State of Alaska
Department of Transportation & Public Facilities

Mining and Reclamation Plan
Material Site 65-9-052-2
Dalton Highway MP 197, Gold Creek

This document provides guidelines for contractors in preparing project-specific mining plans for this site. Contractors are required to submit a Project Mining and Reclamation Plan for approval. All activities at this material site are subject to the Bureau of Land Management (BLM) Free Use Permit, FF093020, and stipulations contained therein.

Site-specific geologic information is available at the ADOT & PF Northern Region Materials office, 2301 Peger Road, Fairbanks, Alaska, 99701.

Location

Within Section 17, T31N, R10W, Fairbanks Meridian at Dalton Highway MP 197 The site is approximately 168 Acres.

We are proposing to continue development of an existing surface lease and former material site. The site is located to the east of the Dalton Highway. Proposed development area lies north of the current channel of Gold Creek and accessed via a developed access (102-APL/AMS-3) north of Gold Creek.

Description

Within the portion of the site tested, alluvial sands and gravels occur. These are covered by an organic mat up to 1-foot-thick and sand and silt overburden. This overburden was less than 4-feet-thick in all test holes and trenches and typically less than 1-foot-thick. Variably frozen sand and gravel persisted to depths tested. A water table was regularly intercepted approximately 20 feet below ground surface.

The sand and gravel is layered with occasional silt seams and pockets and possibly organic layers, therefore some silt waste may be generated from mining within the sand and gravel.

The proposed mining area contains no perennial streams and avoids major existing surface water in the area.

Proposed Use

Up to 100,000 cubic yards of sand and gravel may be mined for the Maintenance or emergency repairs of the Dalton Hwy. Mining will occur within the Southern portion of the site Gold Creek. Screening and crushing operations are planned to occur on a nominal 5-acre pad area. Reject from screening and crushing may be backfilled in the pit, or

stockpiled for future use by DOT&PF Maintenance and Operations. Reject amounts depend on product(s) being produced and specific size distribution of sand and gravel being processed.

Access and Buffers

The site is accessed via Alyeska easement 102-APL/AMS-3 at ~ MP 197.5.

A 50-foot wide buffer within the material site boundary between surrounding lands and mining activities will remain undisturbed. There is a 400 foot visual screen between the active mining area and the Dalton Hwy. In addition, a 100-foot undisturbed buffer between mining activities and active channels of Gold Creek is provided. Mining activities will be managed to minimize or eliminate disturbance within these buffers.

Work Pad

We would like to see this material site maintained as a long-term source to meet DOT needs in the area. As such we are proposing a work pad up to 5 acres remain at the end of individual projects that subsequent future operations can be based from. From this work pad, 5-acre (nominal size) blocks of material will be mined. After blocks are depleted they will be regraded with the help of stripping waste from successive blocks. Once the entire mine site has been depleted the work pad would then be restored and the pit closed out.

Gravel Mining

The site will be mined in nominal 5-acre increments termed a Block. Contractors may have specific plans or equipment constraints that make flexibility in block size and location necessary. Developing the pit in blocks is intended to avoid large areas of disturbed ground requiring longer distance movement of surface materials and related environmental concerns. After mining, a block can be rehabilitated with stored or stockpiled overburden, or with overburden from adjoining blocks. Due to the presence of frozen ground and assuming natural thawing of material, multiple blocks may be under development during a project.

Depending on contractor preference and project timing - blasting, excavation equipment, or natural thawing may be employed to loosen frozen material. If natural thawing is used to enable excavation, multiple blocks may be stripped and excavated concurrently depending on operational needs. Appropriate excavated slopes or offsets between waste and the active pit should be used so stockpiled berms do not fall into the active pit.

If blasting is used for excavation, blasting notice and coordination is required with Alyeska Pipeline Service Company as the Trans Alaska Pipeline is less than one-mile to the west. Blasting restrictions and plan requirements can be found in APSC Specification C-415, Blasting Restrictions near the Trans Alaska Pipeline System.

Mining will take place following the same basic principles for each block:

1. Surface vegetation and organic soils are to be windrowed or stockpiled for use in reclamation.
2. Overburden, which is comprised mainly of silts and sands, will be pushed off and stored in a berm or windrow separate from the vegetation and organic soils, or incorporated directly into areas being reclaimed.
3. Preferable locations for overburden storage are along outer perimeters, against buffers or against previously mined areas. Windrows will not be placed along the buffer adjacent to Gold Creek.
4. Pit activities are expected to be conducted to put available materials to their best use and conserve future mining material by not unnecessarily placing waste on top of sand and gravel that may be mined in the future.
5. Excavation of exposed sand and gravel can then occur.
6. The side slopes of the active pit should not be steeper than 1H:1V so stockpiled berms do not fall into the active pit.

As described we anticipate the contractor will haul and/or process the sand and gravel material as it is mined. However, a stockpile may be developed and sited within a block or on the work pad as scheduling and weather dictate.

Reclamation Plan & Objectives

Following this mining plan as blocks are depleted of sand/gravel resources they can be reclaimed as part of the project. The reclamation plan has several general objectives:

1. Not to disturb previously reclaimed areas.
2. To blend with previous reclamation.
3. To prevent erosion and sediment transport to surrounding, undisturbed habitats.
4. To leave the excavated portion of the pit in a safe manner that would not endanger users of the area.
5. Not to preclude future development of un-mined areas.
6. To reestablish vegetation, and allow the development of habitat that will be productive and used by wildlife in the area.

Depending on the depth of mining, excavations may form ponds. Typical sections providing sloping requirements for both dry and pond excavations are attached.

If mining occurs to a depth where a pond is expected to form:

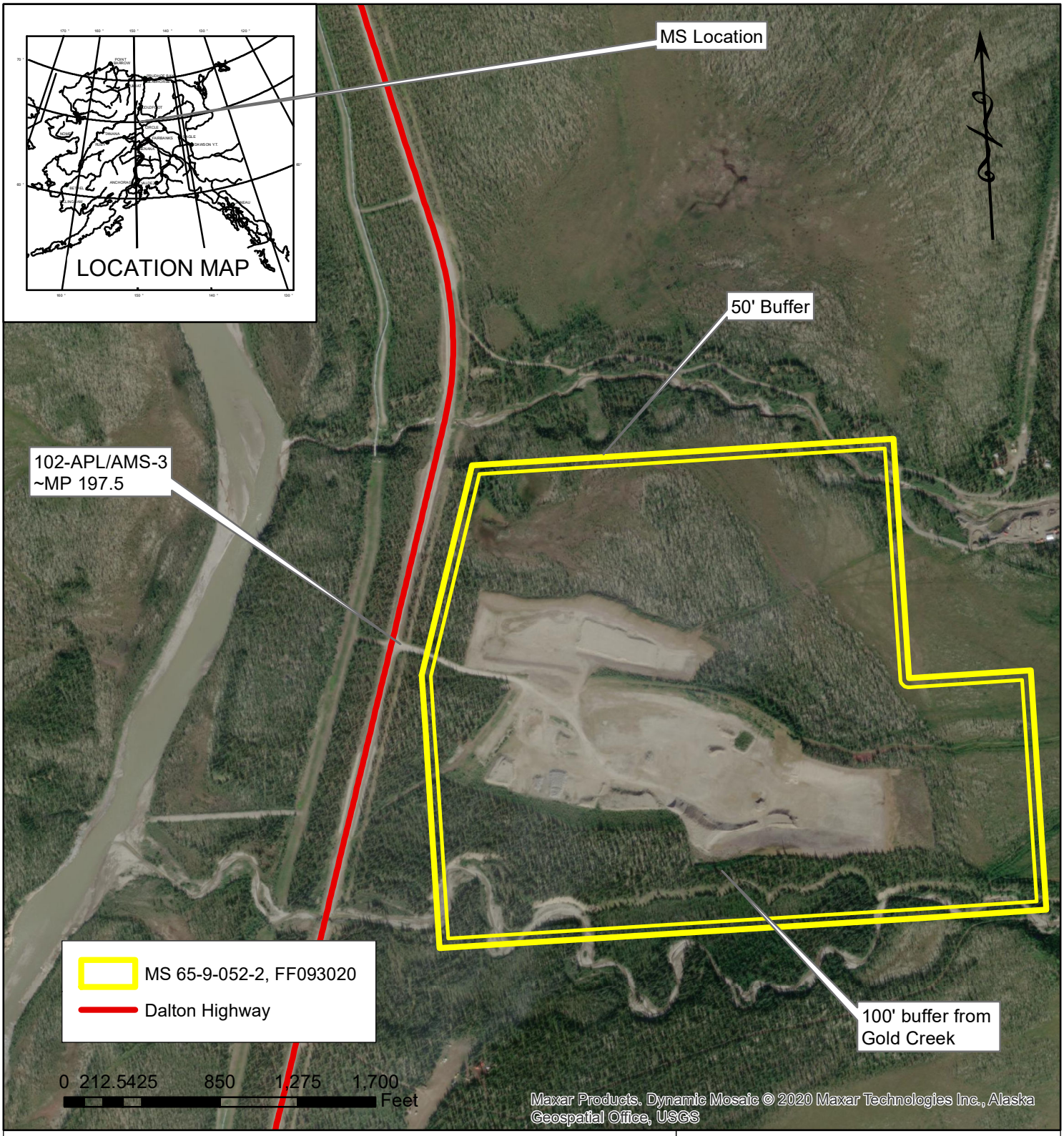
1. The active pit floor will be excavated reasonably flat anticipating that a pond will form; dry areas will be graded flat.
2. The previously stockpiled berm of overburden will be dozed into the mined out pit and over the side slopes that have been excavated to form slopes no steeper than at 3H:1V before the pit fills with water.
3. Future shoreline areas will be graded to 10H:1V.
4. Available vegetation/organics material will be graded over the silts – prioritizing shoreline areas expected to be dry after a pond forms.

If mining is to a depth where a pond is not expected to form:

1. Slopes along the material site boundaries, or where future development is not anticipated to occur will be reclaimed after each use.
2. Slopes along the material site boundaries, or where future development is not anticipated to occur will be graded to 3H:1V.
3. The overburden will be spread over the regraded slopes.
4. Available vegetation and organic soils will then be spread over overburden.
5. At the end of each use the working or producing face will be graded to 1H:1V or flatter. Other than this the active work area will not be reclaimed through the life of the material source. This area can be used for continued staging and stockpiling of material, and production of material on an as needed basis.
6. After each use, the pit floor or pad will graded to a flat or gently sloping shape, and the contractor will remove all equipment and non-native debris and waste.

Using silt and sand overburden and covering with salvaged vegetation and organic soils at the edges of the pit will help prevent erosion and stabilize the slopes. The limited organic material will be used to aid natural seed deposition and help native species to reestablish themselves. Invasion of native species often occurs through vegetative growth rather than seed dispersal.

To enable future use of the pit, the last active work pad area will not be reclaimed. This area can be used for staging, and stockpiling of material for future mining operations so reducing the footprint of future operations.



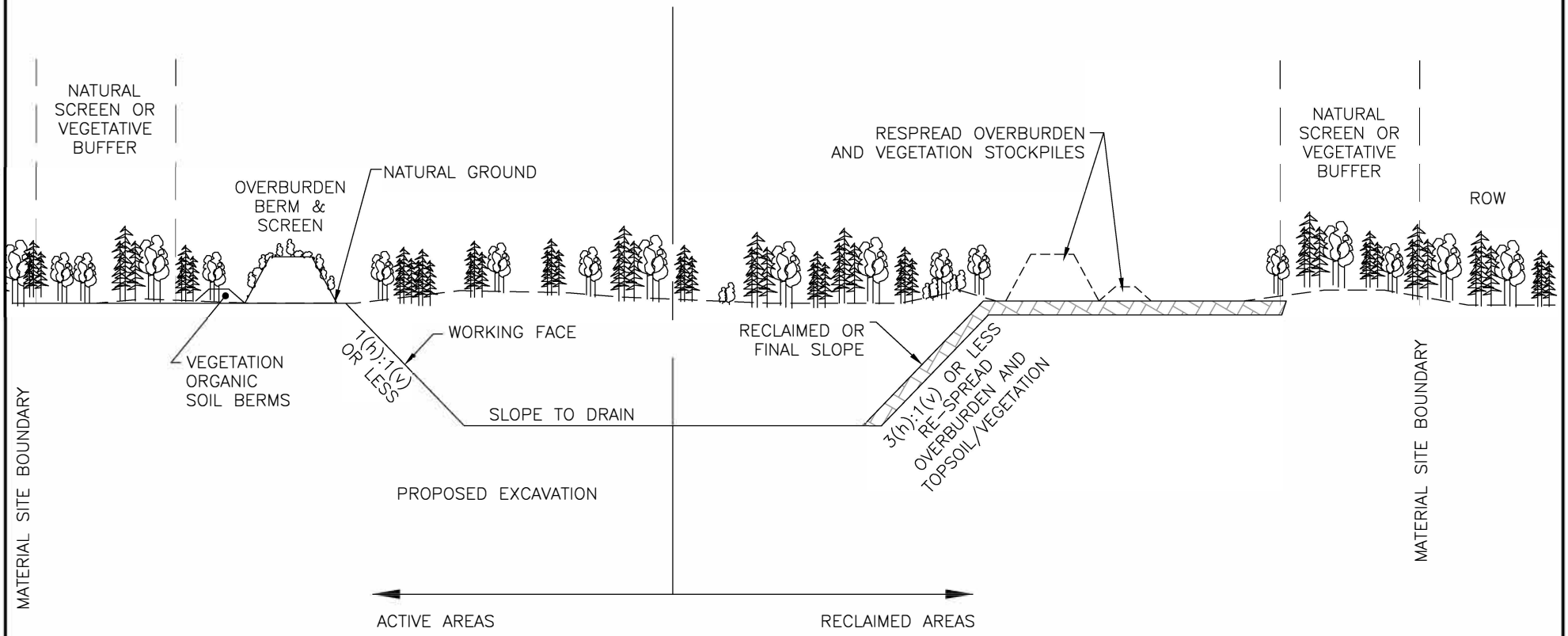
M.S.65-9-052-2
FF093020
T12S, R112E, Sections 16 & 9 UM

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

MATERIAL SITE PLAN

M.S. 65-9-052-2

NORTHERN REGION	**Date: 5/15/2023**
SCALE NTS **DRAWN BY: KAW**	Current: ~168 acres



TYPICAL CROSS SECTION OF EXCAVATION ABOVE WATER TABLE

NOT TO SCALE

Oct 23, 2009 - 8:45am - Tab: 1

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

DATA: JR	M.S. 65-9-052-2 TYPICAL SECTION
DRAWN: EM	
APPROVED: SM	PROJECT NO.
DATE: May 2023	V:\Geo\60851 Coldfoot\Xsect_gravel_excavation_bwt_E01-1