

GRAND COUNTY OPEN BURN PROGRAM AND PILE BURNING GUIDELINES



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This information is designed to be used by forest landowners, land managers, and fire department personnel in planning and conducting safe and effective burning of piled forest debris (“slash”) - called “pile burns”. These guidelines cannot guarantee safety against accidents, unforeseen circumstances, changing burning conditions, or negligent actions of the individuals conducting the prescribed fire. By following the intent of these guidelines and using common sense, the landowner or forest manager can reduce slash accumulations, improve the appearance of their forest land, and reduce wildfire risk on their property. The reader should contact Grand County Division of Natural Resources (970-887-0745) for updated versions of this publication and current requirements about the use of open fires. **Important to note that all piles greater than 3 ft x 3 ft x 2 ft require a burn permit.**

CURRENT REGULATIONS

1. Colorado Department of Public Health and Environment (CDPHE), Air Quality Regulation 9- Open Burning. This regulates ALL open burning in the State.
2. Grand County Ordinance number 19: County regulation on open burning with local fines and penalties outlined. Find at co.grand.co.us/142/Open-Burning.
3. Grand County Open Burning Management Plan: County document that outlines how we administer the open burn program within the county. Find at co.grand.co.us/142/Open-Burning.
4. Grand County Delegation of Authority: from the CDPHE that outlines our jurisdiction and requirements for issuing burn permits. Can be found at co.grand.co.us/142/Open-Burning.

DEFINITIONS:

Slash: The accumulation of vegetative materials such as tops, limbs, branches, brush, and miscellaneous residue resulting from forest management activities such as thinning, pruning, timber harvesting, and wildfire hazard mitigation.

Pile Burning: The treatment of slash by arranging limbs and tops into manageable piles. Piles are burned during safe and approved burning conditions.

Chunking-In: The process of moving unburned materials from the outside perimeter into the center of the still burning piles. This is done after the pile has initially burned down and is safe to approach, but before the hot coals in the center have cooled. Chunking-in allows greater consumption of the piled slash.

Mop-up: The final check of the fire to identify and extinguish any still-burning embers or materials. This is accomplished by mixing snow, water, or soil with the burning materials.

MATERIALS ALLOWED IN PILES:

All limbs, tree tops, brush, and miscellaneous materials recently cut in the area, no greater than six inches in diameter and from 1 to 8 feet in length is ideal. State regulations do not allow material greater than six inches in diameter to make up more than 30% of the pile volume. Larger materials require a longer window of good smoke dispersal and require more chunking-in or mopping-up than is cost-effective, and produce greater amounts of smoke. Instead, use materials greater than six inches in diameter for saw timber, posts & poles or firewood. Some larger material may be left for wildlife habitat. **Do not place garbage or forest floor debris (i.e. pine needles, cones, small branches, duff) in the pile. Stumps are never allowed to be in piles, per State regulations, as they take far too long to consume and can smolder for months.**

LOCATION OF PILES:

Piles should be located in forest openings; unused logging roads and landings; meadows; and rock outcrops. Piles are NOT to be located on active road surfaces; in road rights-of-way; in ditches; near structures or power poles; under or around power lines; or on top of logs or stumps that may catch fire and continue smoldering. Anticipate flame lengths of up to three times the height of your pile(s), so build them an appropriate distance away from anything you want to protect.

CONSTRUCTION OF PILES:

Piles should be constructed by hand whenever possible, but if constructed by machine, use an attachment with “fingers” to keep dirt and duff out of the pile. Pile slash soon after cutting (while still green) and before winter snowfall. Again, State regulations do not allow large diameter material (6 inches or greater diameter) to make up more than 30% of the pile volume, nor do they allow ANY stumps to be burned. Pile branches and tops with the butt ends to the outside of the pile, and with the branches overlapping so as to form a series of dense layers piled upon each other. Preferred dimensions for good consumption and smoke management are a height that is at least equal to the width of the pile. These measures prevent snow and moisture from filtering down into the piles and extinguishing the fire before it gets going. In Grand County, it is recommended that piles be up to fifteen feet in diameter, and **at least** 8 feet high. Creating piles this pile size will allow more opportunity to burn during the season as this will be consumed in the burn windows that are typical for our area. Larger piles are allowed, but require longer burn windows to be consumed, thereby reducing your opportunity to burn. If the fuels do not have sufficient needles or fine fuels to carry the fire or keep moisture out, then you should cover the piles with 6 mil plastic to keep them dry until the day of the burn. **Remove the plastic cover when you are ready to burn.**

The following photos are examples of good and bad pile construction.

EXAMPLE OF GOOD PILE CONSTRUCTION:

These piles show both hand-piles and machine piles without a blade. Good mixture of material size as well as good dimensions, being as wide as high.



→ This is a smaller pile, but good dimensioning having the base as wide as the height.



→ This shows a “typical” pile with a mixture of large diameter material and smaller diameter material. Could be organized better, this will require more chunking-in than a smaller pile.

EXAMPLES OF POOR PILE CONSTRUCTION:



Example of “dirty” pile that includes way too many fines such as pine needles, dirt and small diameter material. This pile will not burn well if at all.



This is an example of too much large diameter material as well as poor construction in the material is spread out and haphazard. The larger diameter material would be great firewood.

PLANNING YOUR BURNING EFFORT:

Grand County runs its open burn season in the winter months when fire danger is low. The permit is actually an Air Quality Permit. The season opens when we have three to six inches of *permanent snow* on the ground county-wide and the concurrence of the Fire Protection Districts. This usually falls around Thanksgiving and the season closes around April 1, depending on the presence or absence of snow. You must complete and receive an approved open burning permit from Grand County Natural Resources (GCNR) prior to any slash pile burning if the pile exceeds 3 ft. diameter and 2 ft. tall. Please note that though our office is “closed” on the weekend, we still run the burn program via phone to allow burning on the weekends. Land management agencies such as the USFS, BLM and the State Forest Service, are permitted by the Colorado Department of Public Health - Air Pollution Control Division. If you live within a town limit or an HOA/OA, please check with your town hall or HOA/OA for burning regulations as they will supersede the county regulations.

Copies of approved burn permits must be available **on-site** during the burning operation in case of complaint or inspection. Burning activities should also include plans for safety and supplemental water sources. Persons burning slash piles should, but are not required, have the following: leather gloves; shovels; suitable footwear; masks for covering the mouth and nose; and proper eye protection. As a courtesy, individual(s) planning the burning operation should notify adjacent landowners who may be affected by smoke, including the date, times, and exact location of the burn.

All Grand County permit holders must call GCNR for approval to ignite any pile each time they want to burn. Pile burning must be conducted under suitable weather conditions. The mountain valley area we live in provides perfect conditions for nightly cold air inversions. These keep smoke and other air pollutants close to the ground by having warmer air above colder air at the ground surface acting as a “lid”. In the morning, the inversion can be broken if the sun is able to heat the surface enough to heat the air and get the layers to mix. In the evening as the sun goes down, the ground surface cools faster than the air above and the inversion is back. Due to this typical daily weather pattern, our burn “windows” generally run from 10 am to 4 pm. High pressure systems can hold these inversions in place, creating poor smoke dispersal conditions for days or even weeks. State regulations require that we only allow burning when smoke dispersal ratings are Fair or better according to the NOAA smoke dispersal forecast.

BURNING SLASH PILES:

Piles may be ignited by several means. If the needles and fine fuels within the pile have dried through the summer, ignition can be easily accomplished with matches and a large ball of newspaper placed within the bottom of the pile. If fuels are still partially green, or the pile is wet from rain or melting snow, then a hotter and longer heat source may be necessary. Propane torches, kerosene, diesel fuel, sawdust soaked with diesel fuel or flares used for highway emergencies are common methods used to ignite piles. **Do not use gasoline for this purpose.**

Once you have received approval from GCNR to burn, a test pile should be ignited to see if it burns and at what rate. The test pile also determines whether smoke management requirements can be met prior to igniting other piles. If suitable burning conditions exist, then additional piles

may be started. Ignite only those piles that can be controlled by the available manpower and resources until they have burned down. You can slow the rate of burning (and possible scorching of adjacent trees) by shoveling snow or spraying water into the pile and cooling the fire down. As a general rule, one person can manage 3-6 closely situated piles. Grand County Ordinance 19 states that fires must be attended while flame is present, among other requirements.

After the piles have burned down, chunk-in any unburned slash and wood into the hot coals in the center of the pile. As much as 95% of the original slash can be consumed by aggressive chunking-in. At all times, piles may need to be actively mopped-up if the weather conditions will not extinguish the fire, or if the fires could escape. If high winds or melting snow increases this risk, then all burning materials must be mopped-up.

ADDITIONAL ASSISTANCE:

If you have additional questions about burning slash, you can contact the local CSFS office (887-3121) or GCNR (887-0745). GCNR also provides a list of local contractors who do contract burning for private landowners. The list can be found on our webpage: co.grand.co.us/142/Open-Burning.

The Grand County Burn Program is an effort to manage the smoke and particulate matter that comes from the extensive pile burning that occurs in our area due to the Mountain Pine Beetle epidemic. The preceding guidelines are provided in an effort to educate property owners in slash pile construction and ignition to conduct pile burns in a safe and effective manner with as little air quality impact as possible. There are alternatives to burning: chipping, lop and scatter, burying, or hauling off-site.

Additional information and Links:

CSFS, Granby Office - <http://csfs.colostate.edu/districts/granby-district/>
Colorado Dept. of Public Health and Environment (CDPHE)-
<https://www.colorado.gov/pacific/cdphe/categories/services-and-information/environment/air-quality/outdoor-burning>

Grand Lake Fire Protection District - <http://www.grandlakefire.org/>

Grand One Fire Protection District (Granby) – <http://www.grandfire.org/>

East Grand Fire Protection District: <http://eastgrandfire.com/>

Kremmling Fire Protection District - <http://kremmlingfire.org/>