Department of Industry

DESIGN GUIDELINES

Accessible Fishing Platforms

A summary of design principles and guidelines for accessible recreational fishing platforms

September 2017

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Section 1: Background

All money raised by the NSW Recreational Fishing Fee is placed into the Recreational Fishing Trusts and spent on improving recreational fishing in NSW. Funding from the NSW Recreational Fishing Trusts has been used to construct fishing platforms since the introduction of the fishing fee in 2002. Around 50 different fishing platforms have been built in NSW since that time. Each platform has been designed differently, each design with its advantages and disadvantages. There are now sufficient examples of different designs to enable review and evaluation of the best design features and encourage the adoption of those design features. In addition, lessons have been learned about design aspects to avoid.

DPI also receives many enquiries from the public about safe places to fish in NSW for people with disability or limited mobility. One of the objectives of the *Fisheries Management Act 1994* is *'to promote quality recreational fishing opportunities'* and DPI is committed to ensure that rights and needs of people with a disability are met in the design or retrofitting of fishing platforms constructed. The recreational fishing industry in NSW currently provides for $3.4 billion of economic output in NSW and creates about 14,000 jobs. It is important the sector provides for people with disability to participate in that economic output.

Section 2: General

2.1 Objectives

- Establishment of best practice design guidelines for recreational fishing platforms that maximise the useability and safety of the infrastructure, while maintaining value for money.
- Distribution of the guidelines to project managers to construct recreational fishing platforms.
- Increase the number and building standard of fishing platforms funded in NSW by the Recreational Fishing Trust

2.2 Scope

The content of this document is intended to provide guidance only. Application of these guidelines would be subject to site specific environmental conditions, and should account for anticipated level and type of fishing platform usage and the requirements of local authorities. It is recommended that as part of the planning and design process advice is sought from engineers with specific expertise in the design of fishing platforms, wharves, jetties and similar facilities.

The design parameters provided in this document are drawn from a number of relevant standards that exist at the time of writing. These should be checked for currency by the engineer as part of the design process. These guidelines (including any illustrations) should not be used for any type of final construction project drawings or specifications. You should obtain advice from engineers with appropriate expertise.

2.3 Relevant standards

There are no specific Australian Standards for fishing platforms, however, guidance can be taken from a number of key standards and codes:

- Australian Standards AS 4997 – 2005 Guidelines for the design of maritime structures
- Australian Standards AS 1657 – 2013 Fixed platforms, walkways, stairways and ladders – Design, construction and installation
- Australian Standards AS 1428 (Set)-2010 AS 1428 (Set)-2010 Design for access and mobility
- Building Code of Australia (BCA)

2.4 Preliminary planning considerations

There are a number of preliminary considerations that should be taken into account as part of the initial planning and design process for a fishing platform. These include:

- agreement on the scale and type of the facility with local authorities;
- identification of stakeholders for consultation, which may include the asset owner(s), local authorities, State Government agencies, recreational fishers, other waterway user groups and the general public;
- review of existing similar facilities in the area and their current level of usage;
- prediction of the level and nature of usage of the proposed fishing platform in consultation with stakeholders, taking into consideration peak holiday periods and special events;
- consideration of the impact of a new asset on other nearby user groups, conflicting uses of the area and the potential for misuse or vandalism;
- consideration of the health of the waterway as a suitable location to promote the catching and potential consumption of fish caught from the fishing platform;
- proximity of the proposed fishing platform location to population centres and consideration should also be given to the assessment of surrounding land use i.e. potential impact on adjoining developments and neighbours;
- identification of environmental (e.g. physical, ecological), heritage or native title issues that may affect the feasibility of the facility or represent design or construction constraints;
- identification of land-based supporting infrastructure (e.g. road access, parking, toilets, connecting pathways, lighting, power/water supply); and,
- determining the planning approvals required, including permits and licences.

2.5 Overview of approvals process

The Environmental Planning and Assessment Act 1979 (EP&A Act) provides the statutory basis for planning and environmental assessment in NSW. The Minister, statutory authorities and local councils are all responsible for implementing this Act. Environmental Planning Instruments (EPIs) prepared under the EP&A Act include Regional Environmental Plans (REPs), State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs). The EPI's list the types of development/activities which:

- require development consent;
- do not require development consent; and,
- are prohibited.

The approvals pathway for fishing platforms in NSW is dependent on whether the proponent is a public authority or not, the land ownership, zoning and applicable EPI's. The proponents for the majority of fishing platforms in NSW are public authorities. Under State Environmental Planning Policy (Infrastructure) 2007, activities undertaken by public authorities relating to wharf facilities are permitted without consent. However, approval under Part 5 of the EP&A Act is still required and an environmental assessment must be undertaken that examines and takes into account to the fullest extent possible, all matters affecting or likely to affect the environment. The environmental assessment would generally take the form of a Review of Environmental Factors (REF) unless significant impact to the environment is expected, in which case, an Environmental Impact Statement (EIS) would be required. In addition to approval under the EP&A Act, other legislation that is likely to be relevant to the construction of fishing platforms in NSW is listed below. A number of permits and licences may be required under this legislation:

- *Crown Lands Act 1989;*
- *Roads Act 1993;*
- *Marine Safety Act 1998;*
- *Fisheries Management Act 1994;*
- *Coastal Protection Act 1979;*

- *Threatened Species Conservation Act 1995;*
- *Protection of the Environment Operations Act 1997;*
- *Water Management Act 2000;*
- *National Parks and Wildlife Act 1974;*
- *Native Vegetation Act 2003;*
- *Heritage Act 1977;*
- *Native Title Act 1994;*
- *Marine Parks Act 1977; and,*
- *Environment Protection and Biodiversity Conservation Act 1999.*

It is advisable that the project proponent confirm early in the project planning process what approvals or licenses will be required, and to inquire directly to the relevant authority regarding an expected length of time for processing.

2.5.1 Fisheries Management Act 1994

Construction of a fishing platform on the shoreline of an estuary is likely to require a "harm marine vegetation" permit in accordance with Part 7 of the *Fisheries Management Act 1994* if it is located over or adjacent to mangroves, seagrasses, saltmarsh or seaweeds. "Harm" to marine vegetation may arise by shading and/or direct harm from driving piles or providing machinery access during construction. Careful site selection to avoid marine vegetation areas (and snags and stands of reeds in freshwater habitats) as much as possible should be undertaken. Filling or excavating any intertidal or subtidal habitat will also require a permit (a "dredging/reclamation" permit).

2.5.2 Crown Land Management Act 2016

A fishing platform wholly or partly on Crown Land will also require a Licence under the provisions of the *Crown Land Management Act 2016*. The local Council is also likely to require the submission of a development application depending on the zoning of the land. Design plans prepared by an engineer that demonstrate that the proposed structure is structurally sound and safe will be required.

Section 3: Fishing platforms

3.1 What is a fishing platform?

A fishing platform is a purpose designed deck built for people to fish from. They vary in design from site to site, some examples can be seen below. The key characteristics of a fishing platform as opposed to other similar structures such as jetties, wharves and pontoons include:

- inclusion of handrails (or kerb rails) to provide safety and stability while fishing and to prevent boats tying up to the structure
- platforms sited in locations that are identified as pre-existing productive fishing areas

Examples of fishing platforms

Section 4: General principles

4.1 Useability

Fishing platforms should be designed for purpose and not designed as multi-use structures. Infrastructure that is designed to attempt to suit many purposes, in most cases is not very effective at achieving any of the desired purposes. For example a platform that is designed as a boat launching jetty, a fishing wharf, a swimming pontoon and a passive recreation boardwalk, will aim to satisfy many users, but is likely to satisfy none completely, and in most cases will create competition or conflict between the user groups.

4.2 Fishability

Fishing platforms must be located in areas that provide good fishing. Consultation must be undertaken prior to choosing a site with recreational fishing stakeholders to ensure the platform is sited in an area where people should be able to catch fish. Deep water access from the platform including at low tide is essential.

4.3 Accessibility

Fishing platforms must, whenever possible, provide access to people with disability. At a minimum the Australian Standards (AS1428) must be met, but the following guidelines outline current best practice accessibility design standards that go beyond the minimum standards and should be aimed for where possible.

4.4 Value for money

Excessive over-engineering or over designing is to be avoided to maintain value for money for the Recreational Fishing Trust funds invested. The overall footprint of the structure should maximise the number of people who are able to fish on the structure at the same time, with the least amount of floor space area.

Section 5: Facility scale

The scale of a fishing platform is dependent on factors that affect the level of usage such as proximity to population centres and other supporting infrastructure facilities. The scale of a facility is also a means of managing fishing activity on a waterway. The facility should provide no more capacity than the desired level for the type of use, user experience and user safety.

These factors are influenced by the siting of the fishing platform in an urban or rural area, in a coastal or inland waterway, and planning as a local or regional facility.

Section 6: Site selection

6.1 Choose a good fishing spot

Fishing platforms should only be sited in areas that already provide good fishing opportunities. It should be noted that once new fishing infrastructure is added to an area, fishing activity will increase, however, there should already be some baseline level of quality fishing activity at the site prior to creating new infrastructure. Local recreational fishing organisations such as fishing clubs, tackle stores or local fishing writers should be consulted to ascertain if the area is suitable for fishing. DPI can assist in providing details of local fishing contacts.

In popular tourist locations, some sites may appear to be good fishing locations due to the number of people who use the area for fishing. This can be deceptive, however, as some areas naturally attract a lot of visitors, but those visitors do not catch any fish. Again, it is recommended local fishing contacts be consulted to ascertain whether quality fishing can be undertaken at the site.

A good way to identify quality land based fishing locations is to identifying nearby fish holding structure and features. Features to look for in a site and its' surrounds can include: depth variation (such as deep holes, drop offs or channels), in-water structure (such as submerged snags, fallen timber, overhanging rocks, mangroves, rocky reefs, seagrass beds or breakwalls) and bank structure including overhanging vegetation or shade. Figure 1 (below) shows a fishing platform within casting distance of a deep hole known locally as the "Jewfish Hole". This site also has fallen timber snags and is on the riverbank on the deep side of the river.

Figure 1 - This platform is positioned in casting distance of deep holes and snags

A site does not have to contain all of these features, and these features do not have to be directly adjacent to the platform for it to fish well. Fish holding features and structure have a "halo" effect, meaning fish will venture out from the edges of these features into adjacent areas, therefore the fishing platform does not need to be right "on top" of these spots. Some of these features are also troublesome for less experienced anglers and can create problems when casting and retrieving lines. Features such as underwater snags,

overhead trees and shallow rocks near a fishing platform can cause anglers to lose fishing line when casting and retrieving. Overhead power lines should also be avoided.

When siting fishing platforms in estuaries or rivers it is preferable that they be placed on the deep side of the riverbank as opposed to the shallow or shoaling side. When platforms are placed in the shallow side of a river or estuary, extra construction materials are needed to get the platform out to deep water. This is particularly important in areas where water levels fluctuate like tidal estuaries, where a wrongly placed fishing platform might be surrounded by sand banks at low tide and is only fishable at high tide.

6.2 Access to other fishing infrastructure

Although not essential, it can be beneficial to co-locate fishing platforms in areas close to other fishing infrastructure such as fish cleaning facilities. Another option is to incorporate a fish cleaning facility into the design of the fishing platform if it is not pre-existing nearby. Figure 2 (right) shows a fish cleaning table on the deck of a purpose built fishing platform. The fish cleaning table is connected to a water supply and fishers can use this table to not only clean fish that are caught, but can also prepare and cut up baits on the table. Other beneficial infrastructure that fishing platforms could be sited near includes car parking and public toilets.

Figure 2 - Fishing platform with integrated fish cleaning table

6.3 Proximity to boating infrastructure

Although most jetties and wharves designed for boating purposes are inevitably used by people wanting to go fishing, it is accepted that boats have the right of way on this infrastructure. People fishing must pull in their lines and cease fishing when a boat pulls up to a jetty or wharf.

Many wharves, jetties, marinas etc. ban fishing from the infrastructure often due to unresolvable conflict between user groups.

As mentioned in the general principles section 4.1, fishing platforms should be designed as stand-alone infrastructure and should not be designed to accommodate boat launching or retrieval functions. If fishing

platforms are located close to boat ramps, they should be designed with hand-railings surrounding the platform to discourage boats from using the platform to load and unload passengers. Signage can also be added to the outside of the platform indicating that mooring is prohibited on the structure.

Figure 3 - No fishing sign at marina

Section 7: Fishing platform design elements and general principles

7.1 Maximise the amount of active fishing space

The most significant dimension for a fishing platform is the length of the platform adjacent to the water. This is the measure that is used to judge how many people will be able to fish off the platform at the same time. The minimum space required for a person to fish side by side with another person is approximately 1.8 metres. When judging value for money in assessing fishing platforms the measure is:

- *$funding : number of fishers able to use the platform (i.e. water side length metres divided by 1.8*)

The two factors that can play a significant role in determining how many people can fish the platform are site selection and the shape of the platform. As mentioned in section 6.1 siting the platform in an area with deep water is preferable. If an extensive amount of resources and materials are needed to traverse sandflats or shallow banks in order to get the fishing platform out to deep water, then much of the project funds will be spent on floor space that isn't fishable.

Value for money comparison of various designs

Platform 1: 25 metres wide (13.9 anglers max), project cost $160,000, therefore the platform cost $11,510 per angler space.

Platform 2: 6 metres wide (3.33 anglers), cost $90,000. Cost per angler space = $27,027

Platform 3: 4 metres wide (2.22 anglers), cost $25,000. Cost per angler space = $11,261

Platform 4: 8.85 metres wide (4.9 anglers), cost $100,000. Cost per angler space = $20,408

- Note – costings estimates dated 2015

Shape is also important where some shaped platforms contain large areas of unfishable floor space. As can be seen in the above table, platforms number 2 and 4 are lower value for money than 1 and 3. Platform 2 is a square shaped platform and has large areas of decking (and substructure) that serve no purpose for fishing. Platform 4 has to traverse shallow sandflats to get to deeper water. Therefore in these

cases longer rectangular decks placed along the shoreline on the deep side of the waterway are better value for money than square or T-shaped decks.

7.2 Design to reduce potential vandalism and maximise design life

The most common maintenance problem encountered with fishing platforms is when anglers use decking or handrails or other horizontal surfaces to cut up bait. Some simple design alterations and choice of materials can reduce this potential issue. Timber handrails, guardrails and kerb rails are often used as cutting surfaces for bait which reduces their design life and increases maintenance. If using timber for guardrails or handrails, consider installing them on the diagonal so that they can't be used to rest fish or bait on. Otherwise consider using round guardrails and handrails and metal kerb rails. See figures 4 - 6.

Figure 4 - Kerb rail made of wide timber is an excellent cutting or fish cleaning surface

Figure 5 - Timber handrails also end up being used as cutting boards.

Figure 6 - Stainless steel kerb rail and guardrails provide no surface for resting fish or bait.

7.3 Choosing decking materials, pros and cons

Choice of materials is not critical in the functionality of a fishing platform. Platforms have been constructed from a number of different materials in the past and all work well. One product that does have secondary benefits though, is shown below in figure 10, fibreglass reinforced plastic mesh decking. This mesh allows penetration of sunlight through the deck which is beneficial in waterways where vegetation is present in the vicinity of the platform such as seagrasses.

Figure 7 - Timber decking

Figure 8 - Precast concrete decking

Figure 9 - Recycled plastic composite decking

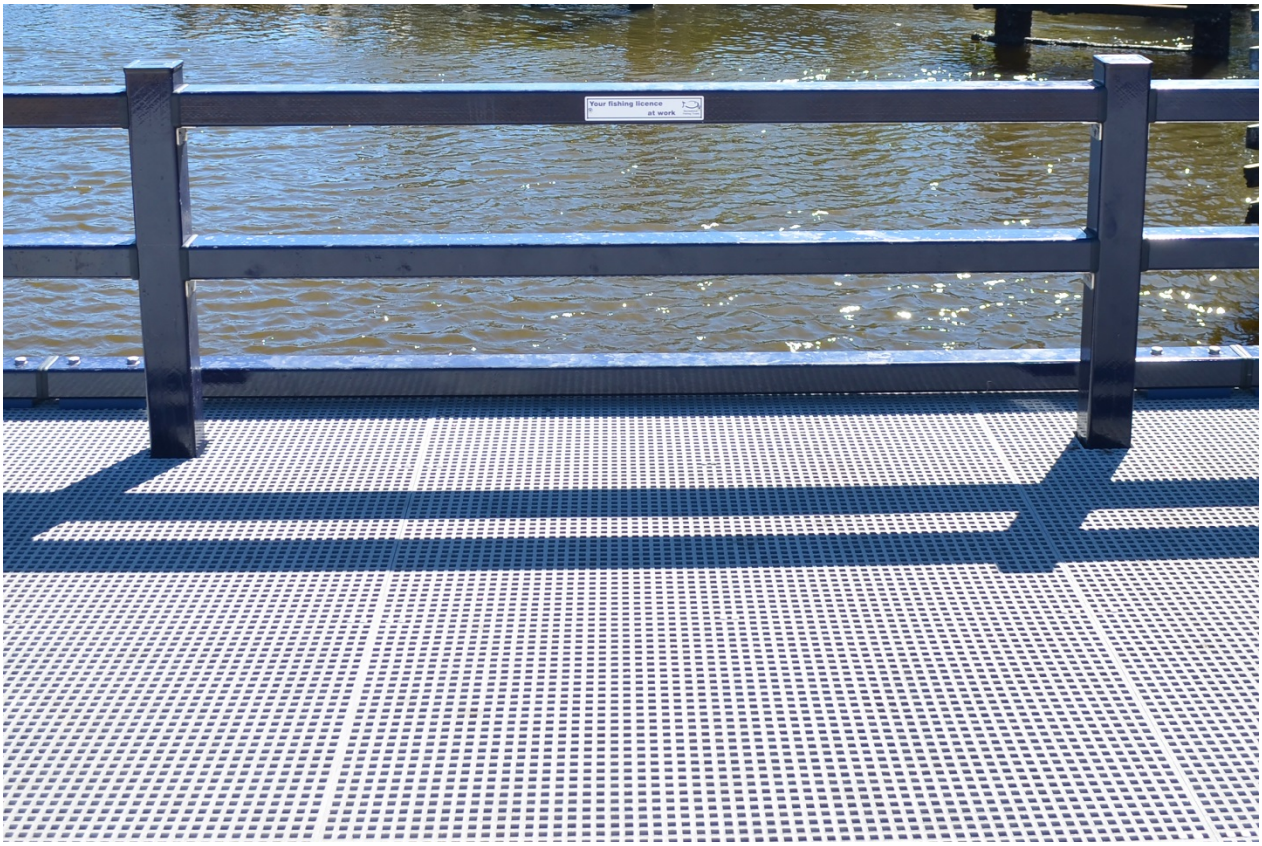

Figure 10 - Fibreglass reinforced plastic (FRP) decking

7.4 Consider adding...

A few extras will increase the functionality of the platform.

7.4.1 Rod holders

Anglers often add these after the platform has been built, so it makes better sense to add them at the design stage

Figure 11 - Rod holders added by anglers

Figure 12 - Simple rod holder

7.4.2 Seating

Figure 13 - People are going to want to sit when they fish

Figure 14 - Integrated seating built into the fishing platform

7.4.3 Signage

Bag and size signage can be obtained from DPI to add to your platform

Figure 15 - DPI Bag and size limit sign

7.4.4 Fish cleaning bench and plumbing

Adding a fish cleaning bench is a great addition to the platform but it will need a water supply connected to it to keep the table clean. Consider the addition of water supply connection in the planning phase prior to construction.

Figure 16 - Fish cleaning bench with plumbing

Section 8: Accessibility design

The health and wellbeing benefits of fishing are becoming better understood and the benefits for people with disability are just as significant.

Royal Rehab at Ryde have been supporting clients with disabilities including brain and spinal cord injuries to participate in community fishing for over five years. Fishing assists in restoring independence, confidence and lessens the degree of psychological problems caused by acquired traumatic injuries.

The same has been confirmed by Fishing 4 Therapy at Centennial Parklands which have also been running fishing outings for many years for people with disability.

Figure 17 - Fishing assists in restoring independence and confidence

8.1 Designing for wheelchairs, scooters, walking frames

If someone's disability prevents them from walking or impairs their mobility they will usually use a wheelchair, walking frame or mobility scooter to get around. Designing fishing platforms that can be used by people in all types of wheelchairs and mobility aids will maximise the useability of the fishing platform and value for money spent on this infrastructure.

8.1.1 Manual wheelchairs

Manual wheelchairs are used by people who have the upper body strength and control to push their wheelchair. In most cases people using manual wheelchairs can manoeuvre themselves. Their chairs have a small turning circle and require the least amount of clear floor or ground space. The minimum dimension figures listed in 8.2 Design Elements are those required for manual wheelchairs, power wheelchairs however, will require larger dimensions.

8.1.2 Power wheelchairs

Power wheelchairs are used by people who do not have sufficient upper body strength to operate a manual wheelchair. Power wheelchairs tend to have a larger turning circle than manual wheelchairs and may be rear wheel driven, front wheel driven or centre wheel driven.

Generally people in power wheelchairs may need further assistance and will often have a carer with them to assist.

Power wheelchairs are usually bigger than manual wheelchairs and require more space to circulate. If a carer is assisting, extra space is required for them.

Figure 18 - Power wheelchair

8.1.3 Ambulant disabilities

Ambulant disabled people do not use a wheelchair because they can walk to a degree. Some ambulant disabled people will need carers or assistants. For example, some people may be reliant upon additional assistance to walk on uneven terrain or ramps for their personal safety (such as for people with epilepsy).

If a carer is required then that person should receive the same consideration as given to assistants for other disability groups. This would include the provision of an adjacent seat in order that assistance can be given easily. Hand railings on ramps and as safety barriers around fishing platforms are particularly important for this group of people who may be very reliant on these for their safety on the platform.

Figure 19 - Handrails provide safety & confidence

8.1.4 Mobility scooters

Mobility scooters are becoming more prevalent as the population ages, and as many coastal areas have disproportionately high levels of retirees, fishing platforms in these locations should be designed to accommodate mobility scooters.

A fishing platform designed to accommodate a power wheelchair should also be able to accommodate most mobility scooters.

Figure 20 - Mobility scooter

8.1.5 Walking frames

A walking frame refers to a piece of equipment which provides additional support to an individual when walking or standing. A walking frame is designed to be used over short to medium distances. There are a number of styles of walking frame, these include four wheeled frames, three wheeled frames, two wheeled frames and static/pick-up frames. The type of walking frame required is specific to each person's walking and balance needs.

Some walking frames have rubber ferrules on the bottom of the legs which aim to prevent the frame from slipping. This should be noted if choosing a mesh style of decking material for the fishing platform - to ensure that the mesh grid size is not too large such that the walking frame legs get lodged in the mesh. A variety of mesh sizes is available for decking and a smaller size

mesh is more suitable in most instances.

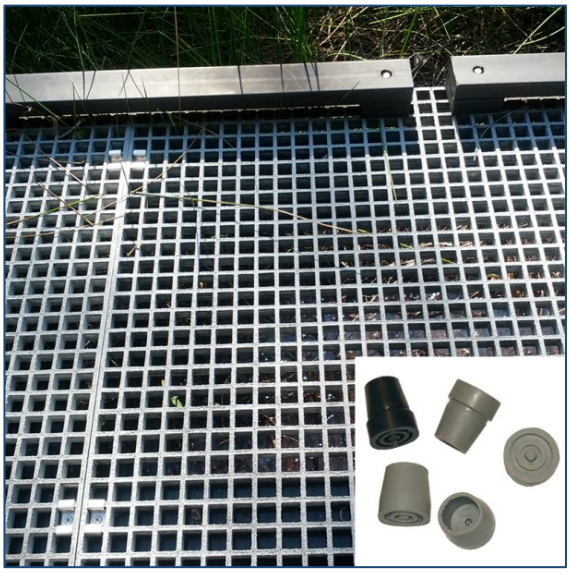

Figure 21 - Mesh decking large grid size and rubber ferrules

8.2 Accessibility design elements

Australian Standards AS 1428.1 and 1428.2 should be consulted for further details and specifications. The elements outlined below are of particular relevance to the design of accessible fishing platforms, but should be read in conjunction with the latest version of the Australian Standards.

Acknowledgement – Figures 10, 11, 13 and 14 have been taken from the *United States Access Board - Guide on Fishing Piers and Platforms* and have had metric dimensions applied to them.

8.2.1 Continuous accessible path of travel

A continuous accessible path of travel shall not include a step, stairway, turnstile, bollards or other impediment. The minimum unobstructed width of a continuous accessible path of travel shall be 1000 mm. Passing space for 2 people using wheelchairs shall be a minimum width of 1800 mm for a minimum length of 2000 mm. (Refer to AS 1428.1.6)

8.2.2 Circulation space

AS 1428.1 Clause 6.5 outlines the following circulation space dimensions required for wheelchairs to undertake a 90 to 180 degrees turn. It should be noted that these are the minimum standards that apply for manual wheelchairs. The space required for a manual wheelchair to make a 90 to 180 degree turn shall not be less than 2070 mm in the direction of travel and not less than 1540 mm wide. Note - Various disability support organisations consulted have suggested an area of 3000 mm by 3000 mm will allow large motorised wheelchairs to turn the full 180 degrees enabling them to enter a fishing platform and then turn around and leave the platform.

Fishing platforms must have at least one turning area, either a 2070 mm turning space or T-shaped space, to allow a person using a mobility device or wheelchair to make a 180-degree turn. The space may overlap the accessible route and clear floor or ground space.

8.2.3 Clear Floor or Ground Space

At least one clear floor or ground space (800 mm by 1300 mm minimum) should be provided at each location that has a guardrail height of 865mm maximum. If there are no guardrailis, at least one clear space should be provided on a platform. (See figure 23 – Guardrail heights and clear space.) Note – these ground space dimensions are the minimum required for a manual wheelchair. If designing for power wheelchairs and mobility scooters these figures could be multiplied by a factor of 1.5.

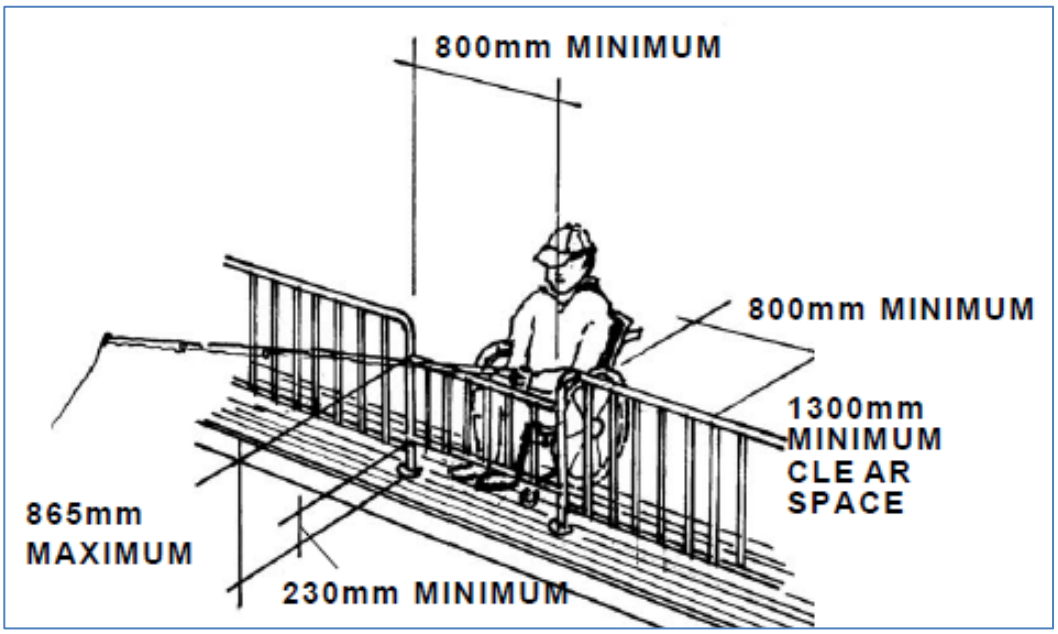

Figure 22 - Guardrail heights and clear space

8.2.4 Guardrails around the fishing area of the platform

Where guardrails are provided on a fishing platform, at least 25 percent of the rails should be 865mm or less in height above the ground or deck so a person using a wheelchair or other mobility device has the opportunity to fish.

Guardrails – standards and codes – what applies?

AS4997 – maritime structures - states that guardrails and handrails are not required on structures such as wharves and jetties over water however, – "3.4.4 – where access to the water or vessels is not required and where a person falling from the structure is likely to fall more than 1.5 m to strike a hard surface or seabed, a guardrail (handrail) in accordance with AS 1657 should be provided."

AS1657 – fixed platforms - states "6.2.1.1 The height of a guardrail measured vertically above the floor shall not be less than 900 mm". The standard however has the following exclusion 1.2 (b) Access for people with disabilities and refers to AS1428.

BCA – The Building Code of Australia does not specify guardrail heights for fishing platforms, however, the intent of the code should be applied in that if the floor level of the platform is more than 1.5 m over a hard surface or the seabed that that the height of guardrails is to be 1 metre above the floor level of the platform. If floor level is over 4 metres from ground level it should have guardrails that cannot be climbed over (ie have vertical, not horizontal rails).

AS1428 – does not indicate an ideal height for a lowered guardrail section. Guidance on heights has been taken from *United States Access Board - Guide on Fishing Piers and Platforms.*

Summary – as a maritime structure, fishing platforms do not require guardrails, however, for safety they are a good idea. The height of guardrails should be 1000 mm as per the BCA except in lowered sections that are designed for people in wheelchairs where 865 mm is more appropriate.

Guardrails should also be constructed to withstand the forces of people leaning on them. More details regarding strength requirements can be found in the BCA.

Note – By using good site selection and accessible ramps or slopes, platforms should be located as low as possible (ie close to the maximum high water level and considering flood levels) so that the drop from floor level to low water mark level is minimised, reducing the risk of having lowered guardrail sections.

Figure 23 - Fishing platform at South West Rocks with lowered guardrail sections

8.2.5 Dispersion

Anglers who can stand are able to fish from any part of a platform and change locations. To provide anglers with disabilities similar opportunities, the accessible 865mm maximum railing should be located in a variety of places on the platform to offer a variety of locations to fish from. Different fishing locations may provide different water depths, shade or sun, vegetation, and proximity to the shoreline or bank.

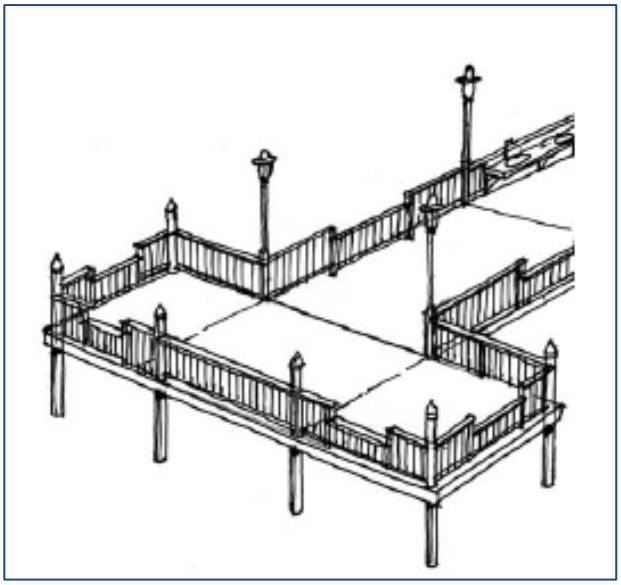

Figure 24 - Dispersion example 1

Figure 25 - Dispersion example 2

8.2.6 Edge protection / kerb rails

Where guardrails are provided, edge protection or kerb rails must be provided and extend a minimum of 100mm above the ground or deck surface. This protection will prevent persons using wheelchairs or other mobility devices from slipping off the platform.

Edge protection is not required where a guardrail is provided, if the deck surface extends a minimum of 300mm beyond the inside face of the railing (see figures 13 and 14). This design allows a person using a wheelchair or other mobility device to pull into a clear space and move beyond the face of the railing to view the water in different directions. Toe clearance must be at least 800 mm wide and a

minimum of 230mm above (see figure 10 and 15) the ground or deck surface beyond the railing.

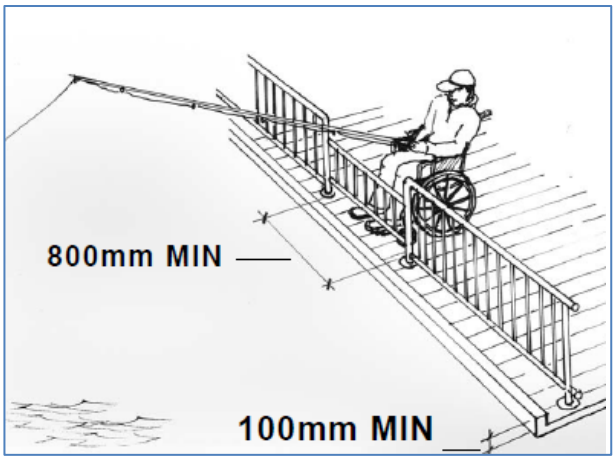

Figure 26 - Edge protection option 1

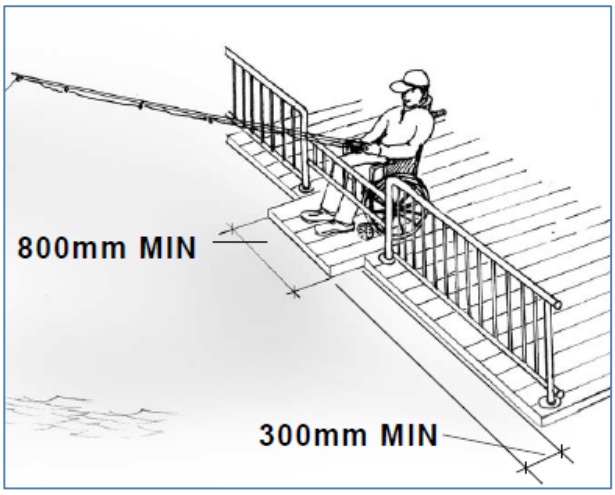

Figure 27 - Edge protection option 2

Figure 28 – Extended deck surface in accessible section

The Americans with Disabilities Act (ADA) Standards - Chapter 10 Recreational Facilities provides a useful reference diagram as outlined in Figure 15.

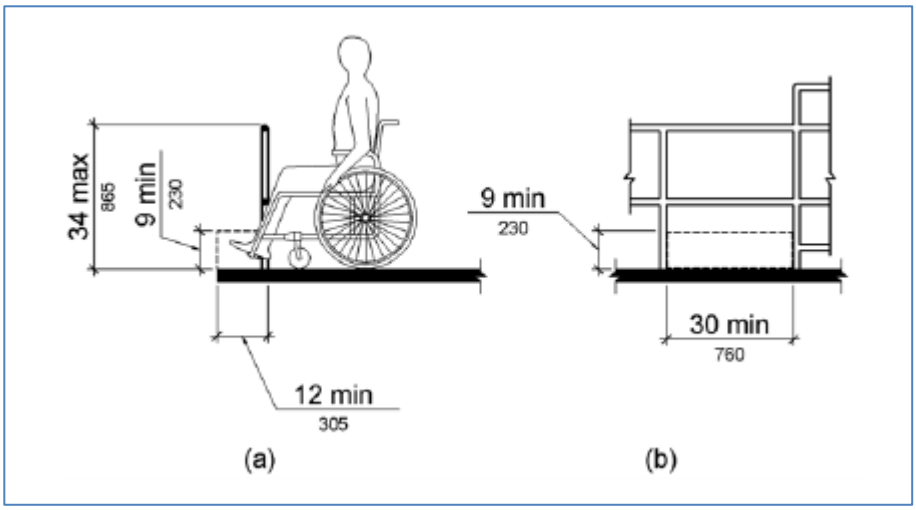

Figure 29 - ADA Standards Extended Ground or Deck Surface at Fishing Piers and Platforms

8.2.7 Walkways, ramps and landings

AS1428.1 Clause 10 provides extensive useful information about the design of walkways, ramps and landings. In general:

- Landings shall be provided at all changes in direction,
- Ramps should have a maximum gradient of 1 in14. 1 in 20 is a preferred gradient.
- Landings should be provided on ramps with gradients of 1 in 14 at intervals not greater than 9 metres.
- Ramps and walkways are to be a minimum width of 1000 mm.
- Ramps and walkways shall have handrails as outlined in 8.2.8
- Passing space should be considered on ramps and walkways of considerable length. See 8.2.1 regarding passing space dimensions.
- TGSIs shall be located at the transition between level surfaces and ramps. See 8.2.9

8.2.8 Handrails and kerb rails on ramps and walkways

Handrails and kerbs or kerb rails on ramps are important to people with a range of disabilities, for example, people who are blind or vision impaired, people with a mobility disability and people who have an intellectual disability or brain injury.

Two handrails one each side of the ramp or walkway are required as some people may not have the use of both hands in which case they may need to use either the left or right handrail. Kerb rails are required to reduce the chances of people who use wheelchairs running off the edge of the ramp or catching their toe plate behind the handrail supports and as a result tipping out of their chair.

The specifications relating to the ergonomic design of handrails ensure they can be used by all people, especially those with a disability that affects hand or arm function. Continuous handrails that allow a user's hand to maintain a continuous hold on the handrail assist in safe movement throughout the complete journey either up or down a ramp.

The ends of handrails must be designed and constructed to reduce the incidence of injury to pedestrians.

The height of handrails provided on a ramp with a gradient of 1:20 provided for disabled access must be between 865 mm and 1m. A kerb must be provided down both sides of any ramp. Handrails must extend 300mm past the end of any ramp or stairway, and return through 180 degrees or to an adjoining wall or

post. Landing in a ramp provided for disabled access should be extended to a length of 1200mm. Any crossfall (camber) in any ramp must be less than 1:40.

Handrails should be circular in cross section and between 30mm and 50mm diameter, with a minimum 50mm unobstructed clearance around the handrail.

AS 1428.1 Clause 12 specifies technical details such as clearances, location, dimensioning and safety design criteria.

8.2.9 Tactile ground surface indicators (TGSIs)

TGSIs are used to warn people who are blind or vision impaired that they are approaching a hazardous situation such as a set of stairs, a ramp or the edge of a platform.

The TGSIs are designed so that they may be read either tactually underfoot; through the tip of a long cane, or visually because of a high luminance contrast - which means that the colour of the TGSIs stands out compared to the surrounding floor/ground surface.

AS 1428.4 specifies technical details such as size, location and luminance contrast.

Figure 30 - TGSIs warn of hazardous transition areas

8.2.10 Seating

As outlined in section 8.1 seating is an integral requirement in designing an accessible fishing platform.

Many people with disability will require a carer to assist them and providing seating for the carer is basic requirement. Ambulant disabled people will also require seating. AS 1428.2 Clause 27.2 provides design detail for seating.

Generally, the height of the seat above the ground should be between 400 and 450mm. AS 1428.2 also recommends (in clause 27.2 note 1) that, where a high proportion of older people is anticipated, a seat height of up to 520mm should be provided because it is easier to rise from a higher seat and this is also an advantage for other people with mobility impairments and armrests at ends of seating should be provided. Provision of seating should not interfere with clear floor space or circulation space.

Section 9: Definitions

Accessible

Having features to enable use by people with a disability.

Circulation space

A clear unobstructed area, to enable a person using mobility aids to manoeuvre.

Continuous accessible path of travel

An uninterrupted path of travel to, into or within an area providing access to all accessible facilities.

Decking

The surface or floor of the platform, can be constructed from a variety of materials.

Guardrails

The highest rail in railings that are fixed parallel to a floor or platform. Intended to stop a person from falling off a platform.

Handrails

A rail used in circulation areas such as ramps and walkways to assist in continuous movement.

Intermediate rail (knee rail)

Mid level horizontal rail between the top rail and kerb rail.

Kerb rail

A purpose designed component fixed to the edge of the floor, walkway, ramp or platform to prevent objects, wheels and people from falling off the walkway, ramp or platform.

Landing

A resting place on a path of travel.

Piles

A vertical or inclined member driven or cast in the ground to support a trestle, pier, sill, or abutment.

Ramp (accessible)

An inclined surface on a continuous accessible path of travel between two landings with a gradient steeper than 1 in 20 but not steeper than 1 in 14.

Tactile ground surface indicator (TGSI)

Truncated cones and/or bars installed on the ground surface, designed to provide pedestrians who are blind or vision-impaired with warning or directional orientation information.

Walkway

Any surface on a continuous accessible path of travel with a gradient not steeper than 1 in 20.

Section 10: Other resources

- Australian Standards AS 1428 (Set)-2010 AS 1428 (Set)-2010 Design for access and mobility Set - http://infostore.saiglobal.com/store/Details.aspx?ProductID=1407487
- Australian Standards AS 4997 – 2005 Guidelines for the design of maritime structures - https://infostore.saiglobal.com/store/PreviewDoc.aspx?saleItemID=389849
- 2010 - ADA (Americans with Disability Act) Standards for Accessible Design. Chapter 10 Recreational Facilities (1005 Fishing Piers and Platforms) - www.ada.gov/2010ADAstandards_index
- United States Access Board - Guide on Fishing Piers and Platforms - www.access-board.gov/guidelines-and-standards/recreation-facilities/guides/fishing-piers-and-platforms
- Australian Human Rights Commission - Advisory Notes on Streetscape, 8 February 2013 www.humanrights.gov.au/sites/default/files/2013_AdvisoryNoteStreetscape.pdf

Section 11: Summary of design specifications

Element	Specifications	More details
Guardrail heights	Not required under maritime standard, however use 1000 mm above floor height interspersed with sections 865 mm (wheelchair lowered sections) above floor height	Refer 8.2.4
Handrail height	1000mm above floor height	Refer 8.2.8
Turning circle / clear ground space	At least 2070 mm x 1540 mm (greater clearance will allow for larger wheelchairs)	Refer 8.2.2
Mid rail heights	At least 230 mm above clear floor height for wheelchair sections (except where platform is more than 4 metres above ground level)	Refer fig 29
Ramps	Slope not greater than 1 in 14. Minimum width of 1000 mm	Refer 8.2.7
Edge protection / kerb rails	100 mm above floor height around perimeter – provide clear floor area in front of wheelchair sections and extend floor a further 300 mm past railing.	Refer 8.2.6
Other necessary elements	Seating and Continuous path of travel for accessible platforms	Refer 8.2.1 & 8.2.10
Height of floor level above ground level	As low as possible with allowance for tide and flood levels	Refer 8.2.4
Platforms over 4 metres above ground level	Handrails and guardrails must not have any climbable elements located between 150mm and 760mm of the floor level.	Refer 8.2.4

More information

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United States Access Board for providing guidelines for USA including key dimensions suitable for wheelchair accessibility, NSW Roads and Maritime Services for their NSW Boat Ramp Facility Guidelines providing framework for draft guidelines (particularly Section 2)

Appendix A - Drawings

Insert drawings for second consultation draft including:

- General layout for fishing platform facility
- Detail plan and typical sections
- Typical details