

INTERNATIONAL TRIATHLON UNION
Event Organisers' Manual (EOM)
 Part C: Technical Operations

TABLE OF CONTENTS

1	General	39
2	Swim Course	40
2.1	Swim Course Layout	40
2.2	Swim Course Equipment	41
2.3	Swim Course Personnel	45
2.4	Swim Course Procedures	45
3	Transition Area	46
3.1	Transition Layout	46
3.2	Transition Area Equipment	47
3.3	Transition Area Personnel	48
3.4	Transition Area Procedures	49
4	Bike Course Design Specifications	50
4.1	Bike Course Layout	50
4.2	Bike Course Equipment	51
4.3	Bike Course Personnel	51
4.4	Bike Course Procedures	53
4.5	Bike Course's Aid Station (only for Long Distance events)	54
5	Bike Course Penalty Box (for draft illegal events)	54
5.1	Penalty Box Layout	54
5.2	Penalty Box Equipment	54
5.3	Penalty Box Personnel	54
5.4	Penalty Box Procedures	54
6	Wheel Station	55
6.1	Wheel Station Layout	55
6.2	Wheel Station Equipments	55
6.3	Wheel Station Personnel	55
6.4	Wheel Station Procedures	56
7	Lap Counting	56

8	Run Course Design Specifications	56
8.1	Run Course Layout	56
8.2	Run Course Equipments	56
8.3	Run Course Personnel	56
8.4	Run Course Procedures	57
9	Aid Station	57
10	Run Penalty Box (for draft legal events)	58
10.1	Run Penalty Box Layout	58
10.2	Run Penalty Box Equipment	58
10.3	Run Penalty Box Personnel	58
10.4	Run Penalty Box Procedures	58
11	Finish Area Design Specifications	60
11.1	Finish Area Layout	60
11.2	Finish Area Equipment	61
11.3	Finish Area Personnel	61
12	Relay Zone	62
12.1	Relay Zone Layout	62
12.2	Relay Zone Equipment	63
12.3	Relay Zone Personnel	63
13	Public Address System	63
13.1	High quality public address system	63
13.2	Approving of Event Announcers	63
14	Medal Presentation	64
14.1	Medal Presentation Layout	64
14.2	Medal Presentation Equipment	64
14.3	Medal Presentation Personnel	65
14.4	Medal Presentation Procedures	65
15	Athletes Lounge Specifications	66
15.1	Elite athletes requirements	66
15.2	Age- Group athletes requirements	66
15.3	Elite Uniform check requirements	66
16	Athletes Briefing	67
17	Medical Management	67
17.1	General	67
17.2	Medical Plan	67
17.3	Personnel	68
17.4	Ambulances and Access	68
17.5	Hospital	68

17.6	Medical Records	68
17.7	Race Medical Management	68
17.8	Athlete Medical	69
17.9	Medical Supplies	70
17.10	Massage Facilities	70
17.11	Spectator Medical	71
17.12	Cold Water conditions' preparations	71
18	Doping Control	71
18.1	General	71
18.2	Personnel	71
18.3	Doping Control	71
19	LOC office	72
19.1	General Requirements	72
20	SPORT EXPO Facilities	73
20.1	General Requirements	73
21	Spectator Services	74
21.1	General Requirements	74
22	Communication Plan	74
22.1	Venue Communication Centre (VCC)	74
22.2	General Requirements	74
22.3	Access	75
22.4	Training	75
22.5	VCC Staffing and Hours of Operations	75
22.6	Radio Talk Groups	75
22.7	Radio Distribution and Retrieval	77
22.8	Radio Protocol	78
23	Press Centre	79
23.1	General	79
24	Timing & Results	80
24.1	General	80
24.2	Timing requirements	80
25	Evacuation Plan	81
25.1	Introduction	81
25.2	The Venue Description	81
25.3	Communication/ Command Centre	81
25.4	Category of Evacuation	81
25.5	Urgent Evacuation	81
25.6	Non- Urgent Evacuation	81

25.7	Evacuation Procedures	81
25.8	Evacuation Drawings	82
26	Contingency Plan	83
26.1	Definitions of Delay, Postponement and Cancellation	83
26.2	Rules on Delay/ Postponement	83
26.3	Rescheduling Management	83

1.

General

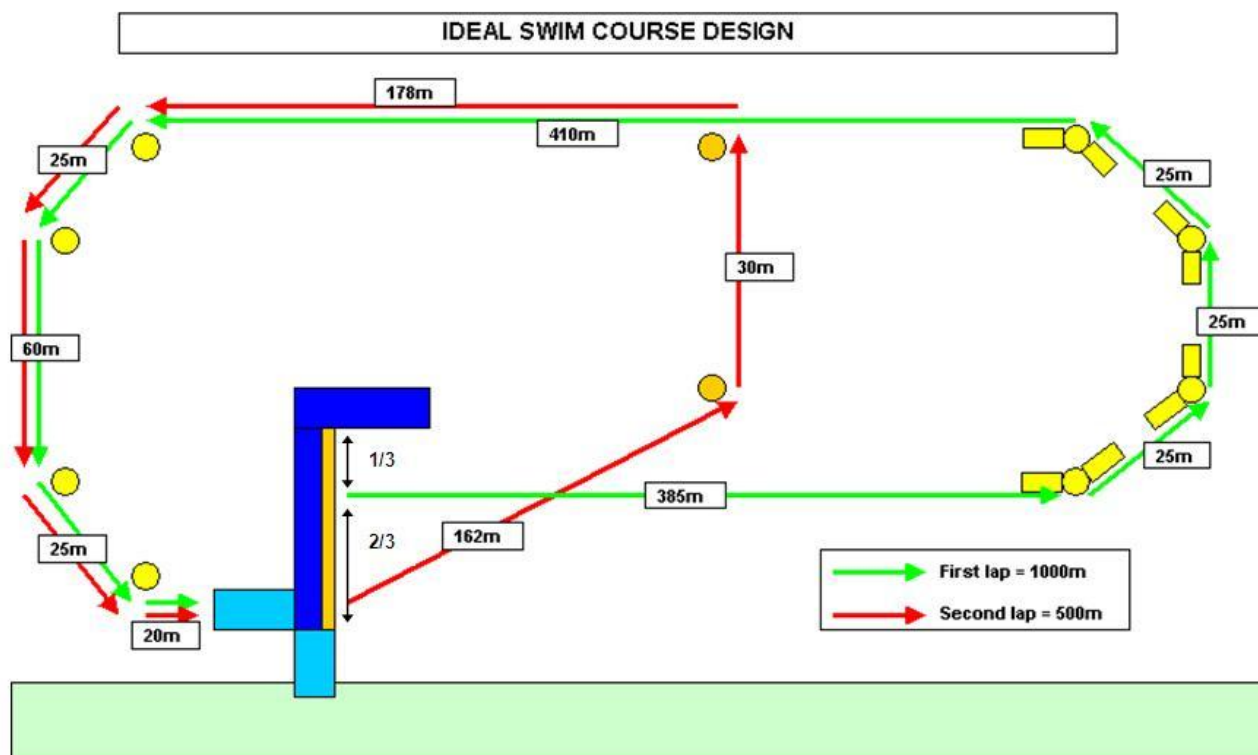
- 1.1 The technical operations section of the EOM combines the duties of the LOC regarding venue and operations. The following phases of a competition will be described in detail to maximise the television and spectator friendly element without compromising the safety and fairness of the competition:
- a) Registration
 - Athletes; and
 - Coaches.
 - b) Briefings
 - Athletes; and
 - Coaches.
 - c) Course familiarisations
 - d) Athletes lounge
 - e) Swim course
 - f) Transition area
 - g) Bike Course
 - Wheel station; and
 - Lap counting.
 - h) Run course
 - Aid station;
 - Lap counting; and
 - Finish area.
 - i) Primes (if applicable)
 - j) Sport presentation
 - k) Medal presentation
 - l) Venue communication
- 1.2 These phases will be described as:
- a) Layout
 - b) Personnel
 - c) Equipments
 - d) Procedures
- 1.3 Besides the course it will feature the transition area and the finish area in a 'stadium-like' fashion that will accommodate grandstand seating with large television screens and scoreboards, and it is presented in a manner that showcases an event.

2.

Swim Course

2.1 Swim course layout

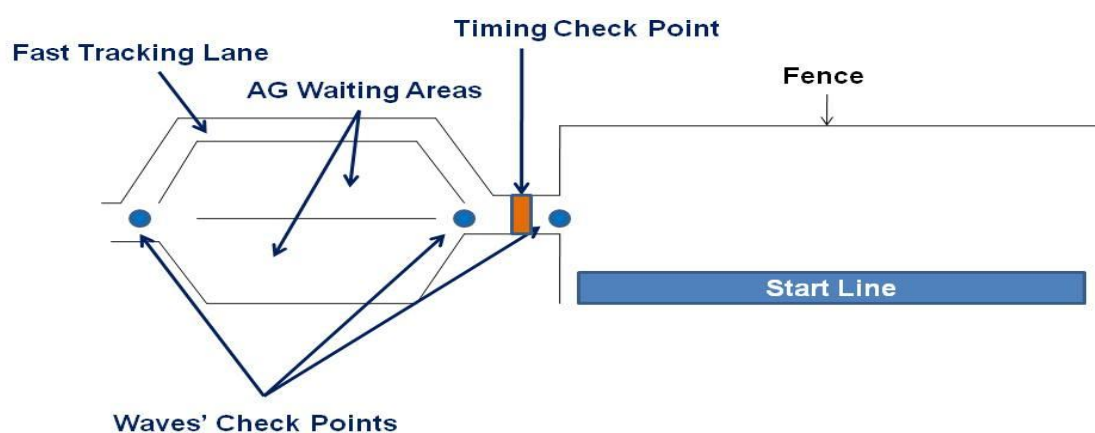
- The swim starting area will be defined by hard crowd control low fencing providing the athletes with a buffer zone from media and spectators.
- Media will be provided a zone along the length of the swim start that will be secured from spectators by hard fencing and managed by security personnel or on a perpendicular platform attached to the one end of the platform not blocking the view of the VIPs.
- A VIP area at least 50 square meters will be provided adjacent to the swim start. It will be secured from spectators by low hard fencing and managed by security personnel. The Media and VIP areas must not overlap.
- A coaches' area will be provided for all accredited personnel adjacent to the pre-start area. This area will be secured by low hard fencing and managed by security personnel.
- Number and length of laps:
 - Elite/u23 – 1500m – 2 laps (preferably 1000m + 500m);
 - Junior/age group sprint distance – 750m – 1 lap;
 - Age group standard distance/paratriathlon – 1500m – 1 lap;
 - Long distance – 3000m/4000m – 1 lap; and
 - Team relay – 300m – 1 lap.
- The swim will be in a counter clockwise, if the TD does not order differently.
- The turns should be curved and with the angle of the turn never more than 90°.
- For standard and long distance events, the first turn buoy will be no closer than 350 metres from the start.
- The swim course minimum depth should be 1,5m
- The use of warm up area must not interfere with the competition in progress.
- Medical facilities will be placed adjacent to the swim course.
- An aid station will be placed adjacent to the swim exit for the age group athletes and paratriathletes.



2.2 Swim course equipments

a) Pre start area/call room

- Lining-up age group athletes in-time, is critical for avoiding any delays on the start times. A special area has to be prepared in order to facilitate the athletes from 3 waves (around 300) and a fast tracking line for last minute show up. At the end of this area, the timing chip certification should take place; and



- The elite call room should be equipped with chairs, numbered boxes for leaving the last minute gear and water/refreshments. Ice should be provided in extreme weather conditions.

b) Start area

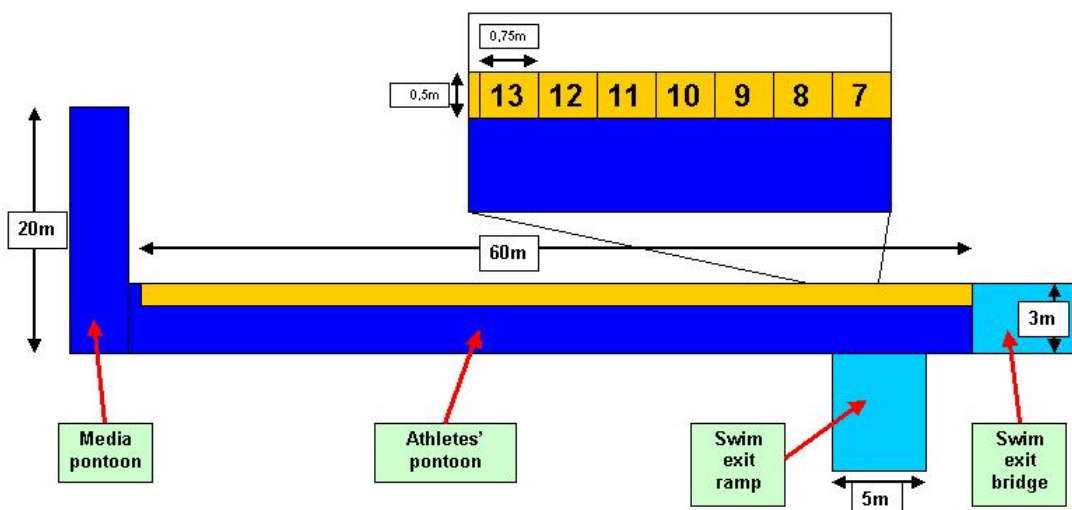
- The 3 different types of start areas, in order of preference are:
 - Solid pontoon: Gives the possibility of a dive start, solid construction.
 - Floating pontoon: Gives the possibility of a dive start. This pontoon has to be stable enough. Movement more than 0,3m in any direction on competition conditions are not acceptable.
 - Platform beach start: Solid construction with a 0,2m elevation on the front edge, which clearly defines the start line.
- If there is no possibility of any pontoon the platform beach start is acceptable;
- Swim pontoon/platform specifications: measuring minimum 60m x 3m. The design of the swim start line will provide an equal start position for all athletes; and
- The height of the pontoon is ideally between 0,2m and 0,5m.

c) Pontoon carpet

- The swim platform will be completely covered in 'blue' carpet. The carpet should be made from an anti-slippery material.

d) Pontoon markings

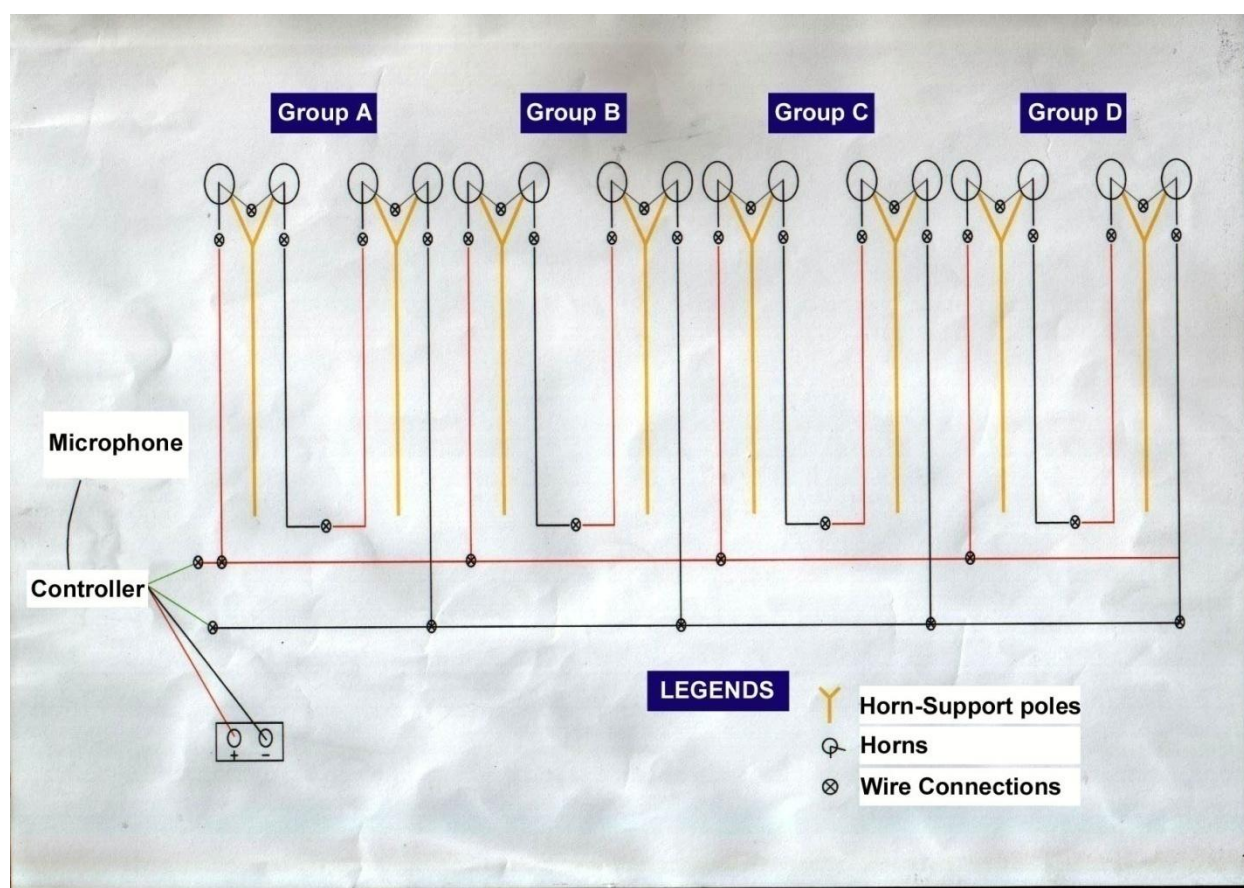
- There will be a 'pre-start line'. This will be a solid white line minimum 5cm in width 0,5m from the front edge of the swim platform;
- Each athlete will be allowed 0,75m; and
- Each athlete position will be numbered from right to left as we are facing the first turn buoy. The numbers must be minimum 20cm in size and white in colour facing the athletes as on the design below.



e) Swim start system

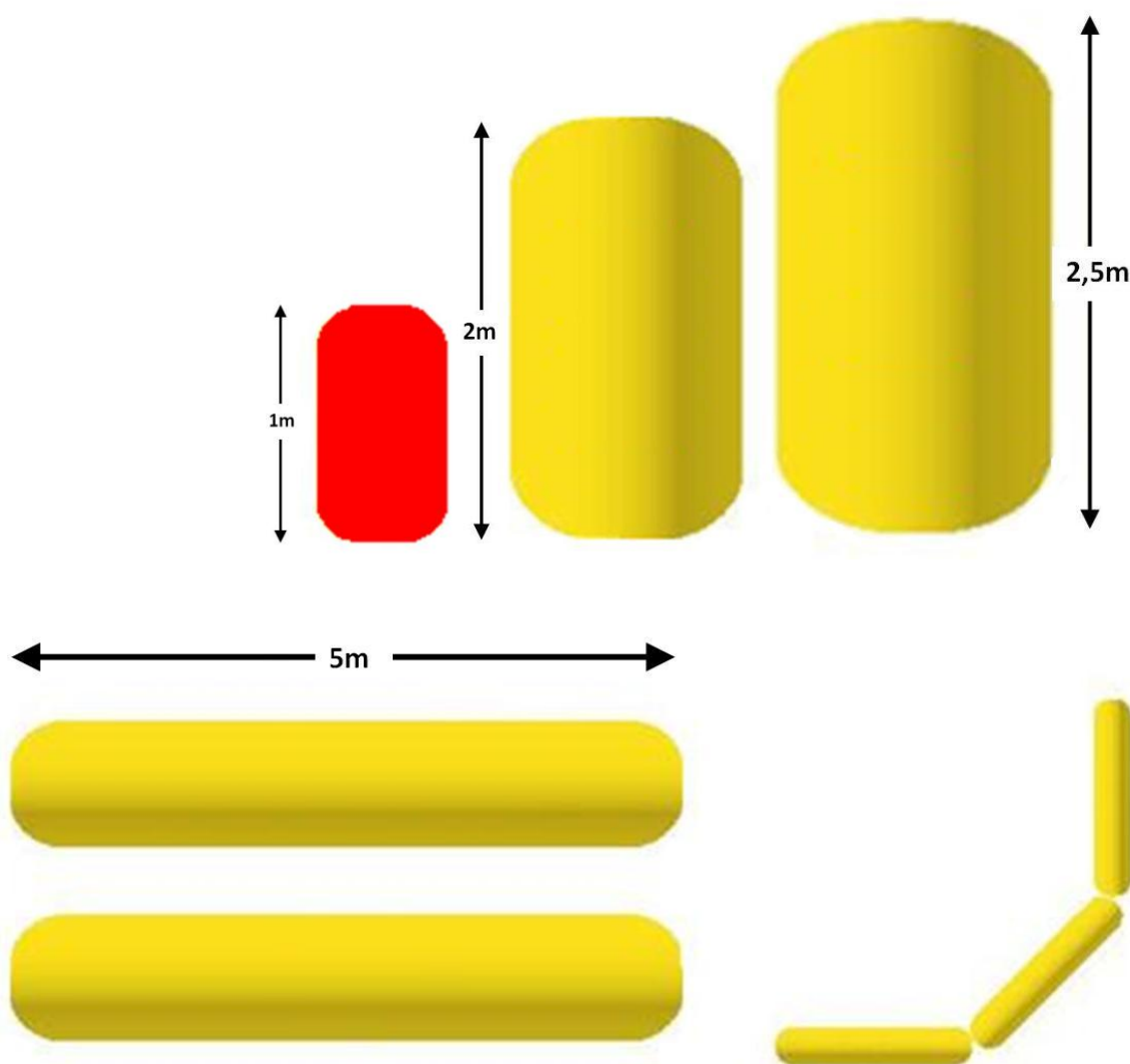
The LOC should prepare and provide an electronic start system for the start. This system should be composed by at least 6 horns (22W), 3 metal poles for supporting the horns, 2 car batteries for power, 1 controller with microphone and switch with about 440m wire (for 2 set of circuit) or 220m wire (for 1 set of circuit).

The following diagram is based on a 16 horns set up.



f) **Buoys**

- The turn buoys are, 1m in diameter and not less than 2,5m in height. An 'olympic-style' banana buoy is preferred; and
- Sight Buoys: The number and placement of sight buoys will vary, but will never be placed less than every 50 metres apart.
 - Banana buoys 5m long x 1m diameters. Fabric air-tights pvc 850-1100 denier, sewing high frequency welding system, multi connection inox for the connections of the buoys, valve irrevocably and should be removable.
 - Turn buoys 2,5m long x 1m diameters. Fabric air-tights pvc 850-1100 denier, sewing high frequency welding system, multi connection inox for the connections of the buoys, valve irrevocably and should be removable.
 - Sight buoys 1,2m long X 0,7m diameter. Fabric air-tights pvc 850-1100 denier, sewing high frequency welding system, multi connection inox for the connections of the buoys, valve irrevocably and should be removable.



g) **Swim course turning buoy set up:**

- The pull-down weight should be over 20 kg. In case of strong wind and relative big waves more weight needed. The weight must be at least 1 meter deep;
- The total length of rope (connecting the chain and the pull down weight) and chain should be enough long enough to keep the buoy in its position in case of wind, waves and tide differences;
- Wire is forbidden. Usage of carabiner is recommended;

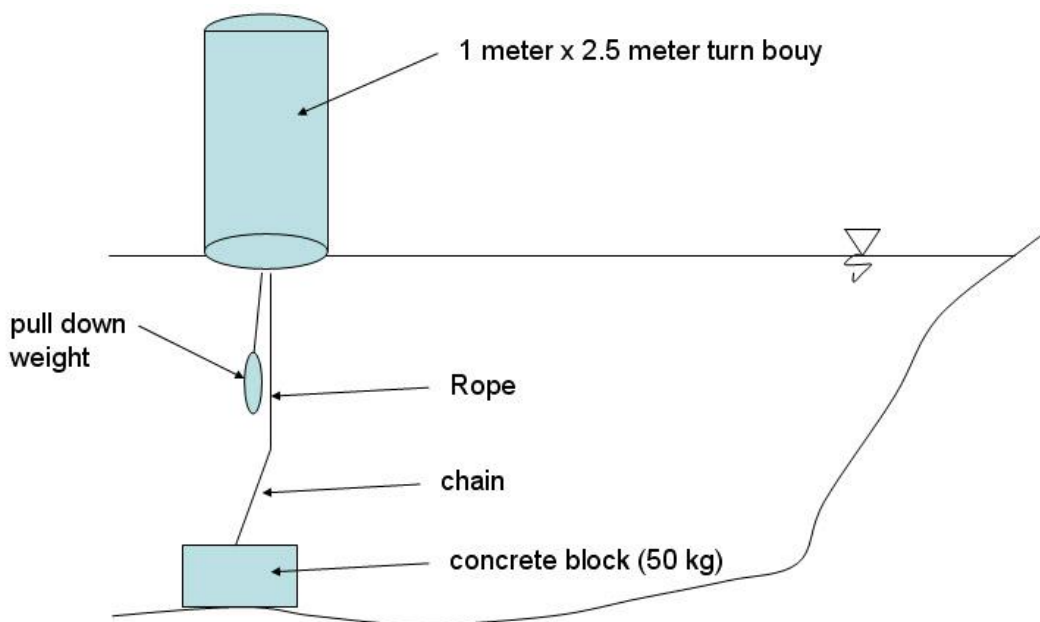


Figure-01.

- If the turn buoy is not one part (olympic-style) then the separated buoys must be attached;
- One turning point (three buoys – 2 ‘banana’ and 1 standing buoy) must be stabilized by 7 independent fixing. See figure-02;
- The fixing ropes should not disturb the athletes;
- Use ‘pull down weight’ for the banana and standing buoys; and
- The banana buoy must point exactly to the following turning point.

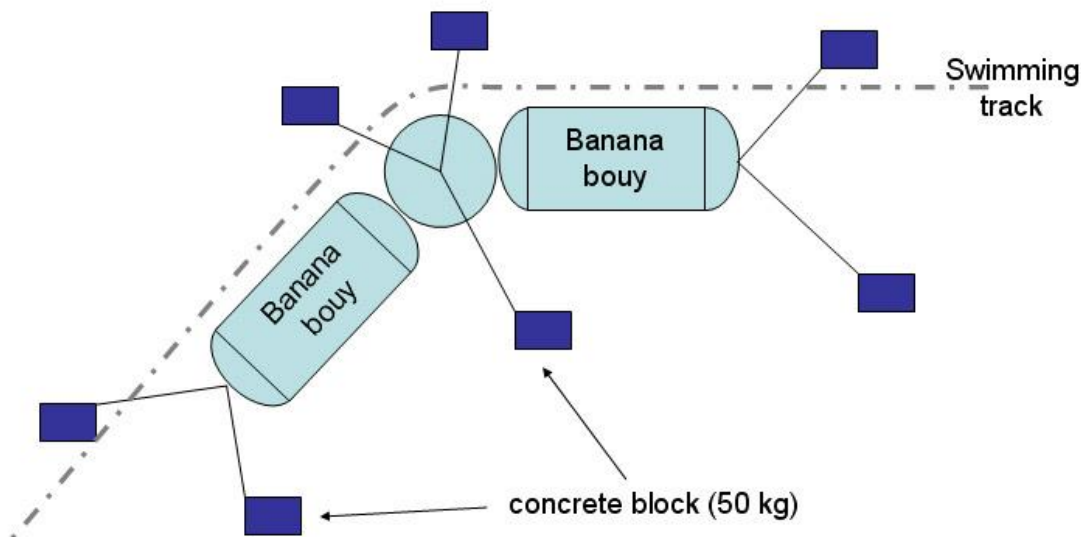
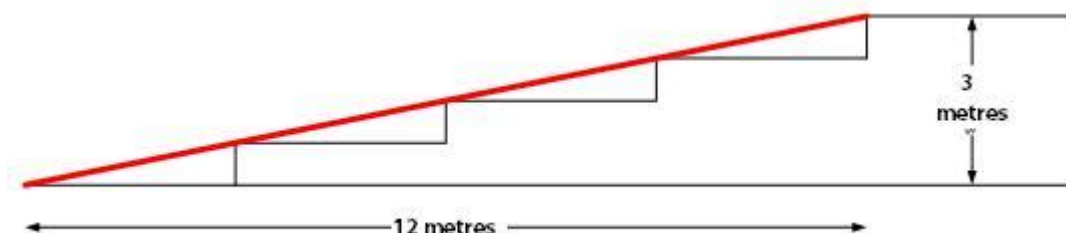


Figure-02.

h) Swim exit ramp

- The width will be at least 5m;
- The swim exit can be either ramp or steps;
- In case of a ramp, the angle can't be more than 25% and the bottom of the ramp has to be a minimum of 0,6m under the surface of the water;

- In case of steps, one step has to be minimum 0,4m wide and two steps can't be more than 0,25m apart from each other in height. The first step has to be a minimum of 0,6m under the surface of the water;
- The exit will be covered in blue anti slippery carpet (swimming pool deck type);
- The swim exit should be clearly marked by 2,5m high branded buoys/pillars/columns;
- Fresh water showers should be provided for all athletes to run through on the way to the transition area;
- There will be an official with a video camera to monitor the swim exit; and
- Paratriathlon Requirements: The exit must be paratriathlon accessible.



2.3 Swim course personnel

- a) Described in the Marine operation plan - games level competitions (see appendix).

2.4 Swim course procedures (described also in the Marine operation plan - games level competitions)

a) Water quality

- Water quality tests: submit to the ITU:
 - At the time when the LOC announces the venue (if this takes place at least 15 months before the first competition date);
 - One year prior in the month of the event;
 - Two months before the competition; and
 - 7 days before the competition.

Water quality tolerance limits (Bacterial or viral tests): samples are a mixture of water collected from three different locations on the swim course. Limits are:

- PH between 6 and 9
- Enterococci not more than 100 per 100 ml (ufc/100ml)
- Escherichiacoli E. Coli not more than 250 per 100 ml (ufc/100ml)

b) Water temperature

- Water temperature must be taken and posted daily beginning seven days prior to the competition;
- Water temperature must be taken and posted/announced one hour prior to the start of the event on competition day;
- Water temperature readings must be taken in the middle of the course, and at two other points throughout the course in a depth of 60cm. The lowest measured temperature is the official temperature; and
- The decision regarding wetsuit usage will be determined one hour prior to the competition according to the ITU Competition Rules.

c) Course measurement

- A laser transit or GPS will be used to measure the swim course, which must be exact with no current adjustment. This certified measurement must be provided to the TD.

d) Warm-up

- The swim warm-up for the Elites athletes should end no later than 15 minutes prior to the start.

e) Swim start

- Every start must be given by the referee, unless the TD assigns another technical official;

- Elite/u23/junior:
 - The women and men's competitions will be completely separate with a minimum of 30 minutes between the finish of one competition and the start of the next competition.
 - Age group/paratriathlon:
 - Swim start times will be determined by the TD based on the course layout and the number of athletes entered;
 - For standard and sprint distance events the waves will not exceed 150 athletes per wave;
 - Waves will have different coloured swim caps after each other. At the same time the competition number should be allocated in a way to point out easily the different waves from each other e.g. 100 to 167: wave 1, 200 to 289: wave 2, etc.;
 - Deep water start is acceptable touching the pontoon or a platform with one hand;
 - Men and women waves can never be mixed (except paratriathlon); and
 - Athletes from the same age category and gender must start together.
- f) Swim start procedure**
- elite/u23/junior:
 - The start line officials will take their position behind the start line;
 - The athletes' will be lined up at the call room;
 - The announcer will start presenting the athletes based on the protocol;
 - The athletes should choose a spot and remain inside their start box;
 - On the referee's call: "on your mark" they athletes should take start positions; and
 - The start will be given with an air or electronic horn signal.

3. Transition area

3.1 Transition layout

a) elite/u23/junior

- Minimum width: 10 metres;
- Flow, entry and exit angles: there should be no sharp angles and the flow should be in one direction for both transitions;
- Mount line: in the full width of the transition exit clearly marked determined by the TD;
- Dismount line: in the full width of the transition entrance clearly marked determined by the TD;
- In case of two transition areas, the set up of the athletes' positions must be exactly the same in both;
- The entrance and exit of the transition should be a minimum of a 6m width; and
- The mount and the dismount line should be at least 5m away from the closest bike rack.

b) Age group/paratriathlon

- Transition should be on a smooth surface, if on grass, it must be without holes or hazards and closely cropped;
- Transition must be wheelchair accessible;
- The transition entry and exit should be marked with 3 to 4 metre high ITU branded towers or gantry;
- The design of the transition area will ensure that all athletes run an equal distance without their bikes;
- The design of the transition should be set up so that there is no crossover of athletes;

- In case the TD orders one day in advance check-in for the age group athletes, the transition needs to be set and secured before the start of the check-in;
- The design of the transition and the athletes' allocation should allow every athlete to re-check his/her equipment up to 30 minutes before and check out from 15 minutes after the finish of the last athlete of his/her wave;
- Ensure that all paratriathlon athletes are using the same entrance and exit;
- The paratriathlon transition section should be set to provide the easiest possible access; and
- Plan for extra lighting units in case of an early morning start.

c) Team relay

- Athletes from the same team should be placed together in the transition area, unless the TD orders differently.

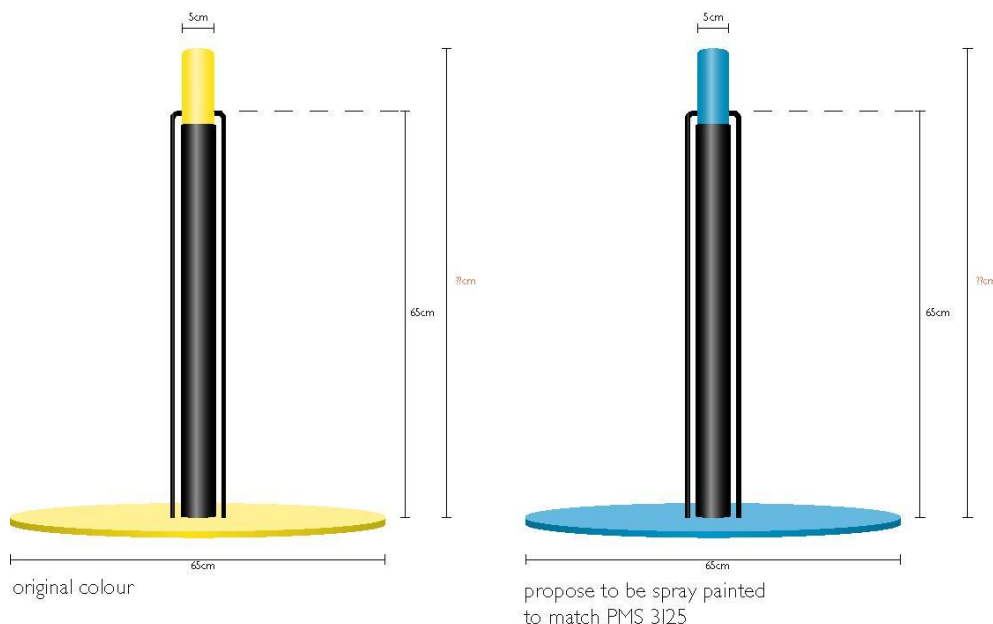
d) Long distance

- Transition area assistants (handlers) are allowed; and
- A tent (separated for men and women) should be provided for changing the uniforms.

3.2 Transition area equipments

a) Elite/u23/junior

- Bike racks
 - The preferred racks are the 'Olympic style';
 - If standard metal tube bike racks are used, they must be firm and stable – approved by the TD;
 - Each bike rack must have a laminated name card which is at least 20cm x 25cm including: athlete's last name, 3-letter country code and/or flag;
 - A separate athlete number sticker will be attached to the laminated name card; and
 - The identification on the laminated name card should be placed in such a manner that is visible to spectators and unobtrusive to the athletes.





- Carpet
 - Completely carpeted in blue carpet from swim exit to transition exit.
- Equipment boxes
 - For each athlete with dimensions: 45cm x 30cm, and 25cm in height;
 - A separate athlete number sticker will be attached to each box; and
 - Weather conditions must be considered in the management of the athlete's equipment. (For example, box covers in case of rain.)

b) Age group/paratriathlon

- Bike racks
 - The racks must be secure with a minimum of 5m between the rows;
 - Each age group athlete must be provided minimum width 0,75m in rack space;
 - Each paratriathlete must have 2m of transition space and folding chair should be available;
 - Bike positions should be clearly marked with a laminated card of 10cm x 10cm with the athlete race number;
 - In both ends of each row, a 1m x 1m sign has to show the race numbers and age group categories that can be found in the row; and
 - The bike rack pole should be at least in 120cm height from the ground level.
- Carpet
 - The TD will determine the areas in the transition area which must be carpeted.

3.3 Transition area personnel

a) Staff and volunteers

- Transition entrances and exits of must be controlled by clearly uniformed security personnel;
- There should be adequate numbers of trained volunteers to direct and manage the flow of athletes maintain order and cleanliness of the transition area; and
- The LOC has to provide volunteers to the transition area with the following roles: body marking, chip distribution, bike mechanic, bike check-out.

b) Technical officials

- The number of technical officials assigned to the transition area will be determined by the TD based on the number of athletes in the competition;
- A minimum of 4 technical officials should be used in the Elite Transition Zone for monitoring all the infringements during the TZ 2. The use of two video cameras is suggested for recording the athletes' movement
- Two officials will be assigned to the mount and dismount line; and
- No other personnel are required in the transition during the elite, u23 and junior competitions.

c) Media

- The host broadcaster team and the ITU official photographer will be the only media allowed inside the transition area, unless the TD decides differently. A media specific lane should be preferred parallel to the transition area where is applicable;
- The TD has the authority to remove these members of the media if, in his/her opinion, they are compromising the safety or fairness of the competition; and
- All other media are corralled in an area adjacent to the transition area.

d) Team officials

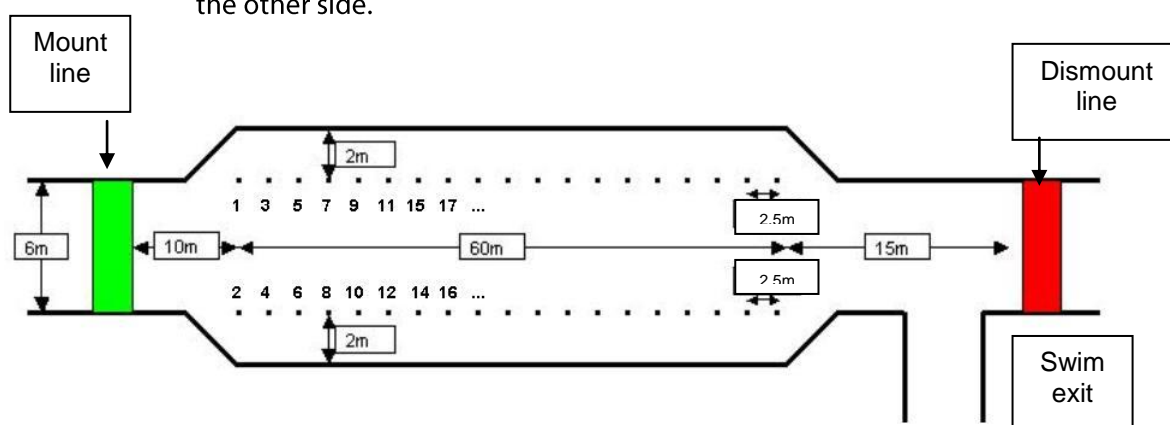
- Team officials are not allowed in the transition area; and
- There will be a designated coaches' area adjacent to the transition area.

e) VIPS and other dignitaries

- VIPs and other dignitaries are not allowed in the transition area; and
- There will be an appropriate VIP viewing area adjacent to the transition area.

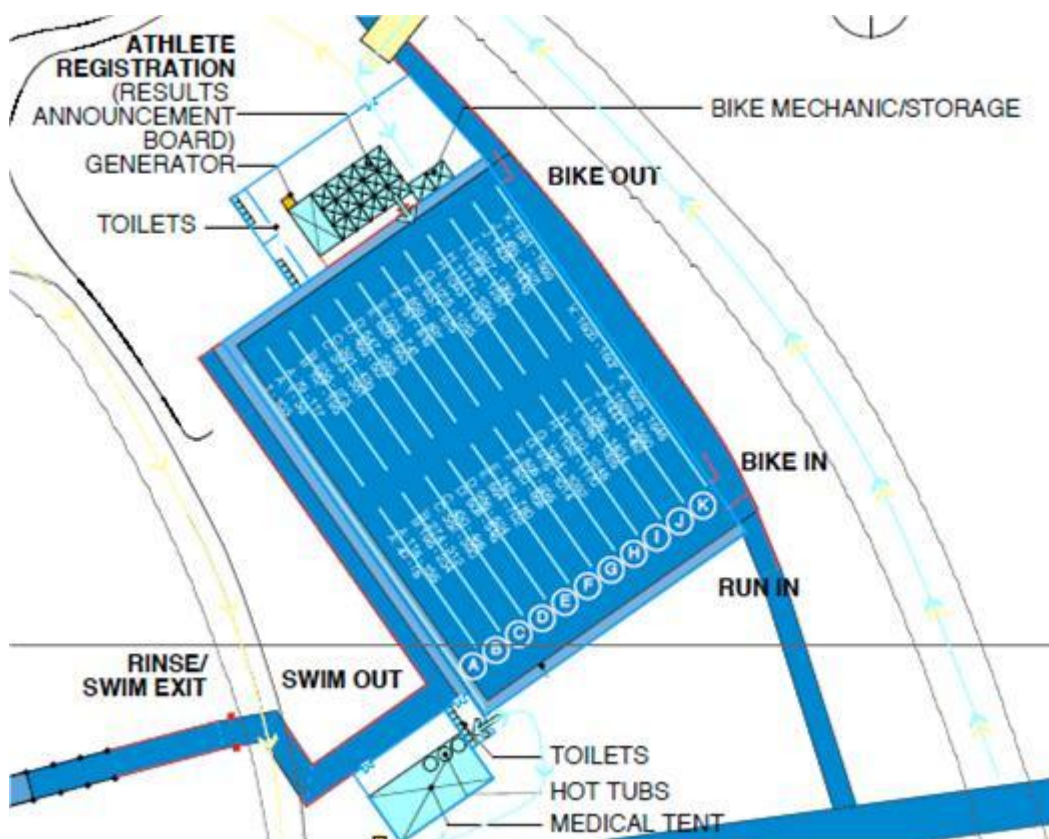
3.4 Transition area procedures

- The security of the transition area is the responsibility of the LOC.
- If "Olympic style" transition flow is used, the spacing needs to be minimum 2,5m per athlete
- If standard transition flow is used (either with 'Olympic style' or metal tube), the spacing needs to be minimum 1m per athlete.
- Elite/u23/junior numbering:
 - The lowest number must be closest to the transition area exit.
 - If there are two rows of bike racks, the lowest number must be on the right side facing the exit of the transition area. The even numbers must be on one side and odd numbers on the other side.



e) Age group/paratriathlon numbering:

- Age group athlete positioning in the transition will be determined by the order of their swim wave start.



4. Bike course design specifications

4.1 Bike course layout

a) General

- Course width: preferably 6m;
- Must be secure and totally closed from traffic;
- The road surface must be hard, smooth and without debris or other hazard;
- Crossovers during the bike segment are not allowed;
- The course should avoid railroad tracks, bridges with gates, drawbridges etc.; and
- Pedestrian crossings should not be within 100m of transition area and turns.

b) Elite/u23

- Technical challenge: The elite course should have hill and/or several technical corners on each lap to be approved by the TD;
- There will be no 180° turns on a 2-lane road;
- Has to be between 6-8 laps for the standard distance; and
- Out and back courses will not be preferred unless there is at least a 1m buffer lane, or a grass or concrete meridian, separating the outgoing and incoming cyclists.

c) Junior

- Has to be between 2-4 laps on sprint distance.

d) Age group/paratriathlon

- Has to be between 1-3 laps for standard distance and 1-2 laps for the sprint distance; and
- The age group bike course can be an out and back course.

e) Team relay

- Has to be between 1-2 laps.

f) Long distance

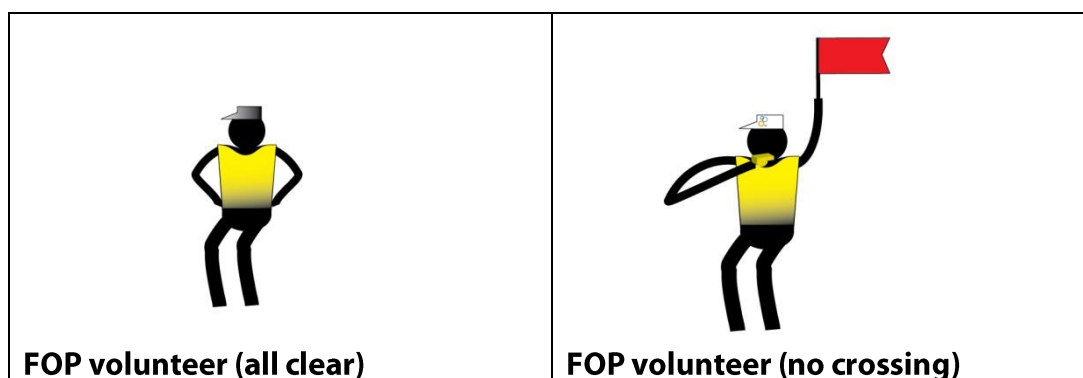
- Has to be between 1-3 laps.

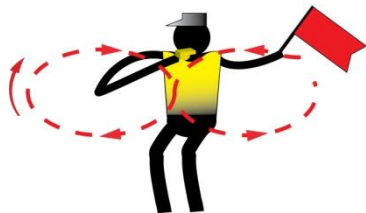

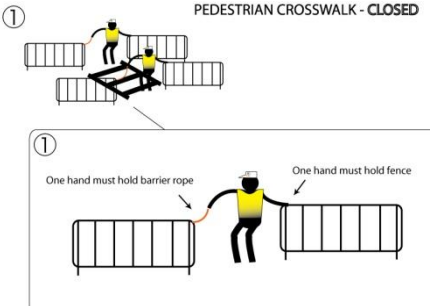
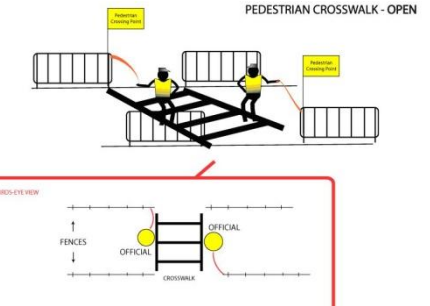
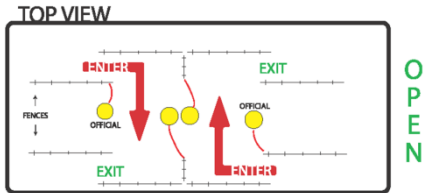
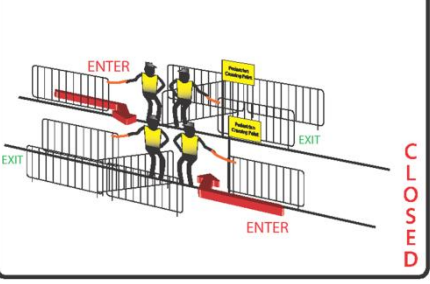
4.2 Bike course equipments

- a) Hard fencing is required:
 - In high traffic areas;
 - On the road leading in and out of transition at least 400m; and
 - All corners.
- b) For Major Games and World Championship Series events the whole course should be fenced.
- c) Soft fencing supported by individual medal or wooden posts is not allow for safety reasons
- d) Spectator bridges and crossing areas should be planned.
- e) For the draft legal competitions, 2 motorbikes must be provided for the technical officials (2 options – TD to decide).
 - Motorbike with driver – minimum 600cc – enough space for 2 persons – helmet must be provided for both; and
 - Motorbike without driver – minimum 250cc – automatic moped type – helmet must be provided.
- f) For draft illegal competitions, a minimum of 10 motorbikes with drivers must be provided for the technical officials. The final number to be decided by the TD.
- g) Laminated signage should be provided for the motorcycles (official vehicle).
- h) In case penalty box is applied, the TD is responsible to approve the location, set up and the procedure.
- i) Toilets should be provided every 50km in long distance events.

4.3 Bike course personnel

- a) **Police**
 - Police and security personnel must be present at every access road, intersection and turn onto the course; and
 - If police motorbike on the course it must be minimum 200m in front of the leader and only on the first lap of the bike.
- b) **Volunteers**
 - Trained volunteers should be assigned to the bike course;
 - Volunteers must be trained regarding first aid;
 - The minimum number of volunteers is determined by the course layout and approved by the TD;
 - All the FOP volunteers should attend a course with the basic ITU Competition Rules;
 - The LOC should contact the ITU Events Department for further information regarding the FOP volunteers' training plan; and
 - Each of the volunteer should be equipped with a whistle and a flag. The use of the flag and the course marshalling procedure is shown below:



 <p>FOP volunteer (alert caution)</p>	 <p>FOP volunteers (line of sight)</p>
 <p>Pedestrian crosswalk (closed)</p>	 <p>Pedestrian crosswalk (open)</p>
 <p>Busy crosswalk (open)</p>	 <p>Busy crosswalk (closed)</p>

c) **Technical officials – draft legal cycle**

- One technical official on a motorcycle will patrol the bike course;
- A vehicle control official will determine the number of motorcycles during the competition course at any one time;
- All motorcycle drivers on the field of play must meet with the TD the day before the event; and
- Everyone on a motorcycle must wear a helmet while on the motorcycle.

d) **Technical officials – draft illegal cycle**

- The number of officials on motorcycles patrolling the bike course will be determined by the TD; and
- A vehicle control official will determine the number of motorcycles during the competition course at any one time.

e) **Media**

- The number of media motorcycles on the course will be determined by the TD and monitored by the vehicle control official;
- For elite competitions generally, two motorcycles are available for the host broadcaster team, one motorcycle is available for pool media and still photographers and one motorcycle is for the ITU official photographer; and
- Media presence is generally not an issue during age group competitions. However, if present, they will be managed by the vehicle control official.

f) **Medical**

- Trained medical personnel should be positioned every 500m on the bike course;
- Medical personnel should be equipped with radios or cell phones;
- An ambulance should be placed at key access points along the course;
- Provisions should be made to get slightly injured athletes and their bikes back to the transition area without interfering with the field of play; and
- Refer to the medical plan section for the full event medical details.

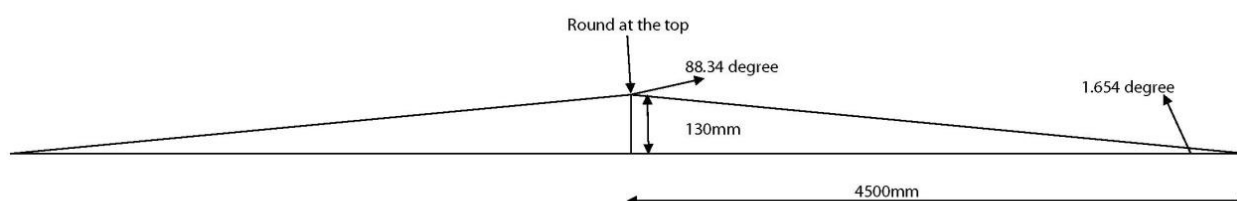
g) **Spectators and team officials**

- Spectators must be prevented from entering the course and/or interfering with the competition; and
- There has to be a dedicated coaching area along the bike course.

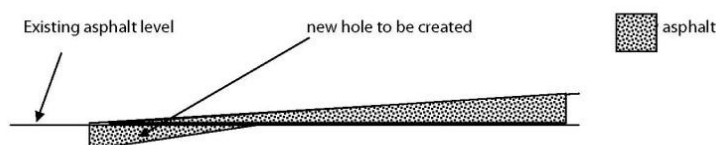
4.4 Bike course procedures

- All roads must be swept prior to competition.
- Course measurement: certified course measurement is required and must be submitted to the TD.
- Encased or covered plastic straw bales or similar safety devices must be used to protect athletes on sharp corners and around dangerous objects.
- If speed bumps or other anti-speeding devices exist on the course, they must be removed or covered with matting, ramps or other 'smoothing' devices. The following elevation is acceptable for the speed bumps:

SPEED BUMPS



The connection between the speed bump and the asphalt should be as follows:



- Deviation on the length of the bike course should not be more than +/- 5%.
- If the bike and the run course are sharing parts of the same route, the number of the bike laps may not be less than the double of the run course. Otherwise the first runner/last biker scenario will affect a large number of athletes.

4.5 Bike course aid station (only for long distance events).

- a) Aid stations should be a maximum of 40km apart throughout the bike.
- b) This distance can be shorter upon the request of the TD.
- c) Aid stations should extend 40m.
- d) Aid stations should be on straightaways and easily accessible to the athletes.
- e) Aid stations should have a minimum of 10 trained volunteers. The volunteers should use plastic gloves at all times
- f) The aid stations should serve all the liquids in bottle.
 - Sealed water are only used at elite aid stations. The LOC should provide 1 bottle of 500 ml water per athlete per aid station per lap. All beverages should be served at ambient temperature. Bottled fluids should be held by the bottom of the bottle, so that athletes can grab the whole bottle; and
 - Bike bottles filled with water for the age group event.
- g) A technical official will be placed at each aid station.
- h) Assign volunteers to keep the station clear of litter (bottles).
- i) Volunteers need to be ready to serve left-handed athletes.
- j) One of these aid stations will be the coaches' station (the one closest to the transition zone), where the coaches can provide their athletes with their own food and beverage.
- k) Toilets should be provided at all the aid stations.

5. Bike Course Penalty Box (for draft illegal events)

5.1 Penalty Box Layout

- a) The number and exact placement of the Penalty Box will be determined by the TD
- b) Penalty Box areas must be secured.
- c) Need to be clear marked with clear signage at the location of the penalty box and at 50m to 100m before the penalty box. The signs should be 2m high above the ground.

5.2 Penalty Box Equipment

- a) 1 table, 2 chairs and a notice board
- b) Provide cover for the Technical official and portable toilet.
- c) A sign **"PENALTY BOX"** with the following specifications: (W80cmXH60cm), white background colour, black text colour, material cell polypropylene 5mm, Signage should be indicated by both sides. The Sing should be 2m high above the ground.
- d) A sign **"PENALTY BOX AHEAD"** with the following specifications: (W80cmXH60cm), white background colour, black text colour, material cell polypropylene 5mm, Signage should be indicated by both sides. The Sing should be 2m high above the ground.

5.3 Penalty Box Personnel

- a) The Penalty Box is managed and controlled by Technical Officials.
- b) The LOC should provide a volunteer to work with the Technical officials at each penalty box.

5.4 Penalty Box procedures

- a) For the Technical official:
 - As a competitor stops at the entry to the PENALTY BOX asks the competitor how many drafting or blocking penalties they have received.
 - Record in the Register RACE NUMBER, NUMBER OF PENALTIES TO BE SERVED and their watch time.
 - Direct the competitor to the next position in the PENALTY BOX.
 - When the cycle course closes return the Register, and any unused stationery to the Race Referee.

- b) For the competitor:
- In the PENALTY BOX the competitor is still on the cycle course and:
 - MUST remain in their bike attire (helmet on and securely fastened and bike shoes on)
 - MUST remain standing and hold their bike upright at ALL times
 - MUST NOT accept food or drink from a fellow competitors or spectators
 - If a competitor needs to go to the toilet they will return to the PENALTY BOX entry and the Technical Official will re-register the competitors number as the time penalty will RECOMMENCE IN FULL.
 - A competitor observed relieving themselves or accepting food or drink will be shown a Red Card by the Technical Official who will then complete a Violation Report on their return to T2 and lodge with the Race Referee for a ruling.
- c) Process for Bike course Technical Officials on drafting and blocking violations:
- On any part of the cycle course a competitor judged to be in a drafting or blocking infraction, the Technical Official will take the following actions:
 - Attract the attention of the competitor by either blowing a whistle or having the motorcycle rider sound a horn
 - Call the competitor's Race Number
 - Show the competitor a Yellow Card
 - Tell the competitor what the violation is for (drafting or blocking)
 - Tell the competitor to proceed to the PENALTY BOX where they will serve a time penalty for each drafting or violation received
 - Record the competitor's Race Number in the Yellow Card and record what the violation was for (drafting or blocking) and the time by their watch
 - If more than one Penalty Box record the ZONE (1, 2, 3 etc) in which the violation occurred
 - It is recommended that competitors will NOT perform a STOP/GO penalty when a penalty box/s are utilised

6. Wheel station

6.1 Wheel station layout

- a) A minimum of two wheel stations will be provided:
- Wheel station 1: Close to the exit of the transition area on the bike course; and
 - Wheel station 2: At halfway of the bike lap on the bike course.
- b) The exact placement of the wheel stations will be determined by the TD.
- c) Wheel station areas must be secured.

6.2 Wheel station equipment

- a) The wheel stations should be equipped with racks to hold the wheels.
- b) Wheel station 1 should be with wheels provided by the athletes.
- c) Wheel station 2 should also be equipped with the following wheels by the LOC:
- 2- 700cc 10 cassette Shimano;
 - 2- 700cc 10 cassette Campagnolo;
 - 4- 700cc front wheel;
 - 2- 650cc 10 cassette Shimano;
 - 2- 650cc front wheel; and
 - 2- 650cc 10- cassette Campagnolo.

6.3 Wheel station personnel

- a) The wheel stations are managed and controlled by technical officials.
- b) A bike mechanic should be present at each of the wheel stations.

6.4 Wheel station procedures

- a) Provisions must be made to transport the wheels from the transition area (where the athletes will leave the wheels) to wheel station 1 at least thirty minutes prior to the competition.
- b) Provisions must be made to transport the wheels from wheel station 1 to the transition area (where the athletes will pick up the wheels) immediately after the competition.
- c) Wheel station is not required for age group athletes.

7. Lap counting

- a) A lap auditor official will be assigned to monitor and control the bike laps.
- b) In elite/u23/junior events, every athlete will receive a bell notification with one lap to go.
- c) The lap counting board should be visible to the announcer and should be 1m high x 0,75m wide.
- d) This board will indicate the number of laps remaining for the competition leader and subsequent athletes.
- e) Electronic lap verification is needed. This is mandatory on an age group event.

8. Run course design specifications

8.1 Run course layout

- a) The road surface must be hard and smooth. Steep curb drops or other such hazards should be altered for safety purposes. Steps up or down are potentially dangerous for athletes.
- b) Course width: minimum width is 3m.
- c) The standard distance elite/u23 run course has to be between 3-4 laps.
- d) The age group/paratriathlon run course has to be between 1-2 laps.
- e) The junior run course has to be between 1-2 laps.
- f) The team relay run course has to be 1 lap.
- g) The long distance run course has to be between 1-4 laps.
- h) Both elite and age group courses must be secure and totally closed from traffic.
- i) Turns should be wide, swept and well branded.
- j) There will be no crossovers.
- k) The course must be sufficiently marked so that there can be no doubt as to the correct course.
- l) Pedestrian crossings should not be within 100m of transition area, turns and finish area.
- m) The paratriathlon run course should have enough width to accommodate wheelchairs passing each other. No curves, steps, grass, sand and narrow spots are allowed. In case of soft surface, it might be considered the use of plywood flooring.

8.2 Run course equipment

- a) There will be distance markers 1km from start and 1km from finish.
- b) All turns will be marked with arrows leading into and out of the turns.
- c) Two mountain bikes with helmet must be provided for the technical officials
- d) Toilets should be provided every 5km in long distance events.

8.3 Run course personnel

- a) **Police**
 - Police and security personnel must be present at every access road, intersection and turn on the course; and

- If police motorbike on the course it must be minimum 200m in front of the leader and only on the first lap of the run.
- b) **Volunteers**
 - Trained volunteers should be assigned to the run course;
 - The minimum number of volunteers is determined by the course layout; and
 - Spotters should be considered for identified the first and the last athlete.
- c) **Technical officials – elite run specific**
 - One official on bicycle will patrol the run course; and
 - A spotter in constant radio communication with the announcer will be stationed at the lap counting board.
- d) **Technical officials – age group run specific**
 - The number of officials patrolling the age group run course will be determined by the TD.
- e) **Media**
 - The number of media motorcycles on the course will be determined by the TD and monitored by the vehicle control official.
- f) **Medical**
 - Trained medical personnel should be positioned every 500m on the run course;
 - Medical personnel should be equipped with radios or cell phones;
 - Provisions should be made to get injured athletes back to the transition area without interfering with the field of play; and
 - Refer to the medical plan section for the full event medical details.
- g) **Spectators and team officials**
 - Spectators should be prevented from entering the course and/or interfering with the competition; and
 - There has to be a dedicated coaching area along the run course.

8.4 Run course procedures

- a) Course measurement: certified course measurement is required and must be submitted to TD.
- b) Refer to the appendix for the run course measurement manual.

9. Aid station

- a) Aid stations should be a maximum of 1,25km apart throughout the run.
- b) This distance can be shorter upon the request of the TD.
- c) Aid stations should extend 15m in length for Elite competitions and 25m for age group competitions.
- d) There should be an aid station at the run exit between 200m and 400m after the transition area.
- e) Aid stations should be on straightaways and easily accessible to the athletes.
- f) Aid stations should have a minimum of 10 trained volunteers. The volunteers should use plastic gloves at all times.
- g) Sealed water only at elite/u23/junior aid stations. The LOC should provide 2 bottles of 500 ml water per athlete per aid station per lap. All beverages should be served at ambient temperature. Bottled fluids should be held by the bottom of the bottle, so that athletes can grab the whole bottle.
- h) A technical official will be placed at each aid station.
- i) Water and sport drink is required for age group and paratriathletes events.
- j) The LOC should be in a condition to provide cold water sponges if it will be requested.
- k) Assign volunteers to keep the station clear of litter (bottles).

- l) All table legs need to be zip-tied up.
- m) Have volunteers ready to serve left-handed athletes.
- n) Cups are to be held between the thumb and forefinger (forefinger inside the cup) and tilted away from the athlete's direction of travel when serving so that the athletes can grab the whole cup and avoid spilling. Volunteers should make every attempt to move with the athlete as much as possible when serving to avoid jarring contact, which results in spilled fluid.

10. Run Penalty Box (for draft legal events)

10.1 Run Penalty Box Layout

- a) One (1) penalty box will be located at the end of the run lap to permit the direct communication between the Technical Officials in the transition area and the Technical Officials in the penalty box.
- b) Penalty box area must be secured.
- c) Need to be clear marked with clear signage at the location of the penalty box and at 50m to 100m before the penalty box. The signs should be clearly vision able for the athletes as competing.

10.2 Run Penalty Box Equipment

- a) 1 table, 2 chairs and a notice board
- b) Provide cover for the Technical official
- c) A sign **"PENALTY BOX"** with the following specifications: (W80cmXH60cm), white background colour, black text colour, material cell polypropylene 5mm, Signage should be indicated by both sides. The Sign should be 2m high above the ground.
- d) A sign **"PENALTY BOX AHEAD"** with the following specifications: (W80cmXH60cm), white background colour, black text colour, material cell polypropylene 5mm, Signage should be indicated by both sides. The Sign should be 2m high above the ground.
- e) A white board (W80cmXH60cm) where the athletes' number who has received a time penalty should be written

10.3 Run Penalty Box Personnel

- a) The Penalty Box is managed and controlled by Technical Officials.
- b) The LOC should provide a volunteer to work with the Technical Officials at the penalty box.

10.4 Run Penalty Box procedures

- a) The penalty box is for infringements observed in transition 1, bike and transition 2.
- b) Run interpretation:
 - Mount after the mount line: It has to be one contact of the athlete foot with the floor after the mount line. If this contact doesn't occur the action is considered as mount the bike before the mount line.
 - Dismount before the dismount line: It has to be one contact of the athlete foot with the floor before the dismount line. If this contact doesn't occur the action is considered as dismount the bike before the dismount line.
 - Discharge or store your equipment inside your designated area: Leaving the equipment s(swim cap, goggles, helmet, etc.) in the designated box or adjacent (within 0,5m) to the box.
 - Rack the bike inside your own space: In case of Traditional bike rack, the bike must be racked with at least one side of the handlebar or the seatpost with 0,5m to the name

plate. In case of Individual bike race, the bike must be racked with the front wheel to the designated rack.

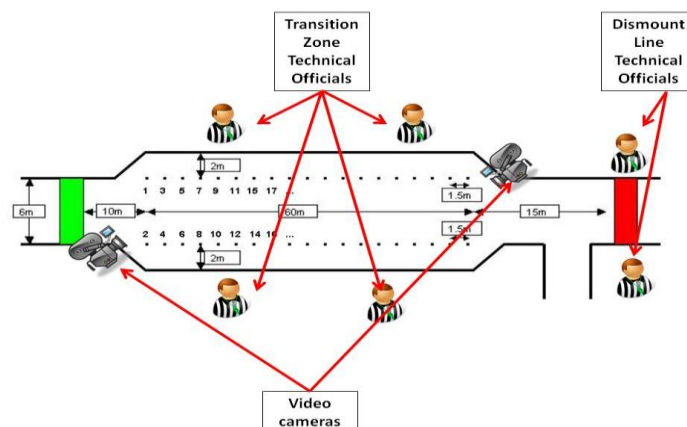
c) For the Technical Official:

- The Technical Officials must report to the Race Referee on any infringements observed in transition 1, bike and transition 2, along with any available proof of reference such as photo or video.
- After decision is made by Race Referee notification is given to the Technical Official in direct contact with ITU Media and the Penalty Box Technical Official.
- The Penalty Box Technical Official confirms the number or numbers and posts on the penalty board. The penalty board should be located before the entry of the penalty box area;
- An official can highlight the board to the numbered athlete(s) by blowing a whistle or pointing at the board as the athletes often look down or forward to the athletes ahead.
- The Penalty Box Technical Official may need assistance from a second official and use a back up stop watch to ensure the 15 sec is not exceeded.
- The 15 sec starts once the athlete has arrived at the penalty box and the athlete is directed to continue on completion of the penalty, it may assist for the athlete to see the stopwatch as not all will understand the count.
- Once the penalty has been served the penalty box official confirms with all stations that the penalty list is cleared.
- If the board has not been cleared and an athlete has failed to attend, in that case the Race Referee must follow up the DSQ after the finish.

d) For the athletes:

- In the penalty box the athletes are still on the run course and:
- Must not accept food or drink from a fellow competitor or spectator.
- If a competitor needs to go to the toilet they will return to the penalty box entry and the Technical Official will issue a new competitor card as the time penalty will recommence in full.
- A competitor observed relieving themselves or accepting food or drink will be shown a Red Card by the Technical Official who will then complete a Violation Report on their return to the Race Referee for a ruling.

e) A minimum of 4 technical officials should be used in the Transition Zone for monitoring all the infringements during the transition 1 and transition 2. The use of two video cameras is suggested for recording the athletes' movement.

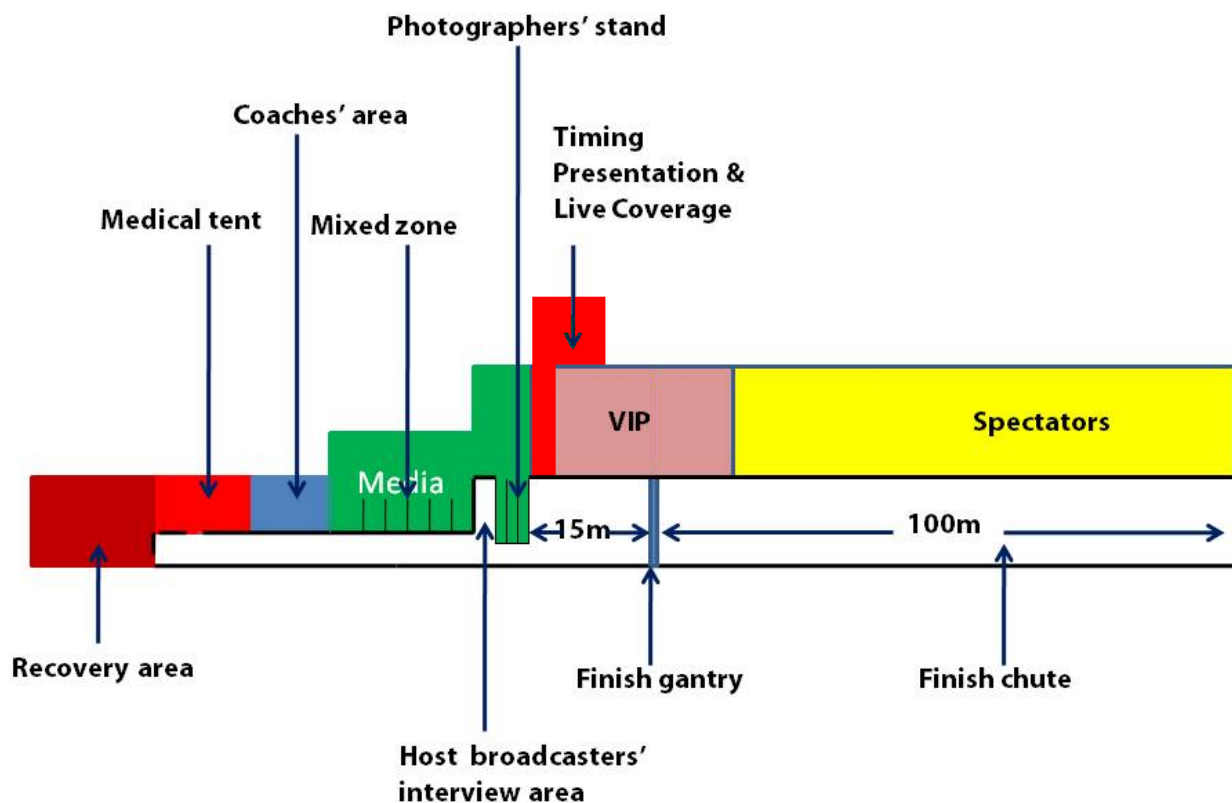


11.

Finish area design specifications

11.1 Finish area layout

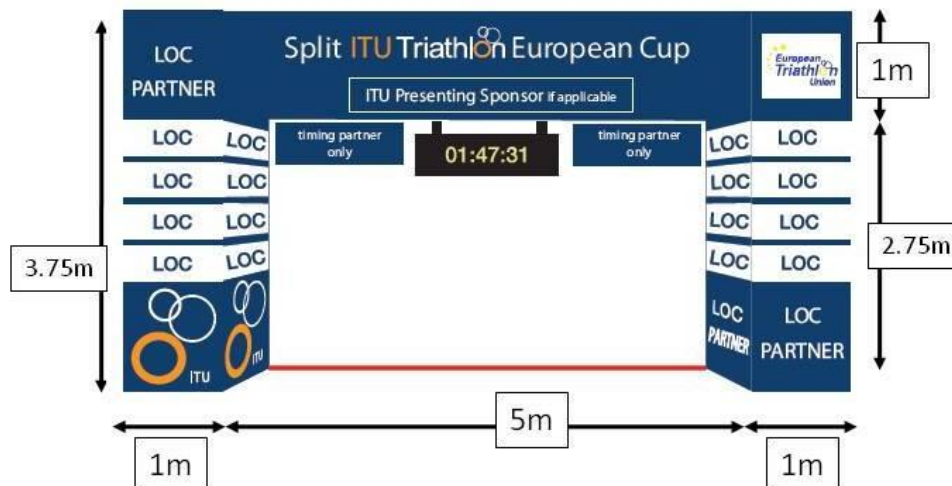
- Finish chute length: No less than 100m in length and 5m in width.
- Media stand specifications: Media stand should be placed 15m behind the finish line. A 5 tier stand 3m to 4m in width must be placed directly behind the 15m clean finish area.
- The distance to the recovery area cannot be more than 50m.
- Mixed zone specifications: A secure mixed zone should be planned adjacent to the finish area with sufficient space for media to interview athletes.



- Grandstand: Seating for minimum of 2000 should be planned within the stadium area.
- Big screens and scoreboard platforms with electrical hook-up should be erected in view of the grandstands.
- A complete set of country flags should be planned for within the stadium area.
- Announcers and competition management platform: a raised platform should be erected close to the finish area to provide adequate view of the entire stadium area and the big screen. The dimensions of the platform will be a minimum of 2,5m x 5m and will be 5m off the ground. This area should be equipped with tables, chairs, electrical hook-up for audio visual, and announcer's computer feed.
- Medical: The medical area should be easily accessible from the finish line, with adequate privacy and security provisions. It should also be closed with 2m high fences and be away from the media area.

11.2 Finish area equipment

a) Finish gantry specifications.



- The gantry should have clear space 5m width and 2,75m clear space height to the lowest point (gantry clock or sponsors' boards);
- The finish area must be completely secured with a solid fence (minimum 1-metre tall);
- The finish line will be clearly marked on the ground and be at least 10cm in width and be in line with the outer edge of the gantry (from the view of the finish area);
- Only an ITU approved finish tape will be used. The tape will be held by two technical officials;
- Fences may not cover the logos on the gantry;
- There will be a photo finish camera mounted on the finish gantry to record the finish of each athlete. It will be positioned to record athletes as they break the vertical plane extending upward from the finish line on the ground and will be used by the Referee in the event of an apparent tie;
- The timing clock will be mounted in clear view of the photo stand, media stand and VIP viewing stand;
- There will be an official's notice board adjacent to the finish area;
- Water must be provided for the athletes in the finish area by the technical officials; and
- Sealed water, ice, towels, baskets with fruit and isotonic drinks should be available to the recovery area. The LOC should provide 4 bottles of 500ml water per athlete. Cold water tubs, hot water tubs and heaters should be considered based on the weather conditions.

11.3 Finish area personnel

a) Security

- Security personnel must be assigned to all access points; and
- Security personnel to ensure a controlled finish for the athletes.

b) Technical officials

- There will be one technical official assigned to the finish area;
- Two officials will hold the finish tape; and
- The technical officials will handle the athletes at the finish and escort them to the recovery or medical area. (if needed)

c) Volunteers

- A limited number of finish line volunteers will be assigned under the direction of the TD; and
- Six trained volunteers will be assigned to the role of athlete chaperone. These people will be responsible for ensuring that the elite, u23 and junior medallists will be available at the assigned time and location for the official medal ceremony.

d) **Media**

- The host broadcaster and the official ITU photographer will have a designated spot on the media stand. All the other accredited media will access the media stand according to the occupancy of the media stand.

e) **Medical**

- Medical personnel will only enter the finish area in case of an emergency; and
- Doping control chaperones will approach their assigned athletes only as they exit the secured finish area.

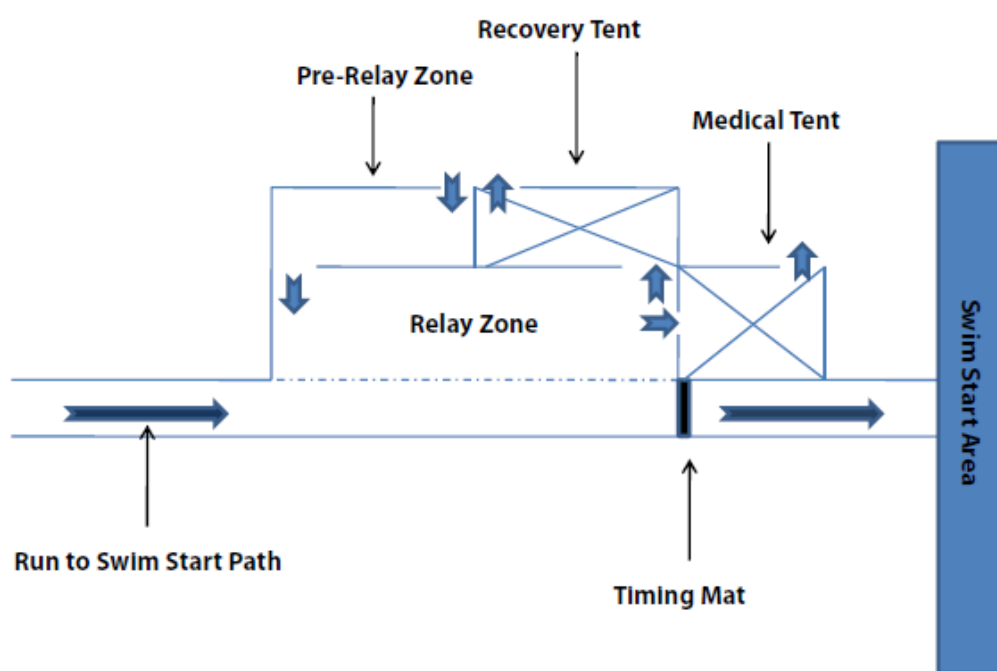
f) **Timing personnel**

- Timing personnel must not be in the finish area or in the line of sight of the photographers on the photo stand; and
- Three trained volunteer will be assigned to collect the timing chips from the athletes. They should be located at the exit of the mixed zone. The volunteers should use plastic gloves at all times.

12. Relay zone

12.1 Relay zone layout

- The exact placement of the relay zone will be determined by the TD.
- The relay zone should be located outside the bike and the run course and be connected to the swim start area.
- Relay zone areas must be secured.
- Need to be clear marked with:
 - One white background colour, blue text colour, 60cm x 80cm with the text 'Relay Zone' (material of cell polypropylene 5mm, signage should be indicated by both sides); and
 - One white background colour, blue text colour, 60cm x 80cm with the text '200m to Relay Zone' (material of cell polypropylene 5mm, signage should be indicated by both sides).
- Need to be 15m long.
- Pre-relay zone should be adjacent to the relay zone.



12.2 Relay zone equipment

- a) 1 table and 2 chairs.
- b) Provide cover for the technical official and portable toilet.
- c) Timing chips, a timing clock and timing mat (according to the timing set up plan).
- d) Spare swim caps should be provided.
- e) Recovery area facilities.
- f) Medical area facilities.
- g) Boxes for the last minute gear.

12.3 Relay zone personnel

- a) The relay zone is managed and controlled by technical officials.
- b) Medical personnel should be available at the pre-relay zone.
- c) Volunteers should be provided by the LOC for timing chip distribution/ collection and for the recovery area.

13. Public address system

13.1 High quality public address system that will provide clear sound to:

- a) Swim start
- b) Stadium area
- c) Extend minimum of 100m outside of the stadium area.
- d) A separate system may be required at the swim start area to ensure full coverage for the Referee.
- e) A PA system check must be planned at least 24 hours prior to competition start.

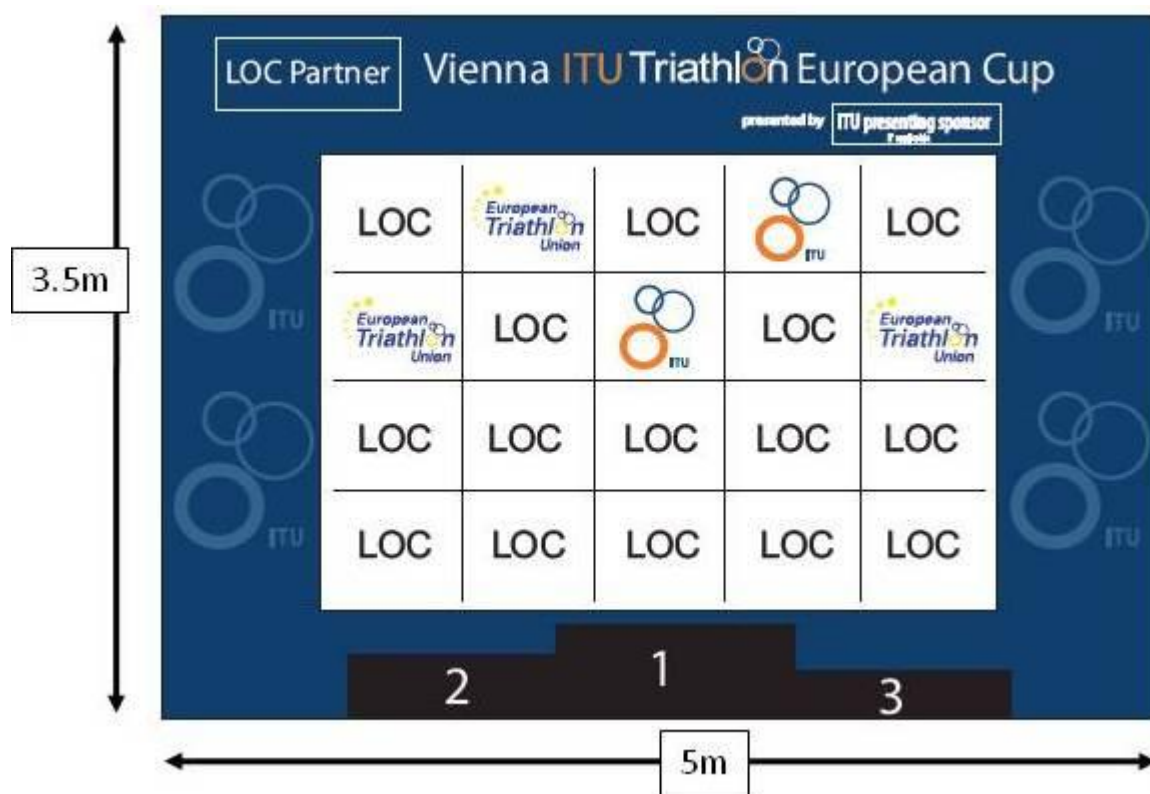
13.2 Approving of event announcers (See the specifications for the protocol in ITU Sport Presentation Manual)

- a) Proven knowledge about the sport, the athletes, the sponsors and ITU.
- b) The announcement always has to be in English and in the language of the host country.
- c) Competition commentary should be complimented with appropriate music. Music play list is available from ITU.
- d) Refer to the ITU Sport Presentation Manual for further details.

14. Medal presentation

14.1 Medal presentation layout

- Podium placement: placed in full view of VIP and spectator area and off the field of play. The podium can't be placed in the finish gantry.
- Podium specifications: The centre standard should be the highest (0,75m x 1m x 1m), with the one of the left slightly lower (0,5m x 1m x 1m) and the one on the right the lowest (0,25m x 1m x 1m).
- Carpet specifications: the podium steps will be completely covered in blue carpet with a red carpet 2m x 10m in front of the podium.
- Flag positioning and standards: The centre standard should be the highest, with the one of the left slightly lower and the one on the right the lowest. The athletes should not turn more than 45° to see the flags. The flags have to be visible for the VIPs.
- The LOC is responsible to ensure that they have flags of each country of participating athletes. Provision must be made for multiple winners from one country. This can be reviewed with ITU TL.
- Backdrop specifications (refer to the ITU Branding Guideline for the layout):



14.2 Medal presentation equipment

- 3 flag poles
- Country flags of podium athletes
- 2 trays (one for medals and one for flowers)
- ITU medals (ITU supplied)
- 6 flower bouquets
- 6 bottles of champagne

14.3 Medal presentation personnel

- a) 3 flag bearers
- b) 1 medal bearer
- c) 1 flower bearer
- d) 1 medal presenter
- e) 1 flower presenter
- f) Champagne presenter (s)
- g) The medal and the flower presenters can be separate for men and women and the gender equity applies.

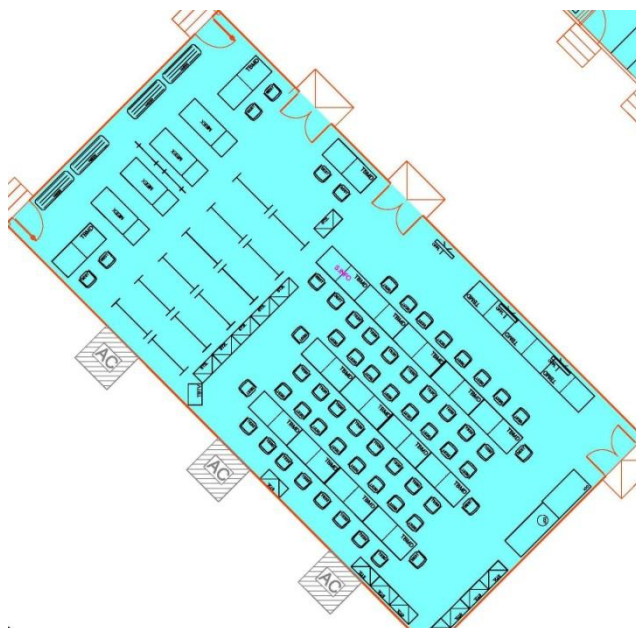
14.4 Medal presentation procedures

- a) Flag bearers lead the procession in the following order 2nd place flag, 1st place flag, and 3rd place flag
- b) Followed by:
 - The flower bearer;
 - The medal bearer;
 - 2nd place athlete;
 - 1st place athlete;
 - 3rd place athlete;
 - The medal presenter; and
 - The flower presenter.
- c) The procession will assemble in designated assembly area.
- d) The ITU official will give the cue to the music operator who will start the intro music and the procession will begin.
- e) The flag bearers will lead the procession.
- f) The procession will proceed towards the podium area (to the right of podium), and will go behind the podium and return on left side and position themselves next to the flag poles that will be placed at right angle and perpendicular to the podium.
- g) The flower and medal bearers will follow the flag bearers and position themselves on the left side and perpendicular to the podium.
- h) The athletes will drop off behind their podium spot.
- i) The medal presenter, followed by the flower presenter will stop before the podium and perpendicular to the podium and face the medal and flower bearer on the opposite side.
- j) When the announcer finishes announcing the third place athlete, the medal presenter and medal bearer will step forward and meet in front of the athlete, the presenter will take the medal and present it to the athlete and the medal bearer will step back into position.
- k) When the medal presenter has presented the medal he/she will step back and the flower presenter and flower bearer will step forward and the flowers will be presented to the athlete.
- l) The flower presenters will step back and all will follow the same procedure for 2nd and 1st place finisher on cue from the announcer.
- m) When 1st place medal and flowers are presented, the announcer will ask everyone to stand/rise for the anthem of winning athlete.
- n) As the anthem begins the flag bearers/raisers will raise the flags slowly with the winning flag going up first and reaching the top as the anthem ends.
- o) The flower bearer will lead the procession off the stage and is followed by medal bearer, followed by athletes, followed by presenters.
- p) This same procedure will be repeated for women and men. Once both medal ceremonies are complete the announcer will invite all medallists to join on to the podium for the champagne presentation.

15. Athletes lounge specifications

15.1 Elite athletes requirements

- a) Area size: minimum 80m²
- b) 5 tables
- c) 20 chairs
- d) Food services (water, fruit, cookies, isotonic beverage)
- e) Clothing storage by race number
- f) Access to toilets (10)
- g) Easy access to the bike mechanic centre and to the medical tent.
- h) Showers are recommended to be provided.



15.2 Age group athletes requirements

- a) Area size: minimum 300m²
- b) 60 tables
- c) 100 chairs
- d) Food services (water, fruit, cookies, isotonic beverage).
- e) Clothing storage by country or by age group.
- f) Access to toilets (40) – 2 wheelchairs accessible.
- g) Easy access to the bike mechanic centre and the medical tent.
- h) Information system regarding the start times and the waves.

15.3 Elite uniform check requirements

- a) Area size: minimum 20m²
- b) 3 tables and 15 chairs
- c) Must be located in a secure area in the athletes lounge.
- d) Technical officials equipments requirements:
 - Athlete uniform templates (at least 4 cards);
 - Digital camera;
 - Spare uniforms;
 - Spare decals;
 - Swim caps;
 - Timing chips;
 - Security; and
 - Clock.

16.

Athletes briefing

- a) 250 person venue with seating in theatre style.
- b) A stage or raised platform at front of room.
- c) Table with ITU skirting (supplied by ITU) and chairs for speakers.
- d) Tent name cards with ITU logo and event logo and names of all speakers.
- e) 2-3 check in tables.
- f) Athlete packages organised in race number order.
- g) 10 copies of start lists for checking athletes.
- h) Athletes sign in sheet.
- i) 100 pens for athletes use.
- j) Athletes' agreement (supplied by ITU).
- k) 2/3 copies of accredited coaches list and coach/manager sign in sheet.
- l) 2 set large course maps.
- m) Printed copies of athlete briefing for each athlete with letter size maps.
- n) Athletes' medical waiver.
- o) 6 knowledgeable volunteers.
- p) Tape/staples and other miscellaneous office supplies.
- q) Refreshments for the athletes (bottled water and sport drink and food).
- r) A suitable area for athlete interviews with ITU backdrop.
- s) The area should be secured with enough security personnel.
- t) The area should be wheelchair accessible.

17.

MEDICAL MANAGEMENT

17.1 General

- a) The ITU Medical Committee may appoint a medical delegate to oversee the medical operations of the event.
- b) The ITU Medical Delegate (ITU MD) may conduct one site visit prior to an ITU event.
- c) The ITU Medical Delegate will liaise with the event appointed Race Medical Director (RMD). The ITU Medical Delegate reviews, with the Race Medical Director all the information relating to medical and doping control requirements for the event.
- d) The Race Medical Director attends the ITU event, the year prior to study and work with the medical team.

17.2 Medical plan

The LOCs of the World Championship, World Cup and Continental Championship events should submit to the ITU Events Department and to the ITU Medical Committee, no later than one month before their event a full competition medical plan. This document should include:

- a) Onsite medical services (facilities, equipment, and supplies);
- b) Offsite medical services (facilities, equipment, and supplies);
- c) Medical coverage per discipline;
- d) Paratriathlon special services (if applicable);
- e) Staffing & scheduling;
- f) Ambulance distribution and medical response maps;
- g) Communication plan;
- h) Operational plan & procedures;
- i) Team doctors Information & registration forms;
- j) Athletes' waiver.
- k) Budget.

17.3 Personnel:

- a) The LOC will appoint a Race Medical Director (RMD). The RMD is responsible for the overall medical operations of the venue, and should preferably have experience in major sport/endurance events. The RMD is responsible for informing the ITU Medical Delegate (ITU MD) and/or TD about the medical organisation of the event.
- b) The RMD appoints other medical staff; organises the facilities in cooperation with the LOC; and organizes supplies and equipment.
- c) Two paramedics per 100 athletes is the minimum.
- d) There should be one physician per 200 athletes, with a minimum of four physicians.
- e) There should be one nurse per 100 athletes, with a minimum of six nurses.
- f) Two doctors must be present and on duty for the entire event. One doctor should be located within the medical facility and the other doctor must be mobile.
- g) Physicians have the authority to withdraw a athlete at any point for safety or health reasons.
- h) Doctors, nurses and paramedics must be clearly identifiable and have the authority to enter the field of play in the event of medical emergencies.
- i) Medical spotters will be placed along the swim course.
- j) Medical spotters will be placed every 500m on the bike course and will be supplied with radios and/or cell phones. The spotters will not be on the field of play, but will have access in the case of an emergency.
- k) Medical spotters will be placed on the run course (numbers will be determined based on the course design).
- l) Paramedics and stretchers must be in attendance adjacent to the swim exit, transition area and at the finish area.
- m) The LOC must ensure that all marshals and other race officials are aware of all medical facilities and their locations.

17.4 Ambulances and access

- a) A minimum of three ambulances will be required, plus an additional one every 500 athletes: one ambulance will be stationed near the finish area and the medical facility two ambulances will be stationed strategically on the bike course. The final number should be approved by the ITU MD or TD.
- b) Ambulances will be equipped with the following: direct communication with medical headquarters and direct communication with all necessary cardiopulmonary resuscitation supplies and trained personnel.
- c) Ambulance emergency access routes must be planned both from the competition site and bike course.

17.5 Hospitals

- a) The nearest hospital must be informed of the event well in advance and advised of the possible emergency that may arise.

17.6 Medical records

- a) Accurate and complete medical records must be kept on all medical instances. Those records must be submitted to the ITU Medical Delegate or TD.
- b) The records must be shredded after the events to protect the privacy laws in place in each jurisdiction.

17.7 Race medical management

- a) Main principles for an effective race medical management:
 - Split the course in sectors in order to have the same communication code between the TOs, medical staff and LOC;
 - Place the ambulance at the most dangerous points;

- Make sure that an ambulance can reach the entire field of play by using the minimum of the course;
- Allocate a number to the dangerous corners for effective communication;
- Make sure that there will be a number of paramedic bikes for an effective response to the accidents;
- The volunteers that are found in distance 100m from the point of the accident should make warning signals to the following athletes;
- Report to the VCC immediately;
- Inform the TD and the medical services;
- The ambulance should enter from the nearest intersection and park close to the side of the road. The volunteers should continue to inform the other athletes;
- The ambulance should exit from the nearest crossing point. The ambulance should move on the FOP according to the athletes' flows; and
- When there is a need for a simple transport of a patient, from the spot of the incident to the venue, then the ambulance may follow the course to the athletes' area. In case of an accident of involving many athletes during the bike course, we should ensure first the athletes' integrity who is involved in the accident as well as the other athletes, and those needing medical attention will be sent to the nearest medical services. The actual facility is arranged prior to the event by the ITU Medical Delegate or TD.

17.8 Athlete medical

- a) Area specifications:
 - Finish area tent size: 3m x 6m for World Cup / 9m x 9m for World Championships;
 - Location of tent: adjacent and accessible to finish area;
 - 4 tables;
 - 12/20 chairs;
 - Access to toilets;
 - Radio communication and medical records area;
 - Must be located in a secure area with direct access to the competition finish and must not be accessible to media; and
 - Emergency access and ambulance placement must be planned.

17.11 Spectator medical

- a) 10m2 tent should be provided for spectator medical personnel with limited facilities as above.

17.12 Cold water conditions' preparation

It is often usual to organise events in water temperature lower than 15°C degrees. Although the final distance of the swim leg is a decision that has to be made by the TD, the ITU Medical Delegate, the LOC Medical Team and the Lifeguards, the LOC should provide the following in any case:

- a) Shower with ambient water temperature at the swim exit.
- b) Advise the athletes to have a proper swim warmup in order to immerse their bodies and heads prior to starting the competition to acclimatize.
- c) Blankets, etc to combat hypothermia should be ready.
- d) Increase the number of the safety boats and equip them with space blankets.
- e) Create medical stations around the course where athletes with hypothermic symptoms can stop.
- f) Provide heaters and blankets at the recovery area.

18. DOPING CONTROL

18.1 General

- a) It is the responsibility of the LOC to make sure that anti-doping control is conducted at the event. The LOC should contact the proper anti-doping organisation and arrange for the appropriate number of tests to be conducted. The number of tests needed will be stated in the contract. A minimum of ten urine tests should be conducted at any ITU event.
- b) ITU complies with WADA on all doping rules and regulations (See ITU website for all current information on anti-doping control). All tests should be conducted using best practices of all international standards.
- c) The results of all tests and the anti-doping control forms should be forwarded to ITU as soon as possible.
- d) Provisions should be made to accommodate anti-doping control at the event. This will include at a minimum private waiting areas, secure washroom facilities, processing rooms and bottled water.

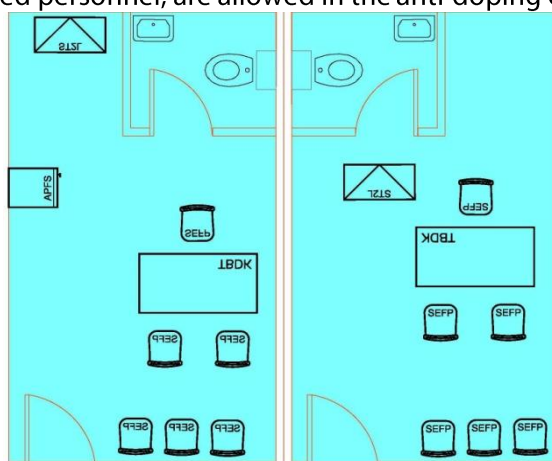
18.2 Personnel

- a) The anti-doping control agency will require a number of doping control chaperones. The exact number will depend on the number of tests being completed and the event schedule. Both male and female chaperones will be needed. In some countries, the national federation may have certain obligations to the national anti-doping agency, please check with your NF on this issue.

18.3 Doping control

- a) The LOC of each ITU event must have provisions for a minimum of ten in-competition urine tests. The exact number and who will be tested will be communicated to the TD by the anti-doping organisation conducting the tests.
- b) The LOC must contact the anti-doping organisation associated with the national federation in their country or region. If you are unsure, please contact ITU Anti-Doping Director for an agency in your area.
- c) Once doping control has been confirmed with the appropriate agency, please inform the ITU Anti-Doping Director.

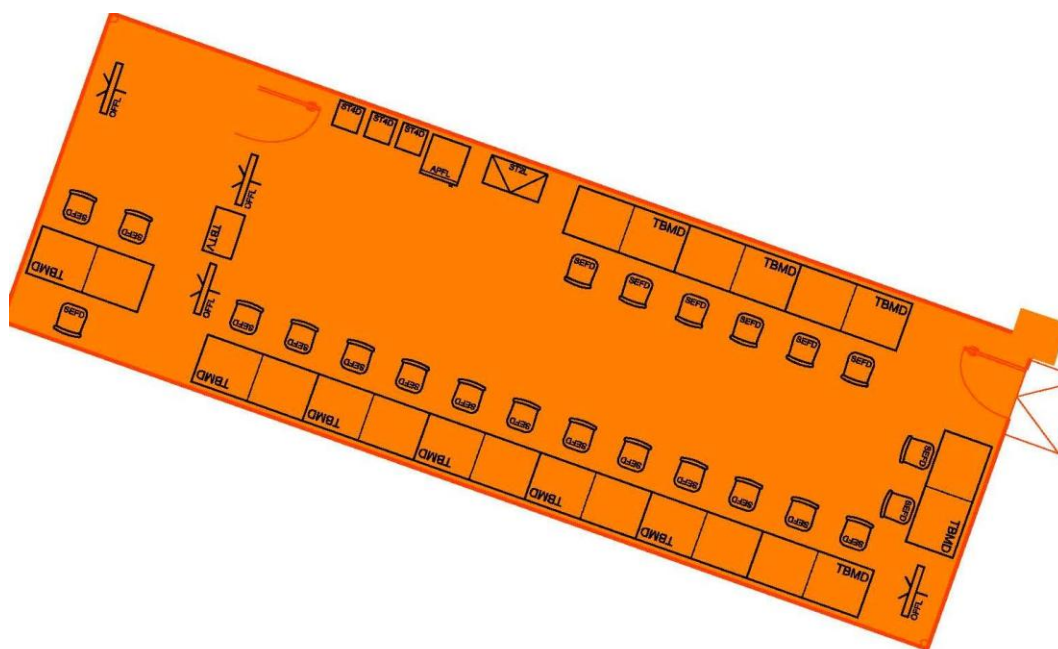
- d) Anti-doping control facility onsite requirements: The exact size will be determined by the number and type of tests being conducted. The anti-doping organisation conducting the tests will be able to specify exactly what requirements that they will need to have to conduct the tests according to the international standards of testing.:
- A 3m x 3m area (preferably not a tent) completely private area, away from the public and media;
 - Two double toilets to accommodate the testing procedure;
 - Two tables;
 - Twelve chairs;
 - Bottled water, sport drink, replenishing food for the athletes (sealed);
 - Minimum of ten volunteers to work as drug testing chaperones; and
 - Security personnel to ensure that only doping control personnel and athletes, with their designated personnel, are allowed in the anti-doping control area.



19. LOC office

19.1 General requirements

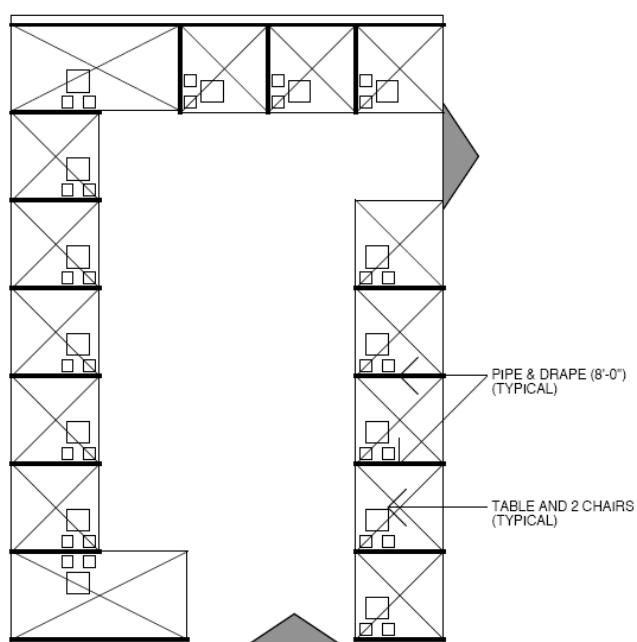
- 100m² enclosed tent or trailer
- electric power, phone line and internet connection
- tables and chairs
- fridge
- notice board
- maps
- tools, tape, paint, brooms, brushes,
- golf carts
- sunscreen



20. Sport expo facilities

20.1 General requirement

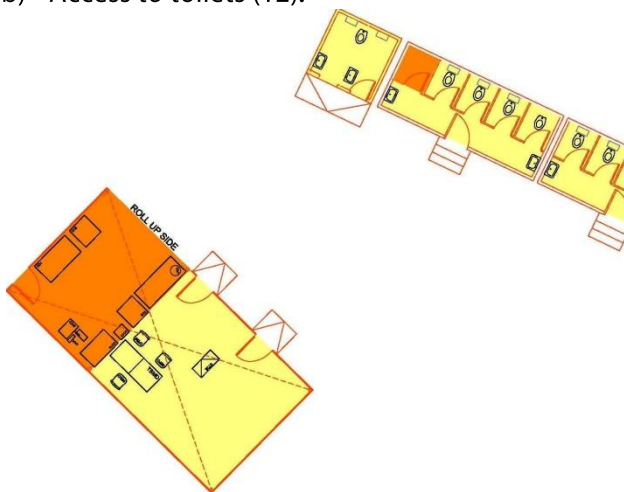
- Planned to maximize sales opportunities for the exhibitors.
- Area uniformly and tastefully laid-out.
- Power and water sources.
- Hard flooring.



21. Spectator services

21.1 General requirements

- a) A food vending plan should be appropriately and tastefully planned with sufficient quality and a wide variety of nutritious food.
- b) Access to toilets (12).



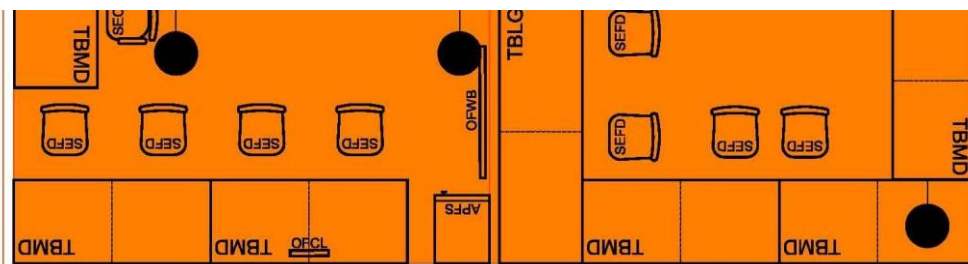
22. COMMUNICATION PLAN

22.1 Venue Communication Centre (VCC)

- a) Provides the critical communication link between the various elements of the competition to ensure smooth movement of athletes, spectators, and vehicles.
- b) Should operate from a trailer and walled tent or other such housing that will be erected and clearly marked by signs.
- c) The centre will house the communication stations and the radio operators.

22.2 General Requirements

- a) 100m² tent or 10m trailer
- b) 80 to 100 radios
- c) 20 cell phones
- d) Radio belts
- e) Fridge
- f) 3 radio operator tables
- g) 12 chairs
- h) 2 tables (battery chargers)
- i) 1 Whiteboard and stand
- j) 6 x 10m extension cords
- k) 8 x detailed course maps
- l) Water dispenser and cups for refreshments.
- m) 2 x Electric fans and extension cords (if the weather is hot).
- n) Adequate power supply



22.3 Access

- Access will be restricted to VCC staff, competition executive, and the various sector leaders.
- Will be secure and off limits to the public.

22.4 Training

- At the pre-competition day orientation VCC staff will be available to talk with each of the groups regarding portable radio use and protocol. Portable radios will be on hand for demonstration purposes. This will be followed by a short question and answer period.
- VCC staff should have the opportunity to become familiar with the Centre during the days prior to the competition.

22.5 VCC staffing and hours of operation

- Prior to competition day, and during set up, either the centre captain or assistant captain will staff the VCC. Staff will not be present during the night; however, site security should be in place.
- On competition days the VCC will operate at maximum staffing levels.
- One volunteer from each of the following groups; COMPETITION, SECURITY, OFFICIALS, MEDICAL, SITE must be identified by the captains of the above-mentioned elements of the competition.
- Those volunteers will be made available for duties in the VCC on competition day.
- Volunteer duties will include:
 - Monitoring their radio channel;
 - Transmitting and receiving messages via radio;
 - Distribution and retrieval of radios; and
 - Maintaining incident logs.

22.6 Radio talk groups

Nine radio talk groups will be utilised on competition day. Other support groups will use their own radio frequencies.

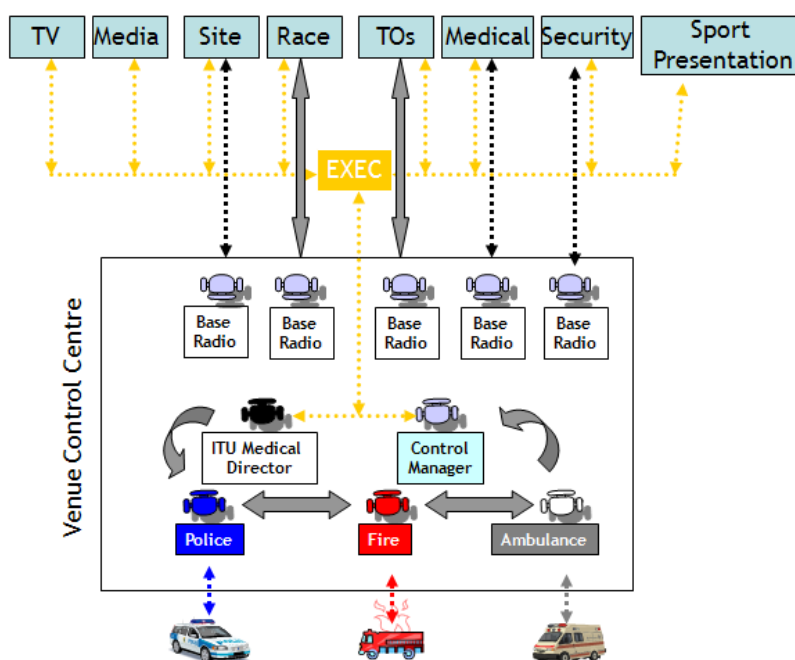
- Technical officials talk group:**
 - Twenty radios, ear pieces and cases will be assigned to the TD and the officials;
 - One radio will be for the exclusive use of that Official;
 - Eighteen radios will be assigned to the various on-course officials; and
 - One radio will be retained in the VCC and used by the officials that are assigned to the centre for radio communications duties.
- Executive talk group.**
 - Five portable radios and cases will be assigned to the executive director, director of operations, director of venue operations, ITU TD, ITU TL and one other at the discretion of the ITU TD. Those radios should be made available six days prior to the event. One radio will be retained in the VCC.
- Medical talk group.**
 - Twenty-four portable radios are assigned to the medical element of the competition as follows: on course medical (17);

- Emergency Response Team (ERT/Ambulance) (3);
 - Spectator medical (2);
 - Medical director (1);
 - VCC (1);
 - Medical captain will use call sign MED 1;
 - On course medical radio operations will use call signs MED 2-18; and
 - ERT assigned to the competition (ambulance crew) will use call sign ERT 1. The roving patrol will use EMS 2.
- d) **Competition talk group.**
- Twenty-seven portable radios will be assigned to the director of operations;
 - One radio will be for the exclusive use of the director of operations;
 - Twenty five radios will be assigned to the various competition captains, i.e. ;
 - Swim 4, Bike 10, Run 8, Transition 3; and
 - One radio will be retained and monitored in the VCC by a communications volunteer.
- e) **Security talk group.**
- Eleven portable radios and carrying cases are assigned to SECURITY;
 - One security radio will be issued to the SECURITY DIRECTOR who will use the call sign SECURITY 1;
 - Nine radios will be assigned to the SECURITY volunteers who will use call signs SECURITY 2 through 10; and
 - One radio will be retained and monitored in the VCC by a SECURITY volunteer.
- f) **Sport presentation talk group.**
- Five portable radios and carrying cases will be assigned to the announcer talk group;
 - One radio will be for use by the onsite announcer;
 - Three radios will be for the use of the on course spotters;
 - One announcer radio will be retained at the COMMAND location for use by the command team; and
 - This channel will not be monitored at the VCC.
- g) **Media talk group.**
- Three portable radios are assigned to the media relations function;
 - Two radios will be for the exclusive use of the media relations team;
 - One media radio will be assigned to the command team; and
 - This talk group will not be monitored in the VCC.
- h) **Television talk group**
- Three portable radios are assigned to the TV production function;
 - Two radios will be for the exclusive use of the camera operators;
 - One radio will be assigned to the ITU TL;
 - One TV radio will be assigned to the command team; and
 - This talk group will not be monitored in the VCC.
- i) **Site talk group**
- Five radios for the set up and for the day of the event will be available; and
 - At least one venue radio will be retained in the VCC.
- j) **Cellular phones:**
- Cell phone use will be kept to a minimum;
 - Only the race executive and others identified as essential users will be provided with cell phones;
 - Twenty cell phones, batteries and chargers will be delivered to competition hdq two weeks prior to the days of the event;
 - At the time of issue of the phones, a directory will be developed and circulated to the users. A copy will also be available at the VCC; and

- Communications with city transit and transportation and streets police and hospital will be conducted via the cell phone retained in the VCC. Contact numbers for on-duty personnel will be displayed in a prominent location in the centre.

22.7 Radio distribution and retrieval

- The VCC is the most important element in the event management. This is an excellent tool for the coordination of all the different areas and the immediate response to all the potential problems.
- A person in charge needs to be appointed for operating the VCC.
- The 5 key talk channels (site, competition, technical official, security and executive) need to be monitored by case radios.
- A representative from police, ambulance and fire department should be located in the VCC, especially in cases that the triathlon event is hosted in the centre of big cities.
- A representative from ITU should also be present in the VCC.
- The control room should coordinate the communication between the main talk channels and supervise any athletes' transportation to the hospital, evacuation procedures etc.
- During the training sessions, race captains will be provided with radio sign-out sheets and course/stadium maps. The captains will complete the sign-out sheets by writing the names (in the spaces provided) of their volunteers who will be equipped with a radio.
- Additionally, the captains will plot the positions of the radio operators on the course maps. The completed course maps and sign-out sheets must be returned to the VCC captain on completion of the races.
- On the morning of the races, volunteers will report to the VCC where their portable radios will be ready for pick-up at the appropriate workstations. The volunteers will be required to sign for the receipt of their portable radio.
- At the end of the day's events, the various Captains will ensure that all portable radios are returned to the VCC and signed in.
- Communications staff will ensure all radios are present and VCC staff will be responsible for the final inventory check and return of all radio equipment.



22.8 Radio protocol

You have to use the radio by the **6-step** radio process, which is defined below:

Think about what you want to say

Listen for airwaves to be clear

Press the button (and hold)

Breathe

Speak

Release button

Making and receiving a call	<p>Their call sign x 2 + "this is" + Your call sign + "over" E.g. "Field 1, Field 1, this is Swim 1 over"</p> <p>(If no response, call again and say their call sign 3 times)</p> <p>still no response: "Nothing heard" + Your call sign + "out"</p> <p>Your call sign + "receiving" (E.g. "Field 1 receiving")</p> <p>Statement followed by "over"</p> <p>End of conversation: "out"</p>
If unavailable	<p>Your call sign + "receiving" + "standby 5" + "out"</p> <p>If important: Their call sign x 2 + "this is" + Your call sign + "respond immediately"</p>
Priority calls	<p>Stay calm</p> <p>"Ops 1, Ops 1, this is" + Your call sign + "PRIORITY"</p> <p>Only priority calls should not be made, all staff on standby for instructions.</p>
Emergencies	<p>Fire/Other: Call VCC on your own talk group or VCC Base.</p> <p>Medical: FOP calls "Medical Field 1" for assistance.</p>

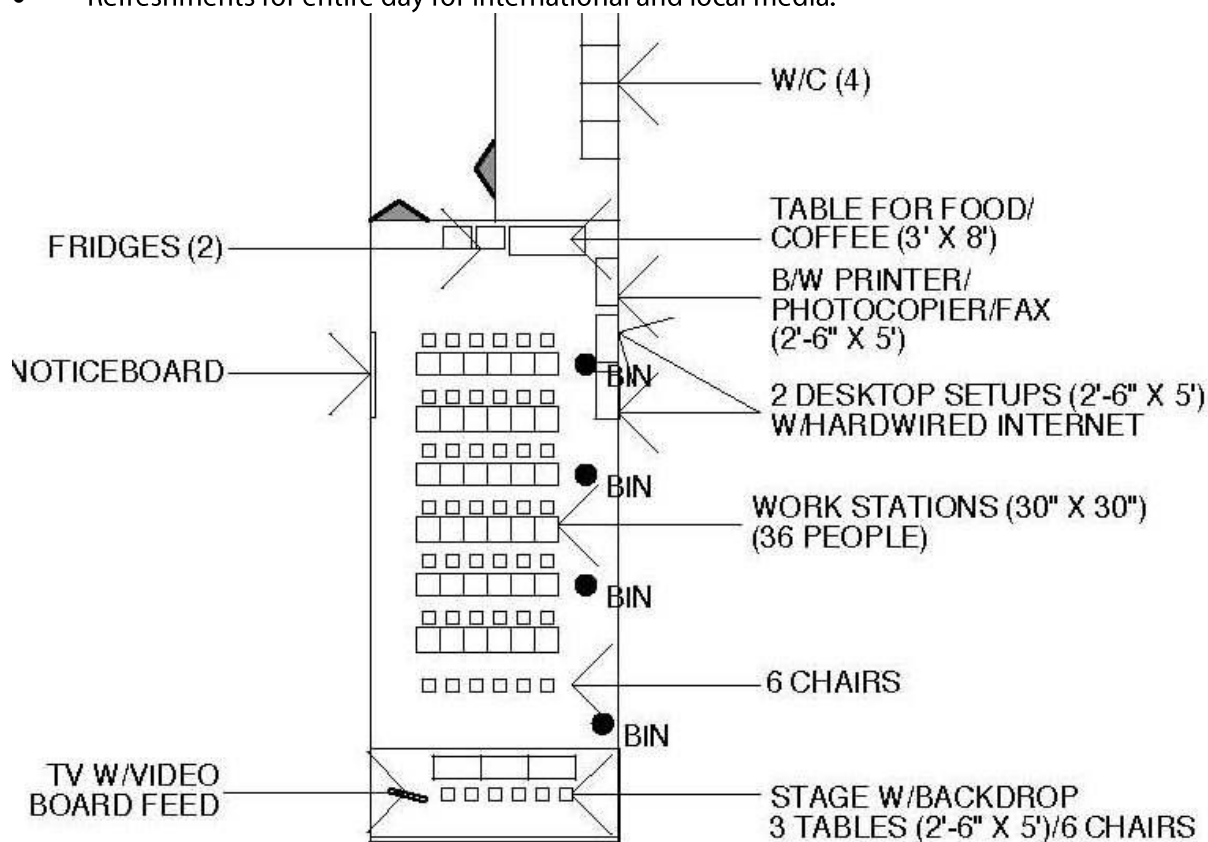
23.

Press centre

23.1 General

If the event has a press centre it should contain the following:

- The LOC will provide a stable **high-speed internet connection** and router / switch with enough ports for the expected number of media;
- Black and white laser printing facility;
- A high-speed photocopier with sufficient paper supplies and extra stationery;
- Fax machine capable of international fax distribution;
- Well placed visible facility sign detailing the correct event title name;
- Notice board for maps, results and other news;
- Pigeon holes for press releases and flash quotes; and
- Refreshments for entire day for international and local media.



24.

Timing and results

24.1 General

The local timing company must provide the results in the ITU database table for archiving on www.triathlon.org. This is a file containing the start lists that will be sent to the event from the ITU prior to the race. Please see the ITU results standards 2007 to see how the results should be inputted into this file (this is an Excel file that was sent with this file). The event will be given this file by the ITU: entries@triathlon.org

Once the file is completed and verified it should be emailed to the following email address: entries@triathlon.org. Results should be emailed as soon as possible after the race. Please note that all results should be put into the ITU results template format. Paper faxed or scanned results will not be accepted.

24.2 Timing requirements

The LOC and the timing provider should plan the event timing plan according to the table below. This plan needs to be approved by the TD.

For further information please refer to the ITU Media, TV & Timing Requirements at www.triathlon.org.

Timing requirement		World Championship Series	World Cup Series	Continental Championships	Continental Cups
Transporter system (chip)		YES	YES	YES	YES
Installation of timing system at:	Swim lap	YES	YES	YES	to be discussed (tbd)
	Swim exit	YES	YES	YES	YES
	Mount line	YES	YES	YES	YES
	Dismount line	YES	YES	YES	YES
	Run turn point or other intermediate point	YES	YES	YES	tbd
	Relay zone mat	YES	n/a	YES	n/a
	Commentator information mat, 50m from the finish line	YES	YES	YES	tbd
	Finish line	YES	YES	YES	YES
Commentator information system		YES	YES	tbd	optional
Result print distribution		YES	YES	tbd	optional
Online timing & results Interface		YES	YES	tbd	optional
Manual back up		YES	YES	YES	YES
Broadcaster services/ TV graphics		YES	tbd	tbd	optional
ITU approved transporter system		YES	YES	YES	YES
Photo finish camera		YES	YES	YES	tbd
GPS application		YES	to be discussed	optional	optional

25. EVACUATION PLAN

25.1 Introduction

- a) XYZ is located at XYZ. (The evacuation plan should include the names that the police and fire departments use to name the area)

25.2 The venue description

- a) Regular access to the venue description.
- b) The ITU World Championship is a XYZ-day event that and takes full control of the venue by way of a contract with the city of XYZ.
- c) During the Triathlon, vehicular access is limited to the venue.
- d) XYZ number of participants and XYZ number of spectators are expected to attend the event.

25.3 Communications/command centre

- a) The command centre is located at XYZ
- b) The ITU TD and senior police official will be responsible for directing evacuation procedures as deemed necessary.

25.4 Category of evacuation

- a) Urgent evacuation: Caused by circumstances that poses an immediate threat to the life or safety of anyone in the park.
- b) Non-urgent evacuation: Caused by circumstances that pose a threat to crowd safety, however the identified danger is not immediately apparent.

25.5 Urgent evacuation

- a) Would be involved in the case of a tornado warning, severe winds, torrential rain, or any confirmed danger to lives where it was decided that evacuation was the best course of action. Advance warning of weather related dangers would be provided to the command centre by the emergency radio network that would provide severity and estimated time of arrival at location.
- b) In the case of urgent evacuation, the attendees will be alerted by the P.A. system and mobile loud hailer.

25.6 Non-urgent evacuation

- a) Will be implemented as a result of some threat of danger to the general public where the danger is not immediately apparent.

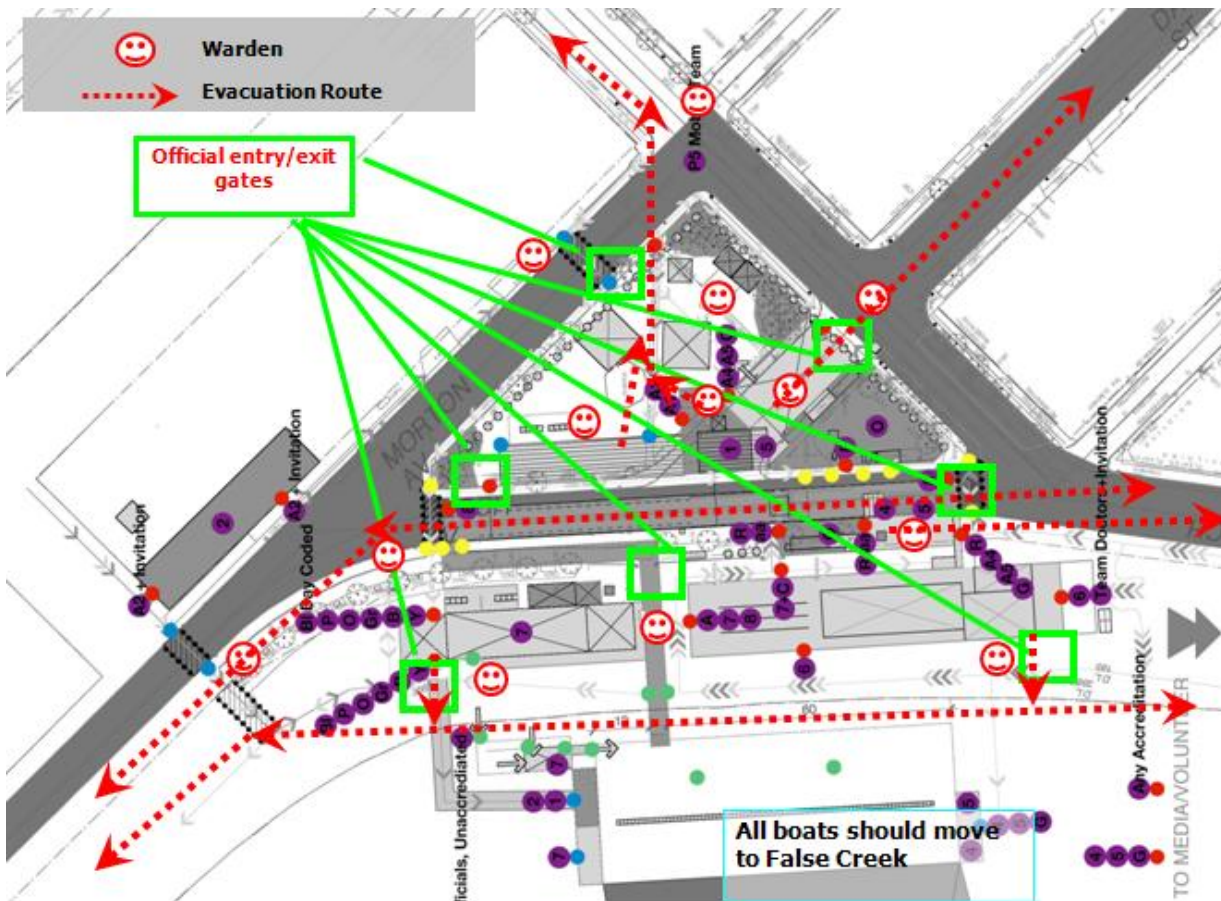
25.7 Evacuation procedures

- a) These evacuation procedures could apply to the entire site or to one or more particular areas, depending on the situation. The evacuation plan will be implemented only as a final resort.
- b) The ITU TD or senior police official shall be responsible for declaring an evacuation following consultation with the event and ITU Executive Directors and ITU Communications Director.
- c) The implementation of the evacuation plan will deploy manpower in the following way:
- d) The senior police officer will advise all police personnel on site to assist with immediate evacuation.
- e) Security personnel with loud hailer on golf carts will advise the attendees of an immediate evacuation.
- f) The city transit senior inspector will be informed of the immediate evacuation and asked to deploy transit equipment accordingly.

- g) The Triathlon volunteer coordinator will instruct all volunteer supervisors of the evacuation order.
- h) The Triathlon site captain will advise all commercial vendors and contract services of the evacuation order.
- i) Triathlon volunteers will direct pedestrian traffic at all entry/exit points into the venue.

25.8 Evacuation drawings

- a) Evacuation drawings should be available and posted in all the public spaces and the rooms/tents
- b) The official gates/entrances should be marked
- c) The evacuation routes and the locations of the wardens should be marked clearly.



26.1 Definitions of delay, postpone and cancellation

- a) **Delay:** An event is considered delayed if it does not start at the scheduled start time or is interrupted after the scheduled start.
- b) **Postpone:** An event is considered postponed when it cannot be completed within the scheduled session (or an extended session) and is rescheduled to another session on the same day or another day.
- c) **Cancellation:** An event is considered cancelled when it is delayed or postponed and cannot be restarted or rescheduled.

26.2 Rules on delay/postponement:

- a) There are no prescribed rules for delays and postponements; however the TD and Director of Operations would consult on weather conditions and other situations in the interests of protecting the safety of the athletes.

26.3 Rescheduling management

- a) **Points to note:**
 - Venue curfews - The race could not finish in the dark; and
 - Sport technical constraints (ie: warm up periods) - A 20 minute warm-up period must be provided for athletes.
- b) **Decision maker on delay / postpone**
 - The TD is in consultation with the director of operations and they both communicate with associated parties, eg. police, meteorological department, medical, etc.;
 - The TD, the TL, the director of operations, the director of venue operations and police authorities will determine when the delayed race will restart; and
 - The TD, the TL, the director of operations, the director of venue operations and police authorities will determine when the race is postponed.
- c) **Rescheduling options**
 - Delayed race:
 - Races can only be delayed prior to start. Once competition has commenced it will continue until its end unless dangerous/unsafe conditions occur;
 - If dangerous conditions occur up to 40 minutes after the event has started, competition will not restart for at least 1 hour to allow sufficient recovery for the athletes;
 - If dangerous conditions occur 40 minutes after the start of the first competition, the first competition will take place 1 hour after the end of the second competition. Usually, the women's competition takes place prior to the men's competition; and
 - The 2nd competition of the day can be delayed until a time predetermined by the decision. After that time the competition will be postponed to the next available day.
 - Postponed competition: The actual date would be set by the decisionmakers.
- d) **Considerations when delaying**
 - If the event is to finish after daylight hours, then lighting may be required for the medal ceremonies.
- e) **Considerations for postponement**
 - Operation plans should be able to cover the changes.
- f) **Worst case contingency**
 - All the competitions to be scheduled for next day or whatever date is determined by the decision makers.