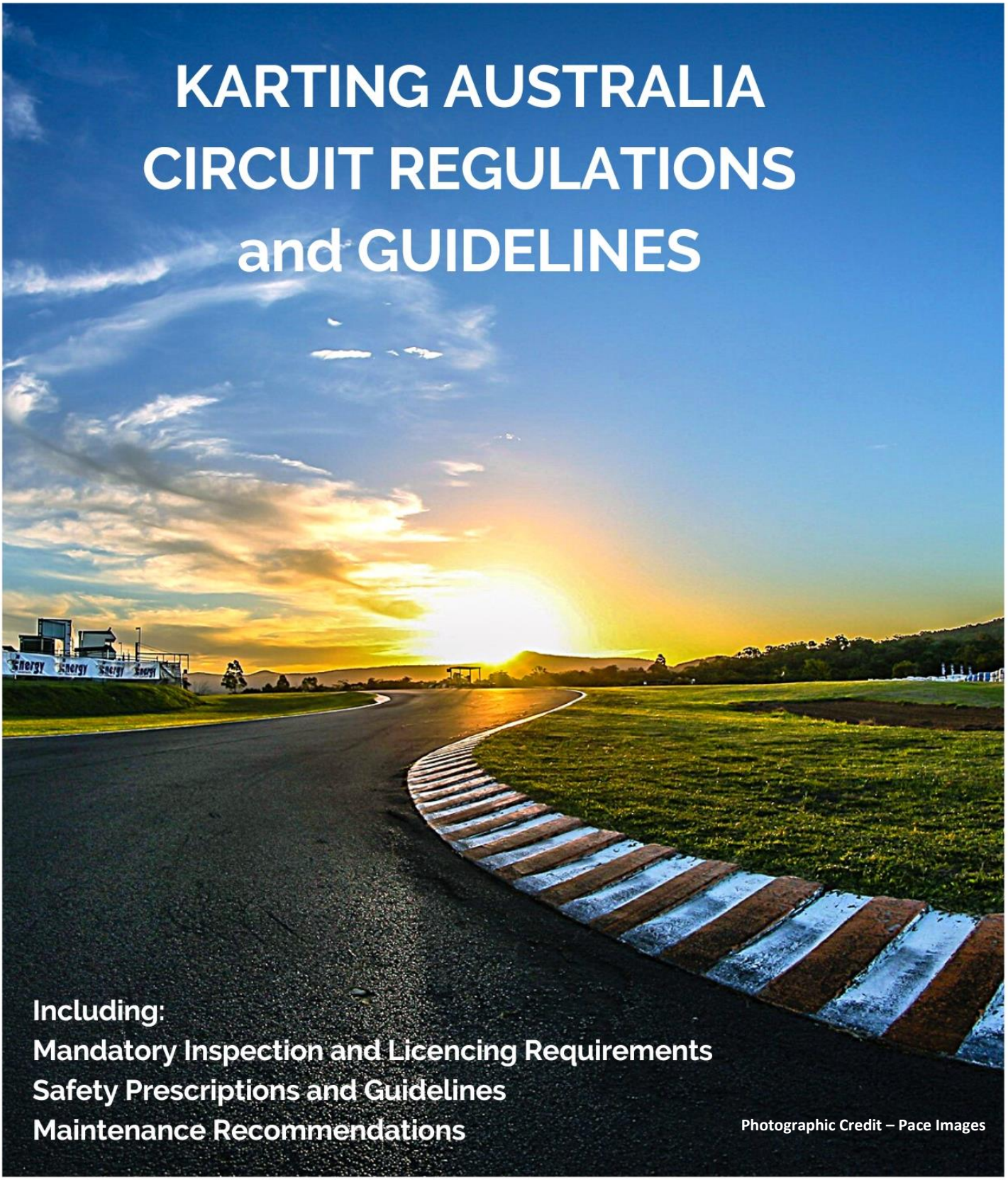
KARTING AUSTRALIA CIRCUIT REGULATIONS and GUIDELINES



Including:
Mandatory Inspection and Licencing Requirements
Safety Prescriptions and Guidelines
Maintenance Recommendations

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KARTING AUSTRALIA

Updated May 2023

KARTING AUSTRALIA
CIRCUIT REGULATIONS and GUIDELINES

Including:

Mandatory Inspection and Licencing Requirements

Safety Prescriptions and Guidelines

Maintenance Recommendations

WITH THANKS TO THE 2021 KARTING AUSTRALIA NATIONAL CIRCUIT SAFETY COMMITTEE

Tony Manson – Safety, Risk and Compliance Manager, National Circuit Inspector

Craig Denton – Chair, Safety Delegate

Tracey Driscoll – Northern Territory

Ian Watson – South Australia

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Australian Karting Association Ltd

T/A Karting Australia

Kelvin O'Reilly
Chief Executive Officer

Using This Document:

This document contains the Mandatory Inspection and Licencing Requirements, Safety Prescriptions and Guidelines and Maintenance Recommendations (collectively referred to as the "**Requirements")** of the Australian Karting Association Ltd trading as Karting Australia (**KA**) for all KA Licensed bitumen and/or dirt surfaced Sprint Kart Circuits in Australia.

The Requirements are separated into 2 Sections as follows:

Section A: Inspections, Licencing, Maintenance Recommendations and National Safety Framework.

Section B: Circuit Construction and Safety Requirements – New and Existing Circuits.

This document contains Safety Prescriptions, Mandatory Inspection and Circuit Licencing Requirements, all of which are compulsory, Safety Guidelines and Recommendations and Maintenance Recommendations that are highlighted individually as follows for the sake of clarity:

1. **Mandatory Inspection and Licencing Requirements**
   These are compulsory requirements and are shown = ***thus***

2. **Safety Prescriptions**
   These are compulsory requirements and are shown = ***thus***

3. **Safety Guidelines**
   These are non-compulsory guidelines and recommendations that recognise best practice in Circuit and Track safety for Karting and that will be referred to by the Circuit Inspector when assessing a Circuit for the issuing or renewal of a KA Circuit Licence and are shown, other than in the Preamble and Definitions sections herein = thus

4. **Maintenance Recommendations**
   These are actions that are recommended be taken prior to and following the use of the Circuit and are shown = **thus**

Preamble:

Karting Australia takes its responsibilities to safety very seriously. Everyone who participates in any way in the sport of karting has a role to play when it comes to creating a safe environment in which we conduct our sport.

Every State Karting Association (**SKA**) is required to appoint at least one (1) Circuit Inspector (**Circuit Inspector**) who is required to be trained and accredited by KA.

Karting Australia General Rules Chapter 4 – Circuit, Track and General Safety Requirements, requires:

"1. General

a) A Circuit must hold a current Circuit Licence to hold a Meeting or a Karting Activity.

b) Each Circuit will be assessed and graded for suitability to host a National, State Zonal or Club level Meeting.

c) A Track must only be used in the direction indicated on the Circuit Licence. The Circuit Licence will be automatically invalidated if a Track is used in a direction or layout not indicated on the Circuit Licence.

d) A Track must conform to the requirements of the KA Circuit Regulations and Guidelines Requirements.

e) A Circuit that is not deemed to be compliant by the Circuit Inspector may not have its Circuit Licence renewed or may be required to comply with Works Orders to maintain its Circuit Licence."

"2. Circuit Inspectors and Club Safety Officers

a) Each SKA is to appoint at least one (1) Circuit Inspector whose appointment must be ratified by KA.

b) A Circuit Inspector must be accredited by KA and must have satisfactorily completed a KA approved Circuit Inspector's course on a biennial basis either electronically or in person, in order to retain their Circuit Inspector's accreditation.

c) A Circuit Inspector will work in conjunction with KA, the NCSC and the Club Safety Officer/s to ensure that safety requirements of a Circuit are being maintained.

d) A Circuit Inspector is the point of final determination (in conjunction with KA where necessary) on whether or not a Circuit is compliant and if not compliant, what works are required to be undertaken to achieve compliance or otherwise improve the Circuit for the benefit of those who use it."

These Requirements, drawn up by KA, shall be referred to by Circuit Inspectors when assessing any Circuit.

Circuit Inspectors will use their training and judgement in assessing suitability in variations from Requirements but are not able to approve variations from the Safety Prescriptions and Mandatory Inspection and Licencing Requirements.

Circuit Inspectors shall also refer to these Requirements when assessing any temporary Circuit.

KA reserves the right to vary these Requirements at any time, with issues of safety being paramount.

Definitions:

In addition to the definitions contained in the KA National Competition Rules (**Rules**), the following definitions are applicable to these Requirements.

1st Line of Protection (1LoP):	A barrier erected as a defence to safely restrain the forward movement of a kart that has left the Track. A Track will have a 1LoP for its full perimeter.
Barrier:	An obstacle (deemed to be impenetrable) used to safely restrain the forward movement of a kart that has left the Track.
Buffer:	An energy-absorbing deformable apparatus designed to partially dissipate the kinetic energy of a kart striking the apparatus.
Catch Traps:	An area of loose material designed to slow a kart, which has left the Track surface.
Circuit:	A closed track, permanent or temporary, beginning and ending at the same point, built or adapted specifically for KA sanctioned Kart activity and including but not limited to the track, in grid and out grid and all the reserved areas designated solely for Officials, Participants, Competitors & Drivers.
Course:	A road or track, and the inherent installations, including but not limited to the Circuit, Spectators Areas and Paddock Area, used for Karting Competitions. A course may be temporary or permanent depending on the character of its installations and its availability for competitions.
Corner:	A significant change in direction of the Track, generally with a radius to the inside and outside edges.
Kerb:	A device located at the Track edge, usually at a corner, designed to prevent Track edge disintegration and to deter karts from driving off the Track.
Paddock:	An area set aside for the use by competitors for kart maintenance, repair and storage during the course of an event. Event Organisers may put in place access exclusions to the paddock for vehicles and the general public.
Parc Fermé:	A secure area adjacent the Track and under the control of Officials. The general public is prohibited to enter this area and procedures may be put in place to restrict access by competitors and other persons.
Ripple Strip:	A profiled concrete strip on the outside edge of a Track corner, constructed to a specified profile, to deter karts from driving off the Track.
Run-off Area:	The area from the edge of the Track to the first line of protection.
Security Fence:	A fence constructed to prevent the access of all persons to a secure area.
Separation Barrier:	Is a barrier of buffer designed to stop karts from short cutting the Track

Spectator Fence:	A fence constructed to restrict the access of all persons to a specified area.
Stands and Temporary Structures:	All spectator stands, viewing platforms and like structures whether of a temporary or permanent nature, must be approved by the appropriate statutory or regulatory body(ies) charged with the responsibility of approving such structures and thereafter be maintained and repaired so that such structures, at all times, remain in full and strict compliance with the approval conditions as they exist from time to time.
Start Grid or Out Grid:	An area set aside from the paddock and Track for the assembly of karts in race order prior to the start of a race. Access restrictions may apply.
Straight:	The section of Track between two corners.
Track:	A road specifically built or adapted to be used for Karting competitions. A track is defined by the outer edges of the racing surface and is the only route to be used during a Competition.
Track Length:	The length of a Track is considered to be that of the centerline of the Track. The centerline of the Track is the median line between the left and right edges of the racing surface of the Track as delineated by the required white or yellow lines and should be measured on site by taking an average of the measurements of the left & right edges.
Weigh-In-Area:	An area set aside from the paddock and Track for the assembly of karts at the end of a race prior to being weighed. Access restrictions shall apply.
Works Order:	A plan, either provided to a Circuit operator by a Circuit Inspector or agreed between a Circuit operator and a Circuit Inspector, scheduling the works necessary at a Circuit or Course to comply with the requirements of the KA Circuit Licence or other directions as appropriate, including required completion date(s).

Section A

Inspections, Licencing, Maintenance, Structural Changes and National Safety Framework

1 Circuit Inspections and Licencing

a) The purpose of the inspection of a Circuit and Course undertaken by a Circuit Inspector is to:

(i) establish compliance with the Requirements using the approved KA Targeted Risk Assessment methodology; and

(ii) enable the Circuit to be licenced (Appendix B) by KA or an SKA on behalf of KA and in accordance with KA Rules; and

(iii) establish recommendations and work upgrade programs for the Club to undertake that are considered necessary over a period of time to maintain and improve the safety of the Circuit and to ensure the on-going evolution of safety infrastructure at the Circuit; and

(iv) verifying and/or approving such recommended works programs; and

(v) verify the conditions and services required for the conduct of National and International Competitions.

b) All KA licenced circuits MUST be inspected a minimum of biennially (every 2 years) for compliance with these Requirements and to enable the Circuit Licence to be issued/renewed.

c) The Circuit Inspector who carries out the inspection can only approve the granting of the Circuit Licence when all immediately required works have been completed to their satisfaction, and if in their discretion consider it necessary, an ongoing schedule of works has been established in conjunction with the Club.

d) The Club Safety Officer and/or another authorised Club representative must be present at the time of circuit inspections by the relevant Circuit Inspector.

e) All structural or layout changes (Changes) to an existing KA licenced Circuit MUST BE APPROVED IN WRITING BY A CIRCUIT INSPECTOR BEFORE BEING IMPLEMENTED.

IMPORTANT NOTE:
The Circuit Inspector's written approval of any Changes to an existing KA licenced Circuit should be provided to the Club requesting the Changes at the earliest possible time following review of the plans that detail the Changes and/or inspection of the site of the proposed Changes at the Circuit.
The written approval should be appended to the current Circuit Inspection Report for the Circuit.

f) A Circuit that is not considered to be compliant by the Circuit Inspector may not have its Circuit Licence renewed or may be required to comply with Works Orders to maintain its Circuit Licence.

2 Circuit Maintenance

Proper maintenance of the circuit and its installations is a condition of the Licence; the circuit should be checked not only before an event, but also afterwards, so that the damage can be assessed, and a repair program established. The main items which need regular attention include but are not limited to:

a) Track surface:

(i) Cleanliness and general condition.

b) Edges, Verges and Lateral Areas:

(i) All edges, verges and lateral areas should be level with the edge of the track and all areas behind kerbs filled in and level. In all grass covered areas, the grass should be kept trimmed; dry grass and all vegetation should be removed. Vegetation should be removed from gravel beds. All lateral areas, up to the first line of protection, should be kept clear of any obstruction.

c) Tyre Buffers/Barriers:

(i) Tyre barriers should be checked for firm location to existing structures and tight attachment together.

d) Spectator and Debris Fencing:

(i) These fences should be checked regularly for support and tensioning. The fences should be checked for deterioration.

e) Kerbs:

(i) Kerbs must be painted in two colours alternately (recommended colours: red and white).

(ii) Kerbs should be continually checked for damage.

(iii) Broken kerbs should be repaired/replaced immediately.

f) Drains and Drainage:

(i) Drains should be cleaned and inspected for correct operation prior to major events.

g) Circuit Demarcation Lines:

(i) All demarcation lines for Track and Pits should be kept clear and clean and preferably repainted prior to major events.

h) Observation and Vision:

(i) Clear vision should be maintained at all times between consecutive Marshals/Observation Posts/Signaling locations etc. Trees and vegetation should be cleared or trimmed to maintain good vision.

i) Communications:

(i) Telephone and other communications should be checked.

3 Club Safety Officers

In accordance with NCR General Rules, Chapter 4 Rule 2:
"Each Club is to appoint a Club Safety officer who is responsible for Circuit Safety.

The Club Safety Officer must successfully complete the KA Club Safety Officer on-line course and examination in the KA Officials Academy."

The functions of a Club Safety Officer are to:

a) Ensure that the Circuit is maintained at all times in accordance with these Requirements including any variations as work orders by the Circuit Inspector/s.

b) Ensure that all work orders / logbook reports have been completed or remedied prior to the completion date agreed with the Circuit Inspector.

c) Liaise with the Circuit Inspector.

d) Complete the KA checklist prior to each use of the Circuit.

e) Maintain compliance with WHS regulations.

4. Circuit Inspectors

In accordance with NCR General Rules, Chapter 4 Rule 2:
"Each SKA is to appoint at least one (1) Circuit Inspector whose appointment must be ratified by KA.

A Circuit Inspector must be accredited by KA and must have satisfactorily completed a KA approved Circuit Inspector's course on a biennial basis either electronically or in person, in order

to retain their Circuit Inspector's accreditation."

A person who has been appointed by an SKA or by KA and accredited and approved by KA and who has the responsibility to undertake a Circuit Inspection on behalf of KA and the SKA (may also be referred to as Track Inspector).

The functions of a Circuit Inspector are to:

a) Make inspections of each Circuit a minimum of biennially prior to the existing KA Circuit License expiring.

b) Make inspections at the request of a Club or Circuit operator, and if required, during a Race Meeting.

c) Advise the Club or Circuit operator on required safety improvements and Works Orders in compliance with these Requirements.

d) Make inspections at the request of KA or the SKA and if required, during a Race Meeting.

e) Communicate official information only to the respective Club or Circuit operator via the SKA Secretary/Administrator with a copy to the National Circuit Inspector.

f) Prepare and sign inspection reports and forward them to the SKA with a copy to the National Circuit Inspector, or as appropriate.

g) Liaise with the National Circuit Inspector, the National Circuit Safety Committee and KA.

h) Be the point of final determination (in conjunction with KA where necessary) on whether a Circuit is compliant and if not compliant, what Works Orders are required to achieve compliance.

5. National Circuit Safety Committee

The National Circuit Safety Committee shall be formulated in accordance with Karting Australia Functional Committee Standing Orders.

6. Event Classification / Inspection by the relevant Circuit Inspector

a) The KA National Circuit Inspector or their delegate will inspect all host Circuits for National Championship, National Series or National Cup Meetings and confirm Works Order(s) for the relevant Circuit Inspector to follow through on and confirm compliance.

b) A final inspection of the host circuit for all other National Level meetings (State Championship) must be completed by the relevant Circuit Inspector at least 1 month prior to the commencement of the relevant race meeting.

c) Host circuits for National Level meetings must be inspected by the relevant Circuit Inspector as and when requested by KA.

7. Critical Incident Procedure

a) Critical Incident Procedure is provided in the Official Documentation for events.

b) Critical Incidents must be reported to KA, KA's Insurer and the SKA Secretary/Administrator.

Section B

Circuit Construction and Safety Requirements – New and Existing Circuits.

1. *Circuit Design*

The shape of the Circuit, both in plan and vertical profile, is not constrained by these Requirements, as it is dictated by certain variable factors, the types of competition for which the course is intended, the character of the terrain, considerations of economics, aesthetics, tradition, etc. **However, the construction of the circuit must conform to any safety requirements, which may be specified by KA.**

Those responsible for a circuit design must also ensure that the prescriptions laid down by the Public Authorities are complied with and must obtain their official approval.

2. *Circuit Plan and Approval*

Prior to the construction of a new circuit or alteration of any existing circuit, all circuits must have a professionally drawn plan at a scale of 1:500 showing the Circuit layout, surface contours, the direction of the racing, kerbs, catch traps, barriers, buffers, buildings, installation, access roads, race areas, the location of the starting grid, breakdown lane, circuit entry / exit, ambulance access and parking, the Medical Center, pickup vehicles and of the Marshals' posts, as well as a Paddock plan with the pit spaces and access ways.

This plan is a key step in the KA New Circuit and Extensions Procedure.

3. *Track Density/Maximum Number of Starters*

Track Length (Metres)	Track Width at The Narrowest Point		
	6m	7m	8m
<500	20	22	24
500 - 625	22	24	26
626 - 750	24	26	28
751 - 875	28	30	32
876 - 1000	32	34	36
> 1000	NA	38	40

Track Density will be approved on the basis that the Out Grid capacity and In Grid capacity match or exceed the Track density. Lower Track Density may be set based on grid capacity (in/out).

For National Events, KA has the authority to reassess the Track Density of a Circuit based on the results of a full TRA Circuit Inspection conducted by the Safety Risk and Compliance Manager in their capacity as National Circuit Inspector and / or the Safety Delegate.

4. *Circuit Grading – Indicative Criteria (Unless Otherwise Approved By KA)*

GRADE	EVENT STATUS	CRITERIA
International	CIK/FIA International Events	Refer CIK/FIA Homologation Regulations
A	National Championship, National Series, National Cup	Circuits to be a minimum length of 750 metres and a minimum width of 7 meters.
B	State Championship (Bitumen)	Circuits to be a minimum length of 500 metres and a minimum width of 7 metres.
C	State Series, State Cup (Bitumen)	Circuits to be a minimum length of 500 metres and a minimum width of 6 metres.
D	National and State Dirt Circuit Championship	Circuits to be a minimum length of 350 metres and a minimum width of 7 metres.
E	Zonal Competition, Club Competition, Social Karting (non-championship)	Circuits to be a minimum length of 300 metres and a minimum width of 6 metres.

5. *Track Dimensions*

a) **Length:** The maximum length of any Track will be 1.7km (except as otherwise approved by KA).

b) **Straight:** The length of a straight will be measured from tangent points of the proceeding and following corners.

c) **Start Straight:** The Track should ideally have a minimum distance of 80m from the start line to the start of the first corner and be a minimum length of 130m.

d) **First Corner:** The first corner should be as "open" as possible and a minimum width of 8m.

e) **Track Width:**

(i) Straights over 80m in length should have a minimum width of eight (8) metres; elsewhere the minimum width is 7 metres.

(ii) For existing Circuits, heritage dispensation is possible with a minimum requirement that straights over 80m in length are to be minimum width of 7 metres; elsewhere the minimum width is 6 metres.

(iii) Track widths will be measured over the sealed racing surface, excluding any kerbs or ripple strips & delineated by the required white or yellow lines.

f) **Separation**

(i) The distance between high-speed converging sections of Track shall be a minimum of twenty (20) metres between Track edges unless the National Circuit Inspector approves an alternative.

(ii) All other sections of the Track shall have a minimum of fourteen (14) metres separation, apart from the area around the internal radius of any corner.

g) **Track Gradient:** The recommended maximum longitudinal gradient is 5% and recommended maximum transverse gradient is10%.

h) **Vertical Clearance:** There shall be no permanent or temporary objects within a height of 3 metres vertically above the Track surface.

6. Safety Features

(a) Surface:

(i) The racing surface of sealed Tracks will be sealed with bitumen / concrete. The surface of dirt Tracks may be either dirt or a combination of dirt / concrete / bitumen.

(ii) The surface must be smooth and continuous and have sufficient fall to prevent formation of puddles in wet conditions (a minimum of 2.5% being recommended).

(iii) Where practical, the Track surface levels should follow the natural contours. Verges should be graded level with the Track for a distance of 10 metres from the Track edge.

(iv) Please note that severe positive camber on corners can have a launching ramp effect and should be avoided.

(v) **Both edges of the Track surface will be defined with a 100mm wide white or yellow line.**

b) **CIK Starting Grid**

(i) **The Track must be marked in accordance with the CIK Circuit Starting Grid marking requirements as detailed in the drawing contained in Appendix A to these Requirements.**

(ii) The CIK Starting Grid markings will commence no earlier than the end of the last corner before the Start Line.

c) Baulk Line:

(i) The Circuit must have a bright green coloured line painted across the Out-Grid Lane a minimum of 5 metres back from the track edge (or appropriate to suit local conditions with approval of Circuit Inspector).

d) Start Line:

(i) A white line painted across the Track at 90 degrees to the Track edge, which may also be the finish line.

e) Finish Line (also called Control Line):

(i) A white line painted across the Track at 90 degrees to the Track edge, at the crossing of which by a Kart, timing or other performance criteria are determined.

f) Formation Line:

(i) A red line painted across the Track at 90 degrees to the Track edge, on a straight section of Track prior to the final corner before the Control Line – position to be determined by the Circuit Inspector.

g) Breakdown Lane:

(i) Where a mechanical breakdown lane is provided it shall be adjacent to the main Track with entry via a deceleration lane from the Track to the Breakdown Lane.

(ii) **There must be a chicane in the deceleration lane prior to the breakdown lane aimed at substantially reducing the speed of karts entering the breakdown lane.**

(iii) The sealed width of the deceleration lane must be a minimum of 1.5 metres and a maximum of 2.5m.

(iv) **The sealed width of the stopping area of the breakdown lane must be a minimum of 3.0 metres and separated from the racing surface by a barrier or buffer.**

(v) A Breakdown Lane shall be compulsory at National Championship Events.

h) Track Edges, Verges and Run-Off Areas:

(i) **The Track must be bordered all along its length on both sides by compact verges having an even surface.**

(ii) **The verges must be free of debris or gravel and must normally be grass-covered over a minimum width of 1.0 metres**

(iii) **The verges must be continuation of the transverse profile of the Track, with no step between Track edge and verge. Any horizontal transition must be very gradual and progressive.**

(iv) A run-off area is that section of ground between the verge and the first line of protection and unless otherwise specified, must have the same basic characteristics as the verge, although it may be less stabilised.

(v) The run-off area must be graded to the verge. If there is a negative slope, this must not exceed 5% for a distance of 10 metres from the Track edge; if there is a positive slope, this must not exceed 10% for a distance of 10 metres from the Track edge, with a smooth transition from Track to run-off area.

i) **Corners:**

(i) Kerbs must be laid on the inside of corners to prevent karts moving onto the inside verge of corners in normal racing.

j) Kerbs On the Outside of Corners (also referred to as ripple strips):

(i) **Are to be a minimum 300mm wide and a maximum of 500mm wide.**

(ii) The surface may be rippled.

(iii) They will be sloped at a negative angle to the plane of the Track and a maximum of 5 degrees.

(iv) The CIK Style ripple strip is to be used. (Refer to CIK Ripple Strip drawing in Appendix A to this document).

k) Kerbs On the Inside of Corners (also referred to as apex kerbs):

(i) Are to be a maximum of 300mm wide.

(ii) Their surface must be smooth.

(iii) Their surface must form a positive angle to the plane of the Track being a minimum of 15 degrees and maximum of 20 degrees (equivalent to 80mm to 110mm rise measured at the kerb extremity, for a 300mm wide kerb).

(iv) As an approved alternative the current CIK/FIA kerb profile may be used. (Refer to CIK Kerb drawing in Appendix A to this document).

(v) It is recommended that the drainage slots be inserted in apex kerbs.

(vi) The adjacent verge will be finished level with the top of the kerb.

7. Locating Safety Structures

The primary and optimal form of protection for karts is to ensure suitable run off distances are provided between the edge of the Track and any solid object. In general, the minimum distance to a solid object will be ten (10) metres.

a) **Separation barriers and/or catch traps must be installed to prevent karts crossing in any area where two sections of Track are close to each other and/or there is a possibility that karts may cross.**

b) Solid objects should be removed from the Track area where possible. If this is not possible, then suitable run off distance and protection is required. **Any structure or solid object of any type must have barriers or buffers and where appropriate catch traps to protect competitors.**

8. Safety Structures

(a) Buffers

Shall be designed to absorb the energy from impact with a kart and to rapidly decelerate an out-of-control kart with minimum damage to both kart and driver.

(i) Tyre Buffers

- The tyre buffers must be constructed of similar size automotive or racecar tyres (no commercial or 4wd tyres) securely bound / fixed in vertical stacks and longitudinally in a manner that forms a flexible structure. **Tyre buffers are constructed to a minimum of 600mm in height unless otherwise directed. The tyre wall must curve away at the end of the buffer. Traffic side of Tyre Buffer must be painted White (or such other optically obvious colour as approved by the Circuit Inspector.)**
- **Tyres must be affixed together to form tyre stacks and buffer sections of four stacks in length.**
- **Unless an alternative fixing method is approved by the Circuit Inspector, and then only on a temporary transitional basis, TEK screws and/or Bolts must be used to affix the tyres together to form each buffer section. Washers must be used on bolts or Tek screws each side of the tyre wall.**
- **When using Tek screws a suitable "speed nut" must be fitted to the thread end. Bolt or screw ends must not protrude from the outside face of the completed buffer. The buffers must not be attached to the ground so they can move freely when contacted by a kart. Tyres must be in good condition.**

(ii) Plastic Barrels

- **Plastic barrels may only be used as a buffer where specifically approved by the Circuit Inspector.**
- **They must not be used at a flag point.**
- They may be used in suitable locations at the discretion of the Circuit Inspector.
- **The barrels must be parallel-sided deformable UV resistant plastic with minimum size of 600mm diameter x 900mm high.**
- **All barrels must have holes drilled in their base to drain water.**
- **The barrels must be bolted together at the top and bottom, in-groups of five barrels.**
- **The barrels on the end of each group of five barrels must be filled with a maximum of 100mm of crushed stone as ballast.**
- **Each group of five barrels must be attached to the adjoining group using one of the fixing methods identified in 8 (a) (vii) of these Requirements. They must only be used in an upright position.**

(iii) Alternatives

- Buffers may be constructed of alternate material provided the materials and construction methods have been approved by KA.

(iv) Commercial

- Current alternative commercial buffers approved are: Air fence kart inflatables.

(v) Separation

- Buffers must be separated by a minimum of 300mm from any solid object or other safety structure.

(vi) Belting

- May be used to supply a continuous belting face to buffers in areas with risk of frequent or higher speed impact. Minimum height to be that of the buffer being belted, minimum thickness 5mm.

(vii) Fixings

- **TEK screws will be a minimum of 4mm diameter with 25mm diameter washers each side of the fixing and a "speed nut" fitted to the end of the thread.**
- **Bolts will be a minimum of 4mm diameter with 25mm diameter washer each side of the fixing and locating nuts fitted to the end of the thread.**
- **Facings or Belting to be secured with minimum 6mm dome headed bolt with washers and nuts internally only, or alternatively TEK screws of 4mm diameter with 25mm diameter washers and "speed nuts" used internally, to be fixed on every second tyre stack near the top.**

(viii) Buffers may be used in the following locations:

- For separation between sections of Track. Separation Buffers are constructed to be a minimum of 600mm in height and by 4 stacks long, unless otherwise directed by the Circuit Inspector.
- In high-speed run-off areas, as protection before a barrier.
- **For the protection of all Trackside Officials posts including flag points, a double tyre buffer will be constructed with a minimum height of 720mm and a minimum length of 3 stacks with a 300mm separation. All tyres to be bolted together as per 8 (a) (vii).**
- **Traffic side of tyre barrier should be painted WHITE or such other optically obvious colour as approved by the Circuit Inspector.**
- Where possible, buffers are to be a minimum of four (4) metres from the edge of the Track and have verge and catch trap protection prior.

(b) Catch Traps

Catch traps are an area of loose material (normally a bed of 'round' river gravel) designed to slow a kart, which has left the Track surface, before it impacts a buffer or barrier.

(i) A bed of gravel a minimum of two metres wide and 250mm deep with the top surface being flush with the surrounding ground is the preferred method.

- A secondary method (subject to approval by the Circuit Inspector) is to set down 150mm into the existing surface level so as to produce a 100mm high leading edge.

(ii) The stone to be used shall be round river stone of a single size 5 – 10mm. The Circuit Inspector may approve another type of round stone only if round river stone is not readily available in a Circuit's immediate location.

(iii) **On a regular basis, the gravel in the Catch Trap must be ploughed and loosened to maintain its effectiveness. There should be no vegetation growing in a Catch Trap.**

(iv) The Circuit Inspector will decide if the surface of the trap is to be smooth and sloping up from the Track or deeply raked up into ridges approximately 100mm deep and 200mm apart. A correctly prepared gravel trap should be difficult to walk on.

(v) As an alternative, and then only with the approval of the Circuit Inspector, a bed of woodchips a minimum of 2 metres wide by a minimum of 300mm high at the leading edge is permitted to be used for the Catch Trap.

- The leading edge of the Catch Trap is to be kept as near to vertical as possible. The height of the woodchip bed must remain constant throughout the width and length of the bed. The woodchip will be raked regularly to maintain a loose consistency.

Important Note: The use of woodchips in catch traps is being phased out. It is intended that by 31 December 2024, the use of woodchip catch traps will no longer be permitted at any Circuit.

(vi) In high-speed run-off areas, the Circuit Inspector may require the width of the Catch Trap to be increased to a minimum of 4 metres.

(vii) If either material is not available, then a locally available suitable non-compactable (engineered/certified) material may be used as approved by KA in consultation with the Circuit Inspector.

(viii) **The catch trap must be graded to the verge or Track surface.** If there is a negative slope, this must not exceed 5% for a distance of 10 metres from the Track edge; if there is a positive slope, this must not exceed 10% for a distance of 10 metres from the Track edge, with a smooth transition from Track to run-off area

(ix) Locations

- In front of buffers in high-speed areas.
- In all areas deemed necessary by the Circuit Inspector.

(c) Barrier

An obstacle (deemed to be impenetrable and have minimal crushability) serving to bar the passage of a kart– generally the 1LoP.

Note: On new circuits and alterations to existing circuits, it is preferable to provide adequate run-off areas rather than to rely upon barriers alone to control karts.

Construction

(i) A 50mm square x 2.5mm diameter chain wire fence with steel rails, or a heavy wire or cable along the top, and a heavy wire or cable along the bottom. Fencing shall be installed to manufactures recommendations.

(ii) A minimum height of 1.15 or 1.8 metres as decided by the Circuit Inspector depending on location of the Barrier.

(iii) There are a number of alternative construction methods for Barriers and the Circuit Inspector can advise on the best option for specific Circuits and parts of Circuits.

Location

(i) A Barrier will normally be located in high-speed run-off areas.

(ii) A Barrier will be located at the maximum distance possible from the outside edge of the Circuit.

(iii) Location of Barriers will be assessed by the Circuit Inspector and, when considered necessary by them, the National Circuit Inspector for each Circuit to deliver the optimum solution for that specific location.

(d) First Line of Protection (1LoP)

The 1LoP is used to separate and delineate the controlled racing area and maximise the protection of persons such as spectators.

The Circuit must have a 1LoP for the full perimeter of the Track. Gates may be provided but these must be able to be locked. Gates must only swing inwards.

(i) As a minimum, a 1LoP will be 1.15 metres in height above the adjacent ground levels. In some locations, 1.8 metre height may be preferable at the discretion of the Circuit Inspector. It will be constructed from heavy galvanised wire with a 2.5mm high tensile tensioned top wire and a lower panel of 6/90/30 hinge joint fencing from 2.5mm wire. Fencing shall be installed to manufacture's recommendations.

(ii) The maximum spacing of posts will be three (3) metres with corner braces and strainers as

recommended by the manufacturer.

(iii) Minimum post specification will be 75mm diameter CCA treated timber or 50mm OD galvanised steel posts and must be capped.

(iv) The wire mesh must be installed on the Trackside of any supporting posts.

(v) The location of the **1LoP** will be assessed by the Circuit Inspector and, when considered necessary by them, the National Circuit Inspector for each Circuit to deliver the optimum solution for that specific location but a minimum distance of 10 metres from the outside edge of the Track is the usual requirement.

(e) Spectator Fence

A Spectator Fence is used to control the access of spectators and unauthorised persons into dangerous or controlled areas and to maintain a separation from 1LoP and barriers at all Circuits.

The Circuit must have a Spectator Fence for all public areas of the Circuit. Gates may be provided but these must be able to be locked. Gates must only swing inwards.

(i) The Spectator Fence must be a minimum height of 0.9 metres and be a minimum of five (5) 2.5mm wire strands evenly spaced over the entire height of the fence.

(ii) Support posts must have a maximum spacing of three metres.

(iii) A spectator fence is to have warning signs attached to it at 20m spacings stating: "KEEP OUT – PROHIBITED AREA".

(iv) The spectator fence should be set back a minimum of 0.8 metres from any 1LoP or Barrier.

(f) Security Fence

A fence erected to define and maintain a secure area such as parc fermé. It may be permanent or temporary.

The fence will normally be 1.8 to 2.4 metres high chain wire supported on posts.

9. Fire Extinguishers

(a) Fire Extinguishers are to be located at the following positions.

(i) At the weigh in scales and at least four other accessible points in the paddock area for meetings with up to 200 entrants plus one additional extinguisher for each 100 (or part thereof) entrants.

(ii) For National Championships, fire extinguishers are to be located at the scales, start grid and four accessible points in the paddock area.

(iii) At any fuel dispensing area, if in use.

(iv) At any fuel testing area, if in use.

(v) At all flag points / light points.

(b) **Fire extinguishers to be of a type suitable for flammable liquid fire and be non-hazardous to humans. Minimum 2.5kg and must have current certification tag.**

(c) **Notices for fire extinguishers, 1000mm by 600mm, with lettering a minimum height of 180mm, are to be located with the bottom of the sign, minimum 2.0 metres above the ground at all locations in the Parc Fermé/Paddock area, exceptions being the scale area and the fuel dispensing / testing areas, all areas must have suitable signs displayed.**

(d) Entrants may be required to supply an approved filled fire extinguisher with a current certification tag in their

paddock space, but the presence of such extinguisher shall not relieve the organisers of the obligation to supply adequate firefighting equipment for the circuit as a whole.

10. Circuit Lighting (Required for Night Racing and Karting Activity):

(a) Out Grid, In Grid, Parc Ferme and Weigh Area

(i) Must be such that no shadows are cast, which may be a danger to competitors and pit crews whilst starting or retrieving karts.

(b) Paddock

(i) Must be adequate for competitors and pit crew to move around the paddock without endangering themselves by objects hidden in shadows.

(c) Track

(i) No point of the Track surface will measure less than 15 Lux for existing light installations.

(ii) New lighting installations will have a minimum average of 55 Lux with no point of the Track surface to measure less than 21 Lux.

(iii) Track lighting is to be measured at ground level on the centre line of the Track.

(iv) No section of Track surface will have its intensity of lighting vary by more than 20% over a 5 m distance.

(v) No lighting source shall cause glare to drivers or officials.

(vi) All new Track lighting must be designed by a qualified person.

(d) Emergency Circuit Lighting

(i) A Circuit must have emergency lighting.

(ii) The emergency lighting will have an alternate source of power supply to that which powers the main Track lighting.

(iii) The emergency lighting will be permanently on during racing.

(iv) The minimum number of lights will be one (1) light for every two hundred metres of Track & at least one (1) light at the In Grid.

(v) Positioning of the lights will be at the discretion of the Circuit Inspector. Alternate power supply must comply with relevant government & industry regulatory requirements.

11. Safety Control Lights

(a) Where a Club elects to install Safety Control Lights (Static and Flashing Red, Yellow, Green and Blue Lights to augment or replace flag signals) the following minimum standards will apply to such lights, structures and installations.

(b) It is preferrable that the lights used are LED lights which shall be a minimum of 200 square centimeters in area.

(i) Alternately incandescent lights which shall be a minimum of 150mm diameter.

(c) They will be mounted no more than 2 metres high from ground level, unless over the Track surface where Requirement 5 (h) applies.

(d) All lights must be capable of being controlled from a central point.

(i) Green and Yellow lights shall be independently switched and be capable of full course operation – Static and Flashing.

(ii) Blue shall be independently switched – Flashing.

(iii) Red Lights shall be full course operation – Static and Flashing.

(e) For control, the Lights may be either hard wired or capable of being controlled by Wi-Fi.

(f) The Lights may be mains either powered or battery powered.

(i) All cabling must be either underground or around fence lines and must comply with relevant electrical codes.

(g) The positioning, construction and number positions of lights is to be decided in consultation with the Circuit Inspector.

12. Paddock Area

(a) The paddock must be clearly defined and fenced. Under most conditions the public are permitted in the paddock. All karts shall be accommodated within the paddock area. **The paddock must be of sufficient area to cater for the maximum number of Competitors likely to attend a race meeting.**

(b) The paddock area surface is to be of a suitable material, graded and drained to maintain access during all weather conditions.

(c) The access ways to paddock spaces are to be a minimum width of 3 metres.

(d) A trade area is to be set aside for exclusive use of Trade Outlets that have made arrangements with the Club/Promoter of an Event.

(e) The Club, in conjunction with the Circuit Inspector, may designate a safe area for the starting of kart engines. This area will be clearly marked and sign posted.

(f) The Circuit must have a main notice board that will be in the Paddock area. It will be used to display all official communications and race information to Competitors and Officials. It is recommended that the notice board be lockable and protected from the weather. **The Notice Board is to have a map showing:**

(i) emergency vehicle access routes

(ii) fire extinguishers

(iii) parc fermé boundary

(iv) paddock boundary

(v) emergency phone numbers

(vi) kart engine starting area

13. Out-Grid (Start Grid) and In Grid (Weigh Grid)

The entrance and exit to and from the Track must be clearly defined "OUT" on the Out Grid (or Start Grid) and "IN" on the In Grid (or Weigh Grid.)

The direction of racing and practice is to be displayed by an arrow sign. The location of the sign is to be determined by the Circuit Inspector.

(a) Out Grid (or Start Grid) Area

(i) Must be large enough to accommodate the maximum number of starters permitted on the Track.

(ii) The kart positions on the grid are to be clearly marked in a Herringbone design as per the grid layout diagram in Appendix A of these Requirements.

(iii) **The grid surface is to be smooth bitumen sealed or concrete and well maintained.**

(iv) **The lane to the Track must be fitted with a suitable gate of strength at least equivalent to the adjacent fence. It must be protected from swinging back into the Start Grid during all on-track sessions and Races.**

(v) **The sealed width of the lane to the Track must be a minimum of 5m and the width between safety structures must be a minimum of 7.5 metres.**

(vi) **The minimum grid surface width is 8.5 metres.**

(vii) Circuits with an existing minimum grid surface width less than 8.5 metres can seek approval from KA for a revised Herringbone layout by providing drawings of the proposed layout to the relevant Circuit Inspector.

(viii) Circuits seeking approval for a revised layout must respect the 2.5m centre lane.

(ix) **As a minimum both sides of the start grid must be enclosed with a spectator fence spaced at a minimum of 8.5 metres for a Herringbone grid unless a revised layout has been approved.**

(x) **A Herringbone grid must be used for all karts when a clutch is fitted.**

(b) Weigh In Area

(i) **The weigh in area must be fenced to prevent entry of unauthorised personnel. As a minimum a Spectator Fence will be used.**

(ii) Scales are to be located at the end of the weigh in area away from the Track.

(iii) The surface is to be bitumen sealed or concrete and to be of sufficient area to accommodate the maximum grid capacity. (i.e. allowing 4.0 m^2 per kart)

(iv) **Access to the weigh in area will be by way of a deceleration lane. The sealed width of the deceleration lane must be a minimum of 1.5 m and a maximum of 2.5 m with an overall clear width of 3.0 m.**

(v) **The deceleration lane will include suitable bends or a tyre chicane to slow the travel of karts. The weigh in area should be protected from an out-of-control kart by a catch trap or buffer.**

(vi) An entry lane to the deceleration lane may be painted on the Track.

14. Parc Fermé Area

(a) The parc fermé may include the start grid area, the weigh in area and the weigh scales, an area for impounding karts for technical checking and any tyre or fuel impound area.

(b) **The parc fermé must be clearly defined and fenced and the public is not permitted in the parc fermé. Appropriate Spectator or Security Fences will define the parc fermé areas. No smoking is permitted in this area and this direction must be clearly signposted.**

15. Emergency Communication

(a) **A telephone must be provided at all circuits.**

(b) **A mobile phone will be sufficient where reception can be achieved.**

(c) **Where telephone reception is not available, radio contact with emergency authorities must be in place during Competition.**

16. First Aid Requirements

(a) These vary from State to State but there must be clear access for an ambulance or paramedic and the first aid facilities at a minimum must be a fully enclosed area with protection from the elements and closed from view of the public.

(b) It is highly recommended that a medical room be established for use by first aid personnel and for the treatment and recovery of injured persons in private. It is also recommended that each event organizer establish communication with their nearest hospital to advise when events are running.

17. Stewards Meeting Room/s:

(a) All circuits will have an enclosed facility for conducting Stewards hearings. The room should be weatherproof and provided with power. Artificial lighting must be provided.

(b) There should be a board in the Stewards' room displaying a facility map showing:

- **(i) fire extinguisher locations**
- **(ii) parc fermé boundary**
- **(iii) paddock boundary**
- **(iv) emergency phone numbers**
- **(v) kart engine starting area/areas.**
- **(vi) sensor device area**
- **(vii) Circuit layout**

18. Control Tower:

(a) It is recommended that control towers be adequately covered, closed and ventilated with access by way of a permanent stairway.

(b) This area is to be considered out of bounds except for essential race day Officials or their delegated messengers.

19. Fuel Testing Facilities:

(a) All buildings, including portable structures such as shipping containers, which are used for the purpose of fuel testing, must have an adequate Fresh Air Ventilation System (flow through or exhaust system) and fire extinguishers - Refer clause 9.

20. Scrutineering (Technical Inspection) Area:

(a) Enclosed and covered facilities with adequate lighting and suitable benches are to be provided for Engine Measuring and Fuel Testing.

(b) An adequate secured area for the impounding of karts, tyres, fuel, etc. is required for all State and National Championships and other events as required by KA.

21. Sensor Devices:

(a) Pick up / sender / sensor devices are not permitted inside the 1LoP unless in an approved designated area.

22. Amenities:

(a) Toilet and canteen facilities are to comply with Local Council regulations.

(b) The design and maintenance of all facilities should be such to ensure that the safety of spectators and competitors is paramount.

(c) Paths and trafficable surfaces should be even and non-slip.

(d) Electrical and communication wires should be under ground or strung on poles and any hazardous areas isolated.

(e) All new Courses must have a toilet that is accessible for disabled persons.

23. Parking:

(a) The Course must have a designated parking area for competitors, officials and spectators.

(b) The Course must have a designated area, outside the fenced-in-Track area, for the storage of Track maintenance equipment and the parking of service vehicles.

(c) The Circuit must have a designated area for parking an ambulance or paramedic and pick up vehicle/s. this area must be positioned so as not to cause a hazard for competitors or officials. If necessary, a safety barrier must be constructed.

24. Official Signage (Must be positioned at main entry and adjacent to the grid area in the Paddock)

Official signs should measure at least 1.8 metres x 1.2 metres in size and be a white background with the words WARNING in LARGE BOLD LETTERS, with the following words in LARGE BLACK TEXT.

(a) Waivers

WARNING: - Kart Racing Is Dangerous.

Karting Australia and its affiliates ("KA") is in the business of providing recreational services that relate to the sport of go karting, including official and private practice, come and try days, demonstrations, displays and race competition ("Business").

By entering the Venue any Attendee is at risk of death or of suffering personal injury (both physical and psychological) or loss and damage to property ("Harm") arising from KA conducting its Business. Each Attendee releases and indemnifies KA and holds it harmless with respect to all liability for death, personal injury and all other loss and damage, including damage to property howsoever arising, except to the extent prohibited by law.

The Attendee voluntarily entered the Venue at its own risk and knows that go karting is a potentially dangerous activity.

Affiliates of KA include, but are not limited to its Ordinary Members (organisations including Karting Australia (New South Wales) Inc, Karting (WA) Inc, Victorian Karting Association Inc, Australian Karting Association (SA) Inc, Karting Tasmania Inc, Australian Karting Association (NT) Inc, Australian Karting Association Queensland t/as Karting Queensland), associate members, provisional members, life members, honorary members, temporary members, Committee members, Trustees, License Holder, Officials, Instructors/Coaches, Employees and Volunteer workers, the CEO and the Board of KA promoters, sponsors and owners and lessees and licensees of the land, organisers and respective servants, officials and agents.

(b) Practice Restrictions

(i) Direction of practice / racing (Refer to clause 13 of these Requirements)

(ii) Fire Extinguishers (Refer to clause 9 of these Requirements)

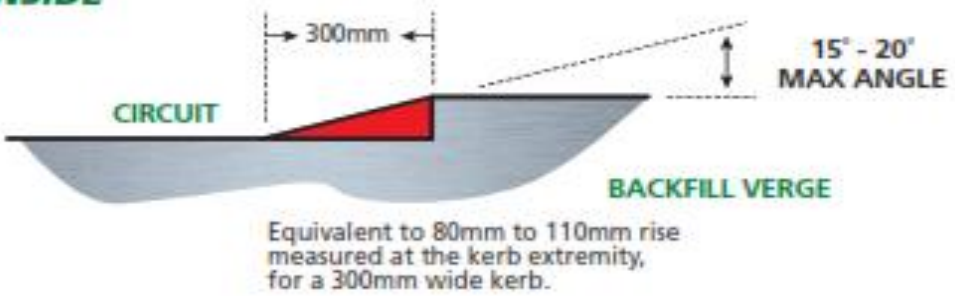
(iii) Requirement to sign Indemnity Form.

(iv) Recommendation covered footwear be warn at all times (practice/race meeting) whilst in paddock area.

(v) Enclosed footwear must be worn on the out-grid / in-grid at all times.

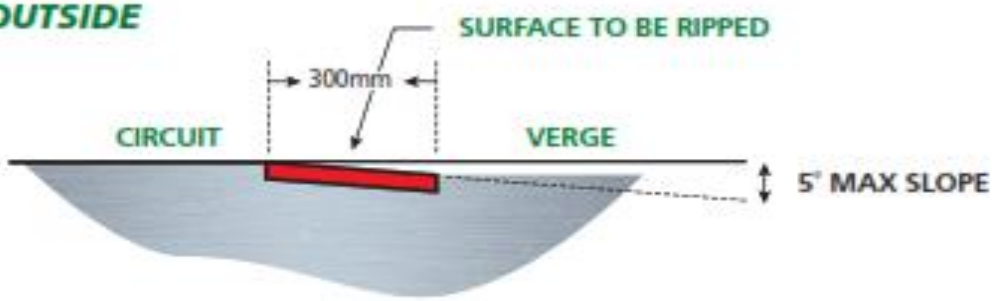
Appendix A Diagrams

KERB - INSIDE

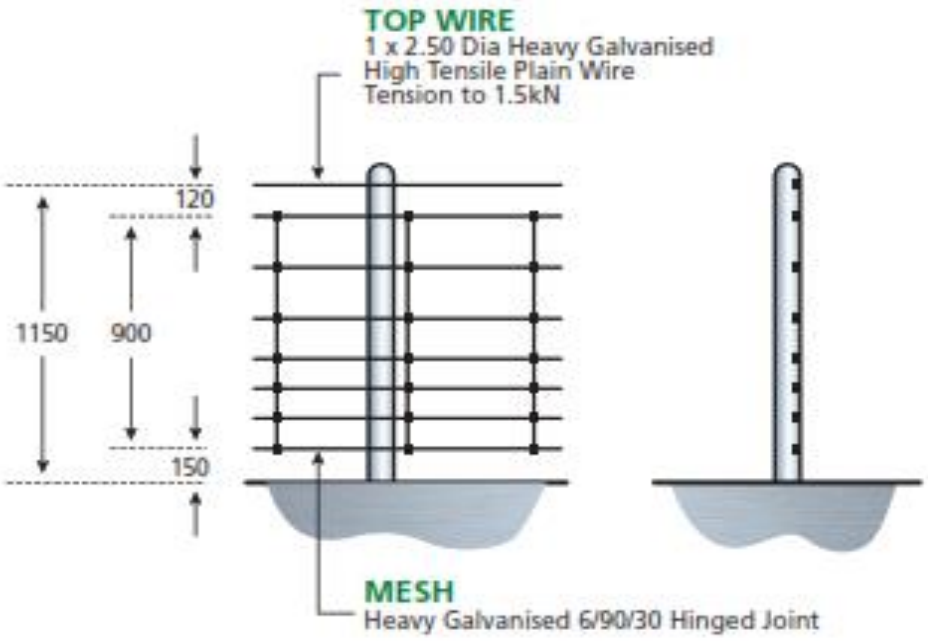


Equivalent to 80mm to 110mm rise measured at the kerb extremity, for a 300mm wide kerb.

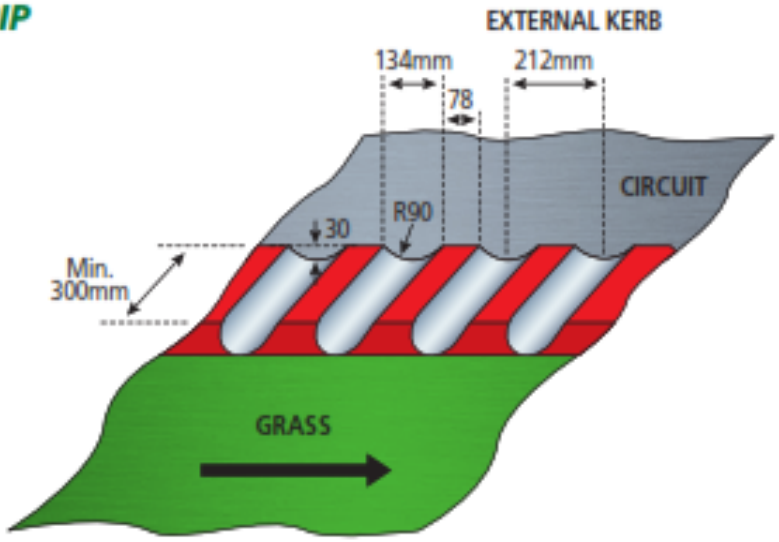
KERB - OUTSIDE



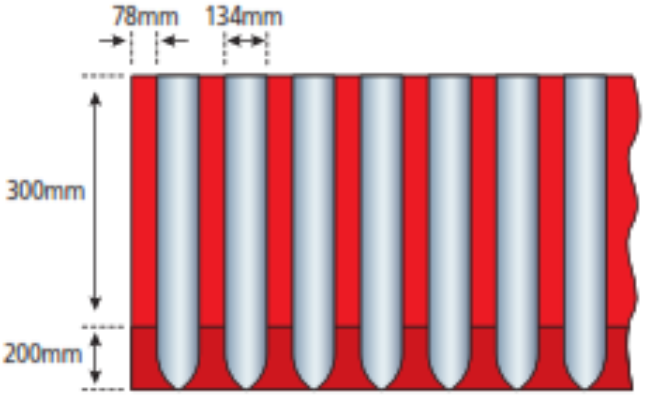
FENCING



CIK RIPPLE STRIP

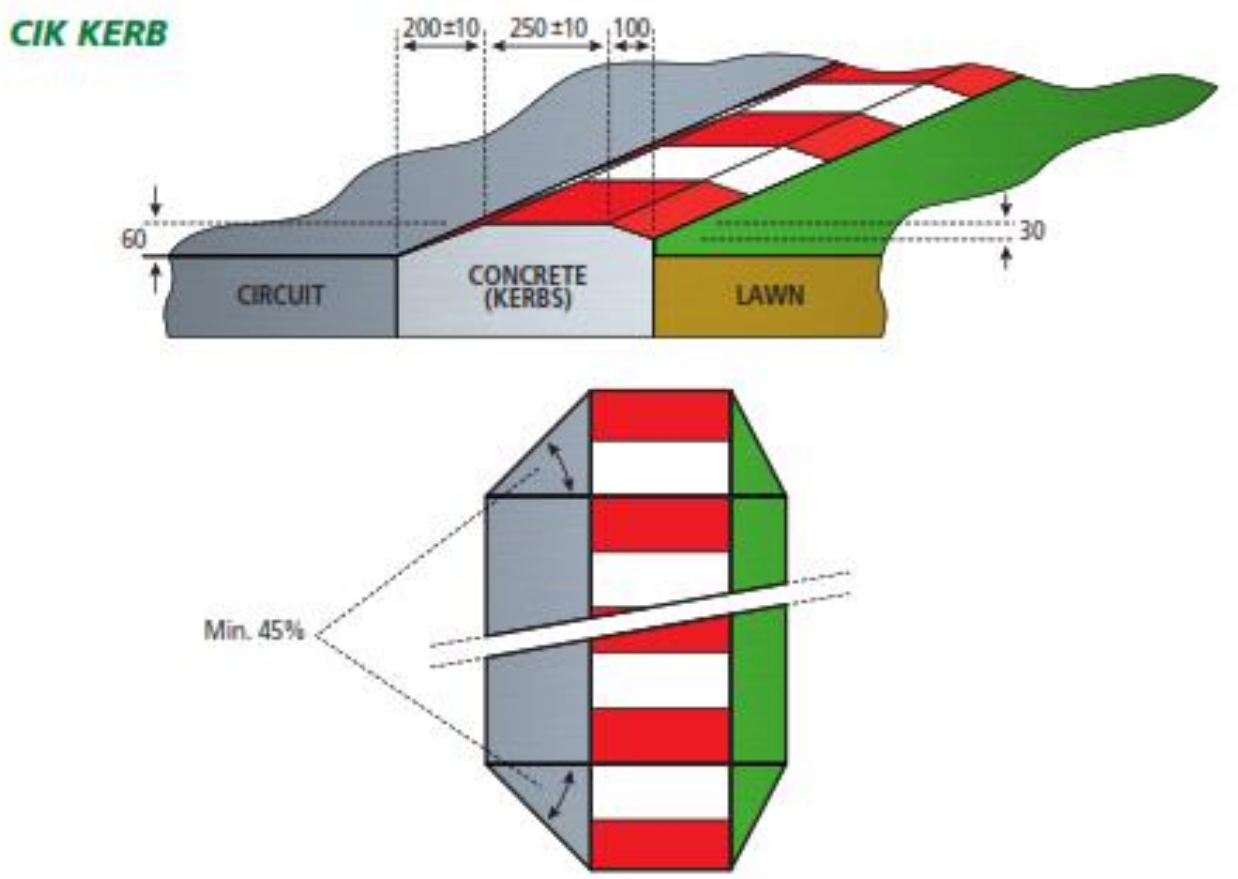


A



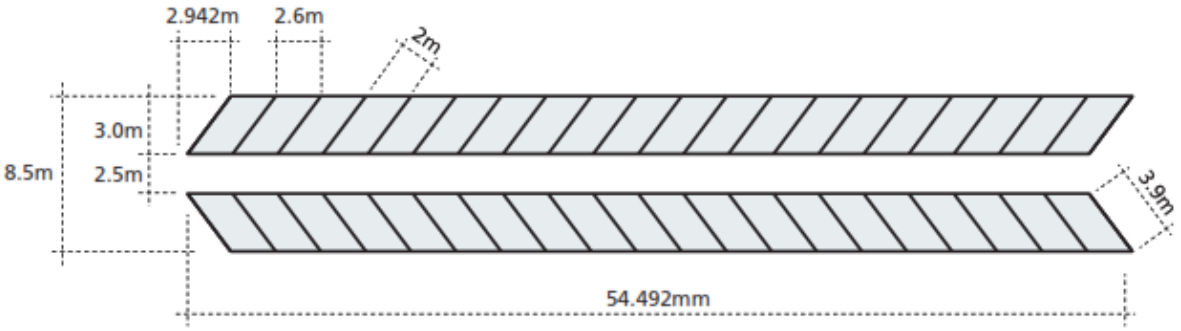
B

A-B


CIK KERB
200±10
250±10
100
60
30
CIRCUIT
CONCRETE (KERBS)
LAWN
Min. 45%

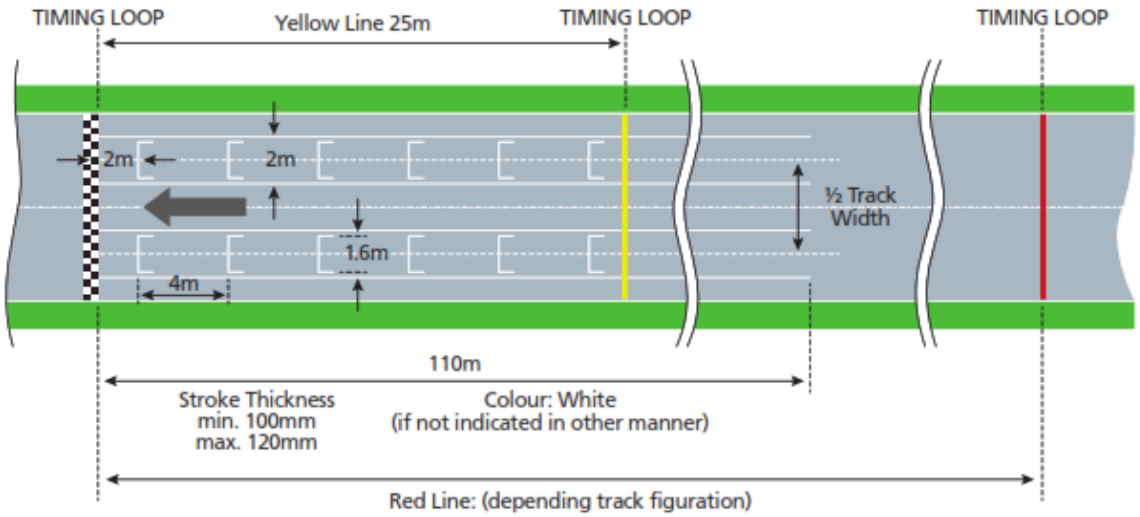
HERRINGBONE GRID FORMAT 40 Kart Grid Herringbone Pattern

Note: Due to different Out Grid dimensions from Circuit to Circuit, alternative angles can be submitted to NCSC for approval. Width of each kart's allocated space must be no less than 2m and central space for all karts to drive out must be no less than 2.5m.



Herringbone configuration may be altered to suit conditions at each Circuit but such alterations must be approved by NCSC

CIK STARTING GRID



* Dotted lines for measuring purposes only.

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