



COUNTY OF NEVADA

COMMUNITY DEVELOPMENT AGENCY

Environmental Health Department

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NEVADA COUNTY CDA GUIDELINES FOR ASH AND BURN DEBRIS CLEAN UP AND REMOVAL AFTER A FIRE

The devastation of a major wildfire disaster affects the residential homeowner as well as community infrastructure and livelihood. After a fire, the ash and burn debris have the potential for widespread toxic exposures and negative impacts to public health and the environment.

Debris and ash from residential structure fires may contain hazardous substances and the health effects of their release after a wildfire is well documented. Short-term immediate and long-term health effects are very possible from the inhalation of dust/ash particles, consuming contaminated drinking water and injuries sustained from property clean up. It is critical ensure the property waste handling methods are implemented when removing ash and burn debris from a property due to asbestos and heavy metals. Many building materials such as siding, roofing tiles, and insulation may contain asbestos, which requires careful handling when removing and disposal. The structural ash and debris may contain heavy metals such as arsenic, lead and mercury and would require the careful handling during disposal.

Other wastes upon residential property considered "Household Hazardous Waste" consist of paint, gasoline, cleaning products, pesticides, compressed gas cylinders and miscellaneous chemicals. These items may have been stored in the residential home, garage, work shed or barn, which also burned in the fire. It is critical that certain protocols or processes are followed when removing any structural ash or debris from the property after a fire.

In some cases, a Local Health Emergency may be declared if the fire damage is widespread and multiple residences or subdivisions are affected. Important to note the two (2) items below if the County is in a state of local emergency and State funding and assistance is available.

1. Owners may elect to participate in a County debris program where property with destroyed structure(s) from a wildfire are being offered a clean-up and debris removal service conducted by specialized work crews, contracted and managed by County and State waste specialists. This program will be paid for with State disaster assistance funds and portions of property owner's insurance related to debris removal. Owners must sign up for this program using a Right-to-Enter form to allow access to their property to complete the removal work.

2. If owners elect not to participate in the County and State sponsored debris program they are expected to have their property cleaned up with the burn debris removed either on their own or with their own qualified contractor at their own expense. The work must be done to standards established in ordinances and regulations so that health and safety risks are adequately addressed for the community and the environment. Documentation on adequate cleanup and proper disposal will be required. State and County disaster funding is not be available to reimburse owners for this work. **A Demolition Permit is required from County of Nevada Building Department prior to commencement of any work.**

The cleanup of a single-family residence fire, not affecting any surrounding homes in the subdivision or a large-scale cleanup as part of a Local Health Emergency requires the homeowner to engage in a cleanup or remediation process. Following a fire, the homeowner will need to ensure the safe and proper removal of all ash and burn debris. The Private Cleanup Process on the following pages provide the recommended steps and guidelines for properly clearing a residential property of ash and burn debris.

Please be aware that should a residential owner elect not to take the necessary steps to property cleanup or remediate their property after a fire, the recommendation by the County is to complete all debris removal within 90 days of the fire event. Should the residential owner fail to complete all debris removal within the 90 day timeframe, there will be an assessment of the site by the County's Code Compliance Division, unless the residential owner contacts the County to request an extension. The property will be identified as a public nuisance and the nuisance will be abated by the process described in Title 3, Section L-II 5.22 of the Nevada County Land Use and Development Code. Unfortunately, any State Disaster funding is not available to property owners in a nuisance abate action. In addition, the County expenses for contract work, staff time and administration are subject to cost recovery with a lien recorded on the property deed.

Initial steps to begin the Private Cleanup Process

The owner's contractor should try meet the following processes and minimum safety standards. The contractor should possess either a valid class A-General Engineering or C-21 Demolition license.

1. The owner or contractor will need to submit a debris removal application to County of Nevada Environmental Health Department, 950 Maidu Avenue, Nevada City, CA (530-265-1222).
2. Once the debris removal application is accepted by Environmental Health, the owner or contractor will also need to submit a demolition permit application to the County of Nevada Building Department, 950 Maidu Avenue, Nevada City, CA (530-265-1222).
3. Once the demolition permit is approved, the contractor may begin the removal process.
4. The removal should follow the cleanup protocols and specifications below.

5. Before work begins, the owner or contractor should consult or hire a Certified Asbestos Consultant to evaluate the site for bulk asbestos and hazardous asbestos waste. The Consultant, if asbestos is present, should submit a work plan to the County for review and approval.
6. Once completed, the owner or contractor should hire a certified consultant and collect soil samples to be analyzed for heavy metals. The analysis report should be submitted to the County Environmental Health Department.
7. When the soil testing has met the recommended cleanup goals the owner or contractor will need to submit a self-certification cleanup form to Environmental Health.
8. After the Cleanup Certification has been approved by Environmental Health, the owner or contractor will schedule a final demolition inspection with the Building Department to close or final the demolition permit, along with a copy of the disposal receipt(s).

Private Cleanup Recommended Steps/Protocols

A. Pre-Debris Removal

1. Notify USA underground (<http://usanorth811.org/homeowners/>).
2. Secure all utilities.
3. Identify property corners; secure and protect any existing survey monuments.
4. Identify septic tank and leach field locations on each property.
5. Identify water wells or other water sources.
6. Field measure and record foundation area.
7. Identify other property-specific hazards (i.e. swimming pools, propane tanks, hazard trees).
8. Thoroughly wet down the structural ash and debris before any removal activities begin. The debris site should be wetted down 24 hours before debris activities begin.
9. Implement storm water best management practices to control sediment runoff and promote vegetation from each remediated property in the area where destroyed structures were cleaned up.

B. Debris Removal

1. Complete notifications and obtain Demolition Permit from the County Building Department.
2. Wet the site down again before beginning removal activities.
3. Use appropriate personal protective equipment (PPE).
4. Identify, sample, analyze, and remove bulk asbestos containing materials by a Certified Asbestos Consultant/Contractor.
5. Remove vehicles for recycling or disposal. Check with DMV and the homeowner before destruction.
6. Collect, consolidate, and remove metals for recycling.
7. Remove ash, debris and soil for disposal.
8. Remove 3 to 6 inches of soil under the ash.
9. Remove concrete foundations for recycling. If foundations are left contact the County Building department for further instruction.
10. Driveways may remain in place, when appropriate, to aid in rebuilding and erosion control. Driveways can be removed and replaced by the homebuilder as last step of the rebuilding process.
11. Remove hazardous trees for recycling or disposal.

12. Finish grading/smoothing ground surface.

C. Cleanup Confirmation Sampling

1. Soil should be sampled and analyzed for metals to confirm that cleanup standards have been met, by using a certified consultant. The consultant can refer to **Appendix A** of this document for sampling and analytical guidelines from CalRecycle.
2. Following removal of all debris and impacted soil from the site, soil samples should be collected from the impacted structure area, including garages and outbuildings. Sample collection should be performed by a California Professional Geologist, Registered Civil Engineer or other Registered Professional. A report of analytical results should be prepared by this engineering contractor and a copy provided to County of Nevada Environmental Health Department.
3. Samples must meet a cleanup goal as established by the CalRecycle Debris Removal Operations Plan.
4. Compare soil results to cleanup goals. If soil sample analyses indicate that cleanup goals have not been achieved, then additional excavation and sampling may be required.
5. If results exceed cleanup goals, remove an area of soil surround by the failed soil sample by visual inspection and re-sample.
6. If results are less than cleanup goals, prepare for final erosion control and certification.

D. Structural ash and debris Disposal

1. Should be transported to and disposed of at an approved lined, Class III landfill.
 - a) Ostrom Road Landfill, 5900 Ostrom Road in Wheatland, CA 95692 is an approved facility.
2. Ash and debris should be wetted, wrapped with plastic sheeting, taped closed, and covered with a tarp to eliminate the release of dust during transport.
3. Property owners or contractors should make contact with the landfill operator prior to hauling the waste in order assure its acceptance.
4. A receipt for waste disposal should be obtained from the landfill operator and a copy provided to County of Nevada Environmental Health Department as part of the self-certification process.

E. Dust control

Ash and debris should be thoroughly wetted prior to removal. Hoses with fine spray nozzles should be used to apply water to the work site prior to and during active debris removal. The materials should also be wetted while being loaded into trucks to prevent visible dust from crossing property lines. Care should be taken to avoid excessive use of water in order to prevent runoff. Any runoff produced should be contained onsite.

F. Erosion Control

1. Best management practices should be used to prevent ash or soil from washing into the street, drainage courses and culverts, or onto neighboring properties.
2. Stockpiled materials that are not immediately loaded for transport should be handled and stored on site in such a manner as to avoid offsite migration. This may include wetting and covering the waste until it is loaded and transported.

G. Hazard Trees

Trees that pose a hazard to the home site or to workers during debris removal activities, or that will pose a hazard during reconstruction activities, should be removed. Trees may be cut and set aside for firewood or taken off site and recycled per owner's instruction.

H. Hazardous materials

Hazardous materials encountered, such as compressed gas cylinders, propane tanks, drums, batteries, paint, and other chemicals, etc., should be set aside for later collection and not placed in the debris or ash waste stream.

Appendix A

CalRecycle Confirmation Sample Guidelines for Fire Debris Removal Sites

Confirmation sampling will be conducted after fire-related debris has been removed from a property. After the debris is removed, representative soil samples will be collected and analyzed to measure concentrations of constituents of concern. CalRecycle's confirmation sampling will be based on the United States Environmental Protection Agency's "Superfund Lead-Contaminated Residential Sites Handbook. The number of soil samples collected per excavated area on a parcel will be determined based on the estimated square footage of the ash footprint; a minimum of one sample will be collected from footprint measuring approximately 100 square feet or less. The Table 6 indicates the totally number of samples needed to be collected based on estimated square footage of ash footprint.

Table 6. Confirmation Sampling Matrix

<u>Estimated Square Footage of Ash Footprint (Decision Unit)</u>	<u>Number of 5-Point Aliquots</u>
0-100 square feet	1
101-1,000 square feet	2
1,001-1,500 square feet	3
1,501-2,000 square feet	4
2,001-5,000 square feet	5
>5,000 square feet	Sampling strategy will be discussed between CalRecycle and Tetra Tech

All confirmation samples will be collected from a depth of 0-3 inches using a dedicated 4-ounce plastic scoop and be placed in 8-ounce jars. Samples will be shipped to an approved laboratory for analysis by Title 22 Metals for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc by EPA Method 6020, and mercury by EPA Method 7471A. Each aliquot location will be recorded on the site assessment log and physically marked with irrigation flags. A geographic positioning system (GPS) may also be used if sample locations are not easily determined.

If any of the areas exceed the site-specific screening levels, the aliquot locations will be inspected and it will be decided by CalRecycle and Tetra Tech if a localized scrape or a full scrape of the portion of the remediated footprint will be needed. Upon completion of this remediation, Tetra Tech will collect three discrete samples from the area and submit them for analysis as discussed above.

Confirmation sampling results will be compared to the project established cleanup goals to assess the effectiveness of the ash and debris removal. The consultant will evaluate the analytical results by comparing the soil sampling results to the pre-determined background concentrations and cleanup goals. If any of the confirmation sampling results exceeds the cleanup goals, then the parcel will be further excavated at the direction of the Operations Chief and the consultant will collect additional confirmation soil samples after the excavation is complete.