

IV. HOW TO APPLY:

A. APPLICATION PROCESS:

1. All Operators: Tier 1 and Tier 2:
 - Apply using a Corps Pre-Construction Notification (PCN), available from the Corps website and submitted to the Corps, or by using the state APMA, obtained from and submitted to the Alaska Department of Natural Resources, Division of Mining. (ADNR-DOM) The PCN contains the minimum necessary information requirements for obtaining a Corps permit, whereas the APMA may not include all of the information required for a Corps Permit.
 - Baseline Information (Attachment 1)
 - Signed certification page (Attachment 4)
2. Tier 2 Operators only:
 - Mitigation Statement (Attachment 2) and
 - Permittee Responsible Mitigation Plan (Attachment 3), if applicable.
3. Application submittal: Please submit your packet to the DNR and/ or directly to the Corps.
4. Application deadline of May 31 of each year to receive a permit for that year's mining season.
5. Note: If you have filed an APMA, do not assume that you have received your Corps permit. To be certain that you obtain a Corps permit, contact one of our offices directly.

Anchorage Offices

Corps of Engineers, Regulatory Division
Alaska District Office
P.O. Box 6898
2204 3rd. St.
JBER, Alaska 99506-0898
Phone: 907-753-2712
Toll free: 800-478-2712
Fax: 907-753-5567
Email: CEPOA-RD-N@usace.army.mil

ADNR-Division of Mining, Land, Water
550 West 7th Avenue, Suite 900B
Anchorage, AK 99501
(907) 269-8652

Fairbanks Offices

Corps of Engineers, Regulatory Division
Fairbanks Field Office
2175 University Avenue
Suite #201E
Fairbanks, Alaska 99709
Phone: 907-474-2166

Fax: 907-474-2164
Email: CEPOA-RD-FFO@usace.army.mil

ADNR-Division of Mining, Land, Water
3700 Airport Way
Fairbanks, AK 99709
(907) 458-6896

B. AUTHORIZATION PROCESS

1. The Corps date stamps all applications that are received by mail. Also the Corps regularly downloads APMA's from the DNR-DOM "Discuss" website. New projects are assigned a case file number. The date stamp starts your timeline.
2. Review Process: Within 30 days of date stamping a PCN or downloading an APMA from the DNR-DOM "Discuss" website, the Corps will review material to determine whether the submittal is complete. If it is not complete, the Corps will contact the miner by phone, email, or letter to ask for additional information.

The Corps reviews the following items in your GP submittal:

- Is location information included and correct?
 - Is your operation within the terms and conditions of the GP?
 - Is the information in one section of the APMA consistent with information in other sections and from previous years and in your Annual Reports?
 - Are photos in the Wetland JD clear, legible, and reproducible?
 - Is your operation outlined on the photos?
 - Have you included a Mitigation Statement and a Permittee Responsible Mitigation Plan if needed? Does it make sense?
 - The Corps may speak with your land manager or other agencies about your operation.
3. Wetland Determination: The Corps makes a wetland determination, using the process identified in the 1987 Wetland Manual for an offsite, office determination. The Corps will write a brief wetland determination stating reasons for jurisdiction, or no jurisdiction.

All jurisdictional determinations, including letters that state "No Permit is Required" are valid for five years from issuance, unless plans change or new information is supplied that change the circumstances of the determination. Wetland JDs are in most circumstances Preliminary JDs, based on Best Professional Judgment. They may not be appealed; however you may provide additional information to be considered.
 4. Agency coordination: See Section III-B above. The Corps reviews your project for impacts to resources managed by other agencies, including cultural and historic resources, EFH, Threatened and Endangered Species, Subsistence, and State and Federal Special Areas. If there is a potential issue, the Corps will contact the appropriate agency by e-mail, or telephone, maintaining a record for the file. Agencies have ten (10) calendar days from the date they are contacted to respond to the Corps with substantive comments on the project. Comments are resolved.
 5. One of the following three letters may be verified:
 - No Permit Required,
 - Regional General Permit, or a
 - Individual Permit is required.

The GP automatically includes all of the General Conditions contained within this document that apply to all operations unless an exception is made. Additional special conditions may be added as needed.

6. The permittee shall keep an original copy of the permit in a safe location, and a duplicate copy at the mine site for review by visiting agencies. The yellow Notice of Authorization shall be visibly posted at the mine site.
7. All authorizations are valid until the General Permit expires October 31, 2019 unless otherwise modified revoked, or suspended. Authorized work must be completed within 12 months of the expiration of this permit. (33 CFR 330.6 (b))

C. RE-EVALUATION OF A PERMIT DECISION:

The DC may reevaluate a permit decision at any time or as circumstances warrant (33 CFR 325.7), including:

1. When the permittee fails to comply with the terms and conditions of the permit.
2. New information is provided to the Corps that was not considered in reaching the original decision.
3. If the activity is found to have greater than minimal net adverse impacts to the aquatic ecosystem.
4. If the activity is found to be contrary to the Public Interest.

A re-evaluation may result in use of suspension, modification, and revocation procedures cited at 33 CFR 325.7.

V. EXTENSION, MODIFICATION, AND REVOCATION OF THE GP:

1. This permit expires on October 31, 2019.
2. This GP may be modified, extended, discontinued or revoked at any time by issuing a Public Notice, if the DC finds that the individual or cumulative effects of the authorized activities have an unacceptable adverse impact on the environment or on the Public Interest. If discontinued or revoked, prospective permittees will then be required to apply for an individual permit.

3. Operations that are authorized and underway by the expiration date of the GP have twelve (12) months to complete their work under the terms and conditions of this GP. The permittee must also notify the Corps of his/her intent to continue mining.
4. Further time extensions may be considered on a case-by-case basis under the provisions of 33 CFR 325.6.

VI. LIMITS OF THIS AUTHORIZATION AND TO FEDERAL LIABILITY

A. LIMITS OF THE AUTHORIZATION: This permit does not grant any property rights or exclusive privileges, does not authorize any injury to the property or rights of others and does not authorize interference with any existing or proposed Federal Project.

B. LIMITS TO FEDERAL LIABILITY:

In issuing this permit, the Federal Government does not assume any liability for:

- Damages to permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- Damages to permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- Design or construction deficiencies associated with the permitted work.
- Damage claims associated with any future modification, suspension, or revocation of this permit.

VII. ACRONYMS AND DEFINITIONS

A. ACRONYMS

ADEC – Alaska Department of Environmental Conservation

ADFG - Alaska Department of Fish & Game

ADNR-DOM/(DMLW) – Alaska Department of Natural Resources, Division of
Mining, Land and Water

BLM - Bureau of Land Management

Corps - U.S. Army Corps of Engineers

CWA - Clean Water Act

DA – U.S. Department of Army

DC – District Commander

EPA – U.S. Environmental Protection Agency

NMFS - National Marine Fisheries Service

The Service - U.S. Fish and Wildlife Service

SHPO – State Historic Preservation Office

Wetland JD - Wetland Jurisdictional Determination

B. DEFINITIONS

1987 Corps of Engineers Wetland Delineation Manual: The federal delineation manual, dated January 1987, used in the Clean Water Act Section 404 regulatory program for the identification and delineation of wetlands. The manual requires evidence of wetland vegetation, soils, and hydrology in order to determine that an area is a wetland. <http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf>

2007 Alaska Regional Supplement to the Corps Wetland Delineation Manual: The federal guide to identifying wetlands in Alaska.

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse effects on the environment resulting from development. BMPs are categorized as structural or non-structural.

Buffer: A riparian buffer is a vegetated area (a "buffer strip") near a stream, usually forested, which helps protect a stream from the impact of adjacent land uses. It plays a key role in increasing maintaining ecosystem processes or functions, in associated streams, rivers, and lakes..

Compensatory Mitigation: For unavoidable impacts to streams and wetlands, compensatory mitigation is required to replace the loss of the aquatic resource. The Corps is responsible for determining the appropriate form and amount of compensatory mitigation required. Methods of compensatory mitigation include Mitigation Banks, In Lieu Fee programs, and Permittee Responsible Mitigation.

Ecological Functions: Ecological processes such as water quality improvement, floodwater storage, fish and wildlife habitat, and biological productivity, that occur within a watershed. Processes may be expressed as rates, which means that they can be measured.

Excessive erosion: Gullyng, head cuts, caving, block slippage, or sloughing of material into waters of the U.S., including wetlands and streams, after placement.

Floodplain: Land area bordering a stream that is subject to flooding during high water, when the stream overflows its bank.

Functional lift: Improvement in ecological function, due to difference between the pre-mining and post-mining condition of a site.

General Permits: Permits issued nationwide or regionally for a category or categories of activities that are either similar in nature and cause only minimal individual and cumulative adverse impacts (Nationwide and Regional General Permits) or would result in avoiding unnecessary regulatory control exercised by another federal, state, or local agency and the environmental consequences of the activity would be individually and cumulatively minimal (Programmatic General Permit).

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

In-lieu Fee Mitigation: Program run by a government or non-profit management entity that accomplishes compensatory mitigation by accepting funds for purchase of mitigation credits. Similar to a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees. The In Lieu Fee program then takes over the responsibility for compensatory mitigation. However, the rules governing in-lieu fee programs are somewhat different from the rules governing mitigation banks.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Mitigation Bank: A site, or group of sites, where resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved for the purpose of providing compensatory mitigation for impacts from Section 404 CWA permits. In general, a mitigation bank sells compensatory mitigation credits to permittees. The Mitigation Bank takes over the responsibility for compensatory mitigation from the permittee. The operation and use of a mitigation bank are governed by a mitigation banking instrument.

Mitigation Statement: Required element in a Corps permit application that states how the permit applicant plans to avoid, minimize, or mitigate unavoidable impacts to aquatic resources.

Ordinary high water mark: The line on the shore established by the fluctuations of water, and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Performance standards: Observable or measurable physical (including hydrological), chemical and/or biological attributes that are used to determine if a compensatory mitigation project is successful.

Permittee-Responsible Mitigation: The permittee must propose and prepare the mitigation plan, including all 12 elements, which must be approved by the Corps prior to the start of work.

Permittee Responsible Mitigation for the Alaska Miner: The permittee must propose and prepare an abbreviated mitigation plan, which consists largely of Baseline Information and a Mitigation Work Plan.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Programmatic General Permit: A type of regulatory permit issued by the Corps which authorizes states, local governments, tribes, or other federal agencies with regulatory programs comparable to the Corps' Section 10 or 404 Program to issue permits for specified activities in lieu of direct Corps' issuance of such permits.

Riparian area: Lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Stream channel: Bed, Bank, ordinary high water bankfull, width and depth. Physical dimensions include: length, meander pattern, gradient, channel cross-section. Physical characteristics include: substrate, design discharge, watershed size.

Stream diversion: removal of a stream from its natural course or location by canal, pipe or other conduit.

Uplands: Land above the level where water flows or where flooding occurs.

Vegetated Stream Buffer area: Lands bordering streams that have a designated width for the purpose of maintaining certain ecosystem functions such as flood protection, stream bank and/ or stream channel stabilization, habitat, and water quality protection.

Watershed: A land area that drains to a common waterway, such as a stream, lake, or estuary

Wetland: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

VIII. CORPS GP PACKET – SEE ATTACHMENTS 1 through 4

WETLAND JURISDICTIONAL DETERMINATION

A Wetland Jurisdictional Determination (Wetland JD) determines if a USACE "404" permit is required. A JD is required every 5 years, or, when a new area is impacted. Certain information is required. Please submit Wetland JD information with brand new APMAs and renewed Multi-Year APMAs.

1. As a service, the Corps will conduct an offsite Wetland JD when you provide a photo of your operation (a) and answer a few other questions (b.)

a. Photograph of your operation, with outline showing all activity and facility locations for the next five years. Photos must be clear, readable, and reproducible. Sources of photos include (Please check)

- Aerial photos from your land manager, from a website or other source, showing the footprint of your operation.
- Photos taken by you. On a map, mark locations of where you took photos. Please provide all of the following:
 - vegetation on and around your operation
 - soil profile (from a bucket or shovel cut), Include an object for scale.
 - creek and riparian area (if within your plan of operation)
 - photos taken from top of hill or other high location to get an aerial view
 - general photos of your operation

b. Other Questions - Do you have: (check all that apply):

- Vegetation: black spruce shrubs tussocks muskeg Other
- Non-pay Overburden: None Gravel _____ feet Organic material _____ feet
- Hydrology - Do you have:
 - ponds that have naturalized
 - other areas with saturated soil, or standing water
 - frozen ground (permafrost soils)

How much of your proposed operation area has been previously mined? _____ Acres
 What is the total size of your operation (including new areas)? _____ Acres
 How many acres are black spruce, muskeg, frozen ground, etc.? _____ Acres
 How many acres do you think are uplands? _____ Acres

2. Hire a wetland consultant to do a JD for you.

3. Operators working in uplands do not need a Corps permit. Uplands include areas such as old tailings or other well drained areas. As a service, Corps will supply letters stating that 'No Permit is Required' to operators who supply photos of their operations in uplands.

Applicant
or Agent: _____

Print Name

Signature

Date

Applicant Proposed Mitigation Statement

Your mitigation statement contains three (3) parts:
Avoidance, Minimization, and Compensatory Mitigation

1. **Avoidance:** Please describe how you will avoid impacts to waters of the U.S. (streams and wetlands). **Mark all that apply. Use another page if needed:**

• **Roads:**

- use existing roads
- construct in uplands
- use winter access
- one (1) road, not multiple, through wetlands

• **Streams:**

- avoid crossing during rain or flood events
- leave riparian buffer along streams
- use bridges across streams where possible
- avoid stream diversions where practicable

Other Avoidance Measures:

• **Design of mine operation:**

- establish camp, storage and processing areas in uplands
- mine only pre-drilled, economic ground
- avoid working in wetlands where practicable
- locate stockpiles/pads/tailings away from streams
- place stockpiles in uplands
- stabilize/ protect stockpiles to avoid erosion, sedimentation

2. **Minimization:** Describe how you will minimize impacts to waters of the U.S. (streams and wetlands). **Mark all that apply. Use another page if needed:**

• **Before mining:**

- plan flow of material – how many CY to be moved & where will it go

• **Exploration:**

- drill in winter using track vehicles
- utilize drill holes instead of trenches
- use platforms instead of fill pads for drilling
- dispose of drill mud into a containment sump

• **Design of mine operation:**

- limit advance stripping to what can be mined in one season
- salvage or create areas to grow shrubs, for reclamation
- settling pond designs: capacity calculation, at least two feet of freeboard, overflow spillway or infiltration ditch
- stack stockpiles higher to minimize footprint in wetlands

Other Minimization Measures:

• **Roads:**

- use geo-textile material for roads and drill pads
- limit road footprint through wetlands
- use correctly sized culverts where needed

• **Streams:**

- use one (1) crossing or access road, not multiple
- construct a floodplain or flood prone area to reclaim your diversion
- grade to match up & down-stream gradient
- minimize depth to minimize water table drop

• **Reclamation**

- Implement concurrent reclamation
- Use vegetation that has been salvaged or grown on-site

-PLEASE COMPLETE SECOND PAGE-

3. Compensatory Mitigation: Please check how you will mitigate to meet the 2008 Compensatory Mitigation Rule

_____ **Option A – Permittee Responsible Mitigation for the Alaska Miner:**

- This requires additional information from you. Please fill out the Permittee Responsible Mitigation Plan for the Alaska Miner (Corps GP Packet, Attachment 3)
- This requires your commitment to approved reclamation actions.

–OR–

_____ **Option B – Purchase of credits from a Mitigation Bank or In-Lieu Fee Program:**

- Fee is based on the acreage and type of waters of the U.S. (wetlands and streams) affected by your operation. If available, you may select a Mitigation Bank or an In-Lieu Fee Program. The Corps must approve your proposal, but has no input into the cost of the credits.
- Mitigation Banks and In-lieu Fee Mitigation Programs have already completed the mitigation plan process. Once the fee is paid, the Bank or In Lieu Fee Sponsor assumes all responsibility for the mitigation. The difference between the two is that Mitigation Bank Sites are selected and approved in advance, while In-Lieu Fee Sites are purchased with the fees received from permittees after-the-fact.
- Please reference the Mining Link on the Corps website to see if there are any Mitigation Banks or In Lieu Fee programs available for your location at this time.

Applicant Signature

Date

Permittee Responsible Mitigation Plan for the Alaska Miner:

Table of Contents

- 1. Baseline Information
- 2. Mitigation Work Plan

1. Baseline Information: *Please describe your proposed compensatory mitigation site.*

a. Site information: *(Have you included these? Mark all that apply)*

- Location map(s)
 - general location in the valley/watershed
 - specific location along the creek/from the creek

- Plan Maps showing all activity and facility locations
 - location of the creek in reference to your operation
 - existing operation
 - future operation (where will your Multi-year APMA expand)
 - camp location
 - pad locations (storage, processing areas, etc)
 - settling ponds
 - stockpile locations

- Photos for a Wetland JD
 - Aerial photos
 - site photos of stream
 - vegetation photos of the following locations:
 - proposed roads
 - proposed camps
 - future expansion area of your operation

- Information about known historic mining disturbance
 - map showing where this disturbance is in compared with your current and future operation area
 - other information:

b. Streambank information:

- 1) At your mine, have you disturbed, or will you be disturbing the streambank?
[] Yes [] No
- 2) If yes, please describe: mine access road, water access road, vegetation clearing etc:

- 3) Dimensions of disturbance(s):

c. Stream by-pass or diversion information:

- 1) At your mine, have you constructed, or will you be constructing a stream by-pass or diversion? [] Yes [] No
- 2) If yes, how long has this by-pass or diversion been in place?
- 3) If yes, how long do you intend to use the by-pass or diversion?
- 4) Dimensions of by-pass or diversion:
- 5) Fish Status (salmon, grayling, no fish, no fish sampled - consult ADFG):
- 6) Are there identified spawning, rearing or migration areas for fish in the stream?

Describe:

2. Mitigation Work Plan

Please describe how you will satisfy permittee-responsible mitigation for your operation. Miners decide which mitigation options will work best for his/her operation. Apply your knowledge of site-specific conditions, taking into account:

- *Location in the watershed: Upper headwaters, mid-reach, lower reach*
- *Valley width*
- *Previous mining impacts*
- *Permafrost conditions*
- *Regional growing seasons and recovery rates*
- *Availability of equipment*

Overall Mitigation goals:

- *Accomplished by miners, on or nearby your mine claims*
- *Use materials and other resources that are at or nearby your mine claims*
- *Based on where your impacts are located, choose mitigation options to satisfy your compensatory mitigation requirements. There are three zones:*
 1. *Impacts to wetlands greater than 50 feet from the stream*
 2. *Impacts to wetlands within 50 feet of the stream, including the stream bank*
 3. *Impacts to the stream*
- *Reclamation activities that improve function of the aquatic environment*
 - *Wetlands*
 - *Reclaim to improve "surface water runoff management" at your site*
 - *Reclaim to improve "habitat" function*
 - *Reclaim to bring back "wetlands"*
 - *Streams*
 - *Reclaim to improve water "transport and storage" functions*
 - *Reclaim to improve "management of water energy" functions*
 - *Reclaim to improve "sediment processes"*

Three Zones (depending on the location(s) of your project impacts)**I. Wetlands greater than 50 feet from streams:**

Goals: Improve "surface water runoff management" and "habitat"; bring back "wetlands". These functions are inter-related.

1. Ideas for improving management of surface water runoff:

How can you slow, spread and sink surface water runoff so that it stays on site?

 - Slow water by breaking up slopes to include terraces, shelves, or benches, with or without planting
 - Spread and sink water by constructing shallow swales and/or depressions:
 - Shallow swales and depressions collect and hold water and sediment;
 - May be located at toes of slopes to catch sediment;
 - Depressions should be dish shaped with rounded margins.
2. Ideas for improving habitat:
 - Many species, including moose, snowshoe hare, voles, and birds, utilize dense new stands of shrubs for cover, shelter and food.
 - Encourage natural re-vegetation of by grading portions of your site to collect and hold moist soil.
3. Ideas for restoring wetlands:

Shape areas of the floodplain to promote natural re-establishment of wetlands.

 - Objective is to establish topography at an elevation where soil saturation occurs:
 - Mimics the existing natural floodplain topography
 - Creates habitat diversity
 - Creates a suitable environment for wetland establishment
 - Construct off channel (floodplain) wetlands:
 - Off channel wetlands should be more than 25 feet from the bank of the channel
 - Off channel features should not encroach on adjacent slopes
 - Avoid creating steep slopes near channels or in floodplains (erosion potential)
 - Construct Flood Flow Channels:
 - Construct shallow channels in the floodplain, generally parallel to stream flow, that will slow down and store excess water during flood events;
 - Construct Depressions:
 - Shallow depressions are areas where water and sediment can accumulate;
 - Located at toes of slopes near floodplain to catch sediment;
 - Created depressions should be dish shaped; and
 - Depression margins should be rounded.
 - Include Elevated Areas:
 - Elevated areas within the floodplain provide areas for woody debris to beach during flood events;
 - Located anywhere within the floodplain but may be created along channel margins through rehabilitated area; and
 - Should be no more than 1 foot above the rehabilitated floodplain surface.
 - Re-construct setting ponds into shallow ponds with a shallow underwater shelf around the edge. Describe and show plans with pond and shelf dimensions.
 - Suggest other practices you know of that can improve the functions: Describe:

II. Wetlands within 50 feet of streams:

Goals: Improve "management of water energy"; provide "flood plain connectivity"; improve "habitat"; improve "water transport and storage" and "sediment processes". These functions are inter-related.

- Pull back or remove unstable stockpiles and tailings
- Provide grading and structures for "surface water runoff management"
- Provide vegetated stream buffers:
 - Leave existing vegetation and topography – trees, shrubs, old channels
 - Re-establish vegetated stream buffer –
Choose local plant materials such as willows, alders and cottonwood. Timing is crucial to re-vegetation success. Spring planting is ideal in places where the primary growing season occurs in the late spring and/or summer. The end of the planting season for Interior Alaska generally falls between August 15th and 31st. Some common re-vegetation alternatives include:
 - Remove soil and vegetation from an undisturbed location and placing the material in shallow depressions
 - Create shrub clump nursery on-site
 - use shrubs that removed for mining operation
 - use later to re-establish buffer
 - Re-plant willow saplings/ or plant dormant or rooted cuttings, or bundles.
 - Plant seedlings or seeds, and applying fertilizers

*Reference material from the State of Alaska can be found at:
www.adfg.alaska.gov/index.cfm?adfg=streambankprotection.main
http://plants.alaska.gov/interior_reveg/interior_reveg_web.pdf*

- Floodplain rehabilitation and connectivity –*During re-contouring, create a floodplain which promotes the following objectives:*
 - Transports incoming flood discharge through the rehabilitated area
 - Provides a buffer between rehabilitated channel and uplands
 - Creates a suitable environment for wetland establishment
- Floodplain Dimensions:
 - Floodplain should be graded to no more than two (2) feet above the top of the rehabilitated channel bank;
 - Floodplain needs to match upstream floodplain width; and
 - Floodplain needs to match downstream floodplain width.

Wetlands within 50 feet of streams (Continued) Wetland creation in the floodplain:

Shape areas of the floodplain to promote natural re-establishment of wetlands.

- Objective is to establish topography at an elevation where soil saturation occurs:
 - Mimics the existing natural floodplain topography
 - Creates habitat diversity
 - Creates a suitable environment for wetland establishment

 Construct off channel (floodplain) wetlands:

- Off channel wetlands should be more than 25 feet from the bank of the channel
- Off channel features should not encroach on adjacent slopes
- Avoid creating steep slopes near channels or in floodplains (erosion potential)

 Construct Flood Flow Channels:

- Construct shallow channels in the floodplain, generally parallel to stream flow, that will slow down and store excess water during flood events;

 Construct Depressions:

- Shallow depressions are areas where water and sediment can accumulate;
- Located at toes of slopes near floodplain to catch sediment;
- Created depressions should be dish shaped; and
- Depression margins should be rounded.

 Include Elevated Areas:

- Elevated areas within the floodplain provide areas for woody debris to beach during flood events;
- Located anywhere within the floodplain but may be created along channel margins through rehabilitated area; and
- Should be no more than 1 foot above the rehabilitated floodplain surface.

Suggest other practices you know of that can improve the functions: Describe:

III. Stream channel impacts:

Goals: Improve "management of water energy"; provide "flood plain connectivity"; improve "habitat"; improve "water transport and storage" and "sediment processes". These functions are inter-related.

Practices which reduce head-cutting/channel degradation

Floodplain rehabilitation and connectivity –*During re-contouring, create a floodplain which promotes the following objectives:*

- Transports incoming flood discharge through the rehabilitated area
- Provides a buffer between rehabilitated channel and uplands
- Creates a suitable environment for wetland establishment

Floodplain Dimensions:

- Floodplain should be graded to no more than two (2) feet above the top of the rehabilitated channel bank;
- Floodplain needs to match upstream floodplain width; and
- Floodplain needs to match downstream floodplain width.

Provide vegetated stream buffers:

Leave existing vegetation and topography – trees, shrubs, old channels

Re-establish vegetated stream buffer –

Choose local plant materials such as willows, alders and cottonwood. Timing is crucial to re-vegetation success. Spring planting is ideal in places where the primary growing season occurs in the late spring and/or summer. The end of the planting season for Interior Alaska generally falls between August 15th and 31st. Some common re-vegetation alternatives include:

- Remove soil and vegetation from an undisturbed location and placing the material in shallow depressions
- Create shrub clump nursery on-site
 - use shrubs that removed for mining operation
 - use later to re-establish buffer
- Re-plant willow saplings/ or plant dormant or rooted cuttings, or bundles.
- Plant seedlings or seeds, and applying fertilizers

Reference material from the State of Alaska can be found at:

www.adfg.alaska.gov/index.cfm?adfg=streambankprotection.main

http://plants.alaska.gov/interior_reveg/interior_reveg_web.pdf

Suggest other practices you know of that can improve the functions: Describe:

Certification

Certify that information contained in the APMA and the Corps GP Packet truthfully represents the conditions at the project site and the plans I intend to follow.

Operator Signature

DATE

The Certification must be signed by the person who desires to undertake the proposed activity (applicant).

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.