



CLARK COUNTY FIRE DEPARTMENT - FIRE PREVENTION BUREAU

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Permit Submittal Guideline

OUTDOOR FIREWORKS DISPLAY (ROOF TOP)

This guide is to assist in the permitting process for an operational permit for firing fireworks from a rooftop. A permit is required per section 105.5.16 of the IFC. Compliance shall be in accordance with CCFC section 5608.2.1. Indoor/outdoor pyrotechnics, outdoor fireworks, and explosive material storage are covered by separate permit guides.

Discharging a Department of Transportation (DOT) class 1.3G and 1.4G fireworks from a location above grade is problematic since the trajectory of aerial fireworks creates the potential for greater drift of fall-out. **An approved fire protection report (FPR) is required to be submitted for all rooftop fireworks. Once approved, the structural analysis and risk assessment report is used in connection with fireworks permits for a duration of five years from the date of approval.**

Specific precautions and procedures for inspections required for outdoor display fireworks are not contained in the Clark County Fire Code or nationally recognized standards. This document is directed at specific procedures for the constancy of enforcement.

Available industry standards for display fireworks have subjective requirements with heavy reliance on enforcement by the Authority Having Jurisdiction. This Permit Guide therefore gives some requirements due to the absence of specific code requirements.

PLEASE NOTE: The fire inspector has the authority to halt, delay or cancel fireworks displays if unsafe conditions are witnessed. These include high wind, weather events, compromised fall-out zone, low breaking shells, excessive fallout, uncontrolled firings, or hazardous conditions.

APPLICABLE CODES:

The following codes and standard apply to this permit.

- *International Fire Code, 2024 edition (IFC)*
- *Clark County Fire Code Amendments, 2024 edition (CCFC)*
- *Code for Fireworks Display, NFPA 1123, 2022 edition*

SUBMITTAL REQUIREMENTS:

The requirements in this guide are not intended to be all inclusive, nor do they entail a limit to the extent of the information, etc., which may be necessary to properly evaluate the submitted plans and documents. Reference NFPA 1123 chapter 5 and provide all applicable information that pertains to your permit:

1. SUPPLEMENTAL DOCUMENTS:

- **APPROVED ROOF TOP FIRE PROTECTION REPORT(FPR):** A copy of CCFD approved Fire Protection report detailing structural analysis and risk assessment for specific rooftop. **Please note that date of report needs to be within 5 years of event**

- **FAA NOTIFICATION LETTER:** letter to the Federal Aviation Administration notifying them of the locations of the shoots, time and duration.
- **ENGINE STAND-BY:** Approved engine stand-by coordinated for event if applicable.

2. LICENSING:

- A copy of a valid Nevada State Fire Marshal fireworks company license for the type of effects to be fired is to be provided with the submittal. (Outdoor Fireworks Aerial)
- A copy of state and federal licenses held by operators or assistants (DOT, ATF, and homeland security)
- BATFA License 20 – Manufacture of High Explosives if applicable
- BATFA License 23 – Importer of High Explosives
- An operator with the appropriate certification will be required for the technician over seeing or firing the display.
- A State of Nevada, OSFM certified operator may oversee another operator without a Nevada certification provided there is direct and continuous supervision. A minimum of (1) licensed operator is needed per firing location.

3. INSURANCE: Provide a copy of a valid bond or Certificate of Insurance for the specified event.

- “Clark County, its agents, employees and volunteers” shall be named as additional insured and certificate holder.
- General liability limits, including contractual liability, in the minimum amount of \$5,000,000 per each occurrence shall be provided to conduct a fireworks display.
- Greater liability insurance amounts may be required in certain cases as required by the Fire Code Official.

4. MONITORS AND SPOTTERS: Monitors and Spotters to be provided for each fireworks event;

- **Include list of personnel designated as monitor;**
 - The sole duty of the monitor is to enforce crowd control around the display area and fall out zone
 - Ensure radios are provided to communicate with the firing technician. All monitors must report status of assigned areas to the lead technician.
 - Unauthorized persons will not be allowed to enter the fall out zone or display area until the site has been inspected and deemed safe by the technician.
 - Clark County Fire Department reserves the right to determine the minimum number of monitors required for each display.
- **Include list of personnel designated as spotter;**
 - The sole duty of the spotter is to observe the firing and bursting of aerial shells and other display fireworks for the purpose of detecting the occurrence of duds and observing other potential hazardous situations.
 - Ensure radios are provided to communicate with the firing technician. All spotters must report status of assigned areas to the lead technician.
 - Clark County Fire Department reserves the right to determine the minimum number of spotters required for each display.

5. PRODUCTION SCHEDULE: Provide a detailed description to include the following, but not limited to:

- The name of the contact person for the property/facility, their telephone number, fax number and email address.
- Contact information, qualifications, ages, and experience for the fireworks operator and assistants
- Firing schedule; include the date(s) and timing of the following;
 - The target time and dates the fireworks effects are to be unloaded and stored on site.
 - The time and date of initial set-up, site inspection and demonstration shots.
 - The time and date of the fireworks display along with any rehearsal times and dates. If multiple display(s) and/or rehearsal(s) are needed, all date(s) and time(s) will also need to be provided.
 - Ensure the schedule includes shot time, device address, module location, quantity, product number, related family, minimum distance, height of device, construction and location of every device used in the outdoor firework display.

4. PRODUCT INFORMATION:

- A brief description of each effect including the size/load, number, maximum height of fireworks, and firing locations. (Multi-shot pre-manufactured devices are counted as one device.)
- Include “shot sheet” with the name(s) and quantity of each type of device, maximum distance of travel, locations, construction and maximum height of trajectory.
- Provide information on device mounting, angles, device stability and material surface where the displays will be located.
- Material safety data sheets (MSDS) of the firework material to be used. Ensure manufacturer’s statement indicating whether firework device is intended for outdoor or indoor use.
- Flame certificates for all scenery, sets, displays, curtains, costumes, linens, carpets/stage coverings, and/or any other materials within the fireworks display or fallout area.
- Provide description and include information on the surface material and stability upon which the fireworks displays will be located.

5. STORAGE AND SECURITY: Clarify manner and placement of on-site storage;

- **Stored within an approved magazine**
 - Have contracted dedicated security/fire watch staff during storage time
 - A 24-hour security detail shall be provided while the fireworks are on-site.
- **The security personnel shall be able to perform the following;**
 - Be physically capable of walking the perimeter, discharge site and any locations that are part of the fireworks display during the duration of the shift, except for breaks.
 - Replacement security personnel must be provided to continue walking the perimeter, discharge site and any locations that are part of the display, during the breaks.
 - Be advised of the duties to not allow any persons other than fireworks personnel in the discharge site or fireworks display area.
 - Be trained in the use of a portable fire extinguisher and capable of extinguishing a small incipient fire utilizing a portable fire extinguisher.
 - Upon discovery of a fire, security personnel shall contact the Clark County Fire Department immediately (Dial 9-1-1), then advise all other security personnel of the emergency. The security personnel will be provided a remote radio to a 24-hour monitoring station or a cellular phone.

- A fence or other means of restraint shall be provided around the perimeter of the fireworks display site to prevent unauthorized access.

6. PLANS: Provide detailed plans for the event, designed to an indicated scale and saved to a .PDF file. Plans shall include the following information;

- Detailed **SITE PLAN** showing the location where the effect will be fired.
 - Include the location of buildings, streets, parking areas, vegetation and any other non-combustible structures that are located within the fallout zone and the distances from the discharge site.
 - Indicate the location(s) of detention/correctional facilities, health care facilities including, but not limited to hospitals, quick care centers, medical treatment/rehab centers, and hospices and provide dimensions to fireworks display. Please note: These facilities are required to have at least twice the distance specified in the fall out zone.
 - The location of any tents or temporary membranes that are adjacent to the property for the outdoor fireworks display. Dimensions shall be provided.
 - Location of the designated fall out area
- Detailed **FIREWORKS PLAN:** Rooftop plan view that shows the following information;
 - location(s) of each fireworks device (s)
 - Shooter location
 - Locations of fire standpipe hose valve(s) locations. A minimum of one fire hose in the 2-1/2-inch size shall be connected to a standpipe outlet and be available to be charged and within reach of the main display site
 - Locations of all hose bibs and 1-inch (garden) hose location(s)
 - Exit locations
 - Rooftop mechanical equipment; Operating air-handling HVAC equipment that can entrain smoke into the building is to be shut-down 15 minutes prior to the scheduled display time and remain shut-down for 30 minutes after the last device is fired
 - Limitations of allowable fireworks device(s)
 - Fire extinguisher locations. Additional fire extinguishers shall be provided in addition to those required by NFPA 10;
 - They shall be located as close to the discharge site as practical for operations and shall be compatible to the fireworks product being used. They shall be placed so that at least (1) extinguisher is located on each opposing side of the fireworks display
 - (2) pressurized water extinguishers, each with a minimum rating of 2-A
 - (2) extinguishers, each with a minimum rating of 10-B:C, or (2) extinguishers appropriate to fuel source.
 - (1) Class D extinguisher
- The following are considered aerial devices by Clark County Fire Department, including but not limited to comets, mines, shells, cakes, roman candles, aerial shells or aerial devices fired from a mortar. These devices shall follow the following distance criteria:
- **AERIAL SHELLS MULTI-ACTION/BURSTING/ BREAKING DEVICES:** such as comets, mines, shells, cakes, roman candles
 - shall provide a minimum of 70 feet per inch per inch diameter of mortar distance from spectators, viewing areas and buildings.

- All devices will be fired at 90-degree angle to the horizontal plane.
 - Only pre-manufactured cakes shall be allowed to be angled with an internal diameter less than 2”.
 - All displays will be limited to a maximum internal mortar diameter of 3”.
- **NON-SPLITTING/NON-BURSTING DEVICES:** such as comets, mines, gerbs and other single action effects
 - shall provide a minimum of 35 feet per inch per inch diameter of mortar distance from spectators, viewing areas, dry vegetation, flammable/combustible materials and buildings.
 - All devices will be fired at a 90-degree angle to the horizontal plane. Only pre-manufactured cakes shall be allowed to be angled with an internal diameter less than 2”.
 - All displays will be limited to a maximum internal mortar diameter of 3”.

PLEASE NOTE: Separation distances may be increased based on the hazard characteristics determined during the demonstration, site inspection or review of submittal.

7. NOTIFICATION/ STAFFING/INSPECTIONS:

- **NOTIFICATION:** The following agencies must be notified by the firework company of the show a minimum of 48-hours prior to the outdoor fireworks show. The fireworks company will provide confirmation that notification has been made either by providing the time and date of contact and person that contact was made with, or by providing a copy of the letter sent to the agencies.
 - McCarran International Airport Control Tower – (702) 388-6559
 - Nellis Air Force Military Base – (702) 652-1110
 - Metro Police Department – (702) 229-3111
 - Fire Department Dispatch – (702) 229-0291
 Governing agencies that manage the adjacent properties will be contacted in writing. Confirmation of the approval for the fireworks display concerning any noise abatement, debris and any other pertinent requirements that may need to be met shall be provided with the submittal package to Clark County Fire Department.
- **STAFFING:**
 - A minimum of (1) Fire inspector from the Clark County Fire Prevention Bureau shall be required at every outdoor fireworks display. If multiple firing sites are requested, additional inspectors may be requested at the discretion of the AHJ (Authority Having Jurisdiction).
 - At the discretion of the inspector overseeing the fireworks show, a minimum of one (1) stand-by engine from Clark County Fire Department will be required for any fireworks display on any outdoor fireworks display. If multiple firing sites are requested additional stand-by engines may be requested at the discretion of the AHJ.
- **INSPECTIONS:**
 - The display site will be inspected for conformance with the approved site plan.
 - The fallout zones are to be cleared of all spectators. Ref. CCFC 5608.4

- The quantity, mounting locations, materials used to secure the devices will be verified for position placement, orientation, fit, stability, and strength. Mortar racks will be inspected for stability, strength, and for cracks (no body parts to be placed over any fireworks device).
- Vegetation within the fallout zone(s) shall be wet-down/watered within 30 minutes of the scheduled display
- Wind speeds taken approximately 12 minutes prior to show time and near the mortar racks are not to exceed 15 mph for ground displays and 10 mph for rooftops and measured with an anemometer. Ref CCFD 5608.3.2.
- If high winds, precipitation, or other adverse weather conditions prevail or hazards exist in the opinion of the operator or the AHJ, the fireworks display shall be postponed or discontinued until weather conditions improve.
- A single test shot of the largest mortar shall be fired approximately 30 minutes prior to the scheduled show time to allow for any adjustments. Material drifting or projected outside of a fallout zone is a failure and the show shall be delayed.
- Please Note: Any misrepresentation of permit such as unlicensed operation, incorrect products, uncooperative operators may result in cancellation or revocation of permit.

All operations shall be the same as for Ground Displays with the following additional measures:

- CCFD shall review each firing location within 48-hours of the display.
- A minimum of one facility security guard shall be assigned to guard the fireworks
- Las Vegas Metropolitan Police shall be notified when the fireworks are loaded on to the roofs
- The CCFD Operations Chief and Fire Dispatch shall be notified when the fireworks are loaded on to the roofs
- There shall be no transient combustibles in the fall-out zone
- There shall be no exposed exterior insulation finish system (EIFS) material
- All roof drains and vent openings to be covered with non-combustible screen or guards
- CCFD shall inspect each route of fireworks load-in from transport vehicle to roof within 24-hours of the display
- A wind-speed forecast shall be obtained from the National Weather Service (NWS) and reported to an Assistant Fire Chief or designee (Deputy Fire Marshal, Inspector). This shall occur within 24 hours of the scheduled shoot. An NWS predicted wind-speed of greater than 20 mph shall cause the show to be postponed for a minimum of 24-hours
- An Assistant Fire Chief or designee shall obtain wind speed data from the NWS one-hour prior to the scheduled firing time followed by readings at 30 and 15 minutes prior to the scheduled firing time
- Multi-Shot boxes (cakes) shall be placed in metal tubs or on non-combustible backing (cement board, Durock or equivalent)
- Engine Standby Request to be verified
- A single test shot of the largest mortar shall be fired approximately 10 minutes prior to the scheduled show time
- In the case of synchronized displays on multiple roof-tops, test shots shall be conducted one at a time (individually) in advance of show time

For Shows with Multiple Roof-Top Displays:

- An “All-Agency Meeting” shall be conducted prior to the event. One representative from each firing site shall be in attendance. The meeting shall be conducted by the fireworks operator and cover the events from the time of delivery of product to the disassembly and clean-up of the sites.
- A single test shot of the largest mortar shall be fired at 5-minute intervals from each individual roof-top. Product drifting out of the fall-out zone is considered a failure.

8. SHOW STOP/DELAY AND PACK OUT PROCEDURES;

- The inspector shall establish communications with the fireworks operator (shooter) responsible for each display. A direct method signaling an order for the operator to immediately stop firing shall be established and agreed. Examples are hand signals and contact such as placing a hand on the shoulder of the shooter.
- The individual(s) stationed in the fire control room must be knowledgeable in all aspects of all fire protection, smoke control systems and fire alarm panels. The individuals disabling any fire alarm devices must possess a valid Nevada State Fire Marshal’s license for fire alarms and must be approved by Clark County Fire Department. These items are subject to change as required by the on-site inspector(s).
- A show may be delayed based on excessive wind speeds. The delay duration(s) will be 15-minute intervals up to 60 minutes (one-hour).
- When there are unfired fireworks due to a cancellation or failed operation, the unfired product is to be packed-out under the direction of the fireworks operator. The inspector shall witness an agreed positive method for disabling the firing mechanism. A common way of achieving this is to have electric matches removed. The product shall be placed in its original packaging and removed following the same route to be transported to an appropriate storage location.
- The type and quantity of all unfired effects must be included and recorded in inspection report.