

WILDFIRE MITIGATION PLAN

For Ivory Curtis
18 Pine Brook Road, Boulder, CO
Docket: SPRW - 06 - 76
Inspection date: 4/16/2007



Prepared for:

Ivory Curtis
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PURPOSE OF A WILDFIRE MITIGATION PLAN

The purpose of a Wildfire Mitigation Plan is to give guidelines for reducing wildfire hazards around a home or other structures through fuels reduction. It is a document to inform urban interface home owners of the dangers and responsibilities of living in the interface. This plan will help outline the initial and ongoing fuels reduction needed to create and maintain an effective wildfire defensible space. However, having a wildfire mitigation plan, implementation of a defensible space thinning, and following all the recommendations as outlined in this plan **does not guarantee that your home will survive a wildland fire; however, in combination they will give your home the best potential probability to survive a wildland fire.**

SITE LOCATION AND PROPERTY DESCRIPTION

The property is located at Section 14, Township 1N, and Range 71W, Lot 4, Pine Brook Hills, Boulder County. The fire protection district is the Boulder Mountain Fire Protection District (303-440-0235). There are 2 existing structures on the site. A new addition of 754 square feet to the original structure which is a total of 3,040 square feet is proposed for this site. The lot is 1.76 acres in size and has a steep ~25-30% percent slope with a west aspect. The site is at 6,000 feet in elevation and located midslope which is a relatively dry area. The main road to the east and west of the residence create small natural barriers that may help stop or slow the spread of a surface/crown fire on the site.

CONSTRUCTION DESIGN AND MATERIALS

The proposed house has a complex design with a complex roofline and is oriented with an eastern aspect. The majority of the structure is raised ~5 feet off the surface. **The overall design of the structure greatly influences how it will withstand a wildfire. Complex building forms create heat traps, areas where the walls and roof members intersect on another where eddies form and hot air and embers from a fire can collect. It is important to keep these areas clear of combustibles such as needles and brush.**

The roof has a flat design and roofing material consists of composite/tar. **Falling embers and fire brands from a wildfire can land on a roof and ignite the roof, either by directly heating the roofing material, or by igniting light fuels (pine needles) that have collected on the roof. It is recommended to place screening over gutters and/or make a yearly check to keep them clear of leaves and needles.**

The exterior wall material is to be stucco.

The structure has 38 medium sized windows with the primary viewing direction being toward the west side of the structure. Windows are double glazed with Low-E coating and tempered glass where required. Frames are made of aluminum. Exterior doors are 1-3/4", fire-rated, and made of wood and aluminum. **All operable windows must be provided with screening that is constructed of either aluminum, galvanized steel, copper or of an approved material that when exposed to flame for 15 seconds, will not burn through or melt, and remains intact. Windows are one of the weakest parts of a structure with regards to wildfire. They often crack and fail before the structure itself ignites, providing a direct path for embers and radiant heat to reach the interior. It is best to minimize the number of windows, especially on the downhill side of the structure. Fire typically burns up hill faster and will create a great deal of radiant heat.**

A deck is constructed of wood materials and supported by wood. The deck is open overhead and underneath and isolated from the surrounding landscape with natural rock and gravel over a polyester weed barrier. This material should be spread underneath the entire deck surface and to 2' past the drip-line of the deck.

UTILITIES

Natural gas for the residence will be off the main line. Utilities for the property is connected from a pole which is located to the east of the residence. The septic field is located ~150 feet to the west of the residence. The water for the residence will be off the main line.

DRIVEWAY ACCESS FOR EMERGENCY VEHICLES

Access to the property from Boulder, take Linden Drive to Pine Brook Road.

The existing driveway will not create additional site disturbance or soil compaction and will require the removal of few trees. The driveway will be 12 feet wide with a vertical clearance of 13'6" and a grade that is more than 12%. The driveway is approximately 199 feet long and there is a turn around located ~20 feet from the main residence. The driveway is less than 400 feet therefore no pull-outs will be required.

EMERGENCY WATER SUPPLY FOR FIRE FIGHTING

The water source will be from a fire hydrant which is located approximately 300 feet to the northeast of the residence. Contact the Boulder Mountain Fire Protection District (303-440-0235) for more information and specific details.

FUELS REDUCTION

All trees that are to remain within zones 1 and 2 will be unmarked. If the property is less than 1 acre it may not have zones marked due to boundary interference. Harvested wood that remains on site will be stacked at least 30 feet from the house and at the same elevation when possible. Slash from the harvest will be chipped. Note that if you decide to burn piles, you must obtain a valid Open Burning Permit from the Boulder County Environmental Health Department (303-441-1180) and notify your local fire protection district (Boulder Mountain Fire Protection District (303-440-0235)).

FOREST COMPONENT AND HEALTH

The site has a dominant overstory consisting of ponderosa pine (*Pinus ponderosa*) with a ponderosa pine, Rocky Mountain juniper (*Juniperus scopulorum*) and a few deciduous trees as a component. The understory consists of a dense cover of native grasses and shrubs. The forested area is best represented by Fuel Model 9. Fuel Model 9 is represented by closed canopy stands of ponderosa pine and mixed conifer. Understory may consist of small trees and shrubs, grasses and moderate concentrations of down, dead woody litter. High amounts of needle litter may be present. This model can exist from foothills to subalpine. There were no current signs of insect or disease problems on the property at the time of the inspection.

DEFENSIBLE SPACE MANAGEMENT

There are three defensible space zones to be created around the structure(s) on the site. Please note that it is possible that one or more of these zones will cross over the subject property onto adjacent properties. Property boundaries must be respected; mitigation work is not required beyond immediate boundaries. However, landowners are encouraged to contact and work with neighbors if property lines limit the ability to mitigate within the prescribed area. **Defensible space is a benefit, not only to the individual but also to the community as a whole.**

Zone 1 - Starts at the foundation and extends out 15 feet in all directions from the outside edge of the structure(s). Zone 1 is broken down into three segments:

Zone 1A - Consists of the structure(s) themselves and the area immediately adjacent to and surrounding the structure(s) on all sides. A five-foot wide, non-flammable strip should be created using natural rock and gravel over a polyester weed barrier material. This strip will also extend back under, and out to, two feet past the drip line of any decks.

Zone 1B - Extends out from Zone 1A. In this zone, all highly flammable vegetation should be removed. Any large dead woody material on the ground should also be removed. Firewise plants should be used for landscaping and re-vegetation. Grasses should be irrigated when possible and mowed to a maximum height of 6 to 8 inches twice per growing season to a distance of 30 feet from the structure.

Zone 1C - This zone extends out from Zone 1B to 15 feet from the house. All understory trees (ladder fuels) should be removed as marked. These are small seedling and sapling size trees that can be ladders for fire to get in the crowns of the larger trees. A few of the larger, healthy trees can be retained for screening. All remaining trees in this zone should be pruned to a height of 10 feet. They must be well spaced so that the crowns are not touching (10 foot minimum crown spacing). No trees should overhang the house or decks, unless approved by Boulder County or CSFS as "part of the structure" with additional fuels reduction around those trees to insure the defensible space integrity. Trees should be at least 15 feet away from the house on all sides, and a minimum of 10 feet from chimneys.

Zone 2 - This zone extends out from Zone 1C, and acts as a transition zone between the heavily thinned areas near the house to the existing forest setting. It extends down slope between 100-170 feet depending upon slope steepness. Zone 2 also extends on either side of the structure a minimum of 100 feet and behind the house between 70-100 feet assuming no boundary restrictions. Tree spacing begins as in Zone 1C and gradually decreases as you approach the outer edge of the zone. Thinning and crown spacing becomes greater in areas of steep slopes. Ladder fuels and poor quality, suppressed and/or diseased trees, 6 to 8 inches in diameter, make up the majority of the removals. The remaining mature trees should be pruned to a height of 10 feet at the intersection of Zones 1 and 2 with limbing reduced in height to 6 feet as you approach Zone 3. If there are any questions pertaining to slope and the changes in thinning spacing and distance regulations please refer to www.colostate.edu/Depts/CSFS/ and find the *Quick Facts 6.302 Creating Wildfire Defensible Space*.

Zone 3 - This zone extends out from Zone 2 to the edge of the property. It may extend out to areas that are not part of the immediate mitigation efforts. In this zone, a few thicker clumps of trees are acceptable, as well as some unpruned trees near the outer edge. Thinning in this zone adds some protection, but is aimed more at forest health. Trees that are of poor quality or form, or have insect or disease infestations, should be removed. Slash in this zone can be lopped and scattered and/or piled for wildlife use.

- Thin suppressed trees and trees with disease and insect infestations and retain the larger, healthier trees.
- Snags can be retained for wildlife.
- Some slash in this zone can be lopped and scattered and/or piled for wildlife enhancement and shelter.
- Large amounts of slash should be disposed of by chipping, hauling to an approved site, or burning.
- For burning permits, check with your local fire protection district.

MAINTENANCE AND RECOMMENDATIONS

As detailed in fact sheet 6.302, *Creating Wildfire Defensible Zones*, an important factor that determines a structure's ability to survive wildfire is defensible space. Defensible space is a maintained area around a structure where fuels (flammable materials) are modified to slow the possible spread of wildfire to the structure, as well as from the structure to the surrounding areas. Defensible space provides a place where structure protection and fire suppression operations may occur. Wildfire hazard mitigation work breaks up fuel continuity, potentially decreasing a wildfire's intensity, and for more effectiveness should be completed beyond a home's defensible space, zone 1 and 2, area into zone 3.

In addition to the above recommendations, several other measures can be taken to make your home more fire safe and add an additional measure of safety for your family. While not required through site plan review, the following measures should be undertaken to maintain the home and defensible space in the future.

- Maintain your defensible space yearly; contact your local forester for a 5-year maintenance inspection
- Establish an escape route and safety zone with the aid of your local fire protection district
- Keep firewood at least 30 feet away from buildings; clear weeds and grass from around pile
- Do not stack fresh cut wood against live trees – this could invite unwanted insects
- When possible, maintain an irrigated green space; mow grasses 6" to 8" high
- Connect, and have available, a minimum of 50 feet of garden hose with an adjustable nozzle
- Have an emergency evacuation plan in place (included in wildfire mitigation plan)
- Be aware of fire danger; check the Boulder Fire Weather website at www.crh.noaa.gov/bou/awebphp/fireindx.php.html
- Keep driveways and property address marked with reflective easy to see signs
- Maintain screens on foundations, soffit vents, roof vents, and attic openings
- Get rid of unnecessary accumulations of debris and trash from yards
- Keep tools such as shovels, rakes, ladders, and axes available and ready for use
- Clean debris from the roof and gutters at least two times annually
- Check screens and maintain spark arresters on chimneys annually
- Avoid storing combustibles under decks such as wood piles, scrap lumber, and fuels

DEFINITIONS

Aspect – Exposure. The direction a slope faces.

Canopy – The cover of branches and foliage formed collectively by crowns of adjacent trees.

Crown – Branches and foliage of a tree.

Dominant fuel type – Matter that would carry a fire, found on the ground.

Duff – a layer of accumulated dead organic matter (pine needles).

Eddies – Small wind occurrences that are separate from normal wind flows.

Fuel Model – A number system that identifies the types of fuels found on the property that will directly influence fire behavior.

Fire danger – An assessment of both fixed and variable factors of the fire environment, which determine the ease of ignition, rate of spread, difficulty of control, and the fire impact.

Fire hazard – The potential fire behavior for a fuel type, regardless of the fuel type's weather-influenced fuel moisture content or its resistance to fireguard construction. Assessment is based on physical fuel characteristics, such as fuel arrangement, fuel load, condition of herbaceous vegetation, and presence of elevated fuels.

Fire management – The activities concerned with the protection of people, property and forest areas from wildfire and the use of prescribed burning for the attainment of forest management and other land use objectives, all conducted in a manner that considers environmental, social and economic criteria.

Fire risk – The probability or chance of fire starting determined by the presence and activities of causative agents.

Fuel continuity – The proximity of fuels to each other. Helps determine if a fire can sustain itself.

Forest health – A forest condition that is naturally resilient to damage; characterized by biodiversity, it contains sustained habitat for timber, fish, wildlife, and humans, and meets present and future resource management objectives.

Ladder fuels – Fuels that provide vertical continuity between the surface fuels and crown fuels in a forest stand, thus contributing to the ease of torching and crowning.

Limb (verb) –To remove the branches from a tree.

Noxious weeds – Any weed so designated by the Weed Control Regulations and identified on a regional district noxious weed control list.

Overstory – The tree species that forms the uppermost forest layer (dominant and co-dominant).

Slash – The residue left on the ground as a result of forest and other vegetation being altered by forest practices or other land use activities.

Snag – Standing dead tree, often used by wildlife such as woodpeckers, owls, and other various mammals.

Understory – Plants that grow underneath the overstory species.

Wildland urban interface – a popular term used to describe an area where various structures (most notably private homes) and human developments meet or are intermingled with forest and other vegetative fuel types.



Annual fire safety checklist

- Thin trees and brush properly within defensible space.
- Remove trash and debris from defensible space.
- Remove needles and pine cones from window wells.
- Remove trees growing through a porch or other portions of a structure.
- Clear leaves and debris from the roof and gutters of structures.
- Remove branches that overhang a chimney or roof.
- Stack firewood uphill from a home or on a contour away from the home.
- Use noncombustible roof materials.
- Place shutters, fire curtains or heavy drapes on windows.
- Place screens on foundation and eave vents.
- Enclose sides of stilt foundations and decks.
- Remove any combustibles from under decks, porches or entrances ways.
- Use a chimney screen or spark arrester in fireplaces.
- Clear vegetation from around fire hydrants, cisterns, propane tanks, etc.
- Place placards on garages if storing flammable materials inside.
- Make sure that an outdoor water supply is available with a hose, nozzle and pump.
- Post address signs that are clearly visible from the street or road.
- Make sure that driveways are wide enough for fire trucks and equipment.
- Check with appropriate highway agencies to make sure load limits are posted on bridges and for the appropriate protocol for posting load limits for bridges on private property.
- Install and test smoke detectors.
- Practice a family fire drill and evacuation plan.

Evacuation tips

- If a wildfire is threatening your area, listen to the radio for updated reports and evacuation information.
- Confine pets to one room and make plans to take care of them in the event of evacuation.
- Arrange for temporary housing with a friend or relative whose home is outside the threatened area. Leave a note in a prominent place in your home that says where and how you can be contacted.
- If your home is threatened by wildfire, you will be contacted and advised by law enforcement officers to evacuate. If you are not contacted or you decide to stay and help defend your home, evacuate pets and family members who are not needed to protect your home.
- Remove important documents, mementos, etc. from the possible fire area.
- Choose an evacuation route away from the fire if possible. Watch for changes in the speed and direction of the fire and smoke.

- Take a disaster supply kit containing:

- Drinking water.
- A change of clothing and footwear for each family member.
- Blanket or sleeping bag for each person.
- First-aid kit and prescription medications.
- Emergency tools including a battery-powered radio, flashlight and extra batteries.
- Extra set of car keys and credit cards, cash or traveler's checks.
- Extra pairs of eyeglasses or other special items for infants, elderly or disabled family members.

Defending your home

Whether you choose to stay to defend your home or to evacuate, complete as many of the following preparations as possible.

- DO NOT JEOPARDIZE YOUR LIFE. NO MATERIAL ITEM IS WORTH A LIFE.
- Wear fire-resistant clothing and protective gear.
- Remove combustible materials from around structures.
- Close or cover outside vents and shutters.
- Position garden hoses to reach the entire house, but do not turn the water on until it is needed. Hoses should have an adjustable nozzle.
- Place large, full water containers around the house. Soak burlap sacks, small rugs or large rags in the containers.
- Place a ladder against the roof of the house on the opposite side of the approaching wildfire. Place a garden hose near the ladder, prepared as described previously.
- Place portable pumps near available water supplies, such as pools, hot tubs, creeks, etc.
- Close all windows and doors. Do not lock them.
- Close all inside doors.
- Turn on a light in each room and all outside lights. Leave them on even during daylight hours.
- Fill tubs, sinks and similar containers with water.
- Shut off gas supplies to structures at outside meters. Shut off propane supplies at the outside meter of the tank.
- Remove curtains made of lace, nylon or other light materials. Close blinds, heavy drapes and fire resistant window covers.
- Move overstuffed furniture into the center of the house, away from windows and sliding doors.
- Cars should be parked in the garage, facing out. Close the windows of the vehicle but do not lock the doors. Leave the keys in the ignition.
- Close the garage door but leave it unlocked. Disconnect automatic garage door openers.

For additional copies of these checklists, visit www.colostate.edu and search for wildfire, view the Colorado State Cooperative Extension fact sheet on [Forest Home Fire Safety](#), or contact the local Cooperative Extension office usually listed under the county government section of your local phone book.

(Information provided by Colorado State University Cooperative Extension and the Colorado State Forest Service.)

Safety Zone Guidelines

A Safety Zone is an area that in the event of a wildland fire you could survive the passing fire without the aid of a fire shelter. A natural safety zone could be an area already burned clean by the fire (in the black), rock areas where flashy fuels are absent, or large bodies of water. A manmade safety zones could be pre-constructed sites such as clear cuts. It should be close enough to your home to consider escape time to reach the safety zone. They should not be located upslope or downwind of the fire or in heavy fuels.

1. Avoid locations that are downwind from the fire.
2. Avoid locations that are in chimneys, saddles, or narrow canyons.
3. Avoid locations that require a steep uphill escape route.
4. Take advantage of heat barriers such as lee side of ridges, large rocks, or solid structures.
5. Burn out safety zones prior to flame front approach.
6. For radiant heat only, the distance separation between you and the flames must be at least four times the maximum flame height. This distance must be maintained on all sides, if the fire has ability to burn completely around the safety zone. Convective heat from wind and/or terrain influences will increase this distance requirement.

Calculations Assuming No Slope and No Wind

<u>Flame Heights</u>	<u>Distance separation</u>	<u>Area in Acres</u>
10 feet	40 feet	1/10 acre
20 feet	80 feet	1/2 acre
50 feet	200 feet	3 acres
75 feet	300 feet	7 acres
100 feet	400 feet	12 acres
200 feet	800 feet	50 acres

Note: Distance separation is the radius from the center of the safety zone to the nearest fuels. When fuels are present that will allow the fire to burn on all sides of the safety zone this distance must be doubled in order to maintain effective separation in front, to the sides, and behind the person.

Area in Acres is calculated to allow for distance separation on all sides for a three person family and a vehicle. One acre is approximately the size of a football field or exactly 208 feet x 208 feet.

Example: Given a fire with 10 foot flame heights (no wind or slope). You would need a minimum of 40 feet between you and the flames. So your total safety zone should be 80 feet x 80 feet. If you are settled into the middle of the safety zone you will have a minimum distance of 40 feet to each edge of the zone.

Property of Ivory Curtis
18 Pine Brook Road, Boulder, CO
SPRW - 06 - 076

House

Studio

Legend

- Zone 1
- Zone 2
- Leach field
- Driveway
- Leave tress
- Electric pole

N

0 115 230 460 Feet

Wild Fire Mitigation Plan

Inspection Date: Monday, April 16, 2007

Landowner Name: Ivory T. Curtis and Scott H. Woodland

Mailing address: 18 Pine Brook Road

City, State, Zip: Boulder, CO 80304

Site address: same as mailing address

Phone number: 303-449-8079

Road access: From the intersection of Linden Avenue and Pine Brook Road,
Take the common road which is marked Private Road. Take the driveway
marked 18.

Docket number: SPBW 06-076

Section: 1N

Township: 71W

Range: 14

Description: W 1/2 LOT 4 Pine Brook Hills 1 Property

Elevation: 6000 feet

Lot Size (acres): 1.76 acres

Number of Structures 2

New structure: New addition is 754

Structure SQR FT: 3040

— Structure aspect:

Garage if detached: Garage is attached 400 sq ft.

Out Buildings: Art Studio: 100 sq ft.

x 50 Driveway length: 149 for upper driveway

— Driveway trees removed: 5

House Design: Rustic ranch

— Home Buffer material:

— Roof Design:

Roof material: composite tar Flat

— Soffits type:

Siding material: wood shingles to be replaced with stucco

Windows # 38:

Window Size: 72' X 31" for 35 windows 72' by 12' for 3 windows

Window Frames: aluminum

— Windows Aspect:

— Sliding Glass Doors: one

Door materials: 5 wood doors and one aluminum and glass door

Deck material: wood

Deck Description: 2 small decks and one large

Deck Support system: cross ties, wooden

— Deck Buffer type:

— Deck Weed barrier: none now, but we will install crushed rock over a nonflammable
Weed barrier

— Utility Location: a wooden pole about 25 feet tall supports the electricity and telephone lines from the common lines along the common road to the garage.

— Leach Field: is located well below the house and next to Linden Avenue

Cistern: none

Cistern type: not applicable *HYDRANT*

Cistern size: not applicable

Making a donation to community cistern: no

Have you talked to the local fire department: Yes, they did fire mitigation work on the property.

Are you required to have a sprinkler system? No

Water supply: Pine Brook Water District

Well (if applicable) none

Propane or natural gas: Natural gas from Excel Energy

Propane tank location: not applicable

? — Slash disposal: 30 feet from property. Slash was not hauled away because it is infested with mistletoe.

Can you provide a copy of a map with locations: yes

:

Scott Woodland
Ivory Curtis
18 Pine Brook Road
Boulder, CO 80304
303-449-8079
ivorycurtis@yahoo.com

SITE LOCATION AND PROPERTY DESCRIPTION

The property is located at lot 4, unit 1 in the Pine Brook Hills subdivision.
The legal description is W ½ lot 4 pine Brook Hills 1 Property

The lot is 1.765771 acres in size. It is at elevation an estimated 6000 feet.

There are currently two structures on site, including a house with an attached garage and a separate art studio.

The proposed site of the addition relatively flat with rock outcroppings, It is on A ridge. It is a relatively xeric site.

Natural barriers to the spread of fire include rock outcrop.

Because of the presence of many trees below the house the house is a moderate Wildfire hazard

CONSTRUCTION DESIGN AND MATERIALS

As a result of the overall wildfire hazard for the site, we propose to replace the wooden Shingles on the side of the house with nonflammable stucco.

The roofing material will be Class A tar composite. Aluminum gutters with screens Will be used to collect runoff water from the roof. Soffits are plywood sprayed with stucco. Or do we cover with metal trim around windows and overhangs?

The new addition will use only aluminum-clad with double-paned (low-e) glass. We will also replace all windows in the living room, dining room, master bedroom and kitchen with the same.

All exterior materials used in the construction of the new addition will be fire retard

Exhibit ? shows the location of the utility poles. The electiry and telephone wires go the

Northeast corner of the garage. The line is at least height ? A single wooden pole supports the line between the garage and the common lines, which service neighboring homes.

DEFENSIBLE SPACE AND FOREST MANAGEMENT

The property is covered predominately in ponderosa pine. There are large numbers of Douglas fir, smaller Colorado blue spruce and pinyon pines.

We used the services of the Pine Brook Hills Fire Department to thin our trees so that the trees do not touch each other... All branches from the first 10 feet in height were removed.

There are three defensible space zones created around the structure.

Zone 1 – Starts at the foundation and extends 15 feet in all directions from the outside edge of the structure. Zone 1 is broken down into three segments:

Zone 1A- Consists of the structure and the area immediately adjacent to and surrounding the structure on all sides. The south and west parts of the house already sit on a rock outcrop that serve as a natural fire border. A three foot wide, non-flammable strip will be put on the east and north sides of the structure. This strip will extend to under the deck area and out two feet past the drip line.

We will cut down the Russian olive tree at the entrance to the house. I would like to request a variance to this. The tree is on the upside of the house a fire would burn upward. I would like to cut this tree down after I get new fire retardant plants started.

Zone 1B – Extends out from Zone 1A. In this zone, all highly flammable vegetation will be removed. Any large dead woody material on the ground will be removed. Firewise plants will be used for landscaping. The junipers at the entrance will be removed. Grasses planted for revegetation will be kept mowed to a maximum height of 6 to 8 inches twice per growing season to a distance of 15 feet from the structure.

Zone 1C – This zone extends out from Zone 1B to 15 feet from the house. All understory trees (ladder fuels) will be removed as marked. Any mature trees that are kept will be pruned up at least 10 feet above the ground and be widely separated from other trees.

Zone 2 – This zone extends out from Zone 1C, and acts as a transition zone between the heavily thinned area near the house to the existing forest setting. It extends for 50 feet. All ladder fuels and poor quality or diseased trees will be removed. The trees closest to the rock outcrop that the house sits upon, will be removed. This creates a barrier between the masses of trees next to Linden Avenue and the house. The remaining mature trees have been thinned.

Zone 3 – This zone has been thinned and pruned by the Pine Brook Hills fire Department (now called the Boulder Mountain fire)

DRIVEWAY ACCESS FOR EMERGENCY VEHICLES

The property is accessed from privately owned road owned by the 6 homeowners Of "Private Road".

EMERGENCY WATER SUPPLY FOR FIREFIGHTING

Boulder Mountain Fire ...maintains a fire hydrant that is at the top of the property line, next to the common access road. This fire hydrant is about 120 yards to the house.

The understory consists of native grasses

We Propose the following actions to make our home safer from fire.

1. Create a rock covered barrier 4feet around the periphery of the 60% of the building. The house sits partly on a natural rock formation without Any vegetation.
2. We will remove highly flammable wood shingles from the sides of the house And recover in stucco.
3. We will remove certain trees that are below and adjacent to the house.

The house is located on a hillside. The east and north sides are bounded by low growing native grasses. Much of the south and west sides is set upon a natural rock Formation. This section is largely void of any vegetation. One highly effective Way to create a fire barrier would be to cut down the trees below the granite Rock cluster

Use exhibit A to show lot and location of the house. The house sits on 1.7 acre Lot. The

EMERGENCY ACCESS

Part 2 of the Building Permit application response requires that our driveway

and turnaround be approved by the Boulder County Land Use and Transportation Department. Enclosed are photos and measurements of the driveway at 18 Pine Brook Road.

December 2, 2006

Eric Phillips
Boulder County Land Use

Eric,

We are planning an addition to our home. The Boulder County land Use requires that our driveway meet code standards. The following is a drawing of the layout of the driveway showing key measurements. The photographs of the driveway with the automobile is an attempt to show that the driveway currently meets code.

Our driveway has an upper roadway that is concrete and 10 feet wide. I am willing to remove three trees closest to the road. The closest tree is 4 feet from the upper driveway. This allows the width of the road to include 10 feet of concrete and 6 feet of shoulder, or 16 total feet.

I have attached photos of the turnaround area, the upper driveway, lower driveway and the common access road.

To prove that there is a 30 feet radius for turnaround, I selected a spot on the turnaround I set my measuring at 15 feet and made a circle of 30 feet radius.

The top

The Driveway at 16 Pine Brook Road intersects the common road in such a manner as to serve as a turnaround. This turnaround is about 100 feet from the start of my driveway.

Height Requirements.

There are no obstructions less than 13 feet above the driveway. The

Emergency access to water

The Boulder Mountain Fire District maintains a fire hydrant at the top of our property. This hydrant is about 100 feet from the house

The green address sign has been posted for years..

Wildfire Mitigation Plan

Scott Woodland

Ivory Curtis

18 Pine Brook Road

Boulder, CO 80304

For Docket SPRW-06-076 and Permit BP?

February ? 2007

Prepared for :

Prepared by:

Wild Fire Mitigation Plan

Inspection Date: Monday, April 16, 2007

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Mailing address: 18 Pine Brook Road

City, State, Zip: Boulder, CO 80304

Site address:

Phone number: 303-449-8079

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Take the common road which is marked Private Road. Take the driveway
marked 18.

Docket number:

Section:

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Range:

Description:: W ½ LOT 4 Pine Brook Hills 1 Property

Elevation: 6000 feet

Lot Size (acres): 1.76 acres

Number of Structures 2

New structure: New addition is

Structure SQR FT:

Structure aspect:

Garage if detached: Garage is attached 400 sq ft.

Out Buildings: Art Studio: 100 sq ft.

Driveway length:

Driveway trees removed:

House Design: Rustic ranch

Home Buffer material:

Road Design:

Roof material: composite tar

Soffits type:

Siding material: wood shingles to be replaced with stucco

Windows #:

Window Size:

Window Frames:

Windows Aspect:

Sliding Glass Doors: one

Door materials: 5 wood doors and one aluminum and glass door

Deck material: wood

Deck Description: 2 small decks and one large

Deck Support system: cross ties, wooden

Deck Buffer type

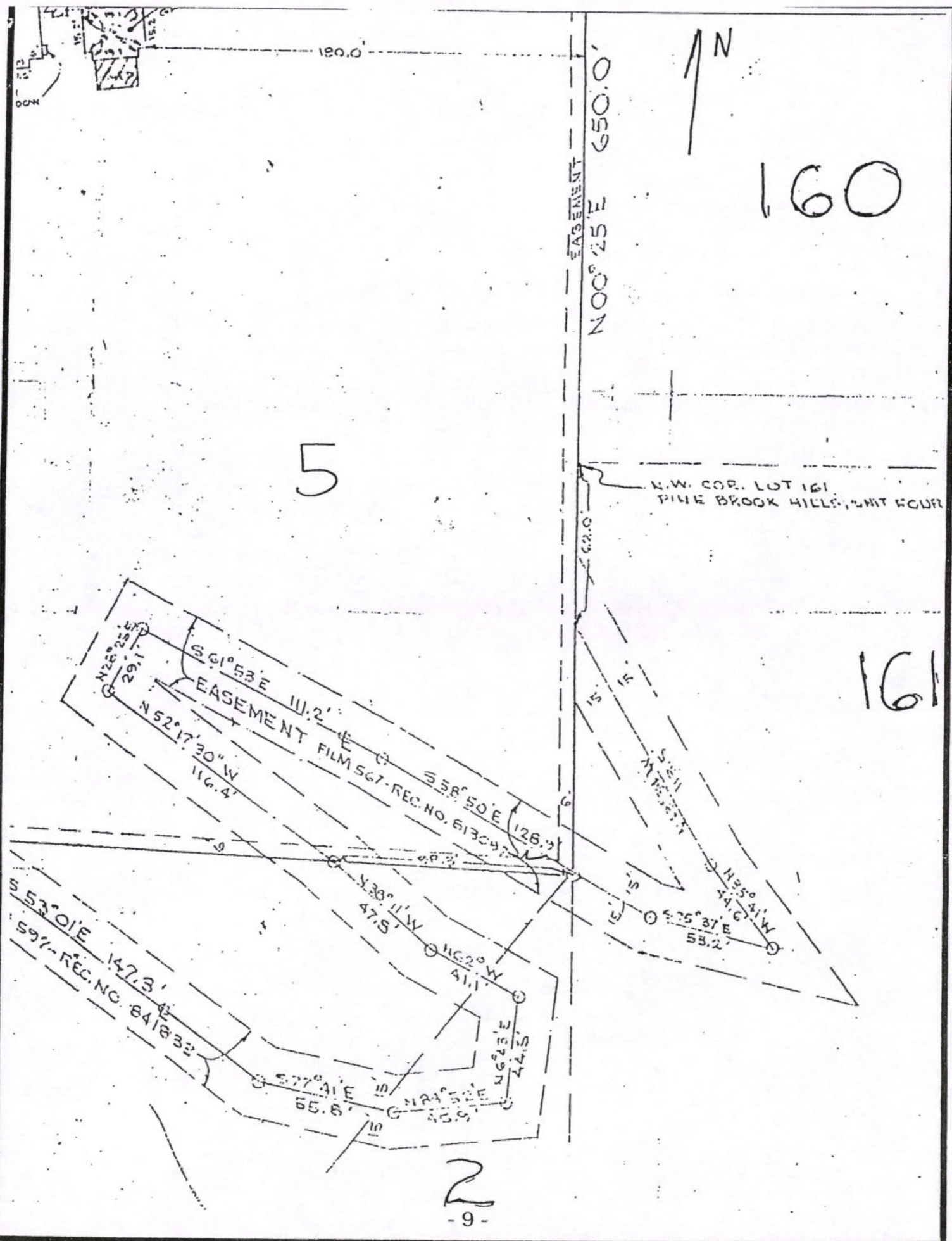
Deck Weed barrier: none now, but we will install crushed rock over a nonflammable
Weed barrier

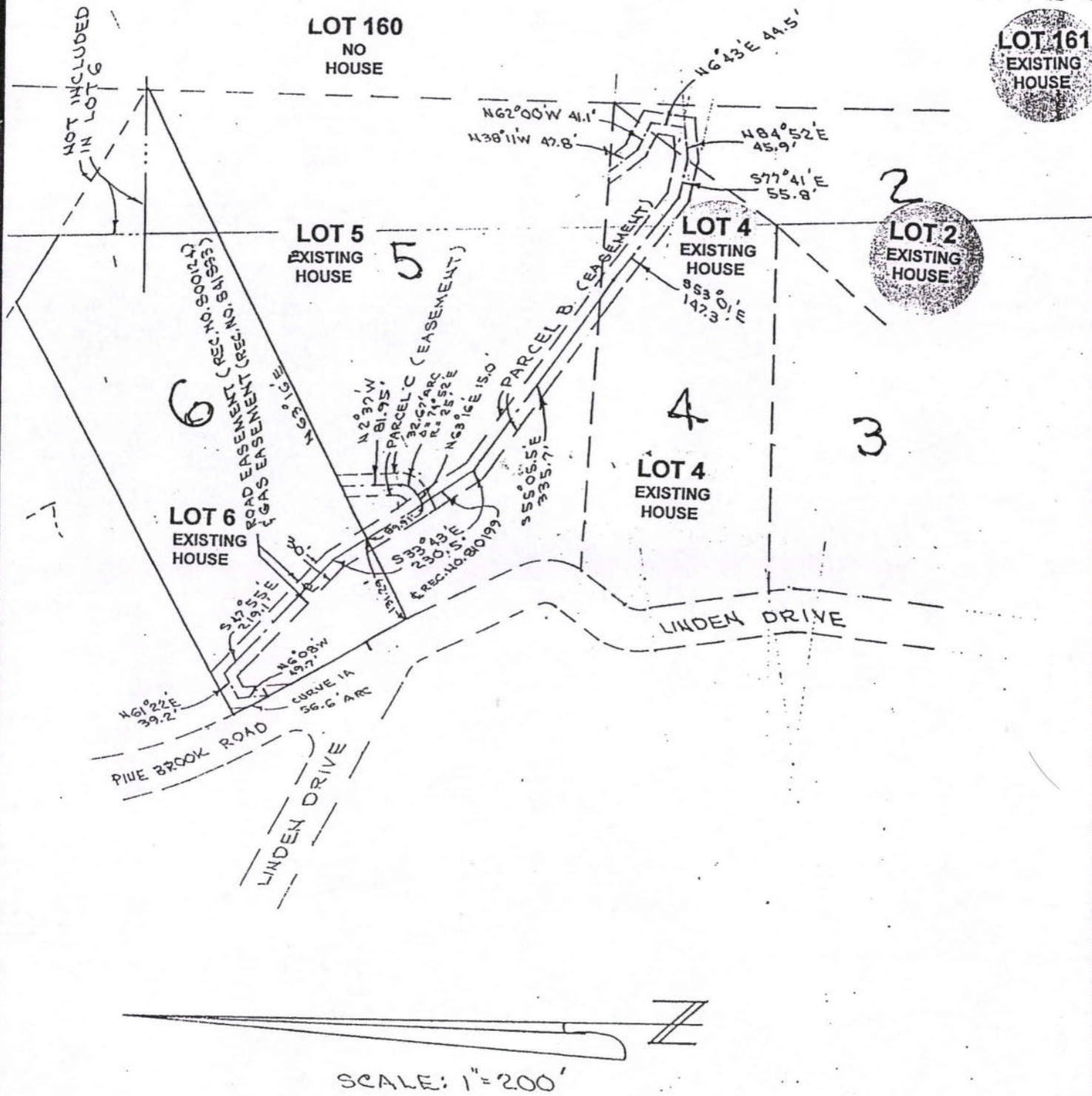
fire
hydrant



Leach
Field

Linden Avenue





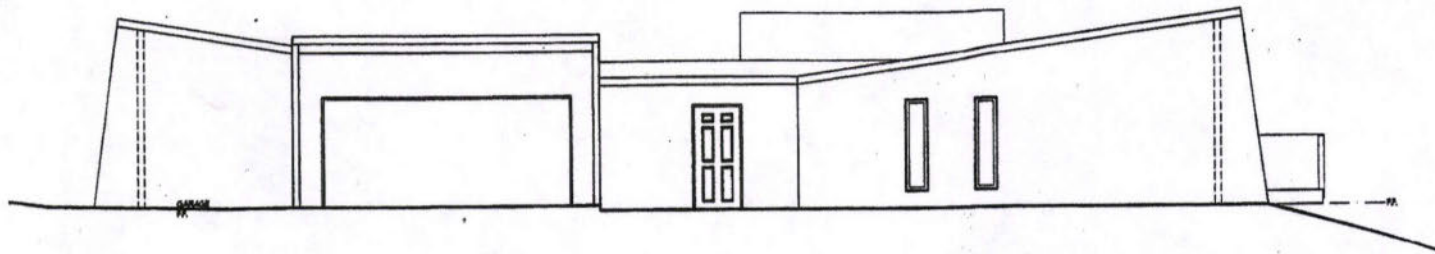
$$\sum x \cdot h \cdot b \cdot i \cdot t \cdot \Sigma$$


6/15/06
PEH ARCHITECTS
1318 Garvue Street Suite 207
Goulder, CO 80302
303-443-0406, fax: 303-447-1906
e-mail: peharch@peharchitects.com

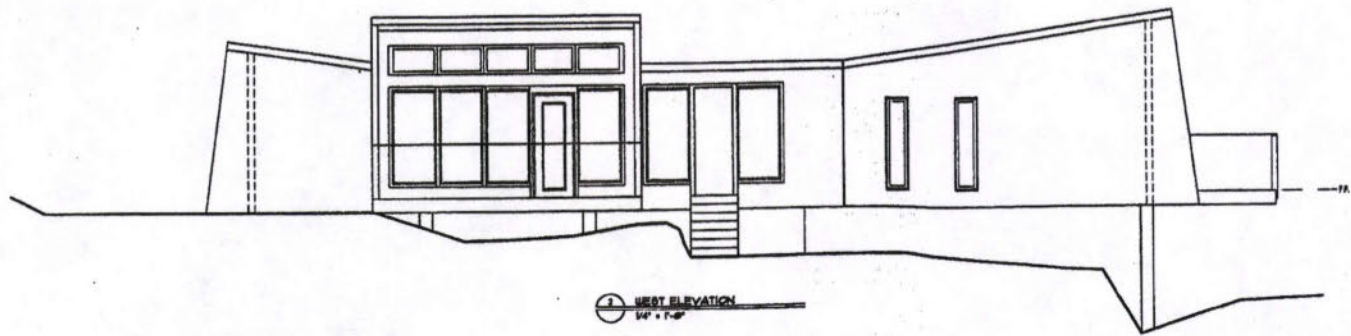
Curtis Residence
12 Pine Brook Road
Boulder, CO 80302

FIRST FLOOR PLAN

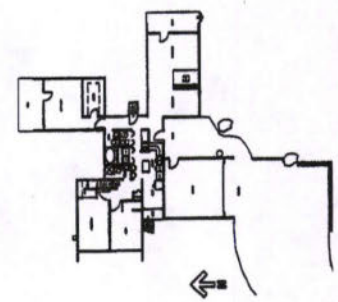
Exhibit B



1 NORTH ELEVATION
1/4" = 1'-0"



2 WEST ELEVATION
1/4" = 1'-0"



PEH ARCHITECTS 1319 Spruce Street Suite 207 Boulder, CO 80302 303-442-0408, fax: 303-447-1808 e-mail: peh@peharchitects.com	
Curtis Residence 18 Pine Brook Road Boulder, CO 80302	
ELEVATIONS	
PROJECT: 2006.18 DATE: 06-27-06	SHEET NUMBER: ARA300

BP-73-17230 ADD TO RES
 BP-86-951 ELECTRIC - NEW SERVICE
 BP-94-2548 HOT TUB & ELECTRICAL

Dockets for this Parcel:

Assessor land and structure listing for this parcel: XFOB = Extra Feature or Building

ACCOUNTNO	MODEL	OCCURANCE	ATRIBTYPE	ATRIBDESC
R0034679	LAND_MT	1.0	ABSTRACT_CODE	SINGLE FAM.RES.-LAND
R0034679	RESMT	1.0	ABSTRACT_CODE	SINGLE FAMILY RESIDENTIAL IMPR
R0034679	RESMT	1.0	BATH_3	1 - BATH 3/4
R0034679	RESMT	1.0	BATH_F	1 - BATH FULL
R0034679	RESMT	1.0	CAR	ATTACHED
R0034679	RESMT	1.0	CONST	FRAME
R0034679	RESMT	1.0	DEPR01	YEAR
R0034679	RESMT	1.0	DESIGN	1 STORY - RANCH
R0034679	RESMT	1.0	QUALITY	GOOD
R0034679	RESMT	1.0	YEAR	1967 - YEAR
R0034679	XFOB	104.0	ABSTRACT_CODE	SINGLE FAM RES IMPROVEMENTS
R0034679	XFOB	104.0	DEPR01	YEAR
R0034679	XFOB	104.0	XFOB_CODE	EQUIP SHED- D,AVG 20 YRS
R0034679	XFOB	104.0	YEAR	1967 - YEAR

Assessor land and structure areas or counts for this parcel: Correlate with land and structures by Model+Occurance for each Account.

ACCOUNTNO	MODEL	OCCURANCE	SUB_CODE	AREA_ACT
R0034679	LAND_MT	1.0	LOT	1.0
R0034679	RESMT	1.0	AREA_FIRST	1819.0
R0034679	RESMT	1.0	B_SUB_FIN	801.0
R0034679	RESMT	1.0	GAR ATT	420.0
R0034679	RESMT	1.0	POR DECK	914.0
R0034679	XFOB	104.0	XFOB_UNITS	170.0



Land Use Department

Courthouse Annex

2045 13th Street • 13th & Spruce Streets • Boulder, Colorado 80302 • (303) 441-3930
<http://www.bouldercounty.us/lu/>

Energy Concepts
PO Box 238
Jamestown, CO 80455

February 9, 2007

Scott Woodland and Curtis Ivory
18 Pine Brook Drive
Boulder, CO 80304

Dear applicant:

This is a follow up letter regarding BP-07-164 and SPRW-06-076. As of this time additional submittal information is needed before Site Plan Review (SPR) can be signed off for permit issuance. The following items are needed:

- 1 copy of a site plan that indicates where a construction fence / catch fence would be located (downslope of addition area on south side of house). The fence needs to only be as wide as the addition area. It is just to ensure that nothing falls down the hill toward Linden during the installation of the piers. The fence can be a construction fence or any other device (straw bales) that will stop rock and debris.
- Wildfire mitigation plan. Because the site is relatively small, mitigation may consist of only limbing trees and the use of fire retardant materials. To determine the appropriate extent of the wildfire mitigation plan, contact Eric Philips, Boulder County Wildfire Mitigation Coordinator, at 720-564-2625 for more information.

Your building permit has been routed to the building division for plans examination by the building staff. A plans examiner will contact you if he/she needs any additional information in regard to the construction plans submitted. To delay any extension of your building permit review, please submit the required items per the site plan review within a few weeks of receiving this letter.

Enclosed is a copy of the SPR waiver approval letter with the conditions of approval for your reference.

If you have additional questions please contact the on-call planner or myself at 303-441-3930.

Sincerely,

Millissa Berry
Planner II
Land Use Department

Enclosure: sprw letter

CC: SPRW-06-076, BP-07-164, Letter Log

July 13, 2006

Scott Woodland
Ivory Curtis
18 Pine Brook Rd
Boulder, CO 80304

Re: SPRW-06-076

Dear Scott and Ivory:

The Boulder County Land Use Department has reviewed and granted your request to waive the Site Plan Review for a 1,462-square foot residential addition proposed at 18 Pine Brook Road, subject to the conditions listed below. Consistent with Article 4-802.C of the Boulder County Land Use Code, this office has referred the waiver request to neighboring property owners, and has not received any responses that the Land Use Director has determined would warrant further County review.

CONDITIONS:

1. SIZE, HEIGHT, LOCATION, COLORS, EXTERIOR MATERIALS, EXTERIOR LIGHT LOCATIONS, EXTERIOR LIGHT FIXTURES, and ASSOCIATED EARTHWORK.

The following items have been reviewed and are approved as proposed in the application materials:

	Description	Approved
Size:	Approximately 1,462-square foot residential addition: <ul style="list-style-type: none">• ~ 180 sqft basement• ~ 754 sqft 1st floor• ~ 528 sqft detached garage	7/13/06
Height:	Approximately 27 feet from existing grade (no change to existing height.	7/13/06
Location:	As shown on the site plan	7/13/06
Color:	Woodstock Brown, Heathered Moss, tan siding and black roof (samples provided)	7/13/06
Exterior materials:	Stone and concrete siding & tar composite shingle roof	7/13/06
Lighting locations:	Lighting locations as indicated on lighting (site) plan	7/13/06

Light fixtures:	Models: Outdoor Lighting Associates RAB shades, Starry Night Lights SPJ21-04, Sea Gull Lighting SGL-8457DB-71, Sea Gull Lighting SGL-8462DB-44. GlareBuster GB-1000 or Kicher Kich-9044; Lighting by Gregory KL-15326AZT, Lighting by Gregory KL-15327BR or Kirkham 48700	7/13/06
Earthwork:	None proposed except for support piers	7/13/06

2. ACCESS REQUIREMENTS

The proposed drive must comply with Boulder County's Private Access Standards (County Road Standards and Specifications Article 4.5).

Prior to final inspection, the Boulder County Land Use and Transportation Departments must verify that the driveway meets standards if modifications are required to the driveway.

3. EXTERIOR MATERIALS

To mitigate wildfire concerns, all exterior building materials must be ignition-resistant (IR) construction. The proposed concrete and stone siding and composite tar roof are approved as proposed. Please check with the Building Division to see if the tar roof is adequate IR material. For additional ignition-resistant (IR) construction information contact the Boulder County Wildfire Mitigation Coordinator (303-441-3930) and the Building Division (303-441-3925).

4. TREE PRESERVATION

The preservation of existing trees and ground vegetation will provide visual screening from nearby areas including public open space and rights-of-way. The existing pines to the south of the residence are critical for visual screening and view shed mitigation and must be preserved while providing for fire safe defensible space requirements.

Prior to issuance of building and grading permits, the tree preservation and screening plan must be incorporated into the wildfire mitigation plan (see Condition 5 below) and submitted for review and approval by the Land Use Department. The plan must demonstrate which stands of trees are to be removed and limbed for wild fire mitigation, and which stands of trees are to be preserved for screening.

Prior to final inspection, the Land Use Department must verify that the screening plan was implemented.

5. WILDFIRE MITIGATION

A Wildfire Mitigation Plan **was not** submitted with the application materials.

Prior to issuance of any permits or the removal of any trees, please submit a Wildfire Mitigation Plan to the Land Use Department for review and approval. The Wildfire Mitigation Plan must be designed in conjunction with the Tree Preservation and Screening requirements outlined in Condition 4 above. The maximum preservation of existing mature trees on-site is required. The existing mature trees to the south of the proposed structure are critical for visual screening and to soften visual impacts. These trees shall be preserved to the maximum extent possible while incorporating wildfire safety requirements.

Please contact the Boulder County Wildfire Mitigation Coordinator at 720-564-2625 to determine the specific wildfire mitigation requirements for your project. Please note that revisions to the Wildfire Mitigation Plan may be required.

At the time of foundation form inspection, the defensible space must be approved, implemented and inspected by the Land Use Department. All trees marked for removal must be cut and all slash, cuttings, and debris must be removed and/or properly disposed of.

Prior to final inspection, all remaining aspects of the Wildfire Mitigation Plan must be implemented and inspected. All building materials are to be of ignition resistant construction and roofing materials must be UL listed Class-A. Ground surfaces within three feet of the structure must be covered with a non-combustible ground cover over a weed barrier material. The driveway/emergency access, including required turnarounds and pullouts, must be in place and conform to Boulder County private access standards. A completed copy of the Boulder County Fire Sprinkler/Fire Hydrant/Cistern Approval form must be submitted to the Land Use Department for review and approval.

6. CATCH FENCE

Though very little grading is anticipated with the proposed development, due to the house's location on the hillside over Linden Road and the amount of rock at the location, a catch fence or other containment device must be provided down slope of construction to prevent material from spilling into the roadway to the south or damaging existing trees to the south of the proposed development.

Prior to issuance of building or grading permits, details regarding the placement and construction of the catch fence must be submitted to and approved by the Land Use Department. The placement and profile of the catch fence must be shown on the Re-vegetation Plan, Wildfire Mitigation Plan or revised site plan.

Prior to any grading or site disturbance, the catch fence must be installed as required per the approved plans.

At the time of the footing foundation inspection and all subsequent inspections, the Land Use Department must confirm the catch fence has been installed as required per the approved plans.

7. REMOVAL OF RUSSIAN-OLIVE TREE

There is one Russian-olive tree on the property. Since Russian-olive trees are a state-listed noxious weed, all Russian-olive trees must be cut down, and their stumps immediately treated with a systemic herbicide. Downed trees must be chipped or removed from the parcel. Alternatively the trees may remain standing if they are killed using a basal bark herbicide treatment. Please contact the Boulder County Weed Coordinator at 303-678-6110 for recommended removal methods, or for assistance.

At the time of foundation inspection, Land Use Department must confirm that the Russian-olive tree has been cut down, and the stump treated with a systemic herbicide if the stump is not removed from the site. Downed trees must be chipped or removed from the parcel. Alternatively the trees may remain standing if they have been killed using a basal bark herbicide treatment.

8. RE-VEGETATION

Prior to final inspection, all areas of exposed soil must be re-vegetated. If weather is not conducive to seeding or if adequate re-vegetation efforts have not occurred, an irrevocable letter of credit or monies deposited into a County Treasurer account must be provided to assure completion of re-vegetation. What is considered "adequate re-vegetation" is influenced by the amount of site disturbance, potential for significant erosion (steep slopes), and visibility. In all cases some level of germination and growth is required. Note that areas of disturbance not included on the site plan are still subject to reseeding. Please note that no species on List A, B or C in the county's 2004 Noxious Weed Management Plan may be used to meet Re-vegetation requirements.

9. WILDLIFE SAFE FENCING

Because wildlife is present in the area, the following wildlife-safe specifications shall apply for any new fences proposed now or at any time in the future:

- Fences should be kept as close to the developed portion of the site as possible.
- They should be made from materials like woven wire or tightly strung, single-strand wire. Chain-link fencing is not permitted except for small kennels, since wildlife can be easily entangled in mesh fencing.
- Top and bottom wires must be smooth, with wire spacing at 16, 22, 28, and 40 inches from the ground. The bottom wire must be at least 16 inches from the ground for the passing of young animals. The top two wires must be 12 inches apart to reduce entanglement. Because fences over 40 inches high may be lethal, they are not permitted.

DEPARTMENT OF PUBLIC HEALTH REQUIREMENTS

The existing onsite wastewater system (OWS) is adequate for a 3-bedroom house. If the total number of bedrooms in the house exceeds 3, an addition to the OWS will be necessary and a permit from the Boulder County Health Department will be required. The building addition must be no closer than twenty (20) feet from the absorption field and five (5) feet from the septic tank.

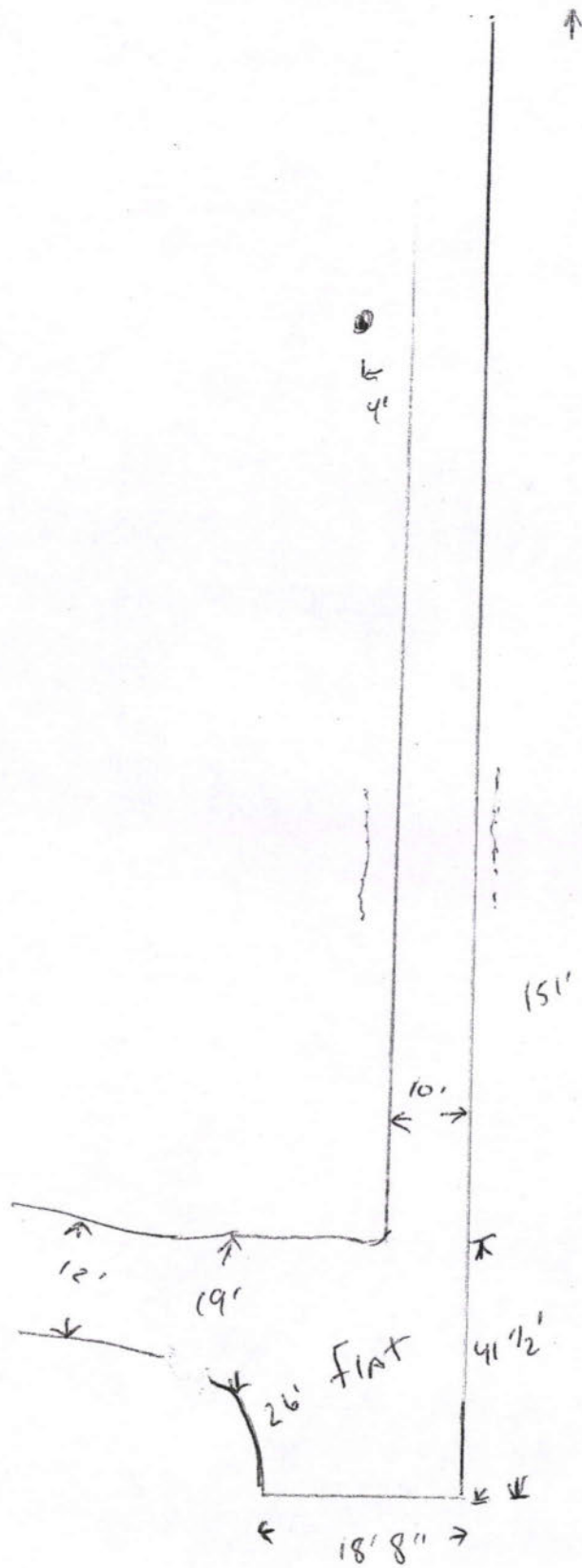
Please contact the Boulder County Department of Public Health at 303-441-1100 for more information.

If you have any questions or concerns, please feel free to contact me at 720-564-2613 or via e-mail at mberry@co.boulder.co.us.

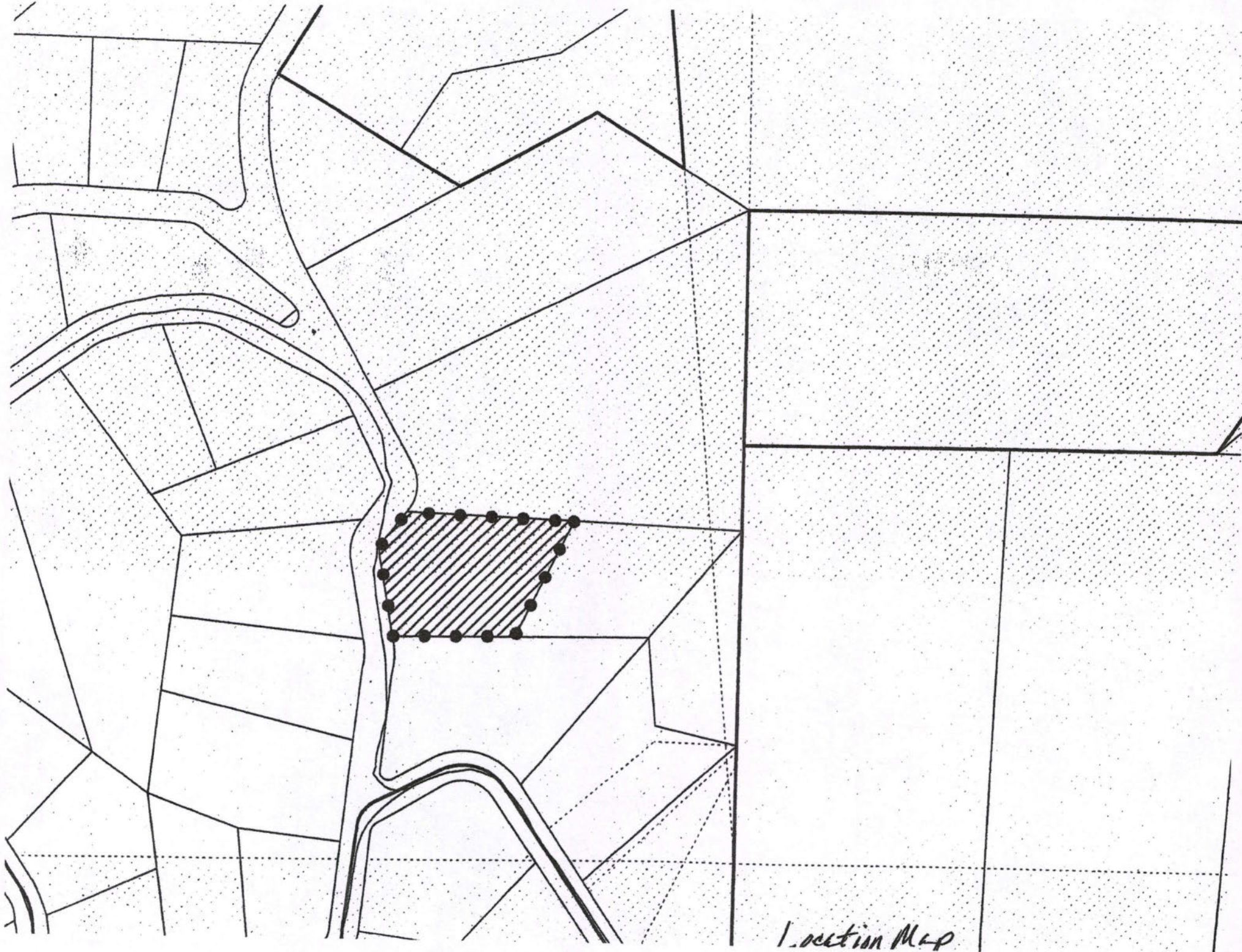
Sincerely,

Millissa Berry, AICP
Planner II

cc: SPRW-06-076, Eric Philips



grade is flat
at turnaround
←



Location Map

This parcel at 000018 PINE BROOK RD
is owned by
CURTIS IVORY & SCOTT H WOODLAND
18 PINE BROOK RD

BOULDER, CO 80304-0432

Its Legal Description is
W 1/2 LOT 4 PINE BROOK HILLS 1 PROPERTY
ADDRESS: 000018 PINE BROOK RD BOULDER□

Its GIS Land Area is 76917 square feet, 1.765771 acres.

It is Parcel Number 146114006006 and this owner has Account Number R0034679.

These owners are taxed in the following:
BOULDER COUNTY GENERAL OPERATING
BOULDER VALLEY RE2 GENERAL OPERATING
PINE BROOK WATER GENERAL OPERATING
URBAN DRAIN & FLOOD CTRL GENERAL OPER
BOULDER MTN FIRE DIST GENERAL OPER
RTD GENERAL OPERATING

Recent deeds for this parcel:

WD at Reception Number 146706 from to for \$78000 on 8/5/1975
WJ at Reception Number 356421 from to for \$119500 on 8/29/1979
WJ at Reception Number 561907 from to for \$135000 on 7/14/1983

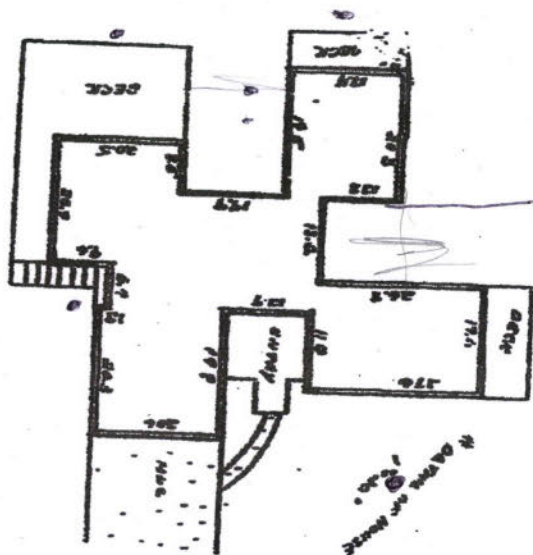
PLSS Section, Township, Range on or adjacent to this Parcel: T1NR71WS14

Zoning Districts on or adjacent to this Parcel: F

Open Space ownerships on or adjacent to this Parcel:

County Plats on or adjacent to this Parcel:
SUB PINE BROOK HILLS UNIT 1

Permits for this Parcel:
BP-01-1734 FURNACE REPLACEMENT
BP-67-9535 RES, ATT GAR



Utility Location: a wooden pole about 30 feet tall supports the electricity and
Telephone lines from the common lines along the common road

To the garage.

Leach Field: is located well below the house and next to Linden Avenue

Cistern:

Cistern type:

Cistern size:

Making a donation to community cistern:

Have you talked to the local fire department: Yes, they did fire mitigation work on the
Property.

Are you required to have a sprinkler system? No

Water supply: Pine Brook Water District

Well (if applicable) none



Propane or natural gas: Natural gas from Excel Energy











Propane tank location: not applicable


Slash disposal: 30 feet from property. Slash was not hauled away because it is infested with
mistletoe.

Can you provide a copy of a map with locations: yes

:

 **WebMail - RE: CSFS** 

 Delete  File  Create  Reply  Reply All  Forward  Previous  Next  Options  Inbox

 Help

Date Sent: Wednesday, April 11, 2007 10:22 AM

From: "Philips, Eric" <ephilips@co.boulder.co.us> [Add to Address Book](#)

To: palestro

Subject: RE: CSFS

Status: ☐ Urgent ☐ New

Yep, Mr. Curtis may be giving you a call about this (I hope).

Bourey is going to be a tough one. The lot is very narrow and runs parallel with the slope, so 95% of the d-space work for this one will have to happen on the neighbors lot downhill to the west, which is a real problem unless the owners of the two properties sign an agreement to let this happen. Let me know when you intend on going to the site.

-----Original Message-----

From: palestro [palestro@lamar.colostate.edu]

Sent: Wednesday, April 11, 2007 8:22 AM

To: Philips, Eric

Subject: CSFS

Hello, I have nothing on Mr. Curtis. It was probably Cory who went to see him. I also have another SPR for you. SPR-07-014 155 Wildwood Lane Bourey. I recieved a letter from Chief Benson a couple of weeks ago about his recommendations.

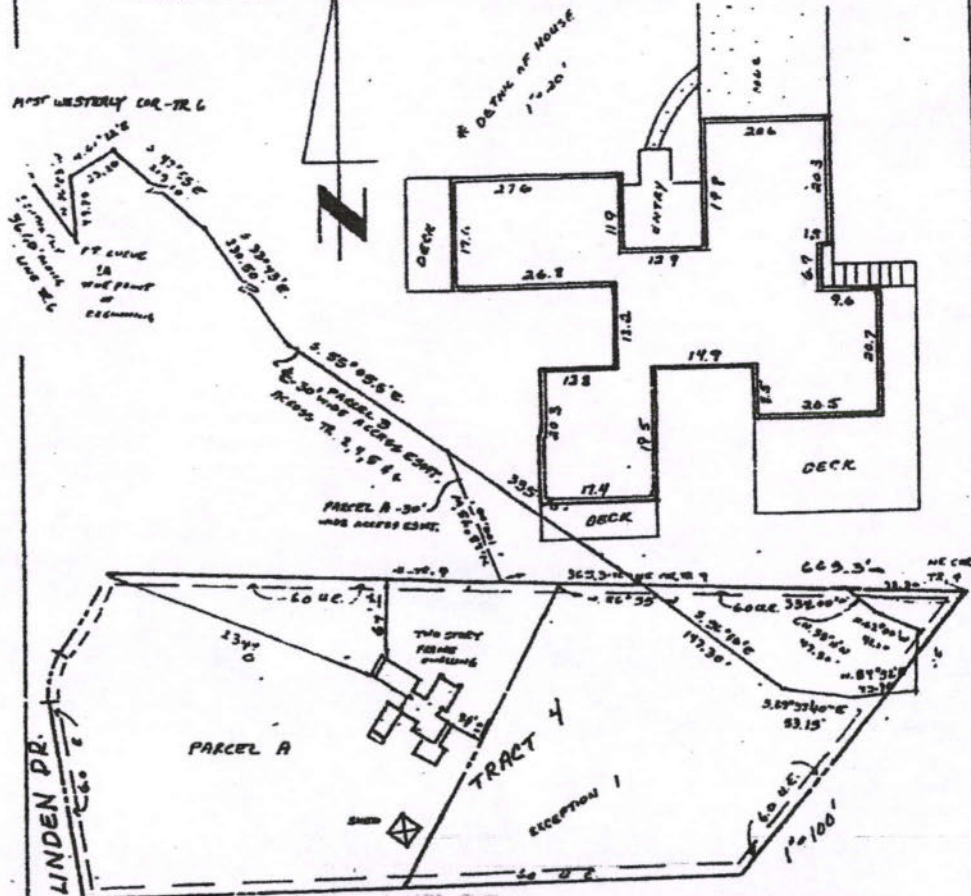
Thanks,
Nicole



Secure mode active.

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G.E. = Gas East.
 [] = Conn.
 B = Brick
 F = Frame
 D.E. = Drain East.
 P.L. = Property Line
 --- = Property Line



IMPROVEMENT LOCATION CERTIFICATE

I hereby certify that this improvement location certificate was prepared for the sale and encumbrance of CITY MFG. SERVICES
the improvement location being based on the previously recorded PLAT OF PINE BROOK HILLS UNIT,
AS MODIFIED BY OTHERS. I further certify that the improvements on the above described parcel on this date,
JULY 11, 1983, except where otherwise shown, are entirely within the boundaries of the parcel, except as shown, that there are no encroach-
ments upon the described premises by improvements on any adjoining premises, except as indicated, and that there is no evidence or sign of any
encumbrance existing or burdening any part of said parcel, except as noted. This improvement location certificate may not, and should not be consid-
ered as evidencing the true dimensions or boundaries of the subject property as no boundaries or measurements were set upon said property. All lines
were made from existing control. This improvement location certificate is made for the use of the lender for loan purposes only and is not to be
relied upon for locating town lines or other new improvements. The purpose of this improvement location certificate is to locate improvements upon
said property and/or show any visible encumbrances or encroachments. This improvement location certificate does not purport to establish the bound-
ary line of said property.

LEGAL DESCRIPTION
(SEE ATTACHED)

BOULDER CO., COLO.

NOTE: NOT IN FLOOD PLAIN
CONN. # 080023 01254

SCALE: $1'' = 100'$ $1'' = 30'$

DATE: 7/11/83

JOB:

4 LINDEN DR.

BOULDER, COLO.

(CURTIS) WOODLAND

