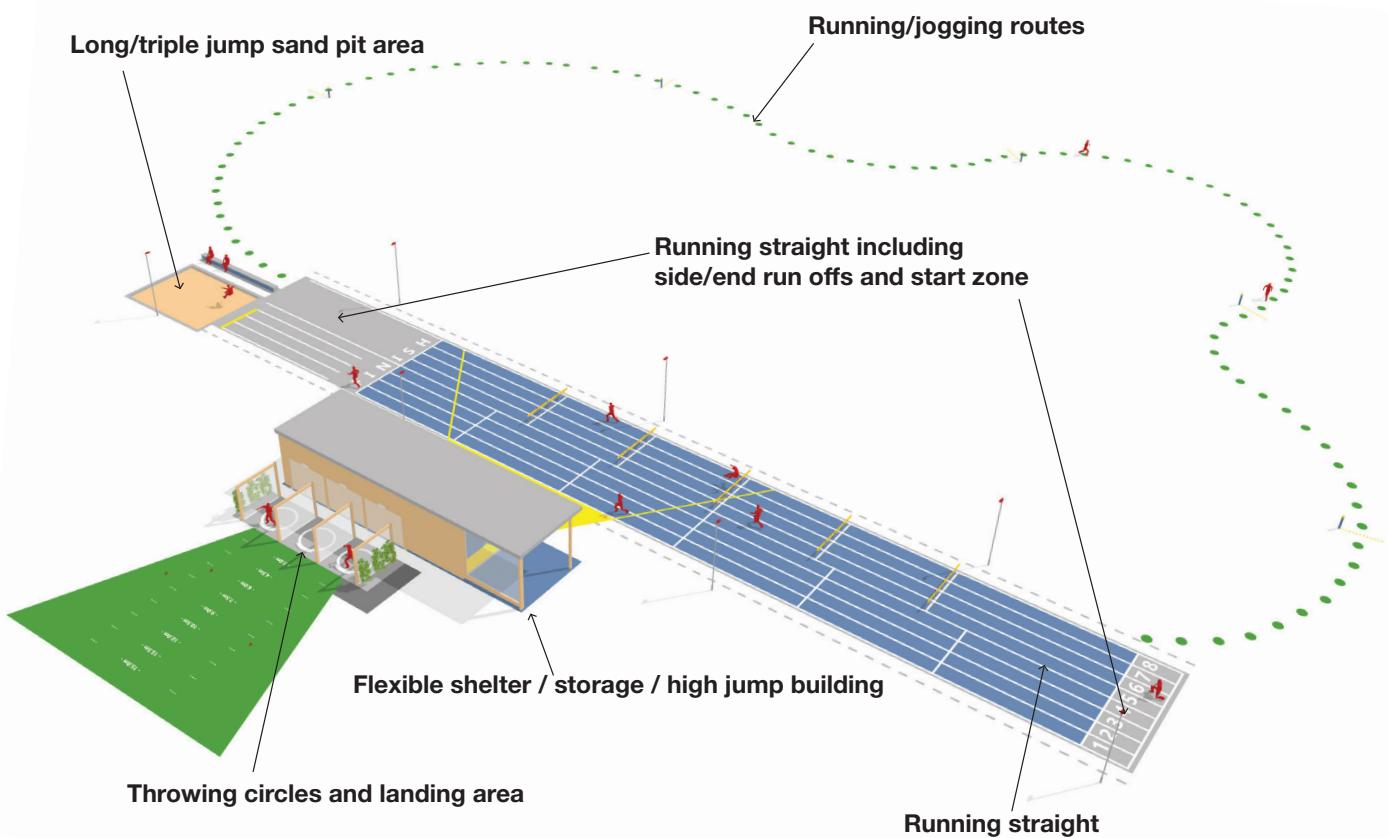


Compact Athletics Facilities



fundamental athletics for all



**BRITISH
ATHLETICS**



Foreword

Good facilities are fundamental to developing sporting opportunities for everyone, from the youngest beginner to the international class athlete. The facilities, whether large or small, can encourage civic pride and assist the process of revitalising deprived neighbourhoods. Facilities that are well designed, built to last and well maintained are a pleasure to use and give an ample return on the time and money invested in their construction.

Good design needs to be based on a sound understanding of current trends and practices within individual sports, the wider leisure industry and lessons to be learnt from previous schemes.

Good design needs to be embraced within the earliest vision statement for a project and enshrined in the initial briefing stage through to the final detailed specifications and operational arrangements.



Sport England's Design Guidance Notes aim to:

- *Increase awareness of good design in sports facilities*
- *Help key building professions, clients, user representatives and other stakeholders to follow best practice*
- *Encourage well designed sports facilities that meet the needs of sports and are a pleasure to use*

Sport England Design Guidance Notes aim to promote a greater general understanding of overall design concepts, an appreciation of technical issues and the critical factors that need to be considered in reaching the appropriate solution for a particular project. They also advise where further information, advice and expertise may be found and point to benchmark examples.

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1.0 Introduction

Compact Athletics Facilities are designed to inspire a new generation of people to participate in Athletics - the nation's favourite Olympic and Paralympic sport. The concept is based on an innovative approach to athletics provision that takes the main elements of full-size athletics facilities and scales them down into affordable solutions for smaller sites.

Compact Athletics Facilities are made up of a 'kit of parts' that can be creatively pieced together to give facility solutions that will fit almost any site or budget and enable the essential athletic skills of Run, Jump and Throw to be taught, enjoyed and developed.

Compact Athletics Facilities can be relevant to a wide range of situations. For example, to:

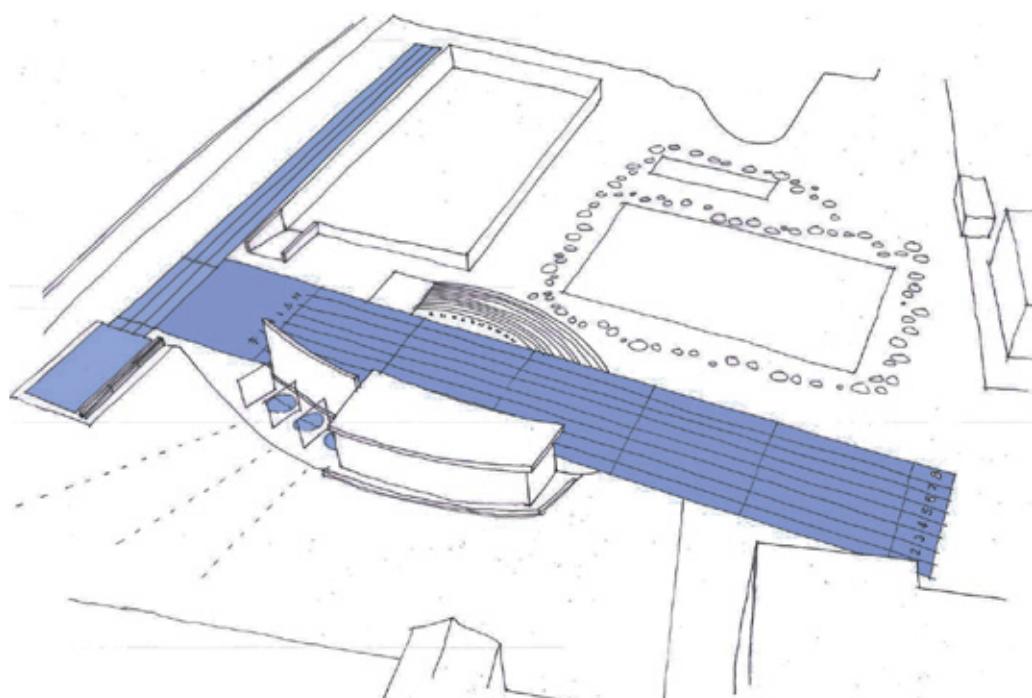
- complement existing sport and play provision in primary and secondary schools
- create additional facilities for existing sports and leisure provision
- provide a facility where space for a standard 400 m track is not available
- provide cost effective entry level facilities
- introduce the FUNdamentals of athletics.

Aim of guidance

The aim of this guidance is to show what is possible and to give practical technical advice to help Compact Athletics Facilities to be created.

Indicative costs are provided for various sizes of facility along with layout, specification and construction details.

Creative thinking about ways that the essential features of athletics facilities can be scaled down to suit individual sites where space is limited

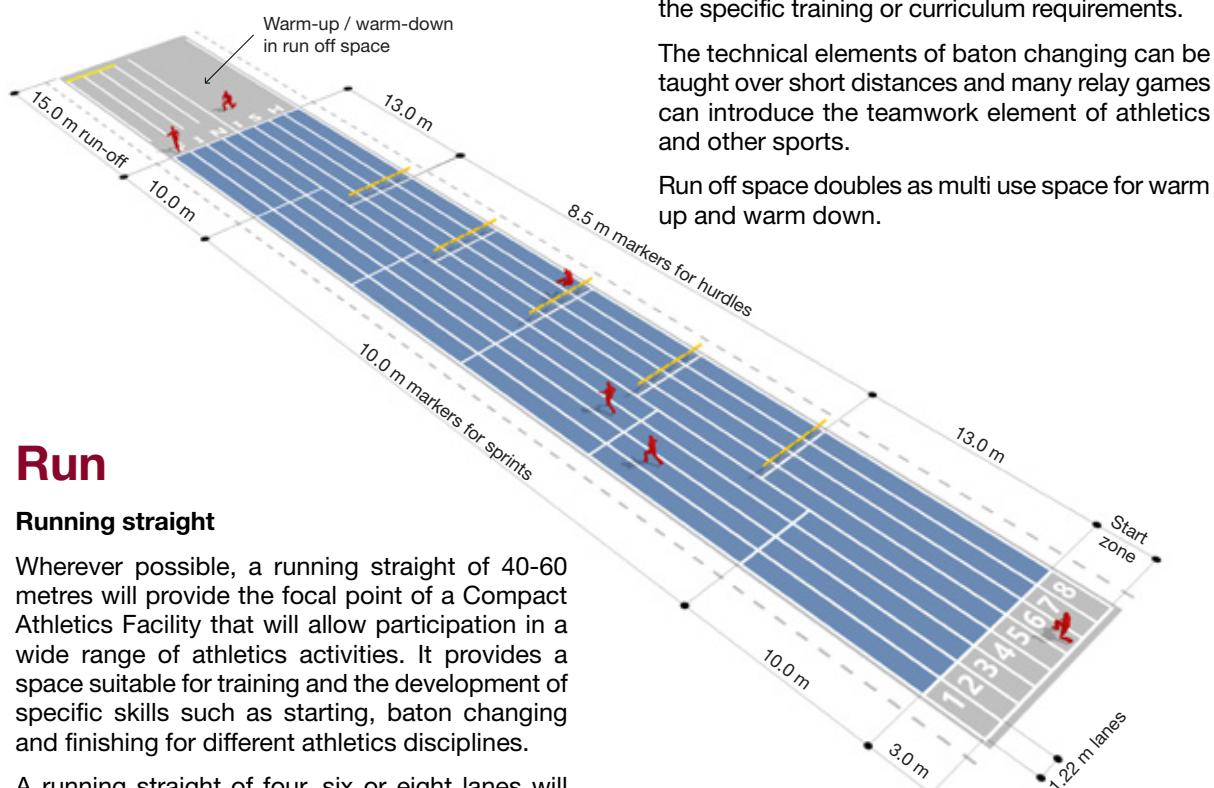


Compact Athletics Facility pilot scheme at Stoke Newington School & Sixth Form: concept sketch for 50 m x 8 lane running straight, 1000 m running/jogging loop, long jump, throws areas, jumps facilities, high jump, floodlighting and storage building

2.0 The Concept: 'Compact Athletics'

Compact Athletics Facilities can be created on almost any available site to provide a dedicated space for recreational running and basic training.

Examples of individual elements for running, jumping and throwing disciplines in a Compact Athletics Facility are shown below.



Run

Running straight

Wherever possible, a running straight of 40-60 metres will provide the focal point of a Compact Athletics Facility that will allow participation in a wide range of athletics activities. It provides a space suitable for training and the development of specific skills such as starting, baton changing and finishing for different athletics disciplines.

A running straight of four, six or eight lanes will enable informal races and also provide a useful area for a range of physical education activities. For small sites, this could be reduced to a shorter two lane straight.

The relatively small area requirements of between 399-918 m² means that the straight can be easily integrated into many education, sport and leisure or public park sites.

Indicative cost¹ range:

- 4 lane x 40 m straight = £40,000
- 6 lane x 60 m straight = £70,000
- 8 lane x 60 m straight = £86,000

See Indicative capital costs breakdown in Section 4.0 for more details.

Sprints and hurdles

The running straight can be used for hurdles, shuttle runs and runs between turning boards to support specific training or curriculum requirements.

Training or foam hurdles can be used for teaching and coaching of skills and techniques for hurdling. The track can also be used for bleep testing, shuttle runs and runs between rebound boards to facilitate the specific training or curriculum requirements.

The technical elements of baton changing can be taught over short distances and many relay games can introduce the teamwork element of athletics and other sports.

Run off space doubles as multi use space for warm up and warm down.

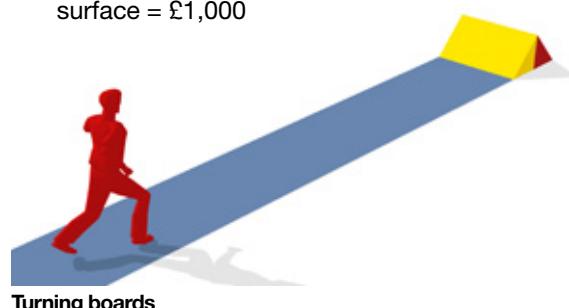
Run lengths and markings with run off areas that can double as multi use space or for warm up or warm down

Turning boards

Turning boards can be used to increase the effectiveness of short lengths of running straight. They might be used against a side wall of a building or bolt fixed in each end of the running lanes.

Indicative cost range:

- 2 x turning boards bolted down onto the surface = £1,000



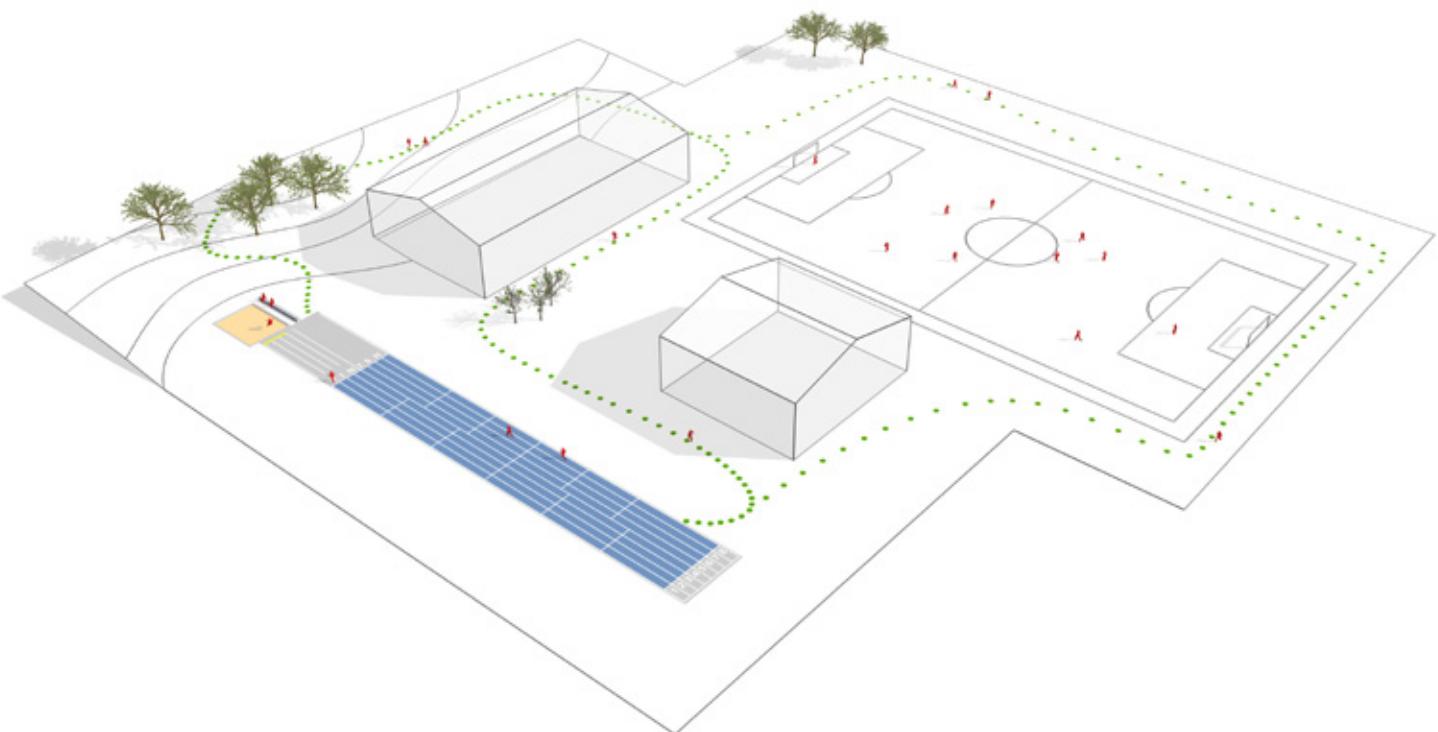
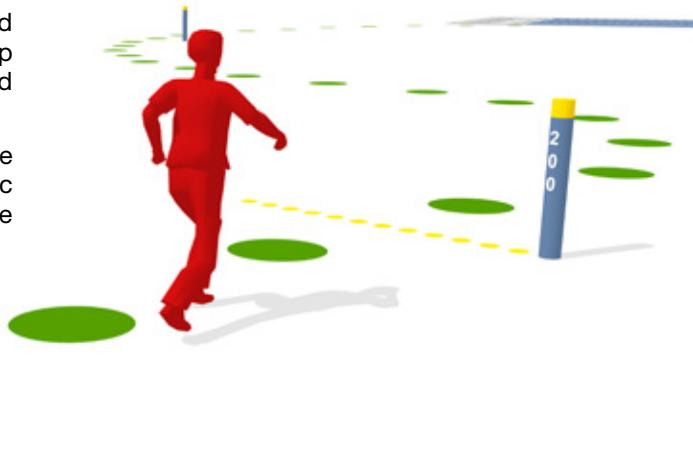
¹ Budget costs at 2Q2014

Running/jogging routes

A running/jogging route provides a facility for recreational running as well as the development of skills in distance running. Distance markings on the surface and marker posts will enhance the design and provide information to allow participants to monitor their progression.

A short circular route enables teaching and coaching activities to be carried out which develop an understanding of the importance of pace and how it affects the body.

Existing pathways may be integrated into the route and/or upgraded to incorporate a polymeric surface. The approximate cost for a 1.2 m wide tarmac pathway would be £80/m.



Running/jogging routes can start and finish on the running straight and extend around the available site area (green dots denote notional route)

Jump

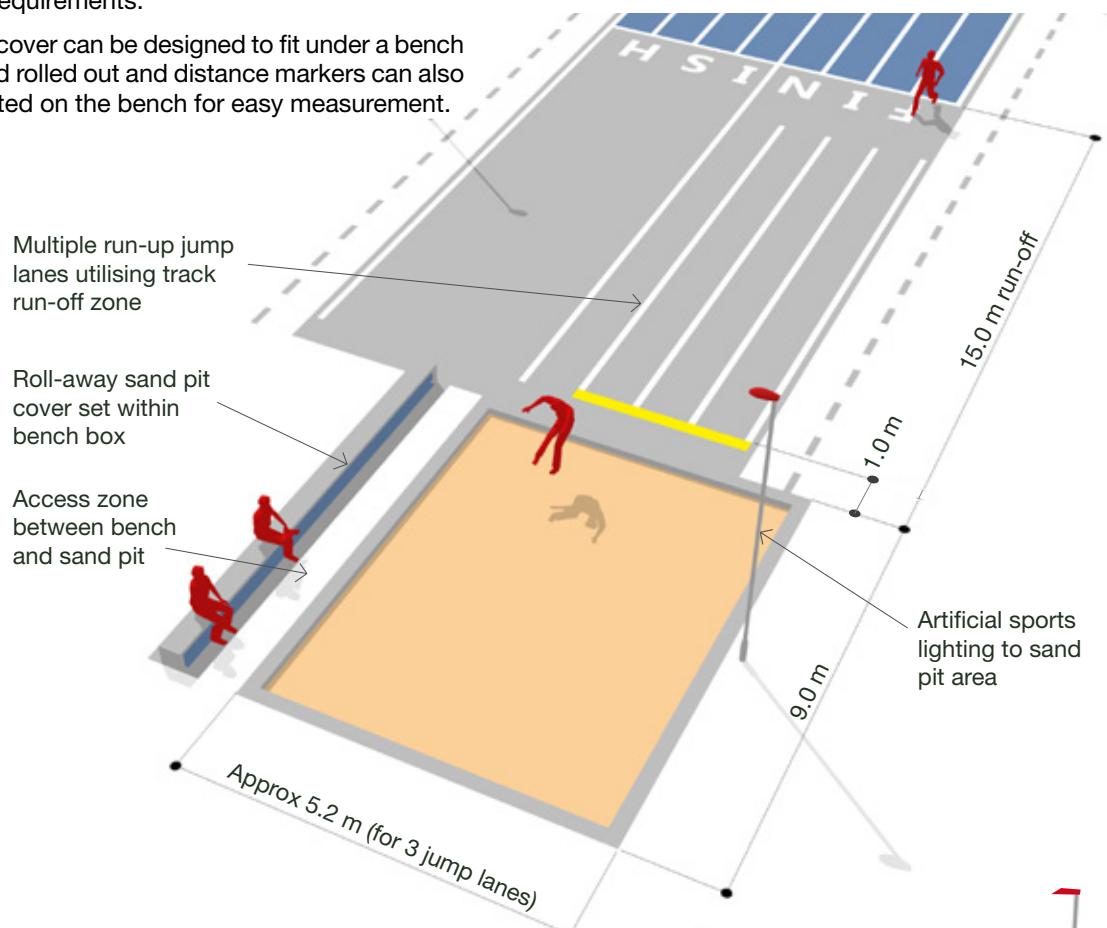
Long jump and triple jump can be taught in a sandpit at the early stages of development. Multi-lane long jumps allow staggered jumping of multiple participants.

Long Jump

A jumps area within a facility can develop the skills needed from beginner (standing) long jump type activities to full long and triple jump techniques.

On smaller sites, the integration of the long jump run-up with the running track can reduce the space requirements.

The pit cover can be designed to fit under a bench seat and rolled out and distance markers can also be located on the bench for easy measurement.



Indicative cost range:

- 3 lane long/triple jump, sand pit and cover (excluding run ups) = £25,000



Multi lane long jump allows staggered jumping of up to three participants at a time

Training

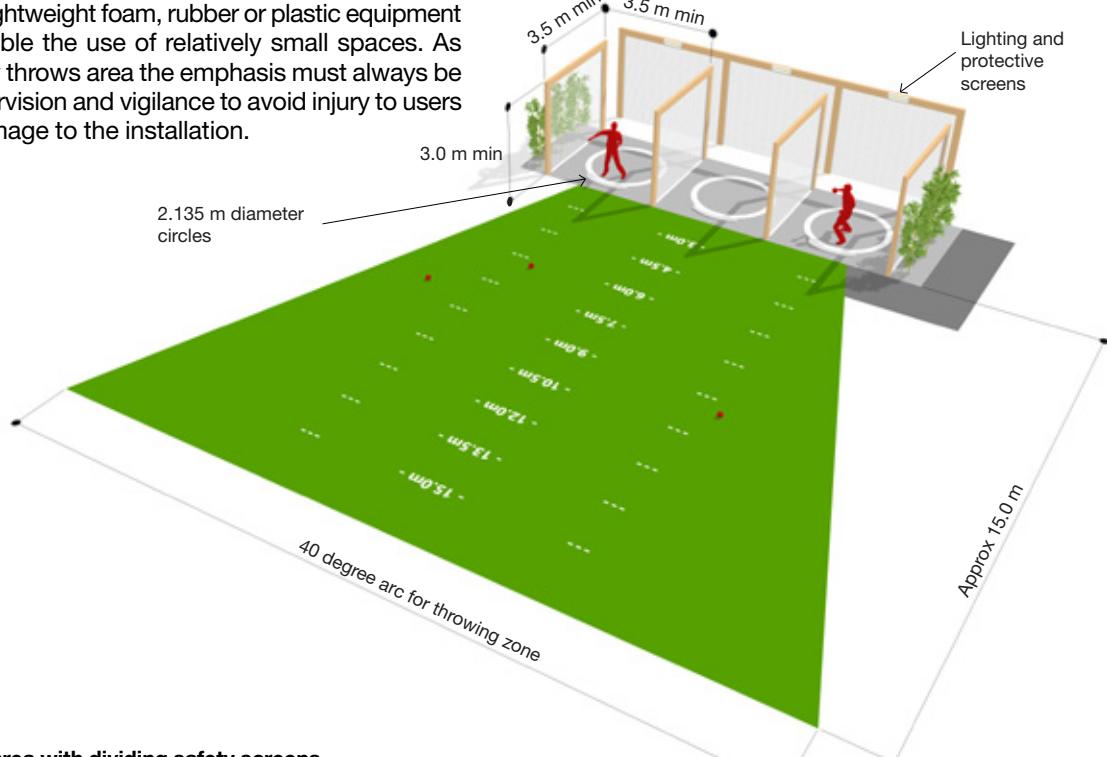
Standing jumps, jump trails and jump circles can be used for fun activities and also for training in jumping techniques. They can be set out to suit a specific site with no limit to the size, shape or colour. They offer an attractive way to bring to life an otherwise redundant space.



Combined standing jump rainbow and jump circles

Throw

Throw training areas can be created in a range of small areas with suitable simple protection screening. The landing area can be created in a small soft landscape area but a hard porous surface is preferable. Smaller spaces can be adapted to learn and practice the basic techniques for throwing but careful consideration is needed. The emphasis must be on technique rather than distance and the use of lightweight foam, rubber or plastic equipment can enable the use of relatively small spaces. As with any throws area the emphasis must always be on supervision and vigilance to avoid injury to users and damage to the installation.



Throws area with dividing safety screens

Indicative cost range for shot put:

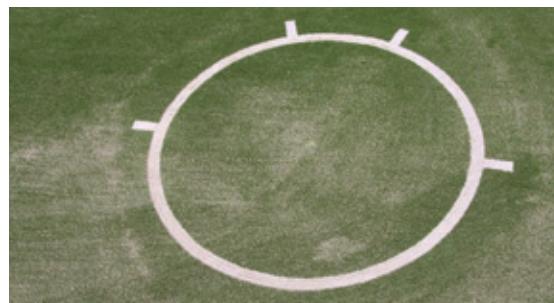
- 1 x throwing circle + full landing area = £8,500
- 2 x throwing circle + full landing area = £13,500
- 3 x throwing circle + full landing area = £18,000

If full-weight shots are used, appropriate screens will be required.

Indicative cost range for protective screens:

- 3 x screens for 1 throwing circle = £7,500
- 5 x screens for 2 throwing circles = £12,500
- 7 x screens for 3 throwing circles = £17,500

Alternatively, a training shot put circle can be simply painted onto the run off area of a compact athletics running straight.



Shot put circle lines painted onto an artificial grass surface

Lighting

Lighting to all activity areas and access routes is essential to extend the hours of community use during evenings and weekends. Detailed information regarding sports lighting is available in Sport England's Artificial Sports Lighting Guidance note.

<http://www.sportengland.org/facilities-planning/tools-guidance/design-and-cost-guidance/artificial-sports-facilities/>

With Compact Athletics, every site and configuration will be different but there are a few key issues to

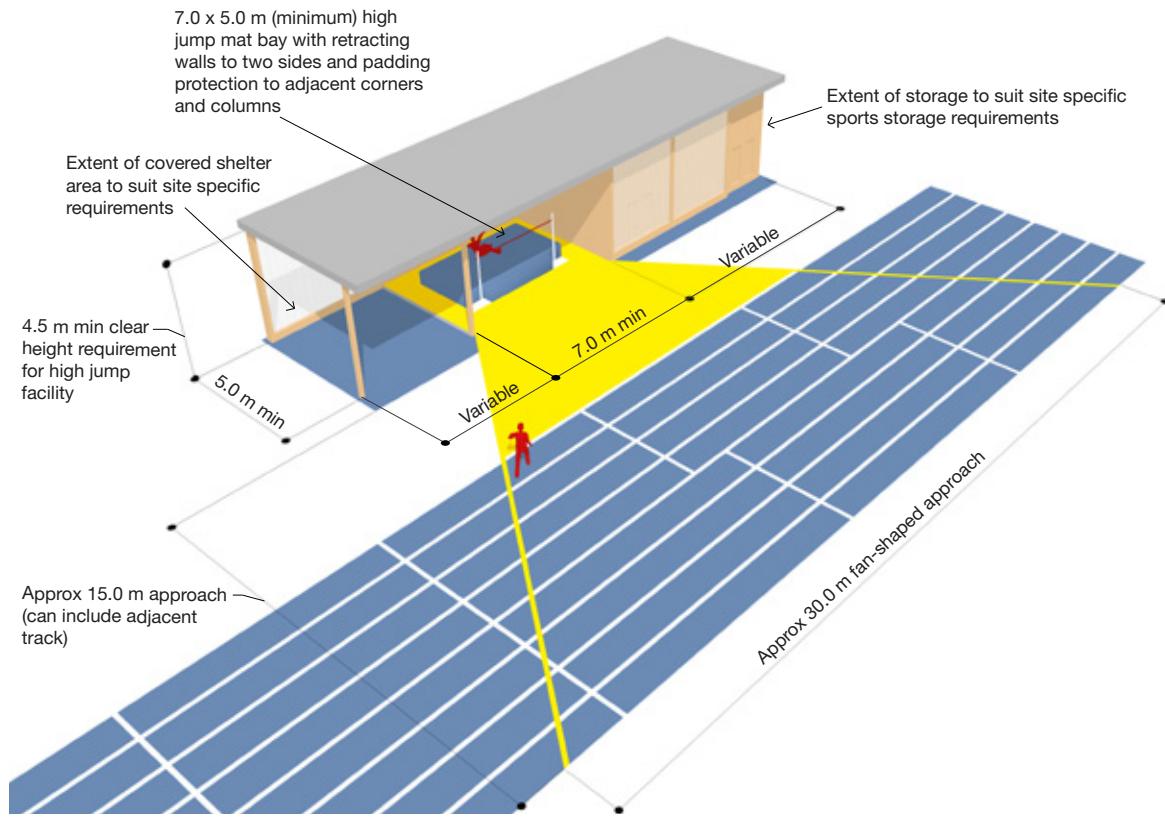
consider. For outdoor jogging tracks and trails for community and recreation level of participation, the level of horizontal illuminance could be as low as 50 lux and existing lighting should be utilised wherever possible. For most other areas a maintained lighting level of at least 100 lux is required. The budget cost for lighting a 110m straight would be around £25,000 and to light a full 400 m track for training purposes would cost around £62,000.

Flexible shelter and storage building

Multi use buildings close to the facility can offer an invaluable storage space for equipment as well as an area of shelter during inclement weather.

Option A

This building can also be designed to incorporate basic indoor facilities including warm up / stretch areas and/or high jump.



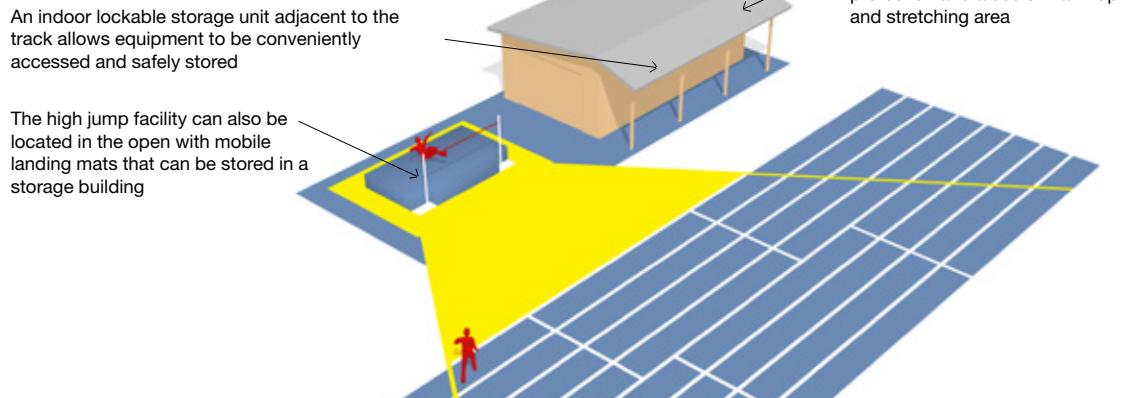
Option A building with shelter, storage and covered high jump area

Compact Athletics Facilities

Design
Guidance Note

Option B

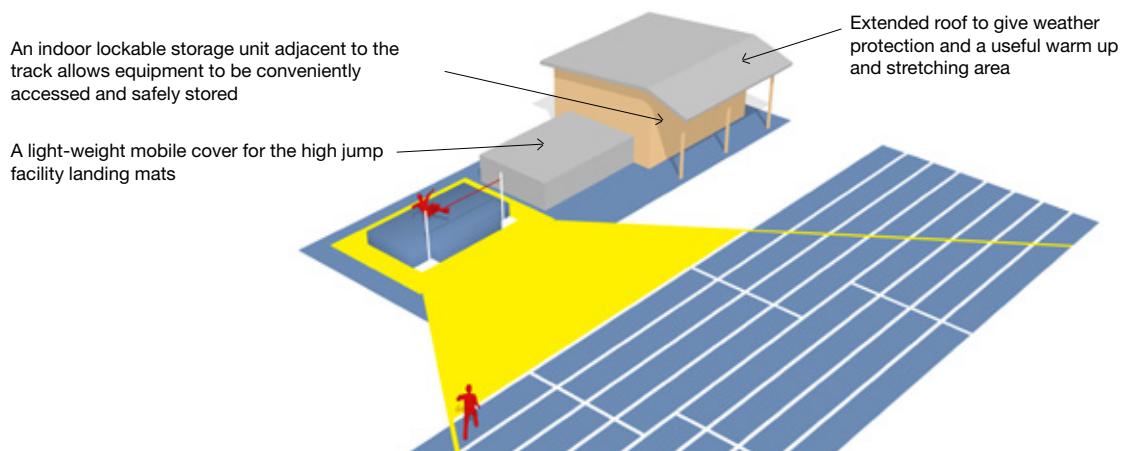
A low-cost modular building can be designed to incorporate basic indoor storage facilities including mats for open high jump.



Option B modular building with storage including mats for open high jump area

Option C

A smaller low-cost modular building can be designed to incorporate basic indoor storage facilities and open high jump with mobile cover.



Option C modular building with storage and open high jump area with mobile cover

A range of approaches to accommodate high jump, storage and shelter facilities can be tailored to suit site specific requirements and budget parameters

3.0 Creating Facilities

Choosing locations

Potential locations for a Compact Athletic Facility should be discussed with the local England Athletics representative so that they can assess the need and help to develop an outline layout, business case and development plan.

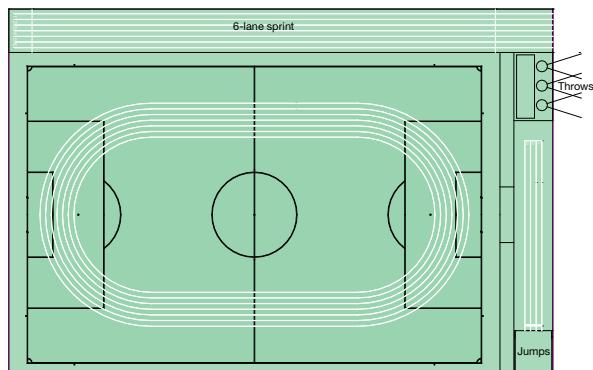
The tailored design approach means that Compact Athletics Facilities can suit almost any site, and in developing the design, the focus should be on creating a facility that is:

- Visually attractive as a result of good design and landscaping
- Functional and easy to operate and maintain
- Safe and accessible
- Sympathetic and appropriate to the site context (i.e. Individual colour schemes)

Compact Athletics Facilities should include at least one element from the Run, Jump, and Throw disciplines.

Adjacency with other facilities

Small spaces that are adjacent to existing sports or play areas have the potential to be transformed into Compact Athletics Facilities. For example, on a school or sports centre site there may be a range of outdoor playing areas or sports pitches that could be enhanced through the addition of athletics elements. See Appendix 2 for typical configurations.



Artificial Grass Pitch (AGP) with 6-lane running track markings, 6-lane sprint track, 3-lane long/triple jumps and 3 throws areas

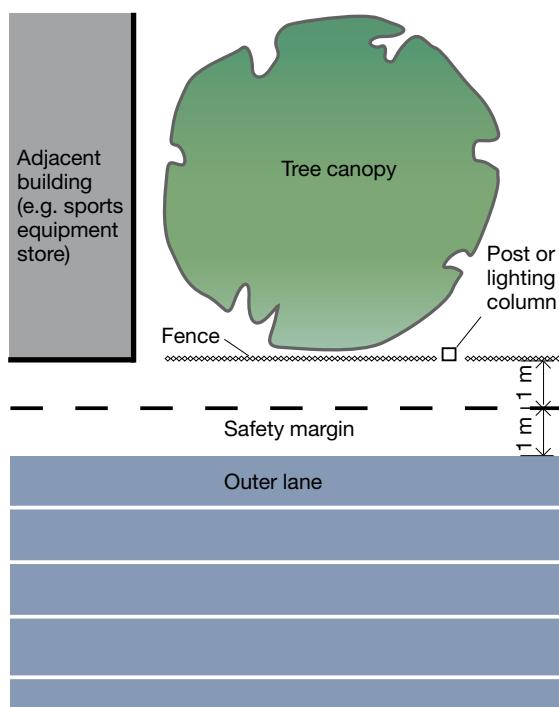


8 lane 50 m straight with branded colours, lighting columns and adjacent jumps/storage building located in the space between mature trees at the Stoke Newington School & Sixth Form and base for Hackney Hurricanes Athletics Club

Key design details

Safety margins

A minimum safety margin of 1.0 m should be allowed to either side of the running straight, preferably with the same finish as the track surface. A further space allowance (c 1.0 m) should be considered to any adjacent features that may create a hazard to users. See the diagram below for typical examples that should not impede the safety margin. Avoid close proximity to trees that could create root damage to the track and a build-up of leaves and organic matter on the track surface.



Safety margin criteria

It is important to consider the psychological effect that structures and fixtures adjacent to the inner or outer lanes may have on participants experience. Unwanted distractions will impact on the participants enjoyment and perceived safety during an activity.

The siting of a Compact Athletics Facility should be considered with care. There is an obvious need to avoid conflicts with vehicle routes and services and also to create an appropriate local environment for people to practice athletics. A degree of shelter from the prevailing wind from trees, fencing and soft landscaping can be helpful.

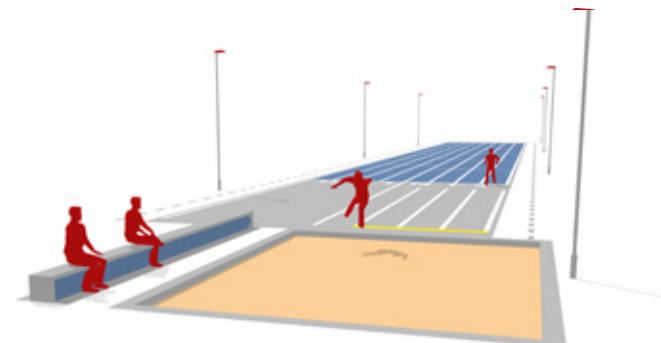
Turning boards

These could be temporary or permanent items of equipment as appropriate for the site and should be designed to be safely secured on the running surface.

Jumps



Jumps facility with a brightly coloured surface



Protective cover to long jump sand pit incorporated with bench construction, in stored position under bench



Protective cover deployed over long jump sand pit

Compact Athletics Facilities

Design
Guidance Note

Key dimensions and areas

Long/triple jump sand pit area

1 lane: c. 9.0 x 2.75 m = 25 sq.m
3 lanes: c. 9.0 x 5.19 m = 47 sq.m

Throwing circles and landing area

(excluding surrounding areas)
1 circle: c. 140 sq.m
2 circles: c. 205 sq.m
3 circles: c. 270 sq.m

[Click here for a 'Virtual Tour of an Example Facility'](#)

Example facility showing indicative dimensions and areas for a range of accommodation

Operating options

Compact Athletics Facilities are an ideal addition for primary and secondary schools or six form colleges as they benefit both pupils, students and the wider community. The facilities can be a focus for both curriculum and after school activities and foster links with local athletics club(s).

Compact Athletics Facilities are equally at home on the sites of existing provision and offer a perfect enhancement to sport, leisure and community buildings.

Compact Athletics Facilities are an ideal addition for primary and secondary schools or six form colleges as they benefit both pupils, students and the wider community

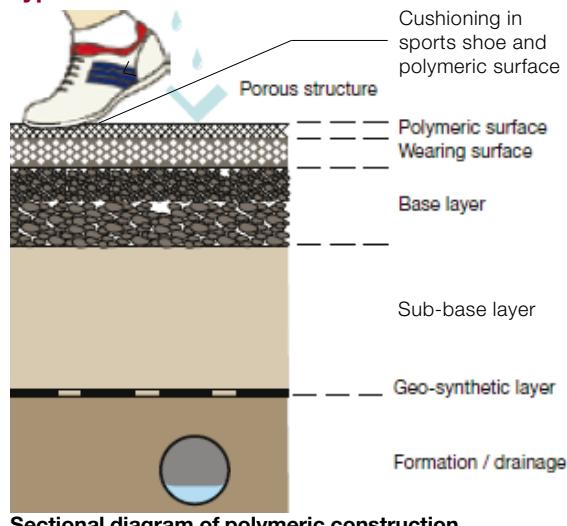
4.0 Cost and technical details

Indicative capital costs

The indicative costs adjacent assume that the work is on a level 'green field' site and that the top soil and sub soil are carted away off the site. In many cases, there will be opportunities to reuse such material for landscaping on the site and reduce cost. The costings also assume:

- 13 mm thick polymeric surfacing with 150 x 50 mm kerb edgings
- 25 mm depth wearing course (10 mm nominal aggregate size machine laid porous macadam)
- 40 mm depth base layer (20 mm nominal aggregate size of porous macadam)
- Stone sub base layer (MOT type 3 and MOT type 1) installed in layers not exceeding 150 mm, with the final 50 mm machine laid, constructed upon the geotextile membrane placed on the excavated formation level. The excavation depth should achieve a suitable formation level for a substantial base to avoid movement in the running surface above. (If an even and stable tarmacadam surface already exists, savings can be made if it can be curbed and a new tarmacadam layer overlaid.)
- 150 mm solid wall drainage with catch pits taken to an outfall
- No special ground conditions requiring additional work e.g. ground stabilisation or decontamination
- Overall dimensions to outside of curb
- Contingencies, professional fees and VAT excluded.

Typical construction details



Sectional diagram of polymeric construction

Schedule of facility options and indicative costs

Facility types and specification	Indicative Costs (£)
Running straight with 3 m start and 15 m end run offs	
Polymeric surface on full base construction and tarmacadam safety zone	
4 lane x 40 m straight	40,000
4 lane x 50 m straight	47,000
4 lane x 60 m straight	54,000
6 lane x 40 m straight	52,000
6 lane x 50 m straight	61,000
6 lane x 60 m straight	70,000
8 lane x 60 m straight	86,000
Running/jogging route	
Polymeric surface on 300 mm base construction	
1 lane per linear metre	80
Throw	
1 circle and shale landing sector	8,500
2 circles and shale landing sector	13,500
3 circles and shale landing sector	18,000
Jump	
3 lane long/triple jump, sand pit and cover (excluding run ups)	25,000
Flexible shelter and storage building	
Per metre square floor area	1,500
Lighting	
20 x 40 m area	16,000
60 x 40 m area	25,000
Equipment	
Equipment package (See typical equipment list on page 14)	5,000
Notes:	
Indicative costs based on 2Q2014	

Typical equipment list and indicative costs

Facility types and requirements	Number
Run	
Relay batons (set)	1
Training hurdles	24
Jump	
Sandpit spade	1
Sandpit rack	1
Sandpit broom	1
Training high jump stand (schools)	1
Training high jump crossbar (aluminium)	6
Flexibar	2
Highjump landing area (5 x 3.2 x 0.065 m)	1
Javelin	
Foam javelin pack	5
Shot	
4 kg training shot	6
3.25 kg training shot	8
3 kg training shot	3
Wheelaway shot stand	2
Measuring	
20 m steel tapes	2
Maintenance	
Power washer	1
Leaf blower	1
Litter bins	1
Total cost	from £5,000
Notes:	
Indicative costs based on 2Q2014	

Establishing a schedule of equipment early in the design process is essential in order to:

- ***work out how much it will cost***
- ***design adequate storage facilities***



Compact Athletics Facilities can allow people of all ages and abilities to participate in a range of activities

Maintenance requirements

By their nature, polymeric surfaces are extremely durable, being designed to satisfy arduous performance criteria including the wear and tear from spiked running shoes.

However, there is no such thing as a 'maintenance free' sports surface and all polymeric track surfaces will require a modest degree of maintenance. Basic maintenance is vital for a good looking facility that has consistent performance.

Maintenance procedures should be designed to ensure that:

- The track surface is kept scrupulously clean
- The track surface is safe for all standards of use
- Free drainage of surface water
- The facility looks attractive and well kept at all times.

These objectives can be achieved by:

- Sweeping leaves, jump pit sand and other detritus from the surface
- Washing the surface to remove contaminants such as grime, algae, moss, sand etc.
- Applying prophylactic treatments of moss-killer and/or algaecide
- Periodically removing weed growth from the perimeter kerb lines.

Basic maintenance is vital to ensure a good looking facility with a consistent performance that is enjoyable to use

Life cycle information

Assuming that all necessary site investigations are conducted and the facility is constructed in accordance with all recommendations in the ground survey report, the construction would be expected to remain stable for at least 25 years. It will be necessary to re-apply the texture spray after approximately 6-7 years and line markings when the black base matting starts to show through. The artificial surfacing should last 10-15 years before resurfacing is required. The Contractor should provide clear and unequivocal instructions on how to maintain the surface at practical completion, as deviation from the manufacturers recommendations will invalidate the warranty.



The layout and selection of surface should ensure Compact Athletics Facilities are fully accessible

Appendix 1

Health and safety considerations

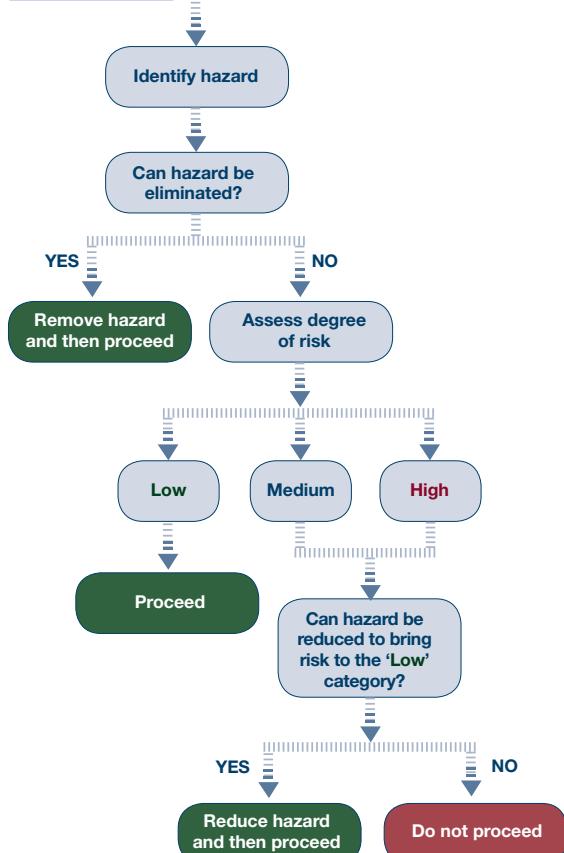
UK Athletics is committed to creating a safe environment for athletics. The organisation promotes health, safety and welfare within the sport and ensures that suitable and sufficient risk assessments, safe systems, practical measures and audits and reviews are in place to avoid risk.

The UKA Approved Codes of Practice include a generic risk assessment (see diagram below) and typical control measures for the individual athletics disciplines as follows:

- *UKA Approved code of practice: The safe conduct of track and Field events - Outdoor and indoor training And Competition*
- *UKA Outdoor and indoor training: Approved code of practice - The safe conduct of track and Field events*

These are available for download from the UKA web site at:

<http://www.britishathletics.org.uk/governance/health-safety/code-of-practice/>



Hazard identification and risk assessment (based on extract from UKA Codes of Practice)

Brief and design stages

During the design and briefing stages of a project there should be recognition of the generic risks associated with athletics. Although not a high risk activity, the above document identifies potential injuries from events such as collisions with other athletes and equipment, slipping, tripping and use of faulty equipment. A safe environment can be created that minimises the likelihood of such events through the provision of :

- Recommended dimensions for the widths of lanes, run-off areas etc
- Appropriate materials specified for the construction of the tracks, curbs, run off areas and surrounds (energy absorbing, friction etc.)
- Minimised foreseeable hazards from adjacent features such as trees, corners of buildings etc
- Avoiding steps and sharp changes of level in the surfaces
- Appropriate safety signage included in the project
- Document all remaining hazards that cannot be illuminated during the design and construction phases within the project Health and Safety file.

Before use

An inspection and risk assessment should be undertaken before a new facility is used and the results fed into the operating procedures.

Safety check list

A simple check list might be developed to help ensure that safety issues are considered and understood by all the users (pupils / teachers / coaches / athletics club members etc.) This might be incorporated into a display panel for the facility and also be used by the operators with the booking system.

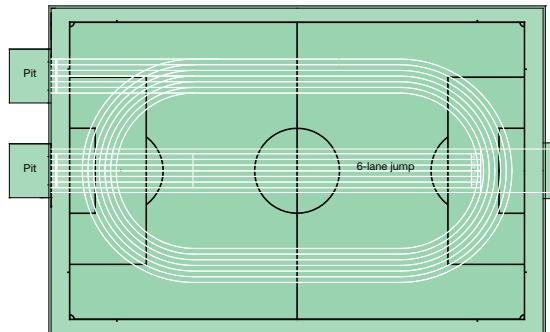
A safety check list will help ensure that safety issues are considered and understood by all the users

Compact Athletics Facilities

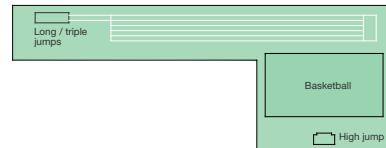
Design
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Appendix 2

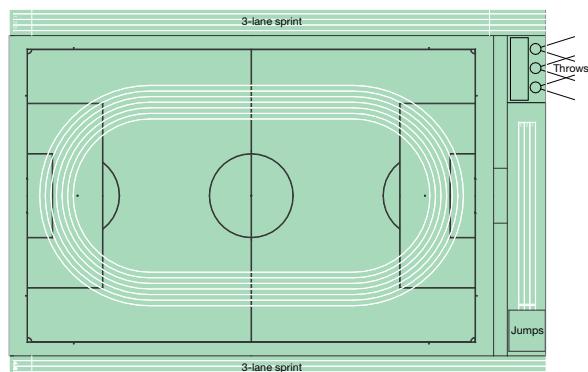
Adaption and expansion of existing areas



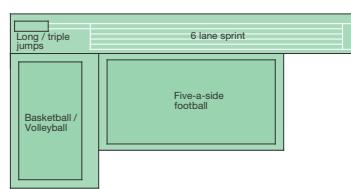
Artificial Grass Pitch (AGP) with 6-lane running track markings and two 6-lane long/triple jumps



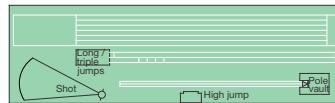
4-lane 60 m track with long / triple jumps



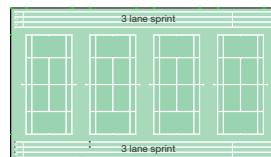
Artificial Grass Pitch (AGP) with 6-lane running track markings, two 3-lane sprint tracks , 3-lane long/triple jumps and 3 throws areas



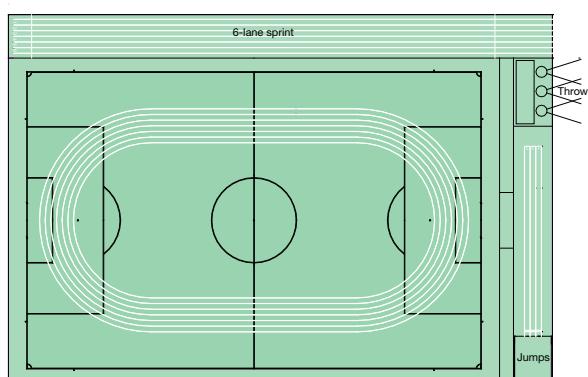
6-lane 60 m track with five-a-side football, basketball, volleyball and long/triple jumps



6-lane 60 m track with shot, pole vault, long/triple jumps and high jump



Two 3-lane 50 m tracks with four tennis court



Artificial Grass Pitch (AGP) with 6-lane running track markings, 6-lane sprint track , 3-lane long/triple jumps and 3 throws areas



Appendix 3

Contact

- British Athletics (UKA)
Athletics House, Alexander Stadium, Walsall Road, Perry Barr, Birmingham B42 2BE
Telephone: 0121 713 8400
Email: facilities@uka.org.uk
Website: <http://www.britishathletics.org.uk/governance/contact-us/>

Further information

- Sport England related guidance:
Athletics Design Guidance Note
Accessible Sports Facilities Design Guidance Note
- UKA Facilities Strategy
<http://www.britishathletics.org.uk/governance/facilities/facilities-strategy/>
- Area guidelines for mainstream schools BB103
<https://www.gov.uk/government/publications/mainstream-schools-area-guidelines>
- Association of Physical Education
The organisation is involved in the promotion and maintenance of high standards and safe practice of physical education
<http://www.afpe.org.uk/>



Alternative Languages and Formats:

This document can be provided in alternative languages, or alternative formats such as large print, Braille, tape and on disk upon request. Call the Sport England switchboard on 08458 508 508 for more details.

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Acknowledgements:

Contributors:

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MSc – Consultants
Robin Wilson Consulting
Sporting Lion Ltd

User Guide:

Before using this design guidance note for any specific projects all users should refer to the *User Guide* to understand when and how to use the guidance as well as understanding the limitations of use.

[Click here for ‘User Guide’](#)

[Click here for current ‘Design and Cost Guidance’](#)

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001 – Initial Publications: September 2014

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Further Information:

To find out more about Sport England and to get the latest news and information about our various initiatives and programmes, please go to www.sportengland.org