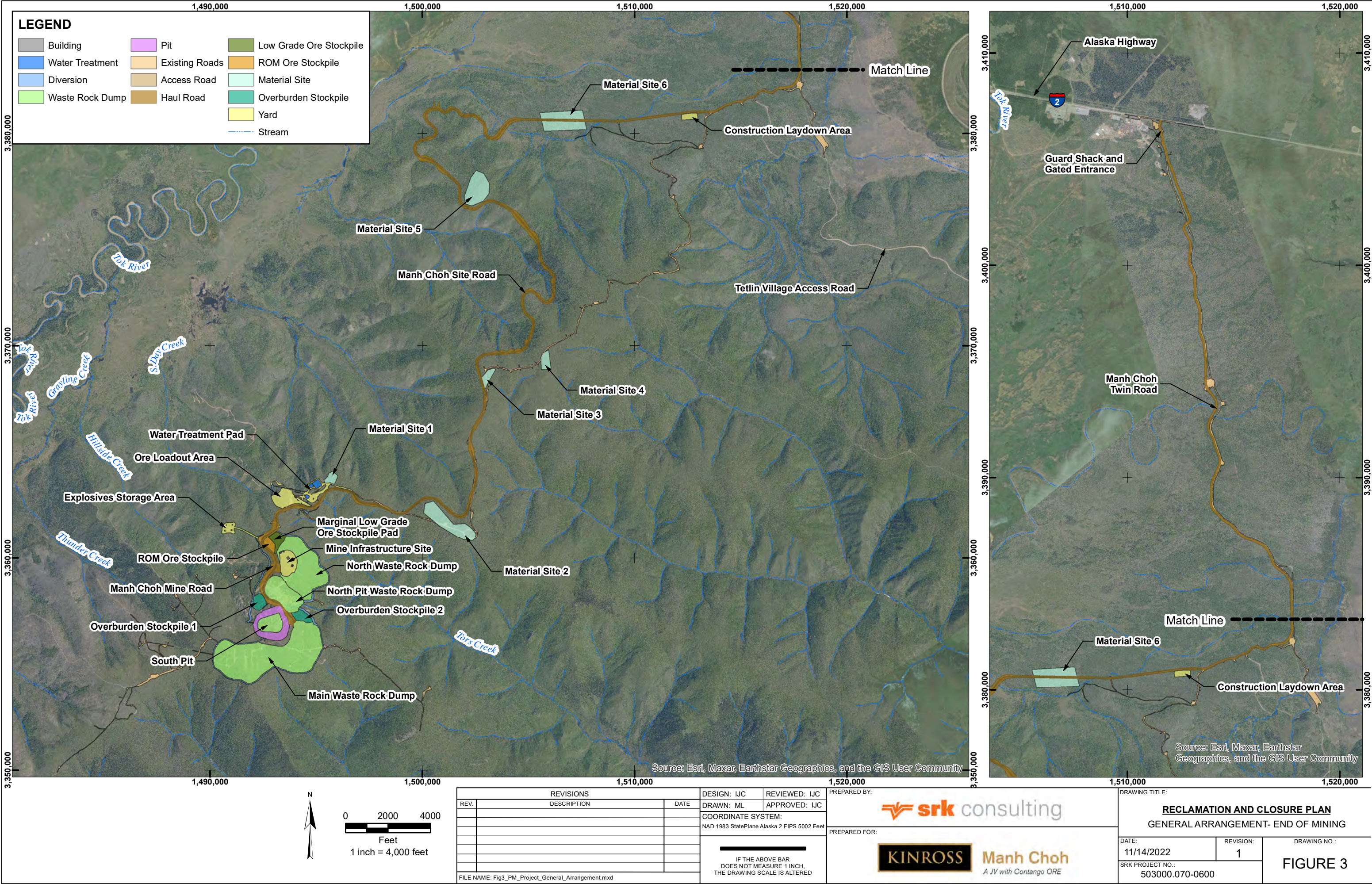
The project consists of two open pits, two WRDs, two backfilled pit WRDs, access and haul roads, support facilities, borrow sites, and temporary stockpiles. The anticipated mine life includes: two years of construction, followed by approximately 4.5 years of production, and two years of reclamation. Concurrent reclamation will occur during mining operations including backfilling pits and recontouring or other reclamation activities when facilities mature or are no longer required for operations. Ore will be stockpiled in limited quantities within the North WRD footprint and subsequently trucked to the Fort Knox Mine for processing.

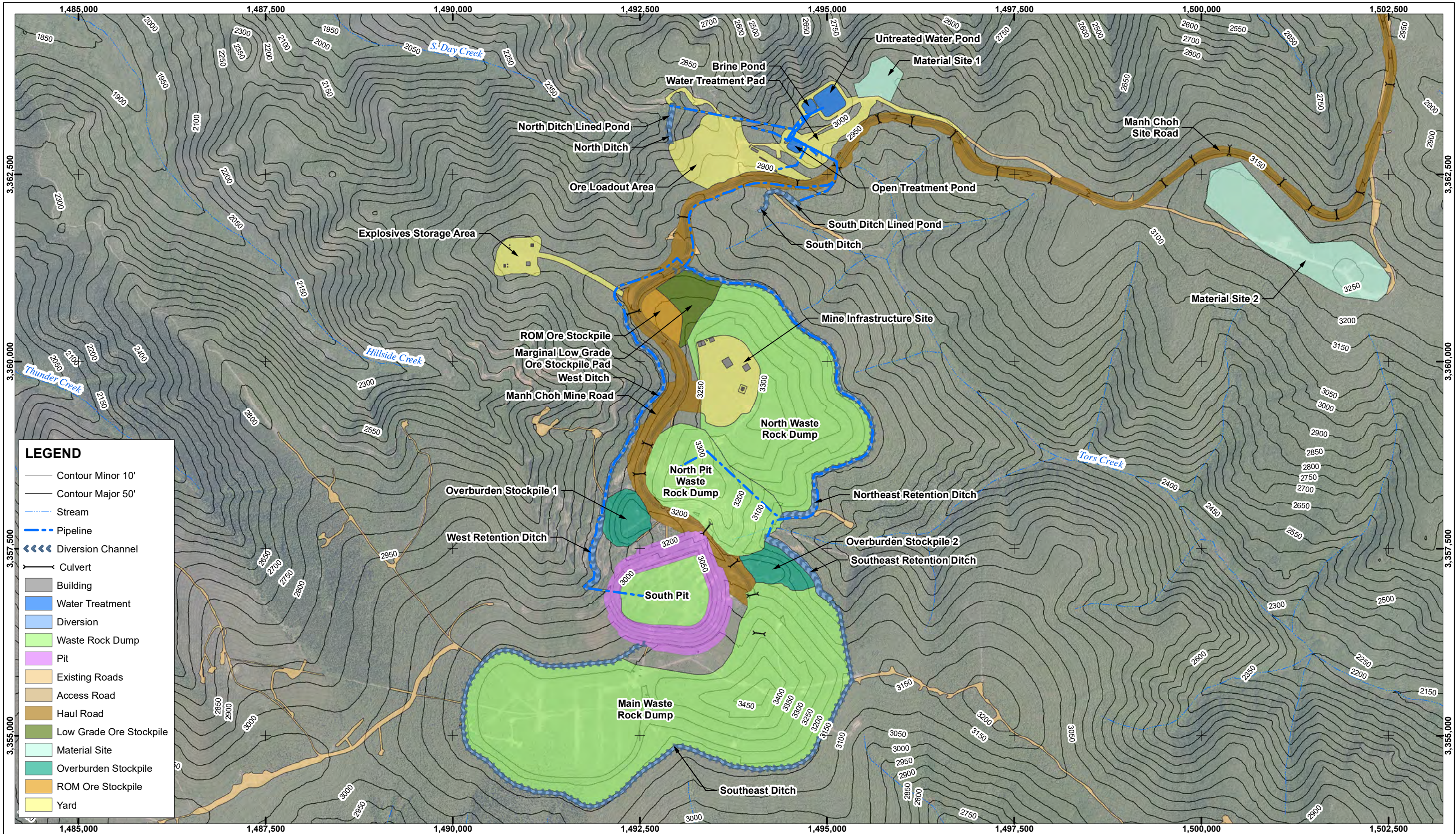
Footprints for each facility have been developed using the best available information. The final configuration may deviate slightly due to unknowns such as varying density of blasted waste rock and stacking height in WRDs but will remain within the disturbance footprints. Any deviations or increases in facility footprints will be captured in amendments to the Reclamation and Closure Plan (RCP) should they be required. Development of facilities may require additional equipment maneuvering space, allowances for minor variations in terrain, clearing vegetation or construction of stormwater management best management practice (BMP) structures. This plan refers to these areas as buffers. The buffers are included around all facilities to account for these minor construction activities. For instance, a 25-foot buffer has been included along all roads to allow for vegetation clearing and construction of stormwater and erosion control measures. In addition, areas where facilities do not create continuous disturbance boundaries, creating small, isolated islands of undisturbed ground; those isolated areas are assumed to be disturbed and will be reclaimed and revegetated as needed. While these buffer areas may not be developed, a cost to reclaim them has been included and reclamation practices developed for each facility will be applied accordingly as needed to each buffer area.

The surface disturbances associated with the Project is detailed by facility in **Table 3.2** and depicted on **Figure 3**, **Figure 4** and **Figure 5**. All items identified in **Table 3.2** except a portion of the Manh Choh Site Road will be reclaimed and left in a stable condition. A single lane within the footprint of the Site Road may remain after closure at the request of the landowner. The total disturbed area for the roads is included in the table below.

Table 3.2: Proposed Surface Disturbances

Facility	Acres
Ore Transfer	20.55
Yards/Pads (mine)	82.66
Roads (includes Manh Choh Site Road which may remain)	286.10
WRDs	275.21
Pits	91.28
Growth Media	16.56
Stockpiles	14.20
Diversions	30.85
Material Sites	125.79
Existing Road	124.81
TOTAL	1,068.01





LEGEND

- Contour Minor 10'
- Contour Major 50'
- Stream
- Pipeline
- Diversion Channel
- Culvert
- Building
- Water Treatment
- Diversion
- Waste Rock Dump
- Pit
- Existing Roads
- Access Road
- Haul Road
- Low Grade Ore Stockpile
- Material Site
- Overburden Stockpile
- ROM Ore Stockpile
- Yard

N

0 600 1200

Feet

1 inch = 1,200 feet

REVISIONS		
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DRAWN: ML	APPROVED: IJC
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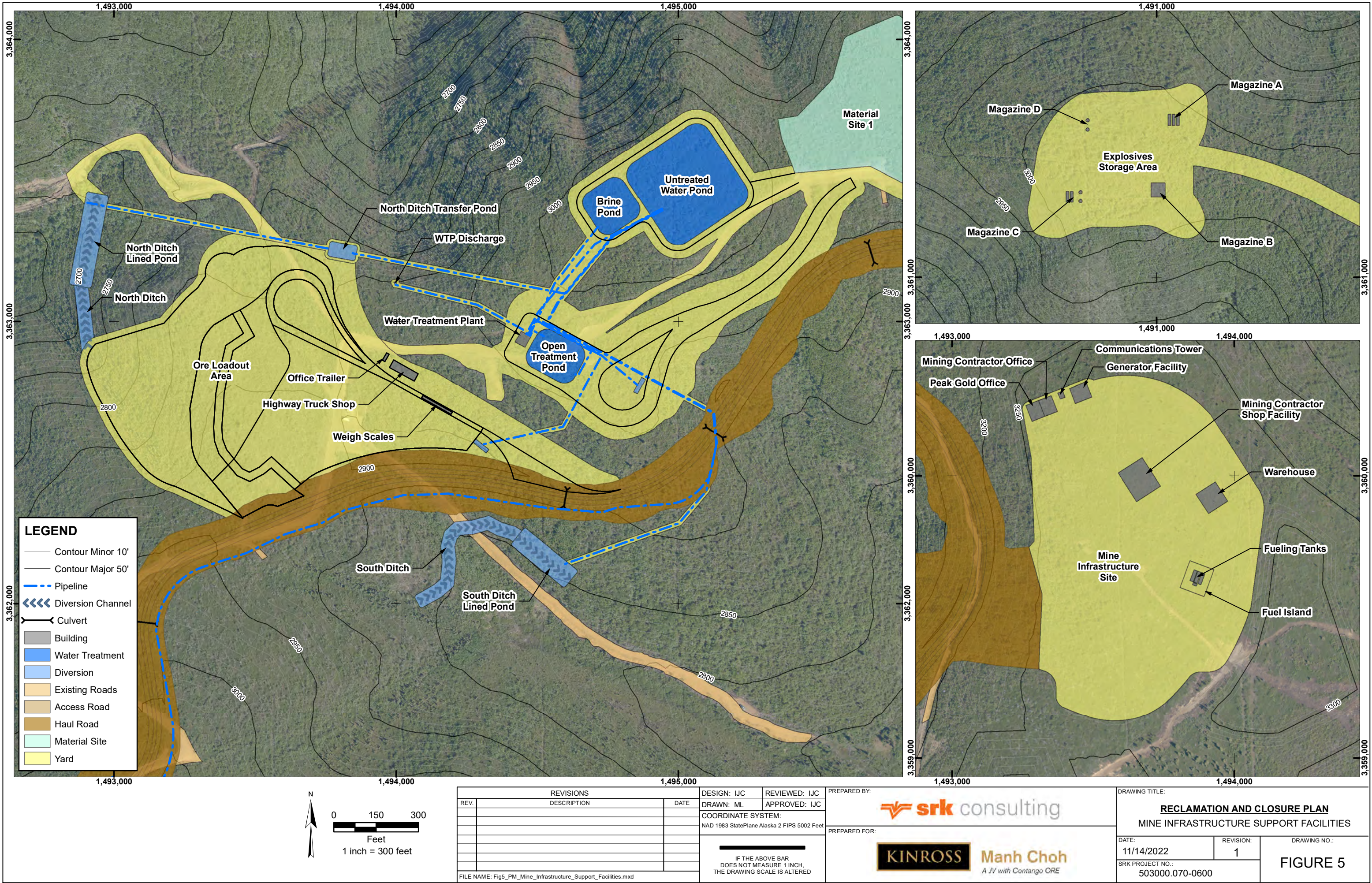
PREPARED BY:

srk consulting

PREPARED FOR:

KINROSS **Manh Choh**
A JV with Contango ORE

DRAWING TITLE:		
RECLAMATION AND CLOSURE PLAN MINE AREA - END OF MINING		
DATE: 11/14/2022	REVISION: 1	DRAWING NO.: FIGURE 4
SRK PROJECT NO.: 503000.070-0600		



3.4 General Environment

The Project site is located within the Tanana-Kuskokwim Lowlands ecoregion at an elevation between 2,000 ft and 3,300 ft amsl. The moderate relief of the Tetlin Hills are surrounded by Tetlin Lake to the east and the Tok River Valley to the West (see **Figure 3**). Local ridges trend northwest to southeast in the area immediate surrounding the pits and facilities, resulting in northeast and southwest facing slopes. The slopes in this area are characterized by deciduous birch and aspen, alder and willow, with more isolated areas of spruce. Vegetation mapping including delineation of wetlands and the extent of recent forest fires has been completed by ABR (2013; 2016).

The Tok River Valley to the west is characterized by a broad, low-relief floodplain occupied by the northward flowing Tok River, sporadic ponds, and cut-off channels. A dense riparian zone of spruce is present immediately adjacent to the present-day Tok River channel, dense willow, and birch are found along the road corridors on the valley floor.

3.5 Climate

The Manh Choh Project area has a dry-winter continental subarctic climate. Summer daytime temperature highs are typically around 60° to 70°F and summertime lows are around 40° to 50°F. Winter daytime temperatures range from highs in the -10 to 20°F, while lows range down to -40°F range. Thermal inversions are common in the winter months, resulting in cool temperatures in the lower valleys and warmer temperature near the summits of mountains. Average annual precipitation at the Manh Choh Project area is 10 to 12 inches, with approximately 40% of total precipitation being snow (Piteau 2022c).

The nearest weather station (Tok-2) is in the town of Tok, Alaska, about 11 miles from the Manh Choh Project site. Data for this site has been recorded since 1954.

Peak Gold installed a meteorologic station near the proposed North WRD and began collecting data in November 2020. The collected data from the new meteorologic station indicates a correlation to Tok-2 weather station and suggests slightly higher precipitation can be expected at the mine site, which is expected due to the elevation difference between the stations (Piteau 2022c).

3.6 Vegetation and Soils

Terrain and vegetation characteristics were based on review of IFSAR digital surface models, previous vegetation mapping data products (ABR 2013; 2016), and field observations made by SRK in September 2019 (SRK 2021b).

The area immediately surrounding the planned pits and facilities was most recently burned by forest fires in 1990. Visible evidence of the forest fire include deadfall and standing burnt spruce in this area. The surface ground cover in this area likely shifted from pre-burn upland spruce to post-burn recovery vegetation dominated by alder, aspen, birch, and willow. This shift in surface vegetation cover has altered the surface energy balance when compared to pre-burn conditions. Over time,

the change in surface conditions can be expected to impact the deeper thermal condition of permafrost at the site.

Near surface soils at the mine site consist of colluvium and aeolian silts with a depth ranging from outcropping of bedrock to more than 20 feet deep in the valleys near the mine area. The soils near the ore loadout area consist of alluvial sand, silts and gravels among paleo river channels.

3.7 Permafrost

The ground temperature thermal regime is strongly controlled by terrain and vegetation which influence the surface energy balance and the amount of heat annually going in and out of the ground. Permafrost is locally inferred to be discontinuous across a large portion of the project site based on the site climate and past change in surface condition. The North Pit, South Pit, North WRD and Main WRD are inferred to be within locally continuous permafrost with a suprapermafrost talik above the permafrost table (SRK 2021b). Permafrost is present within isolated areas of the project disturbance. Effort will be made to minimize disturbances during construction and stabilize those areas during reclamation when permafrost soils are encountered.

3.8 Geology

The majority of the Manh Choh Project is hosted within the Yukon-Tanana Terrane, a regionally extensive package of greenschist to amphibolite facies metamorphic rocks of Mississippian or older age. Most of the project area escaped Pleistocene continental glaciation and is covered by a variable thickness of aeolian silt ranging up to 35 ft thick with extensive oxidation occurring some 200 to 300 ft below surface. The majority of the bedrock in the area is a quartz muscovite \pm biotite schist unit (QMS) containing conformable layers of amphibolite schist / greenstone. The QMS unit is primarily comprised of quartz, muscovite, biotite and local garnet with minor actinolite and epidote (Piteau 2022b).

Waste rock from the open pits is currently categorized as Potentially Acid Generating (PAG), Rapid Onset PAG, (potential to generate acid generating conditions within the mine life of 4.5 years) Non-Acid Generating (NAG) Metal Leaching (ML) NAG. Tonnages for each material type and final placement is summarized in Table 3.3. The Waste Rock Management Plan Section 4.3 Waste Classification Criteria Summary and Section 6.2 Waste Rock Mining and Segregation (SRK 2022a) provides waste rock management narratives, tables, and details the specific volumes of each category and in situ location and ultimate final placement location. Waste rock will be sorted during mining and either placed in stockpiles for relocation prior to final closure or placed in a permanent WRD that will be regraded and reseeded for closure. The proposed Waste Rock Management Plan (SRK 2022a) includes segregating PAG and ML material in stockpiles located on the Main WRD. The stockpiled PAG and ML WR will be rehandled during operations to backfill the North Pit, or immediately following the end of mining. The North Pit will be backfilled primarily with ML material and some PAG, while South Pit will be backfilled with PAG and capped NAG. The North Pit will be backfilled above the pit rim, while the South Pit will be partially backfilled above the anticipated rebound water surface elevation. North Pit will be covered with an impervious cover liner system, growth media and revegetated. A summary of waste backfill can be found in **Table 3.3**.

Table 3.3: Waste Rock Classification by Facility

Waste Rock Classification	Tonnages by Facility (Maximum Inventory)								
	<i>Waste Rock Stockpile "Dry Disposal - Rehandled"</i>	<i>Waste Rock Stockpile "Wet Disposal - Rehandled"</i>	Main ^{1,2,3} and North WRD	Overburden Stockpile	Manh Choh North Pit Backfill Dry	Manh Choh North Pit Backfill Wet	Manh Choh South Pit Backfill Dry	Manh Choh South Pit Backfill Wet	Roads and Infrastructure
PAG	1,857,304	6,578,456	3,126,951	0	7,092,322	0	0	5,449,191	0
Rapid Onset PAG	0	485,867	5,584,037	0	486,754	0	0	485,867	0
Metal-Leaching (ML) NAG	4,166,036	0	0	0	4,166,036	0	0	0	0
NAG	0	0	15,743,141	0	5,236,730	1,019,651	2,013,149	0	802,016
Overburden	0	0	0	989,588	0	0	0	0	0

Source: Kinross

¹: Approximately 2.0 Mt of waste rock from Main WRD is rehandled into the Manh Choh South Pit buffer zone at closure. The material will be NAG.

²: Approximately 473 kt of waste rock is rehandled from North WRD to Manh Choh North Pit wet disposal backfill, with the balance coming directly from Manh Choh South.

³: Combined quantities for Main and North WRD are shown because the distribution of the material types is continuing to be determined.

3.9 Water Management

During operations, all contact water sources will be collected in the North Pit. The water will be collected via perimeter ditches (perimeter trench) surrounding the mine infrastructure and redirected (pumped) from the retention basins (**Figure 4**). Infiltration testing in shallow test pits around Manh Choh indicates the shallow soils have low permeability and will form a good foundation for perimeter trenching to capture and convey contact water around site. In contrast, the underlying weathered bedrock is very permeable and would readily accept infiltration of water after removal of the fine-grained soil cover (Piteau, 2022a).

3.9.1 Surface and Ground Water

Groundwater flow at the site is extremely low because of the dry conditions and limited recharge area. Any groundwater flow that does occur is localized and will percolate mostly through fractures, faults, and related small-scale structures. The limited overburden thickness and low bedrock hydraulic conductivity further reduces recharge; most precipitation runs off the site.

Although no active permafrost is identified at the site, zones of discontinuous relict bedrock permafrost do occur, and act to further interrupt the movement of groundwater. The small amount of recharge that does occur is related to spring snowmelt. This causes seasonal increases in piezometric levels of 5 to 30 ft. The relatively large seasonal fluctuation of groundwater levels is indicative of a low storage groundwater system.

Seasonal intermittent stream flow occurs in the catchment headwaters on both sides of the drainage divide. Perennial stream segments start downgradient of the project area, at locations of year-round groundwater discharge which are delineated by ice buildup (aufeis) in winter (Piteau, 2022a).

3.9.2 Background Water Quality

Water quality in the headwater streams that drain the project area is generally good. Constituent concentrations downgradient of the site are generally low, but higher concentrations are reported in samples taken from the Tok River and Tetlin Lake. Baseline iron, arsenic and manganese concentrations in Tors Creek exceed ADEC regulatory limits due to the proximity of the mineralized orebody. Baseline sulfate, metals, and total dissolved solids (TDS) concentrations are consistently higher in groundwater than surface water, particularly in the vicinity of the orebody. Downgradient of Manh Choh, water quality of streams reflects the mixing of the mineralized groundwater discharge with runoff from the stream headwaters (Piteau, 2022b).

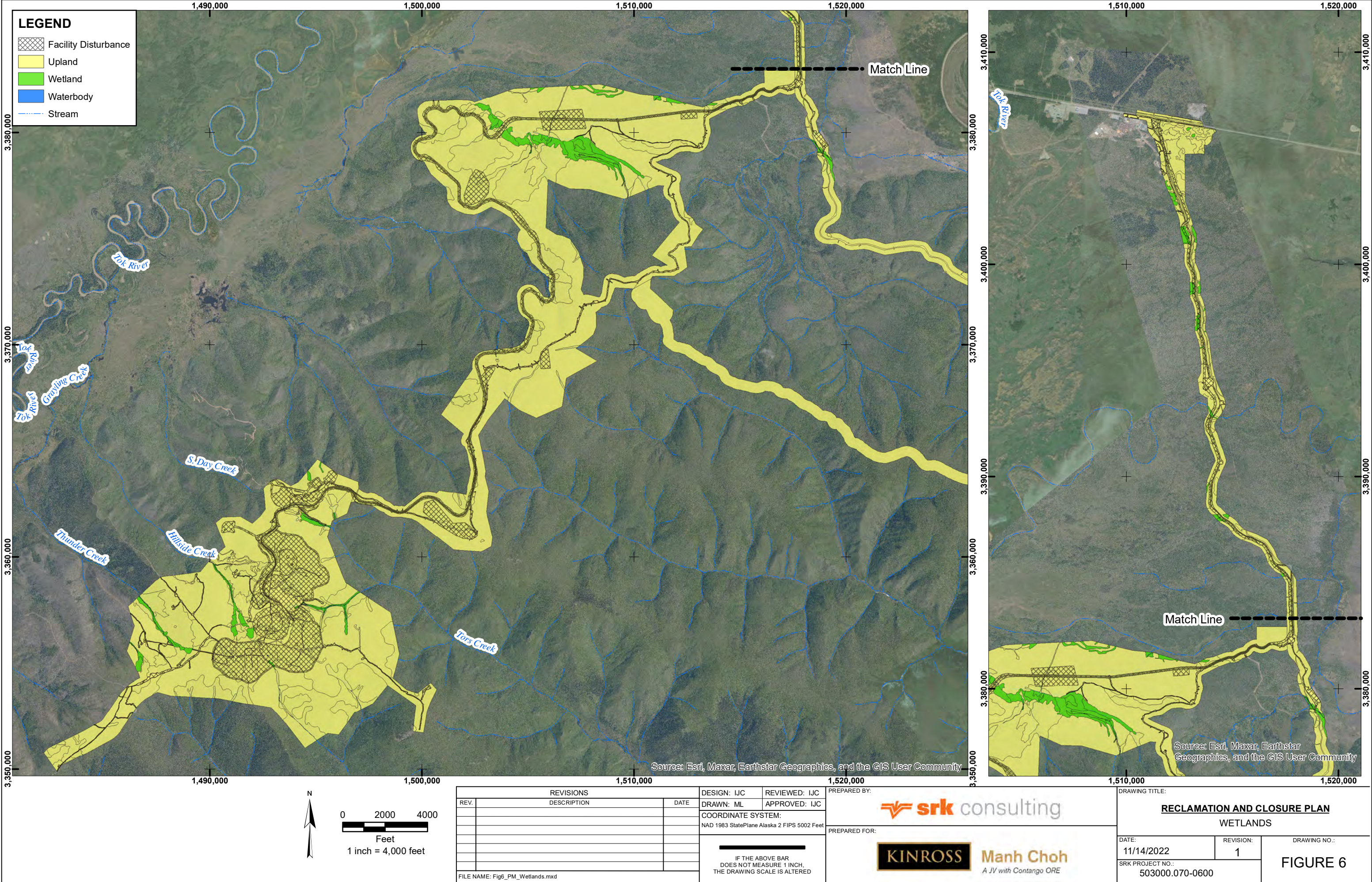
3.9.3 Mine Water Management

The mine site runoff water will be treated using microfiltration followed by reverse osmosis (RO). A head water tank will be used to inject chemicals for pre-treatment to aid in removing iron, manganese, arsenic, and heavy metals. Water quality will vary depending on the stockpiles and the size of the storm so treatment requirements will vary. Upon initial review of water quality, RO may not be needed. However, it is being provided so that it is available should the need arise. The treatment system will be sized to handle peak flows at 350 gpm. Treated water will be used to

supply the wash bay or discharged to surface. Brine and filter wash water will be stored in small ponds located near the WTP. (Piteau, 2022a).

4 Wetlands

Wetlands have been identified and mapped in a 6,024-acre study area, which includes the development footprint. The proposed development avoids and minimizes fill in wetlands to the maximum extent practical. The Project will impact approximately 5.17 acres of wetlands and 80 ft of an intermittent stream which seeps back into the ground (no downstream surface connection). Impacts to wetlands will be from mine access road fill, open pits, and water management diversion trenches. Wetland impacts in the mine pits are unavoidable, but minor. Approximately 5,000 cubic yards of clean gravel will be placed in wetlands for construction of roads and infrastructure pads. The majority of wetland impacts are due to fill placement for the construction of the Manh Choh Twin Road, which is being constructed to provide a separate, buffered roadway from the local traffic. Internal mine roads also include temporary work areas. Activity in temporary work areas consists of vegetation clearing to manage stormwater runoff to meet State Water Quality Standards. During reclamation internal mine roads will be regraded to establish surface drainage, scarified, and seeded. **Figure 6** illustrates the wetland locations and disturbance and fill limits, further detail can be found in the Wetlands Report (Stantec 2022). The U.S. Army Corps of Engineers (ACOE) issued the project's Wetlands Fill Permit Number POA-2013-00286 on September 2, 2022 for filling 5.26 acres of waters of the U.S. A mitigation plan for the unavoidable impacts to wetlands was approved by the ACOE prior to issuance of the Wetlands Fill Permit. Mitigation will likely be done concurrent with mine construction and operations.



5 Reclamation Practices

5.1 General

Peak Gold and the landowners' long-term reclamation goals during and after mining are to shape, revegetate, or otherwise stabilize the land to meet the objectives of the designated post-mining land use. The current designated post-mining uses for the proposed Manh Choh project area are for wildlife habitat and dispersed recreation, as prescribed by:

AS 27.19.020 Reclamation Standard:

"A mining operation shall be conducted in a manner that prevents unnecessary and undue degradation of land and water resources, and the mining operation shall be reclaimed as contemporaneously as practicable with the mining operation to leave the site in a stable condition."

AS 27.19.030 (b)

"In reviewing a reclamation plan for state, federal, or municipal land under (a) of this section, the commissioner may consider, after consultation with the commissioners of environmental conservation and fish and game and with the concurrence of the miner and landowner, uses to which the land may be put after mining has been completed, including trails, lakes, recreation sites, fish and wildlife enhancement, commercial, and agriculture uses." and,

11 AAC 97.200 (b)

"A miner shall reclaim an area disturbed by a mining operation so that the surface contours after reclamation is complete are conducive to natural revegetation or are consistent with an alternate post-mining land use approved under AS 27.19.030(b) on state, federal, or municipal land, or with the post-mining land use intended by the landowner on private land."

Peak Gold will incorporate practices that include contouring and stabilizing disturbed areas using best engineering practices to create seedbeds that invite and promote hardy revegetation of available native plant species, using soil amendments or other proven methods of revegetation.

Peak Gold will work with Alaska Department of Natural Resources (ADNR), Division of Agriculture/Plant Materials Center, and Alaska Department of Fish & Game (ADF&G) in the implementation and evaluation of both concurrent and long-term reclamation activities at the site.

The design and implementation of the mine reclamation and closure plans are important for the surrounding communities during mine closure. Measures to mitigate the potential socioeconomic effects associated with mine closure will be reviewed and discussed every five years during permit renewals throughout the mine life should the mine life extend beyond the anticipated 5-year schedule.

Best management practices for reclamation require that the final configuration be developed throughout the mining process and is tied directly to the design, construction, operation, and closure of the project. These practices are discussed in the following sections.

5.2 Schedule of Reclamation Activities

5.2.1 Reclamation Schedule

Construction of the Manh Choh Twin Road and Manh Choh Site Road commenced in mid-2022, development associated with the Pits and WRDs will begin mid-year 2023 and mining will end in the North Pit in 2025 followed by the South Pit in 2027. Construction of the WRDs and back fill of the pits will be concurrent with perspective pit developments. Concurrent reclamation will begin in 2025 in the North Pit. Reclamation of the South Pit, WRDs and other facilities will be complete within two years following completion of mining in 2027. The anticipated reclamation schedule is summarized in **Table 5.1**.

Table 5.1: Reclamation Schedule

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033+
Const. Manh Choh Twin and Project Roads												
Const. Support Facilities												
Development of North Pit												
Construction of the North WRD												
Development of the South Pit												
Construction of the Main (south) WRD												
Backfill North Pit (North Pit WRD)												
Backfill South Pit (South Pit WRD)												
Reclaim North Pit												
Reclaim South Pit												
Reclamation of North and Main WRDs												
Reclaim Yards, Facilities and Roads												
Reclaim Water Management Structures, WTP an BMPs												
Cover Maintenance and Post-Closure Monitoring												
Construction Phase												
Mining												
Concurrent Reclamation												
Reclamation and Monitoring												

5.3 Concurrent Reclamation

Concurrent reclamation will be implemented throughout the project timeline including, relocation of waste rock, soil stabilization and erosion control measures on all disturbed and unprotected areas prior to the end of a normal operating season. Opportunities for concurrent reclamation of waste rock dumps and pit backfills will be performed as part of the mine plan. For instance, backfilling pits with waste rock during mining operations to achieve final reclamation configuration while the mine is still active. Trial plots for revegetation will be conducted to maximize seeding and fertilizer rates. The low annual rainfall volumes could hinder revegetation attempts and seed mixes may need to be modified to achieve the desired outcome.

5.4 Temporary Closure

Temporary closure means the cessation of the mining operations for a period of not more than three years. If conditions require temporary closure to extend beyond three years, final reclamation will begin, unless an extension is requested by Peak Gold and approved by ADNR. Temporary closure scenarios that require modifications to the plan of operations, reclamation plan or 404 Permit will be coordinated with the appropriate Federal and State agencies for approval.

Peak Gold shall notify the Authorized Officer (ADNR, the Director of the Division of Mining, Land and Water or a designee) in writing at least 30 days prior to any planned temporary closure of 90 days or longer. Peak Gold shall notify the Authorized Officer of any unanticipated temporary closure expected to last 90 days or more within 10 days of the first day of the temporary closure. The notice shall state the nature and reason for the temporary closure, the anticipated duration of the temporary closure, what actions will be taken to maintain compliance with project permits and plan approvals, and any event which would reasonably be anticipated to result in the resumption of mining or the permanent cessation of mining. Mining operations must resume for not less than 90 consecutive days in order to terminate the temporary closure status.

5.4.1 Planned Temporary Closures.

Planned Temporary closure could have specific conditions defining their beginning and end, include, but are not limited to, the following:

- Interruptions in the active Fort Knox Mine beneficiation processes to provide planned periods of inactivity for metallurgical or operating reasons.
- Any other planned condition that would interrupt the active Fort Knox Mine beneficiation process including modification to process components or suppressed metal market conditions.
- Change in ownership requiring the temporary cessation of operations while operating permits are transferred to the new owner/operator.

5.4.2 Unplanned Temporary Closure

Unplanned temporary closures may include, but are not limited to, the following:

- Closure because of unforeseen weather events.
- A failure in a major system component or a process failure that causes the fluid management system, or a portion of it, to shut down.
- The cessation of operations due to litigation.
- Economic reasons.

6 General Reclamation Procedures

The primary components in reclamation include earthwork, growth media placement, seedbed preparation, fertilizing, seeding, and monitoring. Peak Gold will manage these components keeping in mind that the goal is to achieve a stable, revegetated post-mining land surface that will promote natural sustainable revegetation by native plants. Peak Gold will continue to work in coordination with Tetlin and ADF&G, Division of Habitat to develop and enhance the fish and wildlife potential throughout the project area.

6.1 Earthwork

Waste rock dumps will require major grading, contouring, and revegetation. Other disturbed areas will be revegetated; some may require regrading to promote drainage and or reduce erosion potential. Growth media will be applied if revegetation efforts are not successful to regraded native soils. Generally, slopes will be graded to 2.5H:1V (horizontal: vertical), or flatter. For the purposes of the Financial Assurance (FA) calculations, a slope of 3H:1V are considered resulting in a more conservative estimate of earthwork volumes.

Reclamation earthwork activity will utilize similar heavy equipment used for mining operations.. The equipment list will likely include dozers, rubber-tired scrapers, water trucks, motor graders, front-end loaders, track and tire mounted backhoes, compactors, and haul trucks. Equipment needed for reclamation and operations will remain dynamic, as specific conditions require different equipment during implementation of the plan.

6.2 Control of Sedimentation

Implementation of BMPs to control erosion during active mining will be designed to minimize re-disturbance during reclamation. The BMPs will be consistent with those measures and practices identified in Alaska Department of Transportation and Public Facilities, *Alaska Storm Water Guide*, December 2011 (ADEC 2011).

Temporary sediment and erosion control devices will be maintained until site-specific potential for erosion has been minimized through earthwork or revegetation. Removal of devices will be determined by field conditions.

6.3 Growth Media

Growth media is defined herein as all material with the physical and chemical properties capable of germinating and sustaining vegetation growth with or without amendments. Growth media may consist of topsoil, or other material defined as overburden near the surface of excavations. Overburden is the unconsolidated material that lies between the topsoil horizons (where present) and bedrock and exhibits no chemical characteristics that will inhibit vegetation development.

Growth media will be stockpiled prior to construction of facilities or development of pits in anticipation of future reclamation needs. Growth media will be applied in areas where needed to support revegetation. Revegetation and cover studies will be performed to determine the optimal growth media application depth. The financial assurance (FA) assumes 24-inches of growth media placement on waste rock dumps and 12-inches on other facility disturbances. The depth of growth media required for successful reclamation may be reduced pending field trials and revegetation test plot information. Growth media will be hauled and placed by dump truck and spread by a dozer. Highly compacted areas such as equipment lots and roads will be ripped in a linear fashion prior to growth media placement if it is required.

The Standard Reclamation Cost Estimator (SRCE) Model calculates the true volume of cover and topsoil required based on the three-dimensional slope area and generally results in slightly higher volume calculated vs a planar two-dimensional (2D) plan area. The quantities listed in **Table 6.1** represent a summary of probable stripped volumes of growth media. A detailed overburden model does not exist for the entire project area, however depth of overburden with the footprints of the pits are well defined. The volume of stripped overburn in the pit footprints is determined from the subsurface investigation, while the volumes stripped within the footprints of WRDs is estimated at a probable 24-inches of overburn stripped within the 2D area. Probable, meaning that depth of native soils varies across the disturbance area, but is assumed that an average of 24-inches of growth media material can be salvaged across the site because overburden depths range from one to ten feet based on current subsurface investigations. A geotechnical evaluation will be done prior to development of waste rock dumps to determine the optimum depth of overburden stripping required for stability. A detailed volume break-down for available growth media is listed in **Table 6.1**, while **Table 6.2** represents a summary of growth media volumes calculated by the SRCE model. At a minimum, select quality organic overburden soils within the disturbance footprints will be stripped for reuse in reclamation.

The estimated stockpile inventory and required volume for reclamation are similar. No bulking factors have been included in the estimated quantity stripped, and an assumption that 24 inches of growth media, on average, is available for salvage. Should additional growth media be required stripped material from yards or borrow sites could be salvaged and applied to waste rock dumps.

Table 6.1: Growth Media Stockpiled Inventory – Stripped Prior to Construction

Facility	Acres ¹	CY
North Pit	42	339,873
South Pit	44	350,560
North WRD	96	308,297
Main WRD	163	527,118
Marginal Ore Stockpile	11	37,224
Total Estimated Salvage	356	1,563,072

1- The areas listed include a 25-foot construction buffer

Table 6.2: Growth Media Requirements (SRCE Model Values)

Facility	Acres	CY
North Pit WRD	39.62	128,017
South Pit WRD	19.41	61,307
North WRD	104.00	360,002
Main WRD	189.20	620,906
Marginal Ore Stockpile Pad	8.84	14,262
Miscellaneous	220.85	327,511
Total	581.92	1,512,005

Volumes are calculated assuming three-dimensional surfaces and slope volumes. Areas differ from Table 6.1 because a buffer area is included in the stripping table. An estimate surplus of growth media is expected, assuming 24 inches is available for stripping.

6.4 Seedbed Preparation

Mine and mine related disturbances can result in compacted surfaces unsuitable for revegetation. Thus, preparation of a seedbed suitable for plant germination and growth can be a critical task in any successful land reclamation project.

The general method of seedbed preparation will be ripping or scarifying on the contour 12 to 18 inches deep using a CAT D8, D9, or D10 CAT (or equivalent) equipped with a 2 or 3-shank ripper.

Ripping will occur along contours of sloped areas to promote erosion control in addition to creating a suitable seedbed. The specific site will be prepared for seeding by ripping on the contour to roughen the surface. A broken, roughened surface will serve to trap moisture, reduce wind shear, minimize surface erosion by increasing infiltration, and create micro-habitats conducive to seed germination and development.

6.5 Fertilizer and Fertilization

Prepared seedbeds may be fertilized prior to, after, or during the seeding operation. Specific fertilization requirements will depend on the quality of growth media used and presence of organic material in the soil. Growth media will be tested for standard soil agricultural constituents including

nitrogen, phosphorus, and potassium. Field testing has not been conducted but will be performed prior to reclamation. At this time, an anticipated fertilizer application rate will range from 100 to 300 pounds per acre of 20N-20P-10K for a spring seeding or 10N-20P-10K for a fall seeding. The Financial Assurance (FA) accounts for 300 pounds per acre and the spring fertilizer ratio. Final fertilizer and application rates will consider information acquired from concurrent reclamation on site, soil tests and vegetation studies.

6.6 Seed and Seeding

A proposed grass seed mix is listed in **Table 6.3** (current mix proposed for use at Fort Knox) is proposed for reclamation. This seed mix is consistent with the recommendation in *A Revegetation Manual for Alaska* (ADNR 2008). The primary purpose of this seed mix is to achieve quick vegetative cover that will help minimize soil erosion. Forb species that may be considered in the future for revegetation include: Silverberry, Lupin, Oxytropis, Wild Sweet Pea, Sweetbroom, Burnet, Siberian Aster, Goldenrod, Alpine Milk Vetch, Wild Sage, Dragonshead Mint and Wild Rhubarb. However, these varieties are not currently available commercially, and a commercial source must be located if they are to be incorporated in the seeding mix. The seed mix may change over time in response to such factors as internal and external research results, changes in technology, changes in land management philosophy, and commercial availability. Native species will be the preferred mix. However, other species may be used in some years due to availability or if deemed to better meet the post-mining land use criteria and approved by ADNR. Peak Gold will work with the Alaska Plant Materials Center to refine a mix representative and conducive to climate. Experience at True North Mine and highway construction has demonstrated that native woody vegetation such as willow, aspen, dwarf birch, etc., readily and quickly reinvade newly constructed areas. No additional woody vegetation is anticipated to be planted.

Table 6.3: Seed Mix

Seed Type	Mix %
Arctared Fescue	50%
Gruening Alpine Bluegrass	20%
Tundra Glaucous Bluegrass	20%
Nortran Tufted Hairgrass	10%

Seeding will be accomplished using broadcast methods that may include but not be limited to hydroseeding, hand broadcasting, dozer or off-road vehicle mounted broadcasting, and aerial broadcast application. The application rate for broadcast seeding using the presently proposed grass seed mix will be 40 pounds of pure live seed per acre. The rate may be reduced based on field trials and revegetation success using native soils and consultation with the Alaska Plant Materials Center. The need for mulch application will be evaluated if seed germination becomes a limiting factor in the reestablishment of vegetation.

6.7 Revegetation Timing

Seeding will be conducted as soon as possible following seedbed preparation. Ground conditions suitable for large scale earthwork occur primarily during the spring and summer months. Research and experience with concurrent reclamation will be used to evaluate the potential of dormant seeding. Generally, seeding is implemented after spring break up until mid-July. Such seeding allows the seed to take advantage of the summer moisture period. However, actual experience has shown that all seedbed preparation on large-scale mine reclamation projects cannot and does not occur at one point in time. Thus, while every effort will be made to conduct the majority of seeding after spring breakup and before mid-July, seeding actually may occur during spring, summer or fall. If a seeding is unsuccessful for any reason, the area will be reseeded the following year.

6.8 Vegetative Restoration Studies

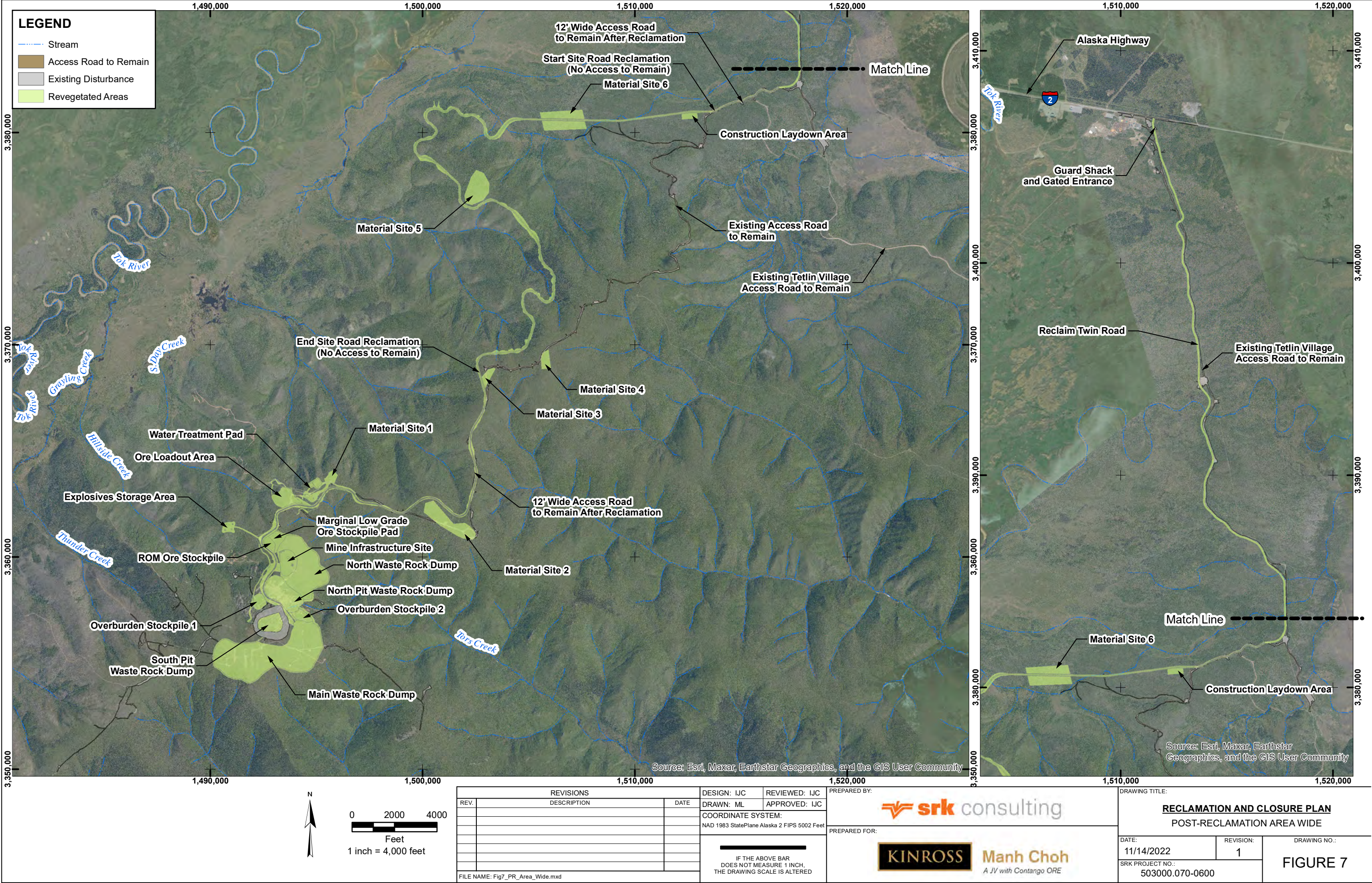
Peak Gold will use a native grass seed mix ratio, seed application rate and fertilizer rate recommended by the Plant Materials Center with approval from ADNR. Planting of dormant willow cuttings and encouraging the natural invasion of adjacent native species are methods used in the past to promote species diversity in wetland areas. Opportunities to increase species diversity in all areas of the mine site will be pursued through studies on site.

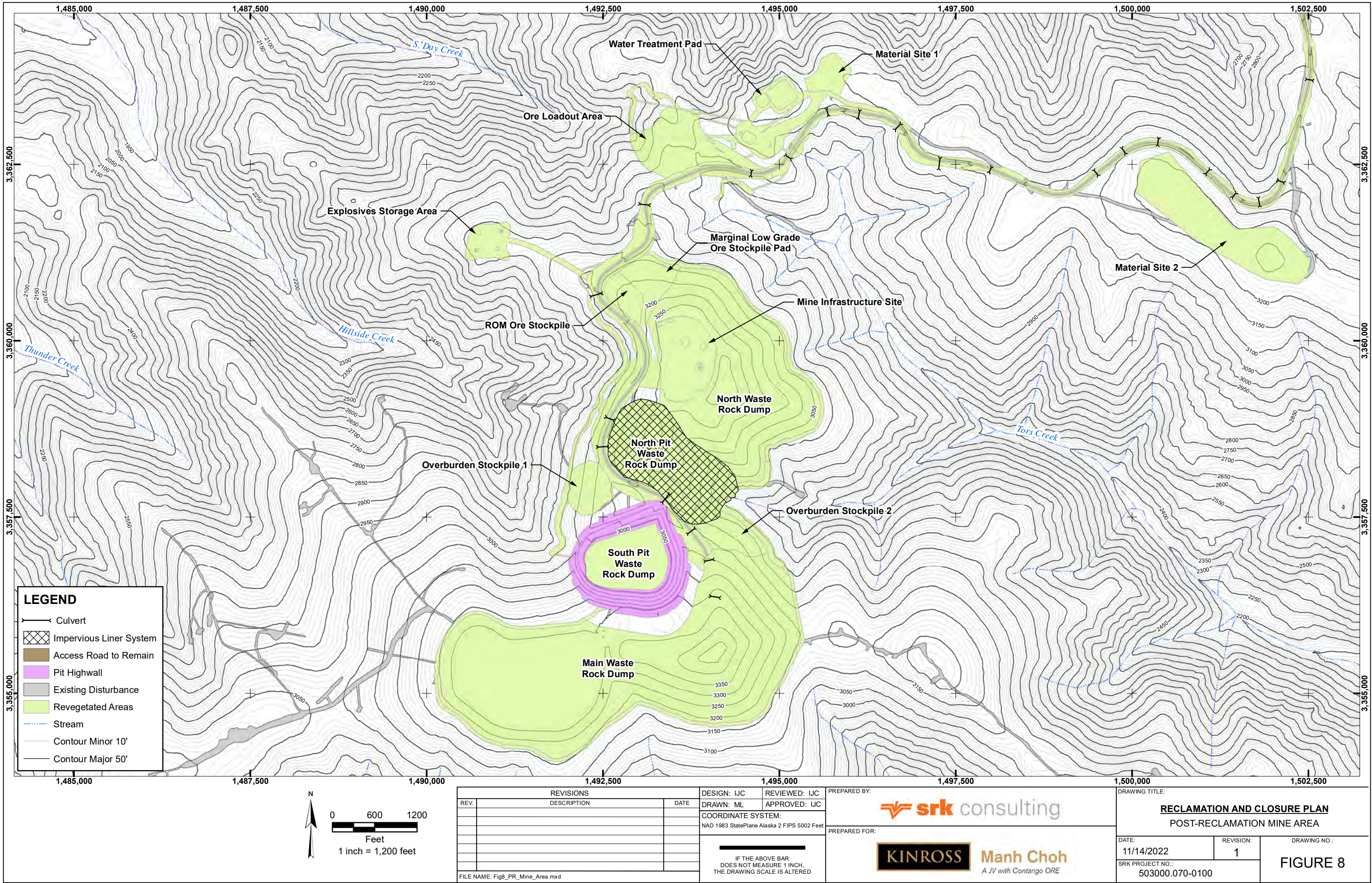
6.9 Revegetation Cover Criteria

A vegetative cover criterion of 70% will be achieved prior to requesting final release of FA for each reclaimed area. The 70% vegetative cover criteria shall be determined a minimum of three years after the last application of topsoil, seed, fertilizer, or any water in addition to natural precipitation. A method approved by ADNR will be used to determine percent cover. The 70% cover criteria may be waived upon the concurrence of ADNR or the landowner for specific areas that are deemed stable, have minimal potential to adversely impact surface water quality, and are consistent with the post mining land use.

7 Facility Specific Reclamation

Reclamation for the Project will include a goal of returning the disturbed areas to near pre-disturbance condition. This will include reshaping WRDs, road prisms, and laydown yards to provide positive drainage, and recontour landforms into shapes that blend with the existing landscapes. **Figure 7** depicts the proposed final reclaimed configuration of the entire project, **Figure 8** illustrates the mine area reclamation detail. The sections below detail specific reclamation for individual facilities.



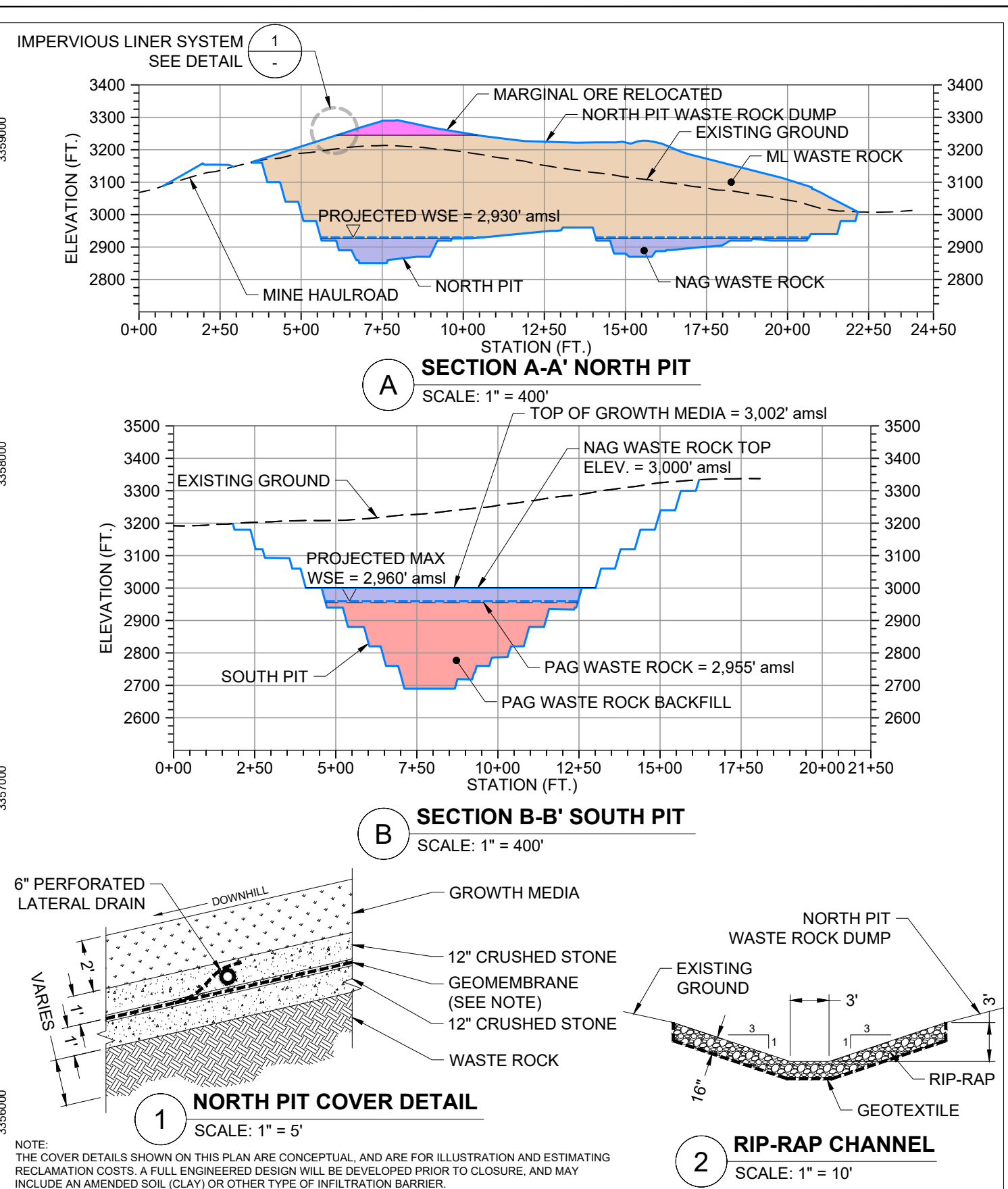
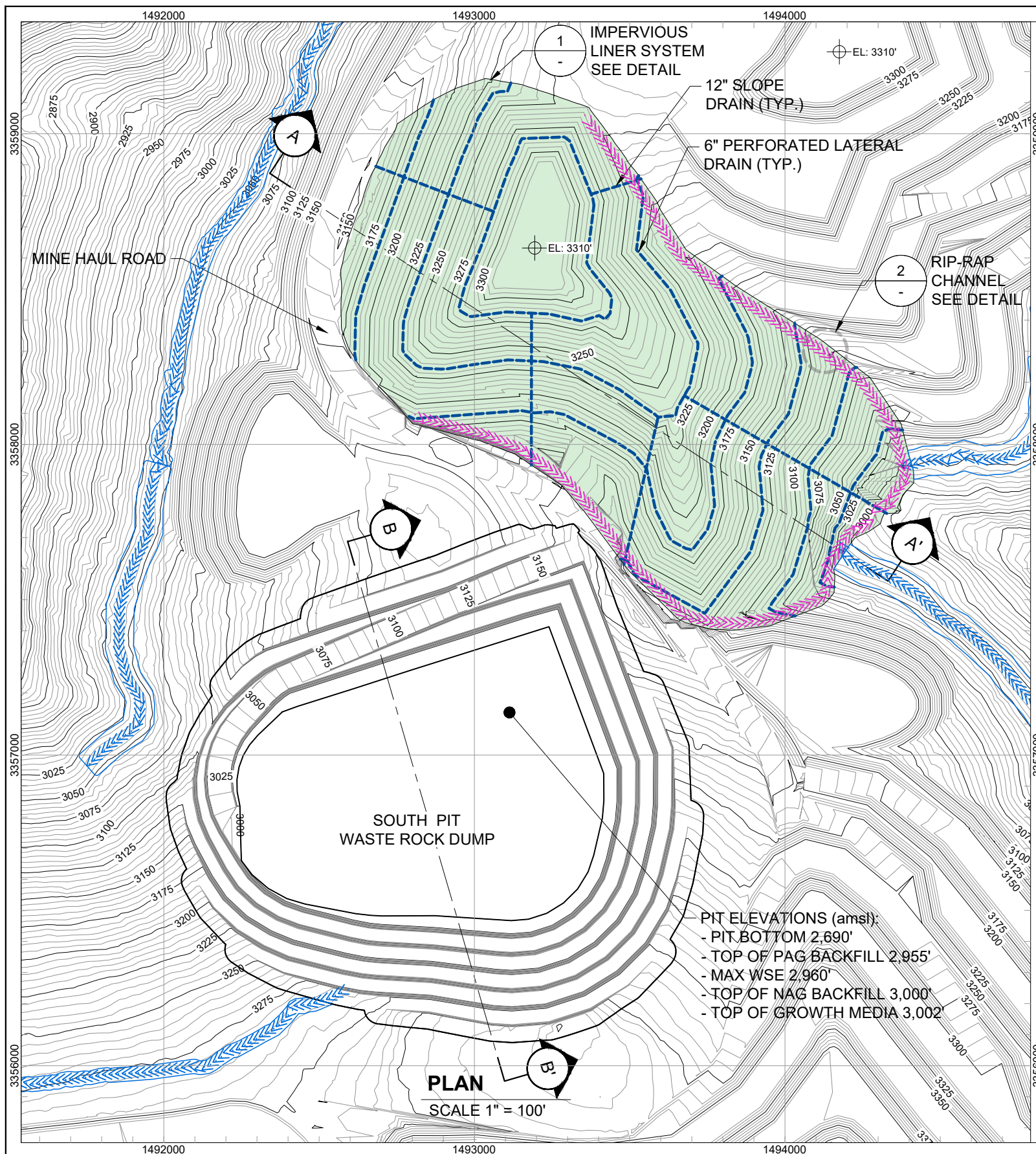


7.1 Pits

Both the North and South Pits will be backfilled to the design elevations, shown in Figure 9,. Haul roads in and around the pit will be smoothed of all berms except those necessary for erosion control and public safety. Road cuts and fills in proximity of the pits will be recontoured as much as feasible, and the roadbeds would be ripped and scarified where necessary and seeded.

Both pits will be backfilled with waste rock to reduce the disturbance footprint at closure, increase safety and reduce the visual impacts of an open pit. Backfill material will consist of PAG and ML-NAG waste rock (SRK 2022a). The PAG and ML-NAG waste rock will be covered with NAG waste rock, or an impervious liner cover to further limit exposure to air. The following sections and **Figure 9** illustrate the proposed configuration of the pits showing the extent of mining and proposed backfill.

The South Pit highwall will remain exposed after reclamation. All roads into the South Pit will be blocked with a berm with warning signs to prevent access by the public. The highwall may gradually unravel due to freeze/thaw activity, but the slopes are designed to be stable during operations and post-mining periods.



REVISIONS		
REV.	DESCRIPTION	DATE

DESIGN: IJC	REVIEWED: IJC
DRAWN: ML	APPROVED: IJC
COORDINATE SYSTEM:	
NAD 1983 State Plane Alaska 2 FIPS 5002 Feet	
IF THE ABOVE BAR DOES NOT MEASURE 1 INCH, THE DRAWING SCALE IS ALTERED	

PREPARED BY:

srk consulting

PROJECT:

KINROSS **Manh Choh**
A JV with Contango ORE

DRAWING TITLE:		
RECLAMATION AND CLOSURE PLAN		
END OF MINING PITS PLAN AND SECTIONS		
DATE: 11/14/2022	REVISION: 1	DRAWING NO.: FIGURE 9
SRK PROJECT NO.: 503000.070-0600		

7.1.1 Pit Water Management

During operations, water collected by the perimeter channels will be pumped (from the west perimeter retention pond) or discharged from the perimeter channels into the north pit sump. The north pit sump will act to both attenuate stormwater during operations, and also an operational sump during mining. Once the North Pit is backfilled and mining is complete in the South Pit, water will be diverted to the South Pit to reduce filling times and limit PAG exposure prior to inundation.

Water collected in the pits during operations is expected to be minimal and will either be reused for dust control or sent to the water treatment plant for treatment and discharge into the environment. Nearing the end of mining operations, the water level will be allowed to rise in the pits. The South Pit is expected to reach equalization approximately two years after cessation of mining. To increase the water surface level in the South Pit in a shorter timeframe, water may be pumped from wells and/or surface water will be diverted to reduce the natural rebound time required to inundate the PAG waste rock. The Manh Choh Water Management Plan (Piteau 2022a) includes a schedule of operations and more detail on the management of water during operations and after mining has ceased.

During reclamation, stormwater will be managed the same as during operations. Water will be pumped during large events or will be directed into the pits by gravity flow.

7.2 Waste Rock Dumps

Four WRDs will be constructed as part of the project, including two in-pit WRDs and two surface WRDs. Construction of all WRDs is similar and generally involves end dumping truck loads in a benched configuration. The benches are developed to allow for regrading at closure and provide a consistently sloped surface from top to bottom of the dump. **Figure 4** depicts the configuration of the post mining WRDs.

Waste will be segregated into potentially-acid generating (PAG), metal leaching (ML) and non-acid generating (NAG) rock types. PAG and ML waste rock will be temporarily stockpiled in strategic locations on the WRDs for relocation into one of the pits as mining is completed.

Groundwater is expected to rebound in each of the pits to pre-mining elevations (Piteau 2022a). PAG material will be submerged in the South Pit below the anticipated ground water level thus reducing the potential acid generation of the waste rock (**Figure 9**). NAG waste rock will be placed over the top of the PAG material. Waste rock segregation criteria and detailed information can be found in the Waste Rock Management Plan (SRK, 2022a).

7.2.1 Main Waste Rock Dump

The Main WRD will be located south of the South Pit. Approximately 13,500,000 tons (SRK 2022a) of blended NAG and blended low-sulfur waste rock will be placed in one of two lobes constructed. The west lobe will be temporary and consist of both NAG with stockpiles of ML and

PAG waste rock, all of which will be relocated to the South Pit at the end of Mining. The remaining east lobe of the Main WRD consisting of blended low-sulfur PAG and NAG will either be relocated to the south pit to encase the highwalls or regraded to slopes of approximately 3H:1V (horizontal:vertical), covered with 12 to 24 inches of growth media, scarified and seeded. Slope diversions will be installed on grade on long regraded slopes to reduce runoff velocity, and erosion of soils.

7.2.2 North Waste Rock Dump

The North WRD will be located east of the North Pit. Approximately 7,800,000 tons (SRK 2022a) of waste rock will be placed on the apex of the ridge. Temporary stockpiles of ore will be located within the North WRD footprint and will either be relocated to the north pit WRD or hauled to Fort Knox for processing. The remaining waste rock will consist of NAG or blended low-sulfur PAG rock and is not expected to generate acid rock drainage (ARD) or leach metals. The North WRD will be regraded to slopes of approximately 3H:1V, covered with covered with 12 to 24 inches of growth media, scarified, and seeded. Slope diversions will be installed on grade on long regraded slopes to reduce runoff velocity, and erosion of soils.

7.2.3 North Pit Waste Rock Dump

The North Pit will be backfilled with approximately 7,300,000 tons of waste rock during mining operations approximately three years after mining activity begins. Approximately 17,000,000 tons (9,600,000 cy) of waste rock (SRK 2022a) previously stockpiled will be placed in the pit above the anticipated ground water surface elevation. NAG waste rock will be backfilled in the bottom of the pit prior to placement of ML waste rock to limit interaction with ground water. The anticipated water surface elevation in the north pit is expected to be approximately 30 ft above the maximum excavated pit floor or an elevation of approximately 2,930 ft amsl. The pit will be backfilled to provide positive drainage to the perimeter to reduce infiltration potential and head over the impervious liner system. The liner system will reduce the potential for oxygen and water infiltration into the waste rock, further reducing metal leaching and ARD potential. A drainage layer (gravel or geogrid) and drainage system (perforated pipes) will be constructed above the impervious liner cover system to improve stability of soils over the impervious layer. Due to the presence of an impervious layer, a minimum of 24 inches of growth media will be placed on the surface and seeded. The depth may increase upon further study and revegetation test plots. Generally woody plants require a minimum depth of growth media to prevent compromise of the impervious layer by root penetration. **Figure 9**, illustrates the proposed liner system and in-pit WRD configuration.

7.2.4 South Pit Waste Rock Dump

Once mining is complete in the South pit, groundwater is expected to rebound to a maximum elevation of 2,960 ft amsl resulting in a water depth approximately 250 above the final pit floor. The South Pit will be backfilled with approximately 5,900,000 tons of previously stockpiled PAG waste rock and 2,000,000 tons of previously NAG waste rock (SRK 2022a). The PAG material will be placed to a maximum elevation of 2955 ft amsl, below the expected ground water rebound

water surface elevation within the pit. Storing PAG waste in a low oxygen environment (under water) will reduce ARD generation potential.

NAG waste rock will be placed over the PAG waste rock within the groundwater fluctuation zone to an elevation of approximately 3,000 ft amsl. The NAG layer will further limit oxygen infiltration into the PAG waste rock. The pit bottom will be covered with 12 to 24 inches of growth media, scarified and seeded.

7.3 Roads

The access road surface will be recontoured as needed to provide for positive drainage, ripped or scarified, covered with growth media (if available) and seeded. In areas where road fill may impound water, the embankment may be removed to facilitate drainage. In addition, any disturbance causing destabilizing of slopes (either soil erosion, spring seeps, or thawing permafrost) adjacent to the road embankment will be filled or stabilized with rock to prevent further degradation of underlying soils to the extent practicable. Efforts will be made to identify any areas of thermal instability as they develop during the exploration project so they can be mitigated as soon as practical in advance of reclamation activities.

Pull-outs along the extent of the roadway and other cleared areas will be recontoured for drainage, ripped or scarified, covered with growth media (if available), and seeded following final equipment removal.

Culverts will be removed and disposed of properly off site. Water courses and flood plains will be re-established. Areas will be recontoured, ripped or scarified and seeded as necessary following removal of all conveyance structures.

All geotextile fabric exposed during reclamation grading will be excavated back two feet from the surface, cut and disposed of at an approved landfill location.

Cut and fill slopes will be reduced to 2H:1V (or flatter) placing fill material on the road surface to fill in cut slopes. Berms and any water diverting structures and ditches will be removed to re-established existing drainage patterns. A single lane access road will remain along the alignment of the Manh Choh Project for monitoring and maintenance activities. The financial assurance assumes the entire roadway is reclaimed.

7.4 Stockpiles

Stockpiles required for the project are temporary and will be reclaimed or removed once mining has ceased. Stockpiles consist of temporary storage of waste rock for future relocation to one of the in-pit WRD, ore stockpiles, or overburden (growth media) stockpiles. The sections below detail reclamation for each of the stockpiles.

7.4.1 Ore Stockpiles

Ore stockpiles are located on the North WRD, these stockpiles are temporary and dynamic throughout the life of the mine. Once mining is complete, any remaining ore will be hauled to Fort Knox Mine for processing. Any remaining or residual ore will be placed in either the North Pit or South Pit WRD depending on material type (PAG or ML). The footprint of the stockpile will be covered with 12 to 24 inches of growth media, scarified and seeded.

7.4.2 Overburden Stockpile

Both overburden stockpiles contain all spoil material stripped during development of the mine site area. All organic stripped for the construction of the WRDs and development of the pits will be stockpiled for cover application during reclamation. All material will be removed and placed on appropriate facilities. The footprint of the stockpile will be scarified and seeded.

7.4.3 Marginal Ore Stockpile

Material stored in the Marginal Ore Stockpile will either be hauled to Fort Knox during operation for processing, or rehandled and placed in the North Pit WRD. The footprint of the stockpile will be covered with 12 to 24 inches of growth media, scarified and seeded.

7.4.4 Dry Waste Rock Stockpile

The dry waste rock stockpile is located on the Main Waste Rock dump. This material consists of waste rock that is mostly metal leaching (ML) and some PAG. The waste will be relocated to the North Pit once mining is complete in the North Pit.

7.4.5 Wet Waste Rock Stockpile

The wet waste rock stockpile consists of potentially acid generating (PAG) waste rock. This waste rock will be temporarily stockpiled on the Main WRD and relocated to the South pit once mining is complete.

7.5 Material Borrow Sites

Six material sites will be developed to construct roads, pads and other infrastructure requiring structural fill. The development of each material site is not well defined, but anticipated footprints for each material borrow site has been illustrated on **Figure 3**. Once the material sites are no longer required as a source for construction materials, reclamation will be conducted. During development, growth media and organics will be stripped and stockpiled around the perimeter of the proposed development footprint. Reclamation for each of the material sites includes, grading to promote drainage, replacing stripped growth and organics, scarifying and seeding.

7.6 Mine Support Infrastructure

Laydown yards, building facilities and other infrastructure footprints will be regraded and reclaimed at the end of mining. All yards/pads will be designed to promote positive drainage, and once no longer needed to support operations, they will be recontoured to blend into the surrounding areas,

capped with up to 12-inches of growth media, scarified and seeded. Erosion and sediment control structures such as temporary diversion channels and sediment collection ponds will be breached, regraded, scarified and seeded once all upstream surfaces have been stabilized with vegetation.

7.6.1 Ore Loadout Area and Water Treatment Pad

The loadout facility consists primarily of a gravel pad that allows for the mine trucks to dump the ore onto a lined stockpile pad for transfer into the highway ore hauling trucks. At a minimum it is anticipated that there will be a scale/scale house for weighing the loaded highway ore trucks and room for at least six highway ore haul trucks to park. There will also be a mining area laydown pad with room for four mine trucks to park, conexes and parts laydown and a washroom module or trailer. The water treatment plant/storage/operation will be located at the east of the Ore Loadout pad.

The conceptual design of the Ore Loadout Area and the Water Treatment Pad is depicted on **Figure 10**. All facilities will be salvaged or demolished and disposed off-site in an approved location. All lined facilities including water treatment storage pond will be decommissioned, liners removed, and impacted soils will be disposed of properly. The gravel pad will be regraded to promote drainage as needed, up to 12" of growth media will be placed, scarified and seeded.

7.6.2 Mine Infrastructure and Explosive Storage Pad

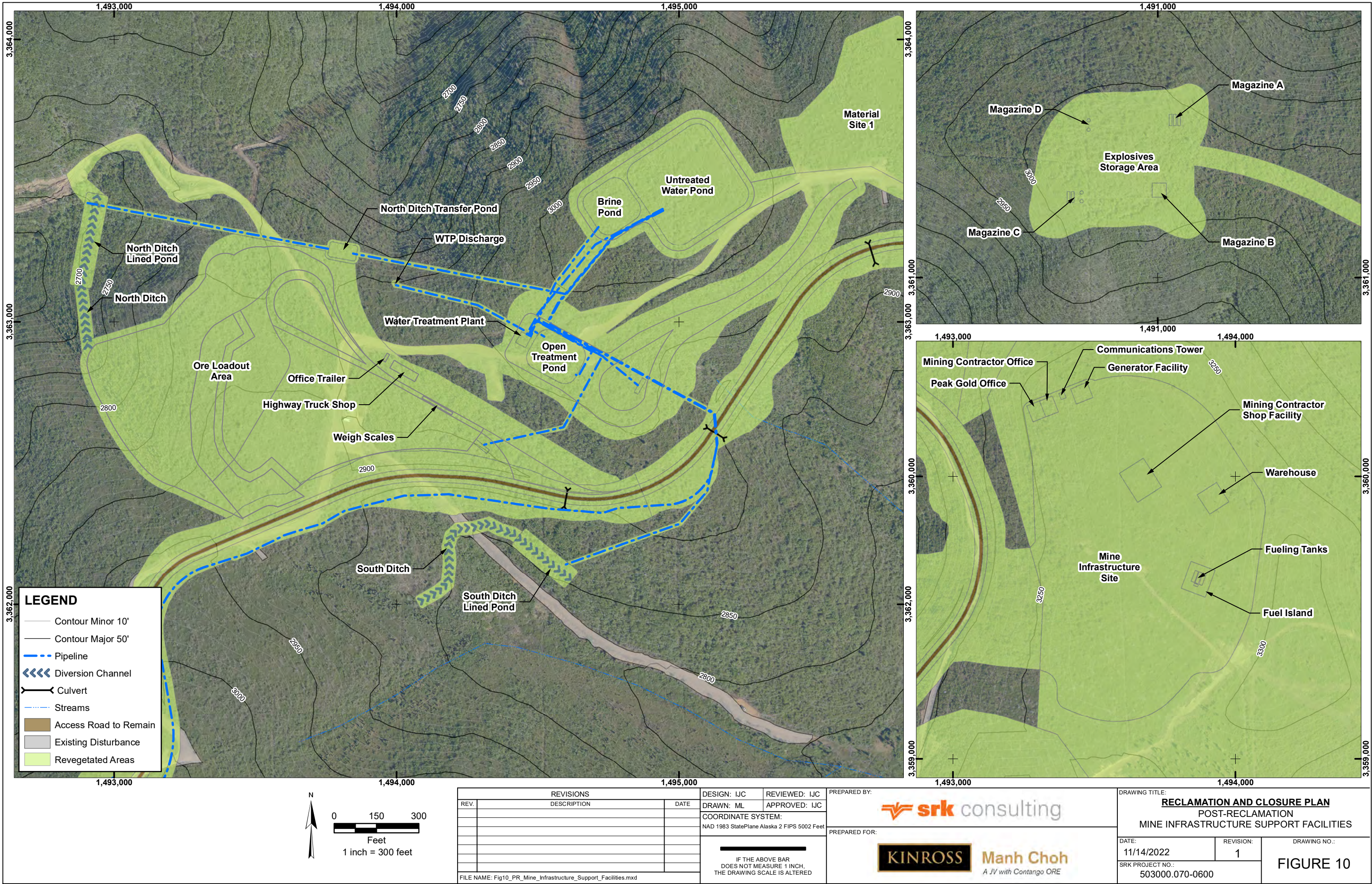
The mine infrastructure pad is a gravel pad constructed to provide a location for support infrastructure including parking for maintenance and mine trucks, mine drills, and support equipment. The warehouse, Kinross and Mining Contractor offices and Mining Contractor Shop Facility are all enclosed in one large fabric/frame structure. Also consider a Fuelling Station, Fueling Tank, Communication Tower and a Generator Facility. **Figure 10** depicts the mine infrastructure area after reclamation.

Berms separate the access and mine operations area from the maintenance area. The operations area includes the mine generators, communications tower, the mining contractor's admin/office building, the Kinross admin/office building, crew bus parking.

Berms also separate the third area, the mine fueling area consisting of three 20,000-gallon diesel fuel tanks and associated fueling points inside of a lined containment area.

All infrastructure, equipment and structures will be salvaged or demolished and disposed of in an approved off-site location. The gravel pad will be regraded to promote drainage as needed, up to 12-inches of growth media will be placed, scarified, and seeded. All lined facilities and fuel containment areas will be decommissioned, liners removed, and impacted soils will be disposed of properly.

The explosives pad provides the required separation and working area around/between the four magazines. The gravel pad will be regraded to promote drainage as needed, up to 12-inches of growth media will be placed, scarified and seeded.



7.7 Structures and Buildings

Support infrastructure (buildings) will all be temporary tent type structures. Some will have concrete pads, but most will be constructed on temporary foundations or have gravel interior flooring. All structures, foundations, fuel tanks, lined ponds, and any other equipment will be removed from the project area, salvaged, or retained by Tetlin, or disposed of in an off-site approved landfill. The construction detail for buildings is not available currently, and exact specifications are unknown until the building designs and selections are complete. The buildings and facilities shown in the figures above represent anticipated basic needs to support the operation. Actual dimensions and structure type may vary upon construction. Once facilities are constructed, an updated structure list and demolition estimate will be provided if requested. The FA model includes the following structures with approximate construction parameters and specifications:

1. Security office trailer
2. Diesel storage tanks (pad only) - 3 x 20,000 gallon tanks
3. Truck weigh scale (1)
4. Warehousing
5. Highway Haul - maintenance/thaw shed
6. Admin Building
7. Offices (4 modular units for mining, maintenance, and technical staff)
8. Lineout / Training Room (3 units for mining staff)
9. Power Generation equipment - 1MW
10. Truck shop / wash bay
11. Drill Maintenance Shop
12. Reverse Osmosis Water Treatment Plant
13. Communications Tower
14. 4 Magazines storage areas (2 conex)
15. 4 Magazines storage areas (warm tent 4 bay)
16. 4 Magazines storage areas (2 conex)
17. 4 Magazines storage areas (silos)
18. Security entrance/building.
19. Misc. Covered Storage
20. Power generators
21. Temporary - Contractor Maintenance Shop (construction laydown yard)

7.8 Mine Water Management

7.8.1 Water management during closure

The Water Management Plan (Piteau 2022a) details water management for the project. The following is a summary of water management activities related to closure of the project, and a schematic layout of the facility can be found on **Figure 10**.

The perimeter collection trench constructed for operations will be retained during early closure to continue collection of contact water. It will be progressively reclaimed after the waste rock is covered and the amount of contact water is reduced. Water quality from surface runoff will be monitored and once surface runoff meets ADEC standards and the upstream slopes are vegetated and stable, the perimeter collection trench will be reclaimed.

The pre-mining drainage patterns will progressively be re-established with recontouring of slopes allowing runoff to resume flow into natural drainages.

Both pits will be backfilled with geochemically reactive waste rock to minimize mobilization of constituents and potential changes in downgradient water quality.

The goal for mine closure is to keep potentially ML waste rock in North Pit dry and to keep PAG waste rock in South Pit submerged. Backfilling the pits serves to partially encapsulate the waste rock while limiting potential for seepage of impacted water emerging at surface.

NAG waste rock will be backfilled in the North Pit below the predicted post closure water table (2,930 ft amsl) plus an additional 10-foot buffer to provide for the fluctuation of seasonal water table and prevent contact of ML waste rock with water. Material placed above the NAG waste rock will consist of potentially ML material which will be backfilled above the rim of the pit such that surface water will be directed to the perimeter of the backfilled pit. The North Pit WRD will be graded to encourage runoff during snowmelt and precipitation events and encourage snow accumulation on leeward slopes downslope to limit infiltration into the cover. An impervious cover system (yet to be designed) will consist of either an amended soil layer, or geomembrane to reduce infiltration. A minimum of 24 inches of growth media will be placed above the impervious liner to further reduce infiltration and provide an environment for vegetation and ultimately stabilization of surficial soils. Swales will be graded onto side slopes to encourage accumulation of surface runoff towards the perimeter and natural drainages. Lower reaches of these swales may be lined (in the absence of geomembrane type liner) below soil cover to further limit infiltration of concentrated water.

Post-closure water levels in South Pit are predicted to recover to 2,960 ft amsl, such that potentially acid generating backfill will be naturally submerged. South pit will only be partially filled creating a closed basin to provide storage of water and waste. Partial filling will limit rehandling of some waste rock while eliminating potential for the formation of a pit lake. NAG waste rock will be placed around the perimeter of the pit to reduce interaction of the environment with the face of the highwall, reduce visual impacts and provide a stabilized slope for revegetation.

7.8.2 Post-Closure Water Quality

Mass transport model simulations indicate that dissolved constituents that could percolate from the South Pit backfill will undergo downgradient mixing with other groundwater local to the pit. Concentrations of non-conservative constituents such as arsenic will reduce along the groundwater flow paths due to sorption and other natural attenuation processes identified in baseline water quality data. The model indicates that virtually all parameters in the downgradient headwaters will be below the ADEC standards. Manganese could exceed its guideline value in the Hillside Creek headwaters after 180 years during dry months when creek flows are fed by minor groundwater discharge, but much of this is likely to be lost to evapotranspiration around the margins of the creek during the summer months. Since groundwater flows at the headwaters make up a very small proportion (2%) of annual stream flows, significant changes in water quality are unlikely to be detectable in streams, except possibly in late summer when less runoff is available for mixing. (Piteau 2022b)

8 Monitoring

Once physical reclamation has begun, temporary diversions and sedimentation control systems will be monitored on a routine basis (weekly when weather conditions allow) by Peak Gold personnel. These systems will be cleaned, repaired, and modified as necessary.

Long-term or permanent diversions, berms, and signage will be monitored and maintained as needed until the reclamation bond has been released.

Success of reclamation would be monitored in two ways:

- Physical reclamation such as earthwork and growth media application would be checked for excess erosion problems periodically and immediately following major rain events. Remedial action to correct instability will be taken as soon as feasible following detection of substantial erosion or loss of growth media until revegetation is acceptable and bond has been released.
- Vegetation success will be monitored qualitatively by visual inspection on an ongoing basis by Peak Gold and ADNR personnel, and quantitatively once per year. A consulting professional will conduct quantitative analysis at the end of the growing season (end of August).

ADNR, ADF&G, and Peak Gold will determine performance criteria for vegetation success. Presently, revegetation cover criterion is outlined in **Section 6.9**. Peak Gold may seek release of the reclamation surety on a facility-by-facility basis (as per 11 AAC 97.435) as quantitative data indicate the established criteria have been met.

Site-wide monitoring systems would remain in place until Peak Gold demonstrates to ADNR and/or ADEC that they are no longer necessary. Details of reclamation and closure monitoring for the open pit, TSF, WRF, surface water, and groundwater are provided in the Manh Choh Monitoring Plan (Piteau 2022b)

8.1 Monitoring Schedule

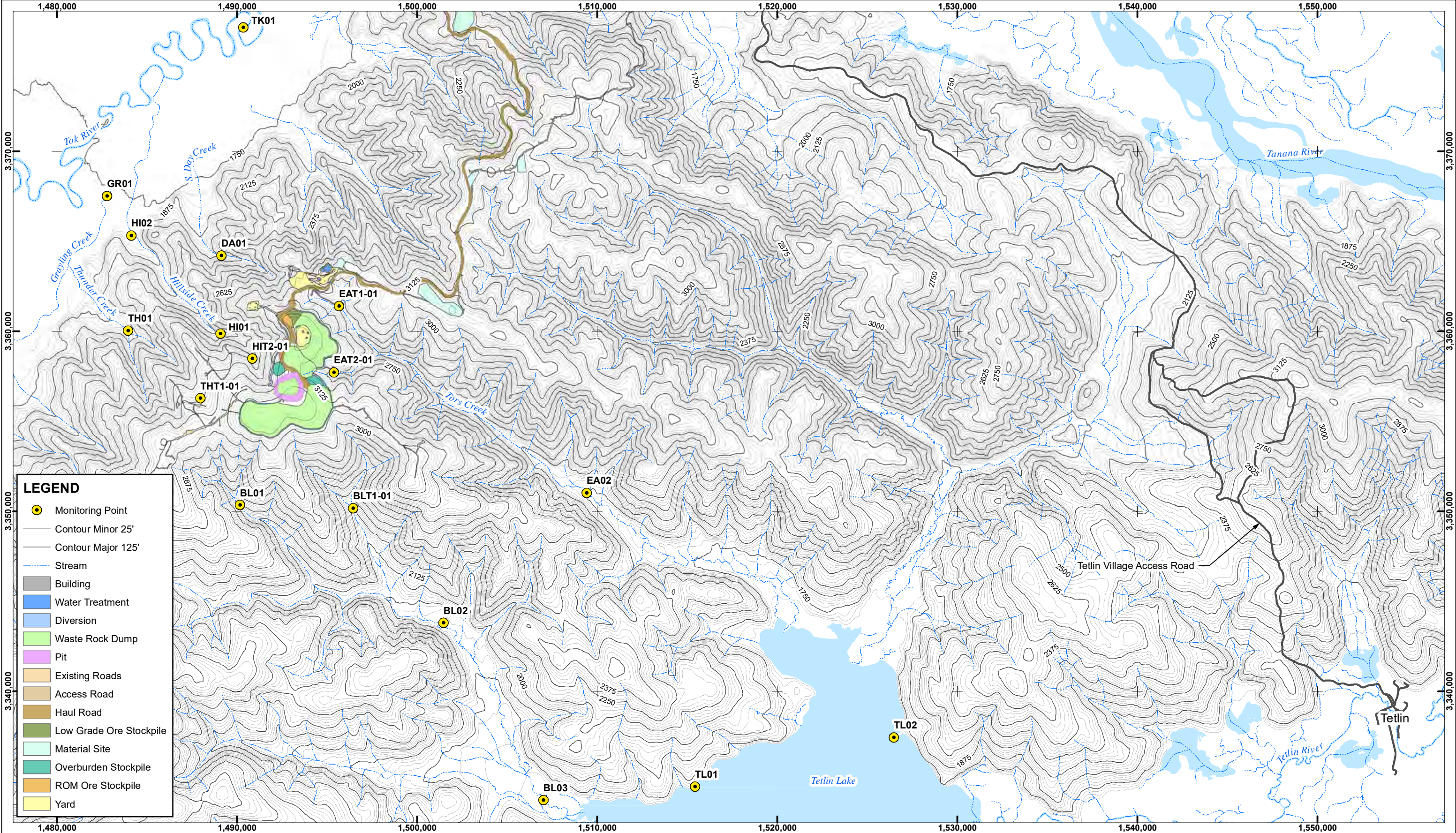
Monitoring for the Manh Choh Project site will be done at intervals stated in the Monitoring Plan (Peak Gold, 2021c). Monitoring for the Project will include:

- A. Water quality sampling procedures and analytical profiles and sampling schedules;
- B. Characterization of acid rock drainage;
- C. Potable water monitoring requirements;
- D. Wildlife mortality reporting procedures;
- E. Documentation, record keeping and reporting requirements; and
- F. Quality assurance/quality control manual.






The closure monitoring plan will include water quality sampling, water level measurements, and observations of the success of revegetation. The frequency of sampling events will be adjusted as appropriate between the reclamation and closure, and post-closure phases based on observed improvements in water quality. **Table 8.1** summarizes the monitoring program for water during operations and estimated during reclamation and post-reclamation periods. Monitoring points are shown on **Figure 11**.

Table 8.1: Monitoring Point Interval

				Frequency		
Monitoring Point	Number of Sites/wells	Parameter	Constituent Analysis	Reclamation YR1-2	Post-Rec. YR3-4	Post-Rec. YR5+
Monitoring Well	7	Indicator	Profile 3	Quarterly	Semi-annual	Annual
Surface Water	17	Indicator	Profile 2	Quarterly	Semi-annual	Annual
Ground Water Level	7	Depth	N/A	Quarterly	Semi-annual	Annual



0 2500 5000
Feet
1 inch = 5,000 feet

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REV.	DESCRIPTION	DATE	DRAWN: ML	APPROVED: IJC			RECLAMATION AND CLOSURE PLAN	
			COORDINATE SYSTEM:				MANH CHOI MONITORING POINTS	
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FILE NAME: Fig11_PM_Monitoring_Points.mxd					PREPARED FOR:		REVISION:	DRAWING NO.:
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							FIGURE 11	
							SRK PROJECT NO.: 503000.070-0100	

8.2 Water Monitoring

Monitoring wells with piezometers will be constructed in the backfill as it is placed in both pits to allow monitoring of water levels and comparison to model predictions, and to facilitate accelerated filling of South Pit. Additional groundwater monitoring wells will be installed at compliance points determined by the water management plan, close to the downgradient stream headwaters to assess groundwater chemistry and confirm groundwater model predictions.

Retention ditches and sumps will continue to be sampled to assess the improving quality of the runoff water as reclamation proceeds and to develop criteria for eventual release of runoff from the site. Monitoring of the stations in Hillside Creek, Tors Creek, Tok River and Tetlin Lake will be continued until confidence is achieved in the post-closure solute transport model predictions and the data confirm that long-term downgradient impacts will be as predicted (Piteau, 2022c). Monitoring locations are shown on **Figure 11** and detailed in the Monitoring Plan (Peak Gold, 2021c).

8.3 Post Reclamation Maintenance

Once physical reclamation has started, temporary diversions and sedimentation control systems will be monitored on a routine basis by Peak Gold personnel. These systems will be cleaned, repaired, and altered as necessary. Long term or permanent diversions and the signage will be monitored and maintained as needed until the FA is released.

Success of reclamation will be monitored by visual observation to identify erosion problems. Remedial action to correct instability will be taken as soon as feasible following detection of substantial erosion or loss of growth media. Vegetation success will be monitored qualitatively by visual inspection on an on-going basis by Peak Gold and ADNR personnel. When warranted, quantitative data will be collected. Quantitative analyses will be conducted late in the growing season (August).

9 Reclamation and Closure Cost Estimate

11 AAC 97.400 requires a Miner post a, corporate surety bond, personal bond accompanied by a line of credit, a certificate of deposit, or cash/gold.

AS 27.19.040(a) states: The commissioner shall require an individual financial assurance in an amount not to exceed an amount reasonably necessary to ensure the faithful performance of the requirements of the approved reclamation plan. The commissioner shall establish the amount of the financial assurance to reflect the reasonable and probable costs of reclamation.

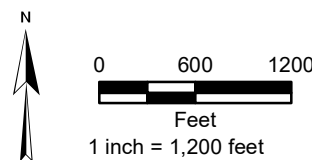
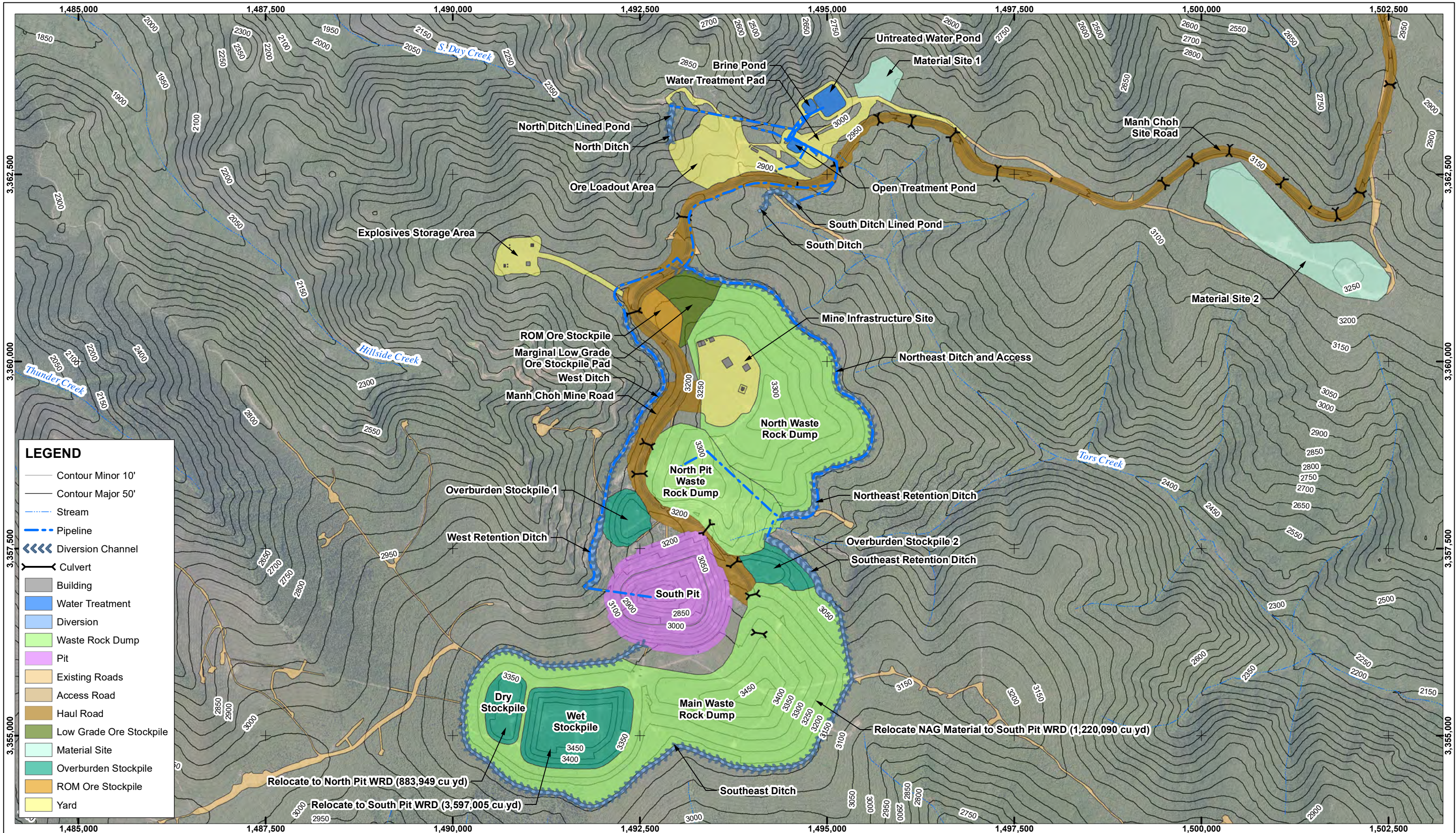
Like temporary closure noted above, if the mine should close prematurely due to unforeseen circumstances (operating costs, gold price, weather, etc.), closure practices and procedures would be implemented. Procedures for the reclamation of each facility are described in Section 6. In the event of a premature closure scenario, each facility would be reclaimed in the same manner described, however the reclaimed configuration would be slightly different than the life of mine (LOM) scenario due to varying stages of maturity of individual facilities

9.1 Premature Closure

The RCP is assumed to be renewed and updated every 5-years, A review of the Life of Mine Plan within the 5-year cycle identified the largest probable liability in year 2027. This largest liability is defined as the Premature Closure Scenario. In accordance with AS 27.19.040(a), an estimate for probable costs were developed based on this scenario. The FA calculation assumes a premature closure scenario occurring at the completion of mining of the South Pit in 2027, but prior to backfilling the South Pit. The bulk of the North Pit will be backfilled during operations, but all remaining LOM closure liabilities will exist. The Premature scenario requires relocation of both wet and dry stockpiled material located on the Main WRD as well as backfilling the South Pit with additional NAG fill as needed to satisfy the LOM closure design. Approximately 5,900,000 tons of PAG (wet) waste rock and 2,000,000 tons of NAG waste rock must be relocated to the South Pit.

The South Pit will be backfilled to prevent ponding of water, and the floor of the pit will be covered with 12 to 24 inches of growth media and revegetated. **Figure 12** illustrates the mine configuration in mid-year 2027. **Figure 13** represents the proposed reclamation of the Closure Scenarios (Premature and LOM), and **Figure 14** details the pit backfill sequence.

In summary, throughout the life of mine sequence, capacity to store both the ML and PAG stockpiles exist in either the North or South pits at any point in the mine life sequence. No additional changes to the reclamation plan are required for closing the mine in a premature closure scenario, nor will the planned configuration change.



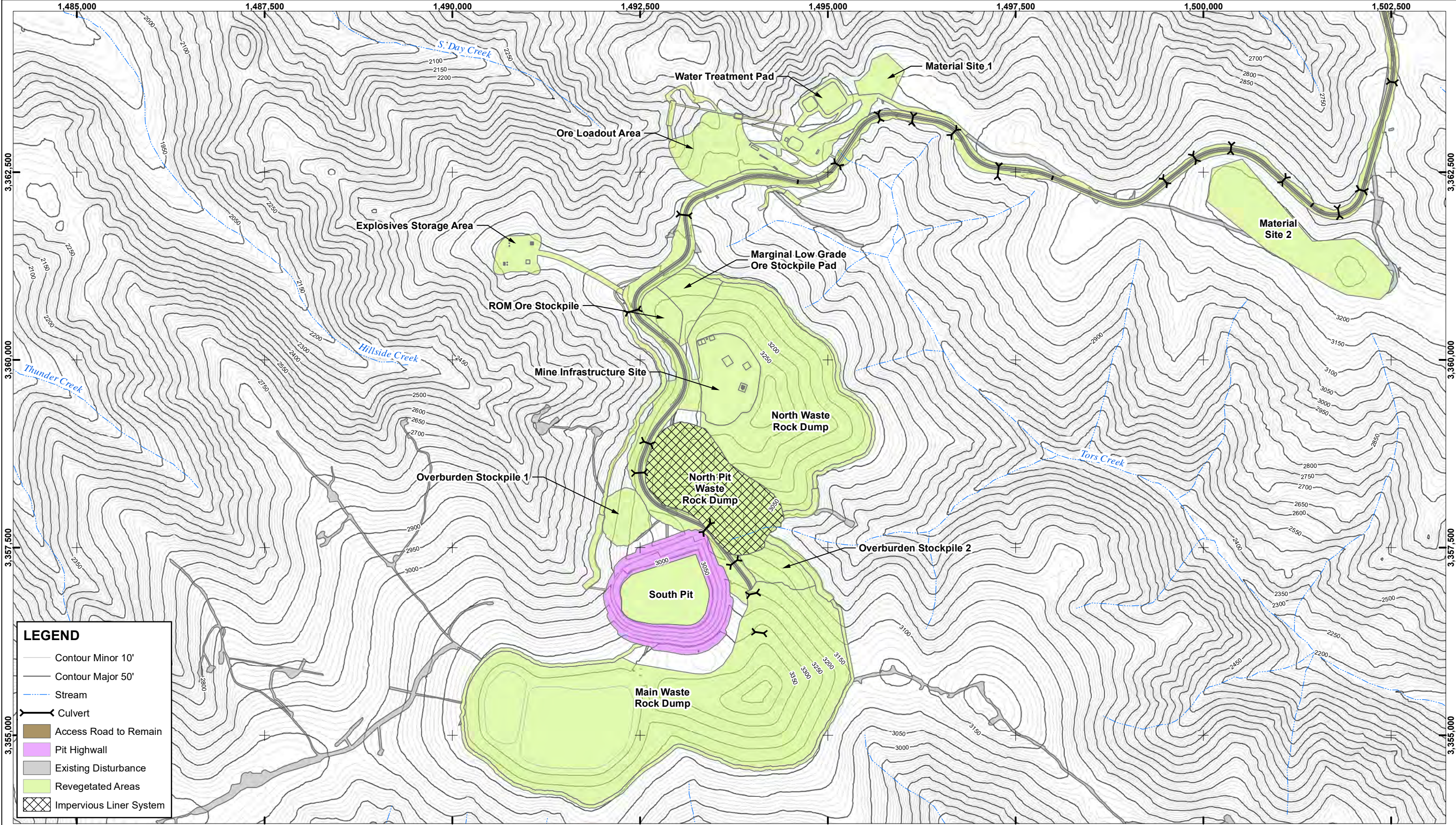
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DRAWN: ML	APPROVED: IJC
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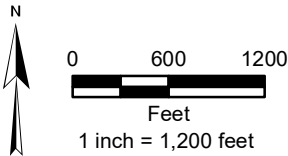
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 Manh Choh
A JV with Contango ORE

DRAWING TITLE: RECLAMATION AND CLOSURE PLAN PREMATURE CLOSURE PLAN		
DATE: 12/23/2022	REVISION: 1	DRAWING NO.: FIGURE 12
SRK PROJECT NO.: 503000.070-0100		



LEGEND

- Contour Minor 10'
- Contour Major 50'
- Stream
- Culvert
- Access Road to Remain
- Pit Highwall
- Existing Disturbance
- Revegetated Areas
- Impervious Liner System



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FILE NAME: Fig13_PC_Mine_Area_Reclamation.mxd

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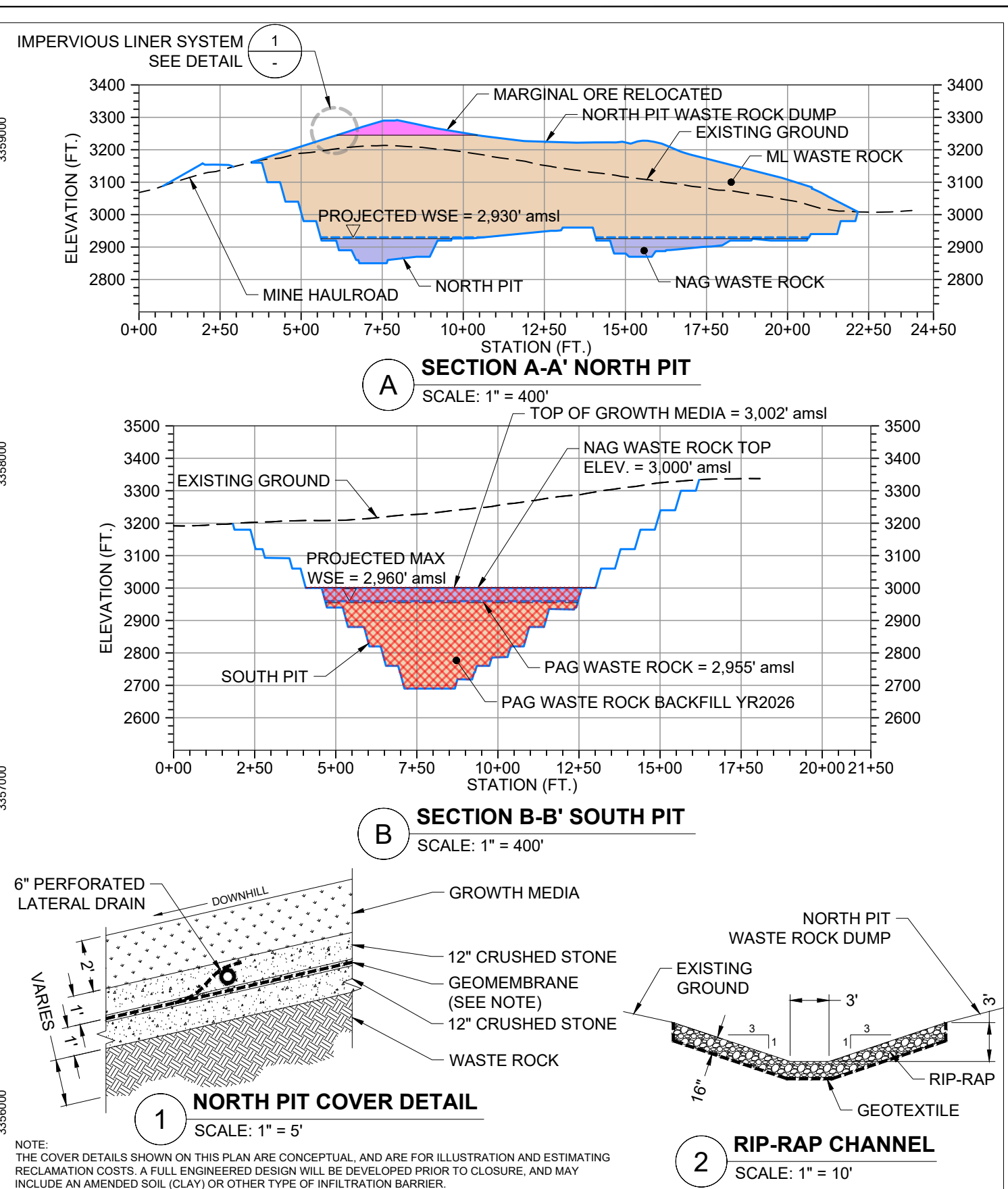
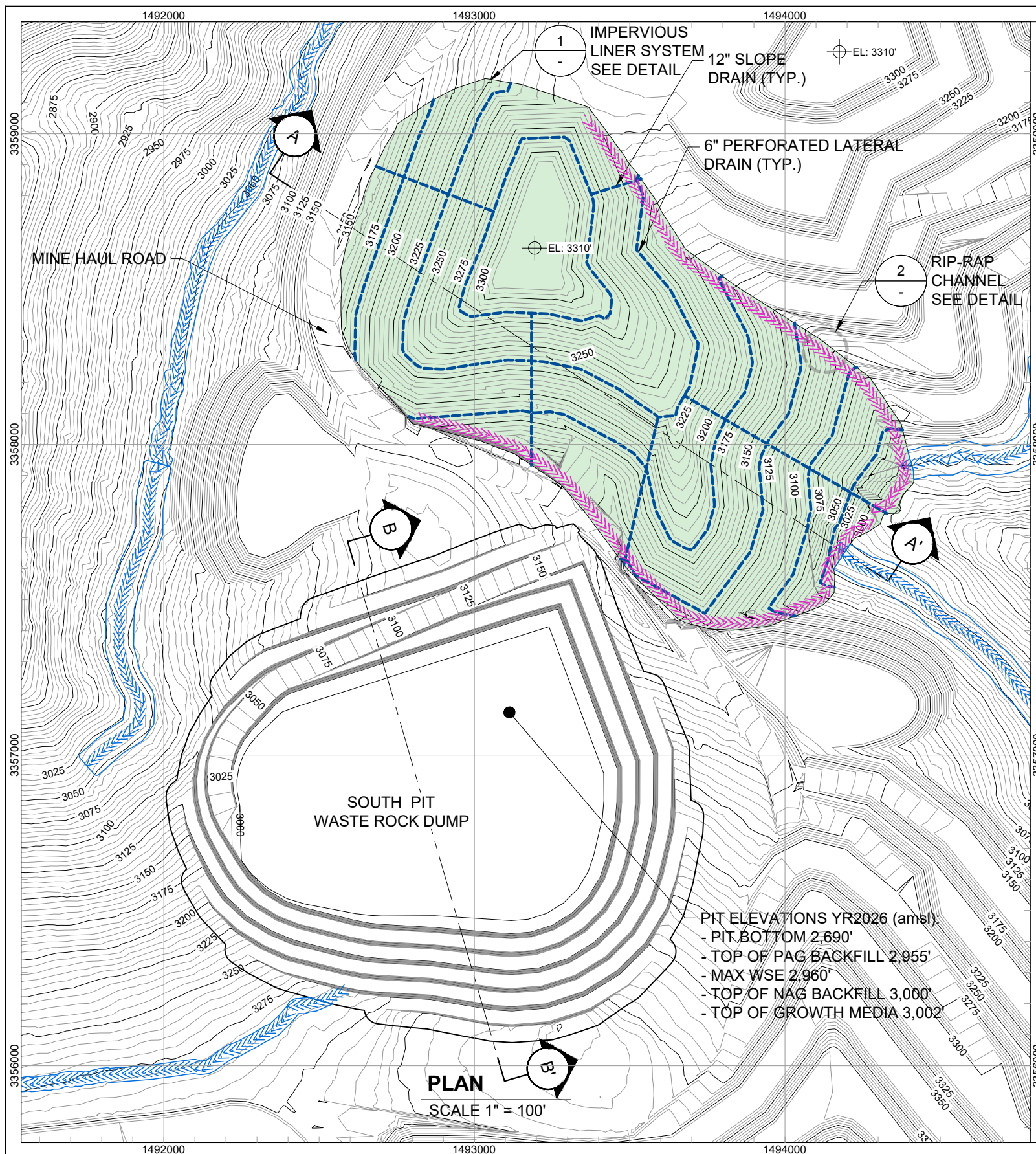
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RECLAMATION AND CLOSURE PLAN
PREMATURE CLOSURE RECLAMATION

DATE: 11/14/2022	REVISION: 1	DRAWING NO.: FIGURE 13
SRK PROJECT NO.: 503000.070-0100		



REVISIONS			DESIGN: IJC	REVIEWED: IJC	PREPARED BY: <div></div>	DRAWING TITLE: <div>RECLAMATION AND CLOSURE PLAN PREMATURE CLOSURE PITS PLAN AND SECTIONS</div>		
REV.	DESCRIPTION	DATE	DRAWN: ML	APPROVED: IJC				
			COORDINATE SYSTEM: NAD 1983 State Plane Alaska 2 FIPS 5002 Feet		PROJECT: <div><div></div><div>Manh Choh A JV with Contango ORE</div></div>	DATE: 11/14/2022	REVISION: 1	DRAWING NO.: FIGURE 14
			<div><div></div><div>IF THE ABOVE BAR DOES NOT MEASURE 1 INCH, THE DRAWING SCALE IS ALTERED</div></div>					
FILE NAME: Fig14_PC_Pit(s)_Plan_and_Sections_PC.dwg						SRK PROJECT NO.: 503000.070-0600		

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9.2 Reclamation Cost Estimate

The total estimated cost to reclaim the Manh Choh Project is estimated at as noted in **Table 9.1** based on the Premature Closure Scenario (**Figure 12** and **Figure 13**) at end of year 2027. The cashflows for post closure years are undiscounted. Peak Gold reviewed the Life of Mine Plan and determined the largest liability is estimated to be end of year 2027, due to the volume of rehandle waste requiring relocation into the pit WRDs, and no concurrent reclamation activities performed. As mining activities continue following year 2027 and throughout the LOM plan, ML stockpiled quantities will decrease, and ML waste will be relocated to the North Pit WRD during the final year of operation. As closure activities are executed during operation and the North Pit WRD matures towards its final designed closure form, liabilities will be reduced; consequently, as the facilities mature, the cost of reclamation will decrease.

Table 9.1 provides a summary of activity costs from the SRCE model. As the planned closure period approaches the liabilities for some facilities will be reduced substantially. A detailed FA model can be found in **Appendix A**.

Table 9.1: Reclamation Estimate

Facility	Reclamation Cost \$
Waste Rock Dumps	3,629,647
North Pit Liner Cover	9,148,031
Solution Management	196,067
Pits	36,477
Yards	884,584
Roads	618,369
Borrow Area	615,764
Buildings	558,221
Other Demo	180,898
Sediment and Drainage Control	750,391
Monitoring	933,105
Road Maintenance	478,792
Well Abandonment	294,630
Construction Management and OH	3,205,331
Mobilization-demobilization	611,760
Human Resources	7,133,963
North Pit Rehandle (dry WR)	1,977,442
South Pit Backfill	12,659,646
Solid Waste Disposal	828,127
Reclamation Maintenance	620,435
Subtotal	45,361,680
Engineering, Design and Construction Plan	1,814,467
Contingency	6,804,252
Contractor OH and Profit	6,804,252
Contract Administration	2,721,701
TOTAL COST	63,506,352

From SRCE Model

Direct costs were calculated using quotes from local contractors, RS Means tables, and Alaska Department of Labor Pamphlet 600 wage rates. Equipment costs are based on third-party rental rates. These estimates include contractor profit and overhead, mobilization and demobilization fees, and contingencies. We will account for inflation by increasing our FA by the CPI-U for Anchorage of the previous year.

Peak Gold will reclaim affected land as contemporaneously as practicable. The plan and cost estimate provide the ADNR, ADEC and Peak Gold an opportunity to review and, if necessary, modify the reclamation plan as required.

Under the provisions of 11 AAC 97.0320.(a), Peak Gold will file an Annual Activity Report that includes the volume of material mined in that year, the total acreage reclaimed in that year, and a statement as to whether the reclamation plan is on schedule.

Reclamation plans typically are updated to account for the additional disturbance planned to occur during the next five years. **Section 9.1** identifies the Premature Closure configuration and how it differs from the Life of Mine closure sequence. Reclamation activities are consistent between both the Life of Mine and Premature closure scenario, completion progress of various facilities differs. The cost estimates provided represent the Premature Closure scenario and the largest financial liability of proposed activity throughout the remainder of the Life of Mine plan. As mining advances liabilities will be reduced by completing reclamation obligations outlined above. In the case that obligations are deferred to a later time, the FA will be recalculated to account for changes and bonding adjusted accordingly. As permitted under 11 AAC 97.400 (3), the reclamation estimate, and FA amount can be adjusted each year, or be adjusted as needed within the five-year permit cycle. A review and update of the FA should be provided for each significant change in the Plan of Operations.

Since the various facilities such as the pits, the waste rock dumps, and the access roads different reclamation requirements, successful reclamation will be achieved much more rapidly for some facilities than others. Peak Gold will seek surety release as successful reclamation is completed as required in 11 AAC 97.435. In no event will the release of FA requested reduce the FA amount to less than the estimated cost of completing reclamation and closure responsibilities.

This report, Manh Choh Reclamation and Closure Plan, was:

Prepared by

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Ivan Clark, P.E.

Principal Consultant

Reviewed by

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Jeff Parsley

Principal Consultant

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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The opinions expressed in this document have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. While SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

10 Acknowledgements

- A. It is understood that should the nature of the operation change, a modified or supplemental Plan of Operations and Reclamation and Closure Plan may be required.
- B. It is understood that approval of this reclamation plan does not constitute:
 - Certification of ownership to any person named herein; and
 - Recognition of the validity of any mining claim herein.
- C. It is understood that a Final Assurance (FA) equivalent to the estimated cost of performing the agreed upon reclamation measures will be required before this plan can be approved. FA and any FA reduction amounts will be set on a site-specific basis by ADNR in coordination with the cooperating agencies.
- D. It is understood that any information provided with this plan or provided in the future, that is marked Confidential will be treated as such by the agency in accordance with that agency's laws, rules and regulations.
- E. Peak Gold will fund the required Environmental Audit to determine if any environmental liabilities exist as a direct or indirect result of the Manh Choh Project.

Peak Gold, LLC. has reviewed and agrees to comply with all conditions in the plan of reclamation. Peak Gold, LLC. understands that the bond will not be released until ADNR gives written approval of the reclamation work.

Peak Gold, LLC.

By: Bartly Kleven

Title: Director of Environmental Affairs

Signature: Bartly Kleven

Date: January 5, 2023

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Appendix A – Basis of Estimation



Manh Choh

A JV with Contango ORE

Manh Choh Project Reclamation Plan Basis of Estimate Revision 1

Prepared for

Peak Gold, LLC.



Prepared by



SRK Consulting (U.S.), Inc.
503000.070
January 2023

Manh Choh Project Reclamation Plan Basis of Estimate Revision 1

January 2023

Prepared for

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1 Introduction and Scope of Report

SRK Consulting (U.S.) Inc. (SRK) has been retained by Peak Gold, LLC (Peak Gold) to compile cost for the largest probable financial liability (e.g. pre-mature closure scenario) cost estimate for the Manh Choh Project using Standardized Reclamation Cost Estimator (SRCE) Version 2.0. The below headings describe the estimation approach and source of data and costs as well as the assumptions for premature closure in how they may differ from the approach for the life of mine (LOM) for certain facilities. Refer to the provided SRCE cost model (Microsoft Excel Spreadsheet) for the estimate and Attachment A for figures documenting the model input.

This report is intended to accompany the Reclamation and Closure Plan (RCP) for the Manh Choh Project (SRK 2023). Details for design, and reclamation practices are included in the RCP which are integral to estimating the Financial Assurance (FA). In addition, the total cost is for the Premature Closure Scenario as described below.

1.1 Premature Closure

The FA calculation assumes a premature closure scenario occurring at the completion of mining of the South Pit in mid-year 2027, but prior to backfilling the South Pit. The bulk of the North Pit will be backfilled during operations, and all remaining LOM closure liabilities will exist. The Premature scenario requires relocation of both wet and dry stockpiled material on the Main WRD as well as backfilling the South Pit with additional NAG fill as needed to satisfy the LOM closure design. Approximately 5,900,000 tons of PAG (wet) waste rock and 2,000,000 tons of NAG waste rock must be relocated to the South Pit.

The South Pit will be backfilled to prevent ponding of water, and the floor of the pit will be covered with 12 to 24 inches of growth media and revegetated. **Figure 13** (SRK 2023) illustrates the mine configuration in mid-year 2027. **Figure 14** (SRK 2023) represents the proposed reclamation of the Closure Scenarios (Premature and LOM), and **Figure 15** (SRK 2023) details the pit backfill sequence. Reclamation and Closure Plan (RCP) for the Manh Choh Project (SRK 2023).

In summary, throughout the life of mine sequence, capacity to store both the ML and PAG stockpiles exist in either the North or South pits at any point in the mine life sequence. No additional changes to the reclamation plan are required for closing the mine in a premature closure scenario, nor will the planned configuration change.

2 Reclamation and Closure Actions and Estimate

2.1 Pits

Both the North and South Pits will be backfilled at the end of mining or soon thereafter. The North Pit includes an impervious liner cover system, yet to be designed. At this time the FA assumes a 40mil LLDEP liner, with 12 inches of underliner and 12 inches of drain rock will be placed under/over an impervious liner. A drainpipe network is included as part of the liner system. SRCE does not have a specific module dedicated to construction of cover liner, however SRCE includes the construction of a lined evapo-transpiration (ET) cell or pond with discharge lines. The

construction of an impervious cover liner mirrors the construction of an ET pond, and estimated construction costs would be similar. The construction costs for the cover liner system are calculated in the Process Ponds module and include the over/under liner, the liner and drain network. The remaining cover material (growth media) is calculated in the Waste Rock Dumps module, and haulage of the wet and dry stockpiles to the north pit, and waste rock relocated to the South Pit is included in the Haul Materials module. Relevant pit information is shown on **Figure 1**.

Relevant SRCE Sheet(s): Waste Rock Dumps, Haul Material and Process Ponds

2.2 Waste Rock Dumps

The Manh Choh Project includes four waste rock dumps: North WRD, North Pit WRD, South Pit WRD, and Main WRD. Reclamation of the waste rock dumps will consist of regrading lift slopes to 3H:1V and placing growth media to promote successful revegetation. For the purposes of this estimate, the thickness of growth media is 24 inches.

When final sloping, contouring, and growth media placement have been completed, waste rock dumps will be ripped along the contour to reduce the erosion potential. This will be followed by revegetation (seeding and fertilization). SRCE inputs consist of mid-bench lengths for each lift, lift height, approximate ripping distance, and final (reggraded) lift area to estimate regrading volumes and final revegetation area. Growth media and waste rock haul distances are documented on **Figure 2**.

The PMC scenario and the LOM both include rehandling of metal leaching (ML) and potentially acid generating (PAG) waste rock to one of the pits. Volumes of stockpiled material and haul distances are shown on **Figure 2**

The final configuration of the North Pit WRD includes an engineered cover system with a low permeability barrier (e.g. geomembrane, geosynthetic or amended soils) and a drainage layer. An impervious cover barrier system has not been selected or engineered; however a concept design has been included and is assumed to 40mil HDPE liner, over 12 inches of underliner/cushion and 12 inches of drain rock with a drainage pipe network. Experience with impervious liner systems suggest that the costs for various types of cover systems are similar. The FA estimate and RCP will be updated once a final cover system has been selected and designed.

Relevant SRCE Sheet(s): Waste Rock Dumps; Haul Material and Process Ponds.

2.3 Roads

All roads will be reclaimed with exception of a single lane access road, assumed to be within the footprint of the main haul road. Costs include regrading scarification and seeding. Its assumed that growth media will be stripped and stockpiled adjacent to the roadway during construction and will be replaced during reclamation. Cost of placement is incidental to regrading the roadways. **Figure 3** details the lengths of the roadways to be reclaimed.

This estimate also includes removal of culverts along the Manh Choh Twin and Project roads where applicable.

Relevant SRCE Sheet(s): Roads; Misc. Costs\Culvert & Buried Pipe Removal.

2.4 Yards

Reclamation costs for miscellaneous disturbances are included in the “Yards” worksheet. These facilities include, but are not necessarily limited to the loadout area, mine infrastructure pad, explosives storage, material borrow sites and stockpile areas not located on WRDs. The costs assumes that growth media was stripped and stockpiled near the perimeter of the yards during construction, and that it would be replaced at final closure. Costs are included for nominal volumes of regrading to smooth the mostly flat areas and will be scarified and revegetated. All laydown areas are depicted on **Figure 4**.

Relevant SRCE Sheet(s): Yards.

2.5 Buildings

SRCE estimates time to demolish buildings through RSMeans productivities that focus on building volume, wall area, and slab volume. Fleet hours are estimated and multiplied by crew rates. Buildings have not been constructed, but a list of proposed facilities was provided by Peak Gold. All structures are assumed to be either modular or temporary tent type structures. Concrete foundations and slab floors are not required, however are assumed for some of the structures. The Foundations and Buildings Module does not specify “temporary” type structures, but the demolition of light steel frame construction is assumed to require similar equipment, such as cranes, excavators, and dump trucks. The cost to demolish the temporary tent structures verses a long-term type structure is likely lower than included in the estimate, however as noted, the buildings have not been constructed. An updated FA will be provided should the structure type or size deviate substantially from what is included in the estimate.

Hauling the demolished buildings off site is included in the Waste Disposal module. Waste is assumed to be hauled to the Tok Landfill. Building waste volume is assumed to be 33% of the total volume of the building prior to demolition. This is consistent with recommendations by FEMA for calculating the volume of building debris based on the total volume of a building.

In addition to the cost of demolishing buildings, removal of lined fuel islands is assumed to be similar to removal of a lined process pond. All laydown areas are depicted on **Figure 5**.

Relevant SRCE Sheet(s): Foundations & Buildings; Process Ponds, Waste Disposal.

2.6 Miscellaneous

2.6.1 Surface Pipe Removal

Culverts in the roads and pressure pipes installed to pump stormwater and contact water to the water treatment plant or to the north Pit will be demolished. These pipes will be removed and disposed offsite.

Relevant SRCE Sheet(s): Misc. Costs.

2.6.2 Power Distribution

This estimate assumes that all power distribution items (powerlines, transformers, etc.) will be removed. Power on site is limited to generator power, however a small allowance for minor utility removal and hauling off generators has been included.

Relevant SRCE Sheet(s): Misc. Costs.

2.7 Monitoring

2.7.1 Water Quality

Monitoring locations, frequencies, and durations have been provided by Peak Gold. These include surface water and well sampling. Monitoring is expected to be conducted for 10 years post-mining, or 8 years post reclamation.

Relevant SRCE Sheet(s): Monitoring\Water and Rock Sample Analysis.

2.7.2 Inspection of Surface Stabilization and Maintenance

Visual observation of revegetation success will be performed on an annual basis during the pre-stabilization phase. Inspection for erosion and formation of gullies will be completed quarterly. Costs are included for carrying out these activities for five years.

Relevant SRCE Sheet(s): Monitoring\Reclamation Monitoring, Recl. Maint.

2.8 Road Maintenance

Construction management is included for the duration of the closure period and includes a water truck and grader during reclamation, and a small allowance for post reclamation road for 8 years post reclamation.

Relevant SRCE Sheet(s): Construction Management.

2.9 Well Abandonment

Well closure assumes pit dewatering wells, piezometers, a production well and monitoring wells. Wells will be backfilled with a stemming/bentonite clay mixture and sealed at the surface with a bentonite clay surface seal.

All wells existing at the time of closure will be plugged and decommissioned when no longer required. The total number of decommissioned wells is unknown, but an allowance has been provided for probable well installed during operations.

Relevant SRCE Sheet(s): Well Abandonment.

2.10 Collection Channels

Demolition of the perimeter collection channels are calculated in the Roads module. The channels include a parallel access road with a diversion channel on the upstream side of the road, and both will be reclaimed concurrently.

The cover design for the North Pit WRD assumes armored perimeter collection channels will be required. Hydrology and hydraulic calculations were not provided, however the location of the WRD, the proposed drainage design, other surface water collection and known climate variables, suggest that flows within the channels would be minimal. A high-level hydrology and hydraulic design was performed.

A cost for a lined trapezoidal channel with a three-foot bottom and three-foot deep is assumed in reclamation. A channel of this size can contain approximately 250 cubic feet per second (at a 5% slope). The channel design is conservative for the proposed drainage area. Assuming the channel is sized for in perpetuity, the probable maximum precipitation event is estimated 14 inches in a 24-hour period as noted in Technical Paper No. 47, Rainfall Frequencies for Alaska. The catchment area reporting to each channel is assume to be half of the total north pit waste rock dump (total = 39.6 ac, half ~ 20 ac.). Applying the Rational Method with conservative values of RC= 80, and I=6in/hr, the resulting discharge is approximately 225 cubic feet/second, total. The channel selected and costed is conservative and adequate for the concept design.

Relevant SRCE Sheet(s): Sediment & Drainage Control, Roads

2.11 Mobilization/Demobilization

Mobilization costs are based on the reclamation activities and their relative timing during the closure and post-closure periods. Mobilization and demobilization have been assumed to be carried out in one campaign.

Relevant SRCE Sheet(s): Mobilization

2.12 Indirect Costs

Indirect costs have been applied based on DOWL (2015). The categories are presented in Table 1-1.

Table 1-1: Categories of Indirect Costs in DOWL (2015) and in Fort Knox SRCE Estimate

DOWL (2015) Indirect Category	SRCE “User 2” Worksheet (Indirect)	SRCE “FA Schedule” Worksheet Indirect Categories
Contractor profit	Contractor profit	Contractor overhead and profit
Contractor overhead	Contractor overhead	
Performance/payment bonds	Performance/payment bonds	Contract administration
Liability insurance	Liability insurance	
Contract administration	Contract administration	
Engineering redesign	Engineering, Design and Construction (ED&C) Plan	Engineering, Design and Construction (ED&C) Plan
Contingency: scope	Contingency	Contingency
Contingency: bid		

Liability insurance applies to labor rates only, in order to apply 1.5% liability insurance to labor costs, an assumption that 1/3 of all costs are labor related. Therefore, a rate of 0.5% (1.5% / 3) is applied to the entire cost. All other indirect percentages were selected based on the range of values provided in the DOWL (2015) report assuming the size and probable unknowns. The indirect rates were combined and linked to the FA Schedule.

Relevant SRCE Sheet(s): User 2; FA Schedule.

3 Cost Data File

The below headings provide information on the approach used in inputting rates and unit costs into the SRCE. Rates for labor, equipment, and materials reference current 2022 labor, equipment and material rates developed for projects in Alaska. When unit rates were not readily available, the most current rates from NVbond.org (SRCE model source) were applied. Rates for labor were updated as noted below. NVbond.org rates are increased by a factor of 1.15 to account for cost differences between Alaska and Nevada. This adjustment factor is based on the multipliers provided by RS Means for region specific estimating. Experience with estimating reclamation costs in both Nevada and Alaska suggests that the 1.15 premium applied between Alaska and Nevada is reasonable. Inflation from previous cost data developed for 2020 has been increased by 18% using the Consumer Price Index (CPI) where noted adjustment factor from January 2020 to August 2022.

3.1 Labor Rates

Labor rates have been taken from Pamphlet 600, Issue 44, effective April 1, 2022. The estimate was developed prior to release of September 1, 2022 rates. The increase between April and September results in a minor increase in costs.

Relevant CDF Sheet(s): Labor Rates.

3.2 Equipment Rates

Equipment rates for off-highway equipment have been obtained from NC Machinery in June 2022. Others were provided by United Rentals or adjusted using rates from Nevada.

Relevant CDF Sheet(s): Equipment Costs.

3.3 Material, Labor, and Equipment Unit Costs

3.3.1 Seed Material Unit Costs

Seed costs are based on provided by Fort Knox and adjusted for inflation, or current (2022) Nevada SRCE rates with a 15% markup for Alaska (RS Means, conversion between NV and AK).

Relevant CDF Sheet(s): Seed Mixture.

3.3.2 Diesel Price

The diesel material unit cost has been estimated by using public data (GasBuddy October 2022) and subtracting on-road tax and surcharge (20 cents per Alaska Dept. of Revenue Tax Division).

Relevant CDF Sheet(s): Reclamation Material Costs.

3.3.3 Power Price

Power price has been determined by public data (AP&T, 2021).

Relevant CDF Sheet(s): Reclamation Material Costs.

3.3.4 Analysis Costs

Laboratory analysis costs have been estimated from a quote from ACZ laboratories (Fort Knox rate in 2019 x 7.7% inflation to 2021 costs).

Relevant CDF Sheet(s): Reclamation Material Costs.

3.3.5 Disposal of Hydrocarbon Waste

Ecology Alaska was contacted for quotation for disposal of hydrocarbon impacted waste, such as soils impacted by fuel spills.

4 Results

4.1 Undiscounted Costs

All costs are undiscounted, the majority of all costs occur as part of the physical earthmoving portion of reclamation. Few costs occur past the initial reclamation period, and no long-term costs are expected. Refer to Table 4-1 for breakdowns by activity and/or facility.

Table 4-1 Cost Summary for Premature Closure Scenario

Facility	Reclamation Cost \$
Waste Rock Dumps	3,629,647
North Pit Liner Cover	9,148,031
Solution Management	196,067
Pits	36,477
Yards	884,584
Roads	618,369
Borrow Area	615,764
Buildings	558,221
Other Demo	180,898
Sediment and Drainage Control	750,391
Monitoring	933,105
Road Maintenance	478,792
Well Abandonment	294,630
Construction Management and OH	3,205,331
Mobilization-demobilization	611,760
Human Resources	7,133,963
North Pit Rehandle (dry WR)	1,977,442
South Pit Backfill	12,659,646
Solid Waste Disposal	828,127
Reclamation Maintenance	620,435
Subtotal	45,361,680
Engineering, Design and Construction Plan	1,814,467
Contingency	6,804,252
Contractor OH and Profit	6,804,252
Contract Administration	2,721,701
TOTAL COST	63,506,352

From SRCE Model

Prepared by

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Reviewed by

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Jeff Parsley

Principal Consultant

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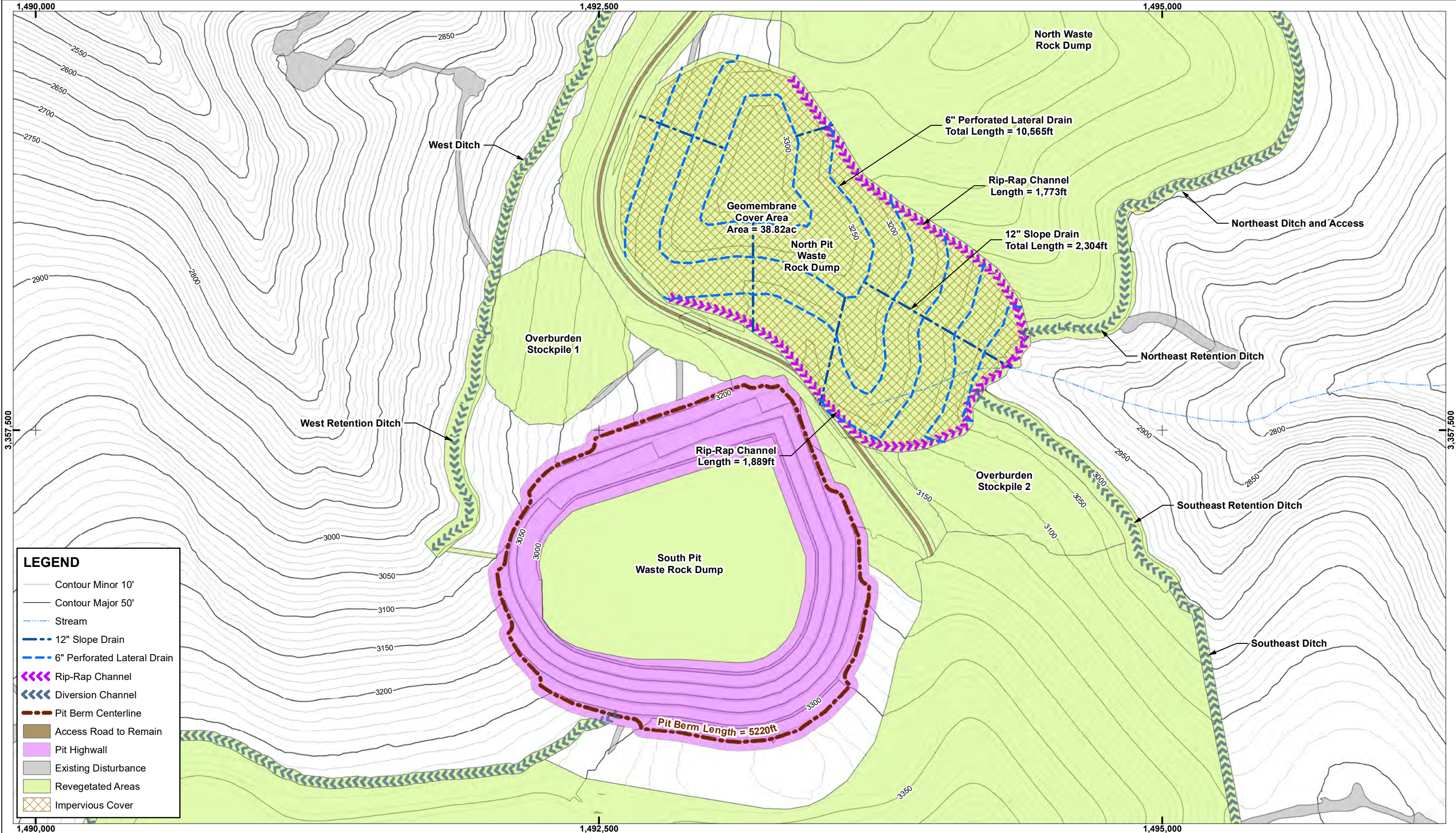
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DOWL 2015, Draft Mine Closure and Reclamation Cost Estimation Guidelines: Indirect Cost Categories. April 2015

FGMI 2020, Fort Knox Reclamation and Closure Plan, Prepared by Fairbanks Gold Mining, Inc (FGMI), January 2020

SRK 2023, Manh Choh Reclamation and Closure Plan, Revision 1, Prepared for Peak Gold LLC, by SRK Consulting Inc. (US) 2023

Appendix A: Figures



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Feet

1 inch = 400 feet

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DRAWN: ML
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REVIEWED: IJC
APPROVED: IJC

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PREPARED FOR:
 Manh Choh
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PITS

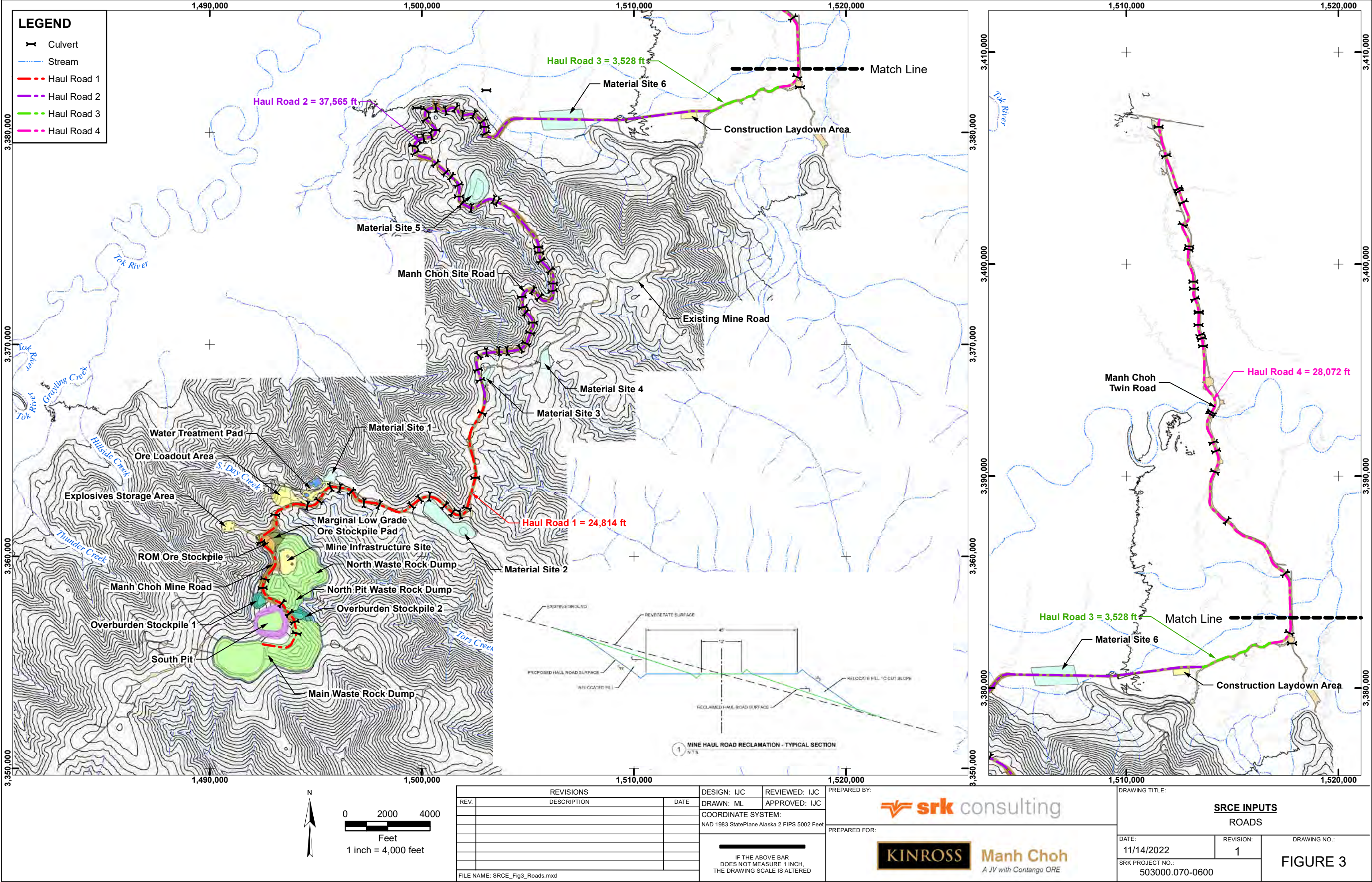
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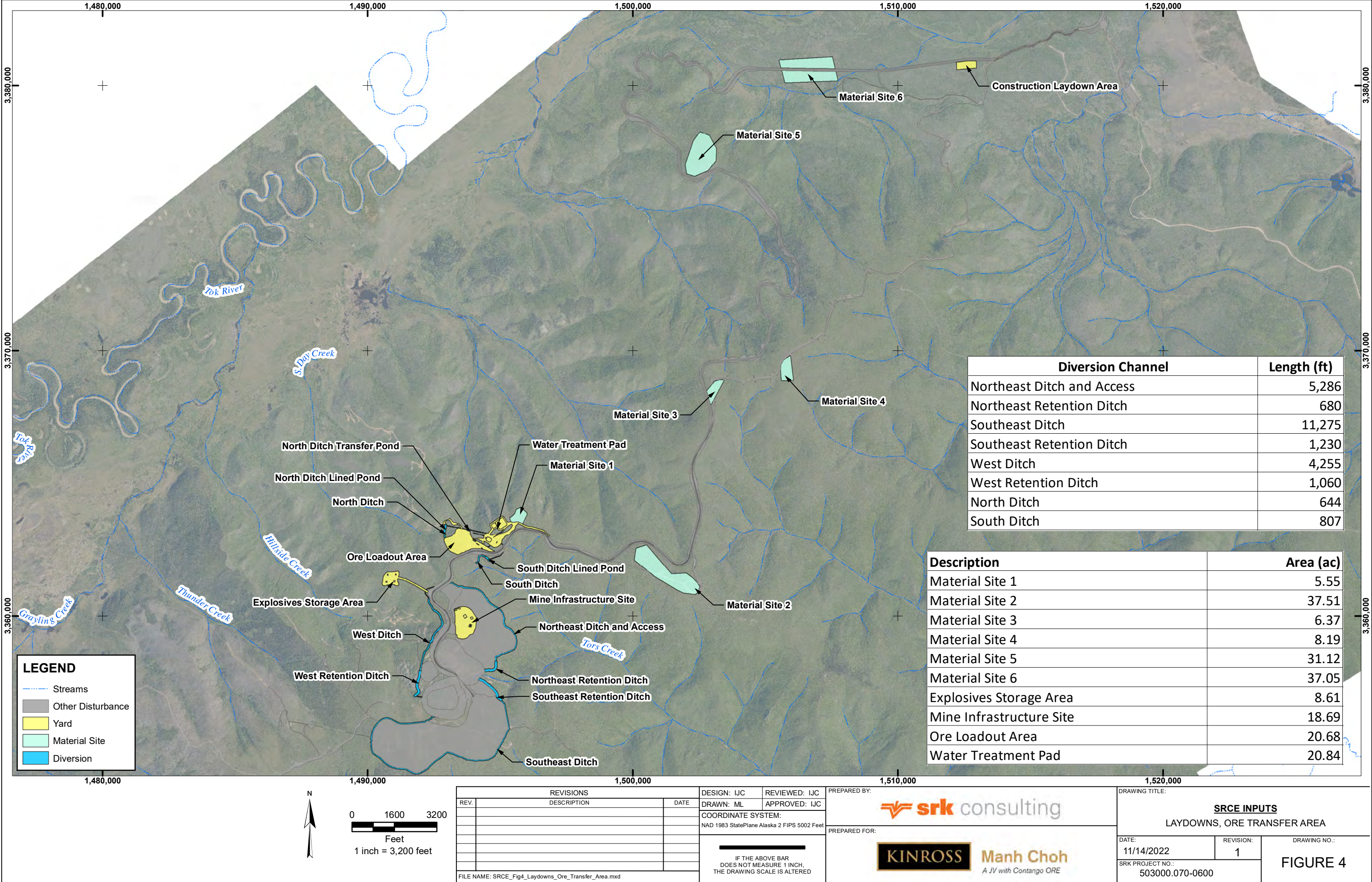
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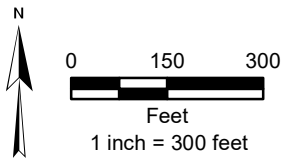
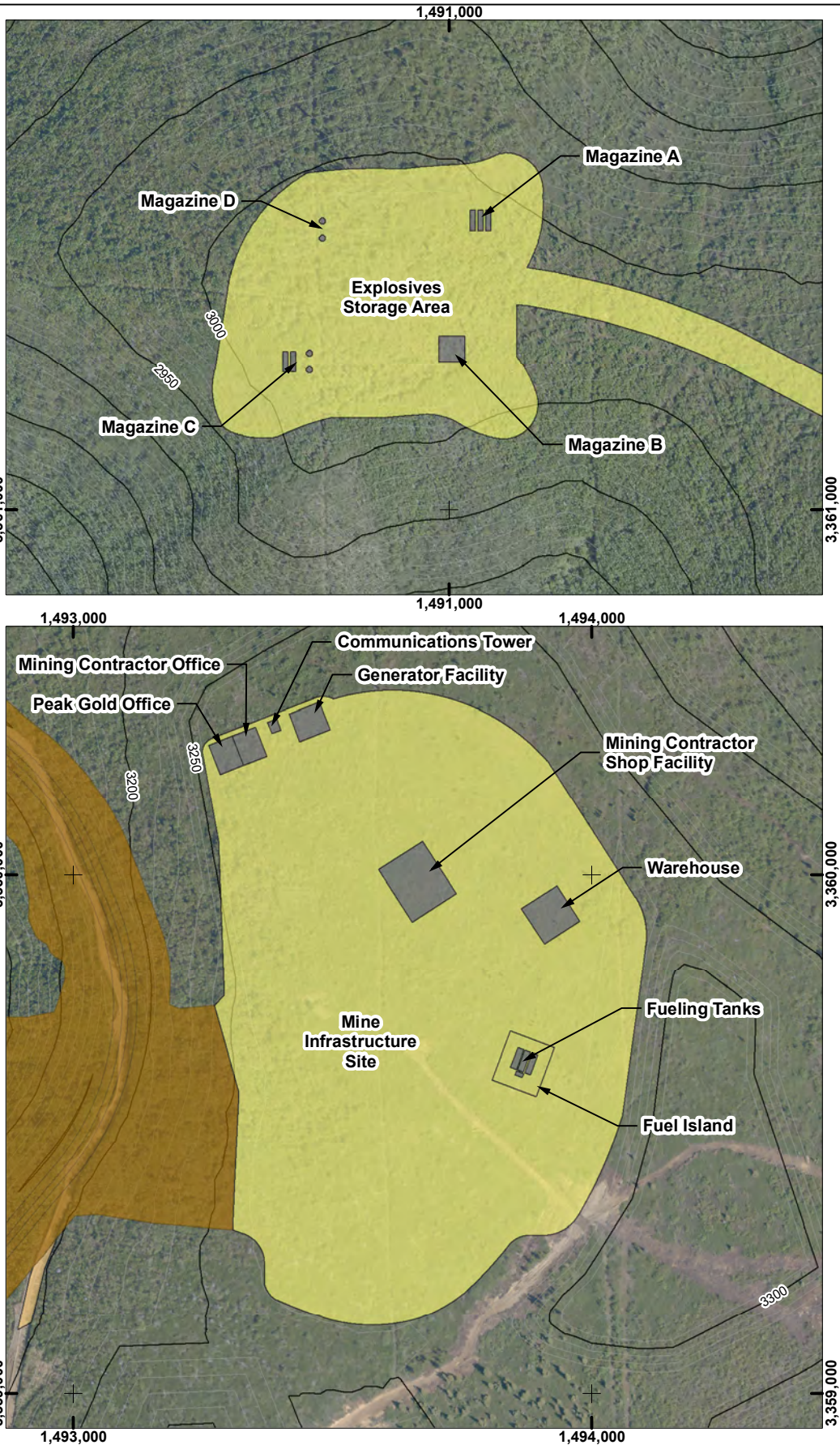
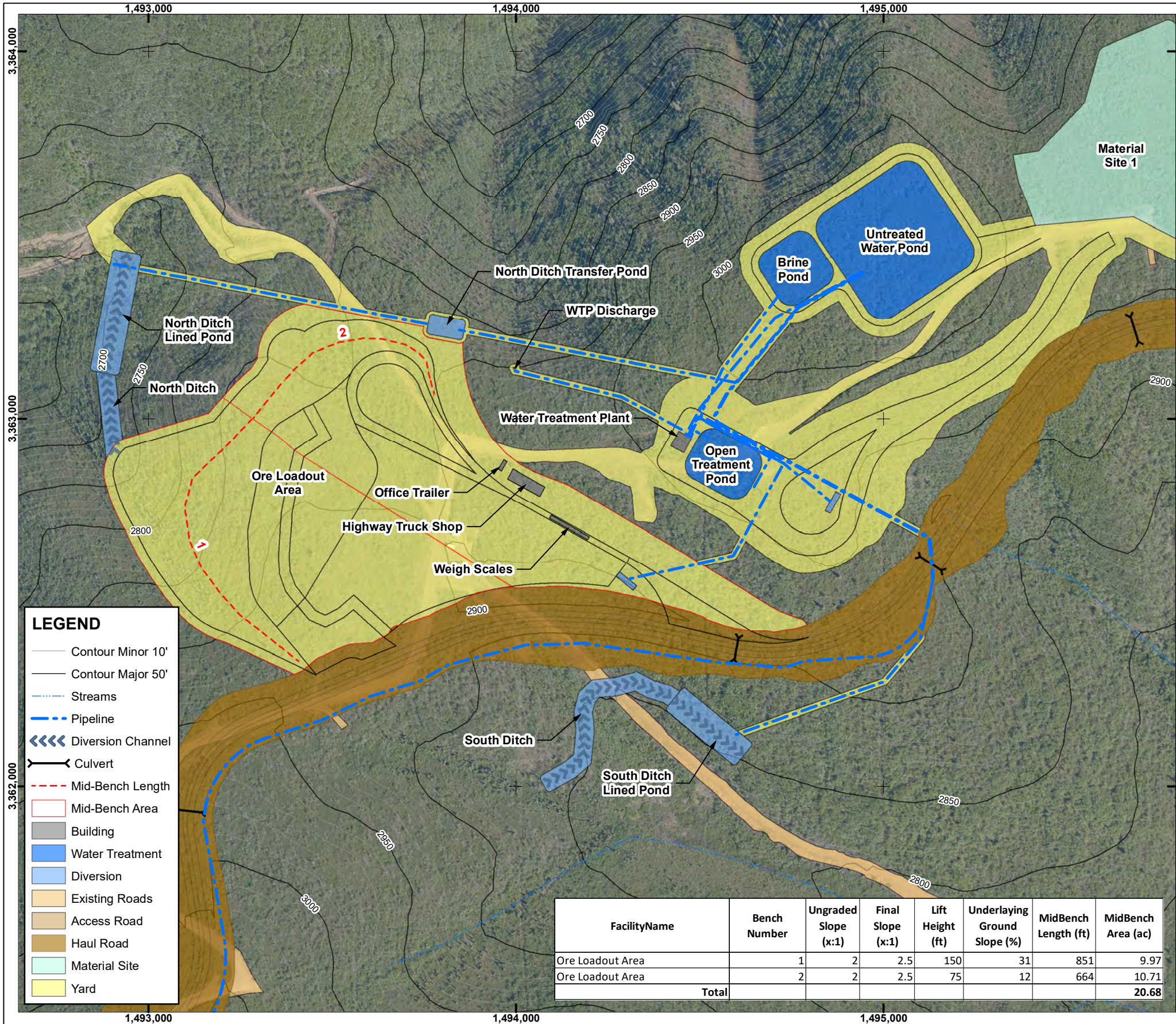
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PREPARED FOR:

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