

State of Alaska
Department of Transportation & Public Facilities

Mining and Reclamation Plan
Material Site 65-9-045-2
Dalton Highway MP 145

This Mining and Reclamation Plan (MRP) is intended to accompany a Material Sale Agreement for the above-referenced material site, and is in combination with the stipulations attached thereof. This plan is subject to any site specific and/or project specific conditions and stipulations required by specific sales contracts, use agreements, and project permits.

Department of Transportation and Public Facilities geotechnical reports and material site information may be located at the Department of Transportation and Public Facilities office at 2301 Peger Road, Fairbanks, Alaska 99709.

Location

T24N, R14W, Section 23, Fairbanks Meridian, the W1/2 NE1/4 and W1/2 E1/2 NE1/4 and E1/2 NW1/4, located approximately at mile 145 of the Dalton Highway. The site is approximately 200 acres.

Description

The developed portion of this site has been used as a waste area in the past and is not recommended for use as a material source.

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 between 5 and 10 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

This site will be operated by both DOT&PF and contractor personnel, and will be coordinated with other users of the site. Operations will be monitored by qualified DOT&PF personnel. The site will generally be mined by ripping and pushing with a dozer, and handling/loading with an excavator and/or loader. Screening, crushing and other processing activities are expected occasionally. Blasting will not be performed in this site.

As mining activities occur, active slopes will be maintained at 1:1 or shallower, and 2:1 when inactive. The working depth of material shall be between 5' and 50' below original ground levels. When a new working area is cleared and stripped, overburden shall be stored and stockpiled separately around the perimeter of the mining areas, to be used later for reclamation. Public access to the site shall be restricted when mining operations are ongoing.

Operations within the site will be generally between 7AM and 7PM, seven days a week, during summer months. It is possible that for a specific project, overnight or winter work will be required. Quantities used will necessarily depend on maintenance and construction funding and priorities, but will generally be between 2,500 and 25,000 cubic yards annually.

Fuel will not be stored long-term in the material site. If equipment fueling is needed, it will either be stored offsite until necessary, or be stored in a double-wall storage tank with a catch basin and appropriate spill kits. The site will not be used for routine vehicle or equipment maintenance, except as required by circumstances (e.g. mechanical breakdown).

Porta-potties and dumpsters may be used temporarily during a project. Personnel are not anticipated to camp on site.

A Stormwater Pollution Prevention Plan (SWPPP) is not anticipated to be required for continual use in this site. If a specific project exceeds the development threshold, a SWPPP will be prepared for that project.

Stockpiles and sandy banks will be monitored for nesting swallows and other bird species. Appropriate bird hazing techniques, including decoy owls, will be employed at the direction of DOT&PF environmental staff to prevent nests. Nesting birds will not be disturbed.

There are no known archaeological resources in the site. In the event archaeological or other historic resources are found, they will be protected and appropriate authorities will be notified.

Access and Buffers

Access to the proposed mining area exists, but may need upgrading.

A 50-foot wide buffer within the material site boundary between surrounding lands and mining activities will remain undisturbed. 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 Holden 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:

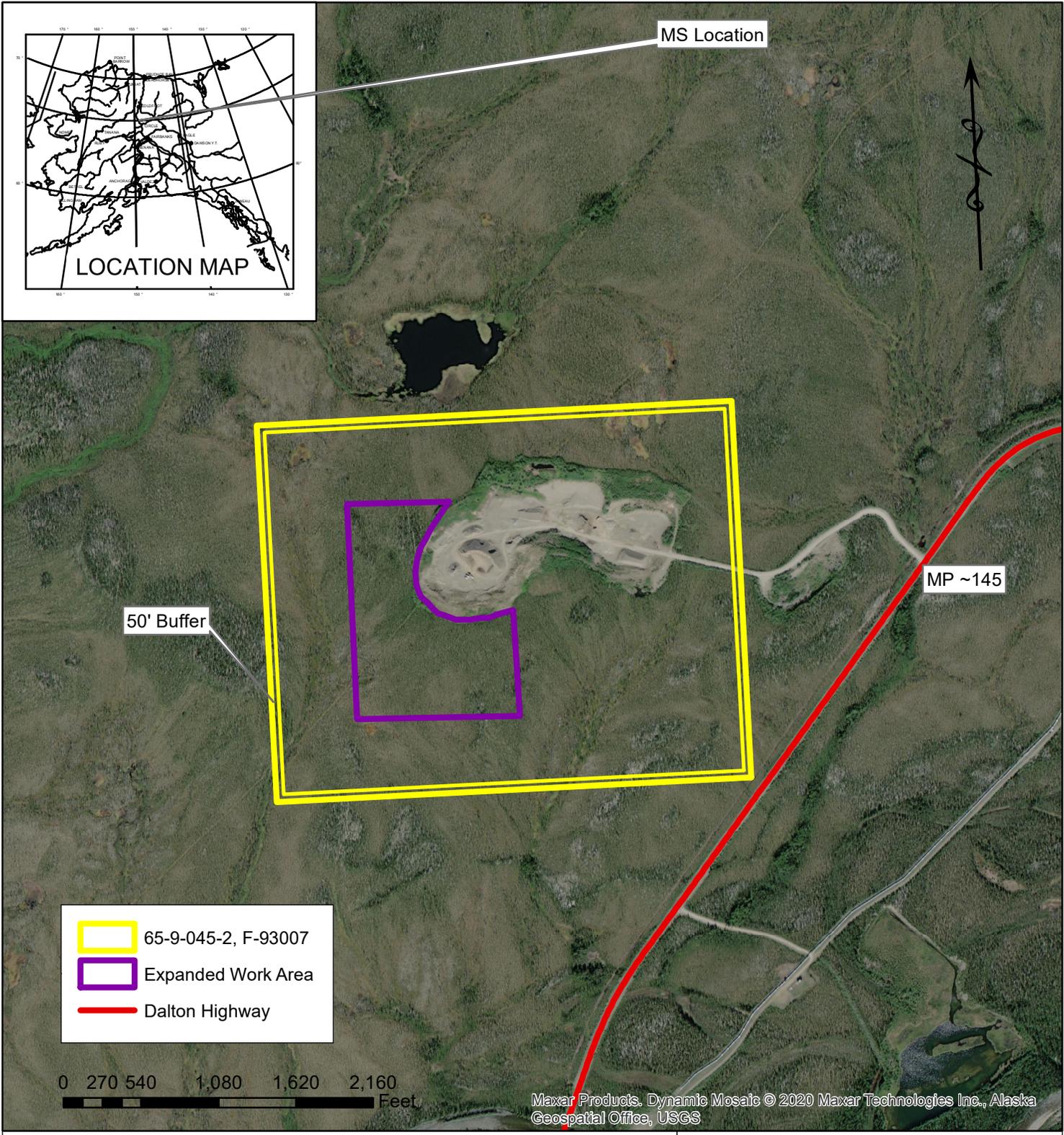
1. The active pit floor will be excavated reasonably flat anticipating that a pond will form; dry areas will be graded flat.
2. The previously stockpiled berm of overburden will be dozed into the mined out pit and over the side slopes that have been excavated to form slopes no steeper than at 3H:1V before 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:

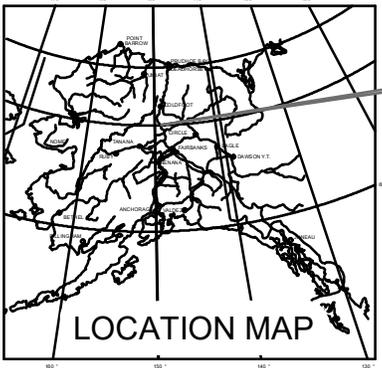
1. Slopes along the material site boundaries, or where future development is not anticipated to occur will be reclaimed after each use.
2. Slopes along the material site boundaries, or where future development is not anticipated to occur will be graded to 3H:1V.
3. The overburden will be spread over 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 be 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.



MS Location



50' Buffer

MP ~145

- 65-9-045-2, F-93007
- Expanded Work Area
- Dalton Highway

0 270 540 1,080 1,620 2,160 Feet

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M.S. 65-9-045-2
T24N, R14W FM

Section 23: W1/2NE1/4 and W1/2E1/2NE1/4 and E1/2NW1/4

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES

MATERIAL SITE PLAN

M.S. 65-9-045-2

NORTHERN REGION

Date: 3/8/2023

SCALE NTS
 DRAWN BY: KAW

Current: ~200 acres