

Santa Clara County
Parks and Recreation Department
Roads and Airport Department
Fire Prevention
Operational Procedure

When Mowing, Disking and Performing Hot Work
In Non-Irrigated
Grass, Brush or Forest
Covered Areas of the County

In Cooperation With
The California Department of Forestry
And Fire Protection
Santa Clara Unit

Revised August 2012

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1. Procedural Objective

It is the objective of the County of Santa Clara Parks and Recreation Department (Parks) and the Roads and Airports Department (Roads) to be in compliance with all codes, regulations, and ordinances pertaining to fire prevention standards.

This document serves as a procedural guideline for the Parks and Roads Departments when performing mowing, disking and hot work operations in the non-irrigated grass, brush or forest covered areas of Santa Clara County.

Hot Work includes metal cutting, torching, grinding or welding activities. *Mowing and Disking* includes metal blade contact with non-irrigated ground areas with sufficient vegetation that the risk of fire exists.

The following equipment and activities are expressly excluded from these procedural guidelines at all times of the year, so long as the Department inspects all equipment annually, prior to commencement of fire season; maintains inspection records that demonstrate that the equipment's engine is properly equipped with a spark arrester that is in effective working order per California Public Resource Code § 4442 a); and, keeps a radio and round point shovel in the vicinity of the work:

- Blower
- String Trimmer
- DR String Trimmer Mower
- Articulating Hedge Trimmer
- Chainsaw
- Pole Pruner
- Grading Activity on Cleared Fire Roads
- Track Ripping Activity on Cleared Motorcycle Park Tracks
- Billy Goat Mower (smaller mower used by Roads)
- Generator Use

The Departments are encouraged to complete as many mowing, disking and hot work projects in the non-irrigated grass, brush or forest covered areas of the County prior to the drying of flammable vegetation if such work is practical and does not lead to the spread of invasive plant species. Early mowing prior to annual/perennial native grass seed set removes the plant competition cover and allows for growth of invasive species which flower later in the year.

2. “Fire Season” and “Non-Fire Season Risk Period” Defined

- A) For purpose of this document, “Fire Season” is defined as the following:
- 1) The period of the year, which may change from year to year, during which wildfires are likely to occur, spread, and do sufficient damage to warrant organized fire control measures as declared by Cal Fire.
 - a) All procedural guidelines contained in this document will be followed for non-excluded activities at all times during declared fire season regardless of weather monitoring readings.
- B) For purposes of this document, “Non-Fire Season Risk Period” is defined as the following:
- 1) Anytime of the year, when weather monitoring indicates that relative humidity is less than 30%.
 - a) All procedural guidelines contained in this document will be followed during non-fire season for non-excluded activities anytime relative humidity is less than 30%

3. Operational Procedures and Required Equipment

DURING FIRE SEASON, OPERATIONS Involving Mowing, Disking or Hot Work which will be CONDUCTED WITHIN OR ADJACENT TO NON-IRRIGATED GRASS, BRUSH OR FOREST AREAS WILL BE CONDUCTED USING THE FOLLOWING PROCEDURES:

- A) Prior to Commencement of Operations:
- 1) Staff will secure the current fire conditions from Santa Clara County Communications via radio or by calling (408) 299-2507.
 - a) **No OPERATIONS shall occur within 24 hours preceding a predicted Red Flag Day AS DETERMINED BY Cal Fire.** Once a Red Flag has been lifted, work can resume following these guidelines.
 - 2) Staff will assess current weather conditions at the planned

site of operation every two hours.

a) In the event one of the following readings are noted, Operations shall not begin, or will cease IMMEDIATELY!

- THE RELATIVE HUMIDITY IS AT OR BELOW 30%
- SUSTAINED WIND SPEEDS REACH 10 MPH

3) If ambient temperature reaches 80 degrees fahrenheit at any time during the operation, weather samples must be taken hourly.

B) Required Equipment:

1) During Fire Season, THE FOLLOWING EQUIPMENT MUST BE IMMEDIATELY AVAILABLE AT the Actual JOB SITE:

- One serviceable round point shovel with an overall length of not less than 46 inches; and,
- One (5 gallon) water backpack pump fire extinguisher; and,
- One weather sampling device.

2) In addition, a Non-divertible Truck-mounted Water Pump and Trained Observer is Required For High Risk Activities:

All high-risk activities must have a non-divertible water pump equipped truck with a trained observer assigned to the operation in lieu of a backpack water pump.

a) High Risk Activities Include the Following:

- (i) Flailing, Disking, Operating Brush Hog Equipment and Grading in heavy brush areas. (Heavy brush areas are those where bare mineral soil is not visible).

3) A Non-divertible Truck mounted water pump and Trained Observer is Not Required for Low Risk Activities:

Low risk activities do not require a non-divertible water pump equipped truck or trained observer. However, weather monitoring must still be followed. And, a shovel, a backpack water pump and weather-sampling device must still be immediately available

at the actual job site.

a) Low Risk Activities Include the Following:

- (i) Cutting, Grinding, Torching and Welding is a low risk activity so long as there is a 10' clearance. (If a 10' clearance cannot be achieved, then the work must be adequately shielded to prevent sparks from flying from the work site into adjacent vegetation.

Mowing light grass immediately adjacent to irrigated lawns where natural fire breaks like roads, creeks or paved paths are present is a low risk activity.

Cutting new trails with a Sweco, or other type of Grading equipment for new trail construction if the equipment pushes dirt over existing vegetation and any risk of spark or ignition is minimal.

DURING NON- FIRE SEASON, OPERATIONS CONDUCTED WITHIN OR ADJACENT TO GRASS, BRUSH OR FOREST AREAS WILL BE CONDUCTED USING THE FOLLOWING RULES:

A) Prior to Commencement of Operations:

- 1) Weather Samples will be taken at the job site.
 - a) If relative humidity is more than 30% operations can proceed without further weather monitoring or other fire fighting devices.
 - b) If relative humidity reading is less than 30% the preceding operational rules for fire season will be followed.
 - c) If relative humidity drops below 30% and sustained winds exceed 10 MPH, operations will cease.

4. Trained Observer and Truck Mounted Water Pump Requirements

- A) When a trained observer is required under these procedural guidelines, the observer must be familiar with the work being performed; how to conduct weather monitoring; how to use the water pump equipment; and, how to use a vehicle and/or hand held radio.

- B) The trained observer must remain in the immediate area of the truck with the mounted water pumper; and, the truck must remain in the immediate area of the work activity being monitored.
- C) The trained observer will actively watch for sparks caused by the equipment and shall notify the person conducting the actual work to cease activity when sparks are observed. If the cause of the spark can be identified and eliminated work may resume; otherwise, work must stop until the cause of the sparking can be rectified.
- D) Should a spark ignite dry vegetation the trained observer shall stop the work, and call County Communications to report the location of the fire.

5. Equipment Inspection and Record Keeping

- A) Prior to declared Fire Season of each calendar year, the Parks and Roads Departments will inspect all of their assigned combustible engine equipment that is intended for use in or adjacent to any grass, brush or forested areas within the County.
 - 1) The equipment must have a working spark arrestor that meets the requirements of section 4442 of the Public Resource Code.
 - 2) Equipment that has not been inspected shall not be used in the noted areas.
- B) Hired or contracted private equipment must meet the requirements of this operational plan.
 - 1) The provider of the equipment or the contractor who owns the equipment shall certify in writing that the equipment has been properly inspected and meets the requirements of these guidelines.
- C) The Parks Department and the Roads Department will maintain maintenance and inspection records for their equipment related to this plan and make them available for inspection by Cal Fire upon request.
- D) Upon completion of a mowing or disking operation, equipment operators shall inspect the equipment onsite and remove any build up of potentially combustible material prior to leaving the area. This serves the dual strategy of preventing invasive weed seed dispersal, and potential combustible material build-up.

- 1) If a piece of equipment needs to be parked in the field, it shall be parked on mineral soil whenever possible.
- 2) The equipment shall be inspected for possible build-up of combustible material, and possible sources of heat.
- 3) If the equipment has a hot undercarriage, the ground shall be wetted prior to parking, and staff will confirm that the equipment has cooled prior to leaving the equipment unattended.

6. Initial and Annual Refresher Training

A) Initial Training

Prior to commencing work that falls within these procedural guidelines staff will receive initial training in the proper use of the piece of equipment being used; how to follow the procedural guidelines of this policy as it applies to that piece of equipment; the use of the water pumper; and, the use of the weather sampling device from either their direct supervisor or a designated training coordinator.

- 1) This initial training occurs throughout the year as new employees are hired. All initial training records shall be kept in the employees training record and shall be made available to Cal Fire for inspection upon request.

B) Annual Refresher Training

All staff performing work that falls within these procedural guidelines will also receive annual refresher training on the guidelines, the use of the water pumper, and the weather sampling device.

- 1) Site senior staff and/or supervisors will meet once a year prior to fire season to review the procedural guidelines and training materials. A representative from Cal Fire will be invited to this meeting and may elect to attend in order to discuss the guidelines and answer any questions.
 - 2) Within two weeks of this meeting, senior and/or supervisory staff will meet with their direct reports who conduct work that fall within these guidelines and conduct a field site training.
- 1) Annual refresher training will occur in or about the month of April

each year. All refresher training records shall be kept in the employees training record and shall be made available to Cal Fire for inspection upon request.

7. Applicable Laws and Regulations

CALIFORNIA HEALTH AND SAFETY CODE REFERENCE SECTIONS:

H&S §13001 - Causing Fire

“Every person is guilty of a misdemeanor who, through careless or negligent action, throws or places any lighted cigarette, cigar, ashes, or other flaming or glowing substance, or any substance or thing which may cause a fire, in any place where it may directly or indirectly start a fire, or who uses or operates a welding torch, tar pot or any other device which may cause a fire, who does not clear the inflammable material surrounding the operation or take such other reasonable precautions necessary to insure against the starting and spreading of fire.”

H&S § 13005 - Engine Without Exhaust Spark Arrester

“Every person is guilty of a misdemeanor who:

- (a) Sells, offers for sale, leases, or rents to any person any tractor, engine, machine, or truck equipped with an internal combustion engine that uses hydrocarbon fuels, if either:
 - (1) It is specifically designed for use in harvesting or moving grain or hay or for use on land covered with any other flammable agricultural crop, unless the exhaust system of the engine is equipped with a spark arrester in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443 of the Public Resources Code.
 - (2) It is not specifically designed for any of the uses described in paragraph (1) but could be used for any of those uses, unless the person provides written notice to the purchaser or bailee at the time of sale or at the time of entering into the lease or rental contract stating that the use or operation of the engine on any flammable agricultural cropland is a violation of subdivision (b), unless the exhaust system is equipped with a spark arrester in effective working order or

the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443 of the Public Resources Code.

- (b) Operates or causes to be operated any tractor, engine, machine, or truck equipped with an internal combustion engine that uses hydrocarbon fuels in harvesting or moving grain or hay, or on land covered with any other flammable agricultural crop, unless the engine is equipped with a spark arrester maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443 of the Public Resources Code”.

Spark arrester, as used in this section, is as defined in Section 4442 of the Public Resources Code. Spark arresters attached to the exhaust system of engines on equipment or vehicles, as described in this section, shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material. Motortrucks, truck tractors, buses, and passenger vehicles, except motorcycles, are not subject to the provisions of paragraph (2) of subdivision (a) if the exhaust system is equipped with a muffler as defined in the Vehicle Code.

H&S § 13007 – Liability For Negligent Starting Of Fire

“Any person who personally or through another willfully, negligently, or in violation of law, sets fire to, allows fire to be set to, or allows a fire kindled or attended by him to escape to, the property of another, whether privately or publicly owned, is liable to the owner of such property for any damages to the property caused by the fire”.

CALIFORNIA PUBLIC RESOURCE CODE REFERENCES SECTIONS:

PRC § 4427 - Limits on Work When Burning Permits Required

“During any time of the year when burning permits are required in an area pursuant to this article, no person shall use or operate any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tarpots, or grinding devices from which a spark, fire, or flame may originate, which is located on or near any forest-covered land, brush-covered land, or grass-covered land, without doing both of the following:

- (a) First clearing away all flammable material, including snags, from the area around such operation for a distance of 10 feet.

- (b) Maintain one serviceable round point shovel with an overall length of not less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation”.

Section 4427 (b) of the Public Resource Code also requires these tools to be carried on each piece of equipment and that they be kept in a serviceable condition.

PRC § 4442 – Spark Arrestor Required

“(a) Except as otherwise provided in this section, no person shall use, operate, or allow to be used or operated, any internal combustion engine which uses hydrocarbon fuels on any forest-covered land, brush-covered land, or grass-covered land unless the engine is equipped with a spark arrester, as defined in subdivision (c), maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire.”

PRC § 4443 – Spark Arrestor Placement And Exclusions

“(b) Spark arresters affixed to the exhaust system of engines or vehicles subject to this section shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material.

(c) A spark arrester is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles over 0.0232 of an inch in size from the exhaust flow of an internal combustion engine that uses hydrocarbon fuels or which is qualified and rated by the United States Forest Service.

(d) Engines used to provide motive power for trucks, truck tractors, buses, and passenger vehicles, except motorcycles, are not subject to this section if the exhaust system is equipped with a muffler as defined in the Vehicle Code.

(e) Turbocharged engines are not subject to this section if all exhausted gases pass through the rotating turbine wheel, there is no exhaust bypass to the atmosphere, and the turbocharger is in effective mechanical condition.”

8. CONTACT INFORMATION

**County Communications
Weather Conditions**

(408) 299-2507

**Cal Fire
Morgan Hill Headquarters**

(408) 779-2121

ANY Fire Emergency

9-1-1