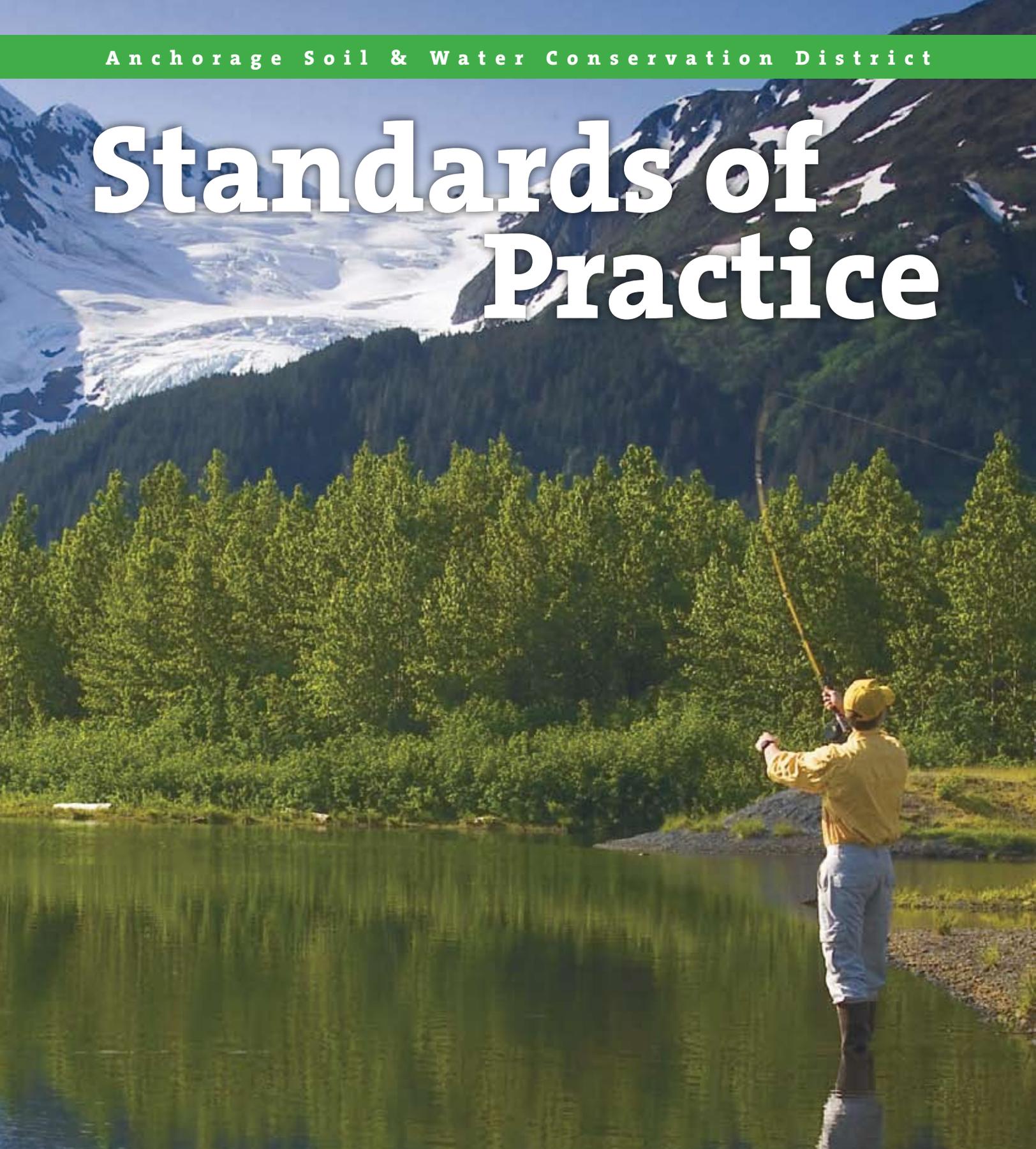


Anchorage Soil & Water Conservation District

Standards of Practice



Adopted March 21, 2007



**ANCHORAGE SOIL & WATER
CONSERVATION DISTRICT**



**A RESOLUTION OF THE ASWCD BOARD OF SUPERVISORS
ADOPTING ASWCD “STANDARDS OF PRACTICE”**

WHEREAS the mission of the Anchorage Soil & Water Conservation District (ASWCD) is to serve the public interest by

“Supporting self-governance and private property rights, to assist landowners and land managers with conservation and development through technical, financial and educational programs.”

WHEREAS it is the responsibility of each of Alaska’s Soil and Water Conservation District’s (SWCDs) to adopt policies, definitions, and general standards of practice according to local needs and priorities;

WHEREAS the ASWCD has evaluated the needs and priorities of its Cooperators, the lands and waters within the Municipality, and has responded by implementing policies and procedures that fulfill those needs; and

WHEREAS the partnership between the ASWCD and its Cooperators is based in trust, absolute confidentiality, and mutual respect and conservation goals;

THEREFORE BE IT NOW RESOLVED that the ASWCD hereby adopts the following as our Standards of Practice. Amendments to these standards may only be amended during a public meeting of the ASWCD Board of Supervisors, following a majority vote of the Board of Supervisors.

PASSED AND APPROVED this 21st day of March, 2007.

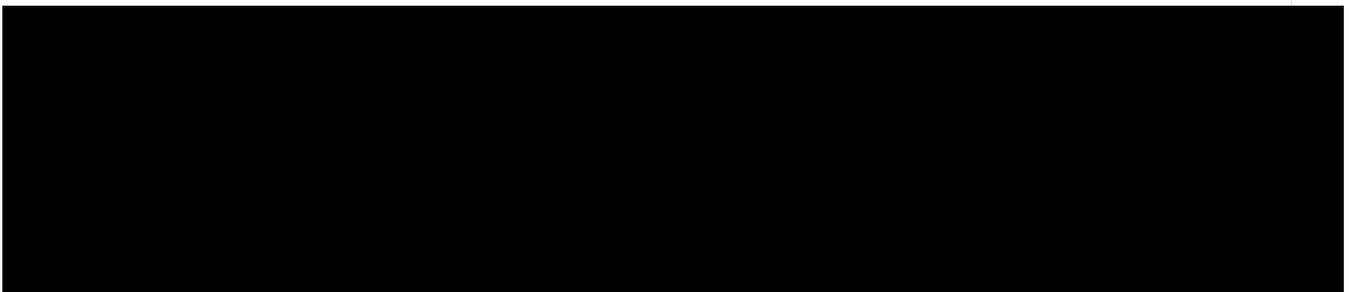


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Section 1 – Authority and Purpose

Section 1.01

Mission of the ASWCD

“Supporting self-governance and private property rights, to assist landowners and land managers with conservation and development through technical, financial and educational programs.”

Section 1.02

Statute

The SWCD’s of Alaska are established and governed within Alaska Statute 41.10 (See Appendix A), with the responsibility to serve the public interest by:

- Providing for the development, use, and conservation of this land in accordance with its capabilities;
- Providing for the orderly development of land, for guiding settlement, and for conserving soil and water resources and controlling and preventing soil erosion;
- Receiving and reviewing reports concerning the use of soil resources of the state;
- Holding public hearings and meetings to determine whether land in the state is being used in a manner consistent with sound soil and water conservation practices;
- Making recommendations for specific action necessary to provide for the effective and orderly development of agricultural, forest, and grazing land in the state;

By Statute, the SWCDs of Alaska are under the authority of the Natural Resources Conservation and Development Board (NRCDB), appointed by the Governor of the State of Alaska and is advised by, and advises, the Commissioner of the State of Alaska, Department of Natural Resources.

Section 1.03

Election of the Board of Supervisors

The ASWCD Board of Supervisors consists of five ASWCD Cooperators, elected by their fellow Cooperators, through a public election overseen by the State of Alaska, Department of Natural Resources. From this elected body, a Chair, Vice-Chair, Treasurer, and Secretary are elected by the Supervisors.

Section 2 – Definitions

Section 2.01 Definitions

The ASWCD hereby adopts the following definitions:

Conservation Plan means a document created in partnership between a Cooperator and the ASWCD that illustrates the Producers' wishes for the land, conservation of natural resources, and implements Best Management Practices based on the ASWCD's adopted standards. If landowner/Cooperator elects to use cost share assistance from the Natural Resources Conservation Service (NRCS), the Conservation Plan must be accomplished using NRCS standards and specifications with an NRCS planner. NRCS and ASWCD Conservation Plans may adopt the same or similar principles, and work in concert with each other.

If a Cooperator utilizes a NRCS Conservation Plan, Cooperator must supply a copy to the ASWCD to be in compliance with Municipal law and to be protected under State law. The NRCS does not share its information with the ASWCD.

Cooperator means a property owner, land manager or other controller of land, and that land's renewable natural resources, in an agreement with the ASWCD.

Informal Cooperator means a partner, project, or other agreement with the ASWCD where the Cooperator does not have control and/or legal authority over the property on which the project exists. An example of an Informal Cooperator is a property owner adjacent and involved with a project within an adjacent Municipality-owned creek and setback.

Natural Resources Conservation Service means the federal agency within the U.S. Department of Agriculture which provides technical assistance service to any non-federal landowner; and additionally has financial assistance programs to assist landowners with the installation of conservation practices.

Producer means a Cooperator who develops and/or utilizes the renewable natural resources under their control and/or ownership, including but not limited to farming and forestry.

Land User or User of Land (AS 41.10.140) means a person who:

- (A) is a producer of renewable resources, including farming and forestry; and
- (B) has a current cooperative agreement with a soil and water conservation district.

Section 3 – Cooperators’ Rights

Section 3.01 Cooperators’ Rights

The ASWCD adheres to strict policies for the protection of our Cooperators.

Confidentiality – At all times Cooperator information, including but not limited to files, photographs and personal communications, are to be kept strictly confidential by the ASWCD, its contractors and assigns. All persons entering a Cooperator’s property must have a signed Confidentiality Agreement on file with the ASWCD. All discussions at ASWCD meetings regarding specific properties and/or Cooperators are held in executive session unless that right is waived by the Cooperator.

Private Property Rights – At all times Cooperators, and their rights, will be respected. Private property rights are one of the most sacred rights as Americans. At all times the ASWCD and the Cooperator are equal partners. Conservation Plans and projects will reflect the wishes of the Cooperator. Alaska Statute 41.10.120 states that a survey, investigation or plan for land may not be undertaken without the prior approval of the user of the land.

Section 4 – Focus of the ASWCD

Section 4.01

Support of Property Owners

The ASWCD serves the public interest by providing assistance to private property owners within the Municipality in the development of science-based planning, site development and/or project permitting processes, in the resolution of code enforcement and other regulatory issues, and in the day-to-day issues that may arise in this mixed urban and rural District.

Section 4.02

Support of Agriculture

Agriculture takes on many faces within the Municipality, including commercial boarding and riding facilities, therapeutic riding program for handicapped children, horseback riding companies, tourism activities, gardening and greenhouses, crop production, and thousands of properties that are agriculturally active.

The ASWCD is the only organization in the Municipality dedicated to the support of our agriculture. Anchorage's agricultural-related properties contribute millions of dollars to Alaska's economy and jobs. Anchorage is heavily dependent on other areas of the State for the production of our hay, straw, and feed, and is a significant contributor to inter and intra state trade.

Section 4.03

Wildfire Fuel Reduction & Biomass Utilization

The ASWCD has a sizeable program dedicated to the reduction of the wildfire threat within the Municipality.

Biomass utilization is a natural cousin to wildfire mitigation. The District is exploring alternative energy, land cover, and private-sector utilization options.

Section 4.04

Community Projects

The ASWCD contributes throughout the year to community projects, whether accomplished by schools, community groups, agencies, or volunteers. Projects will undergo an application process and approval or denial by the ASWCD Board of Supervisors.

Section 4.05

Watershed Health

As watershed health is important to the Municipality's drinking water sources, recreation, and wildlife, the ASWCD has a focus on watershed health. The ASWCD participates in and/or manages projects within the Municipality that improve water quality, wildlife habitat, stream health, or aid in orderly development by addressing issues present or those foreseen.

Section 5 – ASWCD Conservation Plans & Compliance

Section 5.01

Technical Standards

The ASWCD utilizes best management practices that have been proven effective within Alaska.

ASWCD Conservation Plans contain five components, when applicable:

1. Planning & Documentation
2. Soils, Vegetation and Buffering Plan
3. Manure Management Plan
4. Drainage, Erosion and Watershed Protection Plan
5. Pest Management Plan

This section contains the most common practices within the Municipality.

Section 5.01.01

Planning and Documentation

The Planning and Documentation component of an ASWCD Conservation Plan will contain aerial photos, most current plat or survey of property, and a record of the property owner's wishes for utilization of the property. If there is not a current survey and/or as-built of the property, one may need to be completed.

Site Planning

Select the best location for barns, fields, manure store containers or compost bins, watering systems, and fencing. If the site is not well-planned, it becomes more difficult to manage, prevent diseases, control pests, and prevent pollution. Some hints include:

- Allow for as much vegetated area as possible between animal waste and any water body.
- Locate heavily-used areas on higher grounds that will be drier and receive less runoff.
- Watering systems such as troughs should be strategically located to ensure that the animals can access them from all fields.
- Situate the paddocks or exercise area close to the barn if possible. This allows easy release of animals to get their daily exercise.
- Comply with all federal, state and local codes such as building setbacks, stream setbacks and discharge laws concerning pollutants leaving your property.

Section 5.01.02

Soils, Vegetation and Buffering Plan

Soils Health

Twenty nutrients have been identified that are required by plants. Of these, nitrogen, phosphorus, and potassium are required in relatively large amounts. Nitrogen is associated with lush vegetative growth, adequate phosphorus is required for flowering and fruiting, and potassium is necessary for durability and disease resistance. Calcium, sulfur, and magnesium are also required in comparatively large quantities. These six nutrients are referred to as macronutrients.

The other nutrients, referred to as micronutrients, are required in very small amounts. These include such elements as copper, zinc, iron, and boron. While both macro and micronutrients are required for good plant growth, over-application can be as detrimental as a deficiency. Over-application of plant nutrients not only may impair plant growth, but may contaminate groundwater by leaching through the soil or pollute surface waters by washing away.

The ASWCD recommends bi-yearly soil sampling and testing of the soils of your property. See the District for assistance.

Fertilizers and soil amendments

Once you have the results of a soil test, you can add nutrients or soil amendments such as lime, as needed. If you need to raise the pH, use lime. Lime is most effective when it is mixed into the soil, therefore, it is best to apply before planting. For large areas, rototilling is most effective. For small areas or around plants, working the lime into the soil with a spade or cultivator is preferable. When working around plants, be careful not to dig too deeply or so roughly that you damage plant roots. Depending on the form of lime and the soil conditions, the change in pH may be gradual. It may take several months before a significant change is noted. Soils high in organic matter and clay tend to take larger amounts of lime to change the pH than do sandy soils.

If you need to lower the pH significantly, especially for plants such as rhododendrons, you can use aluminum sulfate. Other commercially available fertilizers will also help lower the pH. In all cases, follow the soil test or manufacturer's recommended rates of application. Again, mixing well into the soil is recommended.

There are numerous choices for providing nitrogen, phosphorus, and potassium. If your soil is of adequate fertility, applying compost may be the best method of applying additional nutrients. While compost is relatively low in nutrients compared to commercial fertilizers, it is especially beneficial in improving the condition of the soil. By keeping the soil loose, compost allows plant roots to grow well throughout the soil, allowing them to extract nutrients from a larger area. A loose soil enriched with compost is also an excellent habitat for earthworms and other beneficial soil microorganisms that are essential for releasing nutrients for plant use. The nutrients from compost are also released slowly so there is no concern for "burning" the plant with an over-application.

Manure is also an excellent source of plant nutrients and organic matter. Manure should be composted before applying. Fresh manure may be too strong and can injure plants. Be careful when composting manure. If left in the open, exposed to rain, nutrients may leach

out of the manure and the runoff can contaminate waterways. Make sure the manure is stored in a location away from wells and any waterways, and that any runoff is confined or slowly released into a vegetated area. Improperly applied manure also can be a source of pollution. For best results, work composted manure into the soil.

If preparing a bed before planting, compost and manure may be worked into the soil to a depth of 8 to 12 inches. If adding to existing plants, work carefully around plants.

Green manures are another source of organic matter and plant nutrients. Green manures are crops that are grown and then tilled into the soil. As they break down, nitrogen and other plant nutrients become available. Green manures may also provide additional benefits of reducing soil erosion. Green manures such as rye and oats are often planted in the fall after the crops have been harvested. In the spring, these are tilled under before planting.

With all organic sources of nitrogen, whether compost or manure, the nitrogen must be changed to an inorganic form before the plants can use it. Therefore, it is important to have well-drained, aerated soils that provide the favorable habitat for the soil microorganisms responsible for these conversions.

There are numerous sources of commercial fertilizers that supply nitrogen, phosphorus, and potassium. The first number on the fertilizer analysis is the percentage of nitrogen, the second number is phosphorus, and the third number is the potassium content. A fertilizer like 10-20-10 has twice as much of each of the nutrients as a 5-10-5. How much of each nutrient you need depends on your soil test results and the plants you are fertilizing. As was mentioned before, nitrogen stimulates vegetative growth while phosphorus stimulates flowering. Too much nitrogen can inhibit flowering and fruit production. For many flowers and vegetables, a fertilizer higher in phosphorus than nitrogen is preferred, such as a 5-10-5. For lawns, nitrogen is usually required in greater amounts, so a fertilizer with a greater amount of nitrogen is beneficial.

Fertilizer Application

Commercial fertilizers are normally applied as a dry granular material, or mixed with water and watered onto the garden. If using granular materials, avoid spilling on sidewalks and driveways. These materials are water soluble and can cause pollution problems if rinsed into storm sewers. Granular fertilizers are a type of salt, and if applied too heavily on plants, they can burn the plants. If using a liquid fertilizer, apply directly to or around the base of the plant.

For the most efficient use and to decrease the potential for pollution, fertilizer should be applied when the plants have the greatest need for the nutrients. Plants that are not actively growing do not have a high requirement for nutrients. Therefore, applications of nutrients to dormant plants, or plants growing slowly due to cool temperatures, are more likely to be wasted. While light applications of nitrogen may be recommended for lawns in the fall, generally, nitrogen fertilizers should not be applied to most plants in the fall in regions of the country that experience cold winters. Since nitrogen encourages vegetative growth, if it is applied in the fall it may reduce the plant's ability to harden properly for winter.

In some gardens, fertilizer use can be reduced by applying it around the individual plants rather than broadcasting across the entire garden. In the case of phosphorus, much of the fertilizer phosphorus becomes unavailable to the plants once spread on the soil. For better plant uptake, apply the fertilizer in a band near the plant. Do not apply directly to the plant or in contact with the roots.

Planned Grazing System

If you pasture livestock, a system of rotating grazing areas is incredibly effective in the prevention of soil erosion, the treatment of on-site drainage, and can be highly healthful for your livestock.

Overgrazing is a common problem when large animals are kept on smaller properties. No matter how much food is provided, livestock will selectively eat all their favorite growing vegetation. Less favored vegetation will eventually die out due to constant trampling and over-compaction of the soil by the weight of the animals. The exposed soil becomes vulnerable to erosion and contribution to pollutants, such as sediments and nutrients, to pass to adjacent properties and water bodies.

Well-managed pasture not only prevents erosion, it also provides horses and ponies with high-quality, nutritious feed at a lower cost. The main components of a planned grazing system are simple:

- Maintain the fertility level of the soils in pasture areas for optimum yield and vegetation health.
- Install fencing dividing the pasture area into smaller fields by gated fencing or portable fencing. The ASWCD will assist the Cooperator in the design and implementation of a system that allows the Cooperator to selectively pasture his or her livestock according to a rotational schedule, thereby preventing over-grazing.
- When the pastures are wet and soft, especially after heavy rains or spring breakup, livestock's hooves can cause considerable damage. It is best to keep them out of the pasture until it dries.
- Seed your pasture according to ASWCD recommendations. The ASWCD recommendations are based on Alaskan growing conditions and site-specific growing conditions.
- Control weeds. A lush pasture of grass and other livestock-friendly vegetation is the best way to keep weeds down. However, if your pasture has not yet established this level of lushness, mow the weeds regularly or before they flower to keep them under control. If herbicides are used, identify the weed and determine the most advantageous time to apply the treatment. High temperature and humidity enhance volatility and reduce the effectiveness of herbicides.

Terracing

Some areas of the Municipality have significant slopes and soils that inhibit and/or challenge the property's development, use, carrying capacity, and/or creates issues. In some cases, an option is terracing of the land. Terracing can increase the stability of significant slopes and add water-bearing capacity of the land, supporting and increasing healthy vegetation.

Critical Area Planting, Cover Crops, Vegetative Buffer Strips & Tree Planting

Planting areas can be of any size or shape depending on the purpose. Planting will be utilized within Conservation Plans for on-site treatment of drainage and runoff prevention, visual buffer between properties or roads, prevention of soil erosion, protection of water quality, and control of weeds within managed areas.

Wildlife Habitat, Woodland Management & Healthy Forests

The Municipality of Anchorage contains vast areas of open space and forest. These areas provide habitat for many species of wildlife. Effectively managing these areas under your control can benefit the property owner, the wildlife, and the land and waters in general.

Windbreaks

Significant areas of the Municipality are subject to high winds. To lessen the wind's effect on soils, vegetation and structures, windbreaks can be installed. Windbreaks usually take the form of vegetative buffers constructed with a mix of vegetation including large trees or trees that will establish themselves higher than 15-feet by mid-life.

Section 5.01.03

Manure Management Plan

Manure Management, Storage, Composting and Utilization

With ownership of livestock and other animals comes the responsibility to deal with their waste. ASWCD Conservation Plans utilize various options depending on Cooperator ability and goals.

On a small lot, animal waste accumulates rapidly. Without property management, the waste can wash off the land into a nearby water body or onto adjacent property. Manure contains plant nutrients (nitrogen and phosphorus), bacteria and pathogens.

Storage Facility – A well-built structure can be used as a storage facility. The structure must have adequate capacity to hold the volume of waste generated until it is disposed of or used. The structure should have a protective cover to keep out rainwater and disease-carrying agents such as flies and rodents.

Make plans for disposal or transfer of manure to ensure that when it is moved, it does not become a source of pollution at the new site. While in its raw state, stored waste can be spread on fields, lawns or gardens. Considering the possibility of parasite infestation and the presence of weed seeds, you should compost all waste before using.

Composting – Composting is an aerobic (oxygen-requiring) process in which microorganisms break down complex organic components of animal waste and bedding into simple organic, soil-like material called compost that can be used in several applications.

Utilization of compost has many benefits:

- It reduces environmental and health risks by controlling parasite re-infestation of livestock, eliminating a potential breeding site for flies, and reducing the amount of raw manure-polluted runoff that reaches surface and groundwater.
- It is valuable in erosion control, turf remediation, landscaping and crop production.
- Professional growers have discovered that compost-enriched soil can help suppress diseases and ward off pests. These beneficial uses of compost can save money, reduce the use of pesticides and herbicides, and conserve natural resources. In the poultry industry, composting has become a cost-effective method of mortality management because it destroys disease organisms and creates a nutrient-rich product that can be used or sold.
- Compost can be used in reforestation, wetlands restoration and habitat revitalization.
- It provides an efficient manure handling process by reducing the volume and odor potential.
- It enhances soil compaction, water-holding capabilities, and fertility for the yard, garden, or pasture.

A simple and relatively inexpensive composting method involves using a composting bin on a level, impervious surface. This is ideal for horse operations with three or fewer horses. The bin should be easily accessible from the stall and paddock areas and have a roof to control moisture content. For an operation with more than five livestock, a more considerable facility will need to be designed by the ASWCD.

Install the composting bin(s) on a non-porous (impervious) surface. Stack all materials to be composted in one bin until it is full, then allow the waste heap to go through the composting process while the second bin is being filled up.

Composting duration varies considerably depending on the organic materials being composted and other conditions. An ideal composting system may take eight to twelve weeks to complete. This progresses to a curing period which lasts for another four weeks. During this time, the pile cools down and recolonization of other soil microorganisms takes place. Certain conditions are necessary for timely completion of the composting process:

- Organic material to be composted must have the appropriate carbon to nitrogen (C:N) ratio that supports growth and activity of the microorganisms that carry out composting. These bugs use up carbon for energy and growth and nitrogen for protein to build up their bodies and reproduce.
- Typical compost piles for horse operations consisting of manure and bedding materials have a high C:N ratio. This combination composts well by itself, especially if the bedding material is straw. If the bedding material is a wood material, it may take longer to compost, depending on side of wood material. The composting process can be increased if materials with higher nitrogen content, such as grass clippings or urea, are added occasionally.
- Oxygen is needed by the microorganisms during respiration while breaking down the materials. Aerobic composting requires a lot of oxygen, particularly at the initial stage. A tremendous amount of energy in the form of heat is given off, creating an ideal environment for the microorganisms. The bugs operate best in temperatures between 110 and 150 degrees Fahrenheit. At 140 degrees or higher, pathogens, weed seeds and fly larvae in the composting materials are destroyed. However, at temperatures above 160 degrees, the microorganisms will die. Therefore, it is essential to regulate the oxygen and temperature levels by regularly turning the compost pile over about three times a month. Ideally, monitor the temperature using a long-stemmed thermometer.
- Moisture is necessary to permit biological activities and the supporting of chemical processes; however, too much moisture is highly problematic. Moisture should be about 50% of the content of the composting material. Estimate the moisture content by squeezing a handful of composted material. It should feel like a damp sponge after water has been wrung out of it; damp, but not dripping. Moisture is continually lost due to the high temperature. Therefore, regularly wet the materials without water-logging them.

Section 5.01.04 Drainage, Erosion, and Watershed Protection Plan

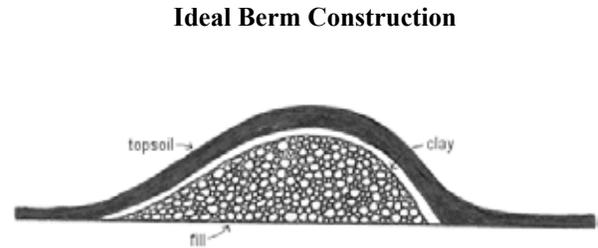
Drainage Improvements

Adequate drainage and filtration/treatment of on-site drainage is a significant issue within the Municipality. Sources of runoff that will need to be addressed include: snowmelt and rain events, uphill sources, and structure roofs (gutters). As these issues are addressed, so are most soil erosion issues.

Some options for drainage improvements are:

Diversions Berms and Bioswales

On some properties with drainage issues, diversion berms may be prescribed by the ASWCD. Basically an earthen structure designed to collect all drainage, berms can be greatly successful in addressing drainage issues. Berms can divert drainage into vegetated areas for filtration, or into retention or absorption areas.



Bioswales, in their simplest explanation, are vegetated berms constructed in a zig-zag pattern, designed to channel water back and forth through the berms, running the drainage through the vegetation thereby treating the drainage before discharge from the property or absorption. See discussion regarding 'filter strips.'

Drain Tiles and French-Drain Systems

Both drain tiles and French-drain systems work in generally the same manner. Both systems are buried under the property and collect the drainage.

Ditching

In some cases, simple ditching and manipulation of the natural gravitational flow of runoff can be sufficient.

Filter Strip

A filter strip or vegetated buffer is a strip of land that is vegetated, whether manmade or natural, that accepts the drainage from your property. The vegetation filters and cleans the water before it passes through or is absorbed into the ground within the strip.

Vegetated filter strips are areas of vegetation designed to remove sediment and other pollutants from surface water runoff by filtration, deposition, infiltration, absorption, decomposition, and volatilization. A vegetated filter strip is an area that maintains soil aeration as opposed to a wetland, which at times exhibits anaerobic soil conditions.

In most areas of the Municipality, large easements exist around all waterbodies. It is possible to enhance the vegetation within these easements in cooperation with the Municipality of Anchorage and affected agencies.

Stream and Wetlands Protection and/or Enhancement

Many properties within the Municipality are adjacent to or contain waterbodies. All ASWCD Conservation Plans will protect streams and wetlands from sources of pollution.

In many cases, the enhancement and/or protection of these areas is beneficial to the Cooperator.

Well Protection

Protection of the Municipality's drinking water sources is a paramount concern addressed in Conservation Plans. Soil around wellhead should be built up and sloped away from the wellhead. Wells must be properly maintained.

Pursuant to Anchorage Municipal Code, all wells must be a minimum of 50 feet from all animal enclosures.

"Rain Garden" Concept

The Rain Garden concept is the creation of a collection and absorption area on your property. All runoff is directed to this area to naturally absorb into the ground.

Roof Run-Off

All roof run-off from gutters should be directed away from running across unvegetated areas. If drain pipe is utilized, a thaw wire is recommended so the system is functional yearlong.

Section 5.01.05

Pest Management Plan

Pest Management/Control

Pest control refers to the regulation or management of another species defined as a pest, usually because it is believed to be detrimental to a person's health, the ecology or the economy.

Pest control is at least as old as agriculture. In order to maximize food production, it can be economically advantageous to protect crops from competing species of plants, as well as from herbivores competing with humans.

The conventional approach was probably the first to be employed, since it is comparatively easy to destroy weeds by burning them or plowing them under, and to kill larger competing herbivores, such as crows and other birds eating seeds. Techniques such as crop rotation, companion planting, also known as intercropping or mixed cropping, and the selective breeding of pest-resistant cultivars also have a long history.

Many pests have only become a problem because of the direct actions of humans. Modifying these actions can often substantially reduce the pest problem. In the USA, raccoons caused a nuisance by tearing open refuse sacks. Many householders introduced bins with locking lids, which deterred the raccoons from visiting. House flies tend to accumulate wherever there is human activity and is virtually a global phenomenon, especially where food or food waste is exposed. Similarly, Seagulls have become a pest at many seaside resorts. Tourists would often feed the birds with scraps of fish and chips, and before long, the birds would become dependent on this food source and act aggressively towards humans.

Chemical pest control dates back 4,500 years, when the Sumerians used sulfur compounds as insecticides. The Rig Veda, which is about 4,000 years old, also mentions the use of poisonous plants for pest control. And the ancient Chinese and Egyptians are also known to have used chemical pest control. But it was only with the industrialization and mechanization of agriculture in the 18th and 19th century, and the introduction of the insecticides pyrethrum and derris that chemical pest control became the method of choice. Chemical pest control is the predominant type of pest control today.

To reduce the dependency on chemicals, implement environmentally sound biological control techniques. One such technique involves releasing fly parasites (which are harmless to animals and humans) near barns, stables, manure piles, or any other area of expected fly concentration. The parasites lay their eggs inside immature fly pupae. The eggs of the parasite then hatch into larvae and feed on the inside of the pupae. One fly parasite can destroy as many as 50 fly pupae. For best results, release the parasites in spring before the fly population becomes a problem.

Section 5.02

Creation of Conservation Plans

Conservation Plans will be created by the ASWCD, its contractors and assigns according to the Cooperator's wishes and applicable Best Management Practices to address and/or prevent concerns. Where applicable, the ASWCD will recommend Best Management Practices and site engineering methods to assist the Cooperator in using the land within its capabilities. Conservation Plans are created including a schedule for construction and practice implementation within up to five years.

The steps in the creation of a Conservation plan are:

1. Identify opportunities, concerns and Cooperator goals;
2. Inventory natural resources;
3. Analyze resources;
4. Develop and evaluate alternatives;
5. Make decisions;
6. Implement Plan; and
7. Evaluate Plan and make adjustments as necessary.

Cooperators shall make sufficient annual progress to ensure that the standards will be met by the end of the schedule of compliance. After completion of planned improvements and practices within the schedule of compliance, Cooperator will be responsible to keep those improvements and practices maintained, sound, and in good working order.

Section 5.03

Schedule of Compliance

Upon the approval by both the Cooperator and the ASWCD a Conservation Plan, the Cooperator shall implement soil and water conservation Best Management Practices and standards, according to a schedule of compliance approved by the ASWCD, on all lands for which the Conservation Plan encompasses. Cooperator must keep within the schedule contained in the Conservation Plan at all times. Any breach of this schedule will result in an immediate Notification of Non-Compliance.

Section 5.04

Annual Certification

Pursuant to State Law, the ASWCD must re-certify compliance with a Conservation Plan once per year. Cooperators will grant access to their property to the ASWCD for this inspection, usually between June and October of each year. If the ASWCD is on the property for another reason or to give assistance, this visit may constitute the yearly inspection.

Section 5.05

Letter of Non-Compliance

Upon an inspection that deems the Cooperator in non-compliance with his or her Conservation Plan, the ASWCD will discuss options with the Cooperator, adjust the plan and compliance schedule if possible, and assist the Cooperator in reestablishing his or her compliance.

If these remedies are not successful, the ASWCD will issue a letter to the Cooperator notifying them of their non-compliance. This letter will be followed with a site-visit and re-check. If the Cooperator continues their non-compliance, a Notice of Non-Compliance will be issued and mailed to the Cooperator.

Section 5.06

Notice of Non-Compliance, Hearing, and Notification of Findings

Upon the issuance of the Notice of Non-Compliance, the ASWCD will schedule a closed hearing before the Board of Supervisors. This hearing will be scheduled for the next regularly scheduled Board of Supervisors Meeting or in extreme circumstances, an emergency meeting of the Board may be called. The hearing will take place in executive session; however, the Cooperator and the ASWCD reserve the right to allow anyone in the room they may wish.

If the ASWCD Board of Supervisors finds in the favor of the Cooperator, appropriate action will be taken immediately to rectify the situation, adjust the Conservation Plan and the compliance schedule if necessary and/or work with the Cooperator to resolve the issues.

If the ASWCD Board of Supervisors confirms the Non-Compliance and compliance cannot be achieved within a reasonable amount of time, a letter of findings will be prepared and mailed by Certified Mail to the Cooperator, the Municipality of Anchorage, and the State of Alaska.

Section 5.07

Cancellation of Notice of Non-Compliance

If a Notice of Violation is issued and the Cooperator subsequently complies with the required standards or re-establishes a schedule of compliance, the ASWCD shall cancel the Notice of Non-Compliance. Cancellation must be based on a field inspection of the property.

Section 5.08

Variances

The Conservation Plan and Schedule of Compliance can generally be amended at any time; however, should a situation arise, the ASWCD may authorize a variance from the schedule of compliance when, upon a showing by the Cooperator, unnecessary hardship would result from meeting the schedule of compliance. The variance process shall be initiated by the Cooperator, in writing to the ASWCD. The ASWCD will schedule a hearing before the ASWCD Board of Supervisors at the next regularly scheduled meeting.

Section 5.09

Changes to Conservation Plan

The Cooperator and the ASWCD may mutually agree to alter, edit and/or amend a Conservation Plan at any time. It is critical that plans be current with property owner's plans and changes in dynamics.

Section 6 – Protections Under ASWCD Conservation Plans

Section 6.01

Municipality of Anchorage

The ASWCD has the responsibility to the government of the Municipality of Anchorage to act responsibly in its fulfilling of its obligations under Anchorage Municipal Code 21.45.350.G.2. that provides, in part, that any large animal facility within the Municipality with four or more large animals shall be in compliance with an ASWCD Conservation Plan (See Appendix B, “Large Animal Ordinance”).

If in compliance with an ASWCD Conservation Plan, the ASWCD will assist Cooperators with any actions by the Municipality or other entities, will certify compliance with an ASWCD Conservation Plan, and will assist the Cooperator in his or her aspirations to become legal within the Anchorage Municipal Codes.

Section 6.02

State of Alaska

Alaska Statute 09.45.235 protects all ASWCD-Certified agricultural property owners in compliance with an ASWCD Conservation Plan, see Appendix C.

APPENDICES

APPENDIX A
ALASKA STATUTE 41.10

AS 41.10.010. Declaration of Policy.

The farm, forest, and grazing land of the state is a basic asset of the state. It is the policy of this chapter, in the interest of the health, safety, and general welfare of the people of the state, to provide for the development, use, and conservation of this land in accordance with its capabilities.

AS 41.10.030. Purpose of Chapter.

The purpose of this chapter is to provide for the orderly development of land, for guiding settlement, and for conserving soil and water and soil resources and controlling and preventing soil erosion.

AS 41.10.040. Natural Resource Conservation and Development Board.

The Alaska Natural Resource Conservation and Development Board is composed of five members. The commissioner or, in the absence of the commissioner, the director of agriculture, serves ex officio but without a vote on the board.

AS 41.10.065. Major Land Areas of the State.

The five major land areas of the state are:

- (1) the Arctic and northwest Alaska;
- (2) the Yukon and Tanana Valleys;
- (3) southwest Alaska and the Kenai Peninsula;
- (4) southcentral Alaska; and
- (5) southeast Alaska.

AS 41.10.100. Duties of Board.

- (a) At the request of the commissioner, the board shall meet and advise the commissioner in the exercise of the powers, duties, and functions of the commissioner.
- (b) The board shall also
 - (1) receive and review reports concerning the use of soil resources of the state;
 - (2) hold public hearings and meetings to determine whether land in the state is being used in a manner consistent with sound soil and water conservation practices;
 - (3) make recommendations for specific action necessary to provide for the effective and orderly development of agricultural, forest, and grazing land in the state;
 - (4) review an appeal by an applicant or lessee from a decision of the director of the division of lands concerning a sale or lease of state agricultural or grazing land and submit its recommendations to the commissioner or hearing officer;
 - (5) act in an advisory capacity to the soil and water conservation districts in the state;
 - (6) act in an advisory capacity to the commissioner and director of the division of agriculture in the review of farm conservation plans for all state agricultural land sales in the state.

AS 41.10.110. Powers of Commissioner.

The commissioner has the power to

- (1) conduct land capability surveys and investigations of potential agricultural areas and of soil

conservation and erosion control, including necessary preventative and control measures, in the state; to publish the results of these surveys and investigations and to disseminate information concerning the results of the surveys and investigations to prospective settlers and the general public;

(2) make technical guidance and other assistance available to settlers of new land to assure the development of the land in a manner that will permit it to be used in accordance with its capabilities and treated in accordance with its needs;

(3) carry out measures for soil conservation and erosion control within the state, including engineering operations, methods of cultivation, the growing of vegetation, and changes in use of land, with the consent and cooperation of the land user or agency having jurisdiction of the land;

(4) cooperate with, furnish assistance to, and enter into agreements with, a user of land or agency within the state;

(5) construct, improve, and maintain soil erosion control and conservation structures as are necessary and practical for carrying out the purposes of this chapter;

(6) develop comprehensive plans for the conservation of soil and control of soil erosion within the state, cropping programs, tillage practices and changes in land use, and publish plans and information and bring them to the attention of users of land within the state;

(7) accept contributions in money, services, materials, or equipment from the United States or its agencies, from an agency of the state, and from any other source, for use in carrying out the purposes of this chapter.

AS 41.10.120. Approval of Land User.

A survey, investigation or plan for land may not be undertaken by the commissioner and measures for soil conservation and erosion control may not be carried out without the prior approval of the user of the land.

AS 41.10.140. Definitions.

In this chapter

(1) "board" means the Alaska Natural Resource Conservation and Development Board;

(2) "land user" or "user of land" means a person who

(A) is a producer of renewable resources, including farming and forestry; and

(B) has a current cooperative agreement with a soil and water conservation district.

APPENDIX B
ANCHORAGE MUNICIPAL CODE 21.45.350

21.45.350 Large domestic animal facilities.

A. Purpose. A large domestic animal facility is intended to be an accessory activity in certain residential districts where this use is allowed. All uses of the property shall be subordinate to the principal use of the residential dwelling. A large domestic animal facility in the PLI district may be considered an accessory use to an equestrian arena.

B. Large domestic animal facilities include without limitation structures such as barns, stables, arenas, corrals, paddocks, and exercise tracks, and any structures used for the storage of feed, tack, tools, animal waste, or equipment. Large domestic animal facilities include structures that are freestanding or attached to residential structures. A large domestic animal facility is allowed to be larger than the principal structure but is limited by lot coverage and height restrictions applicable for each zoning district.

C. The minimum lot size for a large animal facility is 40,000 square feet for four animals, with an additional 10,000 square feet required for each animal above four. Application for administrative approval of deviation in minimum lot size of 40,000 square feet may be made to the Planning Department. The Director of the Planning Department may approve deviation of site area square footage, not to exceed ten percent, upon consultation with the Department of Health and Human Services and Department of Developmental Services.

D. In the event arena seating is provided, the required parking shall be one space per every four seats, or one parking space per stall, whichever is greater.

E. A large domestic animal facility shall meet setback requirements of the applicable zoning district and Section 21.45.140A. for roofed or otherwise covered portions of paddocks, barns, stables, or similar structures which are utilized for the keeping of animals, except in the case of interior abutting lot lines per Section 21.45.350H. In no circumstances shall barbed wire be allowed for fencing of any facilities.

F. The uses shall meet the requirements of Chapter 15.20 regarding animal waste; Chapter 15.50 concerning Watershed District regulations; Section 15.55.060B concerning separation requirements from water supply wells; and Section 21.45.210 concerning stream protection setbacks.

G. The large domestic animal facility shall:

1. Obtain an animal control facility license; and
2. Obtain certification of compliance with a State of Alaska, Anchorage Soil and Water Conservation District conservation plan, or obtain a letter from the State of Alaska, Anchorage Soil and Water District showing demonstrated intent to come into compliance with a conservation plan within one year.
3. Comply with licensing and other laws concerning the keeping of animals as set forth in Titles 15, 17 and 21.

H. Adjacent lots may be used in square footage calculations for site size only. If the adjacent lots are not under single ownership, the lot owners shall submit a recorded joint usage agreement for review and approval by the Director of the Planning Department or the Director's designee. In such cases, yard setback requirements shall not apply to the common interior lot lines and a primary use need not be located on the adjacent lot.

I.

(AO No. 2005-150(S-1), § 11, 2-28-06)

APPENDIX C

AS 09.45.235. Agricultural Operations as Private Nuisances

(a) An agricultural facility or an agricultural operation at an agricultural facility is not and does not become a private nuisance as a result of a changed condition that exists in the area of the agricultural facility if the agricultural facility was not a nuisance at the time the agricultural facility began agricultural operations. For purposes of this subsection, the time an agricultural facility began agricultural operations refers to the date on which any type of agricultural operation began on that site regardless of any subsequent expansion of the agricultural facility or adoption of new technology. An agricultural facility or an agricultural operation at an agricultural facility is not a private nuisance if the governing body of the local soil and water conservation district advises the commissioner in writing that the facility or operation is consistent with a soil conservation plan developed and implemented in cooperation with the district.

(b) The provisions of (a) of this section do not apply to

- (1)** liability resulting from improper, illegal, or negligent conduct of agricultural operations; or
- (2)** flooding caused by the agricultural operation.

(c) The provisions of (a) of this section supersede a municipal ordinance, resolution, or regulation to the contrary.

(d) In this section,

(1) “agricultural facility” means any land, building, structure, pond, impoundment, appurtenance, machinery, or equipment that is used or is intended for use in the commercial production or processing of crops, livestock, or livestock products, or that is used in aquatic farming;

(2) “agricultural operation” means

(A) any agricultural and farming activity such as

- (i)** the preparation, plowing, cultivation, conserving, and tillage of the soil;
- (ii)** dairying;
- (iii)** the operation of greenhouses;
- (iv)** the production, cultivation, rotation, fertilization, growing, and harvesting of an agricultural, floricultural, apicultural, or horticultural crop or commodity;
- (v)** the breeding, hatching, raising, producing, feeding, keeping, slaughtering, or processing of livestock;
- (vi)** forestry or timber harvesting, manufacturing, or processing operations;
- (vii)** the application and storage of pesticides, herbicides, animal manure, treated sewage sludge or chemicals, compounds, or substances to crops, or in connection with the production of crops or livestock;
- (viii)** the manufacturing of feed for poultry or livestock;
- (ix)** aquatic farming;
- (x)** the operation of roadside markets; and

(B) any practice conducted on the agricultural facility as an incident to or in conjunction with activities described in (A) of this paragraph, including the application of existing, changed, or new technology, practices, processes, or procedures;

(3) “livestock” means horses, cattle, sheep, bees, goats, swine, poultry, reindeer, elk, bison, musk oxen, and other animals kept for use or profit.

