

4. Driver Avenue steps – risk, disability access, integration with Moore Park

The focus of this submission is on the two banks of steps, six metres high, which 70% of patrons are expected to use to access and leave events at the SFS.

(1) Availability of information about the Driver Avenue steps

The first point to note is that, unless we'd been present at the CCC, we wouldn't know that the steps are to be six metres high. In an Appendix to the EIS we're told that the steps are "a high elevated area" (Appendix I, 3.3), but the EIS makes no reference to their height. The closest we can come to calculating the height is the drawing at Appendix C2, Pt16, page 22, where from the levels given it's possible to calculate that the height from the bottom of the steps to the top is 4.85 metres. There is then a ramp at the top with a grade of 1:33 over an indeterminate distance. Presumably, this lifts the height to approximately 6 metres.

There appears to be no details as to the width of the steps. However, Diagram 61 in Appendix C1, Landscape & Public Domain Pt 1 (attached) shows that the steps are narrower at the bottom than at the top.

The proposed Driver Avenue steps are one of the most obvious and dramatic changes from the now demolished stadium. We do not understand why INSW has provided diagrams but withheld information on the dimensions of the steps which is integral to any environmental assessment. Nor do we understand why, having modelled the capacity of the footpaths in the surrounding precinct to accommodate worst-case-scenario pedestrian movements (EIS, page 154), Arup has undertaken no similar modelling for the capacity of the Driver Avenue steps to accommodate crowds exiting the stadium – the one used by 70% of patrons.

It follows that there is no detailed assessment of the impacts of these steps.

(2) What do we know about the steps?

They're variously described as "two grand stairways" (EIS, page 74) and "a monumental entry experience for patrons" (Appendix C1, page 60). They are said to be "divided into 3 flights to provide a human scale experience" (whatever that means) (Appendix C1, page 32) though diagrams suggest two flights of 14 or 15 steps (Appendix C1, page 33). They look to be a little wider at the top than at the bottom (EIS, page 74, figure 41). There will be railings down the centre, but sharp edged concrete terraced seating at the sides (Appendix C1, page 33, photo 67).

(3) Why are the steps needed?

This is said to be necessary to enable a level entry from Moore Park Road. "By elevating the stadium entry on Driver Avenue, the public domain level is able to tie more seamlessly with

the northern site boundary and the Moore Park Road public domain allowing increased permeability and pedestrian movement along this edge.” (EIS, page 74)

In essence, rather than have a low flight of steps providing access from a less important entry point in Moore Park Road, the southern end of the stadium has been raised so that what was a gentle ramp from Driver Avenue leading up to the former stadium is to be replaced with two six metre banks of steps, which 70% of patrons are expected to use.

A second consideration was to enable the concourse to remain level around the site. The gentle slope of the former concourse on the western side of the stadium down from Moore Park Road will now be level, ostensibly to assist with the flow of pedestrians into and out of the stadium. It is ironic that the level concourse is intended to “provide DDA compliant grades to support and promote inclusivity” when the steps up from Driver Avenue have the opposite effect.

The solution included in the Fitzpatrick Partners / McGregor Coxall competition entry was much better and included a combination of steps and a continuous inclined plaza. We note that there is a shell space located directly under the concourse on Driver Avenue which is designated as being for “commercial facilities” - refer to drawing A13.L0.01. If this were omitted, something like the Fitzpatrick Partners / McGregor Coxall solution would be appear feasible.

A central question is whether the issues that are created as a result of this reconfiguration of levels don't outweigh the perceived benefits of a level entry from Moore Park Road and a level concourse. There are four issues:

- The risks to patrons associated with leaving the stadium
- Issues associated with disability access
- The challenge the steps pose for the effective integration of the stadium precinct with Moore Park
- The implications for the provision of members' facilities

(4) The risks to patrons

SEARS 3 requires the EIS to “Provide details of strategies to mitigate risks at points of crowd swell (i.e. pedestrian crossing / refuge points, circulation around the stadium, and approach and departure points) (EIS, page 27). Unfortunately, it does not require a risk analysis associated with crowd movements, just strategies to mitigate risks.

Equally unfortunate, consent condition B10 for the Stage 1 DA only required a review of pedestrian connections between the site and the adjoining lands on the eastern and south eastern boundary of the site having regard for the safety of pedestrian movements – not on the western side where 70% of patrons will enter and leave the stadium.

Thus neither the consent condition nor SEARS required INSW to undertake a risk analysis of patrons using the steps. This may explain why Arup undertook no modelling of crowds using the steps – in our view a major oversight.

To undertake a thorough risk analysis of using the steps, one would have to model people using the Driver Avenue steps under various scenarios – the numbers using them when the stadium was half full and at peak events, and under alternative conditions [dry, wet and windy, hot, cold, night, day, etc.]

Steve Watson & Partners has completed a review of the project documentation and confirm that the design is capable of achieving compliance with the Building Code of Australia (BCA) (EIS, page 190, Appendix FF, page 4). No information is provided to substantiate this conclusion. INSW suggests that any issues with the Code can be addressed at the detailed construction documentation stage.

We believe the risks are of such a magnitude that they may require major changes in the design of the stadium or in the way it sits on the site, and as such they need to be addressed before the Minister gives his consent to Stage 2.

So what are these risks?

Our concerns relate primarily to a situation when crowds of people leaving the stadium via the steps to Driver Avenue, and the potential for there to be a major catastrophe when someone falls, pushing people over in front of them, with a cascading effect. There's potential for people to be crushed and killed. There are a number of risk factors here:

- People rushing to leave to catch the light rail or a bus shoves someone out of the way, who loses their balance.
- People of different age and mobility – some old and relatively frail, young children, people with babies, young fit people in a hurry – not a good mix.
- The weather – wet, windy weather typical of a Sydney winter may make people less sure footed when descending a steep staircase in a densely packed crowd.
- Some patrons will be intoxicated in various degree.
- Visibility - In densely packed crowds people can't easily see where they're placing their feet - worse at night when there are shadows, when conditions are wet underfoot and when people are in a hurry.
- In the unlikely event of a terrorist threat one can imagine the potential tragedy with people rushing to get away down the steps.
- The steps appear to converge slightly towards the bottom, so people will be channeled into a narrower exit point from the steps
- Sharp concrete terrace edges and central railings are also potential pressure points, with people being pushed against them

Earlier proposals were for a 300 square metre video mesh screen at the top of the stairs. It's unclear whether this proposal has been discarded altogether or if the screen will be relocated further round the stadium perimeter. Without knowing, we can't comment on whether this is also a risk factor where people turn around as they're descending the steps (eg to see a replay of a try) and lose their footing, or someone looking around slows their descent in front of others, leading to pushing and shoving.

On 19 September 2018, the Chairman of the SCG Trust, Tony Shepherd, emailed SCG Trust members with a lengthy justification for rebuilding the SFS. Included were these quotes:

“Lord Justice Taylor’s closing remarks at the end of the inquiry into the Hillsborough Disaster in the UK are as relevant now as they were then. In delivering his findings into the eventual death of 96 Liverpool fans, he said: “The enemy of safety is complacency”. Lord Taylor’s report, completed in 1990, had massive ramifications for stadium design all around the world, putting the focus firmly on patron safety and comfort for the first time in the history of modern sport.

“In an emergency, patrons face the very real prospect of serious injury or worse in the rush for the exits.

“The lesson from Hillsborough where 96 people were crushed and trampled to death and 766 more injured has been learned in modern stadium design – and it must not be ignored here.”

We are concerned that in the interests of having a level entrance from Moore Park Road and a level concourse, which in our view are in the ‘nice-to-have’ category, Cox and INSW are ignoring the risks of people leaving the main exit via a steep set of stairs. The best experts in the world cannot guarantee that 25,000-30,000 people streaming down six metre high flights of stairs won’t at some time cause a catastrophe through simple misadventure. If this ever happens, who will be accountable?

(5) Disability access

SEARS 7 requires the EIS to provide an Access Report to demonstrate that the building(s) and all public domain areas have been designed and are capable of being constructed to provide access and facilities for people with a disability in accordance with the Building Code of Australia (BCA) and the Disability Discrimination Act (DDA) (EIS, page 29)

Before Compliance believes the stadium “will be capable of compliance with the DDA Premises Standards 2010 and the BCA.” No information is provided to substantiate this conclusion. It further notes that “The design of the stadium will be continuously refined during the detailed design phase to ensure that various elements of the proposal will meet the applicable performance requirements of the above codes.” (EIS, page 189; Appendix V, page 4) All the areas about which we are concerned are “To be confirmed in later design phases” (Appendix V, page 5)

Our concerns are not with the disability access issues associated with the design of the stadium. They are with access to the stadium from Driver Avenue, and secondarily, with the special access arrangements provided within the MP1 carpark. In our view, the EIS does not demonstrate that all public domain areas have been designed to provide access and facilities for people with a disability in accordance with the BCA and the DDA as required by SEARS 7.

We believe the disability access issues are of such a magnitude that they may require major changes in the design of the stadium or in the way it sits on the site, and as such they need to be addressed before the Minister gives his consent to Stage 2.

There are several issues here:

(a) What provisions are proposed for disability access to the stadium entrances?

The EIS states that the public domain has been designed to provide safe, easy access for people with mobility impairments (EIS, page 93). The following access is provided:

- Two lifts at or near Driver Avenue (EIS, page 74)
- A dedicated drop-off area for members of the public with special access requirements in the MP1 carpark. The drop off area will be arranged via a pre-booked system. An accessible path of travel is provided from MP1 to the main stadium entry, with access via lifts. (EIS, page 93)
- from Moore Park Road level with the footpath, with no stairs between the property boundary and the stadium entrances. (EIS, page 93)

(b) Does the DDA apply to the area between Driver Avenue and the stadium entrance?

INSW has claimed to the CCC that the DDA does not apply to public domain areas – such as the area between Driver Avenue and the entrance to the stadium building. The [AHRC](#) states that the DDA makes it unlawful to discriminate against a person accessing public places because of their disability, which suggests that the DDA does apply to the area concerned.

Clause D3.2 of the National Construction Code (NCC) states that an accessway must be provided to a building required to be accessible from the main points of a pedestrian entry at the allotment boundary. An ‘accessway’ means a continuous accessible path of travel to, into or within a building. This provision suggests that the NCC requires the provision of a continuous accessible path of travel from the allotment boundary (Driver Avenue) to the stadium entrance.

We note that the City of Sydney has an [inclusive and accessible public domain policy](#) whose focus includes contributing to more equitable access by people with disabilities to facilities and services when accessed by travel through the public domain. One might reasonably ask if the NSW Government really wishes to provide access to a new stadium within the City of Sydney LGA which meets a lesser standard?

(c) Will lifts satisfy the DDA?

The [AHRC regards](#) discrimination under Section 23 of the DDA to include the provision of access “which is less convenient (for people with a disability) than the access provided for other members of the public”.

NCC Clause D3.2(b)(i) requires that the principal pedestrian entrance must be accessible to people with a disability. As 70% of people attending events are expected to enter via Driver Avenue, this is clearly the principal pedestrian entrance. Clause D3.2(b)(ii) also requires that

no inaccessible pedestrian entrance can be more than 50 metres from an accessible one. The Driver Avenue entrance will be more than 50 metres from the other two entrances.

A 45,000 seat stadium must provide at least 283 spaces for people with disabilities. So at peak events, the two lifts at the Driver Avenue entrance will need to be able to move at least 185 people in wheelchairs, as well as hundreds of others with prams and strollers, elderly people, and those who, for whatever reason, prefer to use a lift rather than climb the steps.

With 70% of attendees expected to enter via Driver Avenue, it's easy to imagine 500 or more people wanting to access the stadium using the two lifts. While some phasing of arrivals will happen, most people arrive close to game starting time. The intolerable delays that will inevitably result would seem not to suggest equitable access for those with a disability.

Accessibility also implies ease of egress, and the barriers to disabled people exiting the stadium will be even greater. Then there will be no phasing – everyone will want to leave at the same time. With games often finishing at night, it's easy to imagine long queues of disabled and elderly people waiting for lifts in the cold night air, at times in rain and windy weather.

It is difficult to see how two lifts will meet DDA requirements if those with disabilities have to wait lengthy periods for the lifts. Should someone complain to the AHRC, the Government will find it difficult to argue that the lifts are as convenient for people with a disability as access by the steps used by other members of the public. In summary, we believe

- a) a continuous accessible path of travel must be provided from the allotment boundary (Driver Avenue) to the stadium entrance;
- b) the principal pedestrian entrance (Driver Avenue) must be accessible for people with a disability;
- c) the two lifts provide less convenient access than that available to other members of the public;
- d) the Driver Avenue entrance will be more than 50 metres from either of the other two entrances

It therefore seems likely that the AHRC would regard the Driver Avenue entrance as discriminating against people with disabilities under Section 23 of the DDA.

(d) Will access from the MP1 carpark satisfy the DDA?

While we support the provision of a dedicated drop-off area within the MP1 carpark for members of the public with special access requirements, we note that this will only be available for those who pre-book. People with a disability who haven't pre-booked will be turned away.

Section 23 of the DDA regards access as being discriminatory where it is less convenient for people with a disability than the access provided for other members of the public. It isn't difficult to envisage complaints being lodged with the AHRC from those people who are eligible but don't pre-book.

(6) Integration of the stadium precinct with Moore Park

The EIS includes a number of contrived statements designed to minimise perceptions of the impact of the six metre high steps up from Driver Avenue. They sound more like they've been written by someone who's done a creative writing course where poetic but meaningless language will beat a realistic and accurate description any day. We've already mentioned references to "two grand stairways" and the "a monumental entry experience". Then there are the following:

- The steps navigate a level change between Driver Avenue, Moore Park and the Stadium, while providing a grand arrival gesture. A belvedere lookout is oriented towards Moore Park and Kippax Lake to promote visual and physical connections to key places.
- The western site interface draws heavily on the character of Moore Park, allowing the park to fold up towards the public concourse.
- Through a considered materials palette and referencing the City of Sydney public domain details, the site will become integrated and connected.

The inescapable fact is that the scale of the stadium, and particularly the concrete six metre high steps, are confronting when viewed from across Kippax Lake and in the general vicinity. No fancy words are going to mask this. Low level plantings may soften what would otherwise be a solid wall of concrete steps but they won't disguise the extent of the level change surmounted by a soaring stadium profile. From Driver Avenue, the eye will be taken up and up and up.

(7) Implications for members' facilities

A shell space is located directly under the concourse on Driver Avenue which is designated as being for "future commercial use" - refer to drawing A13.L0.01. If this space is not, in fact, intended for future commercial use but for members' facilities then it would appear that this information has been deliberately withheld since the steps were first proposed in the SJB Urban Design report from June 2018 for the Stage 1 Application (page 88). It may then reasonably be inferred that the need for the Driver Avenue steps may have less to do with the need for a level concourse than with the need to provide space for members' facilities. This issue is discussed in more detail in Section 9 of our first submission.

(8) Possible solutions

As discussed, we believe the risks of a catastrophic fall involving patrons leaving the stadium via the six metre high steps is so great that a new solution needs to be found. The stadium design is also at great risk of complaints against it being made to the AHRC and the AHRC concluding that public domain access to it is less convenient (for people with a disability) than the access provided for other members of the public.

If the Government is to respond to these challenges, it appears to have two options: modify the concourse so there's a gentle slope from north to south, within DDA compliant limits, or sink the stadium three metres into the ground.

(a) Modify the concourse

INSW argues that "The concourse is required to remain level around the site to assist with the flow of pedestrians into and out of the stadium." (Appendix HH, page 34) In our view, the concourse can be DDA compliant and compatible with good pedestrian flows with a gentle slope from north to south. This should be sufficient that the proposed steps up from Driver Avenue can be replaced by a gentle ramped approach, similar to that which existed with the former stadium.

(b) Sink the stadium three metres

If the stadium were lowered three metres into the ground, it would remove the need for the Driver Avenue steps.

INSW has argued against this option: "Unlike the former stadium, it is not proposed to further excavate and sink the stadium bowl into the site as this would have the potential to increase environmental impacts with regard to factors including heritage, groundwater construction traffic and accessibility, and is therefore not considered to be in the public interest or the best outcome for the site." (EIS, page 128) (The words "unlike the former stadium" appear to mean that the former stadium bowl was sunk into the site but the proposed stadium will not be and so will sit higher on the site.)

It further argues that "The existing water table is approximately 2-3 metres below the existing field of play level. The proposed stadium maintains the field of play at the same level. If the stadium were sunk it would potentially impact the water table requiring a tanked structure to be created for the stadium as well as environmental impacts that would impede the natural flow of the groundwater." (Appendix HH, page 34) There is, of course, also the question of the cost of doing this.

It is not, of course, an ideal solution, but compromises sometimes have to be made. The cost and inconvenience of a design change now need to be weighed against the risk that the AHRC will conclude that the Driver Avenue steps are not compliant after the stadium has been constructed, which will lead to massive costs, as well as the risk of a catastrophe on the Driver Avenue steps at some time in the future.

INSW has also argued that "A level change would be created along Moore Park Road which would require the inclusion of additional steps and a ramp or lift. This would impede the ability of the concourse to be of sufficient width surrounding the stadium as well as create an impediment to the pedestrian flow through the site on non-event day."

Yes, it would mean steps were needed for access from Moore Park Road, but as the entrances there are intended to carry only 30% of patrons, and as the risks with steps is on

egress rather than entry, this should not be a problem. INSW argues against steps down from Moore Park Road to stadium entrances which will carry 30% of patrons on the grounds that they will “restrict the ability of persons with mobility impairments to access the site” (EIS, page 128), but sees no problem for the same patrons with a far greater number of steps at the other end of the precinct which will carry 70%! This is warped logic.

Yes, it may mean pedestrian flows through the site on non-event days will be affected (though this is by no means certain). It may also mean a reduced focus on activities such as basketball, exercise equipment and table tennis, but pedestrian flows and activities on non-event days are surely not a key objective so much as a desirable add-on to the stadium thesis. (In any event, if these ancillary activities were located at the southern end of the precinct, this would have the advantage of mitigating possible impacts on residents.)

(9) Conclusions

Steve Watson & Partners has confirmed that the design is capable of achieving compliance with the BCA. (Appendix FF) Before Compliance believes the stadium will be capable of compliance with the DDA Premises Standards 2010 and the BCA.)(Appendix V) Neither appears to have explicitly addressed the risks discussed above. Presumably, it’s intended that they will be addressed in later design phases. We believe this is inappropriate as by this stage it will be too late to make any meaningful changes.

In our view, the Government has a clear choice: it can retain the existing Driver Avenue steps and live with the consequences, being that

- the AHRC later concludes that the steps and proposed lifts are less convenient for people with a disability than the access provided for other members of the public and so are not DDA compliant. These consequences could involve massive expenditure to make the Driver Avenue entrance DDA compliant;
- there is a catastrophic fall on the Driver Avenue steps, leading to the death and injury of patrons exiting the stadium. This would inevitably lead to an inquest and, quite possibly, a Royal Commission.

Alternatively, it can accept that the risks are unacceptable and agree to pay the costs necessary to mitigate those risks

(10) Recommendations

Recommendation 1: INSW should be asked to make information publicly available on the dimensions of the Driver Avenue steps – how many flights are proposed, the height of each, their width and whether they are as wide at the bottom as at the top.

Recommendation 2: Steve Watson & Partners should be asked to provide detailed analysis to support its view that the proposed stadium design is capable of achieving compliance with the Building Code of Australia, so far as the risks to patrons associated with the proposed steps from Driver Avenue are concerned. This analysis should be publicly released.

Recommendation 3: INSW should be asked to describe and document the dimensions of any video mesh screen (or similar) that is proposed for the exterior of the stadium and its precise proposed location.

Recommendation 4: Arup should be requested to model the numbers of people using the Driver Avenue steps under various scenarios – the numbers using them when the stadium is half full and at peak events, and under alternative conditions [dry, wet and windy, hot, cold, night, day, etc.]. Its report should be publicly released.

Recommendation 5: The Department of Planning should seek the advice of experts who are independent of the SFS Redevelopment project to evaluate and compare the risks to patrons accessing and exiting the stadium via the Driver Avenue steps and via the two other entrances. In doing so, they should have regard for the modelling under (4). The report of these experts should be publicly released.

Recommendation 6: INSW should be requested to explain why steps down from Moore Park Road to stadium entrances, which will carry 30% of patrons, are considered inappropriate because they will “restrict the ability of persons with mobility impairments to access the site”, but it sees no problem for the same patrons confronted with a far greater number of steps at the other end of the precinct which will carry 70%.

Recommendation 7: Cox should be requested to produce diagrams of the stadium where the western concourse slopes gently from north to south and with a gentle ramp up from Driver Avenue similar to that with the former stadium. It should identify any disadvantages of this compared with the existing design. These diagrams and analysis should be publicly released.

Recommendation 8: Before Compliance should be asked to provide detailed analysis to substantiate its view that the proposed stadium design is capable of achieving compliance with the DDA Premises Standards 2010 and the BCA, with specific reference to the proposed steps from Driver Avenue. It should be asked to confirm that the Driver Avenue steps will comply with Section 23 of the DDA. This analysis should be publicly released.

Recommendation 9: The Department of Planning should seek confirmation from the Australian Human Rights Commission and Disability Council NSW that, in their view,

- the DDA applies to the area between Driver Avenue and the stadium entrance;
- access via the proposed Driver Avenue steps and two proposed lifts does not amount to discrimination under section 23 of the DDA Act;
- the arrangements whereby people with disabilities who seek to use the special access arrangements in the MP1 carpark will be turned away if they have not pre-booked do not amount to discrimination under section 23 of the DDA Act.

Their advices should be publicly released.

Recommendation 10: The Department of Planning should seek the advice of experts who are independent of the SFS Redevelopment project to assess the feasibility and cost of

- Modifying the concourse so there's a gentle slope from north to south and replacing the Driver Avenue steps with a ramp up from to the stadium entrance from Driver Avenue, both to be DDA compliant.
- Sinking the stadium three metres

The report of these experts should be publicly released.

Saving Moore Park Inc.
17 July 2019

