Evaluating the accessibility and inclusiveness of community playgrounds for disabled children in Australia

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By

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STATEMENT OF ORIGINALITY:

Title: Evaluating the accessibility and inclusiveness of community playgrounds for disabled children in Australia

This is my work, and to my knowledge, I have referenced all material I did not produce.

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ACKNOWLEDGEMENTS:

EXECUTIVE SUMMARY

Introduction

Play is a significant contributor to the social, physical, emotional, and cognitive development of children. Play is so vital to the wellbeing of children that it is recognised by the United Nations as a fundamental right of childhood. Children with disabilities however, encounter difficulty in realising their right to play. For children with disabilities, playgrounds can perpetuate exclusion and not be places of fun.

The existence of barriers to participate in play for children with disabilities is contrary to the United Nations Convention on the Rights of Persons with Disabilities, which recognises that children with disabilities should have equal accesses to participate in play.

For children with disabilities an accessible playground provides an environment where there are no physical or environmental barriers to movement, access, and participation. An inclusive playground, however, not only provides an accessible environment, but also allows children regardless of ability to participate equally in play and social experiences without barriers. Physical and social participation is the ultimate goal of an inclusive playground.

Research objectives

The primary aim of this study is to evaluate the accessibility and inclusiveness of community playgrounds for disabled children across different municipal areas in Australia. Secondary aims include:

i. Exploring the role of playground age in the provision of accessible and inclusive playgrounds.
ii. Exploring if there was any variation in the provision of accessible and inclusive community playgrounds between the two Australian states of Victoria and New South Wales.
iii. Comparing the research findings to the findings of a literature review in relation to (a) neighbourhood and destination playgrounds and (b) the location of the playground in an area of socio-economic advantage or disadvantage.

Methods

A literature review was conducted to consider what previous evaluations or on-site auditing has been undertaken to evaluate the accessibility and inclusiveness of community playgrounds for disabled children. Upon completion of the literature review, using the New South Wales Government's Everyone Can Play: Playspace Evaluation Checklist, the accessibility and inclusiveness of community playgrounds for disabled children was assessed at 25 community playgrounds located in the states of Victoria and New South Wales, Australia.

Results

The results were used to rank the audited community playgrounds in order of highest overall score to lowest overall score, and to provide a summary of the playgrounds accessible and inclusive features.

The results demonstrate a potential relationship between the construction date of the playground and the accessibility and inclusiveness of the playground for disabled children. The older the playground is, the less likely it is to offer an accessible and inclusive environment for disabled children.

Playgrounds located in New South Wales were more likely to offer an accessible and inclusive environment for disabled children compared to playgrounds located in Victoria. The findings also indicate that destination playgrounds are likely to feature more accessible and inclusive elements than neighbourhood playgrounds. When comparing the overall amenities scores of destination and neighbourhood playgrounds, destination playgrounds scored higher overall.

The results indicate that there is limited correlation between accessible and inclusive playgrounds in areas of socio-economic advantage or disadvantage. Additionally, wayfinding, layout and signage was found to be a significant opportunity for improvement to the accessibility and inclusiveness of community playgrounds for disabled children.

Implications of the research

Community playgrounds that are accessible and inclusive enables more children and caregivers to experience the joy of play and the associated health, social and well-being benefits.

The results of this research can be used by:

i. Caregivers to inform which playgrounds are more likely to offer an accessible and inclusive environment for disabled children and therefore enhance the child's ability to engage in a meaningful play experience.

ii. Local authorities and other stakeholders responsible for the design, provision, and maintenance of community playgrounds to inform where resources should be allocated to enhance the accessibility and inclusiveness of the audited playgrounds and prioritise effort.

iii. Local authorities and other stakeholders responsible for the design, provision, and maintenance of community playgrounds to inform where they do not meet their regulatory accessibility responsibilities and compliance requirements.

iv. Community stakeholders can use the results to better understand what creates an accessible and inclusive playground and inform advocacy opportunities to create more accessible and inclusive playgrounds.

v. Other researchers who are looking to compare auditing results on the accessibility and inclusiveness of community playgrounds.

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ABBREVIATIONS:

UNCRC: United Nations Convention on the Rights of the Child

UNCRPD: United Nations Convention on the Rights of Persons with Disabilities

DDA: Disability Discrimination Act

AS: Australian Standard

NSW: New South Wales

SEIFA: Australian Bureau of Statistics Socio-Economic Indexes for Areas

RRMA: Department of Health and Aged Care Rural, Remote and Metropolitan Areas

1.0 INTRODUCTION

Play is a significant contributor to the social, physical, emotional, and cognitive development of children (Nijhof et al., 2018). Play is so vital to the wellbeing of children that it is recognised as a fundamental right of childhood (United Nations, 1989).

Children with disabilities, however, encounter difficulty in realising their right to play (United Nations, 2013). This includes difficulties when accessing and experiencing community playgrounds (Prellwitz & Skär, 2007; Lynch et al., 2020). For children with disabilities, playgrounds can perpetuate exclusion and not be places of fun (Lynch et al., 2019). Children can experience both social and physical exclusion in playground settings. Socially children can be excluded as they are unable to interact equally with their peers due to the playground design, while physically they are excluded through elements including inaccessible routes and play equipment (Lynch & Moore, 2015). For example, Brown et al. (2021), found that common playground equipment such as swings, slides and sand can represent barriers for children with disabilities to participate in play.

The existence of barriers to participate in play for children with disabilities is contrary to the United Nations Convention on the Rights of the Child (UNCRC), which states the right of the child to accessible and inclusive environments and facilities (United Nations International Children's Emergency Fund, 1989); the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), which recognises that children with disabilities should have equal accesses to participate in play (United Nations, 2006); and Sustainable Development Goal 11, which aspires to make cities and human settlements inclusive, safe, resilient and sustainable (United Nations Environment Programme, 2024).

In Australia, the existence of barriers to participate in play for children with disabilities is also contrary to the Disability Discrimination Act (DDA) (1992), which makes it unlawful to discriminate against any person because of their disability, including access to public places. Australian Standard (AS) 1428.1:2021 Design for Access and Mobility (2024a), AS 4685:2021 Playground equipment and surfacing (2024c) and AS 4422 (Interim Standard): Playground surfacing — Specifications, requirements and test method (2024b) also set out the minimum requirements for the design and provision of accessible playgrounds.

Local municipalities in Australia are responsible for the provision of playgrounds and therefore responsible for the interpretation and application of relevant legislation and policies (Burke, 2013). Additionally, at state level, voluntary guidelines to creating inclusive playspaces are available for adoption. These include the South Australian Inclusive play: Guidelines for accessible playspaces (2019), New South Wales (NSW) Everyone can play: A guideline to create inclusive playspaces (2023) and the Sport and Recreation Victoria's Good Play Space Guide: "I Can Play Too" (2007).

In addition to the above outlined international and national policy, regulations, and guidelines, the principle of Universal Design could ensure that community playgrounds in Australia are accessible to people of all ages and disabilities. The UNCRPD recognises the role of the built environment as an enabler for achieving accessibility and adopts Universal Design to enable designing for inclusion (Lynch et al., 2019). The UNCRPD, defines Universal Design as "the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (4, 2006).

The primary aim of this study is to evaluate the accessibility and inclusiveness of community playgrounds for disabled children across different municipal areas in Australia. Secondary aims include:

i. Exploring the role of playground age in the provision of accessible and inclusive playgrounds.
ii. Exploring if there was any variation in the provision of accessible and inclusive community playgrounds between the two Australian states of Victoria and NSW.
iii. Comparing the research findings to the findings of the literature review in relation to (a) neighbourhood and destination playgrounds and (b) the location of the playground in an area of socio-economic advantage or disadvantage.

To evaluate the accessibility and inclusiveness of community playgrounds the NSW Government's Everyone Can Play: Playspace Evaluation Checklist (2023) was selected as the chosen auditing tool. 25 playgrounds were audited in total.

The results of this research could be used by caregivers to inform which playgrounds are more likely to offer an accessible and inclusive environment for disabled children and therefore enhance the child's ability to engage in a meaningful play experience. Local authorities and other stakeholders responsible for the design, provision, and maintenance of community playgrounds could also use the results to inform where resources should be allocated to enhance the accessibility and inclusiveness of the audited playgrounds, prioritise effort and to inform where they do not meet their regulatory accessibility responsibilities and compliance requirements.

Community playgrounds that are accessible and inclusive enables more children and caregivers to experience the joy of play and the associated health, social and well-being benefits.

According to UNICEF, there are nearly 240 million children and young people with disabilities around the world (2021). In Australia 7.7% of children under 15 live with disability, with the proportion of children with disability increasing from 6.9% in 2012 (Australian Bureau of Statistics, 2019). This means that a significant, and increasing, cohort of vulnerable children could benefit from the provision of accessible and inclusive community playgrounds.

2.0 LITERATURE REVIEW

2.1 Introduction

The primary aim of this study was to evaluate the accessibility and inclusiveness of community playgrounds for disabled children across different municipal areas in Australia.

The UNCRPD (2006), defines persons with disabilities as "those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others" (p. 4).

For children with disabilities an accessible playground provides an environment where there are no physical or environmental barriers to movement, access, and participation (Playwright, 2016). An inclusive playground, however, not only provides an accessible environment, but also allows children regardless of ability to participate equally in play and social experiences without barriers (Stanton-Chapman & Schmidt, 2017). As noted by Prellwitz and Skär (2016), physical and social participation is the ultimate goal of an inclusive playground.

Morgenthaler et al. (2023), conducted a scoping review to consider from the perspectives of children with and without disabilities what constituted a positive playground experience. The study found that children desired fun, challenge, autonomy and the opportunity for both solo and social play experiences (Morgenthaler et al., 2023).

Brown et al. (2021), conducted a scoping review of evidence informed recommendations for designing inclusive playgrounds to enable physical and social participation for children with disabilities. To maximise usability, inclusiveness, and the overall play experience for children with disabilities, the study suggests thirteen evidence-based recommendations and one promising practice categorised into five themes for designing inclusive playgrounds (Table 1).

Table 1 Recommendations for designing inclusive playgrounds for children with disabilities

Playground element	Evidence informed recommendation
1. Entry Points	1.1 Wide and obstacle free playground entrance
	1.2 Wide, flat and firm pathways
	1.3 Enclosed playground (promising practice)
2. Surfacing and paths	2.1 Firm, stable and flat surface
	2.2 Elevated play components are accessible via a ramp
3. Features to foster inclusive play	3.1 All children are able to access the play equipment

	3.2 Pay equipment is varied and provides challenge for children of all ages and abilities
	3.3 Inclusion of sensory play equipment that is spread out to avoid overstimulation
	3.4 Elements of solitary play to provide an escape from overstimulation
	3.5 Play equipment designed a familiar elements to stimulate imagination
	3.6 Supporting information to support the use of equipment
	3.7 The provision of shade
4. Staffing / Supervision	4.1 Suitably trained staff present to support play.
5. Design process	5.1 The playground is designed with user group involvement

(Source: Brown et al., 2021)

2.2 Review of literature

A literature review was conducted to consider what previous evaluations or on-site auditing has been undertaken to evaluate the accessibility and inclusiveness of community playgrounds for disabled children. The review found that most of the research conducted over the last ten years assessing the accessibility and inclusiveness of community playgrounds for disabled children utilises qualitative methods (Perry et al., 2018). Qualitative methods have included observations (n=3), interviews (n=10) and surveys (n=2). An overview of the qualitative research methods conducted is included in Table 2.

Table 2 Literature utilising qualitative research methods

Qualitative research method	Source
Playground observations	(Lynch et al., 2019; Lynch et al., 2020; Wenger et al., 2023a).
Interviews	(Ripat & Becker, 2012; Prellwitz & Skär, 2016; Stafford, 2017; Stanton-Chapman & Schmidt, 2017; Sterman et al., 2018; Lynch et al., 2019; Lynch et al., 2020; Van Melik & Althuizen, 2022; Wenger et al., 2023a; Wenger et al., 2023b).
Surveys	(Stanton-Chapman & Schmidt, 2019; Van Melik & Althuizen, 2022).

This qualitative research has focused on establishing the perspectives of disabled children (n=6), the perspectives of caregivers (n=8) and the views of local authorities and other community stakeholders (n=4). An overview of the stakeholder perspectives studied is included in Table 3.

Table 3 Literature of stakeholder perspectives

Qualitative research focus	Source
The perspective of children	(Ripat & Becker, 2012; Stafford, 2017; Sterman et al., 2018; Lynch et al., 2019; Lynch et al., 2020; Wenger et al., 2023a).
The perspectives of caregivers	(Ripat & Becker, 2012; Prellwitz & Skär, 2016; Stanton-Chapman & Schmidt, 2017; Sterman et al., 2018; Stanton-Chapman & Schmidt, 2019; Lynch et al., 2020; Van Melik & Althuizen, 2022; Wenger et al., 2023b).
The perspectives of local authorities and other community stakeholders	(Sterman et al., 2018; Lynch et al., 2020; Van Melik & Althuizen, 2022; Wenger et al., 2023b).

The literature review found that eight on-site evaluations or audits were undertaken between 2012 and 2024 to assess the accessibility and inclusiveness of community playgrounds for disabled children.

Studies were published in 2014 (n=1), 2015 (n=1), 2016 (n=1), 2018 (n=2), 2019 (n=1) and 2022 (n=2). Evaluations were carried out in the USA (n=2), Italy (n=1), the United Kingdom (n=1), Ireland (n=1), New Zealand (n=1), Brazil (n=1), and Türkiye (n=1).

The number of playgrounds audited per study ranged from 21 playgrounds (n=1), 20 playgrounds (n=1), 17 playgrounds (n=1), 16 playgrounds (n=1), 10 playgrounds (n=1), 5 playgrounds (n=1), 4 playgrounds (n=1) and 3 playgrounds (n=1).

No playground audits were conducted using the same auditing tool / auditing criteria, meaning that comparison of studies using the same tool was not possible. Bespoke auditing tools were developed for six studies to assess the accessibility and inclusiveness of community playgrounds (Varenas et al., 2014; Perry et al., 2018; Lynch et al., 2019; Dalpra, 2022; Parker & Al-Maiyah, 2022; Kodjebacheva et al., 2015). One audit was conducted using an auditing tool developed by advocacy groups (Rocha et al., 2018), and the other by a local government's voluntary guideline (Ayataç & Pola, 2016).

Three studies conducted playground audits alongside other mixed methods research to help inform the research findings (Varenas et al., 2014; Rocha et al., 2018; Lynch et al., 2019).

A summary of the literature review findings is included in Appendix A Literature review summary of findings

2.1.1. Barriers to access and inclusion

Inadequate playground surfacing was found to be a fundamental barrier to the provision of accessible and inclusive playgrounds for disabled children (Varenas et al., 2014; Ayataç & Pola, 2016; Perry et al., 2018; Rocha et al., 2018; Lynch et al., 2019).

The study conducted by Ayataç & Pola (2016), found that paths to the playgrounds were accessible but inside the playspace they were not, limiting accessibility for disabled children. Similarly, Lynch et al. (2019), also found that some playgrounds did not provide a path from the carpark for playground users. Rocha et al. (2018), found that of the four playgrounds audited, none provided an adequately flat surface. Likewise, Perry et al. (2018), found that only one playground of the 21 audited park (5%) provided main paths with regular and even surfaces. Varenas et al. (2014), found that the use of wood chips as a playground surfacing material can require a lot of physical effort to manoeuvre over, and therefore do not meet the criteria of low physical effort which is a key principle of Universal Design.

The provision of accessible and inclusive playground equipment was also found to be a key barrier to the provision of accessible and inclusive playgrounds (Varenas et al., 2014; Ayataç & Pola, 2016; Perry et al., 2018; Rocha et al., 2018; Lynch et al., 2019). The study conducted by Rocha et al. (2018), found that of the 29 playground elements assessed in four playgrounds, only 6 met the definition of accessible (20%).

Lynch et al. (2019), found that playgrounds which included the most varied play opportunities generally scored higher overall in the audits. Varenas et al. (2014), found that limited access to both elevated and ground level play equipment and structures was a fundamental barrier to access and inclusion for children with mobility impairments.

2.1.2. Sensory play

The provision of sensory play was less likely to be provided in the audited playgrounds that physical play elements (Kodjebacheva et al., 2015; Perry et al., 2018; Lynch et al., 2019; Dalpra, 2022). Sensory play items provide visual, auditory and tactile experiences through the inclusion of items such as sand pits, musical play elements, and nature play. Sensory play can contribute to the development of critical thinking skills, logic and concentration skills in children (Dalpra, 2022).

Kodjebacheva et al. (2015), found that children with physical impairments were more likely to be accommodated in the playground design than those with sensory disabilities. Lynch et al. (2019), found that playgrounds provided limited opportunities for children to participate in sensory play, and that playgrounds were not associated as a fun place for children with sensory impairments. Similarly, of the 16 playgrounds audited by Dalpra (2022), only one was awarded points for sensory accessibility (6%), and only two playgrounds included sound and music play components (13%). Perry et al. (2018), audited 21 playgrounds and found that no playground provided stimulation for all senses.

2.1.3. Play diversity

Providing play options for children with disabilities was found to be a key enabler for the provision of inclusive playgrounds (Lynch et al., 2019; Dalpra, 2022; Parker & Al-Maiyah, 2022). Parker & Al-Maiyah (2022), found that playgrounds that provided varied play experiences for all abilities was the greatest contributor to play value and overall experience for children with disabilities A key finding of Dalpra (2022), was that play value is derived

from diversity of options for children with disabilities. Lynch et al. (2019), found that providing challenging or "accessible-inaccessible" elements of play enhanced the play experience of children with disabilities. These findings correlate with that of Moore et al. (1997), and Playwright (2016), who note that a key enabler for providing accessible and inclusive playgrounds is providing choice and diversity for children with disabilities.

2.1.4. Socio-economic influences

Three studies considered the influence of a playground's location in an area of socio-economic advantage or disadvantage (Kodjebacheva et al., 2015; Perry et al., 2018; Lynch et al., 2019). Perry et al. (2018), found that playgrounds located in areas of socio-economic disadvantage were more likely to have reduced play richness and were also less likely to provide opportunities for sensory play. They were also less likely to have accessible car parking and easy access to public transport (Perry et al., 2018). Kodjebacheva et al. (2015), found that sensory elements were less common in areas of socio-economic disadvantage compared to areas of socio-economic advantage, and that playgrounds located in lower income neighbourhoods were less safe and accessible that those in higher income neighbourhoods. Four of the five playgrounds audited by Lynch et al. (2019), were located in socially disadvantaged areas and were found to be not accessible for people with mobility impairments and did not include features that enabled inclusiveness or equity. As noted by Lynch et al. (2019), lower socio-economic groups are more likely to rely on playgrounds which are located within walking distance and therefore have less options to access accessible and inclusive playspaces.

2.1.5. Destination and neighbourhood playgrounds

Two studies considered the accessibility and inclusivity of destination and neighbourhood playgrounds (Perry et al., 2018; Lynch et al., 2019). Lynch et al. (2019), assessed five playgrounds, of which one playground was categorised as a destination playground which was rated overall as significantly higher scoring than neighbourhood playgrounds. Perry et al. (2018), also found that destination playgrounds were more likely to have accessible car parking, elevated play components, drinking fountains and toilets compared to neighbourhood parks.

2.3 Gaps in the literature

A review of the literature found that no audits have been carried out on Australian community playgrounds and no studies were published in the last 18 months. The number of playgrounds audited for each study was found to be on a relatively small scale. The maximum number of playgrounds audited in the studies was twenty-one (Perry et al., 2018), with all other studies auditing fewer. Only one study (Perry et al., 2018), audited playgrounds in different municipalities and no studies audited playgrounds which were in different state jurisdictions. No studies were published which considered a relationship between the age of the playground and accessibility and inclusiveness.

2.4 Summary

Equal opportunity for children with disabilities to participate physically and socially is the ultimate aim of inclusive playgrounds (Prellwitz & Skär, 2016).

In evaluating the accessibility and inclusiveness of community playgrounds for disabled children, the literature review found that most of the research conducted over the last ten years assessing the accessibility and inclusiveness of community playgrounds for disabled children utilises qualitative methods (Perry et al., 2018). The review found that only eight on-site evaluations or audits were undertaken between 2012 and 2024 to assess the accessibility and inclusiveness of community playgrounds for disabled children.

The literature review found that:

i. Inadequate playground surfacing and the provision of accessible and inclusive playground equipment was a fundamental barrier to ensuring accessible and inclusive playgrounds for disabled children.
ii. The provision of sensory play elements was less likely to be provided than physical play elements in the audited playgrounds.
iii. Providing a number of play options for children with disabilities was a key enabler for the provision of inclusive playgrounds.
iv. The location of a playground in an area of socio-economic disadvantage generally correlated to a lower overall accessible and inclusive score.
v. Playgrounds categorised as a destination playground were more likely to be scored higher against accessible and inclusive criteria.

The literature review also found that no audits have been carried out on Australian community playgrounds and no studies were published in the last 18 months. No studies were published which considered a relationship between the age of the playground and accessibility and inclusiveness.

3.0 METHODS

3.1. Research method and design

The main aim of this study was to evaluate the accessibility and inclusiveness of community playgrounds for disabled children across different municipal areas in Australia. The research method is outlined below:

i. Ethics: An ethics application was submitted to Massey University and judged to be low risk.
ii. Literature review: A literature review was conducted to consider what previous evaluations or on-site auditing has been undertaken to evaluate the accessibility and inclusiveness of community playgrounds for disabled children.
iii. Selection of an auditing tool: The literature review found several auditing tools capable of assessing the accessibility and inclusiveness of community playgrounds for disabled children. The NSW Government's Everyone Can Play: Playspace Evaluation Checklist (2023) was selected as the chosen auditing tool.

iv. Conducting on site audits of selected community playgrounds: The Everyone Can Play: Playspace Evaluation Checklist (2023) was used to audit 25 community playgrounds across 8 municipal areas in Victoria and NSW, Australia.

The study design commenced with receipt of a research topic in July 2023. An ethics application was submitted to Massey University in August 2023, and ethics approval was received on 25 August 2023. A research proposal was submitted to the Research Supervisor in August 2024, with feedback received in September 2023. Subsequently, a literature review was conducted between November 2023 and January 2024. Data collection by way of playground audits was carried out between December 2023 and January 2024. Data analysis commenced in January 2024 upon completion of the final playground audit. Final report drafting occurred throughout January and February 2024. The final report was submitted for grading on 15 February 2024.

3.2. Ethics

Ethical approval for this research study was granted by Massey University on 25 August 2023 (Ethics Notification Number: 4000028004).

The project was evaluated by peer review and judged to be low risk. Consequently, it was not reviewed by one of the University's Human Ethics Committees. The low-risk notification for this project is valid for a maximum of three years.

All research was conducted in accordance with Massey University's Code of Ethical Conduct for Research, Teaching & Evaluations Involving Human Participants (2017) and Code of Responsible Research Conduct (2015).

A summary of the main ethical considerations relevant to this research include:

i. Conducting the research in a profession and ethical manner to avoid reputational damage to Massey University.
ii. Avoidance of risk or harm to playground users and the researcher as playground audits were conducted.
iii. Avoidance of interference in the normal business activities of playground users as the audits were conducted.
iv. Ensuring no conflicts of interests arose.
v. Not intentionally misrepresenting existing academic literature and ensuring accurate referencing so that researchers are appropriately credited for their work.

A copy of the ethics application is included in Appendix B Ethics application.

3.3.   Literature review method

To identify relevant literature SCOPUS was used as the preferred search engine. In some instances Google Scholar was used to access full article downloads.

The literature review was conducted in two parts. The first part included a wholistic review of relevant literature relating to the accessibility and inclusiveness of community playgrounds for disabled children, the importance of play, implications for disabled children being unable to participate in play and the legislative landscape.

The search on SCOPUS was conducted using the following words: "play" OR "playspace" OR "playground" AND "access" OR "inclus*" OR "universal AND design" AND "disability" OR "disabled." The search was limited to research published in English. The date range was limited between 2012 to 2024 to reflect work published approximately within the last ten years. The search returned 1,601 documents. Results were sorted by relevance.

A screening of all 1,601 document results was then undertaken. Abstracts and titles were reviewed and relevant articles were grouped into the following categories for further analysis:

i.   Primary research was conducted (typically through surveys, interview and onsite observations) to obtain the perspectives of disabled children using community playgrounds (n=10).
ii.   A literature review or scoping study was conducted with the aim to determine the guiding principles of an inclusive playground for children with disabilities (n=9).
iii.   Primary research was conducted (typically through surveys, interview and onsite walk and talks) to obtain the perspectives of community playground stakeholders such as local authorities, carers of disabled children and playground designers (n=10).
iv.   Specifically relating to the role of Universal design in designing inclusive playgrounds for children with disabilities (n=2).
v.

In addition to the above, a subsequent search of all the relevant research articles references lists was conducted to identify any further studies. This resulted in an additional twenty-eight documents which met the selection criteria.

Upon completion of this literature screening a gap in the research emerged regarding auditing or evaluation on the accessibility and inclusiveness of existing community playgrounds for disabled children. In order to test this further another search was conducted on SCOPUS using the following words: "play" OR "playspace" OR "playground" AND "access" OR "inclus*" OR "universal AND design" AND "audit" OR "evaluat*" OR "checklist" OR "tool".

The search was limited to research published in English. The date range was limited between 2012 to 2024 to reflect work published approximately within the last ten years. The search returned 291 documents. Results were sorted by relevance.

A screening of all 291 document results was then undertaken. Abstracts and titles were reviewed and the following selection criteria was applied:

    i.   An audit or evaluation must be conducted that investigates the accessibility and inclusiveness of a playground for disabled children;

    ii.   The playground must include play equipment (i.e. is not a bike or skate park for example) and be available for community use.

After the selection criteria was applied 16 documents were still considered relevant, and subject to a more detailed investigation. Four of the 16 articles were discounted because a full article could not be accessed via SCOPUS or other databases such as Google Scholar. Following a further detailed investigation three documents were also discounted as their auditing focus was not on accessibility and inclusiveness. One study was also excluded because the auditing results were not clearly demonstrated in the research paper.

In addition to the above, a subsequent search of all the relevant research articles references lists was conducted to identify any further studies. This resulted in an additional three documents which met the selection criteria. Three studies which conducted highly relevant audits were excluded as they were published prior to 2012.

At the conclusion of the data screening studies that were considered to meet the selection criteria were used to conduct a literature review (n=8). The eight studies which met the selection criteria were all journal articles. For each of the eight studies, the data analysed and extracted was as follows:

    i.   Author(s), Publication year and location;
    ii.   Title;
    iii.   Publication;
    iv.   Research Aim;
    v.   Summary of audit / evaluation;
    vi.   Audit / evaluation tool;
    vii.   Main findings;
    viii.   Strengths and weaknesses;
    ix.   Key themes and linkages.

A summary of the literature review findings is included in Appendix A Literature review summary of findings.

3.4. Auditing tool selection method

Taylor et al. (2023), conducted a scoping review of both white and grey literature to establish the available tools capable of evaluating a playgrounds accessibility and inclusiveness for children with disabilities. To compare auditing tools, the 13 recommendations and one promising practice to design for the inclusion of disabled children posited by Brown et al. (2021), was employed (Table 1). Taylor et al. (2023), found that two auditing tools (both from Australia) provided sufficient information to evaluate against 12 of 13 recommendations proposed by Brown et al. (2021). The two auditing tools that best met the design for inclusion recommendations posited by Brown et al. (2021), were:

i. Inclusive SA. (2019). *Inclusive play: Guidelines for accessible playspaces.*
ii. New South Wales Government. (2023). *Everyone can play: A guideline to create inclusive playspaces.*

Taylor et al. (2023), found that a weakness of the South Australian Government's auditing tool was that an auditor familiar with relevant policy standards must be present to conduct the playground safety audit. The Everyone Can Play: Playspace Evaluation Checklist was developed as a best practice measure for existing playspaces to assist in identifying ways to improve inclusive play (2023). Therefore, the NSW Government Everyone Can Play: Playspace Evaluation Checklist was chosen as the audit tool to evaluate the accessibility and inclusiveness of community playgrounds for disabled children across different municipal areas in Australia.

A copy of the evaluation checklist is included in Appendix C Everyone Can Play: Playspace Evaluation Checklist

3.5. Data collection method

Using the Everyone Can Play: Playspace Evaluation Checklist the accessibility and inclusiveness of community playgrounds for disabled children was assessed at 25 playgrounds located in the states of Victoria and NSW, Australia. Playground selection was determined by the residing location of the researcher in Williamstown, Victoria, and the route of planned summer holiday travel. Playgrounds were spread across eight municipal areas. At least two playgrounds were audited in each municipal area. For a playground to be eligible for auditing it needed to be located outdoors, open to community use and free. In addition, the playground had to include a variety of play equipment (not a bike or skate park for example).

Playgrounds were categorised as either 'neighbourhood' or 'destination.' To enable the research findings to be comparable with published findings, the definitions of 'neighbourhood' and 'destination' playgrounds were adopted from Perry et al. (2018). Destination playgrounds are characterised as places people will travel to, include a large variety of play opportunities, typically include amenities such as toilets and can accommodate a large number of users at one time. Neighbourhood playgrounds by contrast serve the surrounding community.

Playgrounds were also categorised as geographically located in areas of either socio-economic advantage or disadvantage. This was determined using the Australian Bureau of Statistics Socio-Economic Indexes for Areas (SEIFA), Australia (2021). The index scores a municipal area on a scale of 1 to 10. A score between 1-5 indicates that the area is relatively disadvantaged compared to an area which scores between 6-10. Playgrounds located in areas that are scored between 1-5 were classified as areas of relative socio-economic disadvantage. Playgrounds located in areas that are score between 6-10 were classified as areas of relative socio-economic advantage.

To establish the date of playgrounds construction, publicly available information from the internet was sourced. This information typically was from the website of the municipal area. Where the date of playground construction was not publicly available on the internet an estimate was included by the researcher and noted in the findings as 'est' for estimated.

To determine if a playground was situated in a metropolitan, rural or remote area the Department of Health and Aged Care Rural, Remote and Metropolitan Area (RRMA) classification tool was adopted (2021). The tool divides Australia into 3 zones and 7 classes. Metropolitan zone (RRMA 1 and 2), rural zone (RRMA 3 to 5) and remote zone (RRMA 6 and 7).

The audits were conducted by one researcher using an iPhone to record notes and take photos, printed copies of the Everyone Can Play: Playspace Evaluation Checklist and a measuring tape. The first activity at each audit included an assessment of safety risks to the researcher and playground users. Audits were only conducted when there was no risk to either.

The Everyone Can Play: Playspace Evaluation Checklist comprises three sections: (a) Can I get there? (b) Can I play? and (c) Can I stay? The Can I get there section includes: (i) location, (ii) layout, (iii) signage and (iv) access. The Can I Play section includes: (i) Play experience, (ii) wayfinding, (iii) access, (iv) equipment and (v) surfacing. The Can I Stay section includes: (i) safety, (ii) facilities and (iii) landscape. Each subcategory lists several questions with three available assessment options: No Change, Potential Change and Change Required.

3.6. Data analysis

Upon completion of the audit, data was transferred from the printed Everyone Can Play: Playspace Evaluation Checklist to an excel spreadsheet for further analysis, verification and categorisation.

A three-level rating scale was implemented with scores ranging from 0 to 2 points. Where the playground score was rated as No Change, a corresponding maximum rating of 2 was awarded. Where the playground score was rated as Potential Change, a corresponding rating of 1 was awarded. A score of 0 was awarded where

the Checklist question was rated as Change Required. The total available score was 156 points. Total scores and percentages were generated for all three sections and subcategories and are included in Appendix D Data Collection.

Descriptive statistics were generated for the totals including mean, median, mode and standard deviation. In addition, percentages for each three section of the evaluation and an overall percentage score were generated.

No additional statistical tests were completed as the sample size was deemed too small after initial tests were conducted on SPSS.

4.0 RESULTS AND DISCUSSION

4.1. Results

Overall, 25 playgrounds were audited using the Everyone Can Play: Playspace Evaluation Checklist. The playgrounds were dispersed across the states of NSW (n=5) and Victoria (n=20) and various local municipalities (n=8) within those two states. Playgrounds were located in metropolitan areas (n=13), rural areas (n=11) and remote areas (n=1). All playgrounds audited in NSW were in rural settings. Playgrounds were located in areas of both socio-economic advantage (n=14) and disadvantage (n=11). Four of the five playgrounds located in NSW were in areas of socio-economic disadvantage. Both destination playgrounds (n=12) and neighbourhood playgrounds (n=13) were included in the audit. The construction date of playgrounds ranged between 2010-2015 (n=8), 2016 (n=1), 2018 (n=4), 2019 (n=2), 2020 (n=4), 2021 (n=1), 2022 (n=3) and 2023 (2). A summary of the mean, median, mode and standard deviation for each category and overall total score is provided in Table 4.

Table 4 Descriptive statistics of the audit results

	Can I get there?	Can I play?	Can I stay?	Overall total score
Mean	26	39	35	100
Median	28	36	37	105
Mode	29	13	48	45
Standard Deviation	6.294	17.670	10.987	33.015

The audited playgrounds are ranked in order of highest overall score to lowest overall score in Table 5. A summary of the playgrounds accessible and inclusive features, if any, are also provided in Table 5, alongside opportunities to enhance these features.

Table 5 Audited playground rankings and summary

1.	**East Gippsland All Abilities Playground, Bairnsdale VIC**	**96%**

Fully fenced with an abundance of shade. Elevated play equipment fully accessible via ramping. Accessible swings. Carousel accommodates wheelchair users. Hard surfacing to all major play elements. Sensory play in multiple areas. Equipment themes relevant to local community. Accessible toilets, BBQ and picnic area. Water fountain at an appropriate height for most children. Directional signage to navigate around the playground. Could be improved by enhanced challenge equipment and supporting nature play.	

2.	**Belvoir Park Playground, Wodonga VIC**	**92%**

Hard surfacing to most major play elements. Accessible flying fox and swings. Carousel accommodates two wheelchair users. Climbing frame and wall provides element of challenge. Sensory play in multiple areas. Fully fenced components of the playground. Abundant play equipment options for all ages including a "ninja warrior" adventure obstacle course for older children. Opportunities for nature and water play. Accessible toilets, BBQ and picnic area. Shaded areas provided. Elevated play equipment fully accessible via ramping. Could be improved by removing chip bark, directional signage and increasing shade provision.	

3.	Bermagui Apex Park, Bermagui NSW	91%

Hard surfacing to most major play elements. Accessible flying fox and swings. Carousel accommodates wheelchair users. Opportunities for nature play. Shaded areas provided. Fully fenced. Climbing frame provides element of challenge. Accessible parking, toilets, shaded BBQ and picnic area. Picnic table at appropriate height for children provided.

Could be improved by enhancing shading to play equipment and equipment options.

4.	All-Abilities Playground, Tathra NSW	91%

Hard surfacing to most major play elements. Accessible swings, flying fox and trampoline. Carousel accommodates wheelchair users. Opportunities for nature play. Shaded areas provided. Climbing frame provides element of challenge. Accessible toilets, shaded BBQ and picnic area.

Could be improved by providing more play equipment options at height.

5.	JL Murphy Reserve, Port Melbourne VIC	87%

Hard surfacing to all major play elements. Accessible swings. Accessible toilets, shaded BBQ and picnic area. Opportunities for nature play. Shade from established trees.

Could be improved by providing more options for accessible play and enhancing challenge equipment.

6.	McNish 'Dinosaur Park' Reserve, Yarraville VIC	85%

Accessible swings. Carousel accommodates wheelchair users. Sensory play in multiple areas. Accessible toilets, BBQ and picnic area. Shaded areas provided.

Could be improved by removing chip bark, providing elevated play equipment fully accessible via ramping.

7.	Donald McLean Playground, Spotswood VIC	83%

Hard surfacing to all major play elements. Accessible flying fox and swings. Opportunities for nature play. Shaded areas provided. Sensory play in multiple areas. Connected to 'learn to ride' bicycle track. Could be improved by removing chip bark, providing elevated play equipment fully accessible via ramping.

8.	Bombala Playground, Bombala NSW	83%

Fully fenced with an abundance of shade. Hard surfacing to all major play elements. Accessible flying fox and swings. Sensory play in multiple areas. Equipment themes relevant to local community. Accessible toilets, BBQ and picnic area.

Could be improved by enhanced challenge equipment and supporting nature play.

9.	**Buckingham Reserve, Port Melbourne VIC**	**75%**

Hard surfacing to most major play elements. Accessible swings. Adjoining basketball and netball court. Sensory play in multiple areas. Opportunities for nature play. Shaded areas provided.

Could be improved by removing chip bark, providing elevated play equipment fully accessible via ramping and enhancing amenities.

10.	**Maclean Reserve, Williamstown VIC**	**72%**

Hard surfacing to all most play elements. Shaded areas and covered picnic tables provided. Accessible swings and carousel. Opportunities for nature play.

Could be improved by removing chip bark, providing elevated play equipment fully accessible via ramping and enhancing amenities.

11.	**Armstrong Reserve, Williamstown VIC**	**72%**

Hard surfacing to most major play elements. Shaded areas and covered picnic tables provided. Accessible swings. Opportunities for nature play. Challenge equipment provided.

Could be improved by removing chip bark, providing elevated play equipment fully accessible via ramping and enhancing amenities.

12.	**Nijong Ninja Park, Cooma NSW**	**69%**
Fully fenced. Accessible toilets and picnic tables. Opportunities for sensory play. Connected to 'learn to ride' bicycle track. Could be improved by providing more options for accessible play, shade, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.		

13.	**Centennial Park, Cooma NSW**	**67%**
Hard surfacing to most major play elements. Accessible swing and carousel. Shaded areas, accessible toilets and picnic tables provided. Could be improved by providing more options for accessible play and elevated play equipment fully accessible via ramping.		

14.	**Point Gellibrand Coastal Heritage Park, Williamstown VIC**	**66%**
Hard surfacing to most play elements. Some sensory play. Equipment themes relevant to local community. Accessible toilets, BBQ and picnic area. Opportunities for nature play. Could be improved by providing more options for accessible play, shade, and elevated play equipment fully accessible via ramping.		

15.	Macalister River Park Playspace, Maffra VIC	58%

Hard surfacing to some play elements. Equipment themes relevant to local community. Picnic tables with BBQ facilities and toilets nearby. Some shade provision. Opportunities for nature play.

Could be improved by providing more options for accessible play, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.

16.	Mick Baum Park Playground, Cann River VIC	53%

No hard surfacing. Accessible swing. Accessible toilets, BBQ and picnic area. Some shade provision.

Could be improved by providing more options for accessible play, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.

17.	Huon Park Playground, Wodonga VIC	53%

Minimal hard surfacing. Accessible swing. Shaded areas and covered picnic tables provided.

Could be improved by providing more options for accessible play, shade, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.

18.	**Commonwealth Reserve Playground, Williamstown VIC**	52%

Minimal hard surfacing and shaded areas. Accessible toilets nearby.

Could be improved by providing more options for accessible play, shade, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.

19.	**Coongulla Community Centre Reserve, Coongulla VIC**	49%

Accessible swing. No hard surfacing. Shaded areas, picnic tables and accessible toilets nearby.

Could be improved by providing more options for accessible play, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.

20.	**Mappin Reserve, Seddon VIC**	46%

Some hard surfacing and shaded areas. Sensory play opportunities. Large undercover sandpit. Adjoining basketball court. BBQ and picnic tables provided.

Could be improved by providing more options for accessible play, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.

21.	Yarraville Gardens Playground, Yarraville VIC	38%
Accessible swing. Some hard surfacing and shaded areas. Sensory play opportunities. Picnic tables and toilets nearby. Could be improved by providing more options for accessible play, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.		

22.	Burgoyne Reserve Playground, Williamstown VIC	38%
Minimal hard surfacing and shaded areas. Picnic tables. Accessible toilets nearby. Could be improved by providing more options for accessible play, shade, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.		

23.	David Bayne Park, Wodonga VIC	29%
Minimal hard surfacing and shaded areas. Could be improved by providing more options for accessible play, shade, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.		

24.	Clough Street Reserve, Williamstown VIC	29%
Minimal hard surfacing and shaded areas. Could be improved by providing more options for accessible play, shade, amenities, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.		

25.	Charles Bates Reserve, Williamstown VIC	29%
Minimal hard surfacing and shaded areas. Could be improved by providing more options for accessible play, shade, amenities, hard surfacing to all play equipment and elevated play equipment fully accessible via ramping.		

4.2. Discussion

4.2.1. Playground age

The results demonstrate a potential relationship between the construction date of the playground and the accessibility and inclusiveness of that playground for disabled children. Table 6 shows the playgrounds ranked in order of lowest to highest overall scores and the corresponding construction date.

Table 6 Construction date and overall score

Playground	Construction Date	Score
Clough Street Reserve	Est. pre-2010	29%
Charles Bates Reserve	Est. 2014	29%
David Bayne Park	Est. 2010-2015	29%
Yarraville Gardens Playground	2014	38%
Burgoyne Reserve Playground	2014	38%
Mappin Reserve	2016	46%
Coongulla Community Centre Reserve	Est. 2018	49%
Commonwealth Reserve Playground	Est. 2014	52%
Mick Baum Park Playground	Est. 2010-2015	53%
Huon Park Playground	2022	53%
Macalister River Park Playspace	Est. 2020	58%
Point Gellibrand Coastal Heritage Park	Est. 2018	66%
Cooma Centennial Park	2019	67%
Nijong Ninja Park	2018	69%
Maclean Reserve	2022	72%
Armstrong Reserve	2020	72%
Buckingham Reserve Playground	2020	75%
Donald McLean Playground	2023	83%
Bombala Playground	2018	83%
McNish 'Dinosaur Park' Reserve	2022	85%
JL Murphy Reserve Playground	2020	87%
Bermagui Apex Park	2021	91%
Tathra All-Abilities Playground	2019	91%
Belvoir Park Playground	2023	92%
East Gippsland All Abilities Playground	2013	96%

Most playgrounds constructed before 2018 scored below 53% of available points. Point Gellibrand Coastal Heritage Park and Nijong Ninja Park, also constructed in 2018, also both scored relatively low 66% and 69% overall. This demonstrates a potential relationship between the age of the playground and the accessibility and inclusiveness of the playground.

There is a notable exception to this trend, however. The highest scoring playground, the East Gippsland All Abilities Playground, was constructed in 2013 and was the highest ranked playground overall, achieving 96% of available points. The playground is a purpose built all abilities playground, which may contribute to the playground being an outlier to this trend.

Another notable exception to this trend is the Huon Park Playground. The playground was constructed more recently in 2022 and scored only 53% of all available points. The lack of accessible and inclusive play equipment due to the chip bark surfacing and lack of amenities was particularly evident considering the age of the playground.

This finding has important implications for municipal authorities, who are responsible for the maintenance and upgrades of community playgrounds. This finding could allow municipal authorities to focus resources on upgrading existing playground stock to enhance their inclusive and accessible features.

4.2.2. NSW and Victorian playgrounds

The audited playgrounds were located in the states of NSW (n=5) and Victoria (n=20). When comparing the Mean, Mode and Median of the overall scores, playgrounds located in NSW scored higher than those in Victoria (Table 7). The average playground score in NSW was 125.2 compared to 93.8 in Victoria. The median score in NSW was also significantly higher at 130 compared to 86.5 in Victoria. NSW playgrounds also had a lower standard deviation than that of Victoria. This demonstrates that the playgrounds located in NSW are more likely to be rated around the average score than Victorian playgrounds.

Table 7 NSW and Victorian descriptive statistics

Statistic	VIC	NSW
Mean	93.8	125.2
Mode	45	142
Median	86.5	130
Standard Deviation	33.15	16.29

Although both playgrounds need to meet the relevant Australian Standards, the states have different playground design guidelines. The auditing tool used to conduct the research is part of the NSW Government's Everyone Can Play guidelines to create inclusive playspaces. The document was first published in 2019 and updated in 2023 to provide best practice recommendations. The Bermagui and Tathra playgrounds audited as part of this study all referenced the guidelines in public statements at the playground openings (Bega Valley Shire Council, 2021; Visit NSW, 2024).

In contrast, Victoria does not have any recent design guidelines published to encourage the creation of inclusive playspaces. The only comparable guideline is the Good Play Space Guide: "I Can Play Too" which was published by Sport and Recreation Victoria in 2007. The lack of recent guidelines and emphasis from the Victorian Government on creating inclusive playgrounds may contribute to achieving lower overall audit scores. The Victorian government could develop an up-to-date inclusive playground design guideline for the use of local authorities and other stakeholders responsible for the design, provision, and maintenance of community playgrounds to support the creation of accessible and inclusive community playgrounds.

4.2.3. Destination and neighbourhood playgrounds

The findings indicate that destination playgrounds are likely to feature more accessible and inclusive elements than neighbourhood playgrounds. When comparing the Mean, Mode and Median of the overall scores, destination playgrounds scored higher than neighbourhood playgrounds (Table 8).

Table 8 Destination and neighbourhood playground descriptive statistics

	Neighbourhood playground	Destination playground
Mean	82	119.67
Mode	45	142
Median	82	131
Standard Deviation	27.54	26.67

When comparing the overall amenities scores of destination and neighbourhood playgrounds, destination playgrounds were scored higher overall (Table 9). These results indicate a correlation with the literature review. Perry et al. (2018), found that amenities were more likely to be located at destination playgrounds. Lynch et al. (2019), found that destination playgrounds achieved significantly higher auditing scores than neighbourhood playgrounds.

Table 9 Amenities scores for destination and neighbourhood playgrounds

	Destination	Neighbourhood
Amenities	283	179

4.2.4. Socio-economic influences

The results indicate that there is limited alignment between accessible and inclusive playgrounds in areas of socio-economic advantage or disadvantage. When comparing the Mean, Mode and Median of the overall scores, only the mode was fundamentally different, which shows the most frequent score captured (Table 10).

Table 10 Overall scores for lower and higher socio-economic areas

	Lower socio-economic areas	Higher socio-economic areas
Median	105	108
Mode	82	45
Mean	105	96.21429

Standard Dev	31.58538	33.5946

These results do not indicate an alignment with that of the literature review. In comparison, Perry et al. (2018), found that playgrounds located in areas of socio-economic disadvantage were more likely to have reduced play richness. Additionally, four of the five playgrounds audited by Lynch et al. (2019), were located in socially disadvantaged areas and were found to be not accessible for people with mobility impairments and did not include features that enabled inclusiveness or equity.

4.2.5. Other playground themes

Overall, 25 playgrounds were audited using the Everyone Can Play: Playspace Evaluation Checklist. With a maximum score of 2 points, a total of 50 points was available for each audit checklist question. Five audit checklist questions received significantly lower scores than any others (Table 11).

Table 11 Audit questions with the lowest overall scores

The playspace has signage or a map to aid navigation.	12%
Pictographs and braille are provided on key instructional and safety signage.	8%
There is a map at the playspace entry to assist with navigation and decision-making.	0%
Maps follow the points listed for inclusive signage (i.e. easy to read, located at a height for all users to see).	0%
There is directional signage along activity trails.	4%

This demonstrates that the areas of wayfinding, layout and signage is a significant opportunity for improvement to the accessibility and inclusiveness of community playgrounds for disabled children.

Conversely, two questions were frequently awarded the maximum available points across the audited playgrounds (Table 12). The findings demonstrate that the audited playgrounds typically are clearly observable from the street or neighbouring properties, which can provide an element of safety. In addition, the findings demonstrate that the audited playgrounds generally provide a comfortable and enjoyable environment to be in.

Table 12 Audit questions with the highest overall scores

The playspace can be clearly observed from the street or neighbouring properties.	96%
The surrounding landscape provides a comfortable and enjoyable environment to be in.	96%

4.3.   Limitations

This study has some limitations. The study focuses on the inclusion of disabled children in public playgrounds that are intended for community use and does not specifically consider school playgrounds. The literature review was limited to studies published within the last 10 years and those printed in English. Data collection required subjective observations to be made by the researcher, an able-bodied adult. User perspectives and experiences of inclusion are not included in the audit checklist. In addition, the audits were conducted in Australia over a short two-month period and captured 25 playgrounds in two states.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1.   Review of research findings

The primary aim of this study was to evaluate the accessibility and inclusiveness of community playgrounds for disabled children across different municipal areas in Australia. Secondary aims included:

i.   Exploring the role of playground age in the provision of accessible and inclusive playgrounds.
ii.   Exploring if there was any variation in the provision of accessible and inclusive community playgrounds between the two Australian states of Victoria and NSW.
iii. Comparing the research findings to the findings of the literature review in relation to (a) neighbourhood and destination playgrounds and (b) the location of the playground in an area of socio-economic advantage or disadvantage.

The accessibility and inclusiveness of 25 community playgrounds was evaluated using the NSW Government's Everyone Can Play: Playspace Evaluation Checklist. The audit results were used to rank the community playgrounds in order of highest overall score to lowest overall score and provide a summary of the playgrounds accessible and inclusive features, alongside opportunities to enhance these features (Table 5).

The results demonstrate a potential relationship between the construction date of the playground and the accessibility and inclusiveness of the playground for disabled children. The older the playground is, the less likely it is to offer an accessible and inclusive environment for disabled children.

Playgrounds located in NSW were more likely to offer an accessible and inclusive environment compared to playgrounds located in Victoria. This may be attributed to the NSW Government's Everyone Can Play guidelines to create inclusive playspaces, which was published in 2019 and updated in 2023. Victoria has no recent comparable guidelines published.

The findings also indicate that destination playgrounds are likely to feature more accessible and inclusive elements than neighbourhood playgrounds. When comparing the overall amenities scores of destination and neighbourhood playgrounds, destination playgrounds scored higher overall. These results indicate a correlation with the literature review, which found that amenities were more likely to be located at destination

playgrounds. Destination playgrounds were also found to achieve significantly higher auditing scores than neighbourhood playgrounds in the literature review.

The results indicate that there is limited correlation between accessible and inclusive playgrounds in areas of socio-economic advantage or disadvantage. This does not correlate with the findings of the literature review, which found that playgrounds located in areas of socio-economic disadvantage were more likely to have reduced play richness, were not accessible for people with mobility impairments and did not include features that enabled inclusiveness or equity.

Wayfinding, layout and signage was found to be a significant opportunity for improvement to the accessibility and inclusiveness of community playgrounds for disabled children, consistently being awarded 0 audit points across most playgrounds. Conversely community playgrounds in Australia were found to be consistently observable from the street or neighbouring properties providing an element of safety, and to generally provide an enjoyable environment to be in.

5.2.   Significance of research findings

Community playgrounds that are accessible and inclusive enables more children and caregivers to experience the joy of play and the associated health, social and well-being benefits.

The results of this research can be used by:

i.   Caregivers to inform which playgrounds are more likely to offer an accessible and inclusive environment for disabled children and therefore enhance the child's ability to engage in a meaningful play experience.

ii.   Local authorities and other stakeholders responsible for the design, provision, and maintenance of community playgrounds to inform where resources should be allocated to enhance the accessibility and inclusiveness of the audited playgrounds and prioritise effort.

iii.   Local authorities and other stakeholders responsible for the design, provision, and maintenance of community playgrounds to inform where they do not meet their regulatory accessibility responsibilities and compliance requirements.

iv.   Community stakeholders can use the results to better understand what creates an accessible and inclusive playground and inform advocacy opportunities to create more accessible and inclusive playgrounds.

v.   Other researchers who are looking to compare auditing results on the accessibility and inclusiveness of community playgrounds.

This study has some limitations. The study focuses on the inclusion of disabled children in public playgrounds that are intended for community use, data collection required subjective observations to be made by the researcher, an able-bodied adult. User perspectives and experiences of inclusion are not included in the audit

checklist. Additionally, the audits were conducted in Australia over a short two-month period and captured 25 playgrounds in two states.

5.3. Recommendations

Recommended future work includes:

i. An evaluation on the audited playgrounds to be carried out from the perspective of caregivers of disabled children and disabled children to test the audit results.
ii. Further playground auditing to be conducted to test the findings of this study and previous studies, noting that only eight audits have been conducted within the last ten years and the scale of the playgrounds audited typically are fewer than twenty per study.
iii. The Victorian government developing an up-to-date inclusive playground design guideline for the use of local authorities and other stakeholders responsible for the design, provision, and maintenance of community playgrounds. The design guidelines should be developed with the principles of Universal Design at the forefront.
iv. Local authority investment in neighbourhood playgrounds, not just destination playgrounds.
v. Local authority investment in signage / wayfinding enhancements at existing community playgrounds.
vi. Local authority investment in the upgrade of existing community playgrounds, noting that the older the playground is, the less likely it is to offer an accessible and inclusive experience for disabled children.

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APPENDICES

Appendix A Literature review summary of findings

Item	Author(s), Publication year and location	Title	Publication	Research Aim	Summary of audit / evaluation	Audit / evaluation tool	Main findings	Strengths and weaknesses	Key themes and linkages
1	Varenas, D., Heinz, A., & Dunn, S. (2014). USA.	PlayAble: An Analysis of the Accessibility of Selected Portland Park Playgrounds and How Universal Design Can Improve the Play Experience of All Children	Innovative Practice Projects	Assess the accessibility of several public playgrounds in the Portland Parks and Recreation System, with a focus on usability for children with mobility impairments.	Assessment of 17 playgrounds	Rated playgrounds against the American with Disabilities Act (ADA) regulations for playgrounds (minimum accessibility standards) and also how playgrounds match up to Universal Design principles. 18 criteria were assessed overall, 11 relating to ADA requirements and 7 relating to Universal Design principles.	Found that the two greatest barriers to accessibility were access to playground equipment and surfacing materials.	Gives each playspace a overall percentage score, allowing for easy comparison. Provides a summary of playground components.	Access and surface materials
2	Ayataç, H., & Pola, İ. (2016). Türkiye.	No "Obstacles" In Playgrounds That Are Not Only Accessible But Also Inclusive	International Journal of Architecture & Planning	To analyse three inclusive playspaces in Istanbul against design principles for children's playgrounds.	Three inclusive playspaces in Istanbul, Türkiye.	The evaluation checklist used was based on inclusive play spaces in Australia in 2014.	All three parks were found to have limitations to children's accessibility and inclusion. Although one of the three parks was designed specifically for the disabled, overall the inclusiveness of the park was in question. Found that paths to the play spaces were accessible but inside the playspace they were not, limiting accessibility for disabled children.	Yes / no checklist with no notes or overall evaluation. Comprehensive evaluation criteria.	Found that surfaces were a key barrier to accessibility, especially for wheelchair users. Play equipment did not promote inclusion.

#	Author	Title	Journal	Aim	Sample	Tool	Findings		
3	Rocha, A. N. D. C., Desidério, S. V., & Massaro, M. (2018). Brazil.	Accessibility evaluation of the playground during the play of children with cerebral palsy in school.	Revista Brasileira de Educação Especial	The aim of this research was to evaluate the accessibility of a school playground within an early childhood education setting.	One early childhood education playground was evaluated. The school divides the playspace into four segments to accommodate different age groups of the children.	Accessibility was evaluated through the Protocol for the evaluation of physical accessibility in schools of Early Childhood Education (Corrêa, 2010).	Found that of 29 playground elements assessed, 6 meet the definition of accessible. Overall found that the playground is not accessible for all children, but especially for children with cerebral palsy.	The evaluation was not conducted at a community playground. Focused specifically on children with cerebral palsy.	The surface was found to be unsuitable in all four playground segments and a key barrier to access.
4	Perry, M. A., Devan, H., Fitzgerald, H., Han, K., Liu, L. T., & Rouse, J. (2018). New Zealand.	Accessibility and usability of parks and playgrounds	Disability and Health Journal	To evaluate the accessibility and usability of 21 public parks and playgrounds in three metropolitan cities of New Zealand. Secondary aims were to compare the accessibility and usability by park type (destination or neighborhood) and deprivation level (high and low).	Audited 21 parks which were located in three metropolitan New Zealand cities.	A bespoke auditing tool (PARCS). The PARCS tool consists of two sections: Section 1: (a) accessible routes such as parking spaces and path surfaces and (b) facilities and amenities. Section 2: facilities and amenities encompass: (i) play areas, (ii) rest areas, (iii) restrooms and (iv) drinking fountains.	All parks audited did not comply with New Zealand standards or international guidelines. Found that path surfaces and play equipment contributed to poor accessibility. Found that toilets and drinking fountains were more likely to be located in destination parks rather than neighbourhood parks. Found a correlation between areas of higher deprivation and playgrounds with poor accessibility.	Randomly selected play spaces. Audits were conducted in pairs of two. In developing the auditing tool consultation was conducted with a large stakeholder cohort such as disability advocacy organisations and local council.	Play equipment and path surfaces key features which contribute to lack of accessibility.
5	Lynch, H., Moore, A., & Edwards, C. (2019). Ireland.	Community parks and playgrounds: Intergenerational participation through Universal Design	Report: The Centre for Excellence in Universal Design at the National Disability Authority	The five parks and playgrounds were audited through the lens of play value, universal design, and usability.	5 playgrounds in Cork, Ireland were audited using the PlayAUDIT tool.	PlayAUDIT, a bespoke tool developed by the research team after conducting a literature review and reviewing policy and guidelines	Found that the physical design of the play spaces was not accessible for people with mobility impairments and not include features that enabled inclusiveness or equity. Found that providing challenging or "accessible-inaccessible" elements of play enhanced the play experience of children with disabilities.	Included a number of recommendations to enhance the inclusivity of community playspaces for disabled children. Most parks were located in socially disadvantaged areas. Recommended that an auditing tool of Universal Design playgrounds in Ireland should be implemented. Audits were conducted	Accessible paths to the play spaces but not within it to the actual play equipment. Parks located in socially disadvantaged areas. Link to Perry et al. (2018).

							by occupational therapists.	
6	Dalpra, M. (2022, September). Italy.	Rethinking Play Environments for Social Inclusion in Our Communities.	Transforming Our World Through Universal Design for Human Development: Proceedings of the Sixth International Conference on Universal Design (UD2022)	Assess the inclusivity of playspaces.	16 playgrounds in Trento, Italy	Developed a bespoke assessment tool to determine accessibility and usability.	Found that few playspaces offered diverse enough play equipment to enable inclusive use by everyone.	Conference paper. Developed a bespoke auditing tool. Auditing was conducted by one researcher. Research was not presented in table format, limiting analysis of the results. Playgrounds were all built or renovated within the last 15 years. Audited playgrounds were all considered to be "accessible".	Play value is derived from diversity of options for children with disabilities.
7	Parker & Al-Maiyah (2022). United Kingdom.	Developing an integrated approach to the evaluation of outdoor play settings: rethinking the position of play value.	Children's Geographies	To develop an evaluation tool that assesses usability, accessibility, playability.	20 sites as part of the pilot study to develop the auditing tool	Developed a bespoke assessment tool: Play Park Evaluation Tool	Found that playgrounds that provided varied play experiences for all abilities was the greatest contributor to play value.	The tool developed can be used by people with no prior experience or knowledge because it includes information and explanations to minimise subjectivity.	Subjectivity was an issue noted by Perry et al. (2018), after completing evaluations using the PARCS tool.
8	Kodjebacheva, G., Sabo, T., Brennan, M., & Suzuki, R. (2015). USA.	Boundless Playgrounds in Southeast Michigan: Safety, Accessibility, and Sensory Elements	Children, Youth and Environments	Aimed to examine the safety, accessibility and extent of sensory playground elements at community playgrounds in poor and affluent neighborhoods.	10 playgrounds in Michigan	Used a form developed by the Interagency Coordinating Council's Inclusion Committee, which was developed with local disability experts.	Children with physical impairments were more likely to be accommodated in the playground design than those with sensory disabilities. Play richness and accessibility was less likely in lower-income areas compared to affluent areas.	Fewer playgrounds located in lower-income areas were audited than more affluent areas. Uses an auditing tool / form developed by disability experts.	Link to Perry et al. (2018) and Lynch et al. (2019) assessing the impact of socio-economic status on the playgrounds accessibility and inclusiveness.

Appendix B Ethics application

Student Name: *Courtney Glass (23007259)*
Supervisor Name: *Dr Claire Flemmer*

Project Details

1. **Project Title** *Accessibility of the Built Environment for vulnerable populations*

2. **Recruitment/data collection start date** *1 September 2023*

3. **Expected end of project date:** *1 August 2024*

4. **Project Type**:

    a. Academic Staff Research
    b. Professional Staff Research
    c. Postgraduate Student Research
    d. Undergraduate Student Research
    e. Evaluation
    f. Teaching

5. **Aim of the project:**

    This research aims to evaluate accessibility standards in Australia and assesses how well the Australian built environment meets these requirements. This will be done by undertaking a literature review and then comparing the findings with measurements taken from public buildings.

6. **Project Summary**

    This research will evaluate accessibility standards in Australia and assesses how well the Australian built environment meets these requirements. This is important because a significant portion of the population suffers from one or more disabilities such as mobility impairment, vision impairment, hearing impairment, cognitive impairment, and age-related impairment. These vulnerable populations struggle when accessing the built environment. Their basic rights are protected by legislation. This research will evaluate those rights and assess how well the Built Environment meets the needs of these vulnerable populations.

    Firstly, a review of academic literature will be undertaken on the accessibility rights of vulnerable populations in the context of access to the built environment. The review of academic literature will identify the size of these populations, establish the main challenges vulnerable populations face when accessing buildings and identity the legislation controlling the associated accessibility features of buildings.

    Secondly, a practical assessment will be undertaken on a sample of about 10 public case buildings to see, in practice, how well their accessibility features comply with the mandatory regulations.

    Surveys and interviews with non-vulnerable populations (i.e., architects or building managers) may also be undertaken as part of the research. If surveys are undertaken, they will be done online. Between 10-20 participants would be sought is a survey was utilised. Survey participants will be found from community groups online.

    Finally, the findings of the practical assessment will be compared with the findings of other studies and the literature review. Recommendations or findings for improving accessibility for vulnerable users will be made.

7. **Describe the peer review process that has been used to discuss and analyse the ethical issues present in this project.**

As a starting point, to identify any potential ethical issues I watched the 218.810 Research Report teaching module titled 'Research methods ethics and communication' to introduce research ethics.

Following this teaching module, I did some further research by reviewing the content available at https://www.massey.ac.nz/research/ethics/human-ethics/. After this I accessed and reviewed Massey University's 'Code of Ethical Conduct for Research, Teaching & Evaluations Involving Human Participants' (2017) and Code of Responsible Research Conduct (2015).

I completed the ethics application and risk assessment to determine whether or not any ethical issues were present in this research. From the risk assessment the research is considered low risk, however any feedback from this ethics application will be considered and reviewed as appropriate.

In summary, the three main aspects I need to consider include:

i. *Avoiding and minimising risk/harm to participants, myself, communities and Massey University*

ii. *Identifying the risks involved in undertaking the research*

iii. *Identifying ways to minimise any potential risks.*

I also engaged my research supervisor Dr Claire Flemmer to peer review my application before finalising the Ethics application form and discussed the research with my work colleagues and family to see if they were able to identify any potential risks which I may have missed.

After receiving feedback on the ethics application from my research supervisor, I updated the application with feedback received and then submitted the application on Massey University's online Research Information Management System.

8. **Summarise the ethical issues considered and explain how each has been addressed**

The ethical issues considered as part of this research and how they will be addressed are outlined below:

i. ~~When conducting my literature review, I will ensure accurate referencing to ensure that researchers are appropriately credited for their work.~~

ii. ~~I will not intentionally misrepresent existing academic literature.~~

iii. ~~I will not interfere in the normal business activities as I take measurements in public buildings.~~

iv. ~~Risk/harm to participants – Any survey or interviews conducted with non-vulnerable people will not cause participants discomfort, embarrassment or psychological or spiritual harm.~~

v. ~~I will not survey or interview vulnerable people.~~

vi. *Autonomy: research participants (non-vulnerable persons) will be provided an opportunity to participate in surveys or interviews and be provided complete autonomy to make their own decisions.*

vii. ~~Risk/harm to myself: – I will not put myself in a situation where I may be at risk of harm as I collect measurements from public buildings.~~

viii. ~~Consent: Any survey or interview data I collect, or use, will be obtained with the appropriate permission and informed consent. The research participants will know what information is being collected, by whom and for what purpose. Information collected for one purpose will not be used for another purpose.~~

xii.   Research findings: My findings and results will be shared with any research participants and will be presented truthfully without distortion or intentional misrepresentation.

xiii.   Relationships: I will identify and avoid any conflicts of interests when conducting my research and will not offer or taking bribes.

9. **With whom did you peer review the ethical aspects of your research?**

I have peer reviewed the ethical aspects of my research with my research supervisor Dr Claire Flemmer.

In addition, I have discussed my research with my work colleagues who include architects, engineers and construction project managers to see if they are able to identify any risks which I may not have considered and to discuss what they believe the ethical issues are.

I have also discussed my research at home with my Partner to identify any potential risks to myself or participants and any ethical issues in my research.

Applicant Details

1. **Applicant Department:** *School of Built Environment*

2. **Ethics Category:** *Human*

3. **Campus of Chief Applicant:** *Albany*

4. **Internal Personnel:** *Research supervisor Dr Claire Flemmer*

5. **External Personnel:** *N/A*

Health and Disability Ethics Committee

Is Health and Disability Ethics Committee (HDEC) review required for this study? *No*

Declaration

(By the applicant)

I declare that the information in this form is accurate for my research project in course 218.810.

Signed:

Courtney Glass (███████)

Date: *29 July 2023*

Declaration

(By the supervisor)

I declare that I have reviewed the information in this form and that it is correct for this research project.

Signed: Claire Flemmer

Date: 1/8/23

Risk Assessment

Does your research include:

a	Situations where the researcher may be at risk of harm	(No)	Yes
b	Use of a questionnaire or interview, whether or not it is anonymous, which might reasonably be expected to cause discomfort, embarrassment or psychological or spiritual harm to the participants.	(No)	Yes
c	Processes that are potentially disadvantageous to a person or group, such as the collection of information which may expose a person / group to discrimination.	(No)	Yes
d	Collection of information of illegal behavior(s) gained during the research which could place the participants at risk of criminal or civil liability or be damaging to their financial standing, employability, professional or personal relationships.	(No)	Yes
e	Collection of blood, body fluid, tissue samples or other samples.	(No)	Yes
f	Any form of exercise regime, or deprivation. (e.g. sleep or dietary)	(No)	Yes
g	Any form of physical examination (e.g. physical, radiation, ultrasound).	(No)	Yes
h	The administration of any form of drug, medicine (other than in the course of standard medical procedure), or placebo.	(No)	Yes
i	Physical pain, beyond mild discomfort.	(No)	Yes
j	Any Massey University teaching which involves the participation of Massey University students for a demonstration of procedures or phenomena which have potential for harm.	(No)	Yes
k	Participants whose identities are known to the researcher giving oral consent rather than written consent, other than for cultural reasons .	(No)	Yes
l	Participants who are unable to give informed consent.	(No)	Yes
m	Research on your own students / pupils. For Massey Staff - refer to the Decision Chart in section 2 of the Code.	(No)	Yes
n	The participation of children (seven (7) years old or younger).	(No)	Yes
o	The participation of children under sixteen (16) years old where active parental consent is not being sought.	(No)	Yes
p	Participants who are in a dependent situation, such as nursing home or prison, or patients highly dependent on medical care.	(No)	Yes
q	Participants who are vulnerable.	(No)	Yes
r	The use of previously collected identifiable personal information or research data for which there was no explicit consent for this research.	(No)	Yes
s	The use of previously collected biological samples for which there was no explicit consent for this research.	(No)	Yes
t	Any evaluation of organisational services or practices where information of a personal nature may be collected and where participants or the organisation may be identified.	(No)	Yes

u	Deception of the participants, including concealment or covert observations.	No	Yes
v	Conflict of interest situation for the researcher.	No	Yes
w	Payments or other financial inducements (other than reasonable reimbursement of travel expenses or time) to participants.	No	Yes
x	A requirement by an outside organisation (e.g. a funding organisation or a journal in which you wish to publish) for Massey University Human Ethics Committee approval.	No	Yes
y	I wish to submit a full application for Training / Education purposes	No	Yes

Appendix C Everyone Can Play: Playspace Evaluation Checklist

Playspace Evaluation Checklist

A tool for reviewing existing playspaces and playspace designs.

Each playspace is unique and not all playspaces will meet every criteria of this Checklist.

Use the Everyone Can Play Evaluation Checklist to see where improvements can be made, in line with available budget, playspace size and location. Remember, it's about doing the best you can with the resources you have.

This Evaluation Checklist is designed to ensure more people can get to, play and stay at existing playspaces in our communities. It can also be used as a tool for reviewing inclusive playspace designs.

Playspace name:

Playspace address:

Can I get there?

Location

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
Information about the playspace is available before I go.	◯	◯	◯
Car parking is easily available/close to the playspace (e.g. street parking, a dedicated car park).	◯	◯	◯
Accessible car parking bays are provided.	◯	◯	◯
The playspace is connected to a shared path or cycle route.	◯	◯	◯
There is a public transport link (bus stop, train station, light rail) close to the playspace.	◯	◯	◯
The playspace's access point can be used easily and comfortably by most people without having to cross a main road or other barrier (e.g. unsignalised intersections, kerbs, streets without footpaths or pram ramps).	◯	◯	◯

12

Layout

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
The layout of the playspace can easily be understood by a first-time user.	◯	◯	◯
The playspace has signage or a map to aid navigation.	◯	◯	◯
Points of entry and exit are easy to locate from inside and outside the playspace.	◯	◯	◯
There are pause points at the entry and exit to view and assess play opportunities on arrival.	◯	◯	◯

8

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
There is an area within the playspace for carers to interact and supervise.	◯	◯	◯
There are clear lines of sight throughout the playspace for carers.	◯	◯	◯
Play equipment for different age groups is grouped together without being separated from the main area of activity.	◯	◯	◯
Formal and informal seating is provided in appropriate locations (e.g. at regular intervals, near shade, adjacent to activity areas).	◯	◯	◯

8

Signage

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
Signage is easy to read, using simple language, graphics and high colour contrast.	◯	◯	◯
Signage is located at a height that is easy to read for all playspace users, including children and those in wheelchairs.	◯	◯	◯
Pictographs and braille are provided on key instructional and safety signage.	◯	◯	◯

6

Access

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
There is an orientation path or circulation path within the playspace.	◯	◯	◯
There is a flush edge from the path surface to the play surface for easy access by all users. (The entire surface does not need to be flush – just key transition points.)	◯	◯	◯
Access gates can be operated by an adult using a wheelchair or mobility device.	◯	◯	◯

6

40

Can I play?

Play experience

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
The playspace provides opportunities for a variety of age groups (e.g. toddlers, children, teenagers, adults).	○	○	○
Varied play types are provided.	○	○	○
There are a variety of multi-user equipment pieces.	○	○	○
There are opportunities for intergenerational play.	○	○	○
Equipment is challenging for multiple age groups and ability levels.	○	○	○
Play opportunities can be accessed at a variety of heights.	○	○	○
Everyone can access the main play piece and have meaningful play experiences.	○	○	○
There are multiple opportunities for people with limited mobility.	○	○	○
There are unprogrammed spaces for imaginative play.	○	○	○
There are quiet points within the playspace for rest and passive relaxation.	○	○	○

20

Wayfinding

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
There is a map at the playspace entry to assist with navigation and decision-making.	○	○	○
Maps follow the points listed for inclusive signage (i.e. easy to read, located at a height for all users to see).	○	○	○
There is directional signage along activity trails.	○	○	○
There is a clear path network hierarchy (e.g. easy to distinguish between main orientation path, circulation paths and play paths).	○	○	○
There is an appropriate colour contrast between the paths and the play surfaces.	○	○	○

10

Access

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
The site's topography creates an obstacle or barrier to playspace access (e.g. steep slope with no footpath, stair-only access).	○	○	○
Any barriers can be overcome with the inclusion of a ramp.	○	○	○
The orientation path is clearly identifiable.	○	○	○

6

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
There is an orientation path linking to, in and around the playspace that links to access points and key activity areas.	○	○	○
The orientation path has a consistent width and surface finish.	○	○	○
The orientation path conforms to relevant Australian access standards.	○	○	○
The orientation path connects directly to all access points.	○	○	○
The majority of play elements are connected to a circulation path.	○	○	○
The circulation path has a consistent width and surface finish.	○	○	○

12

Equipment

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
Equipment is well connected.	○	○	○
The majority of equipment is designed so that adults can be fit in, on or under (e.g. swings, slides, climbing structures).	○	○	○
Elevated equipment pieces include a ramped access point for people of various ages with limited mobility.	○	○	○
Dynamic play pieces are arranged in a sequence promoting skill development.	○	○	○
Equipment theming and the colour palette respond to the local context.	○	○	○

10

Surfacing

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
There is an accessible edge or point of access (flush or ramped) from the circulation path to the majority of play surfaces.	○	○	○
All accessible equipment pieces have an accessible surface treatment to enable ease of use.	○	○	○
The majority of play pieces have an accessible surface treatment or accessible path to the equipment's entry and exit points to enable ease of use. (Consider relevant fall zone surfacing requirements.)	○	○	○
Path surfaces provide sensory play opportunities through materiality or texture features.	○	○	○
There is enough circulation space (beyond fall zone requirements) around the majority of equipment to provide safe movement.	○	○	○

10

Can I stay?

Safety

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
The playspace can be clearly observed from the street or neighbouring properties.	◯	◯	◯
There are clear sight lines to all play equipment pieces from the pathways and seating options to ensure comfortable supervision by carers.	◯	◯	◯
The playspace is protected from adjacent potential risks (e.g. busy roads, open water bodies).	◯	◯	◯
There is a sufficient boundary enclosure to provide a secure environment (e.g. fence, natural features such as mounds, rocks, planting).	◯	◯	◯
There is adequate lighting provided from the street or within the playspace to support appropriate time of day use.	◯	◯	◯
Supporting facilities (BBQ, toilet, car park) are adequately lit.	◯	◯	◯

12

Facilities

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
Seating provided is adequate for the scale and use of the playspace.	◯	◯	◯
Seating provides various options to cater for a range of users (e.g. varied heights, back rests, arm rests).	◯	◯	◯
Various seating arrangements, such as individual and group seating, are provided.	◯	◯	◯
There is enough clearance space adjacent to the seat to park a pram, wheelchair or mobility device without blocking the circulation space or path.	◯	◯	◯
There are seating opportunities provided in a quiet location for retreat.	◯	◯	◯
There is access to drinking water.	◯	◯	◯
Water can easily be accessed by all playspace users and has fixtures that are easy to operate.	◯	◯	◯
Rubbish bins are provided and suitably located.	◯	◯	◯
Bins can be utilised by all playspace users.	◯	◯	◯
Toilet access is available within the playspace or nearby.	◯	◯	◯
There is an accessible toilet nearby that includes changing facilities for babies, children and adults.	◯	◯	◯
There are picnic tables provided within and adjacent to the playspace.	◯	◯	◯

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
There are BBQ facilities provided.	◯	◯	◯
Facilities are accessible to all users, are considerate of children's safety and are easy to operate.	◯	◯	◯

4

Landscape

	NO CHANGE	POTENTIAL CHANGE	CHANGE REQUIRED
There is an adequate amount of shade to cover the majority of play activities.	◯	◯	◯
There is an adequate amount of shade to cover seating areas and protect park users.	◯	◯	◯
The surrounding landscape provides a comfortable and enjoyable environment to be in.	◯	◯	◯
There are views or visual links to the local context outside the playspace, to contribute to a sense of play.	◯	◯	◯

8

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Appendix D Data Collection

Data is included in a separate excel file due to size.