

FOREST STEWARDSHIP PLAN

for

DOUG PERRY
1857 West 153rd Place
Broomfield, CO 80020
252-8384

SE1/4 NW1/4 SE1/4 SW1/4, Sec 11, T1S, R68W, S.P.M.

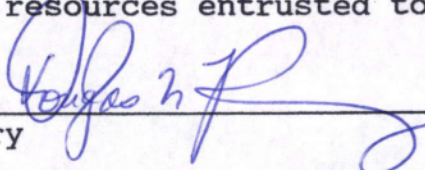
(2.4 Acres)

Prepared By:

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December 14, 1993

This management plan has been prepared at my request to guide my Stewardship management activities which I voluntarily apply on my property. I believe that activities recommended in this plan are appropriate to meet my objectives and will benefit the natural resources on my property. I intend to apply the recommended practices and to maintain them for a period of at least ten years, thus helping me to be a good steward of the forest and associated resources entrusted to me on my property.



Doug Perry

12/15/93

Date

STEWARDSHIP INCENTIVES PLAN

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OBJECTIVE

To create windbreaks to protect the backyard.

DESCRIPTION

The property is located at 1857 West 153rd Place on the north side.

The house is located on the southwest corner of the lot, less than 50 feet from the west property line. A three-row perimeter planting runs along the north, east and most of the south side. Two partial rows run down the west side. Renovation of the existing planting and addition of another row on all sides is proposed. Existing seedlings preclude the use of planting and weed barrier machines.

Annual precipitation is about 15 inches. The growing season is 140 to 155 days. Plant cover is entirely low grass and forbs, except where seedlings were planted in a previous attempt to establish a windbreak.

The soil is mostly Ulm loam, grading to Platner loam along the east side.

These are deep, well-drained soils formed on uplands in old alluvium (Ulm) or weathered from Pierre shale (Platner). Climax vegetation is mainly low and mid-grasses. The surface layer is heavy gray-brown loam, about 9 inches thick (Ulm) and light gray-brown loam, about 8 inches thick (Platner). These soils are alkaline at depths greater than twelve inches, becoming strongly calcareous at greater depths. Root penetration exceeds 40 inches. Species sensitive to high pH should be avoided. American plum and Rocky Mountain juniper would both work here. Ponderosa pine is risky due to high pH; pinyon would do better in the long run. Runoff is slow to medium; water erosion hazard is slight to moderate; wind erosion hazard is high. Land capability unit is IIIe-8, non-irrigated; tree suitability group is 4.

Capability Unit IIIe-8 (non-irrigated) can be used for dry crops if a summer-fallow rotation is used to conserve water. Grass or plant residues have to be maintained to prevent wind damage. Crested wheatgrass, pubescent wheatgrass, intermediate wheatgrass and Russian wildrye are suited to this site. Trees grow well without irrigation if weed barrier, cultivation or other water-conserving practices are applied.

INVENTORY

Currently, there is no native woody vegetation on the property. Several seedlings survive from an earlier attempt to establish a windbreak. Most of the site is occupied by low grasses.

WILDLIFE

Rabbits currently use the site. No threatened or endangered species have been seen in the vicinity. Meadow larks were seen nearby.

PLANTING PROJECTS

Farmstead Windbreaks (SIP-4, FFW & MUL):

Purpose: To protect the house and backyard from direct exposure to west and northwest winds.

Description: These are four-row windbreaks along the property lines. Each is 24 feet wide (44 feet, counting buffer strips; eight feet between rows) and will shelter a 400-foot-wide strip on the downwind side when it reaches a height of 20 feet (about twelve years with good care and maintenance).

West Side Windbreak (Planting A): Area treated is 0.3 acres; area benefitted is 2.6 acres. Length is 278 feet. A Rocky Mountain juniper row (6' spacing) and pinyon pine row (8' spacing) run the full 278 feet of the west side. An existing row of Russian-olives will be left as they are. An existing row of Nanking cherries (127 feet long) will be treated with weed barrier. Two pinyons will be used to fill a gap at the north end of the Nanking cherry row.

47 Large-pot Rocky Mtn. junipers @ \$0.91 ea.: \$ 42.77
 20 ~~37~~ Large-pot Rocky Mtn. pinyons @ \$0.91 ea.: 33.67
 700 Staples @ \$43.40/1000: 30.38
 638' Weed Barrier @ \$108.50/300': 230.74
 SUB-TOTAL \$ 337.56
 Sales Tax (3%) 10.13
 TOTAL, MATERIALS: \$ 347.69

LABOR, PLANTING; 84 trees @ \$1.50 ea.: 126.00
 LABOR, WEED BARRIER; 213 yards @ \$0.88 ea.: 187.44
 TOTAL, LABOR \$ 313.44

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STEWARDSHIP INCENTIVES PLAN

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MATERIALS	\$ 347.69
LABOR	<u>313.44</u>
GRAND TOTAL	\$ 661.13

From Stewardship Incentives Program:	<u>-300.00</u>
Net Cost	\$ 361.13

North Side Windbreak (Planting B): Area treated is 0.4 acres; area benefitted is 3.0 acres; length is 330 feet. A row of American plums (4' spacing) and a row of Rocky Mountain junipers (6' spacing) is being added. Thirty pinyons (8' spacing) are being used to supplement existing spruce and ponderosa pines.

83 American plums @ \$0.38 ea.:	\$ 31.54
47 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	42.77
30 Large-pot pinyon pines @ \$0.91 ea.:	27.30
1400 Staples @ \$43.40/1000:	60.76
1320' Weed Barrier @ \$108.50/300':	<u>477.40</u>
SUB-TOTAL	\$ 639.77
Sales Tax (3%)	<u>19.19</u>
TOTAL, MATERIALS:	\$ 658.96

LABOR, PLANTING; 160 trees @ \$1.50 ea.:	240.00
LABOR, WEED BARRIER; 440 yards @ \$0.88 ea.:	<u>387.20</u>
TOTAL, LABOR:	\$627.20

GRAND TOTAL	\$1286.16
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From Stewardship Incentives Program:	<u>-400.00</u>
Net Cost	\$ 886.16

East Side Windbreak (Planting C): Area treated is 0.4 acres; area benefitted is 3.0 acres; length is 330 feet. A row of American plums (4' spacing) and a row of Rocky Mountain junipers (6' spacing) are being added. Nineteen pinyons are being planted to supplement existing seedlings. Weed barrier is being added to 54 existing seedlings.

83 American plums @ \$0.38 ea.:	\$ 31.54
55 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	50.05
19 Large-pot Pinyons @ \$0.91 ea.:	17.29
1950 Staples @ \$43.40/1000:	84.63
1314' Weed Barrier @ \$108.50/300':	<u>475.23</u>
SUB-TOTAL	\$ 658.74
Sales Tax (3%)	<u>19.76</u>
TOTAL, MATERIALS:	\$ 678.50

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LABOR, PLANTING; 157 trees @ \$1.50 ea.:	\$ 235.50
LABOR, WEED BARRIER:	<u>398.40</u>
TOTAL, LABOR:	\$ 633.90
 GRAND TOTAL	 \$1312.40
 From Stewardship Incentives Program:	 <u>-400.00</u>
Net Cost	\$ 912.40

South Side Windbreak (Planting D): Area treated is 0.3 acres; area benefitted is 2.1 acres; length is 232 feet. A row of American plum (4' spacing) and a row of Rocky Mountain junipers (6' spacing) are being added. Seventeen pinyons are being added to supplement existing seedlings. Weed barrier is being added to 42 existing seedlings.

58 American plums @ \$0.38 ea.:	\$ 22.04
39 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	35.49
17 Large-pot pinyon pines @ \$0.91 ea.:	15.47
1700 Staples @ \$43.40/1000:	73.78
1180' Weed Barrier @ \$108.50/300':	<u>426.77</u>
SUB-TOTAL	\$ 573.55
Sales Tax (3%)	<u>17.21</u>
TOTAL, MATERIALS:	\$ 590.76
 LABOR, PLANTING; 114 trees @ \$1.50 ea.:	 \$ 171.00
LABOR, WEED BARRIER:	<u>356.21</u>
TOTAL, LABOR:	\$ 527.21
 GRAND TOTAL	 \$1117.97
 From Stewardship Incentives Program:	 <u>-300.00</u>
Net Cost	\$ 817.97

Southwest Side Windbreak (Planting E): This is the only three-row windbreak in this project. Area treated is less than 0.05 acres; area benefitted is 0.5 acres; length is 50 feet. Plums are on a four-foot spacing; junipers on a six-foot spacing and pinyons on an eight-foot spacing.

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13 American plums @ \$0.38 ea.:	\$ 4.94
9 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	8.19
7 Large-pot pinyon pines @ \$0.91 ea.:	6.37
200 Staples @ \$43.40/1000:	8.68
153' Weed Barrier @ \$108.50/300':	<u>55.34</u>
SUB-TOTAL	\$ 83.52
Sales Tax (3%)	<u>2.51</u>
TOTAL, MATERIALS:	\$ 86.03
LABOR, PLANTING; 29 trees @ \$1.50 ea.:	\$ 43.50
LABOR, WEED BARRIER; 51 yards @ \$0.88 ea.:	<u>44.80</u>
TOTAL, LABOR	\$ 88.38
GRAND TOTAL	\$ 174.41
From Stewardship Incentives Program:	<u>- 0.00</u>
Net Cost	\$ 174.41

MAINTENANCE

The use of weed barrier just about eliminates the need for maintenance, if it can be placed by mid-June (preferably June 1st). The only thing needed is an occasional inspection tour to re-anchor weed barrier that comes loose. Watering will increase survival and growth, but it is not needed.

You can expect about 15% loss during the first year a planting is in the ground. One year after planting, seedlings usually look terrible. Windbreaks must be re-planted if they suffer even minor losses to keep from losing their effectiveness. These maintenance plantings may be cost-shared and generally pay the entire 65%. By the third year of a planting, transplant losses should no longer be a problem. A seedling is considered established after surviving five years.

Gaps in a windbreak are disastrous - wind blows harder through the gap than it does on the open plain. Gaps wider than 1.5 times the specified spacing should be filled with trees at the next maintenance planting.

There are a number of things that should be done to enhance seedling survival and growth:

Grass is a vigorous competitor with tree seedlings. It drinks up water and adds compounds to soil to poison competition. Seedlings grow much better if they don't have to compete with it.

Weed barrier is a woven plastic cloth. It kills grass. Laid around tree seedlings, it provides needed relief from

competition. It is expensive (\$2.17 per tree for widely-spaced trees). It is cheaper if seedlings are placed close together (like plums). Weed barrier used in windbreaks can be cost-shared. In 1/10-acre shrub patches, the cost of weed barrier is included in the totals.

RECOMMENDATIONS

You may use this plan as a basis for cost-sharing requests until September 30, 2003. You may plant or not plant in any particular year, as suits your needs. The only restriction, and that is only if you are planting under cost-sharing, is that Plantings A and B must be the first plantings cost-shared.

The requirement for a wildlife planting is being waived because of the small lot size; there simply isn't room for a wildlife planting without using up most of the yard. The same applies to the reforestation requirement; and also, the high soil pH is not well-suited to wood-producing species.

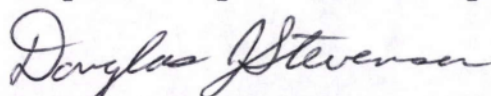
The soil is currently stable, so there is no need for soil-stabilizing practices.

FUTURE COST-SHARING:

Figures shown above are for installation of plantings on the attached map. There are economies of scale for larger plantings, so it would be good to combine phases. The exact combination chosen is likely to affect the cost-sharing as various thresholds are crossed.

Without knowing precise survival rates, costs of maintenance planting cannot be calculated; however, it usually grosses about 10% of the installation cost and current cost-sharing rates cover 65% of actual cost. Though cost-sharing for maintenance is not guaranteed, there is a concern for protecting the government's investments. Maintenance is usually given a high priority.

Respectfully Submitted By:

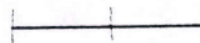


Douglas J. Stevenson
Assistant District Forester

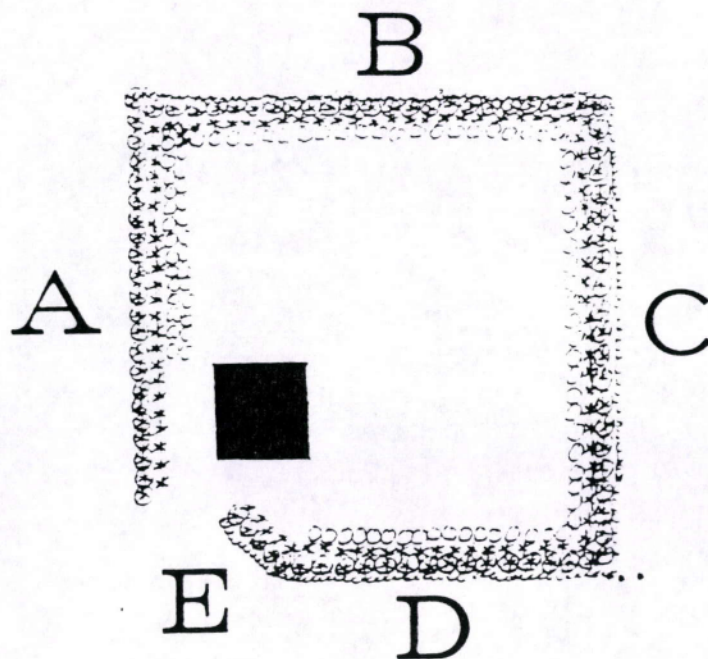
DOUG PERRY








132 Feet



2 Chains



SE1/4 NW1/4 SE1/4 NW1/4, Sec 16, T1S, R68W, S.P.M.

-  House
-  American plums
-  Rocky Mountain junipers
-  Pinyon Pine
-  Miscellaneous pre-existing seedlings

Drawn By:

Douglas Stevenson

December 14, 1993