



Whilst the entire Racecourse Manual is available to download, the extracts below focus on actual track specification, which any Racecourse Executive needs to consider when constructing a new racetrack.

EXTRACTS FROM THE BRITISH HORSERACING AUTHORITY RACECOURSE MANUAL

1.1 INTRODUCTION

The key dimensions and starts for any new racecourse or racetrack are set out below. The shape of the proposed site may affect the track layout which must incorporate the minimum essential dimensions. On Turf tracks, experience has shown that the minimum width should be treated as just that. The greater the width of track available, the greater the flexibility that will be available to provide fresh ground (and consequently, the safest going conditions). The damage inflicted by horses upon the turf during a race fixture should not be underestimated. The race distances which are specified below for each category of racecourse should be seen as the ideal, but some flexibility may be available subject to agreement with the BHA Racing Department.

Within each section, all points have been categorized as either **MANDATORY** or **HIGHLY DESIRABLE**.

1.2 ALL WEATHER (AWT) COURSES

1.2.1 All Weather Flat Racing – Course Layout

An AWT Course:

HIGHLY DESIRABLE:

- must, for safety and horse welfare reasons, have a minimum bend radius of 147.6 yards (135 metres).

Note: Some very limited flexibility on bend radius may be possible. This will depend upon the super elevation (camber) required for the proposed tighter radius. Where this is the case, reduced Safety Factors (i.e. maximum permitted number of runners in a race) are likely to be necessary. Furthermore, the BHA's approval of any such bend will be subject to specified ongoing maintenance being undertaken by the Racecourse Executive to ensure track depths remain consistent, and the migration of racing surface material is fully managed.

- should have a course width of at least 21.9 yards (20 metres) catering for the maximum number of runners permitted. The Safety Figure will usually be 16-18, although this may vary depending upon the start position involved (see 1.4 - Safety Figures). Some flexibility may be possible depending on the Safety Figure intended. Furthermore, in certain circumstances on AWT tracks, a 20% reduction in the width of the course on the bends may be permitted.
- should ideally have a minimum circuit length of 1 mile 2 furlongs (2012 metres).
- should ideally have a straight allowing 5 furlongs (1006 metres) and 6 furlongs (1207 metres) races.

1.2.2 AWT Flat Racing - Course Distances

MANDATORY:

The means by which all courses are measured, and start positions marked, must be agreed with the BHA Inspectorate. Distances should be measured 2 yards (1.8 metres) from the permanent inside running rail.

HIGHLY DESIRABLE:

The key distances for Flat races, and those which racecourses should look to include are:

*5 furlongs (preferably straight, 1006m)

6 furlongs (preferably straight, 1207m)

7 furlongs (1408m)

1 mile (1609 m)

1 mile 2 furlongs (2012m)

1 mile 4 furlongs (2414m)

1 mile 6 furlongs (2816m)

2 miles (3218m)

* Minimum distances allowed under Rule (F) 29.3

1.3 TURF COURSES

1.3.1 Turf Flat Racing - Course Layout

HIGHLY DESIRABLE:

A Turf Flat Course:

- should, for safety and horse welfare reasons, have a minimum bend radius of 147.6 yards (135 metres). Unlike AWT tracks, the migration towards the inner rail of the sand-based artificial surface (through gravity, hoof impact and maintenance practices) is not a problem on turf tracks, so minor additional banking (see 1.5) to compensate for a bend radius of under 135 metres may be feasible. However, excessive banking is detrimental to both safety and horse welfare, and would result in a topographically uneven track surface at the intersections between the bend and any start from a "chute" which is linked to the bend.
- should have a course width of at least 25 yards (22.9 metres). Some flexibility may be possible depending on the Safety Figure intended (see 1.4 – Safety Figures) and the number/timing of anticipated fixtures allocated to the course. To facilitate doling out/in (i.e. movement of running rail to provide fresh ground) for safety and horse welfare reasons, no reduction of the width of the course on the bends is permitted.
- should ideally have a minimum circuit length of 1 mile 2 furlongs (2012 metres).
- should ideally have a straight allowing 5 furlongs (1006 metres) and 6 furlongs (1207 metres) races. The running of 6 furlongs races on a round course (instead of a straight) will be dependent on the radius of the bend and the distance from the start position to the bend.

1.3.2 Turf Flat Racing - Course Distances

MANDATORY:

(See Section 1.2.2 above for the means by which courses and start positions are measured).

HIGHLY DESIRABLE:

The key distances for Flat races, and those which racecourses should look to include are:

* 5 furlongs (straight, 1006m)

6 furlongs (straight +, 1207m)

7 furlongs (1408m)

1 mile (1609m)

1 mile 2 furlongs (2012m)

1 mile 4 furlongs (2414m)

1 mile 6 furlongs (2816m)

2 miles (3218m)

* minimum distance allowed under Rule (F) 29.3

+ 6 furlongs "round" may be acceptable depending on radius of bend and start position.

1.3.3 Turf Hurdle Racing - Course Layout

HIGHLY DESIRABLE:

A Turf Hurdle course:

- should, for safety and horse welfare reasons, have a minimum bend radius of 147.6 yards (135 metres).

- should have a course width of at least 30 yards (27.5 metres). This width reflects the increased flexibility required to meet turf management demands for a sport that is, in large part, run on softer, more easily poached ground during the winter months. Grass does not grow during this time. Furthermore, the difference in width between turf Jump and Flat tracks is due to the former needing at least an extra 5 metres in width to allow for a hurdle/fence to be bypassed in the event of a prone horse/rider. Some track width flexibility may be possible depending on the Safety Figure intended (see 1.4 – Safety Figures) and the number/timing of anticipated fixtures allocated to the course. To facilitate dolling out/in (i.e. movement of running rail to provide fresh ground) for safety and horse welfare reasons, no reduction of the width of the course on the bends is permitted.
- should ideally have a minimum circuit length of 1 mile 2 furlongs (2012 metres).

1.3.4 Turf Hurdle Racing - Course Distances

MANDATORY:

(See Section 1.2.2 above for the means by which courses and start positions are measured).

There must be at least 8 flights of hurdles jumped in races of 2 miles, with an additional flight jumped in each succeeding quarter mile (British Horseracing Authority General Instruction 3.6 para 1). This is the fundamental definition of a Hurdle race.

HIGHLY DESIRABLE:

The key distances for Hurdle races, and those which racecourses should look to include are:

*2 miles (3218m)

2 miles 2 furlongs (3621m)

2 miles 4 furlongs (4023m)

2 miles 6 furlongs (4425m)

3 miles (4828m)

* minimum distance allowed under Rule (F) 41.4

1.3.5 Turf Steeplechase Racing - Course Layout

For safety and horse welfare reasons, normal practice is for the Steeplechase course to be on the inside of the Hurdle course. This is due to the nature of the horses, the likely longer distances (and therefore lower speed of horses running) and to the fact that Steeplechases ordinarily attract fewer runners than Hurdle races.

Assuming the Hurdle course specification adopted is as per 1.3.3 and 1.3.4 above, it follows that the Steeplechase course:

MANDATORY:

- would, for safety and horse welfare reasons, have a minimum bend radius of 125.8 yards (115 metres).

HIGHLY DESIRABLE:

- should have a course width of at least 21.9 yards minimum (20 metres). Some flexibility may be possible depending on the Safety Figure intended (see 1.4 – Safety Figures) and the number/timing of anticipated fixtures allocated to the course. To facilitate dolling out/in (i.e. movement of running rail to provide fresh ground) for safety and horse welfare reasons, no reduction of the width of the course on the bends is permitted.
- should ideally have a circuit length of 1 mile 1 furlong and 82 yards (1885.5 metres).

1.3.6 Turf Steeplechase Racing - Course Distances

MANDATORY:

(See Section 1.2.2 above for the means by which courses and start positions are measured).

There must be at least 12 fences in races of 2 miles, with at least 6 fences in each succeeding mile. There is to be one open ditch for each mile. A water jump may be included (BHA General Instruction 3.5 para 1). This is the fundamental definition of a Steeplechase.

HIGHLY DESIRABLE:

The key distances for Steeplechase races, and those which racecourses should look to include are:

* 2 miles (3218m)

2 miles 2 furlongs (3621m)

2 miles 4 furlongs (4023m)

3 miles (4828m)
3 miles 2 furlongs (5230m)
* minimum distances allowed under Rule (F) 41.4

1.3.7 Dimensions Summary

Developers may propose an overall course layout which combines any permutation of the above racing codes. However, the layout should comply with the minimum dimensions specified above.

In the case of a Turf racecourse catering for Flat racing, Steeplechasing and Hurdling, when the latter two courses are built to meet specifications laid down in 1.3.3 and 1.3.5, it follows that the Flat track would be sited as the outermost course for safety and horse welfare issues. This is because Flat races are run at greater speeds than Jump races. Consequently, the Flat track:

- would have bend radii of 169.5 yards (155 metres).
- would ordinarily consist of a circuit of 1 mile 2 furlongs and 136 yards.

The overall width of racing surface required to cater for all three courses will be 76.9 yards (70.4 metres).

1.4 SAFETY FIGURES (For Information)

The Safety Figure is the maximum number of runners allowed, for safety and horse welfare reasons, to start at each race distance on a given course.

The figure is dependent upon race code (i.e. Flat, Hurdle or Steeplechase) and is set and constantly monitored by the British Horseracing Authority Inspectors of Courses in discussion with and the agreement of Clerks of the Course, and Safety Officers of the Professional Jockeys' Association (PJA). In addition, the PJA and National Trainers Federation formally endorse existing Safety Figures at all courses on an annual basis.

There is also flexibility to reduce safety figures temporarily at any racecourse where track modifications (i.e. running rail movements) are made as necessary to provide optimum turf conditions.

1.5 BANKING OF BENDS

MANDATORY:

The super elevation (camber) potentially required for any bend radii will be dependent on a number of factors surrounding the existing topography of the site involved. As such, the BHA Racecourse Department must be consulted before any final design can be agreed for a bend's construction/modification.

1.6 DISTANCES FROM STARTS TO BENDS

HIGHLY DESIRABLE:

The minimum distance from a start to a bend should be at least 1 furlong (201 metres). However, there may be some flexibility with this distance, dependent on Safety Figures and bend radii (i.e. a lower Safety Figure, position of first obstacle as applicable, and/or greater bend radius can result in a lesser distance between start and bend being acceptable).

1.7 DISTANCES FROM FINISH TO BENDS

MANDATORY:

For safety and horse welfare purposes, the finish must be on the straight and not on a bend. Assuming the bend after the winning post is of a radius of 135 metres or more, there is likely to be no need to provide a further length of straight from the winning post to the start of the bend.

1.8 RACING SURFACES

Turf

HIGHLY DESIRABLE:

There is no specified ideal turf racing surface, since the growth of turf is dependent on geographical position, soil type, maintenance regimes, drainage properties, irrigation capabilities etc. The best turf is that which has a hard-

wearing, healthy sward, a good root structure, drains well and is not prone to excessive compaction. Advice on purpose built turf track profiles, as well as appropriate grass cultivars, should be obtained from a turf consultant.

Synthetic or All Weather Track (AWT)

MANDATORY:

Any surface being used on a Synthetic or All Weather Track must, for safety and horse welfare reasons, receive BHA approval. The approval protocol is industry agreed, coordinated by the BHA Racecourse Department, and carried out in conjunction with Jockeys and Trainers with additional advice from BHA medical/veterinary sources. There is currently a variety of AWT surfaces that carry such approval. The surfaces must be laid down and maintained in line with the suppliers' instructions, and Racecourse Executives must also enlist the services of a consultant in order to provide an annual report to BHA on the condition of the track against certain key performance criteria.

1.9 CROSSINGS

MANDATORY:

Although some racecourses presently have course crossings, these will not be permitted as part of a new turf development.

1.10 WATERING SYSTEMS

MANDATORY:

Racecourses must have both a course watering system (including pump and back-up) and a water supply (e.g. a reservoir/bore hole/river) compatible with the code and programme of racing, and with the dimensions of the racing surface. This is imperative for good turf management and participant safety/welfare. Any watering system must be capable of achieving both the going aims and watering capabilities highlighted in BHA General Instruction 3.2. Specialist advice should be taken with regard to watering systems but, in general terms, it is advisable to use a boom type method of application which applies irrigation consistently and downwards, thereby minimising the impact of wind disruption.

To determine the water requirements and therefore the volume of water required, it is essential to relate the water needs to the area in question. For example, a mile of track with an average watered width of 27m gives an area to be watered of approximately 4.5 hectares.

1.11 DRAINAGE

HIGHLY DESIRABLE:

A drainage system helps to minimize waterlogging and to ensure that suitable racing conditions are provided as per BHA General Instruction 3.2 para 2.

Site Investigation Prior to Drainage Work

For safety reasons, it is essential that a full site investigation be undertaken to determine the problems, site levels, suitability of outlets and other relevant factors to ensure the correct design is selected. It is strongly recommended that advice is taken from a turf consultant. As required by BHA General Instruction 3.2, clearance from the BHA's Racecourse Department is required before carrying out any track related drainage work.

1.12 RUNNING RAIL

MANDATORY:

Running rails must be of a variety currently approved by the BHA (in line with industry agreed testing protocol overseen by BHA's Racecourse Department) and be erected to define the entire racing surface. In addition, for safety reasons, any solid fencing or crowd barrier must be erected at least 2 metres away from running rail that defines the racing surface.

Points of access to the course must have running rails which are colour-distinguished to minimise incident response times for service vehicles (e.g. medical, veterinary, groundstaff etc).

1.13 EMERGENCY SERVICE ROADS

MANDATORY:

A service road must be provided, giving access to all parts of the racing surface. For safety reasons, the service road must be suitable for all types of vehicle and made of tarmac. This ensures that all essential services

(such as doctors, ambulances, vets, horse ambulances and recovery vehicles) can get to all parts of the course. Passing places must be included for emergencies. Provision must also be made for moving starting stalls efficiently on to and off the course at each Flat start. Appropriate safety measures must be taken by the Course Executive wherever spectators are likely to gather in the immediate vicinity of the service road.

1.14 CANTER DOWNS

MANDATORY:

For turf management reasons, it is mandatory for any new Jump course to provide a dedicated canter down. It is recommended that canter downs be at least 3 metres wide and be railed on both sides by an approved running rail. For safety reasons, any crowd barrier or fencing must be at least 2 metres behind the running rail. Canter downs can consist of turf or of any synthetic/All Weather surface approved by the British Horseracing Authority. (See British Horseracing Authority General Instruction 3.4 for further information).

1.15 FLOODLIGHTING

MANDATORY (IF APPLICABLE):

All racecourse floodlighting systems must be installed, operated and maintained in line with the manufacturer's operating instructions. They must be wired in accordance with the Institution of Electrical Engineers Wiring Regulations by an organisation approved by the National Inspection for Electrical Installation Contracting (NICEIC).

Light Level/Camera Picture Quality

For safety and horse welfare reasons, the vertical lighting illuminance of the floodlights must reach a minimum of 700 Lux. However, where the distance between the Photofinish mirror and the Judge's box is more than 85 metres, the light level around the track (particularly in the home straight) will need to be much higher. Furthermore, the recommended level of vertical illuminance also depends on the sensitivity of the cameras being used to relay television pictures. To ensure that acceptable colour camera patrol pictures are obtained, racecourses should liaise closely with the British Horseracing Authority's Racecourse Department, as well as with the contracted integrity service provider.

Columns

For integrity reasons, the location of columns used to mount lamps must take account of sight lines from all Stewards' Boxes. The positioning of the columns must also be such that it produces an illuminated side-on view from the grandstand, as silhouetting of the horses is unacceptable. For safety and horse welfare reasons, columns must be at least 2 metres from the running rail and, if less than 4m, must also be padded. Furthermore, columns must be located in such a way that they do not create a pronounced shadowing effect on any of the courses being used, to the extent that horses would be liable to jump any shadow(s) cast.

Emergency Backup Power Supply

For integrity, as well as for safety reasons, there must be a suitable, separate and continuously running emergency power supply available for immediate use in the event of an electrical failure. This secondary source of power supply must continuously supply at least 10% of the track illumination level, and supply power to Officials' rooms and broadcast facilities. Where the secondary power source is not provided by a generator, but via the Electricity Board's mains, it must be from a different part of the Board's supply network to that of the primary source.

1.16 OBSTACLES

MANDATORY:

Fences

See BHA General Instruction 3.5 for current specification.

Hurdles

See BHA General Instruction 3.6 for current specification.

Wings

These must be provided at all obstacles to the dimensions specified in BHA General Instructions 3.5 and 3.6.

Lay-by

For safety and horse welfare reasons, these must be installed on the inside of obstacles where applicable. Each Lay-by must be approximately 4m in width immediately adjacent to the obstacle, this width diagonally reducing to zero at 30 metres beyond the obstacle, where it meets the inside racing line.