

STEWARDSHIP INCENTIVES PLAN

for

BOB RUTHRAUFF
4700 Eldorado Springs Drive
Boulder, CO 80303
494-7476

Part of the SE1/4 SE1/4, Sec 20, T1S, R70W, S.P.M.

(6.1 Acres)

Prepared By:

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November 27, 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.

Bob Ruthrauff

Date

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OBJECTIVE

To create windbreaks to protect the house, backyard and road from high winds and drifting snow and to provide food and shelter for small game and birds and a nesting site for mourning doves.

DESCRIPTION

The property is located at 4700 Eldorado Springs Drive on the south side, about 0.2 miles south of the road.

The house is an old farm house that has been rebuilt. It has several plains cottonwoods and box-elders providing partial shelter from prevailing northwesterly canyon winds. Gaps in the trees cause snow to drift across the driveway.

Annual precipitation is about 18 inches. Plant cover is grass and forbs, except near the house where there are native trees.

Bedrock appears to be Pierre shale, a marine shale of Cretaceous age whose formation corresponds with the Cretaceous Interior Seaway. Capping the hilltop is the Slocum alluvium, a pediment alluvium of Illinoian age about 150,000 to 260,000 years old.

The soil is Nederland very cobbly sandy loam on the hilltop and Terrace escarpment on the hillsides. Terrace escarpment soils originate from the alluvium above and have much in common with it. Terrace escarpment soils are undifferentiated and very shallow. Nederland soils are deep and extremely rocky. Both soils will support trees once they are established. Machine planting is difficult to impossible due to large rocks in the soil. Machine application of weed barrier is impossible because rocks break the mold boards.

Climax vegetation is tall and mid-grasses. The growing season is 140 to 155 days. These soils are neutral and have no species restrictions. American plum, Rocky Mountain juniper and ponderosa pine will work here. These soils are extremely strong and can support heavy loads, even when wet. Land capability unit is VIIIs-1, non-irrigated; tree suitability group is 6.

Capability Unit VIIIs-1 (non-irrigated) can be used for grazing. They are unsuited to row crops because of the amount of rock in them. They are very resistant to erosion. Trees grow well without irrigation if weed barrier, cultivation or other water-conserving practices are applied.

INVENTORY

Currently, the only woody vegetation are the few trees near the house. Most of the site is occupied by established native grass.

WILDLIFE

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

PLANTING PROJECTS

Wildlife Thickets

Purpose:

1. To provide escape cover and ameliorate the predator-lane effect of the windbreaks.
2. To provide wildlife food sources.
3. To provide a travel lane between different parts of the planting.

Description: Three tenth-acre thickets (SIP-8, WH2) are planned. Each thicket occupies 0.1 acres and benefits 3.0 acres. Plums are on a 4'X4' spacing; pines are on an 8'X8' spacing.

One wildlife thicket is required in order to obtain cost-sharing for the windbreaks. It does not matter which this is.

Thicket I: At the northwest corner of the main windbreak, this thicket provides a travel lane for small animals moving between the main windbreak and the one along the west property line. This will not be needed if the west property-line windbreaks are not built. If a house is built on the lot north of you (where I have shown Plantings G and H on the map), a planting along this line will be needed to protect it. A property-line windbreak on your neighbor's lot will make this planting unnecessary.

This is an American plum thicket planted on a 4'X4' spacing. The plum thicket will be 92 feet long by 45 feet wide. It will have 11 rows, running parallel to the property line. It will occupy 0.1 acres. Weed barrier will be used throughout. It will require 252 seedlings.

Thicket J: This is a run-out thicket to provide shelter for animals fleeing predators along Windbreak A. It is 123 feet long by 35 feet wide. It will have eight rows running north-south next to a pine thicket. It will occupy 0.1 acres. Weed barrier will be used throughout. It will require 252 seedlings; these should be plum, unless Thicket I is planted first. Then some other shrub, such as caragana, should be used to provide some species variety as a hedge against disease.

Thicket K: is a four-row ponderosa pine thicket required to fill the wood-products requirements of the program; although, in this case it is being used to provide nesting sites for tree-nesting birds. It will be 35 feet wide by 123 feet long and will occupy 0.1 acres. It will require 68 trees and will use weed barrier throughout.

Each of these wildlife thickets is eligible for \$280.00 in Stewardship Incentives cost-sharing money. In addition, if you are a farmer, they are tax-deductible as a conservation expense on Schedule F; if you are not a farmer, they can be added to the property's basis for capital gains treatment (This would result in a long-term capital gains savings of 28% of out-of-pocket costs, in addition to the \$280.00.). Also, if you make use of the property for a business, you are entitled to take depreciation on the business portion of the cost; see your tax preparer for details.

Plum Thickets I and J:

252 Bare-root shrubs @ \$0.38 ea.:	\$ 95.76
1215 Staples @ \$43.40/1000:	52.73
750' Weed Barrier @ \$108.50/300':	<u>271.25</u>
SUB-TOTAL	\$ 419.74
Sales Tax (3%)	<u>12.59</u>
TOTAL, MATERIALS:	\$ 432.33
LABOR, PLANTING; 252 trees @ \$3.00* ea.:	756.00
LABOR, WEED BARRIER; 250 yards @ \$0.88 ea.:	<u>220.00</u>
GRAND TOTAL	\$1408.33

*Planting costs are quite high because machines cannot be used in these soils and digging is very difficult in them.

From Stewardship Incentives Program	<u>-280.00</u>
Net cost	\$1128.33
Long-term capital gains:	<u>-394.33</u>
	\$ 734.00

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Income tax on SIP payment:	<u>+78.40</u>
Net cost per shrub thicket	\$ 812.40

In addition, there is a small savings on the state income tax. There are also some economies of scale and things like doing your own work that can alter these figures.

Ponderosa Pine Thicket K:

68 Large-pot trees @ \$0.91 ea.:	\$ 61.88
710 Staples @ \$43.40/1000:	30.74
420' Weed Barrier @ \$108.50/300':	<u>151.90</u>
SUB-TOTAL	\$ 244.52
Sales Tax (3%)	<u>7.34</u>
TOTAL, MATERIALS:	\$ 251.86
LABOR, PLANTING; 68 trees @ \$3.00 ea.:	204.00
LABOR, WEED BARRIER; 140 yards @ \$0.88 ea.:	<u>123.20</u>
GRAND TOTAL	\$ 579.06

If you want your tax credits as fast as possible, this planting can be treated as reforestation, subject to investment credit (10%) and depreciation (seven-year amortization, half-year convention, straight line depreciation). However, this reduces the amount of cost-sharing and prevents capital gains use of the expenses when you sell the property. If you can wait, the capital gains route produces the greatest savings in the long run. Also, if you use the reforestation credits and sell the property within ten years, expenses are subject to recapture.

From Stewardship Incentives Program	<u>-280.00</u>
Net cost	\$ 299.06

Long-term capital gains	<u>-162.14</u>
	\$ 136.92

Income tax on cost-share payment	<u>78.40</u>
Net cost, not counting state taxes	\$ 215.32

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

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

Description: These are three-row windbreaks along the west side and crossing through the center of the property. Each is 24 feet wide (36 feet, counting buffer strips; eight feet between rows) and will shelter a

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400-foot-wide strip on the downwind side when it reaches a height of 20 feet (about twelve years with good care and maintenance).

South Side Windbreak A: Area treated is 0.5 acres; area benefitted is 5.0 acres. Length is 541 feet. Plums are on a four-foot spacing; junipers on a six-foot spacing and pines on an eight-foot spacing.

135 American plums @ \$0.38 ea.:	\$ 51.30
90 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	81.90
68 Large-pot ponderosa pines @ \$0.91 ea.:	61.88
1657 Staples @ \$43.40/1000:	71.92
1623' Weed Barrier @ \$108.50/300':	<u>586.98</u>
SUB-TOTAL	\$ 853.98
Sales Tax (3%)	<u>25.62</u>
TOTAL, MATERIALS:	\$ 879.60
LABOR, PLANTING; 293 trees @ \$3.00 ea.:	879.00
LABOR, WEED BARRIER; 541 yards @ \$0.88 ea.:	<u>476.08</u>
GRAND TOTAL	\$2234.68
From Stewardship Incentives Program:	<u>-500.00</u>
Net Cost	\$1734.68
Long-term capital gains	<u>-625.71</u>
	\$1108.97
Income tax on SIP payment	<u>+140.00</u>
Net cost, not counting state taxes	\$1248.97

West Side Windbreak B: Area treated is 0.3 acres; area benefitted is 3.0 acres. Length is 323 feet. Plums are on a four-foot spacing; junipers on a six-foot spacing and pines on an eight-foot spacing.

81 American plums @ \$0.38 ea.:	\$ 30.78
54 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	49.14
41 Large-pot ponderosa pines @ \$0.91 ea.:	37.31
1000 Staples @ \$43.40/1000:	43.40
969' Weed Barrier @ \$108.50/300':	<u>350.46</u>
SUB-TOTAL	\$ 511.09
Sales Tax (3%)	<u>15.33</u>
TOTAL, MATERIALS:	\$ 526.42
LABOR, PLANTING; 176 trees @ \$3.00 ea.:	528.00
LABOR, WEED BARRIER; 323 yards @ \$0.88 ea.:	<u>284.24</u>
GRAND TOTAL	\$1338.66

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GRAND TOTAL	\$1338.66
From Stewardship Incentives Program:	<u>-300.00</u>
Net Cost	\$1038.66
Long-term capital gains	<u>-374.82</u>
	\$ 663.84
Income tax on SIP payment	<u>+84.00</u>
Net cost, not counting state taxes	\$ 747.84

North Side Windbreak C: Area treated is 0.2 acres; area benefitted is 2.5 acres. Length is 273 feet. Plums are on a four-foot spacing; junipers on a six-foot spacing and pines on an eight-foot spacing.

68 American plums @ \$0.38 ea.:	\$ 25.84
46 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	41.86
34 Large-pot ponderosa pines @ \$0.91 ea.:	30.94
836 Staples @ \$43.40/1000:	36.29
819' Weed Barrier @ \$108.50/300':	<u>296.20</u>
SUB-TOTAL	\$ 431.13
Sales Tax (3%)	<u>12.93</u>
TOTAL, MATERIALS:	\$ 444.07
LABOR, PLANTING; 148 trees @ \$3.00 ea.:	444.00
LABOR, WEED BARRIER; 273 yards @ \$0.88 ea.:	<u>240.24</u>
GRAND TOTAL	\$1128.31
From Stewardship Incentives Program:	<u>-200.00</u>
Net Cost	\$ 928.31
Long-term capital gains	<u>-315.93</u>
	\$ 612.38
Income tax on SIP payment	<u>+56.00</u>
Net cost, not counting state taxes	\$ 668.38

Southwest Side Windbreak D: Area treated is 0.3 acres; area benefitted is 3.4 acres. Length is 369 feet. Plums are on a four-foot spacing; junipers on a six-foot spacing and pines on an eight-foot spacing.

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92 American plums @ \$0.38 ea.:	\$ 34.96
62 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	56.42
46 Large-pot ponderosa pines @ \$0.91 ea.:	41.86
1136 Staples @ \$43.40/1000:	49.30
1107' Weed Barrier @ \$108.50/300':	<u>400.36</u>
SUB-TOTAL	\$ 582.90
Sales Tax (3%)	<u>17.49</u>
TOTAL, MATERIALS:	\$ 600.39
LABOR, PLANTING; 200 trees @ \$3.00 ea.:	600.00
LABOR, WEED BARRIER; 369 yards @ \$0.88 ea.:	<u>324.72</u>
GRAND TOTAL	\$1525.11
From Stewardship Incentives Program:	<u>-300.00</u>
Net Cost	\$1225.11
Long-term capital gains	<u>-427.03</u>
	\$ 798.08
Income tax on SIP payment	<u>+84.00</u>
Net cost, not counting state taxes	\$ 882.08

West Side Windbreak E: Area treated is 0.2 acres; area benefitted is 2.0 acres. Length is 218 feet. Plums are on a four-foot spacing; junipers on a six-foot spacing and pines on an eight-foot spacing.

55 American plums @ \$0.38 ea.:	\$ 20.90
36 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	32.76
27 Large-pot ponderosa pines @ \$0.91 ea.:	24.57
670 Staples @ \$43.40/1000:	29.08
654' Weed Barrier @ \$108.50/300':	<u>236.53</u>
SUB-TOTAL	\$ 343.84
Sales Tax (3%)	<u>10.32</u>
TOTAL, MATERIALS:	\$ 354.16
LABOR, PLANTING; 118 trees @ \$3.00 ea.:	354.00
LABOR, WEED BARRIER; 218 yards @ \$0.88 ea.:	<u>191.84</u>
GRAND TOTAL	\$ 900.00
From Stewardship Incentives Program:	<u>-200.00</u>
Net Cost	\$ 700.00
Long-term capital gains	<u>-252.00</u>
	\$ 448.00
Income tax on SIP payment	<u>+56.00</u>
Net cost, not counting state taxes	\$ 504.00

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Northwest Side Windbreak F: Area treated is 0.3 acres; area benefitted is 3.5 acres. Length is 376 feet. Plums are on a four-foot spacing; junipers on a six-foot spacing and pines on an eight-foot spacing.

94 American plums @ \$0.38 ea.:	\$ 35.72
63 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	57.33
47 Large-pot ponderosa pines @ \$0.91 ea.:	42.77
1157 Staples @ \$43.40/1000:	50.21
1128' Weed Barrier @ \$108.50/300':	<u>407.96</u>
SUB-TOTAL	\$ 593.99
Sales Tax (3%)	<u>17.82</u>
TOTAL, MATERIALS:	\$ 611.81
LABOR, PLANTING; 204 trees @ \$3.00 ea.:	612.00
LABOR, WEED BARRIER; 376 yards @ \$0.88 ea.:	<u>330.88</u>
GRAND TOTAL	\$1554.69
From Stewardship Incentives Program:	<u>-300.00</u>
Net Cost	\$1254.69
Long-term capital gains	<u>-435.31</u>
	\$ 819.38
Income tax on SIP payment	<u>+84.00</u>
Net cost, not counting state taxes	\$ 903.38

Windbreak Plantings G and H:

These plantings are located on your neighbor's lot to the north. To keep snow from reaching your drive, there is no other possible location. Plantings C, G and H will protect your neighbor's house, if and when he builds it. He would also benefit from a windbreak planting adjoining the wildlife travel lane (Planting I); he could even use the wildlife planting as one row of his windbreak, saving himself some money. These plantings will help both owners; some cooperative work would seem to be in order.

The Stewardship Incentives Program will not reimburse expenses incurred on another person's land. If anybody gets cost-sharing for them, it will have to be your neighbor. Also, I do not believe you can add something to your property's basis if you don't own it. The instant you plant trees on this lot, they become your neighbor's property, disqualifying the expenses as a tax deduction.

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Northwest Windbreak G: Area treated is 0.3 acres; area benefitted is 3.1 acres. Length is 339 feet. Plums are on a four-foot spacing; junipers on a six-foot spacing and pines on an eight-foot spacing.

85 American plums @ \$0.38 ea.:	\$ 32.30
57 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	51.87
43 Large-pot ponderosa pines @ \$0.91 ea.:	39.13
1045 Staples @ \$43.40/1000:	45.35
1017' Weed Barrier @ \$108.50/300':	<u>367.82</u>
SUB-TOTAL	\$ 536.47
Sales Tax (3%)	<u>16.09</u>
TOTAL, MATERIALS:	\$ 552.56
LABOR, PLANTING; 185 trees @ \$3.00 ea.:	555.00
LABOR, WEED BARRIER; 339 yards @ \$0.88 ea.:	<u>298.32</u>
GRAND TOTAL	\$1405.88

Snowfence Windbreak H: Area treated is 0.2 acres; area benefitted is 2.3 acres. Length is 250 feet. Plums are on a four-foot spacing; junipers on a six-foot spacing and pines on an eight-foot spacing.

62 American plums @ \$0.38 ea.:	\$ 23.56
42 Large-pot Rocky Mtn. junipers @ \$0.91 ea.:	38.22
31 Large-pot ponderosa pines @ \$0.91 ea.:	28.21
767 Staples @ \$43.40/1000:	33.29
750' Weed Barrier @ \$108.50/300':	<u>271.25</u>
SUB-TOTAL	\$ 394.53
Sales Tax (3%)	<u>11.84</u>
TOTAL, MATERIALS:	\$ 406.36
LABOR, PLANTING; 135 trees @ \$3.00 ea.:	405.00
LABOR, WEED BARRIER; 250 yards @ \$0.88 ea.:	<u>220.00</u>
GRAND TOTAL	\$1031.36

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. Tenth-acre shrub thickets can tolerate about 30% loss without replanting, but windbreaks and snowfences must be replanted 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.

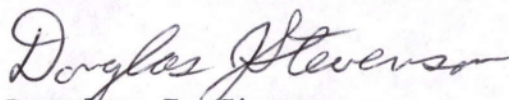
FUTURE COST-SHARING:

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 one-fifth of the cost of installation and current cost-sharing rates are set to cover the full 65% of actual cost. Though cost-sharing for maintenance is not guaranteed, there is a concern for protecting the government's investment. Maintenance is usually given a high priority.

Be sure to include the pine thicket and a shrub planting in the first year's work. This is required by the cost-sharing program. Other plantings can be done in any order you choose, or not done at all, even if cost-sharing was used for the thickets.

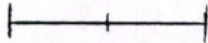
Respectfully Submitted By:


Douglas J. Stevenson

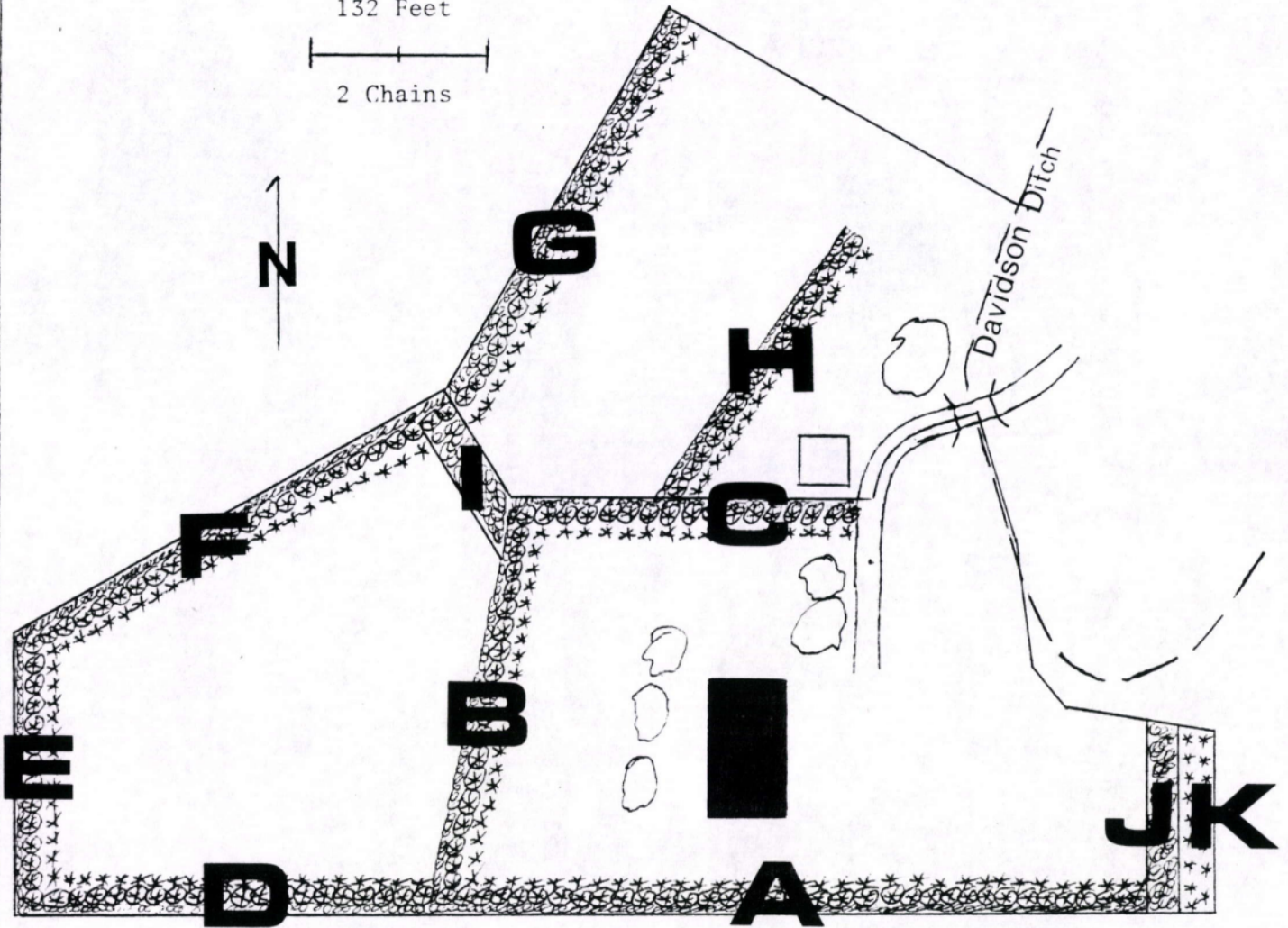
BOB RUTHRAUFF

Part of the SE1/4 SE1/4, Sec 20, T1S, R70W, S.P.M.

132 Feet



2 Chains



— Property Line

≡≡≡ Road

≡≡≡ Bridge

■ House

□ Collapsed Shed

- - - Ditch

○ Existing Tree

✳ Pine Planting

✳ Shrub Planting

✳ Windbreak

Drawn By: *Douglas J. Stevenson*

November 27, 1993