APPENDIX A

CRITERIA FOR SOILS WITH HIGH POTENTIAL FOR AGRICULTURE DEVELOPMENT IN ALASKA

Note: The identified criteria corresponds to soils within Land Capability Class II, III, and IVc.

The area under consideration has a minimum frost free season of 65 days (32 degree base);
and
The major component soil(s) of the map unit has all of the following:

a) depth greater than 20 inches to a lithic or paralithic contact;

b) available water capacity of 3 inches or more in the surface 30 inches of soil;

c) texture of LS; LFS; LVFS; COSL; SL; FSL; VFSL; SI; SIL; L; SCL; SiCL; CL with less than 35 percent clay; or C with less than 60 percent clay within the surface 10 inches;

d) less than 35 percent rock fragments in the surface 10 inches with no more than 15 percent larger than 3 inches in diameter;

e) less than .01 percent stones (Class I) on the mineral surface;

f) permeability between 0.06 and 20 in/hour within 30 inches of the soil surface;

g) slope within 0 to 12 percent (permafrost soils with slopes less than 3 percent must have an on-site investigation to verify that the slope is convex and that sufficient drainage outlets are present to allow natural drainage when thawed;

h) well, moderately well, or somewhat poor drainage;

i) poor or very poor drainage if the water table is perched on permafrost and the drainage will improve to well, moderately well, or somewhat poorly if the permafrost is allowed to thaw;

j) flood hazard of less than 5 percent during the growing season;
and

k) product of K (erodibility factor) x percent slope is less than 4.5.

* For map units with less than 3 percent slope on permafrost soils, agriculture potential determinations must be made on-site.

-- **Alaska Exempt wetland designations** will be assigned to undeveloped sites only (natural vegetation) and will be based on criteria in Appendix A and the following guidance. Agricultural parcels recently developed on what may have been "AEW" sites, will be designated as upland if the site is effectively thawed and drained. Soils with high agricultural potential that are saturated due to permafrost and that have the potential to thaw and drain once the insulating vegetation is removed, are to be mapped as Alaska Exempt Wetlands (AEW) (See "Record of Decision For The Implementation of PL 99-349", January 1990). Because this category defines an area's natural potential to drain without further manipulation, it must be mapped somewhat subjectively based upon several interdependent factors. Drainable permafrost soils should be differentiated from non-drainable permafrost soils (W) by considering the interplay of factors such as landscape position; availability and distance to a drainage outlet; soil materials; and manipulation. Agricultural development practices (such as complete removal of the organic mat, proper berm placement, adequately sized clearing, and yearly cropping) are to be assumed. Landscapes with convex topography or slopes of 2 percent or more; course textured soils underlain by subsurface gravel, and a nearby outlet for surface drainage are factors promoting drainage. Depressional, concave, toeslope and drainage-way positions in nearly level landscapes; heavy textured soils; thick organic mats; high ice contents; and a lack of drainage outlets, are considered factors limiting drainage. Because many sites will have some favorable and unfavorable characteristics, the decision affecting whether an area would drain, can be based upon how an adjacent or similar site reacted to clearing.