

STATE LAND RESOURCE
INVENTORY REPORT

COMPILED BY

COLORADO STATE FOREST SERVICE

FOR

STATE BOARD OF LAND COMMISSIONERS

WEST $\frac{1}{2}$ SECTION 16 T9N R73W

Prepared by:

Richard P. Jansky

STATE LAND RESOURCE INVENTORY REPORT
COLORADO STATE FOREST SERVICE

WEST 1/2 SECTION 16 T9N R73W

Field Work Completed August 11, 1978

Biotic

I. Vegetation

A. Timber Resources

Principal species found on the 1/2 section are, ponderosa pine (*Pinus ponderosa*) and lodgepole pine (*Pinus contorta*). Other species present are, quaking aspen (*Populus tremuloides*) and Douglas-fir (*Pseudotsuga menziesii*).

Unit A is entirely ponderosa pine, which averages 9.1" D.B.H. The site is rocky with most slopes under 30%. The trees average 26 ft. tall.

Unit B on the north facing slope contains a stand of mixed lodgepole and ponderosa pine. The eastern side of this stand is dominated by ponderosa pine with a gradual change over to lodgepole. The lodgepole is mixed with Douglas-fir and aspen. The average D.B.H. for the Douglas-fir is 7" and the average D.B.H. for the lodgepole is 7.4". The entire unit is on a hill of greater than 30% slope. For volume data of both the lodgepole and ponderosa pine stand, see the attached cruise results.

B. Brush Type

Throughout the ponderosa pine stand there is big sagebrush (*Artemisia tridentata*), antelope brush (*Purshia tridentata*), and mountain mahogany (*Cercocarpus montanus*). There is very little brush growing on the north facing slope under the stand of mixed aspen, Douglas-fir, and lodgepole pine. On the open range, antelope brush and big sage dominated. Also on the open south facing meadow, Rocky Mountain juniper was found.

C. Range/Grass Type

The only open range suitable for grazing is in the south and central portion of the 1/2 section on a south slope. This is dominated by sagebrush and is more suitable for browsing animals such as deer than it is for grazing animals. What little grass present, was mainly mountain muley.

II. Wildlife

A. Deer and elk are the most evident form of wildlife on this 1/2 section. The open meadows and the open ponderosa pine stands have many signs of deer and provide good browsing habitat with the big sage and antelope brush.

B. Birds and Small Mammals

The typical assortment of song birds and small mammals common to this area were observed.

III. Forest Protection

A. Insect and Disease

See the attached map for the location and size of Mountain Pine Beetle infestations.

No Dwarf mistletoe was sighted in the lodgepole pine or in the ponderosa pine.

B. Fire

The dead ponderosa pines from the beetle kill are a fire hazard and should be removed. There is a small intermittent stream with a dam and small pond that could be used for fire control in the south 1/3 of the section.

Abiotic

I. Geographic

See the cultural improvements map for location of roads fences and section corner markers. Most of the fences, with the exception of the eastern boundary fence, are in poor repair with wires and posts down in places.

II. Water

There is a intermittent stream running east and west with a dam on the eastern side forming a small pond.

GENERAL MANAGEMENT RECOMMENDATIONS

S16 T9N R73W

Stand A This is a poorly stocked stand of ponderosa pine. The site index is 35 and many stagnated, stunted trees of poor form and vigor are present.

This stand would benefit from a light improvement cut with an emphasis on removing poor form, high risk, damaged, and Mountain pine beetle susceptible trees. Some of the groups of trees should be thinned but in no case should the basal area be reduced below 40.

Stand B This is a well stocked stand of mixed species on a steep north facing hill side. The site index is 55 and the basal area per acre is nearly 100 square feet.

This stand should be thinned to a growing stock level of around 80. This would increase the average annual increment, improve the vigor of the stand, and reduce the susceptibility to Mountain pine beetle infestation. At the present average DBH of 6.6" the stand could be thinned to 60 square feet of basal area per acre.

Stand C This is a stand of medium stocked ponderosa pine growing on a nearly flat plateau area. Three fourths of the basal area is represented by trees over 10" DBH. The average age of the dominant trees is 145 years and the growth rate is .58%.

The present GSL of 140 should be reduced to 80 through an improvement cut designed to;

1. remove any Mountain pine beetle trees,
2. open up the dense groups and,
3. harvest the mature and overmature trees which have nearly stopped growing.

Defect No one specific type of defect is prominent throughout the section. Most of the defect is in the form of crook, sweep, forked tops, fire scars, and lightning scars.

THE TIMBER RESOURCE
S16 T9N 73W

		STAND		
		A	B	C
Species Composition by % of BA	-	100%PP	(40%PP (27%DF (17%LP (17%AS	(85%PP (15%LP
Acreage	-	118.5	48.5	26.5
Aspect	-	South	North	East
Average Elevation	-	8500'	8300'	8600'
Average Percent Slope	-	35%	20%	5%
Site Index	-	35	55	51
CCF (Lodgepole Pine)	-	-	130	-
Average Age of Dominants	-	100 yrs	88 yrs	145 yrs
Number of Rings/Last Inch	-	22	24	35
Percent Growth	-	1.52%	1.72%	.58%
Average Percent Defect	-	7.75%	5.9%	6.0%

STAND A

BAF 10 - 6 sample plots - 14.3% sampling error

	<u>Total Stand</u>	<u>4-9" DBH</u>	<u>10" DBH & Greater</u>
Trees/Acre	104	84	19
Average DBH	9.1"	8.1"	12.6"
Average Height	25.7'	22.9'	26.6'
BA/A	47	30	17
Merch. CF/Acre	343	189	154
BF/A	366	0	366
Total Stand Volumes			
Merchantable Cu. Ft.	*37,443	22,396	18,249
Board Feet	*40,015	0	43,376

*Includes a 7.75% discount for defect

STAND B
BAF 20 - 6 sample plots - 11.6% sampling error

	<u>Total Stand</u>	<u>Lodgepole</u> (all less than 9"DBH)	<u>Ponderosa</u>		<u>Douglas-fir</u>	
			<9"DBH	all DBH	<9"DBH	all DBH
Trees/Acre	414	55	86	111	111	113
Average DBH	6.6"	7.4"	5.9"	8.1"	6.2"	6.6"
Average Height	40'	43'		41'		45'
BA/A	100	17	17	40	23	27
Merch. CF/Acre	1464	319	134	525	364	446
BF/A	6055	1287	8	1409	788	1206
Total Stand Volumes						
Merch. Cu. Ft.	71,004*	15,471	6,499	25,462	17,654	21,631
Board Feet	293,667*	62,419	388	68,336	38,218	58,491

* Total stand figures account for lodgepole, ponderosa, Douglas-fir and aspen and include 5.9% discount for defect. The other volume figures do not include a defect allowance.

STAND C
BAF 20 - 18 sample plots - 9.2% sampling error

	<u>Total Stand</u>	<u>4-9" DBH</u>	<u>10" DBH & Greater</u>
Trees/Acre	246	159	87
Average DBH	9.2"	6.5"	12.7"
Average Height	42.8'	32.3'	48'
BA/A	139	45	94
Merch. Cu. Ft./Acre	1941	430	1511
BF/Acre	5282	231	5051
Total Stand Volumes			
Merchantable Cu. Ft.	*48,350	11,395	40,041
Board Feet	*131,574	6,121	133,852

* Includes a 6.0% discount for defect

VOLUME SPECIFICATIONS

All volume figures were derived from the publication listed below.

PONDEROSA PINE

Board Foot Volumes

Publication - RM-2

Table - 5a

Specifications - Scribner rule

Top diameter variable

Stump height 1.0 foot

Total height in feet

Minimum DBH - 12"

Cubic Foot Volumes

Publication - RM-2

Table - 2a

Specifications - Top diameter 4.0 inches inside bark

Stump height 1.0 foot

Total height in feet

Merchantable stem excluding stump and top

Minimum DBH - 5"

LOGEPOLE PINE

Board Foot Volumes

Publication - RM-157

Table - 1

Specifications - Scribner rule

Top diameter 6.0 inches inside bark

Stump height 0.7 foot

Total height in feet

Minimum DBH - 6"

Cubic Foot Volumes

Publication - RM-157

Table - 3

Specifications - Top diameter 6.0 inches inside bark

Stump height 0.7 foot

Number of 16.5 foot logs

Minimum DBH - 6"

Merchantable stem excluding stump and top

Volume Specifications
(continued)

DOUGLAS-FIR

Board Foot Volumes

Publication - R-2 supplement No. 12

Specifications - Scribner rule

Top diameter 8" inside bark

Total height in feet

Cubic Foot Volumes

Origin - Equations from Intermountain Forest & Range Experiment Station programmed by D. L. Brown

Specifications - Total height in feet

Minimum DBH - 5"

Merchantable stem excluding stump and top

SPRUCE

Board Foot Volumes

Publication - RM-95

Table - 4

Specifications - Scribner rule

Top diameter 6.0 inches inside bark

Stump height

Total height in feet

Minimum DBH - 7"

Cubic Foot Volumes

Publication - RM-95

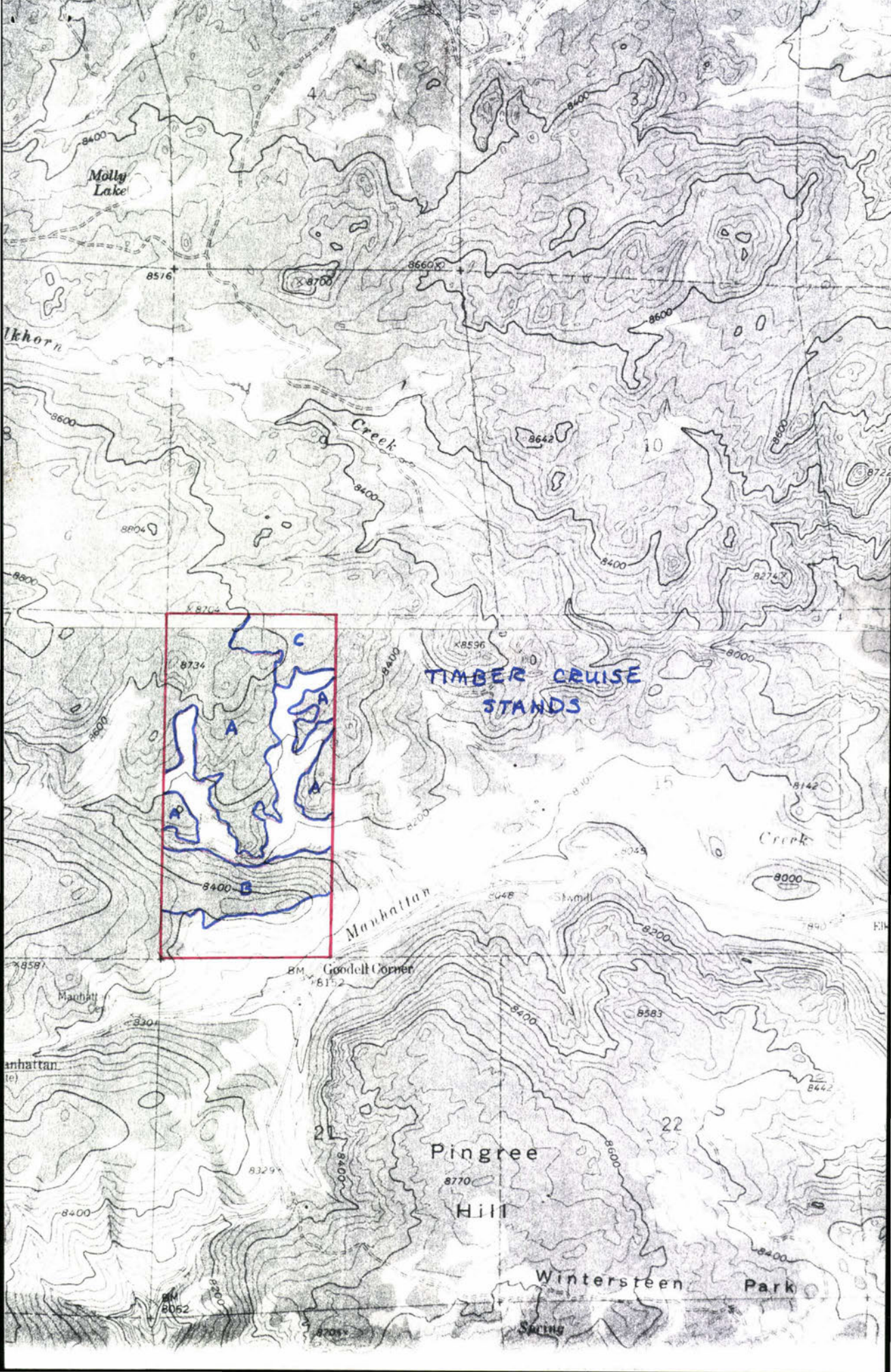
Table - 2

Specifications - Top diameter 4.0 inches inside bark

Stump height 1.0 foot

Total height in feet

Merchantable stem excluding stump & top



Molly Lake

8516

4

3

Manhattan

Creek

TIMBER CRUISE STANDS



Manhattan

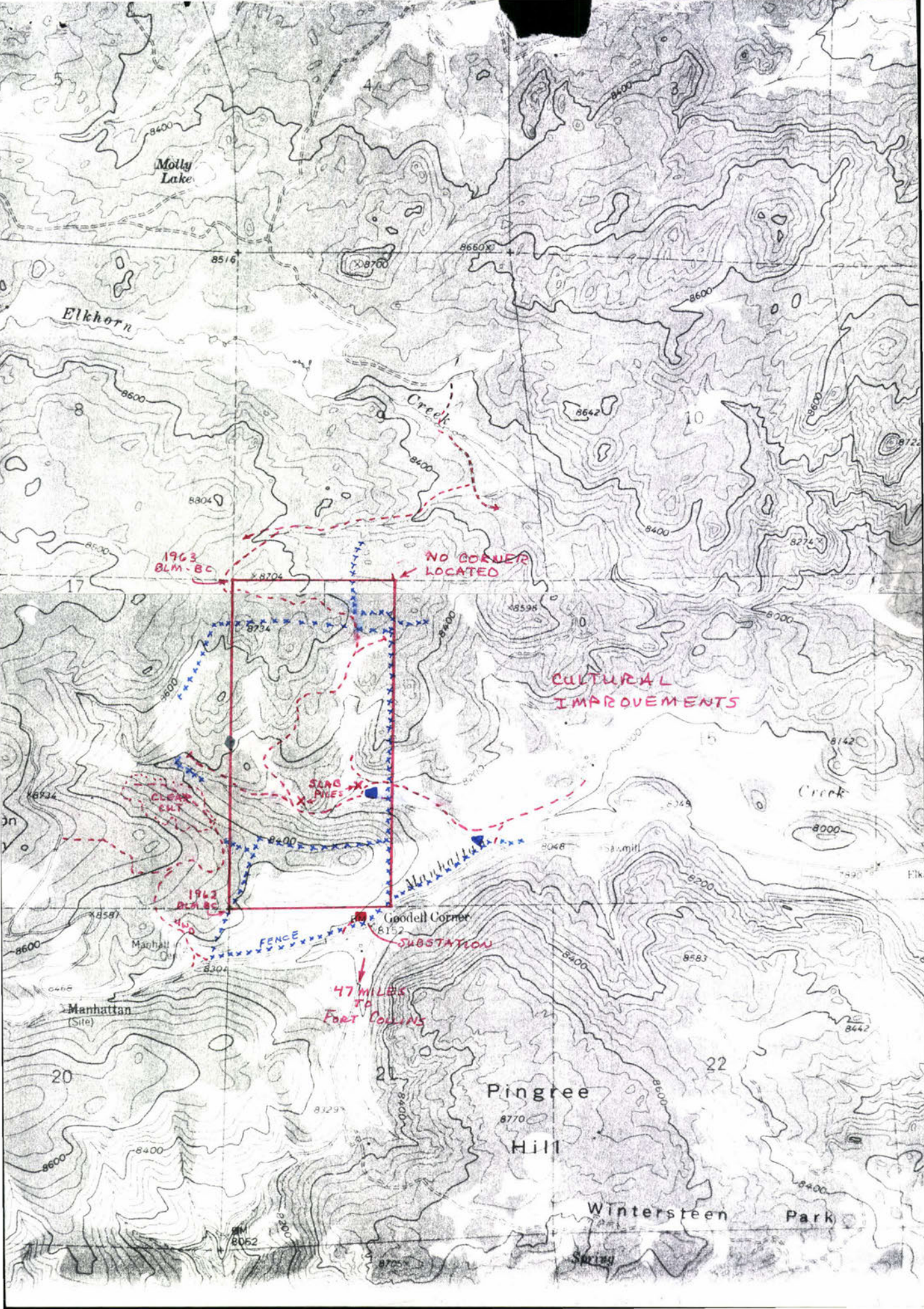
Creek

BM Goodell Corner
8152

Pingree Hill

Wintersteen Park

Spring



Molly Lake

Elkhorn

Creek

Creek

Pingree Hill

Wintersteen Park

1963
BLM-BC

NO CORNER
LOCATED

CULTURAL
IMPROVEMENTS

SAND
PILES

1962
BLM-BC

Goodell Corner
SUBSTATION

47 MILES
TO
FORT COLLINS

FENCE

Manhattan
(Site)

Marshall

Spring

BM
8052

8516

8660

8700

8304

8704

8734

8596

8276

8142

8000

8583

8442

8587

8304

8400

8329

8770

20

21

22

4

8400

8400

10

8

17

15

20

20

Manhattan 12-15-97

MBP Infest

Dead

☒ ☒ ☒ ☒ ☒ ☒

Alive

☒ ☒ ☒ ☒ ☒

South
of
creek

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☒ ☒

North
of
line

☒

☒

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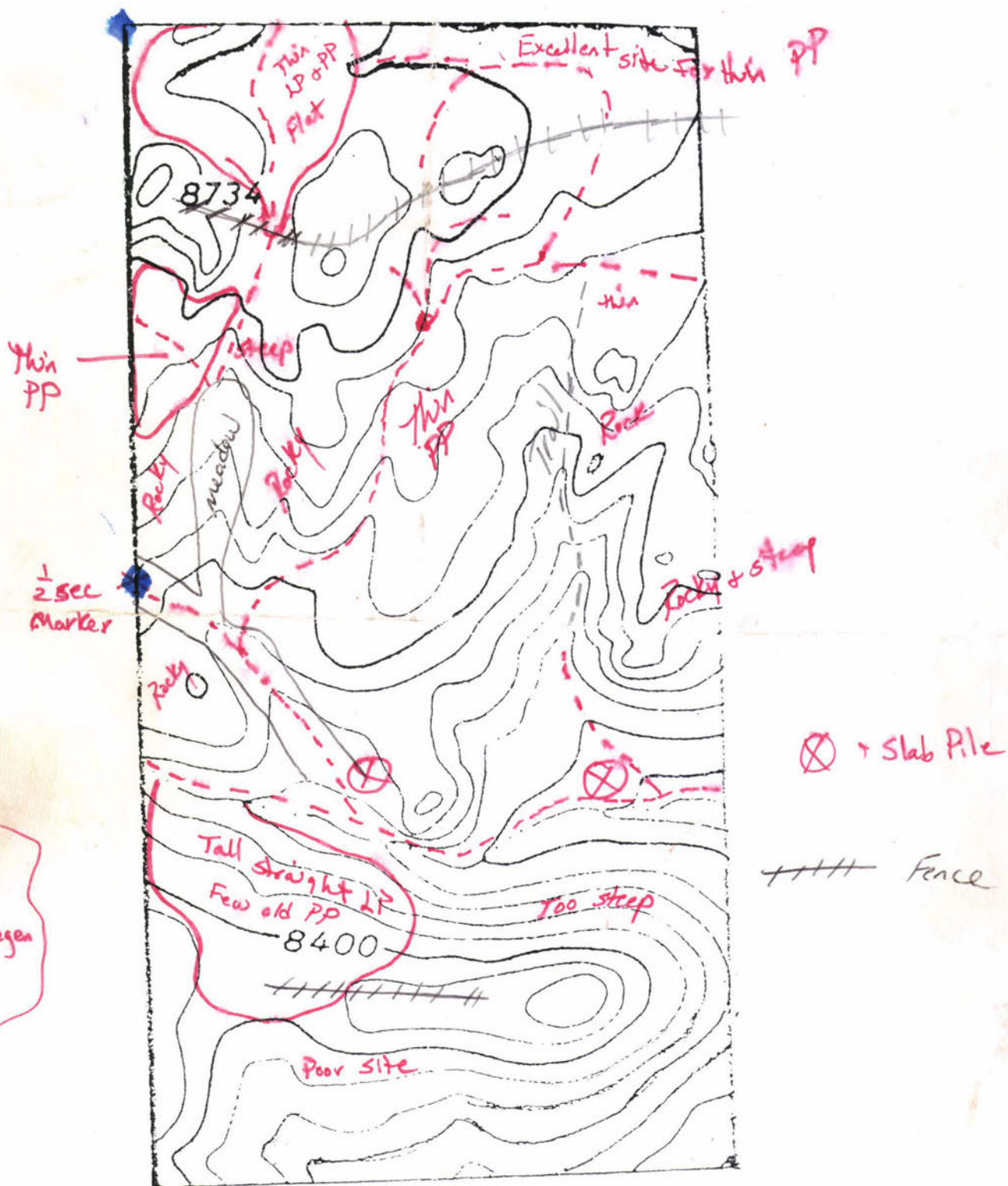
☒

To Files:

Mike Babler and I visited this half-section to assess the Mountain Pine Beetle damage. Effects are listed above

Mike Hughes
ADF

West 1/2, Sec. 16, T.9N., R.73W.



USFS
harvest
or 15yr can see Regen

Scale: 4" = .5 mile

18. 10. 1942

19. 10. 1942

20. 10. 1942

21. 10. 1942

22. 10. 1942

**LEASED STATE LAND
FOREST PRODUCTS SALES AGREEMENT**

SALE NUMBER _____

THIS AGREEMENT, made this _____ day of _____, 19____, by and between the State Board of Agriculture in behalf of the Colorado State Forest Service, _____ District, lessee of the property subject to this agreement, hereinafter referred to as the CSFS, and _____ whose place of business is _____, phone _____, hereinafter referred to as the PURCHASER.

RIGHT TO SELL:

The CSFS warrants that it has the authority to sell the forest products covered by this agreement from the property herein described: _____, section _____, township _____, range _____, _____ principal meridian, _____ county, Colorado.

SALE LOCATION:

The boundaries of the sale area are marked as follows: _____, _____, as set forth in Exhibit ____, which is attached hereto and incorporated herein, the same as if set forth in full.

SALE PERIOD:

The effective dates of this agreement will be from _____ to _____, inclusive, and may be extended by mutual agreement of both parties per AGREEMENT MODIFICATION section.

ACCESS:

The CSFS grants to the PURCHASER access to the above described property for the purposes of this agreement. Access will be via _____, _____.

DESCRIPTION OF PRODUCT SOLD:

PRODUCT	NUMBER SOLD	UNIT	UNIT PRICE	PRODUCT VALUE
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

TOTAL SALE VALUE: _____

PRODUCT DESIGNATION:

The products sold are marked in the following manner: _____

_____.

VOLUME DETERMINATION:

The sale volume is to be or has been determined in the following manner: _____

_____.

PAYMENT TERMS:

Before harvesting and removing any forest product the PURCHASER will pay the sum of \$_____ to the CSFS. Acceptable methods of payment are _____. Additional payments shall be made as follows: _____

_____.

PERFORMANCE BONDS:

A performance bond in the amount of _____ shall be deposited by the PURCHASER upon signing of this agreement. The bond shall be in the form of _____. The bond shall be used, in part or in full, to correct deficiency in any work not completed to agreement specifications. The bond or its balance will be released to PURCHASER promptly upon completion or termination of this agreement.

DAMAGE PENALTY:

The PURCHASER shall conduct all operations in accordance with the work schedule in appendix ____, which is attached hereto and incorporated herein, the same as if set forth in full, and shall take necessary precautions to protect the remaining forest stand. Excessive damage to the remaining forest or the removal of undesignated products will be paid for at the rate of _____ per _____.

PRODUCT OWNERSHIP:

Change of ownership of the purchased products covered by this agreement occurs when _____
_____.

PERFORMANCE STANDARDS:

Existing roads will be used whenever possible. Additional roads, skid trails, landings and decks that are required will be located, constructed, and rehabilitated as set forth in Exhibit ____, which is attached hereto and incorporated herein, the same as if set forth in full. All roads and trails will be maintained by the PURCHASER in their original condition. Care will be taken to maintain drainage necessary to prevent erosion prior to and during hauling of products. All permanent improvements installed as a part of this agreement will remain the property of CSFS.

Stumps will be cut as close to the ground as possible but in no circumstances will the stump height exceed _____ inches as measured on the uphill side.

Slash will be treated as follows: _____

_____.

All forest products that are _____ long, _____ inches in diameter inside the bark on the small end; and _____ percent sound shall be removed from the property by the PURCHASER.

The PURCHASER will take all necessary precautions to prevent damage to improvements on the property of the CSFS. If damage occurs to any improvement, the PURCHASER will restore the improvements to its original condition and will bear all costs associated with the repair.

The PURCHASER will exercise all possible precautions to prevent wildfire, and shall assist in the suppression of any fire that is on, or threatening the property of the CSFS. During the fire season, the PURCHASER will have the following firefighting tools located on the sale site: _____

_____.

All motorized equipment will be equipped with an operational spark arrester.

The CSFS may suspend or limit the harvest operation of the PURCHASER if excess damage is occurring due to mud, snow, etc., or due to the following situation: _____

The PURCHASER will provide trash containers on each landing of the sale area. Trash will be kept picked up at all times and hauled from the site on a weekly basis.

Other performance standards are: _____

_____.

INHERENT DANGERS:

The CSFS is informing the PURCHASER that the following physical hazards are located on the property and may not be obvious: _____

_____.

SUBCONTRACTING:

This agreement, or any interest therein, may not be assigned by the PURCHASER without prior, written consent of the CSFS.

LAW COMPLIANCE:

The PURCHASER agrees to comply with all of the laws, rules, and regulations of the State of Colorado and its subdivisions.

AGREEMENT TERMINATION:

This agreement shall be terminated upon receipt of written notice from the CSFS for noncompliance of the PURCHASER. Specific noncompliance items shall be listed in said written notice. All prepayments and products will revert to the CSFS.

AGREEMENT MODIFICATION:

This agreement may be modified, in writing by mutual consent of both party.

BINDING ON HEIRS:

The terms and conditions of this agreement shall be binding upon the

heirs, executors, administrators, or successors and assignee or either party.

COLORADO STATE FOREST SERVICE

DATE

PURCHASER

DATE

Steve Johnson
USFS

Mike H -
Please see
me about
all this
Thanks
Mike H

7 mile cruise done
appeal is done

mid late Jan advertise 10 days

Landowner & R. Feather
Landscape myra Title

Pot Belly Rest. II
2 SECTIONS ON Manhattan Road - New Golf Course

1000 Bug hits Steve Schreiner working

HOA USFS - 60 or 70 TREES hit w/ in holding
3-400 D. Fire

Good Neighbors Project

Access

May-June / CSFS Administer
Cultural Resources Survey

Steve Schreiner - up front stuff
Stallman w/ Skidder

Fox Acres Mgr :

Tom ~~Summerland~~
Stallman



BID ON TIMBER SALE

I hereby submit my bid on the Manhattan Sale

Fort Collins District
Foothills Campus, Building 1052
Colorado State University
Fort Collins, Colorado 80523-5075
(970) 491-8660
FAX: (970) 491-8645

Table with 5 columns: Item, Quantity & Unit, Product & Species, Bid Rate, and TOTAL VALUE. Includes handwritten entries for Sawlogs and Firewood.

A description of the bidder's equipment and/or vehicles which will be removing the wood products is as follows:

Handwritten description: SKIDDER - SKIDDER - DELIMBER - Log Loader - etc. what ever else needed.

If awarded this sale, you, the purchaser, will work:
[checked] Weekdays [unchecked] Weekends [unchecked] Both

Signed [Signature] Date 3-29-99
Address 5531 W county Rd 20 Loveland, CO 80537
Phone 667-3649

Bids will be opened on April 2, 1999 at the Colorado State Forest Service office, 3843 W. Laporte Avenue in Fort Collins.

If more than one qualifying bid is received, the sale will be awarded based upon the greatest advantage to the seller. All bids may be rejected at the option of the seller.

Minimum acceptable bid is \$20.00/MBF and \$15.00/cord

Mail to: Colorado State Forest Service
Foothills campus, Bldg. 1052
Colorado State University
Fort Collins, CO 80523-5075

{Please mark "BID" on the outside of your envelope.}



BID ON TIMBER SALE

I hereby submit my bid on the Manhattan Sale

Fort Collins District
Foothills Campus, Building 1052
Colorado State University
Fort Collins, Colorado 80523-5075
(970) 491-8660
FAX: (970) 491-8645

Table with 4 columns: Item, Quantity & Unit, Product & Species, Bid Rate. Includes handwritten entries for Sawlogs and Firewood, and a TOTAL VALUE of \$2000.00.

A description of the bidder's equipment and/or vehicles which will be removing the wood products is as follows:

- Handwritten list of equipment: RUBBER TIRE SKIDDER, SELF-LOAD TRUCK, PKUP (w) SMALL TRAILER.

If awarded this sale, you, the purchaser, will work:

Form with fields for Weekdays, Weekends, Both (checked), Signed (Gary M. Robinson), Date (3-29-99), Address (P.O. Box 60067, GRAND Junction, Co. 81506), and Phone (970-523-1887).

Bids will be opened on April 2, 1999 at the Colorado State Forest Service office, 3843 W. Laporte Avenue in Fort Collins.

If more than one qualifying bid is received, the sale will be awarded based upon the greatest advantage to the seller. All bids may be rejected at the option of the seller.

Minimum acceptable bid is \$20.00/MBF and \$15.00/cord

Mail to: Colorado State Forest Service, Foothills campus, Bldg. 1052, Colorado State University, Fort Collins, CO 80523-5075

{Please mark "BID" on the outside of your envelope.}



BID ON TIMBER SALE

I hereby submit my bid on the Manhattan Sale

Fort Collins District
Foothills Campus, Building 1052
Colorado State University
Fort Collins, Colorado 80523-5075
(970) 491-8660
FAX: (970) 491-8645

Table with 4 columns: Item, Quantity & Unit, Product & Species, Bid Rate. Row 1: 1, 50 MBF, Sawlogs - All, 25 15/8. Row 2: 2, 44 Cords, Firewood - All, 15 00/2. TOTAL VALUE \$ 1912.50

A description of the bidder's equipment and/or vehicles which will be removing the wood products is as follows:

- JD 440 C skidder
Cher. C 60 with F 90 log loader
ford F 350 with 24' trailer

If awarded this sale, you, the purchaser, will work:

Weekdays Weekends Both

Signed Steve Shreiner Date 3/25/99
Address 4719 N Hwy 287 Lopez CO 80535 po Box 893 Phone 978 8680

Bids will be opened on April 2, 1999 at the Colorado State Forest Service office, 3843 W. Laporte Avenue in Fort Collins.

If more than one qualifying bid is received, the sale will be awarded based upon the greatest advantage to the seller. All bids may be rejected at the option of the seller.

Minimum acceptable bid is \$20.00/MBF and \$15.00/cord

Mail to: Colorado State Forest Service
Foothills campus, Bldg. 1052
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Fort Collins, CO 80523-5075

{Please mark "BID" on the outside of your envelope.}



Fort Collins District
Foothills Campus, Building 1052
Colorado State University
Fort Collins, Colorado 80523-5075
(970) 491-8660
FAX: (970) 491-8645

January 22, 1999

Teresa A. Evans
6505 County Rd. 68C
Red Feather Lakes, CO 80545

881-2472

39160-00-031

My name is Michael Hughes and I represent the Colorado State Board of Land Commissioners who manage 320 acres of forest land west of your property, north of Rustic, Colorado. The board is charged with managing the state trust lands to benefit public schools.

Over the last two years, mountain pine beetle has killed over 1000 trees in the area. To help control this epidemic, it is necessary to remove infected pines, as well as other unhealthy trees, from the state's half-section. The Colorado State Forest Service would like to conduct a small timer harvest on that parcel.

I am writing you because I need your assistance in providing access to the state trust land. The primary access is through your land from Larimer County Road 68C. I am interested in obtaining a temporary access agreement.

Access is needed for about three to six months, however we would let you know exactly when it would begin and for how long. Traffic would include a log truck, a low-boy, and pickup trucks related to timber sale activities on state land. Road use can be controlled to meet your wishes (i.e., no more than once per day, or only during Monday-Friday, etc.).

Requirement will be made of any logging contractor that will protect all roads, soil, wildlife, trees not selected for harvest, vegetation, and aesthetics. I know you will be pleased with the end results.

Using the existing road will alleviate the need for building an alternative road to the area. Please write or call me at (970) 491-8453 so we can talk about any questions or comments you might have. Thank you very much for your reply.

Sincerely,

Michael M. Hughes
Assistant District Forester
Fort Collins District



Fort Collins District
Foothills Campus, Building 1052
Colorado State University
Fort Collins, Colorado 80523-5075
(970) 491-8660
FAX: (970) 491-8645

January 22, 1999

Harold Greer & Kathleen Davidson
8818 Red Fox Road
Cheyenne, WY 82009

39160-00-024
39160-00-029

My name is Michael Hughes and I represent the Colorado State Board of Land Commissioners who manage 320 acres of forest land west of your property, north of Rustic, Colorado. The board is charged with managing the state trust lands to benefit public schools.

Ray Mehaffey sent a similar letter about five years ago. In that letter he stated that "harvesting of selected trees is necessary both for the management of the forest resource and for providing revenue to benefit Colorado's public schools. That harvesting never occurred and, since then, mountain pine beetle has killed over 1000 trees in the area. To help control this epidemic, it is necessary to remove infected pines, as well as other unhealthy trees, from the state's half-section.

I am writing you because I need your assistance in providing access to the state trust land. The primary access is through your land from Larimer County Road 68C. I am interested in obtaining a temporary access agreement.

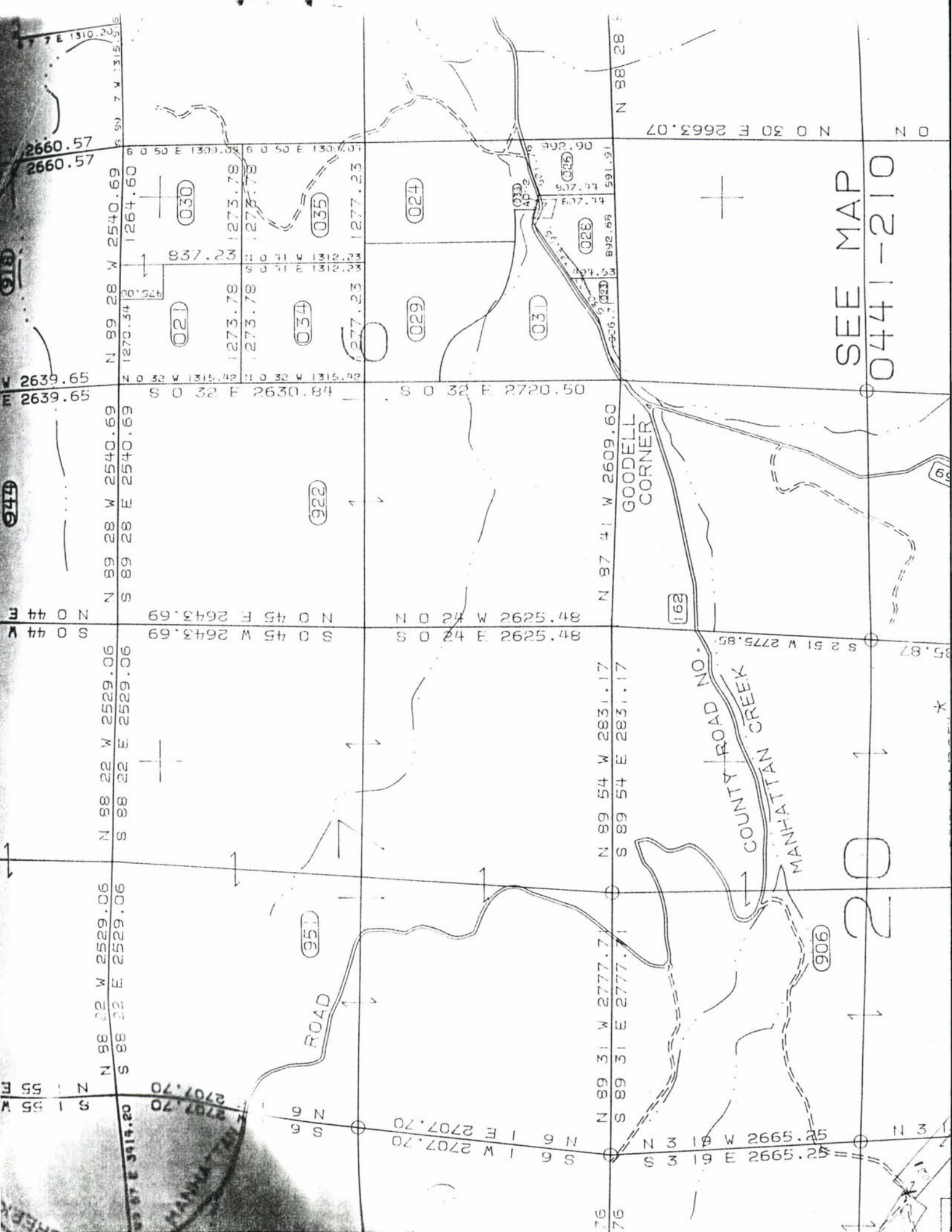
Access is needed for about three to six months, however we would let you know exactly when it would begin and for how long. Traffic would include a log truck, a low-boy, and pickup trucks related to timber sale activities on state land. Road use can be controlled to meet your wishes (i.e., no more than once per day, or only during Monday-Friday, etc.).

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Using the existing road will alleviate the need for building an alternative road to the area. Please write or call me at (970) 491-8453 so we can talk about any questions or comments you might have. Thank you very much for your reply.

Sincerely,

Michael M. Hughes
Assistant District Forester
Fort Collins District



2660.57
2660.57

2639.65
2639.65

2644.4
2644.4

2707.70
2707.70

2665.25
2665.25

N 89 28 W 2540.69
S 89 28 E 2540.69
N 89 22 W 2529.06
S 89 22 E 2529.06
N 89 31 W 2777.71
S 89 31 E 2777.71

N 89 28 W 2540.69
S 89 28 E 2540.69
N 89 54 W 2831.17
S 89 54 E 2831.17

N 89 31 W 2777.71
S 89 31 E 2777.71
N 89 54 W 2831.17
S 89 54 E 2831.17

N 88 28 E 2663.07
S 88 28 W 2663.07
N 87 41 W 2609.60
S 87 41 E 2609.60

N 87 41 W 2609.60
S 87 41 E 2609.60
N 89 54 W 2831.17
S 89 54 E 2831.17

N 89 54 W 2831.17
S 89 54 E 2831.17
N 89 31 W 2777.71
S 89 31 E 2777.71

N 88 28 E 2663.07
S 88 28 W 2663.07
N 87 41 W 2609.60
S 87 41 E 2609.60

N 87 41 W 2609.60
S 87 41 E 2609.60
N 89 54 W 2831.17
S 89 54 E 2831.17

N 89 54 W 2831.17
S 89 54 E 2831.17
N 89 31 W 2777.71
S 89 31 E 2777.71

021
022
023
024
025
026
027
028
029
030
031
032
033
034
035

922
951
906

906

906

GOODSELL CORNER

COMMUNITY ROAD NO. 162

MAHANTTAN CREEK

SEE MAP
0441-210



Printed from TOPO! ©1997 Wildflower Productions (www.topo.com)

Manhattan Volumes

DBH

Bd ft

48	8	□ (6)	$2 \times 6 = 120 \times 5 = 600$
63	9	□ (7)	$3 \times 7 = 210 \times 5 = 1050$
306	10	▣ ▣ ▣ (30)	$3 \times 30 = 900 \times 5 = \del{450} 4500$
253	11	▣ ▣ : : (23)	$4 \times 23 = 920 \times 5 = 4600$
336	12	▣ ▣ □ (28)	$6 \times 28 = 1680 \times 5 = 8400$
247	13	▣ ▣ (19)	$9 \times 19 = 1710 \times 5 = 8550$
168	14	▣ : (12)	$11 \times 12 = 1320 \times 5 = 6600$
255	15	▣ □ (17)	$12 \times 17 = 2040 \times 5 = 10,200$
144	16	▣ (9)	$15 \times 9 = 1350 \times 5 = 6750$
17	17	• (1)	$17 \times 5 = 850 \times 5 = 4250$
18	18	• (1)	$19 \times 5 = 950 \times 5 = 4750$
17	19	• (1)	$22 \times 5 = 1100 \times 5 = 5500$
20	20	• (1)	$25 \times 5 = 1250 \times 5 = 6250$
1888			$155 \times 5 = 775$

Firewood: 15

8

40

55

25

60

17

220 = 28%

MBF : .60

1.05

4.50

4.60

8.40

8.55

6.60

10.20

6.75

4.25

4.75

5.50

6.25

72 MBF

1993

Manhattan Sale

Sample Factor 1: 5

	<u>Species</u>	<u>DBH</u>	<u>Height</u>	<u>Volume</u>	<u>Other</u>
1	PP	12 ✓			
2	PP	15 ✓			dead
3	PP	13 ✓			
4	PP	10 ✓			
5	PP	8 ✓			
6	PP	8 ✓			
7	PP	11 ✓			
8	PP	11 ✓			
9	PP	9 ✓			
10	PP	13 ✓			
11	PP	17 ✓			
12	PP	9 ✓			
13	PP	10 ✓			dead
14	PP	8 ✓			
15	PP	10 ✓			2x Current M PB
16	PP	9 ✓			
17	PP	11 ✓			
18	PP	9 ✓			
19	PP	11 ✓			
20	PP	11 ✓			
21	PP	13 ✓			
22	PP	12 ✓			
23	PP	10 ✓			
24	PP	10 ✓			
25	PP	8 ✓			

(Firewood)

15 firewood

|||||

1993

Manhattan Sale

Sample Factor 1: 5

	<u>Species</u>	<u>DBH</u>	<u>Height</u>	<u>Volume</u>	<u>Other</u>
1	26	PP	11	✓	
2	27	PP	10	✓	
3	28	PP	12	✓	
4	29	PP	10	✓	
5	30	PP	11	✓	
6	31	PP	12	✓	
7	32	PP	10	✓	
8	33	PP	9	✓	
9	34	PP	15	✓	
10	35	PP	10	✓	
11	36	PP	14	✓	
12	37	PP	10	✓	
13	38	PP	14	✓	
14	39	PP	9	✓	
15	40	PP	8	✓	
16	41	PP	9	✓	
17	42	PP	11	✓	
18	43	PP	17	✓	
19	44	PP	16	✓	
20	45	PP	10	✓	
21	46	PP	13	✓	
22	47	PP	10	✓	
23	48	PP	12	✓	
24	49	PP	11	✓	
25	50	PP	8	✓	

Firewood
|||||

8 firewood

1993

Manhattan Seale

Sample Factor 1: —

June 1st 1994

Ray, Mike, Elaine (notes)

	<u>Species</u>	<u>DBH</u>	<u>Height</u>	<u>Volume</u>	<u>Other</u>
1	PP	10	✓		blow-down
2	PP	12	✓		
3		15	✓		
4		13	✓		
5		11	✓		
6		15	✓		
7		12	✓		
8		10	✓		
9		15	✓		
10		11	✓		
11		20	✓		
12		11	✓		
13		10	✓		
14		14	✓		
15		13	✓		
16		13	✓		
17		12	✓		
18		12	✓		
19		11	✓		
20		12	✓		
21		15	✓		
22		12	✓		
23		13	✓		
24		13	✓		
25		16	✓		

Fr. Collins post office 223.3

state

186.4

180.8 main road

187.3 re feather rd

Fire wood

|||| |

(40)

|||| |

1993

Manhattan Site

Sample Factor 1: —

6/1/94

	<u>Species</u>	<u>DBH</u>	<u>Height</u>	<u>Volume</u>	<u>Other</u>
1	PP	12	✓		
2		11	✓		
3		10	✓		
4		14	✓		
5		14	✓		
6		12	✓		
7		11	✓		
8		12	✓		
9		15	✓		
10		11	✓		
11		12	✓		
12		16	✓		
13		12	✓		
14		13	✓		
15		13	✓		
16		14	✓		
17		16	✓		
18		15	✓	///	///
19		15	✓	///	///
20		10	✓	///	///
21		15	✓	///	///
22		14	✓		
23		16	✓		
24		10	✓		
25		10	✓		

Firewood

(55)

1993

Manhattan Sale

Sample Factor 1: —

6/1/94

	<u>Species</u>	<u>DBH</u>	<u>Height</u>	<u>Volume</u>	<u>Other</u>
1	101 c1 PP	15	✓		
2	102 c2	12	✓		
3	103 c3	14	✓		
4	104 c4	10	✓		
5	105 c5	10	✓		
6	106 c6	10	✓		
7	107 c7	11	✓		
8	108 c8	11	✓		
9	109 c9	10	✓		
10	110	12	✓		
11	111	14	✓		
12	112	14	✓		
13	113	16	✓		
14	114	15	✓		
15	115	11	✓		
16	116	13	✓		
17	117	11	✓		
18	118	10	✓		
19	119	10	✓		
20	120	13	✓		
21	121	10	✓		
22	122	10	✓		
23	123	12	✓		
24	124	12	✓		
25	125	13	✓		

Firewood

	(25)

1993

Manhattan Sale

Sample Factor 1: —

6/1/94

	<u>Species</u>	<u>DBH</u>	<u>Height</u>	<u>Volume</u>	<u>Other</u>
1	PP	13	✓		
2		11	✓	#121	OUT
3		18	✓		
4		10	✓		
5		13	✓		
6		14	✓		
7		19	✓		
8		11	✓		
9		12	✓		
10		16	✓		6/1/94 3:05pm
11	PP	15	✓		6/2/94
12		12	✓		
13		12	✓		
14		13	✓		
15		10	✓		
16		13	✓		
17		10	✓		
18		16	✓		
19		11	✓		
20		15	✓		
21		12	✓		
22		15	✓		
23		13	✓		
24		12	✓		
25		12	✓		

Firewood

		- 10
		- 15
		- 20
		- 5

1993

Manhattan Sale

Sample Factor 1: —

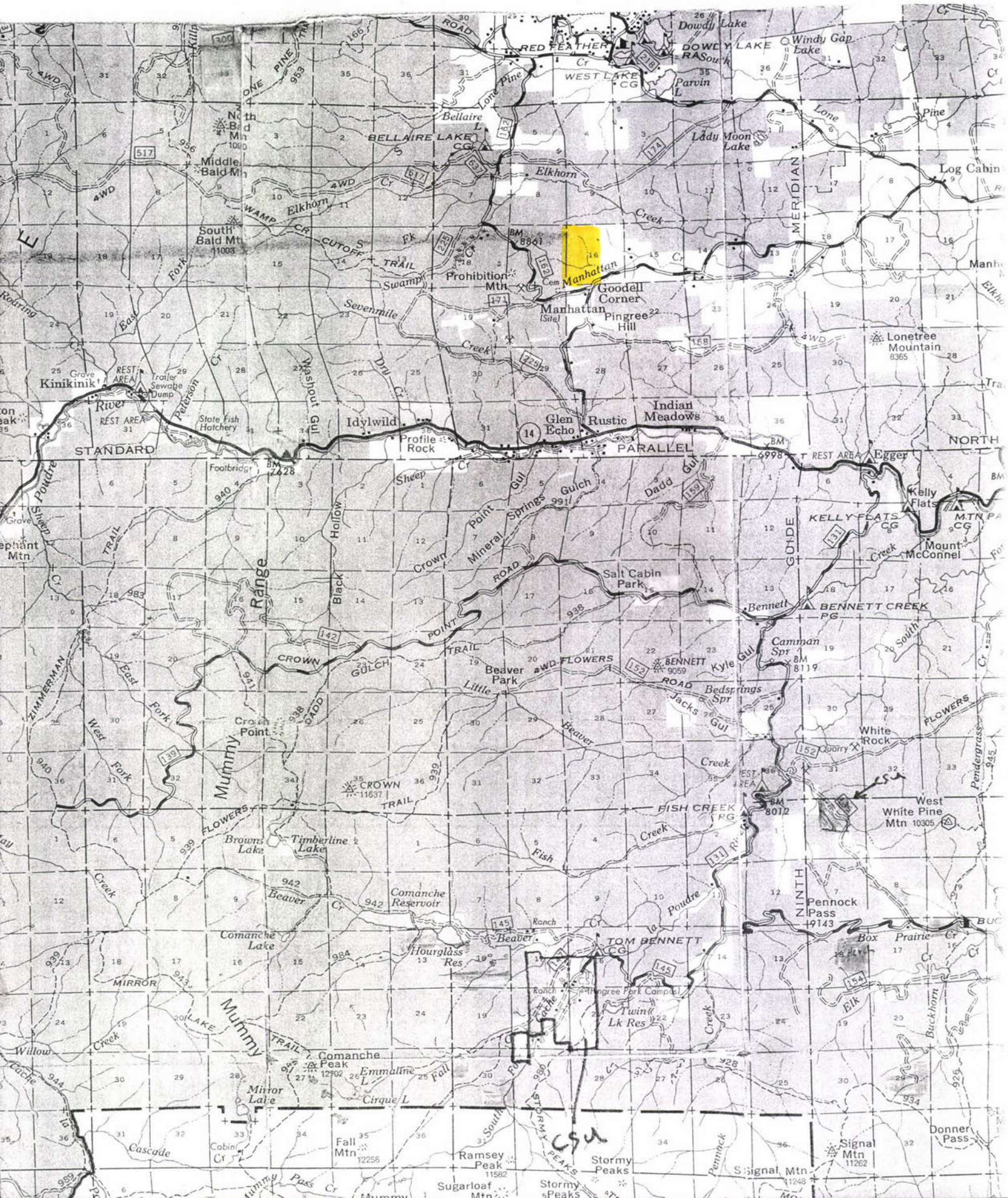
	<u>Species</u>	<u>DBH</u>	<u>Height</u>	<u>Volume</u>	<u>Other</u>
1	151	PP	16	✓	
2	152		15	✓	
3	153		15	✓	
4	154		14	✓	
5	155		12	✓	
6	156				
7	157				
8	158				
9	159				
10	160				
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Firewood

- 17 firewood IIII IIII
IIII II

9N - 73W

sect 15 216



120

Handwritten tally marks in columns, consisting of vertical lines with diagonal strokes, used for counting.

Handwritten tally marks in a single row, used for counting.

Handwritten tally marks in a single row, used for counting.

520

300
120
420

Handwritten tally marks in columns, with the number '50' written below each column, used for counting.

June 1 1994

1993

Manhattan Sale

Sample Factor 1: —

	<u>Species</u>	<u>DBH</u>	<u>Height</u>	<u>Volume</u>	<u>Other</u>
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

DBH

Vol Perc

8

2

9

3

10

3

11

4

12

6

13

9

14

11

15

12

16

15

17

17

18

19

19

22

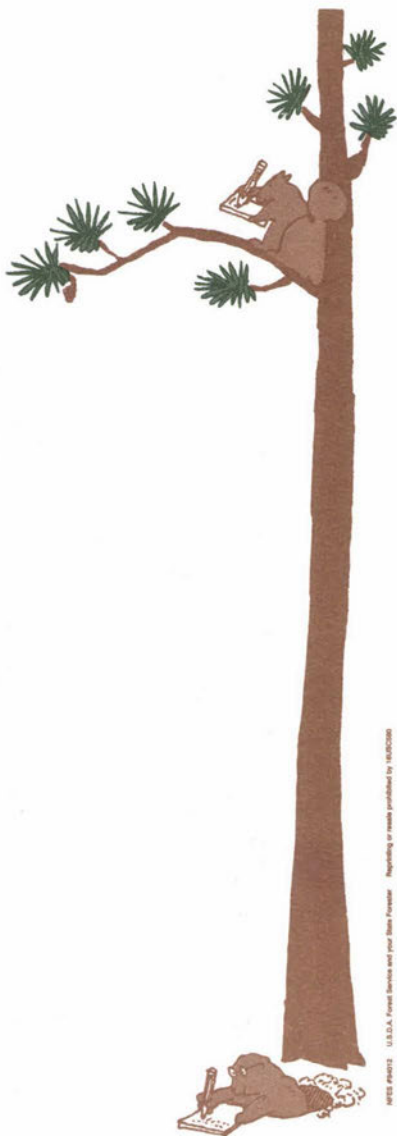
20

23

REMEMBER...



SMOKEY HAS FOR FIFTY YEARS



Help Smokey Prevent Forest Fires

REMEMBER...



SMOKEY HAS FOR FIFTY YEARS

.. 5 .. 9
.. ..
□

Dot Tally



2.

8" □ · 11 x 2 = 220 x 5
1,100 bl ft

1.10 MBF

Help Smokey Prevent Forest Fires



Colorado State Forest Service PRESCRIBED FIRE PLAN



Project Name:	Manhattan State Land Piles
Landowner:	State Land Board
District:	Fort Collins
Pile or Broadcast:	Piles
Project Complexity:	Low

Prepared by:

Name:	Title:	Date:
Michael Hughes	Asst. District Forester	1/6/06

Reviewed and Recommended by:

Name:	Title:	Date:
<i>Baydo Lebeda</i>	District Forester	<i>2/22/06</i>
<i>David A. Farmer</i>	Fire Management Field Coordinator	<i>2-22-06</i>

Approved by:

Name:	Title:	Date:
<i>Richard Homann</i>	Prescribed Fire and Fuels Manager	<i>2/22/06</i>

Upon final approval, a copy of the burn plan will be provided to the CSFS Field Operations Supervisor.

This Prescribed Fire Plan is valid for five years from the final approval date.

NOTICE: The approved Prescribed Fire Plan constitutes a delegation of authority to burn. No one has the authority to burn without an approved plan or in a manner not in compliance with the approved plan. Actions taken in compliance with the approved Prescribed Fire Plan will be fully supported. Personnel will be held accountable for actions taken which are not in compliance with elements of the approved plan regarding execution in a safe and cost-effective manner.

FIRE OUT CERTIFICATION

This certifies that all fire in the project area is out, and further patrol and/or mop-up activities are no longer needed. Projects with multiple units burned or multiple burn dates may require additional copies of Fire Out Certification forms. Once a burn is declared out, a copy of the signed Fire Out Certification form will be sent to the Prescribed Fire and Fuels manager within 24 hours.

SIGNED: <i>Michael M. Hughes</i>	TITLE: <i>Asst. District Forester</i>	DATE: <i>3/14/06</i>
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X	SCHEDULING AND NOTIFICATION	3
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X	FUELS DESCRIPTIONS	6
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X	ACTUAL PROJECT COSTS	TBD
X*	PROJECT PHOTOS	File
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	OTHER ATTACHMENTS	

CSFS #170 (Rev. 10/2005) - DRAFT

→ on file at District office

PRESCRIBED FIRE PROJECT OBJECTIVES	PROJECT NAME:	Manhattan Piles	PREPARED BY:	Mike Hughes
	BURN UNIT(s):	One unit	DATE PREPARED:	11/2/05

PLANNED IMPLMENTATION SEASON:	Winter 2005/2006
--------------------------------------	------------------

RESOURCE MANAGEMENT OBJECTIVES (Objectives must be quantifiable):

Reduce Slash piles by 80%

SPECIFIC MANAGEMENT OR ADMINISTRATIVE CONSTRAINTS:

MANAGEMENT USE/TYPE OF PROJECT (Check all that are appropriate)

Fuel Reduction:	<input checked="" type="checkbox"/>	Range Improvement:	<input type="checkbox"/>	Pest Control:	<input type="checkbox"/>
Wildlife:	<input type="checkbox"/>	Silviculture:	<input type="checkbox"/>	Species Conversion:	<input type="checkbox"/>
Other (specify):	<input type="checkbox"/>	Other (specify):	<input type="checkbox"/>	Other (specify):	<input type="checkbox"/>

EST. TOTAL PROJECT COST:		EST. COST PER ACRE:	
---------------------------------	--	----------------------------	--

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COMPLEXITY ELEMENTS WORKSHEET
(Insert L, M or H Rating Value)

ELEMENT	RISK	POTENTIAL CONSEQUENCES	TECHNICAL DIFFICULTY
1. POTENTIAL FOR ESCAPE	L	M	L
2. NUMBER AND DEPENDENCE OF ACTIVITIES	L	L	L
3. OFF-SITE VALUES	L	L	L
4. ON-SITE VALUES	L	L	L
5. FIRE BEHAVIOR	L	L	L
6. MANAGEMENT ORGANIZATION	L	L	L
7. PUBLIC AND POLITICAL INTEREST	L	L	L
8. FIRE TREATMENT OBJECTIVES	L	L	L
9. CONSTRAINTS	L	L	L
10. SAFETY	L	L	L
11. IGNITION PROCEDURES/METHODS	L	L	L
12. INTERAGENCY COORDINATION	L	L	L
13. PROJECT LOGISTICS	L	L	L
14. SMOKE MANAGEMENT	L	L	L
15. OTHER			
SUMMARY	L	L	L

COMPLEXITY RATING SUMMARY

ELEMENT	OVERALL RATING
RISK	L
POTENTIAL CONSEQUENCES	L
TECHNICAL DIFFICULTY	L
SUMMARY COMPLEXITY DETERMINATION	L

RATIONALE: If implemented under this prescription and done according to this burn plan, the project will safely meet the objective as planned.

SCHEDULING AND NOTIFICATION

IGNITION SCHEDULING

Season:	Winter 2005/06
Approximate Date(s):	November – March
Blacklining Planned Time of Day:	
Main Ignition Planned Time of Day:	1000
Planned Length of Ignition Phase:	2 hours
Planned Length of Burnout Phase:	4 hours

PRESCRIBED FIRE NOTIFICATION LIST

PROJECT NAME: Manhattan Piles	DATE:
LEGAL: W ½, T9N, R73W, Sec 16	
LATITUDE: 40 deg 74.5'	LONGITUDE: -105 deg 58.6'
GEOGRAPHIC REFERENCE:	

AGENCY	PHONE	CONTACT RESPONSIBILITY	COMPLETED DATE, TIME & INITIALS
FIRE DEPARTMENTS:			
Poudre Canyon	Thru 900 Dispatch 970.416.1985	Burn Boss or Admin Assistant	
Livermore	"	"	
Red Feather Lakes	"	"	
SHERIFF'S OFFICE AND LOCAL DISPATCH:			
On-Call Emergency Services	Thru 900 Dispatch 970.416.1985	Burn Boss	
CSFS:			
CSFS Fire Division or FDO	970.491.6303	Burn Boss	
Zone FMFC – Farmer	970.491.8078	Burn Boss	
FEDERAL AGENCIES:			
Zone Dispatch Centers - FTC	970.295.6800	Burn Boss	
	Also via Internet submission		
OTHER AGENCIES:			

AIR QUALITY			
CDPHE-APCD	Per Permit Process	Burn Boss	
Local Health Contact			
INDIVIDUALS			
Arlene Ganek	(970) 881-2425	Burn Boss	
Ann Franklin	(970) 881-2429		
Teresa A. Evans	(970) 881-2472		
MEDIA			
JoAn Bjarko – North Forty News	970.221.0213	Burn Boss	

Public Information Plan and Needs
<p>Little public interest is expected. Information requests will be handled by Burn Boss.</p>
<p>CSFS #170 (Rev. 10/2005) - DRAFT</p>

GENERAL BURN AREA DESCRIPTION & SUMMARY	County:	Larimer	Legal Description:	W½ T9N, R73W, Sec 36
	Latitude:	40 deg 74.204'	Longitude:	105 deg 58.641'
	BROADCAST BURN:		PILE BURN:	X
	Total Project Acres:		# of Piles:	15
	Maximum Allowable Acres:		# of Acres:	80

PROJECT SUMMARY

Describe the Following:

- 1 - General purpose(s) of the project as it relates to the overall management of the lands under jurisdiction of the agency.
- 2 - General project background.
- 3 - General risks associated with use of prescribed fire within the project area.
- 4 - Expected accomplishments.

1. Burn slash piles from past timber harvest
2. Sale continues with the addition of 2 -3 piles per year.
3. Uneven, persistent snow cover, high winds
4. Reduce all 15 piles by 80% of their volume

DESCRIPTION OF TOPOGRAPHY

(identify terrain features)

	Project Area	Adjacent Area
Description:	Manhattan State Trust Land	Private land – east USFS land – west, north, south

UNIT DESCRIPTIONS:

UNIT NAME OR NUMBER	LATITUDE & LONGITUDE (CENTER OF UNIT)	ASPECTS	SLOPE RANGES (%)	ELEVATION (TOP)	ELEVATION (BOTTOM)	MAJOR FUEL MODELS	SIZE (ACRES)
1	Shown above	S & SE	0-10	8700	8200	2 and 9	80

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FUELS DESCRIPTION FOR BROADCAST BURNS													
<i>(include descriptions of fuels adjacent to project area)</i>													
BURN UNIT(s):													
	Project Area						Adjacent Area:						
Cover Type(s):													
% Cover	Grass		Shrub		Timber		Grass		Shrub		Timber		
Fuel Model(s):													
Fuel Loading:	<1/4"	1/4-1"	1-3"	3-9"	>9"	Total Dead	<1/4"	1/4-1"	1-3"	3-9"	>9"	Total Dead	
(tons per acre)													
Live Shrubs:													
Live Herbaceous													
Duff Depth:													
Surface Fuel Depth:													
Comments:													
Repeat as necessary for projects with multiple burn units.													
CSFS #170 (Rev. 10/2005) – DRAFT													

FUELS DESCRIPTION FOR PILE BURNS						
<i>(include descriptions of fuels adjacent to project area)</i>						
BURN UNIT(s):	Georges Gulch	SNOW	YES		NO	
Adjacent Area Cover Type(s):	Meadows and open ponderosa pine					
Burn Unit Cover Type(s):	Open ponderosa pine					
# of Piles:	15					
# of Acres:	80					
Average Pile Dimensions:	12x15x6					
Average Gross Pile Volume:	1080					
Pile Composition by Size Class:	< 1/4"	1/4 to 1"	1 to 3"	3 to 9"	> 9"	
(List by Total % of Pile):	10	20	40	30	0	
CSFS #170 (Rev. 10/2005) – DRAFT						

ACCEPTABLE WEATHER PARAMETERS* - Blacklining						
UNIT NAME OR NUMBER	Temperature (range/desired)	Relative Humidity (range/desired)	Mid-Flame Wind Speed (range/desired)	Wind Direction (range/desired)	Cloud Cover (range/desired)	Other

ACCEPTABLE FUEL MOISTURE PARAMETERS* - Blacklining						
UNIT NAME OR NUMBER	1-HR FM (range/desired)	10-HR FM (range/desired)	100-HR FM (range/desired)	1000-HR FM (range/desired)	Live FM (range/desired)	Other

ACCEPTABLE WEATHER PARAMETERS* – Burning						
UNIT NAME OR NUMBER	Temperature (range/desired)	Relative Humidity (range/desired)	Mid-Flame Wind Speed (range/desired)	Wind Direction (range/desired)	Cloud Cover (range/desired)	Other
1	0-50 / 25	20-100 / 50	0-15 / 5	Any / E	Any / 0	

ACCEPTABLE FUEL MOISTURE PARAMETERS* – Burning						
UNIT NAME OR NUMBER	1-HR FM (range/desired)	10-HR FM (range/desired)	100-HR FM (range/desired)	1000-HR FM (range/desired)	Live FM (range/desired)	Other
1	3-15 / 5	3-15 / 6	5-20 / 7	10 – 20 / 15	70 – 200 / 125	

ADJACENT AREA – CRITICAL PARAMETERS FOR HOLDING						
UNIT NAME OR NUMBER	1-HR FM (range/desired)	10-HR FM (range/desired)	100-HR FM (range/desired)	1000-HR FM (range/desired)	Live FM (range/desired)	Mid-Flame Windspeed
1	3-15 / 5	3-15 / 6	5-20 / 7	10 – 20 / 15	70 – 200 / 125	0-15 / 5

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ACCEPTABLE FIRE BEHAVIOR PARAMETERS* - Blacklining

UNIT NAME OR NUMBER	Rate of Spread (range/desired)	Flame Length (range/desired)	Spotting Distance (range/desired)	Other

EXPECTED FIRE BEHAVIOR NARRATIVE (Blacklining)

Blacklining is expected to be done with a backing fire under the low or desired prescription. Backing flame lengths of less than 1 foot are desired during the black-lining operation. Any head fire flame lengths should not exceed 2-3 feet (see Head Fire Prescription below). Backing rates of spread will be negligible.

*BEHAVE runs must be included for all broadcast burns.
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ACCEPTABLE FIRE BEHAVIOR PARAMETERS* - Broadcast Burn

UNIT NAME OR NUMBER	Rate of Spread (range/desired)	Flame Length (range/desired)	Spotting Distance (range/desired)	Scorch Height (range/desired)	Other

EXPECTED FIRE BEHAVIOR NARRATIVE (Broadcast Burn)

*BEHAVE runs must be included for all broadcast burns.
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ACCEPTABLE FIRE BEHAVIOR PARAMETERS* - PILE Burn

UNIT NAME OR NUMBER	Wind Speed	Wind Direction	Snow Depth)	Scorch Height	Other
1	0-15	Any	3" or more	18'	

EXPECTED FIRE BEHAVIOR NARRATIVE (Pile Burn)

Piles are lacking fine fuels due to their age (5 - 6 years). May need extra diesel to get piles going. They may have a relatively slow start. Once started we expect rapid consumption due to dryness of piles.

* BEHAVE runs must be included in pile burn plans for the adjacent area only if burning without snow

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SMOKE MANAGEMENT

Application Process for Smoke Permit: Permits will be applied for and obtained prior to ignition per current Colorado Air Pollution Control Division regulations.

State Permit #:	FCS-05-321 FCS-06-089
Dates Valid:	CY 2006 when in Prescription
Local Permit #:	(if applicable) N/A
Local Contacts:	N/A
Dates Valid:	N/A

Distance and Direction from Smoke Sensitive Areas

Sensitive Areas	Distance	Direction
1. Co Rd 68C (Manhattan)	1.0 mile	SE
2. Rustic & Glen Echo	3.0 miles	S
3.		
4.		
5.		

Visibility Hazards

Highest visibility hazard would be impact to County Road 68C.

Residual Smoke Issues

Some down valley smoke drainage may occur at night.

Mitigating Measures

(the following steps will be taken to ensure that smoke is managed appropriately)

1. Monitor smoke production and dispersal of test burn
2. Igniting piles individually
3. Each pile will be monitored
- 4.
- 5.

Contingency Smoke Plan

Individual piles may be extinguished and mopped up if directed by the burn boss.

WORKFORCE & EQUIPMENT NEEDS	Burn Unit(s):	Manhattan		
	Burn Boss Type:	RXB1	RXB2	RXB3
	Resource Advisor:	Hughes / Lebeda		
PERSONEL REQUIREMENTS	Blacklining	Broadcast	Pile Burn	
Burn Boss	N/A	N/A	1	
Ignitions Specialist			1	
Holding Specialist			2	
Firing Crew				
PIO				
Safety Officer				
TOTALS				
EQUIPMENT REQUIREMENTS	Blacklining	Broadcast	Pile Burn	
Engines	N/A	N/A	1 Type 6X	
Drip torches			4 ea	
Misc. Vehicles			Chase Truck	
ATVs				
Portable Pumps				
TOTALS				
SUPPLY REQUIREMENTS	Blacklining	Broadcast	Pile Burn	
Drip torch fuel/gals	N/A	N/A	20 gallons	
Fusees			20	
Drip Torches			4 ea	
Radios			1 per person	
TOTALS				

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PRESCRIBED FIRE SAFETY PLAN

Safety Zones and Escape Routes

Snow covered areas will prevent fire spread and be good safety zones and escape routes. If we have warm weather and the snow cover retreats, snow will persist under tree canopies longer than in meadows.
Areas that have burned and sufficiently cooled will also be safe zones.

Safety Hazards

1. Driving in snowy conditions
2. Heat from drip torch fuel and piles
3. Slippery footing

Mitigation of Safety Hazards

1. Drive slow, put vehicle in 4WD before you need it. Put on tire chains before you need them.
2. Make sure you have a route to back away from heat sources. Let piles burn down before going in to chunk them.
3. Take your time and watch your step.

Public Safety

Advise burn boss of guests to the burn area.

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PRESCRIBED FIRE MEDICAL PLAN

MEDICAL AID STATIONS, CLINICS, TRAUMA CENTERS OR HOSPITALS

NAME OF CARE FACILITY	PHYSICAL ADDRESS	TRAVEL TIME (MINUTES) AIR / GND.	PHONE NUMBER	BURN CENTER (Check Y or No)	HELIPAD (Check Y or N)
Poudre Valley Hospital	2024 Lemay, Ft. Collins		970.484.1227	N	Y
Iverson Mem. Hospital	255 N. 30 th , Laramie		307.742.2141	N	Y
N. Colo. Medical Center	1801 16 th , Greeley		970.352.4121	Y	Y

AIR AND GROUND PATIENT TRANSPORTATION

NAME OF TRANSPORT AGENT	PHYSICAL ADDRESS	PHONE NUMBER	PARAMEDICS (Check Y or N)
Livermore Fire	Contact thru 900 Dispatch	970.416.1985	
Poudre Valley Hospital	Contact thru 900 Dispatch	970.416.1985	
Air Life	Contact thru 900 Dispatch	970.416.1985	
Flight for Life	Contact thru 900 Dispatch	970.416.1985	

MEDICAL EMERGENCY PROCEDURES

All major medical incidents will be reported through the appropriate zone dispatch center repeater channels - declare "Medical Emergency, please clear the air". Provide dispatch with the type(s) of injury, # of persons injured, and basic vital signs. Utilize on-site EMTs and/or first aid treatment to stabilize and comfort the patient(s). Medivac helispot(s) should be previously identified and will be a minimum of 100' X 100' in size and advise dispatch of obvious flight hazards (e.g. power lines). For minor injuries, transport the injured to the nearest medical facilities via project vehicles. Contact dispatch for logistical support. Relay to dispatch "Non-emergency" if appropriate. Note: Other helicopters may land at hospital helipads, however these hospital helipads often need a minimum of 10 minutes notice to clear the pad. Utilize zone dispatch for initial order of air- evac transportation.

DIRECTIONS FROM NEAREST MEDICAL FACILITY TO PROJECT VIA GROUND TRANSPORTATION

1. North on Lemay to Riverside
2. Left on Riverside
3. Riverside becomes Jefferson Street
4. Right on US Hwy 287 / College Ave
5. US Hwy 287 15 miles to CR 74E
6. CR 74E 15 miles to CR 68C
7. Left on CR 68C and go 6 miles to intersection of CR's 68C, 162, and 69 (Goodell Corner)
8. Burn site is approximately .25 mile NW.

LATITUDE / LONGITUDE AND GROUND CONTACT FREQUENCY OF PROJECT MEDIVAC HELISPOT

LATITUDE:	40.7357 deg	LONGITUDE:	-105.5828 deg '	FREQUENCY:	172.325
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PRESCRIBED FIRE COMMUNICATIONS PLAN	BURN UNIT(s):	Manhattan
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BASIC CHANNEL UTILIZATION

SYSTEM	RX FREQ.	RX TONE	TX FREQ.	TX TONE	ASSIGNMENT	REMARKS
	151.340		151.340		Tactical	CSFS
	154.385	156.7	154.385	156.7	Command	LRX Firenet
	172.325		172.325		Air to Ground	Air Evac

PROJECT CELLULAR PHONES

PERSONNEL NAME:	CELLULAR PHONE NUMBER:
Mike Hughes	970-222-8368
Boyd Lebeda	970-222-8693

SPECIAL INSTRUCTIONS

Each person on the project is to:

1. Have a radio *or*
2. stay with a vehicle that has a radio *or*
3. stay with a person who has a radio *or*

PRESCRIBED FIRE IGNITION PLAN	BURN UNIT(s):	Manhattan
--------------------------------------	----------------------	-----------

IGNITION METHODS:	Drip Torch
--------------------------	------------

NARRATIVE OF IGNITION PLAN AND ASSIGNMENTS

Test burn the most down wind pile.
 If given go ahead by burn boss, ignite individually working into the wind.

SPECIAL INSTRUCTIONS

PRESCRIBED FIRE HOLDING PLAN	BURN UNIT(s):	Manhattan
-------------------------------------	----------------------	-----------

NARRATIVE OF HOLDING PLAN AND ASSIGNMENTS

Given 3" or more persistent snow cover, holding actions should not be necessary.
 If snow retreats and burn boss determines that holding is necessary, then 2 firing crew members will become holding crew members with handtools and chainsaw (if necessary).

WATER SOURCES	DISTANCE TO WATER SOURCES
Pond	On Site
<i>Poudre Canyon Station #4</i>	<i>2 miles east on CR 68C</i>

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PRESCRIBED FIRE MOP-UP PLAN	BURN UNIT(s):	Manhattan
INITIAL MOP-UP PLAN		
<p>Given 3" or more persistent snow cover, mop up actions should not be necessary. Piles will be allowed to burn down to meet consumption objectives. Piles may be mopped up due to smoke management concerns.</p>		
EXTENDED MOP-UP AND PATROL PLAN		
<p>A 24 hour check will be done by RXB2 or RXB3. RXB2 or RXB3 will make determination if any mop up is needed.</p>		
<p>CSFS #170 (Rev. 10/2005) - DRAFT</p>		

ESCAPED FIRE ANALYSIS & ACTION PLAN	BURN UNIT(s):	Manhattan	
ASSESSMENT			
Escape is unlikely given the prescription			
THREAT TO LIFE & PROPERTY			
Low given the prescription			
ESCAPED FIRE TRIGGERS MECHANISMS			
ESCAPED FIRE TRIGGERS: 1. Loss of snow cover resulting in fire spread greater than 100 feet from piles.			
INITIAL ESCAPED FIRE ACTION PLAN			
<p>INITIAL ESCAPED PRESCRIBED FIRE ACTION PLAN: This plan is developed to consider the initial action response from fire and resource management personnel in the event the fire can no longer be managed as a prescribed burn. The events or conditions which lead the prescribed fire's command staff to make this determination in addition to an obvious escape outside of the MMA are called "Trigger Points" and must be identified. In the event a prescribed fire becomes a wildfire, the following procedures will be initiated:</p> <ol style="list-style-type: none"> 1. The Burn Boss will notify the appropriate Zone Dispatch Center and or Local Dispatch Center of the situation. 2. The Burn Boss/I.C. will notify the CSFS Prescribed Fire Specialist and Zone FMFC of the situation. The I.C. will keep them informed of all action taken. 3. The following table contains a list of recommended initial resources that may be ordered by the Incident Commander via the Zone Dispatch Center. These resource types and quantities are in-part derived from fire behavior calculations, risk assessments and holding force development processes, etc. It should be stressed to all personnel associated with the project that this list is only a guide and does not imply that these resources are required to implement the project. In many cases, professional judgment and experience may be utilized as well. This resource list is developed to aid the Incident Commander in providing the line officer in charge with a timely response to an escaped fire situation during the time period between the declaration of escape and the completion of the WFSA. 			
RECOMMENDED INITIAL RESOURCE ORDER			
SUGGESTED RESOURCE:	DESIRED RESPONSE TIME TO INCIDENT (HOURS):	SUGGESTED RESOURCE:	DESIRED RESPONSE TIME TO INCIDENT (HOURS):
Poudre Canyon Type 3	30 minutes		
Glacier View Type 3	45 minutes		
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Larimer County
ES Type 6x *45 minutes*
Loveland Rural
Type 6x *30 minutes*

Prescribed Fire Monitoring Plan

Monitoring of the burn can occur through data collection at specific plots, photo-documentation, weather observations, fire behavior observations, and fire effects observations as outlined below. Significant fire effects research has already been completed for many of the fuel types found in this area. Generally photo-points and ocular estimates, coupled with existing fire effects research, are adequate to determine short term fire effects and the overall success of the burn.

Data Collection Plots:

GPS points taken 6/05

Photo Documentation:

Photos of piles taken pre and post burn

Weather Observations:

NWS spot weather forecast and observations taken on the day of the burn

Fire Behavior Observations:

Made by RXB2 or RXB3

First Order Fire Effects:

N/A

Long-term Monitoring:

N/A

PRESCRIBED FIRE BRIEFING CHECKLIST

Note: This outline is designed to aid the Burn Boss in formatting his/her briefing to prescribed fire personnel prior to initiating a prescribed fire project.

- Burn Organization**
 - Organization Chart / Personnel Assignments
 - Equipment Assignments
 - Other Resources
- Burn Objectives**
- Description of Burn Area**
 - Review Map of Burn / Topographical Features / Acreage
 - Values at Risk
 - Problem Areas (Both inside and outside of burn units and MMA)
 - Roads & Access
 - Water Sources / Helispots / Staging Areas / etc.
 - Natural and man-made barriers
- Expected Weather & Fire Behavior**
 - Prescription parameters / Environmental parameters
 - Wind direction and speed
 - Relative humidity (maximums and minimums)
 - Temperature (maximums and minimums)
 - Fuel moisture
 - Atmospheric stability / Smoke dispersion
 - Predicted changes
- Communications**
 - Procedures
 - Frequencies / channels / cellular phones
 - Ignition Crew
 - Holding Resources
 - Dispatch
 - Aircraft
 - Cooperators / Others
- Firing Sequence**
 - Test burn
 - Ignition equipment (Type, number, etc.)
 - Pattern & Sequence of Firing (Map)
- Escaped Prescribed Fire Plan**
 - Slop-over vs. Escape (Trigger points)
 - Personnel assignments
 - Strategy
 - Tactics
- Safety**
 - Inspect PPE
 - LCES
 - Hazards (Footing, natural, man-made, smoke [visibility], etc.)
 - Potential problems
 - Review project specific medivac plan
 - Review Aviation Safety Plan if applicable

PRESCRIBED FIRE GO - NO - GO CHECKLIST	BURN UNIT(s):	Manhattan S.L. P.ies	
	DATE BURNED:	3/10/06	


CHECKLIST ITEMS (EACH ITEM MUST BE CHECKED EITHER YES OR NO)	YES	NO
A. Has the burn area experienced unusual drought conditions, changes in fuel conditions, or other changes that were not considered in the prescription development? If NO go to item 1, if YES go to item B.		✓
B. Have the appropriate changes been made to the affected portions of the burn plan, and been approved in the Documented Changes to Approved Burn Plan form? If YES got to item 1, if NO stop.	✓	
1. Are <u>ALL</u> fire prescription parameters met?	✓	
2. Are <u>ALL</u> smoke management prescription parameters met, and/or has smoke management clearance been given for the project?	✓	
3. Has a spot weather forecast been obtained? Have all weather prescriptions parameters been met?	✓	
4. Are <u>ALL</u> personnel required in the Prescribed Fire Plan on site?	✓	
5. Is <u>ALL</u> equipment required in the Prescribed Fire Plan in place and operational?	✓	
6. Have <u>ALL</u> personnel been briefed on the project objectives and their assignments?	✓	
7. Has <u>ALL</u> pre-burn preparation work been completed?	✓	
8. Have ALL personnel been briefed on the safety hazards, communication plan, escape routes and safety zones?	✓	
9. Have <u>ALL</u> the required notifications been made?	✓	
10. Are the on-site resources adequate for containment under the expected conditions?	✓	
11. In your opinion, can the burn be carried out according to plan and will it meet the planned objectives?	✓	
12. Are there adequate initial attack resources available within the local or sub-geographic area?	✓	

IF ALL THE QUESTIONS ABOVE HAVE BEEN ANSWERED "YES", YOU MAY PROCEED WITH INITIATION (LIGHTING) OF THE PROJECT!

IF ANY OF THE QUESTIONS ABOVE HAVE BEEN ANSWERED "NO", YOU WILL NOT INITIATE ANY ACTION UNTIL THE APPROPRIATE CORRECTIVE ACTIONS HAVE BEEN TAKEN OR UNTIL CONDITIONS ARE MORE FAVORABLE!

The following prescribed fire personnel have verified that the "GO-NO-GO" CHECKLIST **HAS BEEN MET!**

<i>Markus M. Blythe</i>	Burn Boss	Date: 3/10/06	Time (24Hr): 1000
	Ignition Specialist	Date:	Time (24Hr):
	Holding Specialist	Date:	Time (24Hr):
		Date:	Time (24Hr):
		Date:	Time (24Hr):

TEST FIRE DOCUMENTATION	BURN UNIT (s):	Manhattan S.L. Piles		
	DATE OF BURN:	3/10/06		
PLANNED LOCATION OF TEST FIRE				
Large hand pile in NW corner of the 1/2 section (open area)				
BURN DAY DOCUMENTATION				
WEATHER CONDITIONS ON SITE		RESULTS OF TEST FIRE		
22° 80%RH No Wind		As Expected		
Does the test fire meet prescription parameters?	YES	<input checked="" type="checkbox"/>	NO	
COMMENTS				
SIGNED:		BURN BOSS	DATE:	3/10/06

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PRESCRIBED FIRE REPORT*	PROJECT NAME:	Manhattan S.L. Piles	PREPARED BY:	M. Hughes
	BURN UNIT(s):		DATE BURNED:	3/10/06

PERSONNEL ASSIGNED	OPERATION POSITION	EQUIPMENT ASSIGNED
Mike Hughes	RX32	TYPE 6X
Boyd Lebeda	FIAB	
Matt	KFT2	
Matt	KFT2	

WEATHER CONDITIONS - Blacklining							
UNIT NAME OR NUMBER	Temperature	Relative Humidity	Mid-Flame Wind Speed	Wind Direction	Cloud Cover	Haines	Other

WEATHER CONDITIONS - Burning							
UNIT NAME OR NUMBER	Temperature	Relative Humidity	Mid-Flame Wind Speed	Wind Direction	Cloud Cover	Haines	Other
	23°	89%	3-5 ^{out}	SE	Cloudy	✓	

OBJECTIVE ACHIEVMENTS

> 95% consumption on all piles.
 Snow + Weather Conditions were perfect.

RECOMMENDATIONS FOR FUTURE BURNING

TOTAL ACRES BURNED:	47 acres of Treatment
CERTIFIED BY:	Michael M. Anglin

*The Prescribed Fire Report and Actual Project Costs forms must be completed and submitted to the Prescribed Fire and Fuels Manager within 30 days of burn.

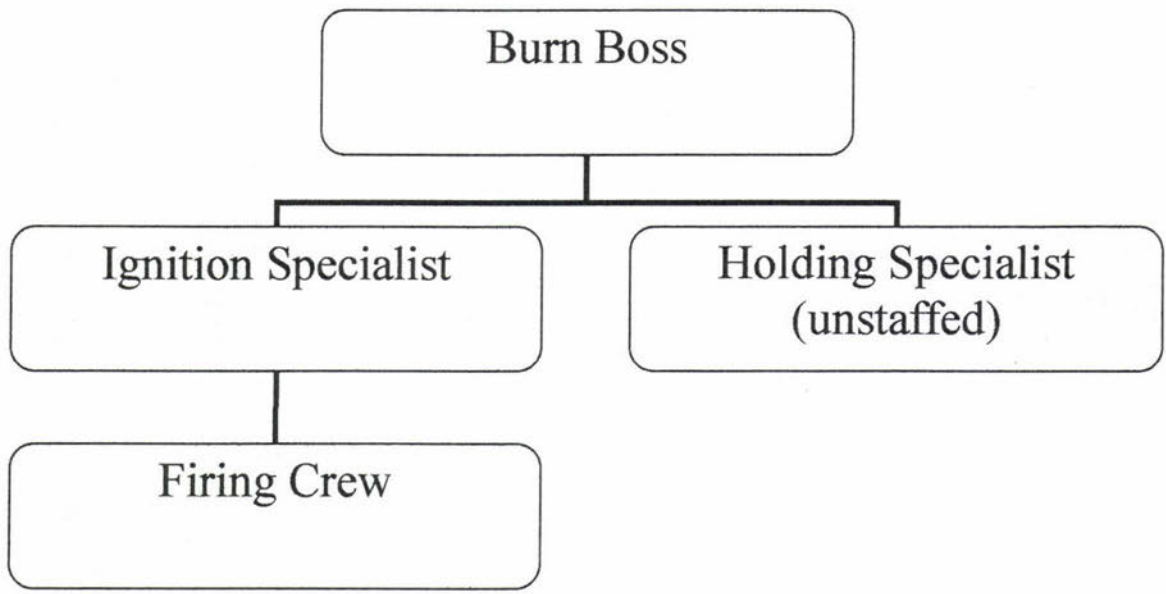
CSFS #170 (Rev. 10/2005) - DRAFT

A

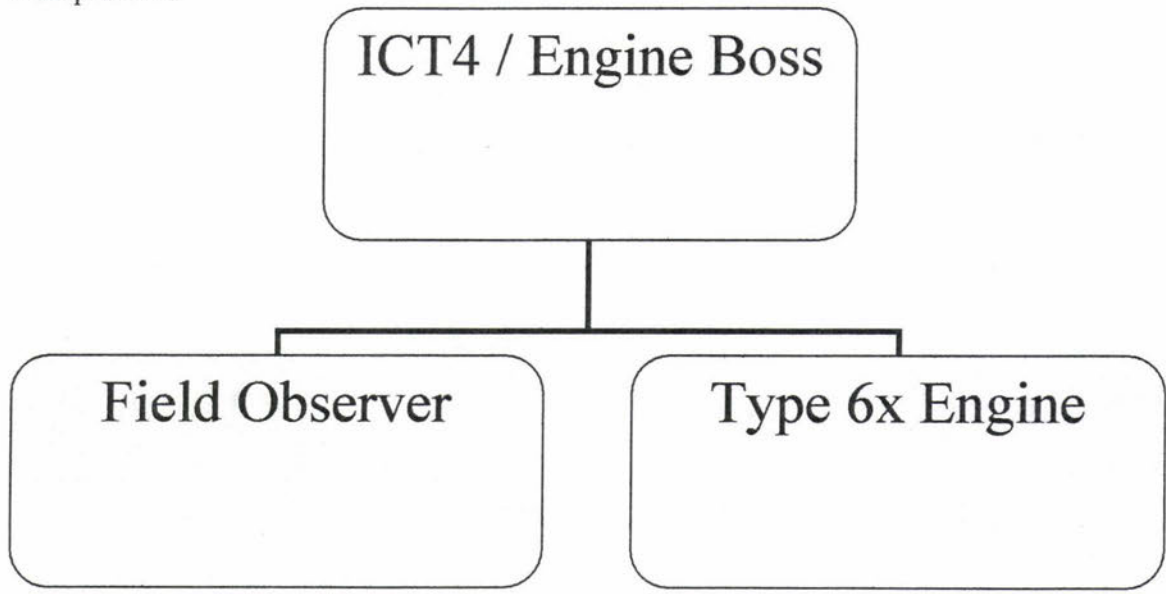
Documented Changes to Approved Burn Plan			
Burn Unit(s):		Date:	
Action:			
Reason:			
Burn Boss' Comments and Date:			
Fire Division Comments and Date:			
Reviewed and Approved by:			
Name:	Title:	Date:	
	District Forester		
	Prescribed Fire and Fuels Manager		

Documented Changes to Approved Burn Plan			
Burn Unit(s):		Date:	
Action:			
Reason:			
Burn Boss' Comments and Date:			
Fire Division Comments and Date:			
Reviewed and Approved by:			
Name:	Title:	Date:	
	District Forester		
	Prescribed Fire and Fuels Manager		

Prescribed Fire



Escaped Fire



103 37 30
40°45'

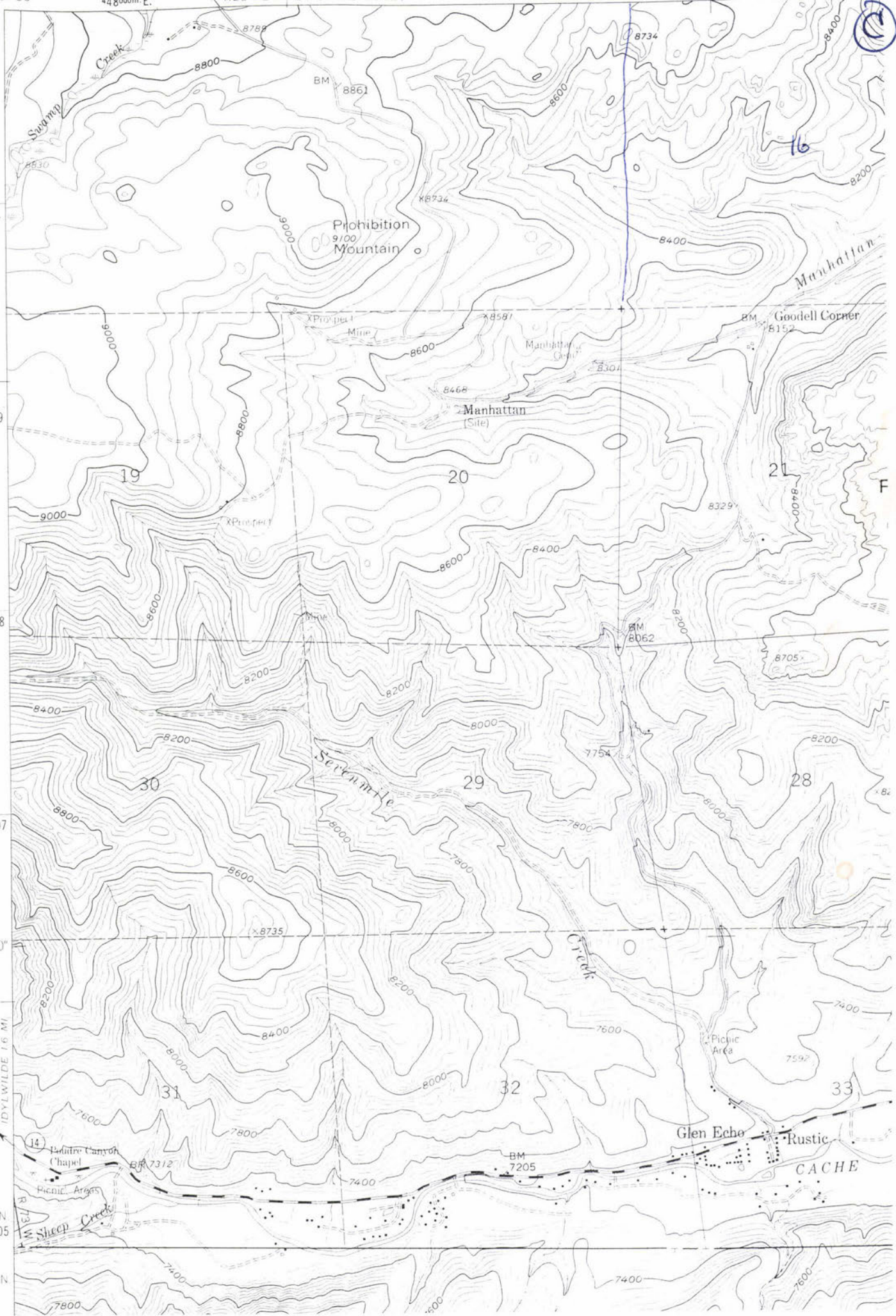
448000m E.

RED FEATHER LAKES 4.4 MI.

450

35

31



4510000m N.

4509

4508

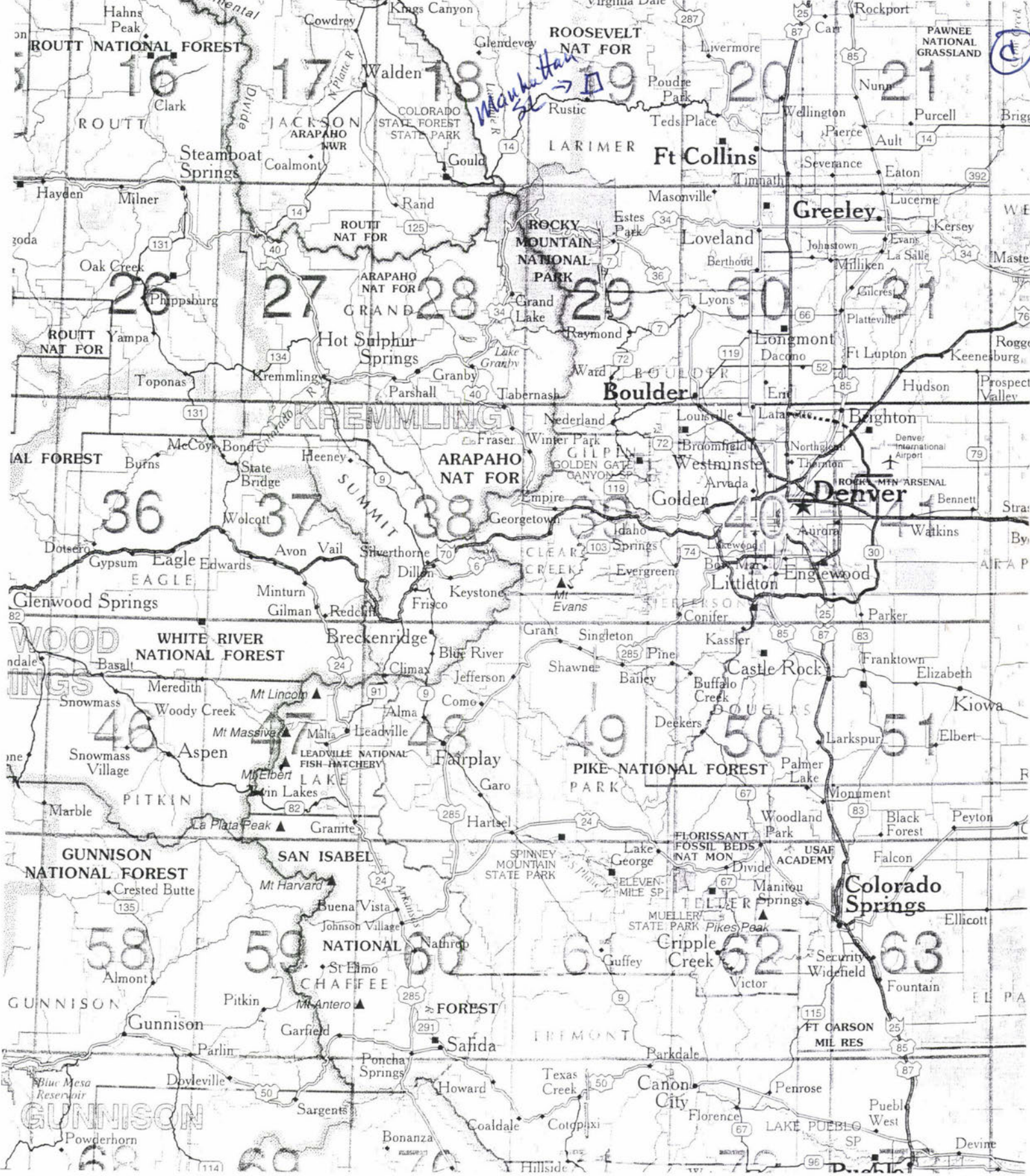
4507

42°30'

1.6 MI
IDYLLWILDE

T. 9 N
4505

T. 8 N



Washburn
→ 19

C

Map showing Colorado counties and major geographical features. Counties labeled include ROUTT, JACKSON ARAPAHO, LARIMER, GREELEY, BOULDER, DENVER, PITKIN, SAN ISABEL, GUNNISON, and FREMONT. National Forests and Parks include ROUTT NATIONAL FOREST, ARAPAHO NATIONAL FOREST, ROCKY MOUNTAIN NATIONAL PARK, and GUNNISON NATIONAL FOREST. Major cities shown are Ft. Collins, Boulder, Denver, and Colorado Springs. A grid of numbers (16-63) is overlaid on the map. Handwritten blue annotations include 'Washburn' with an arrow pointing to the area around county 19, and a circled 'C' in the top right corner.

**Form SMP-A
OPEN BURNING PERMIT APPLICATION
PRESCRIBED FIRE PROJECTS**

RECEIVED

DEC 23 2005

BURN NAME: Manhattan SL Piles **COUNTY:** Larimer

RENEWAL? No by FCS-05-331 **LOCATION:** T9N, R73W, Sec. 16
Indicate Old Permit Number T,R,S or Lat/Long

ADMINISTRATIVE UNIT ID: COS
See Info Sheet I for a list of IDs. Include all IDs for multiple agency burns. Private landowner use PVT.

CONTACT PERSON: Boyd Lebeda **PHONE:** 970.491.8445

Complete Address, Email Address, Fax and Cell Phone fields **ONLY** if this is your first submittal or info has changed.

ADDRESS: 5075 Campus Delivery, CSU, Fort Collins, CO 80523-5075 **CELL:** 970.222.8693

EMAIL ADDRESS: blebeda@lamar.colostate.edu **FAX:** 970.491.8645

BILLING INFORMATION: If multiple agencies to be billed, please indicate the percentage for each. Otherwise, the administrative unit listed above will be billed 100%.

Agency	Percentage	Agency	Percentage

LANDOWNER: SLB Complete **ONLY** if different than Agency to be billed Does this Landowner/Agency own or manage $\geq 10,000$ acres in Colorado? YES NO

MANAGEMENT USE/TYPE OF PROJECT:
Check appropriate use/uses

NATURAL FUEL REDUCTION	<input type="checkbox"/>	SPECIES CONVERSION	<input type="checkbox"/>	SITE PREP	<input type="checkbox"/>
ACTIVITY FUEL REDUCTION	<input checked="" type="checkbox"/>	RANGE IMPROVEMENT	<input type="checkbox"/>	WILDLIFE	<input type="checkbox"/>
HAZARDOUS FUEL REDUCTION	<input type="checkbox"/>	PEST CONTROL	<input type="checkbox"/>	OTHER	<input type="checkbox"/>

REQUESTED WIND DIRECTIONS: any e.g.: any, N-E-SW, all but NW... Precise to 2 letters.

REQUESTED SPECIAL CONDITIONS, if any: _____

SMOKE SENSITIVE AREAS	MILES FROM BURN	DIRECTION FROM BURN (compass direction or degrees)	MAIN CONCERN(S) Day=D, Night=N, Both=B
Co Rd 68C/69/162 Intersection	.5	S	B
Rustic	3	S	D

Permit Number: FCS --- 06 --- 089

F

ATTACHMENT A: PROJECT BUDGET ESTIMATES

Georges Gulch Piles

A. Equipment Expenses

Equipment Type	Number	Units (hours/days)	Total Units	Unit Cost	Total Cost
1. Preparation					
4x4 CSFS Truck	1	1	1	25.00	25.00
				Total Cost :	25.00
2. Burning					
4x4 CSFS Pickup	1	1	1	25.00	25.00
Drip Torches	4	1	1	47.00	47.00
Chainsaw	1	1	1	25.00	25.00
				Total Cost:	97.00
3. Holding					
Type VI Engine	1	6	6	34.00	204.00
				Total Cost:	204.00
4. Mop-Up					
				Total Cost:	0.00
ALL EQUIPMENT				TOTAL COSTS:	326.00

B. Personnel Expenses

Personnel Type or Name	Number	Hours	Total Hours	Unit Cost	Total Cost
1. Preparation					
CSFS Personnel - plan prep	1	4	4	30.00	120.00
CSFS Personnel - field work	1	4	4	30.00	120.00
				Total Cost :	240.00
2. Burning					
Burning Personnel	2	6	12	30.00	360.00
Burn Boss	1	6	6	30.00	180.00
Holding Specialist	0	0	0	30.00	0.00
Ignition Specialist	1	6	6	30.00	180.00
				Total Cost:	720.00
3. Holding					

Engine Personnel	0	1	1	30.00	30.00
Other Holding Personnel	0	1	1	30.00	30.00
				Total Cost:	60.00
4. Mop-Up					
Engine Personnel	0	1	0	30.00	0.00
Other Mop-up Personnel	0	1	1	30.00	30.00
				Total Cost:	30.00
ALL PERSONNEL				TOTAL COSTS:	1,050.00

C. Other Expenses

Item	Number	Unit	Total Units	Unit Cost	Total Cost
Burn Mix	1	20	20	2.91	58.20
Fusees	1	0.25	0.25	75.00	18.75
Office & copying supplies	1	1	1	20.00	20.00
Smoke Permit Fees	1	1	1	250.00	250.00
ALL OTHER EXPENSES				TOTAL COSTS:	346.95

D. Total Project Expenses

Category	Cost
Equipment	326.00
Personnel	1,050.00
Other	346.95
TOTAL EXPENSES	TOTAL COSTS: 1,722.95

F. Funding Sources:

1. Contract/Agreement(s)	Amount
Contract #1: 999870-0641	400.00
Contract #2:	
	TOTAL: 400.00
2. CSFS Expenses:	
Account #1:	
Account #2:	
3. Net Project Expenses:	-1,322.95

A.1

? What is preparation?

Plan development and field work

Prep and monitoring

Blacklining

A.4

What is Mop-Up

Form F

ANNUAL ACTUAL FIRE ACTIVITY, PILES AND BROADCAST

Return by March 1, summarizing all fire activity for the prior calendar year. This form is in addition to Daily Activity Reports.

Burn Name: Manhattan SL Piles Permit Number: FCS-06-089

No fire was ignited at this location during the permit year.
If no burning, check here and sign below.

List of Burn Dates: 3/10/06 _____

If additional space needed, attach a list of burn dates.

Total Broadcast Actual Acres* _____ ** Totals should equal sum of Daily Activity Forms SMP-E.*
 OR Total # of piles* 16 Avg. ft³ per pile 707 % of pile consumed, avg. 95 %

Piles: Check all fuels that apply.

n/a
 n/a

Fuel Types
 Unburned, any species
 Grass
 Sagebrush
 Oak or Aspen
 Pine or Other Conifer
 Piñon/Juniper
 Other: _____

Broadcast: % of Acres	Broadcast Fuel Load, t/ac	Broadcast % Consumed
	<i>For mosaic, unburned area within black perimeter</i>	
%		%
%		%
%		%
%		%
%		%
%		%
total = 100%		

Optional Comments:

SIGNATURE: Byrd O Lebeda NAME: Byrd O-Lebeda DATE: 12/18/06

Submit to Air Pollution Control Division.

Fax to 303-782-5493 or 303-782-0278 or email to coleen.campbell@state.co.us.

Please deliver this fax to Coleen Campbell, APCD.

DAILY ACTUAL FIRE ACTIVITY

Submit by 10:00 the day after proposed ignition. Complete for all burns.

Burn Name: Manhattan Se Piles Permit Number: FCS-06-089

Burn Date: 3/10/06 If checked, reports spread or creep from previous burning only. Report includes no additional ignition by people.

Burn cancelled? YES Reason (optional) _____

All times are closest ¼ hour.

Time Ignition Began: 1000 Time Ignition Ended: 1500

If ignition ended later than permitted, explain below. Occasional late ignition may be unavoidable, but should be infrequent.

Day's Best Ventilation Adjective unknown

Optional **Comments:** Example: Description of smoke transport, fuel conditions relevant to smoke, extent and location of smoke impacts even if they were mild, etc.

It snowed all day accumulating about 4 additional inches

Broadcast: Day's Total Actual Perimeter Acres: _____

OR Total # of Piles 16 Avg. ft³ per pile 707 % of pile consumed, avg. 95 %

Piles: Check all fuels that apply.

n/a

n/a

Fuel Types

Unburned, any species

Grass

Sagebrush

Oak or Aspen

Pine or Other Conifer

Piñon/Juniper

Other: _____

Broadcast: % of Acres	Broadcast Fuel Load, t/ac	Broadcast % Consumed
<i>For mosaic, unburned area within black perimeter</i>		
%		%
%		%
%		%
%		%
%		%
%		%
total = 100%		

Signature: Boyd O. LeSeda Your Name: Boyd O. LeSeda Date: 3/11/06

Submit to Air Pollution Control Division.

Fax to 303-782-5493 or 303-782-0278 or email to coleen.campbell@state.co.us.

Please deliver this fax to Coleen Campbell, APCD.

**Form SMP-A, cont.
OPEN BURNING PERMIT APPLICATION
PRESCRIBED FIRE PROJECTS**

for BROADCAST BURNS only:

PROPOSED BURN DATES: _____
Month or season is sufficient, but dates must be in the same calendar year

MAX. TOTAL ACREAGE: _____ **AND** MAX. DAILY ACREAGE: _____

PREDOMINANT NFDRS _____ BRIEF DESCRIPTION OF FUELS: _____
 FUEL MODEL: _____
Models A-U (See Info Sheet II for brief description.)

IGNITION METHOD(S): HAND ONLY _____ AERIAL ONLY _____ BOTH _____

SMOKE RISK RATING: *Attach Colorado Smoke Risk Rating Worksheet, Form SMP-B
 For Categories III and IV, also attach map of expected lofted and drainage smoke flow.*

Category I _____ Category II _____ Category III _____ Category IV _____

FUEL MOISTURE PRESCRIPTIVE ELEMENT:
This section to be completed for projects with Category III or IV Smoke Risk Rating.

	Measurement Method <i>Indicate method to be used.</i>	Minimum Fuel Moisture (%)
3-8" diameter logs (1000-hr fuels)	Sampled	
	Calculated	

for PILE BURNS only:

YEAR REQUESTING PERMIT FOR: 2006
*Permits for pile burns will be valid from January 1 to December 31. Permits issued after January 1 will be effective on issue date.
 Submittal of Form SMP-B and modeling output with the application packet are no longer required. APCD may request modeling for specific projects.*

TOTAL NUMBER OF PILES: 16 AVERAGE VOLUME PER PILE (FT³): 1800 *707 by volume.*

DAILY NUMBER OF PILES: 16 15x15x8

1000-hr+ FUEL AS % OF VOLUME: 30 *Can round to the nearest 10%, % of logs >3" in diameter.*

HAND PILES: _____ OR MACHINE PILES: X *Built entirely or partly by machine.*

DISTANCE TO NEAREST OCCUPIED RESIDENCE: .75 *Provide whole miles if distance ≥2, tenths if less.*

Applicant Signature: /s/ Boyd O. Lebeda Date: December 21, 2005

Summary Conditions:
 Maximum Smoke Dispersion Excellent Minimum Smoke Dispersion Fair
 Minimum Wind Direction Any *per standard conditions* Maximum Wind Direction Any (Clockwise)

Approved by A Mallory Date: 27 Dec 05 Permit Number: FCS-06-089

Form SMP-A
 Colorado Air Pollution Control Division
 Updated November 18, 2004
 Page 2 of 2
standard pile permit category to use despite a actual volume less than one mile from homes 301 - 500 ft³ per pile

Form SMP-C
EVALUATION OF NON-BURNING FUEL TREATMENTS AND
SMOKE MITIGATION TECHNIQUES USED

Burn name: Manhattan SL Piles

FCS-05-331

Non-Burning Fuel Treatments Utilized:

Check all that apply

Burn is part of a project that includes non-burning fuel treatments. Alternative fuel treatments utilized:

- | | |
|---|---|
| <input type="checkbox"/> Grazing | <input type="checkbox"/> Invasive/Exotic Species Management |
| <input type="checkbox"/> Other Biological Control except grazing (green stripping, methods to increase decomposition) | |
| <input checked="" type="checkbox"/> Timber Sale | <input type="checkbox"/> Mechanical Treatment |
| <input type="checkbox"/> Firewood Sales | <input type="checkbox"/> Other _____ |

Non-burning fuel treatments were considered and are not available to meet resource objectives because:

- | | |
|--|---|
| <input type="checkbox"/> Legislative/management restrictions | <input type="checkbox"/> Safety Concerns |
| <input checked="" type="checkbox"/> Fuel has no commercial value | <input type="checkbox"/> Access/physical barriers |
| <input checked="" type="checkbox"/> Not Economically Reasonably | <input type="checkbox"/> Other _____ |

Smoke and/or Emissions Minimization Techniques Planned:

Check all that apply

- | | |
|---|--|
| <input type="checkbox"/> Burn before greenup | <input type="checkbox"/> Burn before large fuels cure (activity fuel only) |
| <input type="checkbox"/> Reduce target area | <input type="checkbox"/> Construct fire lines to halt fire spread |
| <input type="checkbox"/> Rapid Mop-Up | <input type="checkbox"/> Meteorological scheduling to reduce smoke impacts |
| <input checked="" type="checkbox"/> Burn fuels in piles or windrows | |
| <input checked="" type="checkbox"/> Piles dry, free of dirt, and small enough to manage smoke impacts | |
| <input type="checkbox"/> High fuel moisture content in large woody fuels minimizes consumption of large fuels | |
| <input type="checkbox"/> Moist litter/duff layer minimizes consumption of litter/duff | |

Smoke and/or Emissions Minimization Techniques Planned:

Continued

- _____ Firing technique used to maximize smoke dispersal and minimize pollutants
- _____ Hose lays & pumps to wet fuels and extinguish all or a portion of fire front
- _____ Other _____

Smoke Contingency Plan:

This section must answer two questions:

- 1) *What actions will be taken in order to minimize the likelihood of unacceptable smoke impacts?*
- 2) *If unacceptable smoke impacts occur at smoke sensitive receptors anyway, what mitigation measures will be taken?*
(Smoke Contingency Plan may be attached as a separate document.)

- 1. Monitor smoke production and dispersal of test burn _____
 - 2. Igniting piles in small groups _____
 - 3. Each group of piles will be monitored _____
 - 4. CSFS will contact nearest resident _____
 - 5. Individual piles may be extinguished and mopped up if directed by the burn boss _____
- _____
- _____
- _____
- _____
- _____
- _____



Permit Number: FCS-06-089

Burn Name: Manhattan SL Piles

Permit Conditions - Piles

March 23, 2005

Air Pollution Control Division / Technical Services

General Permit Conditions:

Notify the public at least 24 hours but no more than 120 hours before each burn. Include a person that the public may contact regarding the burn.

Notify the Local Air Quality Contact (usually the local health department) before ignition.

Submit **Form SMP-D, Notification of Ignition**, 2-48 hours before ignition.

Submit **Form SMP-E, Daily Actual Fire Activity** by 10:00 a.m. the following day.

Whether or not fire activity occurs under this permit during the calendar year, submit **Form SMP-F, Annual Actual Fire Activity** by the following March 1.

Fire must be able to be extinguished if adverse smoke impacts develop at any smoke sensitive receptor. If this condition is not met and adverse impacts develop, APCD may rescind this permit immediately.

If the piles are in the Front Range area affected by red-blue days and open burning forecasts, those requirements must be met in addition to general pile burning weather conditions described below. See <http://apcd.state.co.us/smoke/prescribed/ppb.doc>.

For the maximum number of piles that may be burned and other conditions, see over.

Piles may be burned under this permit only if:

- Ignition occurs during a snowstorm (indicated by visibility of 1 mile or less) OR
- The National Weather Service forecasts the day's maximum dispersion adjective as fair or higher OR
- One-minute average on-site eye-level wind speeds are:
 - 4(+) mph measured before ignition AND
 - also 4(+) mph measured at least 15 minutes later, during which delay one test pile may be burned.

APCD may revise permit conditions at any time, as circumstances warrant.

Please call Coleen Campbell at 303-692-3224 if you have questions or comments on your permits.

Permit Number FCS-06-089

Maximum Number of Piles To Burn At Once¹

Greenest material in pile must be cut at least 12 months before ignition. Otherwise, see specific permit.

<u>volume per pile</u>	<u>if closest occupied² residence at least one mile away</u>	<u>if closest occupied residence < 1 mile away</u>
$\leq 300 \text{ ft}^3$	100 piles	smaller of 75 piles or the number that people on site could extinguish within 2 hours Also: Complete ignition at least 2 hours before sunset. Also: Chunk each pile at least once. Complete first chunking at least 1 hour before sunset.
301 - 500 ft ³	75 piles	smaller of 50 piles or the number that people on site could extinguish within 3 hours Also: Complete ignition at least 3 hours before sunset. Also: Chunk each pile at least once. Complete first chunking at least 1 hour before sunset. Also: Any wind direction is approved during a snowstorm. Otherwise, any wind direction is approved unless marked: _____ through _____ to _____, clockwise.
501 - 9,999 ft ³	12,000 ft ³ total; or 50,000 ft ³ if > 5 miles from homes	See specific permit.
10,000 (+)ft ³	See specific permit.	

¹ The maximum number of piles that may be producing smoke at any one time (per 'wave').

² For piles > 300 ft³ each, the home may not be occupied during either the day of burning or the following night. Only for piles $\leq 300 \text{ ft}^3$ each, if a residence is vacant during the burn day it may be considered to be unoccupied. If there are so few residences within one mile that burners talk with every household in advance and none has unmitigated smoke concerns, those residences also may be considered 'unoccupied.'

Send To Printer

Back To TerraServer

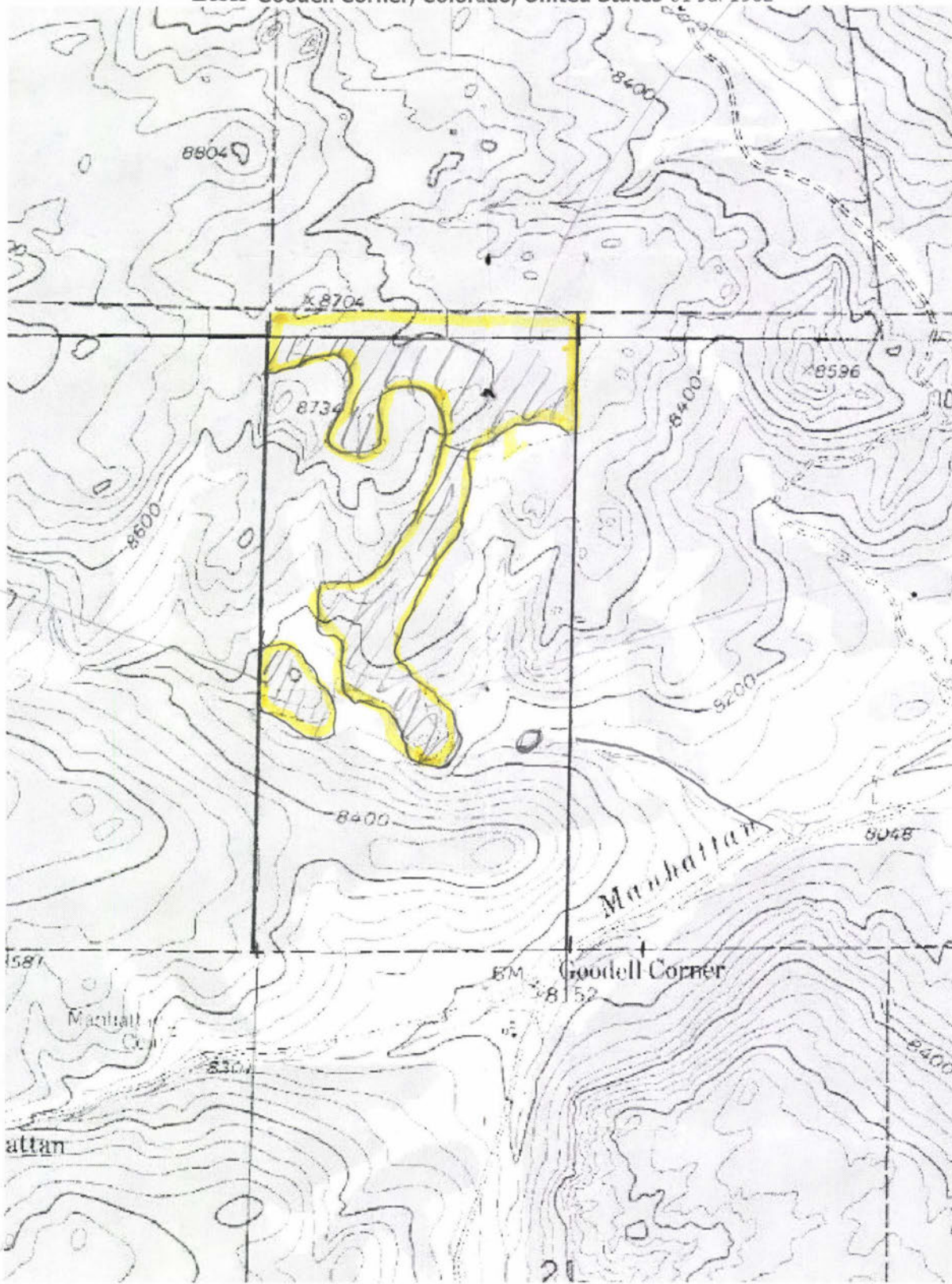
Change to 11x17 Print Size

Show Grid Lines

Change to Landscape

USGS Goodell Corner, Colorado, United States 01 Jul 1962

6 x 2 792 x 2640 18 ac



660 x 660
16 ac

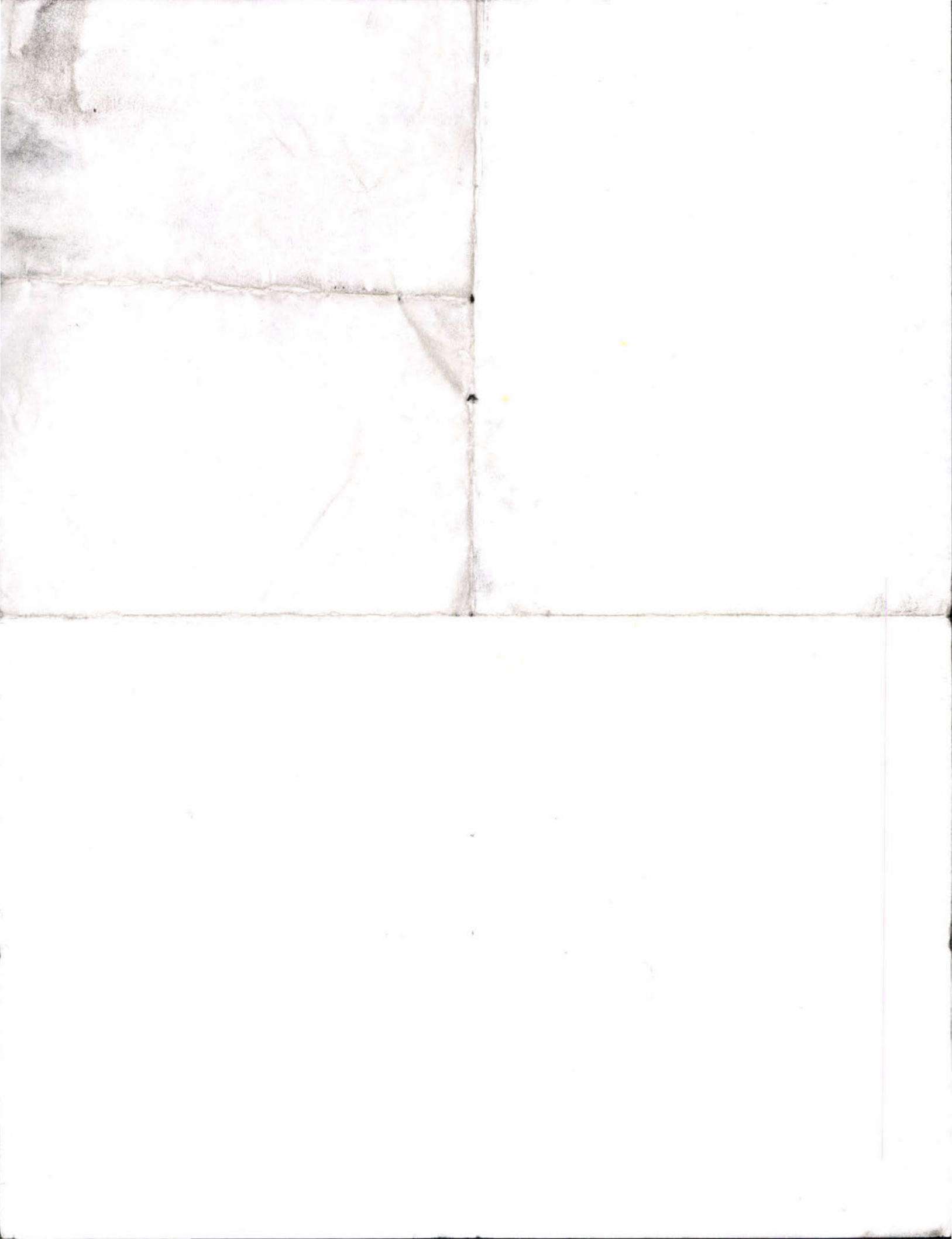
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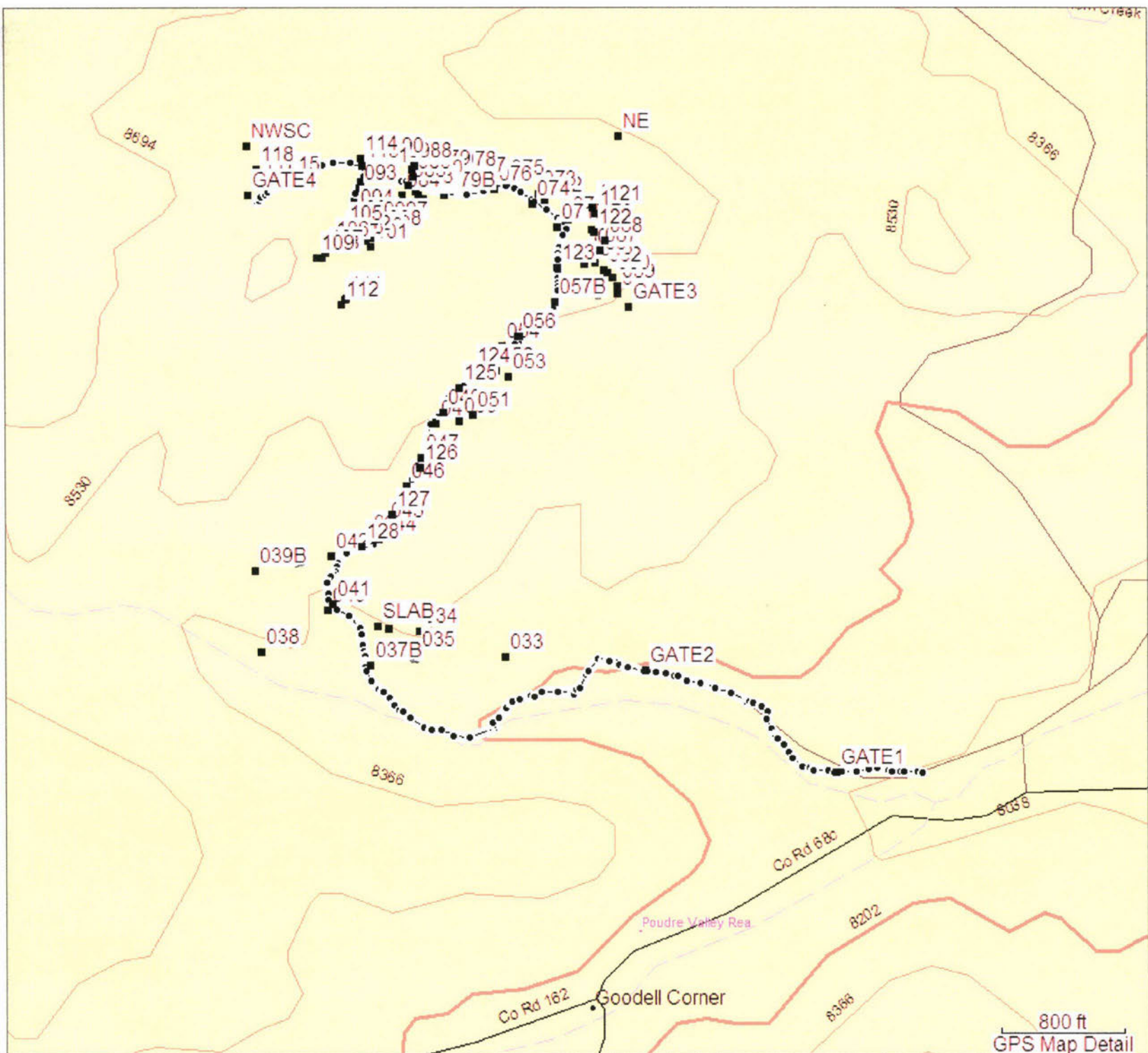
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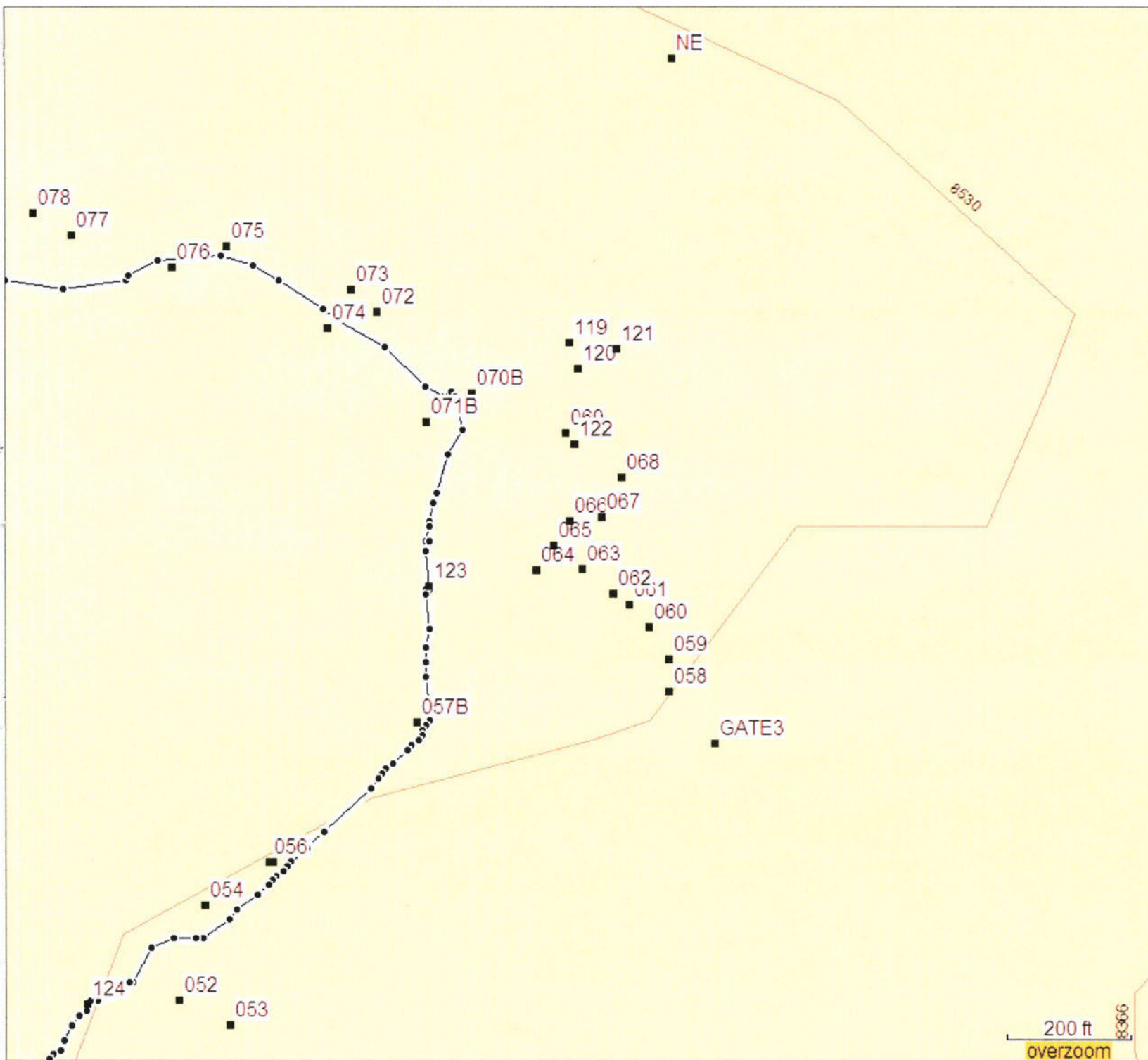
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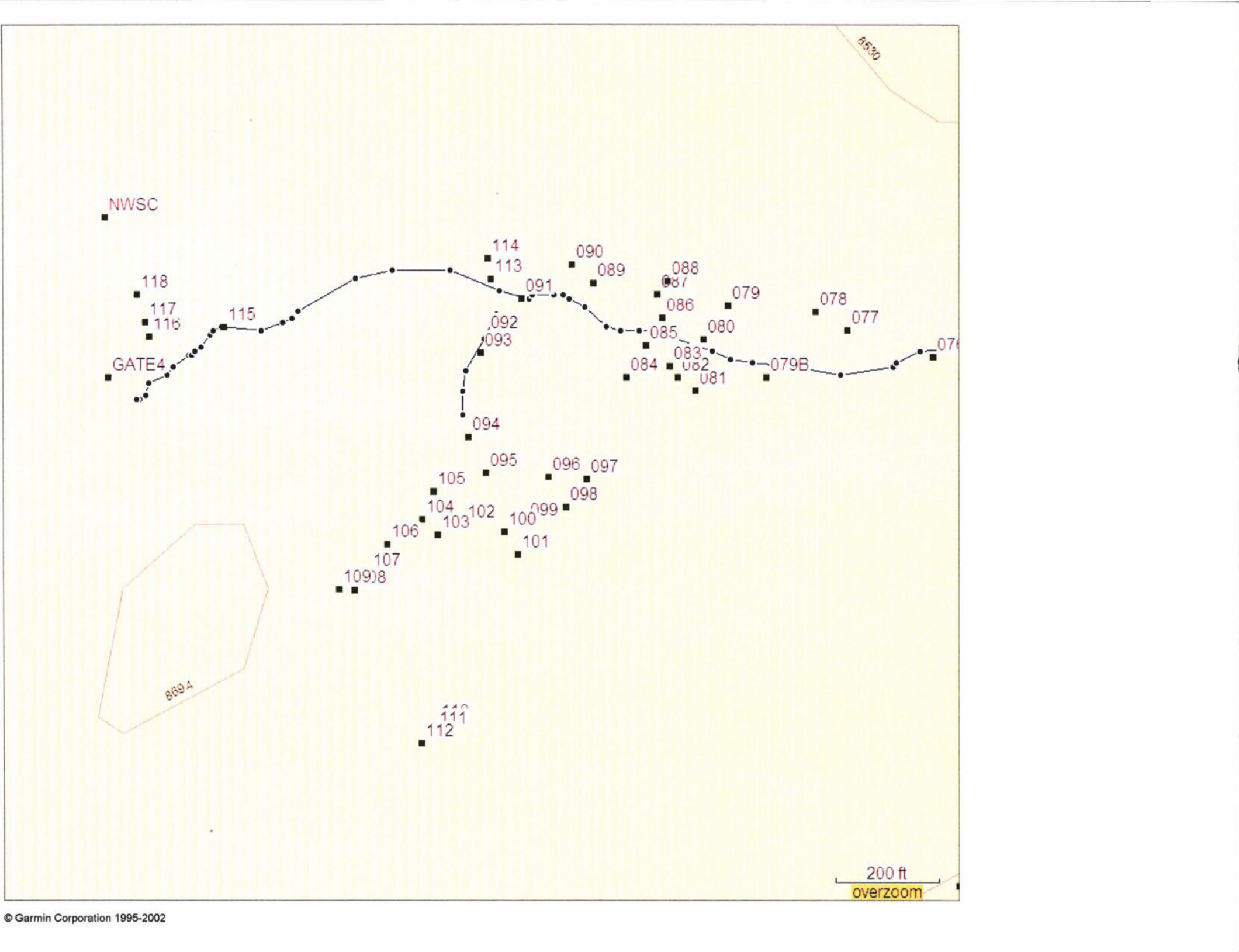
1" = 1320'
1" = 15840'

Image courtesy of the U.S. Geological Survey
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NWSC

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GATE4

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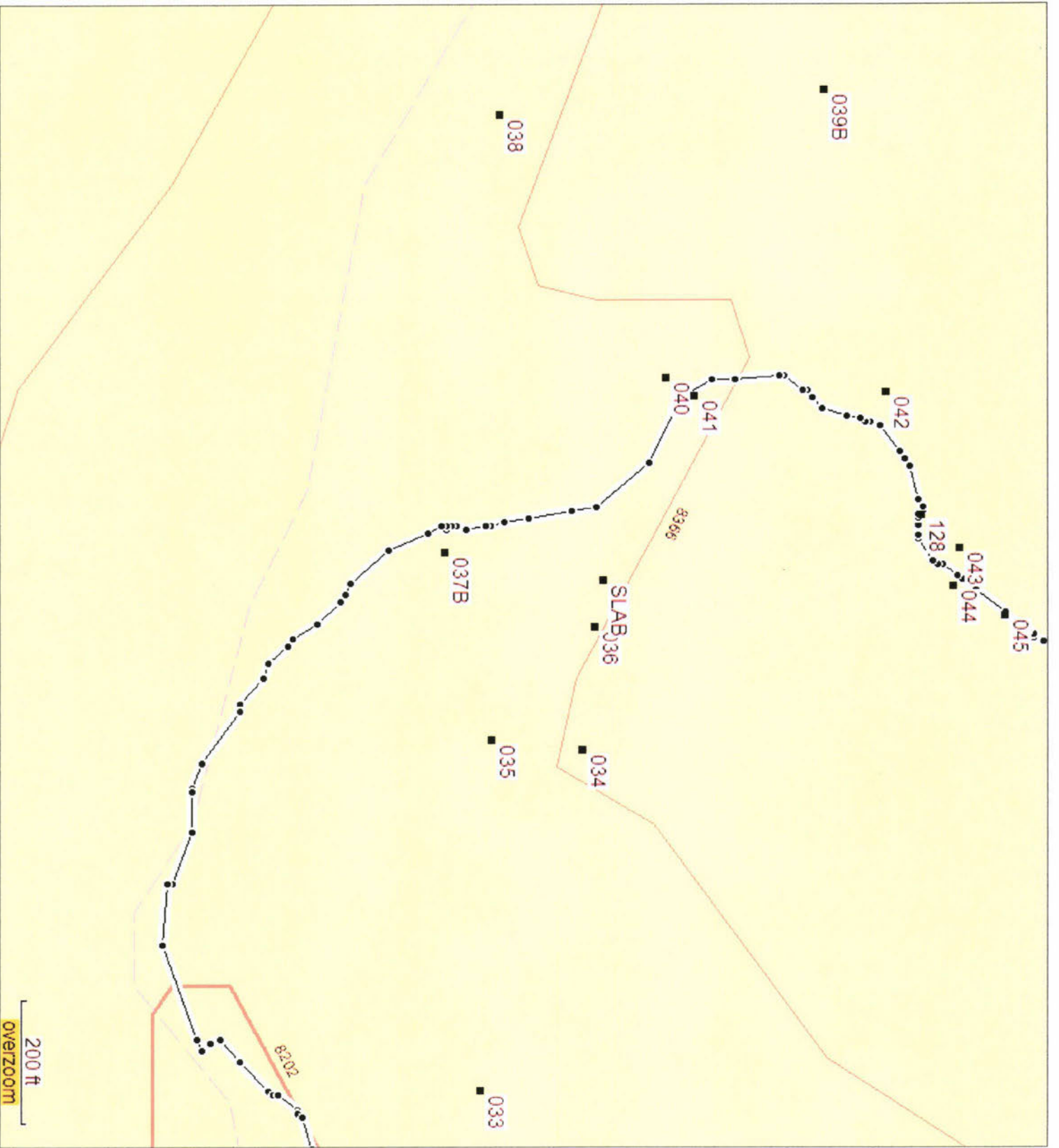
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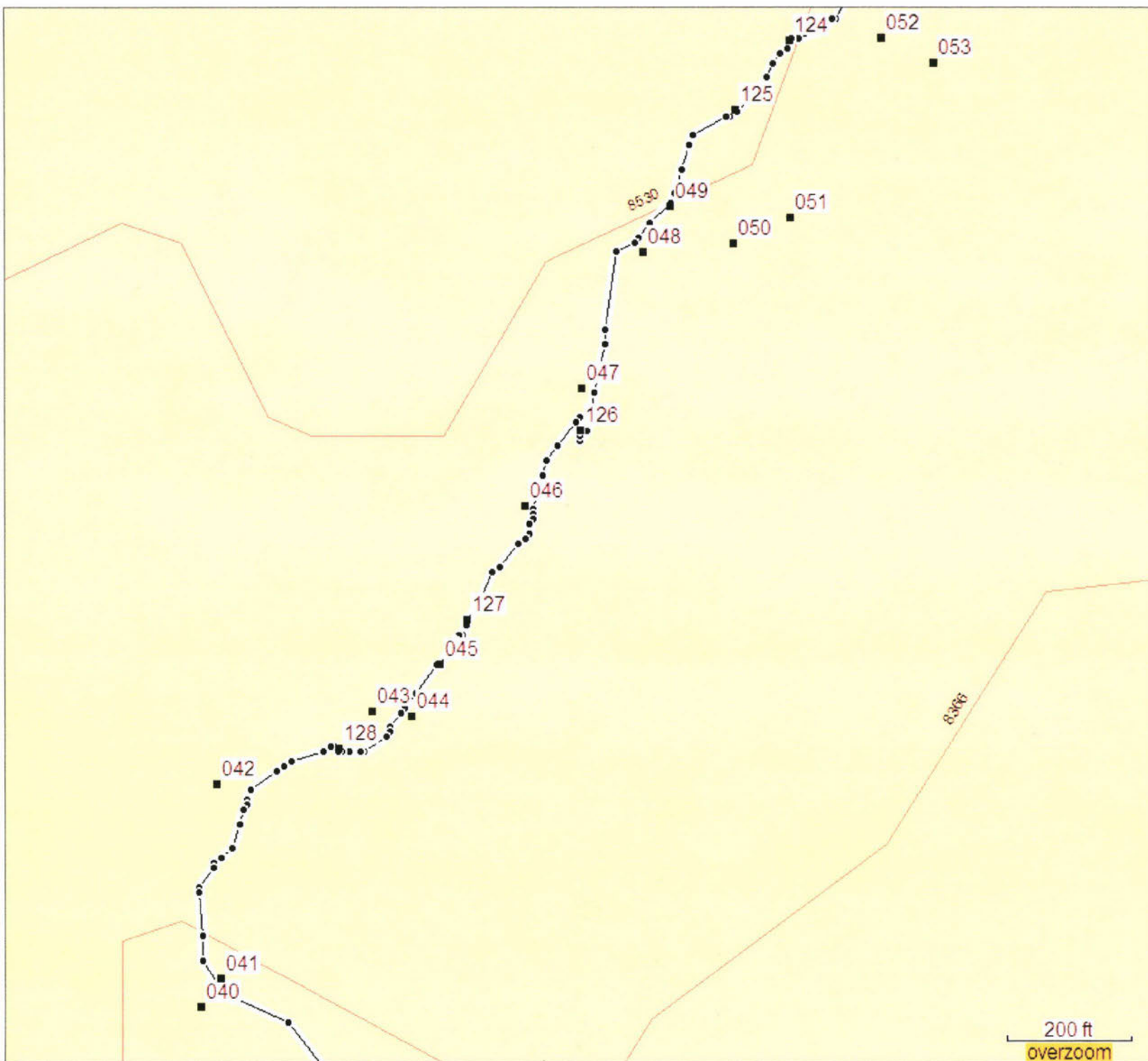
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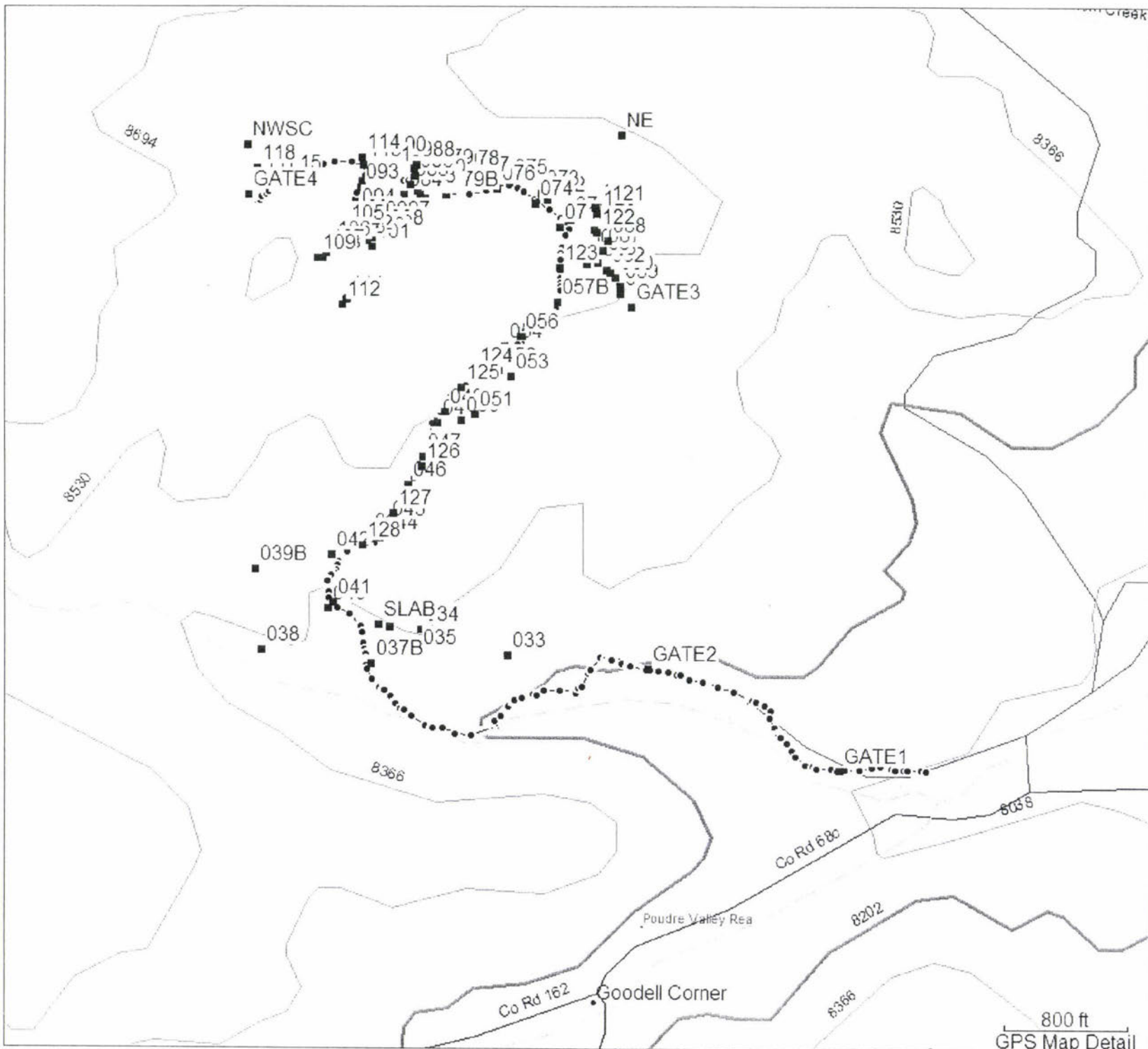
869A

8530

200 ft
overzoom







Mike -
 There are quite a
 few more piles
 than I first thought
 - Brad

**Form SMP-F
ANNUAL ACTUAL FIRE ACTIVITY**

Summary of all fire activity for the year. In addition to this report, Category II, III and IV projects will have submitted Daily Activity Reports as burning was completed.

PERMIT NUMBER: FCS-05-331 BURN NAME: Manhattan SL Piles

NO FIRE ACTIVITY AT THIS LOCATION DURING PERMIT PERIOD X
Check if no burning, sign below and return form by March 1st.

List of Burn Dates: _____

If additional space needed, attach a list of burn dates.

FOR BROADCAST BURNS

ACTUAL ACREAGE: _____ *Total acres for project. Must equal sum of Daily Activity Forms (Form SMP-E).*

FUEL TYPES	PERCENT OF ACTUAL ACREAGE (must total 100%)	FUEL LOADING (tons/acre)	PERCENT CONSUMPTION
GRASS			
SAGEBRUSH			
OAKBRUSH or ASPEN			
PINE/CONIFER			
PINON/JUNIPER			
OTHER			

FOR PILE BURNS

FUEL TYPES <i>(Check all that are applicable)</i>	
SAGEBRUSH	
OAKBRUSH or ASPEN	
PINE/CONIFER	
PINON/JUNIPER	
PILED SLASH	
OTHER	

NUMBER OF PILES: _____

AVERAGE VOLUME PER PILE (FT³): _____

AVERAGE % CONSUMED: _____

PRINT NAME: Bydo, Lebedev SIGNATURE: Bydo Lebedev DATE: 2/17/06



Colorado Department
of Public Health
and Environment

Permit Number: FCS-05-331

Burn Name: Manhattan SL Piles

Permit Conditions - Piles

March 23, 2005

Air Pollution Control Division / Technical Services

General Permit Conditions:

Notify the public at least 24 hours but no more than 120 hours before each burn. Include a person that the public may contact regarding the burn.

Notify the Local Air Quality Contact (usually the local health department) before ignition.

Submit **Form SMP-D, Notification of Ignition**, 2-48 hours before ignition.

Submit **Form SMP-E, Daily Actual Fire Activity** by 10:00 a.m. the following day.

Whether or not fire activity occurs under this permit during the calendar year, submit **Form SMP-F, Annual Actual Fire Activity** by the following March 1.

Fire must be able to be extinguished if adverse smoke impacts develop at any smoke sensitive receptor. If this condition is not met and adverse impacts develop, APCD may rescind this permit immediately.

If the piles are in the Front Range area affected by red-blue days and open burning forecasts, those requirements must be met in addition to general pile burning weather conditions described below. See <http://apcd.state.co.us/smoke/prescribed/ppb.doc>.

For the maximum number of piles that may be burned and other conditions, see over.

Piles may be burned under this permit only if:

- Ignition occurs during a snowstorm (indicated by visibility of 1 mile or less) OR
- The National Weather Service forecasts the day's maximum dispersion adjective as fair or higher OR
- One-minute average on-site eye-level wind speeds are:
 - 4(+) mph measured before ignition AND
 - also 4(+) mph measured at least 15 minutes later, during which delay one test pile may be burned.

APCD may revise permit conditions at any time, as circumstances warrant.

Please call Coleen Campbell at 303-692-3224 if you have questions or comments on your permits.

Permit Number _____

Maximum Number of Piles To Burn At Once¹

Greenest material in pile must be cut at least 12 months before ignition. Otherwise, see specific permit.

<u>volume per pile</u>	<u>if closest occupied² residence at least one mile away</u>	<u>if closest occupied residence < 1 mile away</u>
≤ 300 ft ³	100 piles	smaller of 75 piles or the number that people on site could extinguish within 2 hours Also: Complete ignition at least 2 hours before sunset. Also: Chunk each pile at least once. Complete first chunking at least 1 hour before sunset.
301 - 500 ft ³	75 piles	smaller of 50 piles or the number that people on site could extinguish within 3 hours Also: Complete ignition at least 3 hours before sunset. Also: Chunk each pile at least once. Complete first chunking at least 1 hour before sunset. Also: Any wind direction is approved during a snowstorm. Otherwise, any wind direction is approved unless marked: ____ through ____ to ____, clockwise.
501 - 9,999 ft ³	12,000 ft ³ total; or 50,000 ft ³ if > 5 miles from homes	See specific permit.
10,000 (+)ft ³		See specific permit.

¹ The maximum number of piles that may be producing smoke at any one time (per 'wave').

² For piles > 300 ft³ each, the home may not be occupied during either the day of burning or the following night. Only for piles ≤ 300 ft³ each, if a residence is vacant during the burn day it may be considered to be unoccupied. If there are so few residences within one mile that burners talk with every household in advance and none has unmitigated smoke concerns, those residences also may be considered 'unoccupied.'

**Form SMP-A
OPEN BURNING PERMIT APPLICATION
PRESCRIBED FIRE PROJECTS**

RECEIVED
NOV 04 2005

BURN NAME: Manhattan SL Piles **COUNTY:** Larimer

RENEWAL? No **LOCATION:** T9N, R73W, Sec. 16
Indicate Old Permit Number *T,R,S or Lat/Long*

ADMINISTRATIVE UNIT ID: COS
See Info Sheet I for a list of IDs. Include all IDs for multiple agency burns. Private landowner use PVT.

CONTACT PERSON: Boyd Lebeda **PHONE:** 970.491.8445

Complete Address, Email Address, Fax and Cell Phone fields ONLY if this is your first submittal or info has changed.

ADDRESS: 5075 Campus Delivery, CSU, Fort Collins, CO 80523-5075 **CELL:** 970.222.8693

EMAIL ADDRESS: blebeda@lamar.colostate.edu **FAX:** 970.491.8645

BILLING INFORMATION: *If multiple agencies to be billed, please indicate the percentage for each. Otherwise, the administrative unit listed above will be billed 100%.*

Agency	Percentage	Agency	Percentage

LANDOWNER: SLB YES
Complete ONLY if different than Agency to be billed Does this Landowner/Agency own or manage ≥10,000 acres in Colorado? NO

MANAGEMENT USE/TYPE OF PROJECT:
Check appropriate use/uses

NATURAL FUEL REDUCTION	<input type="checkbox"/>	SPECIES CONVERSION	<input type="checkbox"/>	SITE PREP	<input type="checkbox"/>
ACTIVITY FUEL REDUCTION	<input checked="" type="checkbox"/>	RANGE IMPROVEMENT	<input type="checkbox"/>	WILDLIFE	<input type="checkbox"/>
HAZARDOUS FUEL REDUCTION	<input type="checkbox"/>	PEST CONTROL	<input type="checkbox"/>	OTHER	<input type="checkbox"/>

REQUESTED WIND DIRECTIONS: any e.g.: any, N-E-SW, all but NW... *Precise to 2 letters.*

REQUESTED SPECIAL CONDITIONS, if any: _____

SMOKE SENSITIVE AREAS	MILES FROM BURN	DIRECTION FROM BURN (compass direction or degrees)	MAIN CONCERN(S) Day=D, Night=N, Both=B
Co Rd 68C/69/162 Intersection	.5	S	B
Rustic	3	S	D

Permit Number: FCS 05 331

**Form SMP-A, cont.
OPEN BURNING PERMIT APPLICATION
PRESCRIBED FIRE PROJECTS**

for BROADCAST BURNS only:

PROPOSED BURN DATES: _____
Month or season is sufficient, but dates must be in the same calendar year

MAX. TOTAL ACREAGE: _____ AND MAX. DAILY ACREAGE: _____

PREDOMINANT NFDRS FUEL MODEL: _____ BRIEF DESCRIPTION OF FUELS: _____
Models A-U (See Info Sheet II for brief description.)

IGNITION METHOD(S): HAND ONLY _____ AERIAL ONLY _____ BOTH _____

SMOKE RISK RATING: *Attach Colorado Smoke Risk Rating Worksheet, Form SMP-B
For Categories III and IV, also attach map of expected lofted and drainage smoke flow.*

Category I _____ Category II _____ Category III _____ Category IV _____

FUEL MOISTURE PRESCRIPTIVE ELEMENT:
This section to be completed for projects with Category III or IV Smoke Risk Rating.

	Measurement Method <i>Indicate method to be used.</i>	Minimum Fuel Moisture (%)
3-8" diameter logs (1000-hr fuels)	Sampled	
	Calculated	

for PILE BURNS only:

YEAR REQUESTING PERMIT FOR: 2005
Permits for pile burns will be valid from January 1 to December 31. Permits issued after January 1 will be effective on issue date. Submittal of Form SMP-B and modeling output with the application packet are no longer required. APCD may request modeling for specific projects.

TOTAL NUMBER OF PILES: 16 AVERAGE VOLUME PER PILE (FT³): 1800 *707 sq so calc.*

DAILY NUMBER OF PILES: 16 15x15x8

1000-hr+ FUEL AS % OF VOLUME: 30 *Can round to the nearest 10%, % of logs >3" in diameter.*

HAND PILES: _____ OR MACHINE PILES: X *Built entirely or partly by machine.*

DISTANCE TO NEAREST OCCUPIED RESIDENCE: .75 *Provide whole miles if distance ≥2, tenths if less.*

Applicant Signature: /s/ Boyd O. Lebeda Date: November 4, 2005

Summary Conditions:
 Maximum Smoke Dispersion Excellent Minimum Smoke Dispersion Fair
 Minimum Wind Direction Any Maximum Wind Direction Any (Clockwise)
See standards conditions

Approved by J. Hall Date: 7 Nov 05 Permit Number: FCS-05-331

*Standard pile permit category to use despite actual volume:
less than one mile from homes
301-500 ft³ per pile*

Form SMP-C
EVALUATION OF NON-BURNING FUEL TREATMENTS AND
SMOKE MITIGATION TECHNIQUES USED

Burn name: Manhattan SL Piles

Non-Burning Fuel Treatments Utilized:

Check all that apply

Burn is part of a project that includes non-burning fuel treatments. Alternative fuel treatments utilized:

- | | |
|---|---|
| <input type="checkbox"/> Grazing | <input type="checkbox"/> Invasive/Exotic Species Management |
| <input type="checkbox"/> Other Biological Control except grazing (green stripping, methods to increase decomposition) | |
| <input checked="" type="checkbox"/> Timber Sale | <input type="checkbox"/> Mechanical Treatment |
| <input type="checkbox"/> Firewood Sales | <input type="checkbox"/> Other _____ |

Non-burning fuel treatments were considered and are not available to meet resource objectives because:

- | | |
|--|---|
| <input type="checkbox"/> Legislative/management restrictions | <input type="checkbox"/> Safety Concerns |
| <input checked="" type="checkbox"/> Fuel has no commercial value | <input type="checkbox"/> Access/physical barriers |
| <input checked="" type="checkbox"/> Not Economically Reasonably | <input type="checkbox"/> Other _____ |

Smoke and/or Emissions Minimization Techniques Planned:

Check all that apply

- | | |
|---|--|
| <input type="checkbox"/> Burn before greenup | <input type="checkbox"/> Burn before large fuels cure (activity fuel only) |
| <input type="checkbox"/> Reduce target area | <input type="checkbox"/> Construct fire lines to halt fire spread |
| <input type="checkbox"/> Rapid Mop-Up | <input type="checkbox"/> Meteorological scheduling to reduce smoke impacts |
| <input checked="" type="checkbox"/> Burn fuels in piles or windrows | |
| <input checked="" type="checkbox"/> Piles dry, free of dirt, and small enough to manage smoke impacts | |
| <input type="checkbox"/> High fuel moisture content in large woody fuels minimizes consumption of large fuels | |
| <input type="checkbox"/> Moist litter/duff layer minimizes consumption of litter/duff | |

Smoke and/or Emissions Minimization Techniques Planned:

Continued

_____ Firing technique used to maximize smoke dispersal and minimize pollutants

_____ Hose lays & pumps to wet fuels and extinguish all or a portion of fire front

_____ Other _____

Smoke Contingency Plan:

This section must answer two questions:

- 1) *What actions will be taken in order to minimize the likelihood of unacceptable smoke impacts?*
- 2) *If unacceptable smoke impacts occur at smoke sensitive receptors anyway, what mitigation measures will be taken?*
(Smoke Contingency Plan may be attached as a separate document.)

- 1. Monitor smoke production and dispersal of test burn
- 2. Igniting piles in small groups
- 3. Each group of piles will be monitored
- 4. CSFS will contact nearest resident
- 5. Individual piles may be extinguished and mopped up if directed by the burn boss

Form F

ANNUAL ACTUAL FIRE ACTIVITY, PILES AND BROADCAST

Return by March 1, summarizing all fire activity for the prior calendar year. This form is in addition to Daily Activity Reports.

Burn Name: Manhattan SL Permit Number: FCS-07-110

No fire was ignited at this location during the permit year.
If no burning, check here and sign below.

List of Burn Dates: Feb. 9, 07

If additional space needed, attach a list of burn dates.

Total Broadcast Actual Acres* _____ ** Totals should equal sum of Daily Activity Forms SMP-E.*

OR Total # of piles* 45 Avg. ft³ per pile 209 % of pile consumed, avg. 80 %

Piles: Check all fuels that apply.

n/a

n/a

Fuel Types

Unburned, any species

Grass

Sagebrush

Oak or Aspen

Pine or Other Conifer

Piñon/Juniper

Other: _____

Broadcast: % of Acres	Broadcast Fuel Load, t/ac	Broadcast % Consumed
	<i>For mosaic, unburned area within black perimeter</i>	
%		%
%		%
%		%
%		%
%		%
%		%
total = 100%		

Optional Comments:

SIGNATURE: Michael Hughes NAME: Michael Hughes DATE: 3/5/07

Submit to Air Pollution Control Division.

Fax to 303-782-5493 or 303-782-0278 or email to coleen.campbell@state.co.us.

Please deliver this fax to Coleen Campbell, APCD.

Manhattan Creek

X 8704

8734

8400

8000

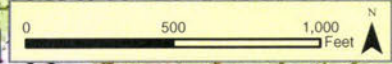
8200

8400

Manhatta

BM

Goodell Corner



81

Form A - Piles

Burn Name:

Manhattan SL



PILE PRESCRIBED FIRE PERMIT APPLICATION

The Colorado Pile Smoke Worksheet defines terms.

BURN NAME: Manhattan SL **COUNTY(S):** Larimer

RENEWAL? FCS-06-089 **LOCATION:** T9N, R73W, Sec. 16
'No' or old permit number. T,R,S or Lat/Long

PROPOSED BURN DATES: January-April **BURN YEAR:** 2007
Month or season is sufficient but dates must be in the same calendar year.

ADMINISTRATIVE UNIT ID(s): COS **LANDOWNER:** SLB
ID is unit's dispatch mnemonic. USFS include also zone or district. Private landowner use PVT. Complete only if different than agency to be billed

CONTACT PERSON: Mike Hughes **PHONE:** 491-8453
Complete address, email, fax and cell phone ONLY if this is your first submittal or information has changed.

5060 Campus Delivery, Bldg. 1052, CSU,
ADDRESS: Ft. Collins, CO 80523-5060 **CELL:** 970-988-7889

EMAIL: mhughes@lamar.colostate.edu **FAX:** 491-8645

BILLING INFORMATION: *If multiple agencies to be billed, indicate % for each. Otherwise, the unit listed above will be billed 100%.*

Agency	Percent	Agency	Percent

LANDOWNER: *Complete only if different than agency to be billed.*

Does this Landowner/Agency own or manage $\geq 10,000$ acres in Colorado?
Complete only if land is privately owned. yes no

SMOKE SENSITIVE AREAS: Town, Subdivision, Class I airshed	MILES FROM EDGE of BURN	DIRECTION FROM BURN (compass direction or degrees)	MAIN CONCERN(S)
			Day=D, Night=N, Both=B
Co. Rd. 68C/69/162 Intersection Goodell Corner (Manhattan)	.5	S	B
Rustic	3	S	D

MIN. ELEVATION: *only for Adams, Arapaho, Boulder, Broomfield, Denver, Douglas and/or Jefferson County*

MILES TO NEAREST OCCUPIED HOME: 1 **1,000-HR(+) FUEL AS % OF VOLUME:** 30
In tenths of miles if ≤ 2 miles. Logs ≥ 3 " in diameter. May round to the nearest 10%.

BRIEF DESCRIPTION OF FUELS: Logging slash

MAXIMUM TOTAL PILES FOR YEAR: 45 **AVG. FT³ PER PILE:** 400

PILE DIMENSIONS: *Typical dimensions, except dimensions for each pile if piles $> 25,000$ ft³ each* 10 x 8 x 5 *209 ft³ using pile volume calculator*

CONSTRUCTION: Piles were built by hand only with rake but no blade blade used

FCS-07-110

Form A - Piles

Burn Name:

Manhattan SL

SPREAD: Within this project, are some piles ≥ 1.0 mile from others? yes no

This application is for standard permit conditions for this kind of pile, as described on the worksheet.
You may fill out proposed conditions, below, or APCD reviewer will.

Pile conditions category: *Example:1a*

OR This application is for non-standard, tailored conditions. *Select, specify or add conditions on the following page to make a responsible proposal. Justify as needed in the narrative.*

APPLICANT SIGNATURE: _____ **DATE:** 2/7/07

APCD APPROVAL, incorporating any marked changes to proposed conditions: _____ **DATE:** _____

Colorado Air Pollution Control Division, Smoke Management Program
page 2 of 3

Form A - Piles

Burn Name:

Manhattan SL

SPREAD: Within this project, are some piles ≥ 1.0 mile from others? yes no

This application is for standard permit conditions for this kind of pile, as described on the worksheet. You may fill out proposed conditions, below, or APCD reviewer will.

Pile conditions category: Example: 1a

OR This application is for non-standard, tailored conditions. Select, specify or add conditions on the following page to make a responsible proposal. Justify as needed in the narrative.

APPLICANT SIGNATURE: Walter M. Ayler **DATE:** 2/7/07

APCD APPROVAL, incorporating any marked changes to proposed conditions: Coleen Campbell **DATE:** 2/8/07

FCS-07-110

FCS-07-110

Pile Permit Conditions 1b

Project name: Manhattan SL__

Category: 1.0 - 5.0 miles from an occupied home and volume per pile $\leq 300 \text{ ft}^3$

PROJECT-SPECIFIC PERMIT CONDITIONS:

Wind Directions: _____ any _____ 'Any', or specify to precision of no more than 2 letters and list clockwise.

Red/Blue: Applies 11/1 - 3/31; See <http://www.cdphs.state.co.us/ap/smoke/DocumentsLinked/RedBlueFrontRangePrescribedBurns.pdf> Does not apply. In unaffected counties or entirely above 7,000'

Complete ignition at least 1 hours before sunset.

Maximum number of piles:

Daily	OR per Wave	If weather is acceptable based on:
<u>45</u>	<u>45</u>	only observed minimum windspeed ¹
<u>45</u>	<u>45</u>	day's best forecasted ventilation adjective of fair
<u>45</u>	<u>45</u>	day's best forecasted ventilation adjective of good
<u>45</u>	<u>45</u>	day's best forecasted ventilation adjective of very good or excellent
<u>45</u>	<u>45</u>	observed snowing ²
<u>45</u>	<u>45</u>	storm ³ is forecasted. Storms are approved for all permitted piles.

 NA Maximum number of full concurrent waves per day

- Constrain wind direction etc. as needed in the field in order to keep smoke plumes from intersecting any occupied homes or to do so only when it is snowing.
- Monitor first (test) pile especially closely for potential impacts. Shut down or adapt as needed.
- Concurrent waves are allowed for groups of piles at least 1.0 miles apart.
- If feasible, advise APCD 36(+) hrs before ignition. This is not a permit requirement. It does not change the requirement to submit Form D.

Other:

GENERAL PERMIT CONDITIONS:

- The burn boss must have a copy of this permit on site.
- Undertake and document visual monitoring of smoke.
- Submit to APCD the following completed forms:

D, Notification of Ignition	2-48 hours before each day of expected ignition
E, Daily Actual Activity	by 10:00 on the day after each expected ignition day

¹ One-minute average on-site eye-level wind speeds are 4(+) mph measured before ignition and also 4(+) mph measured at least 15 minutes later, during which delay one test pile may be burned.

² Ignition may occur while it is snowing as indicated by visibility through snow of 1 mile or less.

³ Forecasted probability (PoP) of snow is $\geq 60\%$ for at least 6 hours in the 24 hours following ignition OR good (+) ventilation is forecasted at least until the next sunrise. Use a NWS spot forecast with this parameter, or an alternative that APCD has approved for this project.

Pile Permit Conditions 1b**Project name: Manhattan SL__**

F, Annual Fire Activity	by March 1 of the following year, whether or not any burning occurs
-------------------------	---

- Also notify the Local Air Quality Contact. For specifics, see Form D.
- Notify the public at least 24 hours but no more than 120 hours before planned ignition. Include the name of a person who the public may contact regarding the burn.
- APCD may revise permit conditions at any time as circumstances warrant.
- Ignite the project only when all prescribed conditions indicated in this permit are met. When weather is other than the conditions listed on this permit, no burning may occur.
- Fire must be able to be extinguished if unhealthful or excessive smoke impacts develop. If adverse impacts develop and fire cannot be extinguished, APCD may rescind this permit immediately.
- Permit is not valid during periods of publicly announced air pollution emergencies or alerts in the area of the proposed burn. Nov. 1 - Mar. 31 burning may not occur when a voluntary or mandatory 'no burn day' is in effect in the area. June 1 - Aug. 31 burning may not occur when an 'ozone action alert day' has been announced in the area.
- This permit has not been reviewed for transportation safety nor does it address a permittee's level of responsibility for it.
- This permit is for compliance with state air pollution control requirements only and is not a permit to violate any existing local laws, rules, regulations, or ordinances regarding fire, zoning, or building. Permittees also shall ensure that their actions comply with all procedural and substantive requirements contained in state and local air pollution control regulations.

Questions or comments: Coleen Campbell, 303-692-3224 or Sarah Gallup, 303-916-1260

Permit # FCS-07-110

Colorado Air Pollution Control Division, Smoke Management Program

page 1 of 2

Form C Burn Name: Manhattan SL

EVALUATION OF NON-BURNING FUEL TREATMENTS AND SMOKE MITIGATION TECHNIQUES USED

Management Use/Type of Project: Check all that apply.

- Natural Fuel Reduction, Activity Fuel Reduction, Hazard Fuel Reduction, Species Conversion, Range Improvement, Pest Control, Site Prep, Wildlife, Other

Non-Burning Fuel Treatments Used: Check all that apply.

Burn is part of a project that includes non-burning fuel treatments. Alternative fuel treatments used:

- Invasive/Exotic Species Management, Livestock Grazing, Timber Sale, Firewood Removal or Sale, Other Mechanical Treatment - all material left on site, Other Mechanical Treatment - some material removed, Other

Non-burning fuel treatments were considered and are not available to meet resource objectives because: Check all that apply.

- Legislative/management restrictions, Fuel has no commercial value, Not Economically Reasonably, Safety Concerns, Access/physical barriers, Other

Emissions Reduction Techniques Planned: Check all that apply.

Reduce Consumption (Area or Fuels):

- Burn before activity fuel cures, with intent to leave it unburned for an indefinite duration, Burn a mosaic. Expected area within perimeter to remain unburned %, High moisture in heavy fuel and duff. Min. acceptable 1000-hr fuel moisture %, Burn piles instead of broadcast burn (also increases combustion efficiency), Rapid mop-up (also increases combustion efficiency). Give details in question 1 below.

Redistribute emissions:

- Burn only when ventilation is good or better, or during snowstorm, Burn only when ventilation is fair or better, or when it is snowing or a snowstorm, Requesting wind direction constraints, Second(+) fire on this site within historically typical interval, Aerial ignition (also may increase combustion efficiency)

Colorado Air Pollution Control Division, Smoke Management Program

page 2 of 2

Form C**Burn Name:** Manhattan SL**Increase combustion efficiency:**

- Air curtain destructor use is also part of this project.
- Piles are built entirely by hand and are free of dirt.
- Piles are built by a machine but with no blade, reducing included dirt.

- Part of pile is covered from snowfall or rain, for faster ignition.
- Piles will be well cured before ignition, with red needles where applicable.
- Backing fire only will be used (not strip head).

Other _____

Smoke Mitigation Planning:

- Plan to monitor smoke impacts with instruments. (required for some burns. See worksheet.)

Type(s) of instruments: Camera

Locations(s) of instruments: _____

Attachments to this application:

Refer to worksheet as needed.

- None
- Separate narrative or cover note
- Prescription and objectives
- Map(s)
- Other: _____

Replies to the remainder of this form may be attached as a separate document.

1) Mitigation: What actions will be taken in order to minimize the likelihood of unacceptable smoke impacts?

1. Monitor smoke production and dispersal of test burn.
2. Ignite piles individually.
3. Monitor each pile.

2) Contingency: If unacceptable smoke impacts occur anyway, what actions will be taken? *At least for broadcast burns in the drainage or highest smoke risk categories, (1) define the expected number of people and time required for each action, and (2) do not use boilerplate language, but instead refer to project specifics.*

- Advise APCD.

Extinguish piles as needed.

(optional) **Narrative - Additional considerations or notes:**

Form C

Burn Name: Manhattan SL

Increase combustion efficiency:

- | | |
|--|--|
| <input type="checkbox"/> Air curtain destructor use is also part of this project. | <input type="checkbox"/> Part of pile is covered from snowfall or rain, for faster ignition. |
| <input checked="" type="checkbox"/> Piles are built entirely by hand and are free of dirt | <input type="checkbox"/> Piles will be well cured before ignition, with red needles where applicable |
| <input type="checkbox"/> Piles are built by a machine but with no blade, reducing included dirt. | <input type="checkbox"/> Backing fire only will be used (not strip head). |

Other _____

Smoke Mitigation Planning:

Attachments to this application:
Refer to worksheet as needed.

Plan to monitor smoke impacts with instruments.
(required for some burns. See worksheet.)

None

Type(s) of instruments: Camera

Separate narrative or cover note

Locations(s) of instruments:

Prescription and objectives

Map(s)

Other: _____

Replies to the remainder of this form may be attached as a separate document.

1) Mitigation: What actions will be taken in order to minimize the likelihood of unacceptable smoke impacts?

1. Monitor smoke production and dispersal of test burn.
2. Ignite piles individually.
3. Monitor each pile.

2) Contingency: If unacceptable smoke impacts occur anyway, what actions will be taken?

At least for broadcast burns in the drainage or highest smoke risk categories, (1) define the expected number of people and time required for each action, and (2) do not use boilerplate language, but instead refer to project specifics.

- Advise APCD.

Extinguish piles as needed.

(optional) **Narrative - Additional considerations or notes:**

Poudre Canyon Fire Protection District

Larimer County, Colorado

Community Wildfire Protection Plan

Manhattan Creek



Introduction

This Community Wildfire Protection Plan (CWPP) was developed by The Manhattan Creek Community with guidance and support from the Poudre Canyon Fire Protection District, Larimer County Emergency Services, Colorado State Forest Service, and US Forest Service. This CWPP was created according to the guidelines of *Preparing a Community Wildfire Protection Plan, A Handbook for Wildland-Urban Interface Communities*, March 2004. This CWPP supplements several Larimer County documents referenced in Appendix A. Information in this plan will be provided at a level of specificity determined by the community and appropriate agencies.

The process of developing a CWPP can help a community clarify and define its priorities for the protection of life, property, and critical infrastructure in the wildland-urban interface. It can also lead community members through valuable discussions regarding management options and implications for the surrounding watershed.

Community / Agencies / Interested Parties Involved

Representatives involved in the development of the Manhattan Creek CWPP are included in the following table. Their name, organization, and roles and responsibilities are indicated below:

CWPP Development Team

Name	Organization	Roles / Responsibilities
John Ohm, Dawn Garrett, David Young, Nick Profaizek	Community members who live within the Manhattan Creek Area	Primary development of CWPP and decision making – community risk and value assessment, development of community protection priorities, and establishment of fuels treatment project areas and methods
Laura Stahl Bette Blinde Buzz Stith	Poudre Canyon Fire Protection District	Primary development of CWPP and decision making – community risk and value assessment, development of community protection priorities, and establishment of fuels treatment project areas and methods
Boyd Lebeda Forester, Fort Collins District	Colorado State Forest Service	Facilitation of planning process and approval of CWPP process and minimum standards. Provides input and expertise on forestry, fire and fuels, and FireWise concepts.
Tony Simons Services Specialist	Larimer County Wildfire Safety Program	Provides input and expertise on hazard assessment, defensible space, and FireWise concepts.
Richard Edwards and Dyce Gayton, USFS	Relevant federal land management agencies (USFS, BLM, etc.)	Provides input and expertise on federal lands forestry, fire and fuels, and FireWise concepts.

Community Description

It is the goal of the Poudre Canyon Fire Protection District to create a CWPP for all areas of the district. Due to the size and layout of the inhabited areas we will split the CWPP into four Wildland-Urban Interface (WUI) Communities. Each community will encompass one of the four fire stations.

The communities will be defined as:

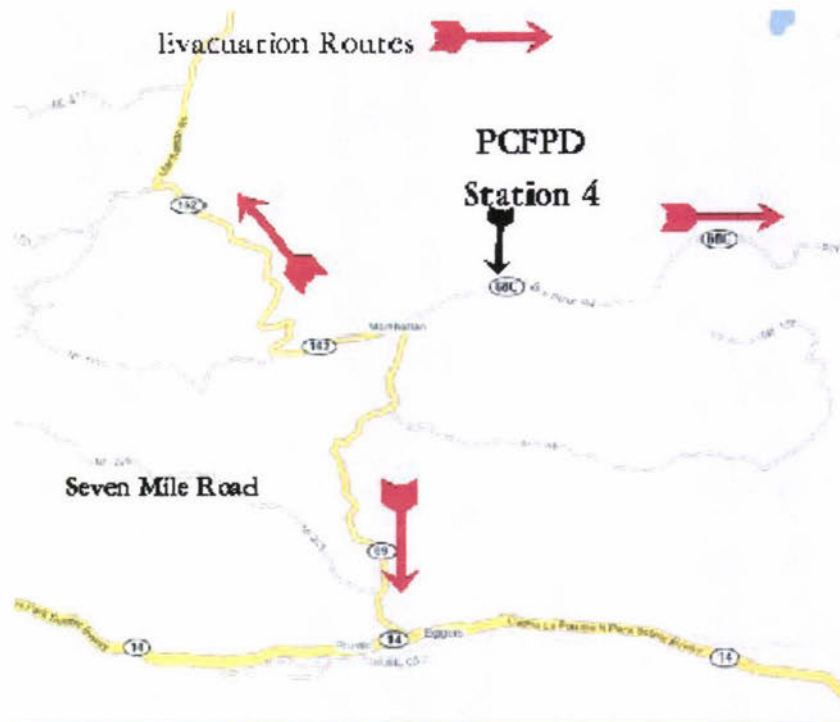
Poudre Park – Station 1

Rustic - Station 2

Spencer Heights – Station 3

Manhattan Creek – Station 4

This CWPP covers The Manhattan Creek Area and is considered phase II.



The Manhattan Creek community is defined by the natural breaks between inhabited areas. The community borders are defined as:

- East Border –Boy Scout Camp property line on county road 68C.
- West Border –Seven Mile Road (171)
- North Border – Elk Horn Creek
- South Borders – Intersection where seven mile road departs county road 69.
- The WUI includes both private and federal owned land. The Manhattan Creek area WUI is located in the Township 9 North, Range 73 West.

Community Access

The main access through the Manhattan Creek Community is via County roads 69 and 68C, which runs through the full length of the community. All roads in this community are gravel or dirt. County roads 69 and 68C are maintained by Larimer County Road and Bridge Department. County roads 69 and 68C are accessed via Highway 14 (mile marker 91) from the south, Highway 74C from the north and county road 162 from the west where highway 69 and 68C intersect

Most residences and businesses are accessed directly off county road 68c. However, there are some homes which must be accessed from a side road that is also named 68c. Access for the first ¼ mile up to address 6468 County road 68C can be easily accessed in the summer, but beyond that it would require a four-wheel drive truck and caution must be used as there is no adequate space to turn a large truck around.

County road 69 is a level three road and has steep, tight switch backs. Its a 3 mile stretch from highway 14 to Goodell Corner, where county road 69 and 68C intersect, the elevation rises from 7200 to over 8300 feet.

Level Three roads are the remaining mainline county roads, which, will be plowed and/or sanded after the resource requirements for Level One and Level Two roads are met. Plowing and sanding operations on Level Three roads will normally be completed by 5:00 P.M.

County road 68C is a level one road. It is a level one road because it is a mail and school bus route. A level one road are the highest priority to be plowed and/or sanded. The elevation hovers around 8000 feet for most of this section of road.

Access via county road 162 can be difficult during the winter months. It is a level 5 road, which means it is plowed and sanded only after all other roads.

Vegetation Type

The elevation in the Manhattan Creek area ranges between 7,200 and 8,300 feet. This consists mostly of ponderosa pine. Interspersed amongst the pine are fire-flashy Rocky Mountain juniper trees. Other trees in the area consist of blue spruce, Engelmann spruce, aspen. The rivers edges are predominately populated with cottonwood and willows, with interspersed dogwood. At this elevation there is still a fair amount of highly combustible sage brush, chokecherry, and current bushes. Tall prairie grasses reside along most of the roadways. During dry seasons of the year, this material would ignite quickly, carrying wildfire throughout the community

Fire History

Over the past twenty years, approximately 161 wildfires burn on average over 2200 acres each year in Larimer County. In “slow” years, such as 1996, wildfires are relatively small. During the summer of 1996, several fires ranging in size from one acre to 180 acres, threatened 50 to 60 homes throughout Larimer County. However, although threatened, no homes burned.

At the other extreme is a year like 1994 when 340 fires, including the Hourglass Fire which destroyed 13 buildings at Pingree Park, burned through Larimer County. In addition to destroying 13 buildings at Pingree Park, the Hourglass Fire threatened 12 homes in the Poudre Springs area.

Other recent fires include:

- The Snowtop Fire, in July 1993, which threatened at least 5 homes in Cedar Park.
- In 1995, the Bonner Peaks Fire threatened 8 homes west of Highway 287.
- In 2000, the Bobcat Fire burned 10,599 acres and destroyed 18 homes.
- Tragically in 2002 the Big Elk Fire burned 4413 acres and claimed 3 lives.
- In 2004, a home owner burning trash started the Picnic Rock Fire, which burned 8,908 acres and destroyed 1 home.

The Poudre Canyon Fire Protection District responds to an average of seven fire calls each year and many vehicle accidents that have potential for starting a fire. Many of these calls turn out to be minor fires, however if the volunteer department was not in the area to respond, many could have turned into a large fire quickly. One example is the night the Glen Echo Resort burnt to the ground. Due to the quick action from the Poudre Canyon Fire Protection District and their surrounding mutual aid partners, the fire was contained to the building. Had the fire moved into the surrounding ponderosa pines it had the potential to spread rapidly through the Upper Poudre Canyon.

Current Fire Risks

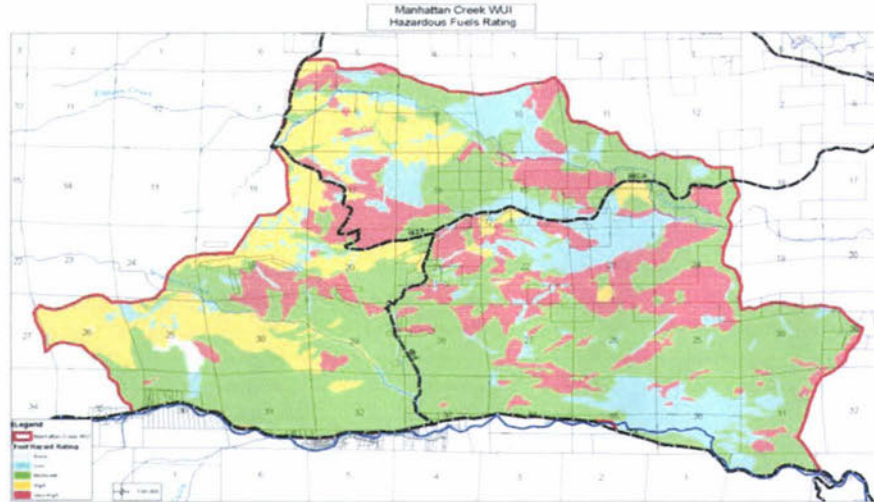
Colorado as well as other western states is experiencing some of the largest fires in recent memory, in part, because we are experiencing some of the most severe drought conditions in history. Fire ecology reveals that you get big fires with extreme drought. There is little one can do to control drought. Under severe drought, especially if coupled with winds, normal fire behavior is thrown out the window.

History shows the West has always experienced periodic drought, and large fires are not just a recent phenomenon. During the 1930s Dust Bowl era more than 39 million acres burned on average across the United States.

The drought condition is also a major factor in the recent pine beetle epidemic. The pine beetle has not yet hit the Manhattan Creek community in epidemic proportion as it has in many other parts of the state, but many trees have been lost to the pine beetle. However, it is predicted to crest over Cameron Pass into Larimer County in large numbers within the next few years.

Red and dead trees in large numbers will add to the vulnerability of the area to experience a large scale fire. Couple that with the overgrown forest, which are in part a result of an old philosophy to suppress all fire and we have a forest vulnerable to fire. Without natural intervention via fire or human activity such as mechanical thinning, stands have stagnated. Fire crowning into these stands would ignite quickly, carrying wildfire throughout the community.

Fuel Hazard Level



Yellow = Low

Green = Moderate

Red = High

The above fuel hazard map of the Manhattan Creek WUI shows that the current fuel hazard for most of the area is at the moderate level. However, there are many areas of high hazard dispersed throughout the community. Prevailing winds are from the west and northwest. Areas to the east are considered to be low risk fuel hazard at the present time.

Fire mitigation projects completed by individuals can lend protection to individual homes and neighborhoods as well as lessen the chances of a wildfire starting from within the community. Many community residents have completed fire mitigation projects on their property. Recognizing that people cannot be forced to complete fire mitigation projects on their property, all Manhattan Creek Area landowners are encouraged to create defensible space and reduce other fire hazards on their personal property.

Currently both the Shambhala Mountain Center and the Boy Scout Camp have received mitigation grants and have been active in fire mitigation as a result. The Shambhala Mountain center covers 600 acres within the Manhattan Creek WUI area. The buildings at the center are equipped with sprinkler systems and the grounds have water access through a hydrant system. The Boy Scout camp covers 3500 acres that sits on the east border of the Manhattan Creek WUI area. Both of these projects are a huge asset to wildfire preparedness.

Community Risk Assessment

Representatives from the core team for the Manhattan Creek Community of the Poudre Canyon Fire Protection District (PCFPD) CWPP met on July 20, 2007 to discuss community values that are potentially at risk from wildfire, as well as to create action items for mitigating wildfire risk to these values. Participants at this meeting included community members, members from the local volunteer fire department, the district forester from the Colorado State Forest Service (CSFS), a representative from the USDA Forest Service, and a privately-contracted facilitator. The community members played a critical role in identifying values at-risk and creating action items, while the role of the district forester and the USFS representative was to provide technical support and scientific information. It is important to note that the community members held the decision-making authority. The purpose of the community risk

assessment is to help to prioritize areas for treatment and identify the highest priority uses for available financial and human resources.

The community members and PCFPD representatives listed the following community values that are at-risk from wildfire, and prioritized these values as high, medium, or low. Identifying values at-risk provided this group with a basis for determining action items, as action items specifically address values at-risk. Prioritizing these values assists the community and PCFPD in prioritizing mitigation projects for implementation.

High Priority

- Human life/safety
- Homes/Structures
- Water supply/Quality (ElkHorn , Manhattan, and Rio RMDC creeks)
- Trails/Open Space/Landscape/Environment
- The Stupa
- Wildlife – Critical Habitat
- Live Stock/grazing
- Economics – business and tourism

No Medium Priorities Identified

Low Priority

- Power lines (Goodell Corner)
 - Transmission lines
- Telephone lines (CenturyTel Terminal Box)

Homes, Businesses, and Essential Infrastructure at Risk

5 Businesses exist in the WUI

- Red Feather Bed and Breakfast
- Beck's Automotive
- Elk Horn Excavating
- Elk Horn Lumber
- Shambhala Mountain Center
- Many people have home offices and work from their homes.

43 Homes exist in the WUI.

The roof coverings are about 50% metal & 50% composition shingles. Most structures are wood sided; some mobile homes are all metal covered outside. Some properties have slash piles that need burning or chipping, plus future mitigation.

The Shambhala Center has structures from, Tents, Tee Pees, trailers, modular homes, large wood framed buildings. All occupied structures have outside propane tanks. (1000g & 500G) The maintenance area has additional storage for Diesel and Gas, 2- 500 gal tanks above ground.

Bridges and Gates

There are no bridges in Community, but there are several locked gates. This can cause access issues during a wildfire.

Utilities

- The Rural Electric Administration (REA) has various electric lines situated in the WUI
- There is a main power supply terminal in the seven mile creek area that is essential to the power supply in the Manhattan Creek area. N 40*42 .320, W 105*35.267
- REA Manhattan Sub Station at Goodell Corner N 40* 44.118, W105* 34.937.
- Some utilities are underground, including some of REA & CenturyTel lines.
- Propane tanks are above ground and are placed at a safe distance from structures.
- There are no natural gas lines in the Manhattan Creek WUI.

Water

- Most homes have wells as a primary water source and a few have cisterns.

Critical Infrastructure and Values at Risk

- The Great Stupa – located at the Shambhala Mountain Center
- 100 year old log home, located at Monroeville (.going east on 68C toward Shambhala)

Local Preparedness and Firefighting Capability

Initial response to all fire, medical and associated emergencies is the responsibility of the Poudre Canyon FPD. Wildland fire responsibilities of Larimer County, Colorado State Forest Service, United States Forest Service, Bureau of Land Management and the National Park Service are described in the current *Larimer County Annual Operating Plan*. All mutual aid agreements, training, equipment, and response are the responsibility of the local fire department and the agencies listed above.

The Shambhala Mountain Center also has their own type 6 response engine and very good water access. PCFPD and the Shambhala Center have developed a close working relationship through shared response and training.

Water access for the fire department

- 4 Hydrants at the Shambhala Mountain Center (N 40 44. 098: W 105 32.543)
- Lake at the Shambhala Mountain Center (N 40 44.074 : W 105 32.209)
- Manhattan Creek (several locations)
- Evans Pond at 6506 CR68C (N 40* 44.427: W 105* 34. 215)
- Lake near school lease ground

The Shambhala Center has a 100,000 gallon storage tank for their fire hydrant and water supply system. There is a pond for water storage, approximate size is 1/4 acre. This water can be drafted or use a floating pump for direct attack. The pond is located 1/4 mile in to the left of main buildings. For hydrant locations see the map included as appendix B.

Evans Pond at 6506 CR68C on the North side of road at gate to Jerry Franklin property. PCFPD will need a note for permission to use from Teresa Evans 6506 CR 68C Red Feather Lakes, Co 80545.

Franklin Pond just west of the Evans pond has a locked gate and Jerry Franklin has use rights for the water. Both Evans and Franklin ponds use water from the Elk Horn Creek system.

Additional Community Assessment Comments

The WUI east boundary ends at the Boy Scout property line. Because of the closeness of this 3500 acre property and the 2000 scout campers in the summer months we should be aware of the risks and resources. They have Weaver Lake that could be used for a water supply for fire fighting. Weaver Lake is on Elkhorn Creek. There are hazards of fuel storage tanks above ground and propane tanks located at the maintenance building at N 40* 44.576: W 105* 30. 573. Future water use includes a dry well at Weaver Lake for year round access. The Boy Scout camp is engaged in mitigation projects as a joint effort with the Colorado State Forestry Service. The main gate is on CR 68C (N40* 44.570, W 105* 30.478).
Contact property manager Joe DeFranco Camp Ranger 2331 CR 68C 970-881-2144

Landing Zones that can be used for Helicopter support

The Shambhala Mountain Center is the main area to safely land a helicopter.

Generally speaking, the Manhattan Creek Area has good fire fighting and emergency services capability. The PCFPD is always working on enhancements in training and equipment. The biggest challenge for the Station #4 PCFPD currently is the need for additional volunteers. With limited full time residence, it creates the challenge of having enough staffing resources.

There is a need to design pre-planned evacuation routes, which would facilitate smoother traffic flow in an emergency.

Hazard Reduction Priorities

- Some thinning should occur on a number of properties, especially those properties that abut National Forest land and those that could cause access fire risk to others homes and structures. When properties are thinned, it is recommended that property owners retain the larger trees as well as, aspen, mountain maple and other deciduous varieties. This will allow the property to retain its forest-like quality even as wildfire protection levels are increased.
- The homes that have shake/shingle roofs are the most likely not to survive a wildfire. Flammable roofs should be replaced with non-flammable alternatives.
- Homeowners should store firewood away from homes and propane tanks.
- Should a wildfire occur, deck furniture and hemp door mats should be pulled inside the house before the fire arrives.
- Roofs and gutters should be cleaned of pine needles, leaves and other debris. Needles, leaves and other dead materials must be continually removed from the roof, decks and walkways.
- Little things are important. Any items adjacent to a house are considered “attached” to the house by a fire. This includes wood decks, fences and walkways. Metal flashing can be inserted between the house and its “attachment” it could stop the progress of a fire. For decks, residents should consider using HardiPlank or fiber cement on the side wall adjacent to the wood decking material.
- Pruning and clipping slash are occasionally disposed of into a remote area of a homeowner’s property. Slash should be removed from the area, as it creates a substantial fuel bed. If removing the slash is not practical, it should be piled in an area that is safe to burn and burned during the winter or spring when snow level allows for safe burning. Remember a burn permit is required for slash burns. If the slash is too much for the homeowner to burn in a safe manner, please work with PCFPD.

Action Plan

The community and PCFPD members have developed and attached an action plan which identifies roles and responsibilities, funding needs and timetables listed in Hazard Reduction Priorities. The core team will meet annually to evaluate progress and mutually agree on treatment priorities.

In cooperation with the Larimer County Fire Education Group, the Larimer Fire Council, and the Poudre Canyon FPD, the community supports and promotes Firewise activities as outlined in the Larimer County Fire Plan. The community supports and educates its citizens in ways to reduce structure ignitibility through meeting Larimer County Building Code Requirements and utilizing Colorado State Forest Service FireWise Construction Fact Sheets.

Poudre Canyon FPD CWPP: Action Items

The community members and PCFPD representatives referred to their list of values at-risk to create the following action items. The action items are presented in a general list according to priority level, which allows the community to implement projects in whatever order is the most efficient and effective.

Action Items: High Priority (The items marked “*” are especially high priority)

Action Item	Owner
Collaborate with the USFS to address mitigation along shared boundaries, as well as to address other wildfire-related issues (including removing downed timber and dead trees)	Richard Edwards will address this with the USFS and report back to the community about what homeowners can do in the way of mitigation along their property lines and also what the USFS is doing to address the issue.
Create partnerships between the community, Larimer County, the CSFS, and the PCFPD to address wildfire mitigation and other related issues *	Since most of the forest land surrounding the Manhattan Creek WUI is USFS, the community will work mostly with Canyon Lakes District. Richard Edwards will find out current USFS projects in the area and report back to the group.
Specific areas in which residence would like to see fuel hazard reduction: <ul style="list-style-type: none"> • Elk Horn Creek Trail • 7 mile creek area • Along county roads • Gueswel Gulch 	Most of the areas of concern are located in USFS area. Richard Edwards will find out current USFS projects in the area and report back to the group.
Continue to pursue grants to mitigate common areas and around historic structures	PCFPD – will continue to apply for grants and add the community mitigation efforts.
Create a formal evacuation plan and phone tree, which also addresses evacuating pets and livestock	PCFDP – will identify a team consisting of homeowners and PCFPD members in the area to develop an evacuation plan.
Continue to create defensible space around homes and businesses	Homeowners – must take this action. PCFPD will assist as needed.
Continue the slash program with the PCFPD	PCFPD – will continue to assist homeowners with slash burning when it is unsafe for the homeowner to burn.
Continue efforts at community outreach and	PCFPD – to hold a meeting at least once a

public education regarding wildfire risk and mitigation	year with the intention to educate homeowners about firewise ways.
Mitigate along the road easements	Homeowners
Ensure access into communities for fire response vehicles and equipment, as well as for evacuation	Homeowners
Obtain use rights for Evans & Franklin Ponds water supplies.	PCFPD

Action Items: Low Priority

Mitigation equipment available for homeowner use.	PCFPD – will continue to purchase such equipment as chippers, brush mowers, trimmers, etc as allowed by available grant money.
Annual updates and revision to CWPP	The PCFPD agreed to take the lead in annually updating/revising the CWPP. The group suggested that this annual task could be incorporated into the Upper Poudre Canyon Association meetings
Create a database of property information.	PCFPD will create a database using information from homeowner surveys. The data base will be used in emergency response to homes to reduce risk to firefighters and property.

- A high priority is the need for a formal evacuation plan that ensures the appropriate agencies have emergency notification procedures and evacuation plans in place and clearly understood by residents.
 - Encourage residents to put together individual evacuation plans including addressing any existing pet and livestock issues.
 - Identify a pre-established evacuation destination.
 - Identify community members to serve as key communicators in the event of a fire requiring evacuation and help monitor a check off list of residents as they leave.
 - Identify any residents that will need assistance with evacuation.
 - Distribute information about what to do when an evacuation has been ordered. This should include a map of evacuation routes.
 - Ensure Business owners have identified how they will notify and assist guests.
 - Identify a radio that homeowners can purchase and program “Poudre Tac” to use as an information source during emergency evacuation.

Other Priorities

- Support the Poudre Canyon Fire and EMS and encourage full-time residents to become volunteers. All volunteers do not need to be emergency responders. There is a need for a support team that could run supplies and/or help with logistics in an emergency.
- Assist the fire department by following FireWise homeowner guidelines and create defensible space around homes and structures.
- Each home owner is asked to evaluate his or her property and determine if a water source is accessible to fire engines. If a home owner believes water can be accessed from their property, they are encouraged to allow access to the Poudre Canyon Fire Department.

- The PCFPD currently manages a slash pile burn program in the winter and early spring. They utilize the snow cover and equipment to burn slash that is not safe for the homeowner to burn without assistance. Continuing this program is a priority.
- The PCFPD applies for mitigation grants each year. When they are successful they use the grants to encourage home owners to do mitigation. Past programs have included providing a dumpster to haul slash, selling fire extinguishers at a reduced rate, paying portions of hazard tree removal, and thinning and tree removal in common areas. Continuing this program is a priority.

Finalizing the Community Wildfire Protection Plan

- The Manhattan Creek Area Community Wildfire Protection Plan:
- Was collaboratively developed. Interested parties and federal land management agencies managing land in the vicinity of Manhattan Creek have been invited to participate and provide input to the process by mail, e-mail, telephone, and face to face during CWPP meetings and homeowner visits. There are no homeowners associations.
- Identified and prioritized areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect the Manhattan Creek Area.
- Recommends measures to reduce the ignitability of structures throughout the area addressed by the plan.

The following community representatives / agencies have reviewed and support this *Community Wildfire Protection Plan*.

Poudre Canyon Fire Protection District

Fort Collins District
Colorado State Forest Service

Canyon Lakes Ranger District
USDA Forest Service

Appendix A

The documents referred to below can be found at <http://www.co.larimer.co.us/wildfire/>

- ★ Larimer County Fire Plan a Community Wildfire Protection Plan (Larimer County 2004)
- ★ Larimer County Wildfire Mitigation Plan (CSFS 1998)
- ★ Recommendations for Improving Wildfire Safety in Larimer County (CSFS 1997)
- ★ Larimer County Subdivision Wildfire Hazard Review (Larimer County/CSFS 2002)
- ★ Larimer County Annual Operating Plan (updated annually)
- ★ FEMA—Northern Colorado Natural Hazard Mitigation Plan (2004)

2007 Colorado Western States
Wildland Urban Interface
Grant Application

FOR OFFICIAL USE ONLY	
District or Unit Submitting Project:	
District or Unit Priority Number:	
Statewide Risk Assessment Rating:	
Hazard Description / Other:	
Dollar Amount Requested:	\$20,000
Matching Share:	\$20,000

Applicant Information	
Applicant:	Colorado State Forest Service - Fort Collins District
Contact Person:	Boyd Lebeda
Address:	5060 Campus Delivery
City/Zip Code:	Fort Collins, CO 80523
Phone (Work/Cell):	970.491.8445
Email:	blebeda@lamar.colostate.edu
Fax:	970.491.8645

Community At Risk Information			
Name of Project:	Manhattan State Land Fuels Reduction		
Community Name:	Goodell Corner/Boy Scout Road Area		
County:	Larimer	Congressional District:	3
Latitude (decimal degrees):	40 deg 15'	Longitude (decimal degrees):	105 deg 35'
Threat Description (check all that apply)			
Homes:	<input checked="" type="checkbox"/>	Number of:	12
Businesses:	<input checked="" type="checkbox"/>	Number of:	1
Watersheds:	<input type="checkbox"/>	Number of:	
Infrastructure:	<input checked="" type="checkbox"/>	Estimated value of:	
Economic Viability:	<input type="checkbox"/>	Estimated value of:	
Historic Structures:	<input type="checkbox"/>	Number of:	
Other (Describe):			

Project Area Description	
All information for the project must fit into the space provided below. Attachments will not be considered by the review committee.	
3	<p>Provide a brief overview of the project and the project area. (If applying for a fuels reduction project, identify vegetation types.)</p> <p>Thinning of mixed conifer forest type (ponderosa pine, Douglas-fir, lodgepole pine) to reduce fuels inbetween past treatments on state land. Area is adjacent to past and planned treatments on National Forest. The USFS is currently thinning (timber stand improvement) to the west and planning the Pingree Hill Fuels Reduction project immediately to the southeast. By connecting these treatments we will be able to improve the protection for Goodell Corner area residents, the Rocky Mountain Dharma Center, the Ben Delatour Boy Scout Ranch, and a local sawmill. This project area is near the north rim of the Poudre Canyon and is home to some of the oldest known ponderosa pine on the Front Range (RMRS-GTR-109). A number of these remnant ponderosa pine are in and near the project area. This project would identify these trees and reduce fuels around these trees to an open grown setting - helping to maintain this component of these forests. The historic town site of Manhattan is nearby.</p>

Scope of Work / Project Timeline	
<small>All information for the project must fit into the space provided below. Attachments will not be considered by the review committee.</small>	
4	<p>Provide a brief scope of work which clearly describes how grant funds will be spent. (This should be more specific than the project description)</p> <p>This project is designed to protect homes, private property and resources from encroaching wildfire. Area is accessed primarily from the east off of CR86C. The target conditions are basal area of 40 to 60, uneven aged stands of mixed species favoring ponderosa pine and aspen. The area will have increased openings, decreased horizontal fuel continuity and limited vertical fuel arrangement. Limited lop and scatter slash treatment may be used. CSFS will hire an hourly project manager. CSFS will contract with Larimer County Emergency Services Mitigation Crew and the Alternative Sentencing Unit for the chainsaw work and slash piling. CSFS will prepare a burn plan, obtain permits, and implement the pile burn. Poudre Canyon Fire Protection District will assist with the pile burn.</p>
	<p>Describe all planned maintenance (grant funded or other) if this project is funded.</p> <p>CSFS already performs spring and fall recon for bark beetle activity on this parcel. Following completion of pile burning, CSFS will include assessment of fuel loading with the bark beetle survey. CSFS will assess the area for broadcast burning after this treatment.</p>
	<p>What is the duration of this project? (check one) <input type="checkbox"/> One Year <input checked="" type="checkbox"/> Two Years</p>
	<p>Is this a continuing project from previous year/s? (check one) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
	<p>Provide a timeline for the project</p> <p>Application submitted 9/06. Layout and marking of units will occur within 3 months of award notification. Chainsaw work and slash piling will be completed within 12 months of award notification. Pile burning will occur the following winter. Project will be completed approximately 18 months after award notification.</p>

Interagency Collaboration	
5	<p>Specify the private, local, tribal, county, state, federal and/or non-governmental (501c3) organizations that will contribute to or participate in the completion of this project. Describe briefly the contributions each partner will make (i.e. – donating time/equipment, funding, etc.).</p> <p>Colorado State Forest Service - planning, preparation, layout, marking and pile burning Larimer County - Mitigation Crew for saw work, Alternative Sentencing Unit for slash piling Poudre Canyon Fire Protection District - Assistance with pile burning Arapaho Roosevelt National Forest - Fuels reduction treatments on adjacent federal lands</p>
Community Wildfire Protection Plan (CWPP)	
	<p>Does this community have a wildfire protection plan that follows the Healthy Forest Restoration Act CWPP guidelines? (check one) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> in development</p>
	<p>Is this project part of the plan? (check one) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no</p>
	<p>Where would we obtain a copy of this plan? http://larimer.co.us/wildfire/</p>

6	Project Category (check all that apply and answer related questions)			
	Hazard Fuels Reduction <input checked="" type="checkbox"/>			
	Number of acres to be treated:	80	Estimated cost per acre:	\$500.00
	Number of communities directly affected by this project: 1			
	Information & Education <input type="checkbox"/>			
	Number of citizens to be reached:			
	Planning <input type="checkbox"/>			
	Number of residences affected:			
	Project Type (check all that apply)			
	Assessment / Scoping:	<input type="checkbox"/>	Implementation / Treatment:	<input checked="" type="checkbox"/>
Homeowner / Community Action:	<input type="checkbox"/>	Monitoring / Evaluation:	<input type="checkbox"/>	
Information / Education:	<input type="checkbox"/>			

7	Grant Contributors (Matching Share)						
	(Applications will be disqualified if insufficient match is identified; federal dollars DO NOT qualify- see criteria & instructions for exception)						
	Please specify each match contributor and the dollar amount of each contribution.						
	Please DO NOT show grant requested funds in this table. This is for matching share only.						
	Contributors: (Please specify)	CSFS	Larimer County	PCFPD			
Dollars (Hard Match):	\$0	\$0	\$0	\$0	\$0	\$0	\$ 0
In-Kind (Soft Match):	\$3,000	\$16,000	\$1,000	\$0	\$0	\$0	\$20,000
TOTAL:	\$3,000	\$16,000	\$1,000	\$ 0	\$ 0	\$ 0	\$20,000

8	Total Project Expense (break down matching share totals from block seven)				
		Grant Share (\$ Amount Requested)	Match (from block seven)		TOTAL
			Dollars	In-Kind	
	Personnel / Labor:	\$10,000	\$3000	\$16,000	\$29,000
	Operating:	\$0	\$0	\$0	\$ 0
	Travel:	\$0	\$0	\$0	\$ 0
	Contractual Services:	\$10,000	\$0	\$0	\$10,000
	Equipment:	\$0	\$0	\$1,000	\$1,000
	Indirect Costs:	\$0	\$0	\$0	\$ 0
	TOTAL:	\$20,000	\$3,000	\$17,000	\$40,000

Applications will be scored based upon:

Meets the grant criteria		Yes = Eligible for scoring		No = Ineligible
Meets the 50/50 match requirement		Yes = Eligible for scoring		No = Ineligible
1	Is this project achievable? (time, goals, budget, etc.)	Yes = 1		No = 0
2	Is this project measurable? (# of acres treated, # of education/outreach programs, etc.)	Yes = 1		No = 0
3	Is the applicant clearly showing collaborative elements and partners? (confidence level)	Yes = 1		No = 0
4	Is this project implemented from an existing community plan or is the request to develop the plan? (Note: preference will be given to those projects that are incorporated in a completed plan)	Completed = 2	In Progress = 1	None = 0
5	Is the applicant clearly showing future maintenance for this project? (Note: preference will be given to those projects clearly showing a maintenance schedule)	Clearly Defined Schedule = 2	Mentioned but not defined = 1	None = 0

Called 8:25 a
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Msg Re Manhattan
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Fort Collins District
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Fort Collins, Colorado 80523-5075
(970) 491-8660
FAX: (970) 491-8645

January 22, 1999

Teresa A. Evans
6505 County Rd. 68C
Red Feather Lakes, CO 80545

881-2472

39160-00-031

My name is Michael Hughes and I represent the Colorado State Board of Land Commissioners who manage 320 acres of forest land west of your property, north of Rustic, Colorado. The board is charged with managing the state trust lands to benefit public schools.

Over the last two years, mountain pine beetle has killed over 1000 trees in the area. To help control this epidemic, it is necessary to remove infected pines, as well as other unhealthy trees, from the state's half-section. The Colorado State Forest Service would like to conduct a small timber harvest on that parcel.

I am writing you because I need your assistance in providing access to the state trust land. The primary access is through your land from Larimer County Road 68C. I am interested in obtaining a temporary access agreement.

Access is needed for about three to six months, however we would let you know exactly when it would begin and for how long. Traffic would include a log truck, a low-boy, and pickup trucks related to timber sale activities on state land. Road use can be controlled to meet your wishes (i.e., no more than once per day, or only during Monday-Friday, etc.).

Requirement will be made of any logging contractor that will protect all roads, soil, wildlife, trees not selected for harvest, vegetation, and aesthetics. I know you will be pleased with the end results.

Using the existing road will alleviate the need for building an alternative road to the area. Please write or call me at (970) 491-8453 so we can talk about any questions or comments you might have. Thank you very much for your reply.

Sincerely,

Michael M. Hughes
Assistant District Forester
Fort Collins District

Manhattan: Poudre Canyon's ghost town

By Kenneth Jessen
Correspondent

The once busy town of Manhattan, located approximately 45 miles west of Fort Collins, has vanished. Only a lush meadow, a few grave markers and some bits of wood and glass are all that mark the site.

The story of Manhattan began in 1886, when a number of prominent Fort Collins citizens put together an organization to systematically search for precious metals in the hills west of town. The group hired three experienced prospectors. In September, these men reported finding gold ore on the divide between Seven Mile and Elkhorn creeks. The prospectors boasted that gold could be panned from almost any piece of crushed rock. This immediately caused a gold rush, and in the process, over 300 claims were filed.

Prospectors started a town and gave it the unlikely name of Manhattan. It had a hotel, stores a post office and even a newspaper called the Manhattan Prospector. This frontier newspaper lasted less than a year.

The saloon, the Ace of Clubs, was located at the corner of the town's two main streets, Chestnut and Manhattan. The Ace of Clubs had a central two-story portion with three shed-like structures attached to its sides. Even for a Colorado mining town, the structure had an odd and unique appearance.

Population estimates for Manhattan vary considerably, with

some placing it at well over 1,000. A more realistic figure for Manhattan's population is 100 to 200. Photographs show that the town did have more than 40 structures.

In a mine explosion at the Black Hawk tunnel in 1892, two Manhattan miners were killed. A cemetery was established, and they were buried north of the present day road through the town site. It is possible that others who died in Manhattan were also buried in the cemetery. Even as recently as 1970, the cemetery was used for burials. A local character named "Rattlesnake Jack" Brinkhoff let his family know that he too wanted to be buried there, and when he died, his remains joined the others.

Manhattan had a one-room schoolhouse. At first, the school year lasted only four months, but was later expanded to six months. The school included eight grades. On cold days, the younger children got first choice in seating near the stove. After the population of Manhattan began to decline, the school building was moved to Elkhorn.

A number of companies sold stock in the mines at Manhattan. Among these was the French Creek Mining & Milling Co. Another was the Robertson Gold Mining Co. with a Fort Collins druggist A. W. Scott as its president. The Missouri Mining & Milling Co. had three mines in the area. Prominent Fort Collins residents Abner Loomis and Frank Stover ran the Democratic Mining Co.

In 1888, Fort Collins businessmen financed construction of a



Boom times. There are more than 40 structures in this distant shot of Manhattan taken in the 1880s when the town was at its peak. Hardly a piece of wood remains today of this once thriving town west of Fort Collins.

Photo courtesy of Fort Collins Public Library

mill, and it was built on Seven Mile Creek. It never operated properly and was eventually dismantled. The Zimmerman brothers built a five-stamp mill and reduction works at a place called Poudre City along the Poudre River about 3 miles above Rustic. This mill crushed a lot of ore, and the concentrate was shipped to St. Louis for refining. The results were so poor, the mill was abandoned.

In 1890, Fort Collins butcher shop owner Benjamin Burnett proudly displayed ore from the district. Burnett owned the general store in Manhattan and was

Continued on page 33

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Dentist's Facts

Manhattan

Continued from page 27

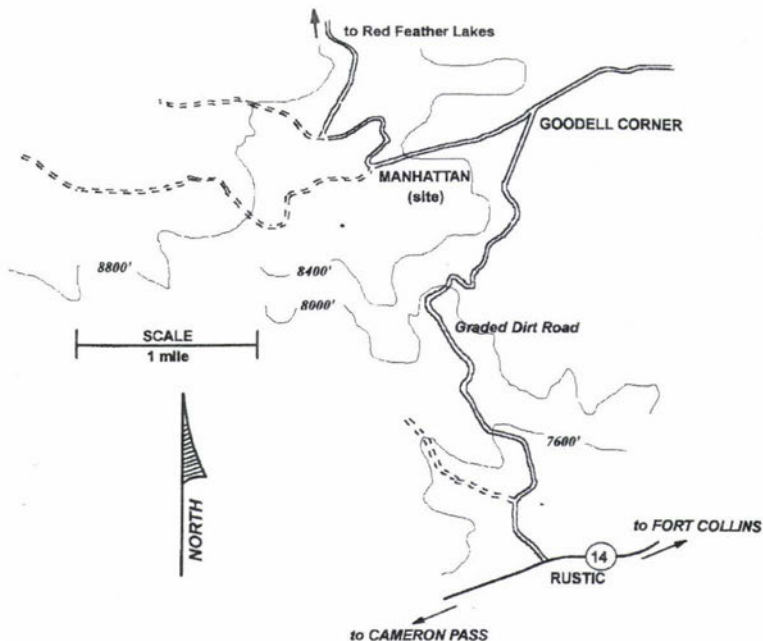
involved with the mining towns of Teller City and Lulu City.

Some of the mining properties had imaginative names such as the Laugh-a-Lot, the Bacon, the Bullfrog, Wedding Bells, Honeymoon, the Joker, Evening Star and Tidal Wave.

F.C. Goodell was born in Manhattan and tells of a trip that he took when he was 12 years old. He drove one of two wagons loaded with ore from Manhattan to Denver to be milled. The mine's owner drove the other wagon. When the owner received payment for the gold content, he figured he had been working his mine for a dollar a day.

As late as 1898, mines in the area were being patented, but Manhattan was all but abandoned. The post office was closed and moved to Elkhorn. Some of the buildings were moved to other locations. Those cabins that remained were burned by the Forest Service during the 1930s.

At this point, it might be well to include some comments by Ansel Watrous in his "History of Larimer County" on mining in this region. He said that although thousands of dollars and many years were spent prospecting in the hills of Larimer County, the returns in dollars and cents bear no comparison to the cost. Watrous points out that almost every square foot of the mountains from the southern to the northern boundaries of the county, from the foothills to the summit of the Medicine Bow Range have been explored looking for precious metals. As of 1911 when his book was published, not a single profitable mine had ever been opened and worked.



Take a trip. Manhattan is relatively easy to reach from Colorado 14 in the Poudre Canyon. A steep graded dirt road leaves the highway at Rustic, and by taking a left at Goodsell Corner, the Manhattan site can be reached.

Map by Kenneth Jessen

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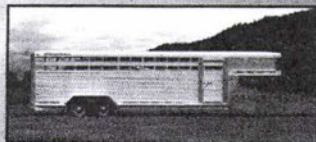
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