Crowborough Town Council
Fireworks display

Works Specification

The main elements of the work required will consist of the following:

- Design and build a Fireworks display to music
- Design a show to last for approximately 20 minutes
- Design a display that is suitable for all ages
- A display to be suitable for up to 10,000 people
- Installing a sound system for the music in two locations so the show can be heard from all viewing points at Goldsmiths
- Attendance on the morning of the Fireworks to install and set up the show
- Manage the show throughout the length of the display
- Clear “set off” area from debris and waste
- Hire a skip if needed to dispose of waste and debris
- To agree with CTC on a music theme no later than September
- Equipment to be safety checked on the day before the show

1. Display Summary

A fireworks display should be created to music that is suitable for all ages and a crowd up to 10,000 people. The show should last for approximately 20 minutes in length (with a tolerance of 2 minutes either way).

2. Music themes options

Music should avoid explicit content and be suitable for a family-friendly public event, incorporating a balance of modern and classic pieces where possible.

The contractor shall present and advise on suitable music themes for the show, which must be suitable for all ages. This needs to be presented no later than September to allow the Council to promote the event.

3. Quote

The contract is for the complete process of designing and running the Fireworks display on the 5th November at Crowborough Town Council's annual Fireworks Night. (Date subject to change if falling on a Sunday)

4. Safety

The contractor must provide a method statement and full risk assessment of the works before any contract is accepted. The contractor must ensure that it protects its employees, any council staff and any members of the public visiting the area.

The contractor must always use appropriate PPE per the risk assessment.

No item is to be left that could result in a slip, trip, or fall to any person. All equipment used must conform to PUWERS 1998 regulations.
The contractor must provide a safe and suitable work area. All work must be carried out in such a way as to ensure that no employees, council staff or any members of the public visiting the site are exposed to any risk of falling objects. Also, that no escape routes are blocked, or access is limited in any way.

5. Sound System Specification

To provide consistent and high-quality music playback across both primary audience zones during a fireworks display choreographed to music. The system must ensure synchronisation, minimal delay, and full audibility over a wide outdoor area.

Site Overview
Event Location: Goldsmiths Recreation Ground, Crowborough, TN6 2TN
Firing Point: Basketball courts, within the running track

Audience Zones:
• Zone A (Primary): Track field and skate park – approx. 50–100m from the firing point, level ground
• Zone B (Secondary): Upper football pitch – 120–150m distance, elevated and off-axis
Minimum System Requirements

Audio Source: Digital playback device with playlist preloaded (laptop, media server, etc.)

Amplifiers: Sufficient wattage to support full-range PA at required SPL across both zones

Speaker Type: Weather-resistant, full-range outdoor PA speakers (e.g. QSC, Electro-Voice)

Speaker Count: Minimum of 6–8 speakers arranged across two zones

Speaker Placement: 4–6 facing Zone A (skatepark/field); 2–3 directed toward Zone B (football pitch)

Delay Correction: Delay processors or time-alignment to prevent echo/mismatch across distances

Coverage Area: At least 180° horizontal coverage from the central control point

Cabling / Power: Secure and outdoor-rated cabling; protected power feeds with generators

Wireless Link (if used): UHF point-to-point with minimal latency (<10ms); must be tested in advance

Wireless microphone: capable of transmitting a minimum of 100m from the control point

Control Position: Operator must have a clear line of sight to both zones and be away from the firing line

Backup: Secondary playback device and spare amplifier on standby

Volume and Clarity Expectations

- Music must be audible at minimum 65 dB SPL at 150m
- Volume must remain consistent across both audience zones without distortion
- Speech (if any) must be intelligible over ambient crowd noise

Safety and Setup Requirements

- All speakers must be securely mounted on stands or staging and positioned away from pedestrian routes
- Cabling must be routed and taped to prevent trip hazards
- Sound check must be completed by 4:00 PM on event day
- The operator must be present on-site from setup to display completion
- The sound system must include a manual override or emergency mute switch accessible to the operator or event controller in case of an incident or urgent announcement.

Client to provide the contractor with a USB stick containing the emergency evacuation broadcast message. Contractor to have the capability to play this in the event of an evacuation announcement, the evacuation message will be in MP3 format.

Speaker Power Requirements

To ensure suitable volume and clarity for outdoor conditions and long-range coverage, the following minimum power specifications are required:

- Each main speaker should have a continuous power rating of at least 500 watts RMS.
- Total system output should be capable of delivering a combined minimum of 3000 watts RMS for the full site.
- Subwoofers (if used) should have a minimum output of 700 watts RMS each, to support musical depth.
- All amplifiers must match or exceed the speaker's rated continuous power handling.
- Sound pressure level (SPL) targets should meet ≥ 65 dB at 150m, with peak levels reaching 90–100 dB in front-facing areas.

The contractor is responsible for ensuring appropriate amplification and speaker deployment to meet these coverage and output targets.

6. Environmental Responsibility

Contractors are encouraged to adopt strong environmental practices in all aspects of planning and delivery of the event. The following areas should be clearly addressed in their submission:

- Waste Management – All paper and cardboard casings from fireworks must be collected post-display and sorted for recycling. Contractors must provide a clean-up plan that includes debris recovery, safe disposal, and waste stream segregation.
- Fireworks Composition – Where possible, low-emission or low-smoke fireworks should be prioritised, and biodegradable materials used in place of plastics.
- Environmental Policy – Contractors should include a copy of their company's Environmental or Sustainability Policy. This should detail their corporate commitment to environmental standards, accreditations (if any), and sustainable sourcing.
- Day-to-Day Operations – Contractors are expected to outline how they reduce environmental impact in their daily operations. Examples include use of low-energy office equipment, paperless workflows, waste reduction and recycling schemes, and environmentally responsible transport and logistics.

7. Fireworks Display Specification

The fireworks display shall be professionally designed and executed to deliver a visually impressive, safe, and inclusive experience suitable for all age groups. The display must be choreographed to the agreed musical soundtrack with precision and control.
The contractor must meet the following requirements for the display itself:

- All fireworks must be CE marked and comply with current UK regulations.
- Contractors must comply with current UK Pyrotechnic Articles (Safety) Regulations and HSE guidance on firework displays.
- Only Category 3 and Category 4 display-grade fireworks suitable for professional use are permitted.
- Fireworks must be sourced from reputable suppliers with documented evidence of responsible manufacturing practices and ethical sourcing.
- A variety of effects must be included (aerial shells, multi-shot barrages, mines, comets, fountains, low-noise effects) to create a balanced and engaging display.
- The full display must be pre-programmed and digitally fired using a computer-based firing system capable of synchronising precisely with the selected music track.
- A remote firing system must be used from a safe distance, with no manual ignition permitted.
- The firing system must include an accessible emergency shutoff switch or 'dead man's switch' that can immediately cease operation in the event of an emergency.
- Contractor must provide proof of system testing, software licensing (if applicable), and operator competency with the control system.

8. Weather Clause

The contractor must advise on procedures for adverse weather and provide contingency planning to reschedule or modify the display safely if needed.