

## Orienteering Event Formats – Sprint Distance Orienteering

Orienteering courses have a number of formats, strictly these are

1. Long Distance – uses bush or forest maps
2. Middle Distance – uses bush and forest maps
3. Sprint Distance – mostly urban, sometimes forest, now includes Knockout Sprint
4. Relay
  - a. Forest relays
  - b. Sprint relay

Appendix 8 in the Orienteering Foot Rules discusses the features of the various formats.

This article focuses on Sprint Distance courses. As for the previous articles on Middle and Long Distance orienteering, these comments apply largely to the harder navigation courses, and less so to easier. Because of the nature of Easy and Very Easy courses, the format of these is similar for all orienteering event formats.

Sprint Orienteering maps should generally be largely runnable e.g. pavement, open and semi-open areas, open forest. The maps use a dedicated mapping specification – ISSprOM2020 – 2. Copies can be found on this page: <https://orienteering.sport/iof/mapping/>

The OA Foot Orienteering rules summarizes sprint orienteering as follows:

“The Sprint profile is high speed. It tests the athlete’s ability to read and translate the map in complex environments, and to plan and carry out route choices running at high speed. The course must be planned so that the element of speed is maintained throughout the race. The course may require climbing but steepness forcing the competitors to walk should be avoided. Finding the controls should not be the challenge: rather the ability to choose and complete the best route to them. For example, the most obvious way out from a control should not necessarily be the most favourable one. The course should be set to require the athletes’ full concentration throughout the race.”

Although the above focuses on speed, for the more recreational orienteer, the navigational aspects will still apply.

In summary the characteristics of sprint orienteering courses are:

1. Profile is high speed (for runners)
2. Commonly urban
3. Tests ability to read complex maps and make many route choice decisions and implement them as quickly as possible
4. Map scale is 1:4,000. Enlargement to 1:3,000 permitted for older age groups
5. Controls are technically easy – but competitors need to check the control location on the features e.g. for inside/outside corner scenarios
6. Aim is to test the ability to choose and complete the best route, some apparent routes may have “traps” (dead ends or impassable objects)!
7. Areas so complex that they can’t be interpreted at speed should be avoided
8. Out of bounds areas and features not to be crossed (see below) need to be considered in course planning, don’t set legs that tempt competitors to cross these. They should be marked on the ground where needed.

So what makes a good sprint course:

1. Good terrain – small “granularity”
2. Requires constant and high concentration
3. Maximises route choices in each leg
4. Minimises the ease of seeing best route choice
5. Doesn’t have too few control points
6. Maximises direction changes
7. Minimises long legs unless they have very high quality e.g. multiple route choice options across a complex area

A table has been developed to assess the quality of sprint legs, but not every leg needs to be (or probably can be) a 3 point leg.

## Sprint Course Assessment

### - 4 point scale for each leg

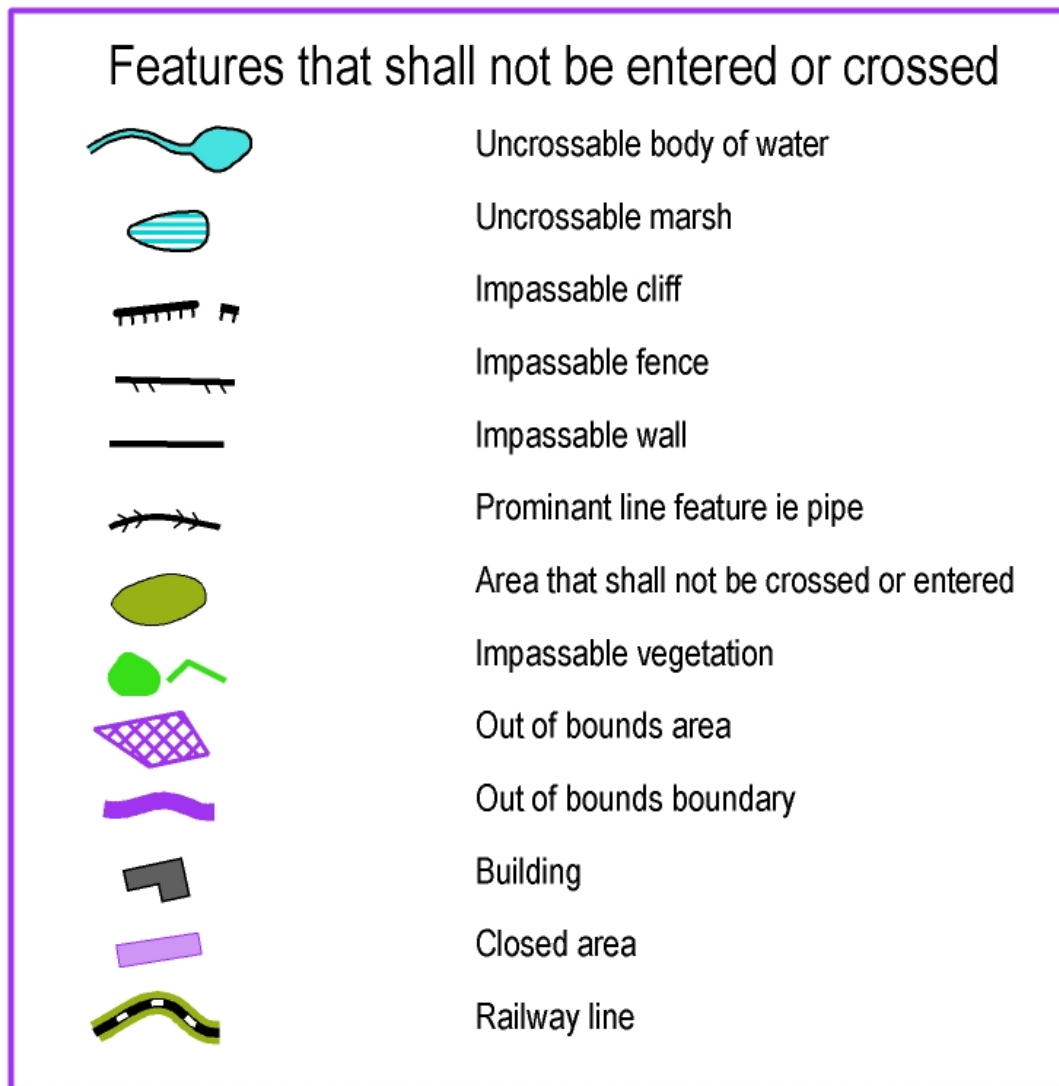
Points	Urban	Non Urban
0	Little or no route choice	Simple leg with minimal navigation needed
1	Two similar routes, easy to identify	Easy route choice leg with little technical detail
2	Several possible routes, or one longer route which is complex to execute – thinking needed	Route choices not immediately obvious and/or some technical challenge
3	Complex route choice/detailed navigation needed – many decision points	Complex route choice/detailed navigation needed

Lausanne - July 2012

Other important points to note for sprint courses are

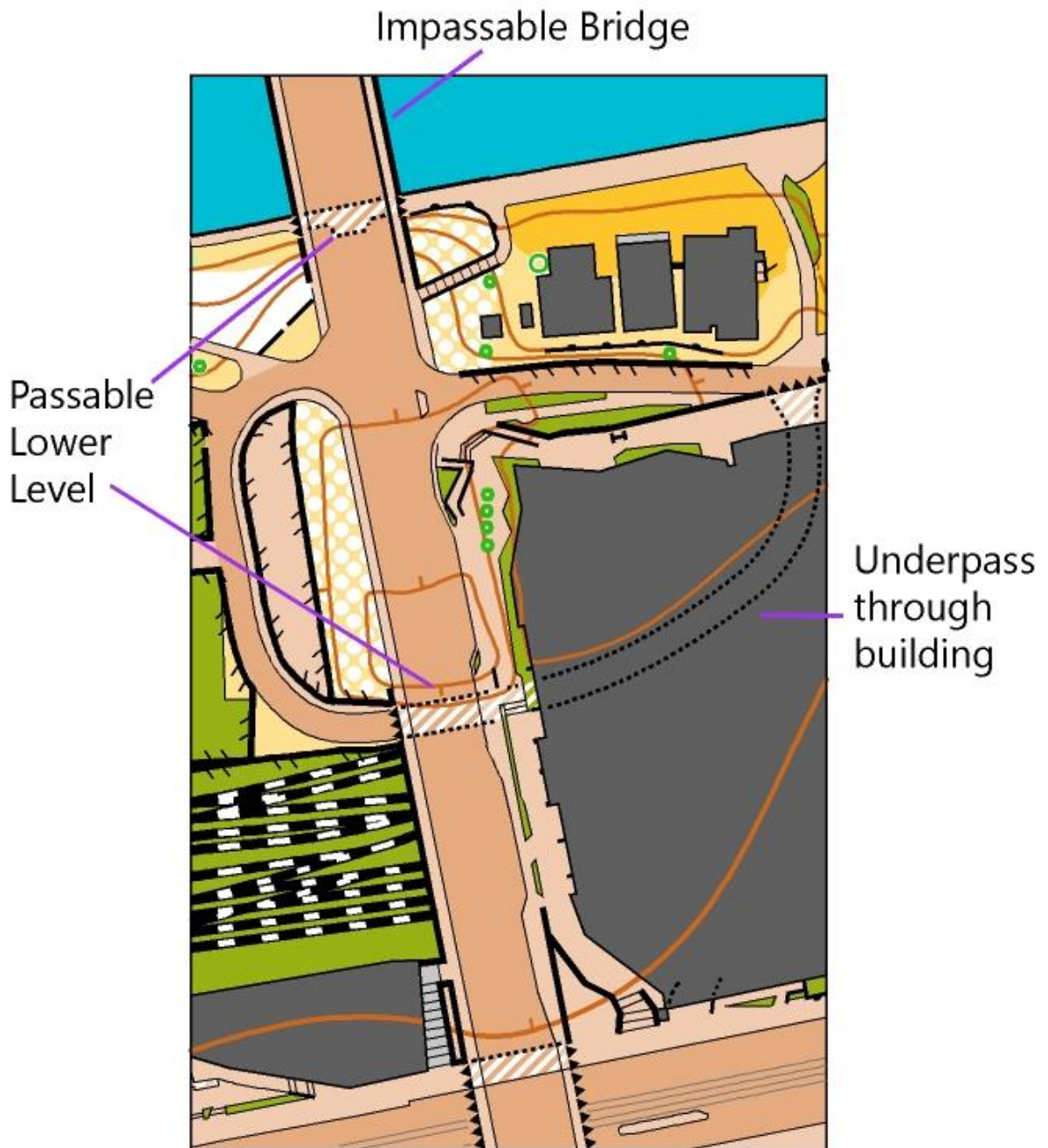
1. The length of sprint courses is generally not measured as the distance between control points as in forest and recreational orienteering, but is measured as the optimum or most likely route, and so represents the actual distance to be covered.
2. Winning times are in the range 12 – 15 mins, although when only a limited number of courses are offered, the time will probably be longer for most “running” participants
3. As the events are most commonly in urban locations, safety considerations are important e.g.
  - a. Roads with traffic – can be marked as out of bounds, and where they need to be crossed require the use of designated crossing points e.g. underpasses need to be highlighted

- b. Don't encourage routes that may lead to participants encountering high walls at speed
4. Controls should not be sited within 25 metres of each other measured as running distance for map scales of 1:4000 and 1:3000, and a minimum straight line distance of 15 m
5. Further, only when the control features are distinctly different in the terrain as well as on the map, should controls be placed closer than **30** metres for map scales of 1:4000 or 1:3000.
6. Sprint maps have a number of features (linear and area) that are forbidden to cross. These are illustrated below



7. Sprint maps may show features that are passable at 2 levels, this is illustrated in the following diagram where the roadway can be crossed at the top level (although this is a high traffic road) and also at a lower level, as shown by the striped area on part of the road. The triangles at each end indicate that the lower level is passable under the road here (passable bridge), with the line of small black dots showing the passable area under

the road. These dots also indicate underpasses beneath buildings. A solid thicker line adjacent to the road indicates an impassable bridge.



8. Striped area can indicate passable lower levels underneath other features besides paved or roadway areas as above. The above is the most common type you will see. For all possible combinations, see this page in the OMap WIKI - <https://omapwiki.orienteering.sport/symbols/512-3-area-passable-at-two-levels/>

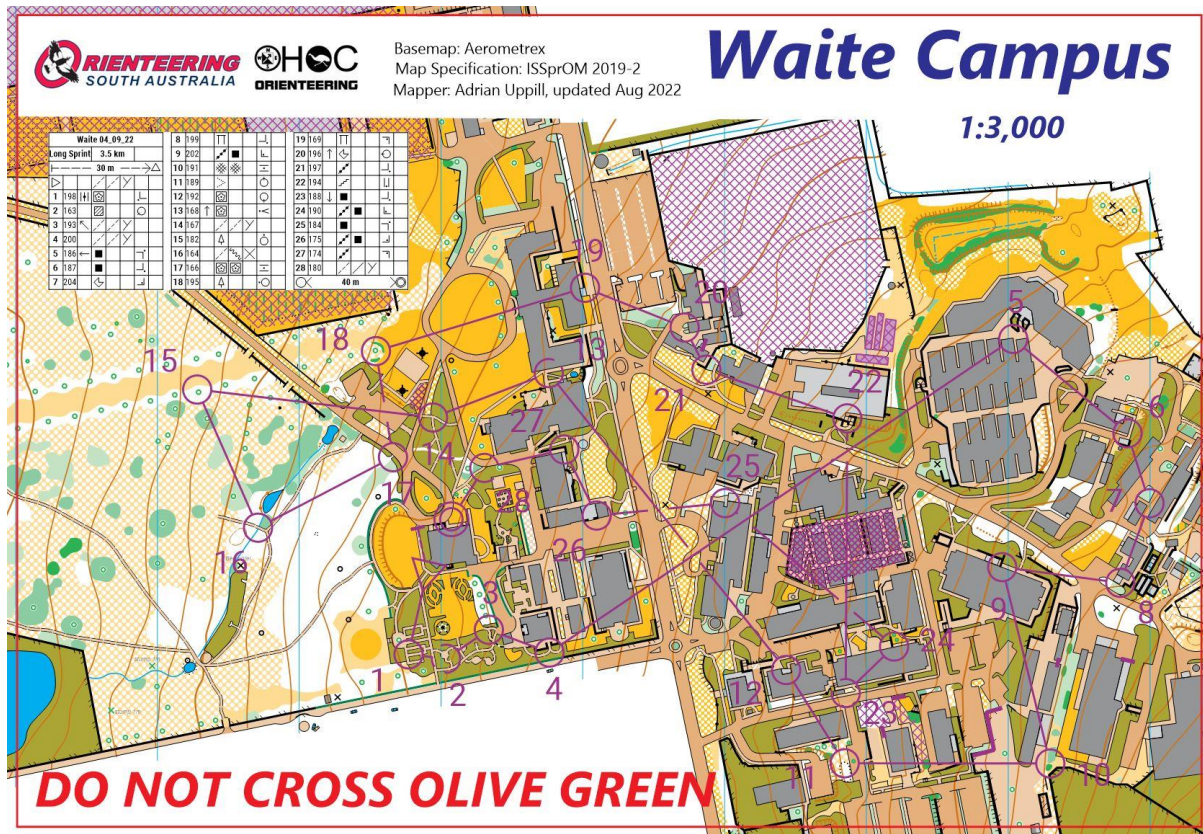
### Example Sprint Courses

Urban sprint maps in Australia are most commonly campuses of schools and tertiary institutions, in Europe they are often urban area with higher density living and park areas (e.g. Scandinavia) or older

style villages (e.g. Spain or Italy). The examples below are all from South Australia, but illustrate a variety of map types.

### Waite Campus – Long Sprint

This course shows a mixture of short and longer legs, and uses a variety of terrain (around buildings to the Waite arboretum area). The longer legs have several route choice options, and most shorter legs also have route choice. Checking control descriptions is required to ensure you have the correct corners for some control sites. In-out controls and dog legs are minimized.



### Renmark Schools – use of a smaller area by having a map exchange

This school campus was not overly complex, so some artificial barriers were added. The courses used both the building areas and ovals with faster running – this also provided a spectator leg. All the different terrain types were used. Not all legs could offer route choice, however this course attempted to provide variety in legs and directions, and use all terrain types so quick decision making and concentration were required for the whole course. The maps below show the Maps 1 and 2 with a map exchange after Control 19.

# Scale 1 : 4000

Base map material supplied by:  
 Renmark High School  
 Renmark Primary School  
 Renmark Irrigation Trust

Mapping & cartography:  
 AO Uppill

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 Orienteering SA  
 September 2018



1	122
2	118
3	116
4	120
5	130
6	135 ↗
7	150
8	134
9	133
10	144
11	74
12	126 ↑
13	127
14	109
15	102
16	106
17	108 ↘
18	112
19	71

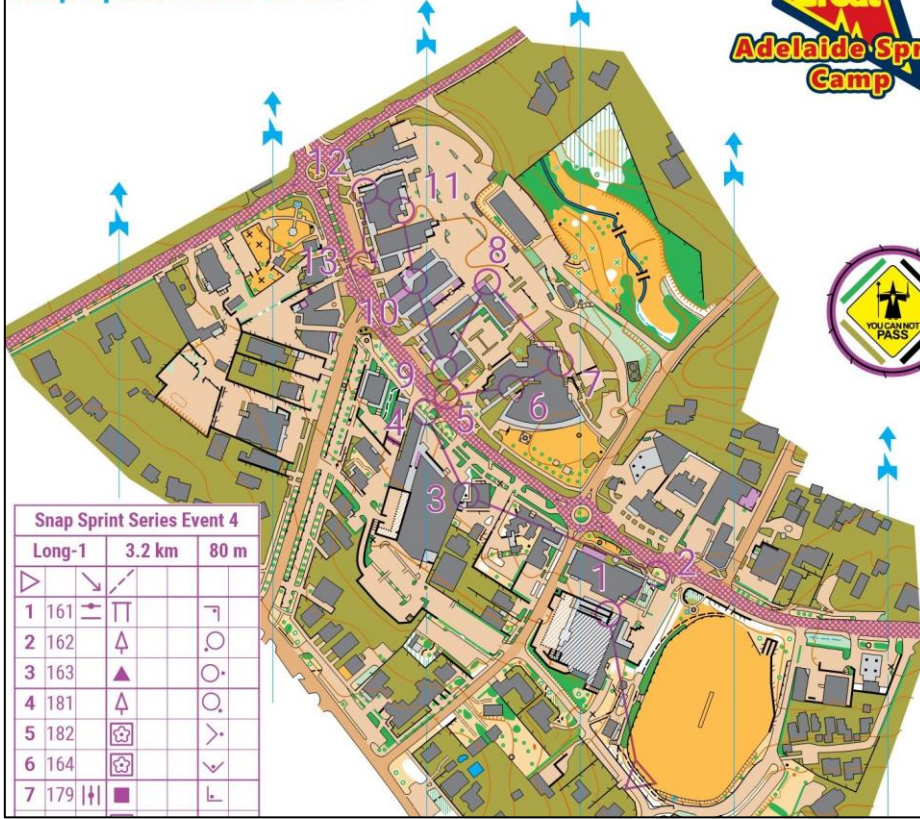
- Contour
- - - Form line with Down tag
- TTTTT Earth bank
- Small earth wall
- Small knoll
- Small elongated knoll
- Small depression
- Broken ground
- Stony ground
- Open sandy ground
- Open land
- Open land with scattered trees
- Rough open land
- (white) Forest: Easy running
- Forest: slow running
- Forest: difficult to run
- Vegetation: very diffic. to run
- Prominent large tree
- Prominent bush or small tree
- Stump
- Unpaved footpath or track,urban
- Paved footpath or track,urban
- Unpaved footpath or track,non-urban
- Small unpaved footpath or track
- Less distinct small path
- Passable stone wall
- Passable fence or railing
- Impassable wall
- Impassable fence
- || Crossing point
- Building inside



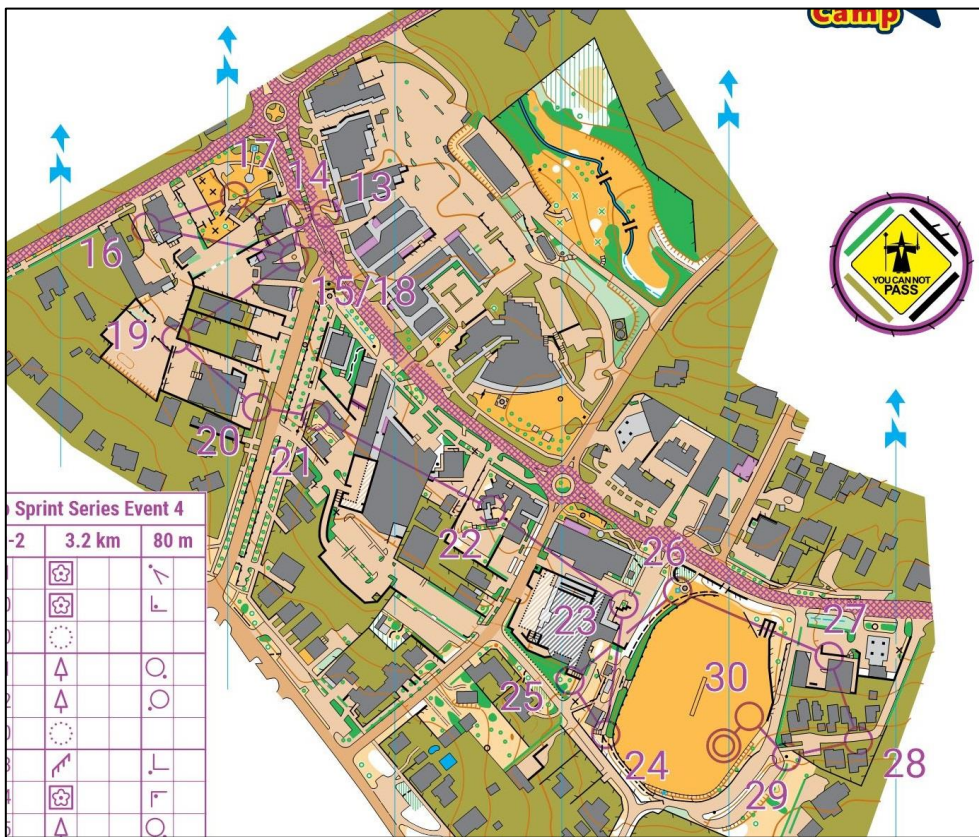
## Stirling

This example is shown as it is an urban street setting. The major roads are out of bounds apart for specified crossing points, and other out of bounds areas are also shown (pale purple amongst some building areas). Many legs generally have right-left route choice options, however for even legs without significant route choice – constant map reading is required. This course also has a map exchange. This map was produced prior to the latest mapping specification and may have symbols that are not current.

# Snap Sprint Series Event 4



Snap Sprint Series Event 4			
Long-1	3.2 km	80 m	
1 161	⇌	⌌	⌌
2 162	▲		○
3 163	▲		○
4 181	▲		○
5 182	⊠		⌌
6 164	⊠		⌌
7 179	⌌		⌌



Sprint Series Event 4		
-2	3.2 km	80 m
	⊠	⌌
	⊠	⌌
	○	○
	▲	○
	▲	○
	⊠	⌌
	⊠	⌌
	▲	○



## Adelaide Botanic Gardens

An example with complex gardens and a variety of path styles. Again constant map reading is required to do well, as each leg has many decision points, and getting the direction right is required in the final legs in the more open park before the finish.

