RESOURCE INVENTORY EVALUATION
AND
MANAGEMENT ALTERNATIVES

CONSERVATION FARM PLAN

For

Courter Country Farm
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12000 Courter Ln MW
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By

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Permit Number: 19-01265

Farm Plan Disclaimer

This farm plan does not exempt the property owners or lessees from compliance with any and all local ordinances, including but not limited to zoning, solid waste, wellhead protection and critical areas ordinances nor any applicable federal, state and local permits that may be required during any BMP implementation phases of this farm plan.

PURPOSE

A Conservation Farm Plan is a document developed by your Conservation District and you, the farmer or landowner. It is a series of actions developed to meet a farmer's goals while protecting water quality and the natural resources. Some of the things considered in a farm plan are farm size, soils type, slope of the land, proximity to streams or water bodies, type of livestock or crops, the farmer's goals, resources such as machinery or buildings and finances available.

BACKGROUND

The 20.2-acre farm is in the SE ¼ of Section 10, Township 25, Range 1E on Courter Lane in the Dyes Inlet Watershed. A CONSERVATION PLAN MAP is located in the appendix. This plan is being prepared in response to a the landowners desire to enroll in Open Space Agriculture

OBJECTIVES

- Protect natural resources
- Provide a safe healthy environment for livestock.
- Improve livestock waste utilization and management.
- Utilize property in an environmentally conscious manner.

GENERAL INFORMATION

- The average annual rainfall in this area is approximately 45 inches.
- The average annual air temperature is 51 degrees F.

Agricultural Buildings – None of the structures have existing roof gutters and outlets.

- Hoop House – 30x45
- Alpaca Shed - 20x20
- (2)Chicken Pen – 8x12
- Garage / Shed – 24x48
- Produce Washing Shed – 12x16

Drain fields – Drain field is located west of the residence. At the time of the initial visit July 10, 2019, there was no livestock access to the area.

Cultural Resources

According to the Washington Information System for Architectural and Archaeological Records Data (WISAARD), there are zero records within the Section 10, Township 25, Range 1E.

RESOURCE INVENTORY

Soils - Please refer to attached soil map and descriptions. Soils on property is in the "B" Hydrologic Soil Group. Monthly Leaching Index calculations indicate nutrient leaching into ground water sources may occur between November 1st and March 1st.

Soil Type	Hydrologic Group
1 – Alderwood gravelly sandy loam, 0-8% slopes	B
1 – Alderwood gravelly sandy loam, 8-15% slopes	B

See attached soil inventory map for soil locations

Water –The private well is located along the east side of the driveway west of the garage and is excluded from livestock.

Livestock – As of July 2019, there were 4 alpaca, 4 dwarf Nigerian goats and, 60 layer chickens, on the property. Alpaca, goats and, chickens and were all confined to areas with enclosures and heavy use areas. The landowner also raise 100 broilers for sale to CSA customers and has a WSDA Poultry Processing Permit and a WSDA Egg Handling permit.

Pasture – There are six planned pastures on the property for a total of 1.3 acres and a 1.3 acre garden area. See description later in this document.

Air – At the time of the visit July 2019, there was no apparent odor on the property.

Wildlife Area –The west half of the property is a mature coniferous forest and the landowners intent is to create a walking path to the development to the west, but keep the remainder of the forest intact. Barker Creek outlets into Dyes Inlet and is a salmon bearing stream. Livestock did not have access to the stream or forested area.

CONSERVATION NEEDS AND ALTERNATIVES - See Conservation Plan Map for locations of proposed practices.

Some of the alternatives listed below may be eligible for financial assistance. To insure eligibility, Kitsap Conservation District must be notified before project initiation i.e. material purchase, design, installation.

WASTE MANAGEMENT

EXISTING SITUATION

As of July 2019, there were 4 alpaca, 4 dwarf Nigerian goats and, 60 laying chickens on the property. The landowner also raises 100 broilers per year. Animal Waste Nutrient Waste Balance indicates total manure nutrients produced on the farm provide 313% of the nitrogen, 841% of the phosphorus, and 355% of the potassium needs of the proposed pastures and garden. There were no gutters or outlets on any of the structures. Picked livestock manure is used in garden areas. The private well is located south of the house and west of the garage and is upslope of livestock use areas. The drain field is located west of the residence and excluded form livestock.

EFFECTS ***of miss- managed livestock manure and roof runoff.***

- An uncovered manure pile or accumulation of manure contributes nutrients and bacteria to surface water through the processes of leaching and runoff.
- Livestock access to wet areas causes compaction and excessive muddiness which results in increased manure laden runoff leaving the area. This also creates the potential for animals to deposit wastes directly into surface waters.

ALTERNATIVES

Use Exclusion (472) – Excluding animals, people or vehicles from an area.

Purpose – To protect, maintain, or improve the quality and quantity of plants, soil, air and water, and improve aesthetics, human and animal health and safety.

- Agricultural structures and livestock heavy use areas shall not be located within 50 feet of well.
- Livestock shall not have access to well.
- Confine animals to roofed areas or barns with heavy use areas and sacrifice areas during rainy season.
- Due to Bremerton-Kitsap Health District ordinances, no hoofed animals are allowed on drain fields unless the landowners is implementing Prescribed Grazing as described later in this document.

Waste Storage Facility (313) – A planned system in which all necessary components are installed for storing liquid and solid waste

Purpose – To store waste in a manner that prevents or minimizes degradation of air, soil, and water resources and protect public health and safety.

- Consider constructing a waste storage structure to store collected manure. Structure should sized to hold about 6 months of manure.
- Continue to use manure as a garden soil amendment. It is recommended to take a soil test to insure over application of nutrient is not taking place. See Nutrient Management, later in this document, for application information.
- Do not spread manure onto ponded or saturated fields. Spread in accordance with nutrient management as described later in this plan. See attached Nutrient Management worksheet.

Roof Runoff Management (558) / Underground Outlets (620) – A facility for collecting, controlling, and disposing of runoff water from roofs.

Purpose – To prevent roof runoff water from flowing across concentrated waste areas, barnyards, roads, and alleys, and to reduce pollution and erosion, improve water quality, preventing flooding, improve drainage, and protect the environment.

- Consider installing roof gutters and downspouts on agriculture structures. Direct roof downspouts into 4" underground outlet pipes and carry water to areas downslope of livestock use areas. This will keep clean roof water clean and prevent potential muddy conditions in livestock heavy use areas.

Heavy Use Area Protection (561) - Protecting heavily used areas by surfacing with suitable materials to reduce muddiness and surface runoff that may lead to manure laden runoff, leaching of nutrients, and unhealthy livestock conditions.

Purpose – To stabilize urban, recreation or facility areas frequently and intensely used by people, animals, or vehicles.

- Continue picking manure from livestock confinement areas.
- If areas become muddy, consider hardening areas with gravel. Designs are available form Kitsap Conservation District

Nutrient Management (590) - Managing the amount, form, placement, and timing of applications of plant nutrients.

Purpose - To supply plant nutrients for optimum forage and crop yields, minimize entry of nutrients to surface and groundwater, and to maintain or improve chemical and biological condition of the soil.

- Animal Waste Nutrient Waste Balance indicates total manure nutrients produced on the farm provide 313% of the nitrogen, 841% of the phosphorus, and 355% of the potassium needs of the proposed pastures and garden areas. The environmental

hazard of future phosphorous buildup in soils can be evaluated using a P-Index, which the conservation district can run for you in the future, using soil test data and manure application rates.

- Spread manure onto pastures and gardens in April, May, or June of each year or when conditions permit to provide plants with nutrients to maximize forage production. **Apply nutrients in accordance with plant needs.** This information will be provided as needed. **It is suggested that a soil test be completed to determine nutrients in soil**. If commercial fertilizer is applied, deduct nutrients in manure from recommended rates to avoid over application of nutrients. Excess manure shall be removed from site to an approved facility of given to gardeners.
- Exclude livestock from ponded fields and wet soils during the winter months to allow plants to maintain vigor and avoid overgrazing and soil compaction.
- A fall soil test is recommended to 'fine tune" nitrate application. See attached Nutrient Management worksheet.
- Do not apply wastes to surface water or excessively wet soils.

Cover Crop (340) – A crop of close-growing grasses, legumes, or small grain grown primarily for seasonal protection and soil improvement. It usually is grown for 1 year or less, except where there is permanent cover as in orchards.

Purpose - To control erosion during wet periods, allow nutrient uptake, provide filter for sediment and nutrient, add organic material to the soil, and improve infiltration, aeration, and tilth.

- In the fall of each year, overseed bare soil areas and garden with close-growing grasses, legume, or small grain to uptake nutrients and minimize soil erosion.

Pest Management (595) – Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies to manage weeds, insects, disease, animals and other organisms (including invasive and non-invasive species), that directly or indirectly cause damage or annoyance.

Purpose – Enhance quantity and quality of commodities. Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources and/or humans.

- Integrated Pest Management (IPM) that strives to balance economics, efficiency and environmental risk shall be implemented. Washington State University Extension Bulletin 1786 provides information on IPM. This sustainable approach to pest control combines the use of prevention, avoidance, monitoring and suppression strategies, to maintain pest populations below economical damaging levels, to minimize pest resistance, and to minimize harmful effects of pest control on human and environmental resources. IPM suppression systems include biological controls, cultural controls and the judicious use of chemical controls. Information and fact sheets are available for commodity specific IPM at the following web-sites:
    - http://ipm.wsu.edu/
    - http://pep.wsu.edu/

- http://wsprs.wsu.edu/CropProfiles.html

PASTURE MANAGEMENT

***EXISTING SITUATION*:**
There are six planned pastures on the property. Pastures 1 and 4 are mostly forested. Pasture 2 is open, but not developed. Pasture 3 is vegetated with a mixture of pasture grasses. Pastures 5 is surrounded by forest and is well vegetated with a mixture of pasture grasses. Pasture 6 is also surrounded by forest and partially vegetated and partially bare dirt with a wood chip pile.

Pasture and Hay Planting (512)

Definition: Establishment of native or introduced forage species.

Purpose: To reduce soil erosion and contamination and to provide forage and vegetated turn-out areas for livestock.

Practice: Seed bare soil in pastures to increase forage production, reduce mud, and reduce nutrient laden run-off and leaching. It will be necessary to prepare a clean, weed-free seedbed, and to plant high-production domestic grasses/legumes. A recommended mix for your soil is as follows:

Seed Type	Pounds per acre
Tall fescue	10
Orchard grass	10
Perennial ryegrass	5
New Zealand White clover	2-3

Planting can be done in spring or fall. In fall wait until the rains begin; in spring, plant before the rains end.

If you seed the pasture in sections, you can turn animals out in unseeded areas while the seeded areas become established. Stands should be grazed in accordance with prescribed grazing to ensure longevity.

See pages 16-18 of the "Pasture and Hayland Renovation for Western Washington and Oregon" for detailed information on seeding.

Conducting a soil test and adjusting soil nutrients per the soil test recommendations is important for establishing quality pasture grasses. In lieu of a soil test, use a Starter fertilizer (16/16/16) at a rate of 100 lb/acre for spring seeding and an additional 100 lbs. one month later after field is green. Apply the second round of fertilizer just prior to precipitation event if possible.

It is very important to give your newly planted pasture time to establish itself. Reintroduction of livestock before proper grass root development will lead to a weak stand and future problems with erosion and weed infestations. If you are able to grab a handful of grass and pull it out easily, it is too early to allow livestock on the pasture.

Access Control (472)

Definition: Excluding animals, people or vehicles from an area.

Purpose: To protect, maintain, or improve the quality or quantity of plants, soil, air or water, and to improve aesthetics, human and animal health, and safety.

Practice: Exclude livestock from pastures during periods of rainfall, whenever soils are excessively wet, water is visibly ponding on top of the soil, or when pastures are grazed down to animal pull off heights (as per Prescribed Grazing). Periods of rainfall and wet soil conditions are most common from October 15th through April 15th. Conditions are too wet for grazing if livestock hooves leave substantial depressions in the soil. Confine livestock to sacrifice field or heavy use areas (561) under these conditions.

Also, exclude livestock from the pond with fencing and/or with plants. If using plants to exclude animals, you will need to fence them off until they are established. This will protect water quality both in the pond, thereby protecting any fish you stock in the pond, as well as in the pond overflow.

Pastures 5 and 6 may be used for event parking during periods, May through October, where not to adversely affect soil compaction and plant health. Parking should be avoided during winter rain events and when soils are saturated.

Use Exclusion (472)

Definition: Excluding animals, people or vehicles from an area.

Purpose: To protect, maintain, or improve the quality and quantity of plants, soil, air and water, and improve aesthetics, human and animal health and safety.

Practice: To maximize forage production and pasture health, remove livestock from pastures during the winter months and confine to barns, sheds, sacrifice fields, or heavy use areas. This will avoid damaging pastures and will allow them to regrow following the summer grazing period.

Limit livestock use of newly established pastures until grasses have a good root base. This can be determined by a “pull test”. Grab and pull a handful of grass, if the roots are pulled out of the soil, it is too early for grazing.

Due to Bremerton-Kitsap Health District ordinances, no hoofed animals are allowed on drain fields unless the landowners is implementing Prescribed Grazing as described later in this document.

Agricultural structures and livestock heavy use areas shall not be located within 50 feet of well.

Prescribed Grazing (528)

Definition: The controlled harvest of vegetation with grazing or browsing animals, managed with the intent to achieve a specified objective.

Purpose:

- Improve or maintain the health and vigor of selected plant(s) and to maintain a stable and desired plant community.
- Provide or maintain food, cover and shelter for animals of concern.
- Improve or maintain animal health and productivity.
- Maintain or improve water quality by maximizing uptake of nutrients and filtering of runoff.
- Reduce soil erosion and maintain or improve soil condition for sustainability of the resource.

Practice: Rotationally graze pasture when soils are dry according to plant height. Installation of additional cross fencing in pasture would help to facilitate this rotational pasture management system.

Livestock should be allowed onto the pasture only when the grass reaches a minimum height of 4-5", and should be removed when grass is grazed down to 3". Livestock should graze a pasture no more than 2 weeks at a time, as this will limit grazing of new regrowth. Allow each area to rest for a period of 21 to 28 days before reintroducing livestock.

After removing livestock from a pasture, drag the pasture to spread and break up the manure and evenly distribute nutrients.

The monitoring of grazing height is very important for the survival of the stand. Do not graze shorter than 3 inches or allow the stand to get taller than 9 inches. In rotation systems, grass growth can slow down or speed up, depending on the weather conditions. If there is hot weather and no precipitation, the fields may produce very little grass. Once this has happened, the animals may need to be confined to the heavy use area.

Occasionally mowing or clipping the pasture helps to equalize the height of the grasses and prevent seed heads from maturing. This stimulates vegetative grass growth. Apply waste and/or fertilizer in accordance with Nutrient Management specifications and soil test results.

CONCLUSION

This completes your current farm plan. This is a working document that can change as your objectives change. The plan serves as a record of decisions and provides a way of allowing you to track your progress. To the best of our ability, with either financial or technical assistance, we will assist you in the implementation of your farm plan. Thank you for giving us the opportunity to work with you. Maintaining your awareness of our natural resources will benefit you and your livestock as well as our environment.

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Landowner Date

Resource Planner Date

Contents

- Conservation Plan Map
- Soils Report
- Animal Waste Nutrient Balance - proposed
- Nutrient Management worksheet
- Pasture and Hayland Renovation For Western Washington
- Fertilizing with Manure

NOTE: NRCS Specification Sheets will be provided for each practice upon request.