

Conclusion

Social housing with interior public spaces

The project investigated the relevance of interior design knowledge and approach in the development of social housing for the medium income market, by introducing housing through an adaptive re-use process into abandoned buildings in the Pretoria CBD.

A thorough context analysis indicated a relevant site at Huis Potgieter, which was further analysed with a design intervention in mind.

Research into the users indicated that a key focus area for residents in this market is the provision of public space. A new term, interior public spaces, was developed to describe the nature of the public spaces provided in the building. Public space theories were investigated and synthesised into a comprehensive set of public space guidelines to create a frame of reference within which to develop and apply the interior public spaces. Further research into typical behaviour in similar income developments identified other behaviours such as attachment, appropriation, and a reflection of identity exhibited by users. This led to the design of the interior public spaces to have a strong identity that is visible in all public areas within the building, and is contrasted to specific elements that the users can adapt and appropriate to allow for the behaviours stated above.

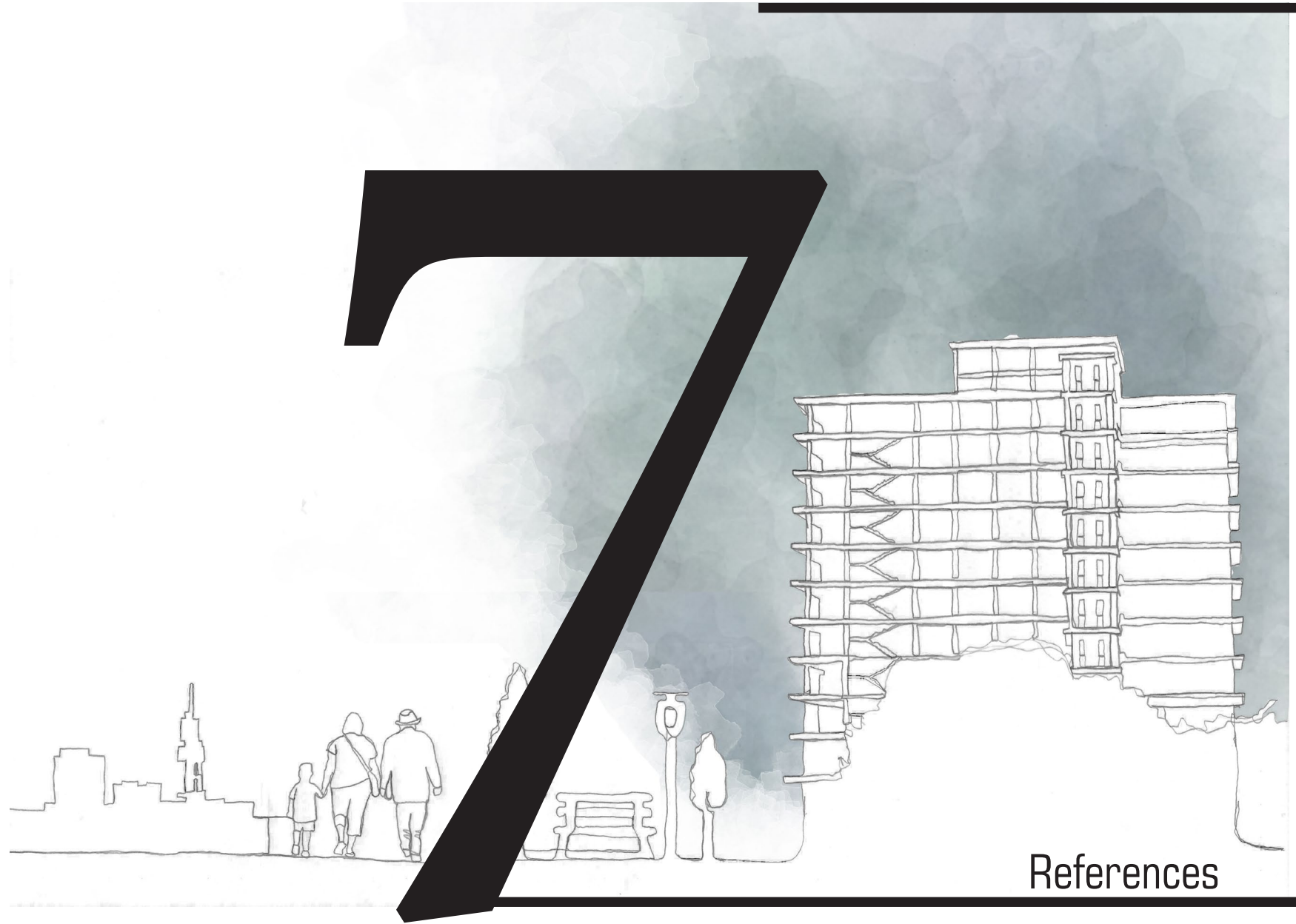
The design proposal's focus on the design language and building identity emphasises the place-sensitive approach to the project, by responding to the building itself, the users and its immediate environment. Combined with the theoretical

support of guidelines, this approach can be applied to various other buildings in the city. The technical investigation's focus on creating a highly inclusive environment emphasised the importance of all residents in the building to be able to use the amenities and public spaces to function as equal members of the community.

The research and proposed intervention has served to develop a new typology for social housing, through the adaptive re-use of an urban building. The use of interior public spaces created shared public spaces that with the support of public space theories encourage community involvement, and create a sense of place through encouraging acts of appropriation and attachment.

A recommendation for further study would be the investigation of extending the principles of the public spaces into the units themselves, to provide personalised and inclusive private environments to the residents. The challenge would be to create a balanced approach to permanent interventions that could also be changed with little impact on the environment if the market or user needs change.

Further study should also be done by applying the guidelines and approaches outlined in this study to other buildings, as proposed. Through experimenting and testing the theories set out in this proposal, a deeper understanding should be reached in order to develop projects that are as socially sustainable and responsible as possible.



References

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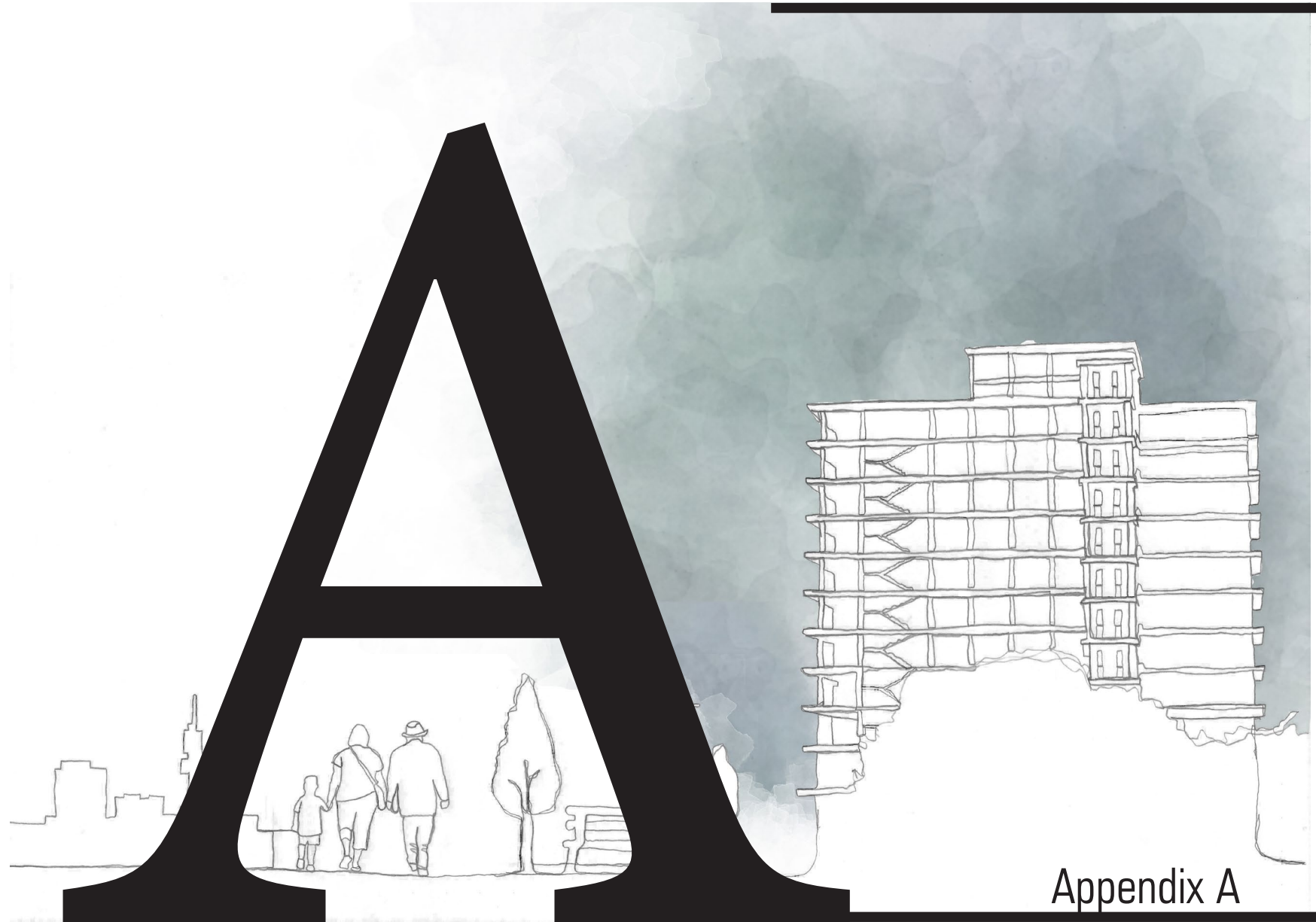
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Appendix A

Social housing with interior public spaces

Guideline	Poor	Below Ex- pectations	Acceptable	Exceeds Ex- pectations	Outstanding
Entrance from the street					
Transition from street to building should have clearly articulated threshold (symbolic or physical), while not hampering contact with the outside world, they should indicate degrees of right to access (Alexander et al 1977:548-552; Gehl 1987:63; Newman 1972:63).					
The entrance to the building should be clearly articulated so that it is easily distinguished as such, regardless of where the user approaches (Alexander et al 1977:540-544).					
The natural traffic of cars and other pedestrians should not be prohibited or hampered, in order to provide the entrance with continued passive surveillance (Newman 1972:25,33).					
The grounds around a high-rise buildings should be spatially defined to indicate it as part of the building's territory, and to reinforce the building as a private space, only for use by the residents (Newman 1972:53-54).					
Surveillance of the entrance should be encouraged. This allows users to establish the level of safety within the building and surrounding street, as well as encourage involvement with passers-by on the street from inside the building (Gehl 1987:11-15,25; Newman 1972:8).					
Entrance Area					
Views looking out onto the entrance are essential – for security and for the acknowledgement of visitors (Alexander et al 1977:622-626).					
Maintain the privacy of the residents beyond (Newman 1972:87).					
Passers-by should be able to see routine activities taking place in the entrance area, e.g. getting the post or waiting for the lift (Newman 1972:87).					

Guideline	Poor	Below Ex- pectations	Acceptable	Exceeds Ex- pectations	Outstanding
Vertical circulation					
Stairs are visible from the outside street, especially when lit at night (Newman 1972:91).					
Stairs are accessed directly from the public spaces or shared circulation (Alexander et al 1977:740-744)					
Those using the stairs are visible from inside the building (Alexander et al 1977:740-744).					
Paths					
The building as a whole should be easy to navigate, especially for those living there. Navigation can be eased by creating a nested system of realms, where a larger public space leads to a series of smaller spaces. The following applies: (1) Each space should have a main circulation space that opens directly from the entrance into that area. (2) Entrances to any spaces must open directly onto the circulation space of the next larger realms. (3) Each space should have a clearly defined beginning and end and a name					
Each of these spaces are accessed through an entrance, they should be handled in one of the following manners: (a) All to be visible from one point of entry, (b) Laid out to provide a series of entry points, each following point visible from a previous point, or (c) Lay them out to form a cluster, and each can be differentiated from the next. (Alexander et al 1977:480-484,499-502)					
The path shape should be defined by the functions/buildings bordering the path (Gehl 1987:95,97).					
Public activities alongside the path must be visible from the path to provide intensity and invite interaction (Gehl 1987:95,97).					
Frequent activities within the home (such as the kitchen or dining area) must be placed in areas that overlook the path for casual surveillance (Newman 1977:91).					
Windows from the units into the circulation area allows from cross-ventilation (Newman 1977:93).					
The routes from private to public spaces or from public space to public space are influential in generating activity in each of these spaces. Routes between public spaces should be as direct as possible (Alexander et al 1977:585-588, Gehl 1987:117). Paths should lead in the general direction of the following public space/destination, with goals and landmarks along the route (Gehl 1987:139,143).					

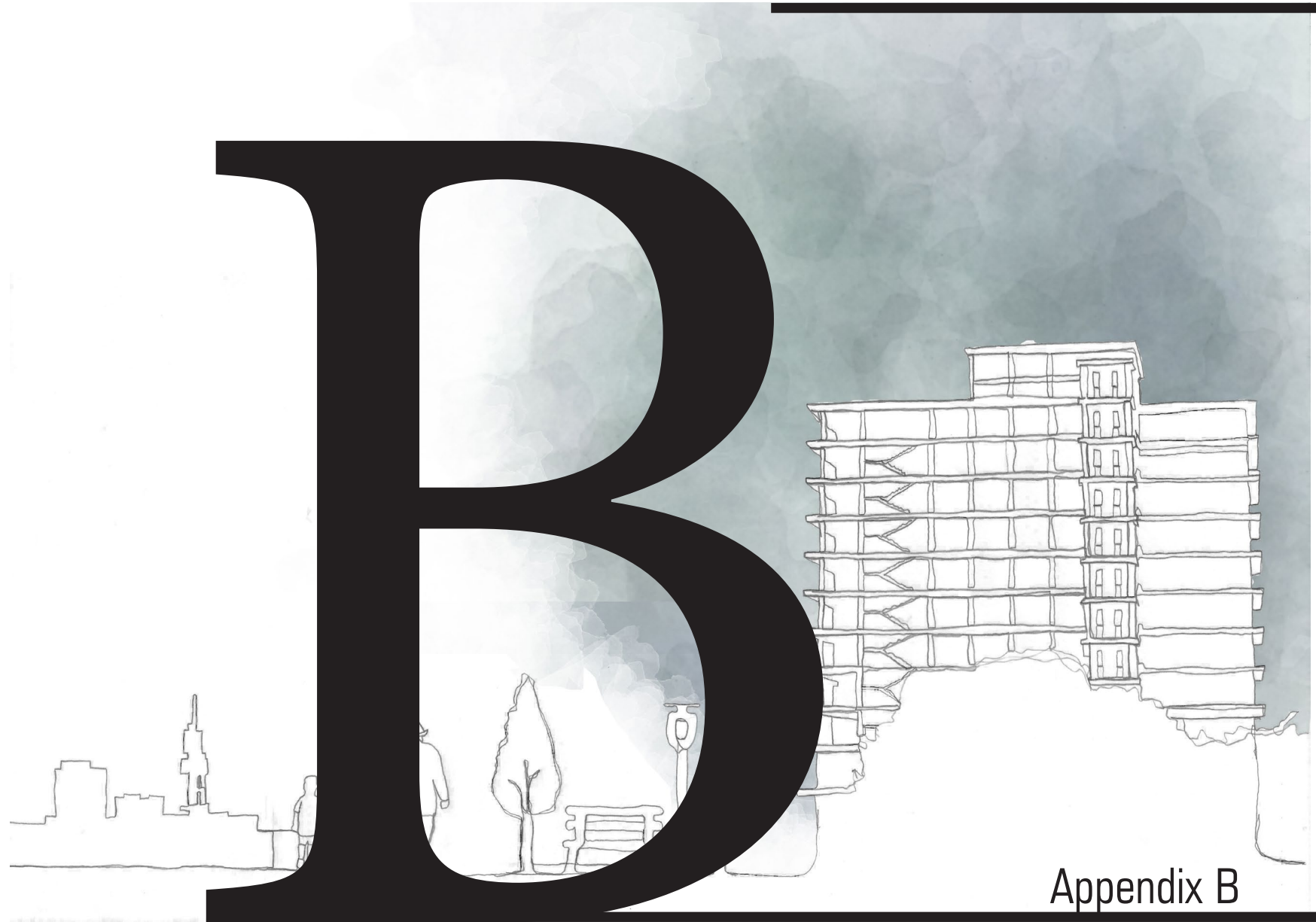
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Guideline	Poor	Below Ex- pectations	Acceptable	Exceeds Ex- pectations	Outstanding
Public functions should never be more than a couple hundred meters apart (Alexander et al 1977:585-588, Gehl 1987:117). To indicate where users can linger or should move through quickly, the path must either widen or become narrower, respectively. The path width must consider the intensity of the flow of pedestrians and not dissipate the activity (Alexander et al 1977:589-592, Gehl 1987:135).					
Small scale resting areas originate around nuclei such as niches, columns, lamps, or formal seating. The provision of these prevent these areas from appearing desolate (Gehl 1987:153,155).					
Paths leading into large public spaces should be placed along the edge of these spaces. This allows the user to appreciate the large open space while still being in contact with the detail and stimulation of the façade (Gehl 1987:144).					
Public Spaces					
A small public space should not be more than 13 to 18 meters across, which is the ideal width where voices are audible and faces recognisable. The total floor space should be between 14P-28P, P as the number of people typically expected to be in the space (Alexander et al 1977:310-314; Gehl 1987:93).					
Functional activities such as laundry areas and necessary functions related should be placed along the edges of small public squares, in order to create an area of higher use intensity and ensures these areas are always surrounded by activity.					
Pedestrian movement should move through nodes of activity to provide continued casual surveillance.					
Public spaces should draw together main paths, keep the activity concentrated, contain activities with a symbiotic relationship, and be spread across the whole community.					
Public spaces should balance the definition of specific activities within, with the provision of space to allow unplanned activities to occur (Alexander et al 1977:348-352,517-523).					
Public spaces must be defined by the surrounding activities, with articulated edges that create protected areas for lingering (Alexander et al 1977:348-352,517-523).					
Public spaces must allow users to engage in group activities, or in individual activities within the same space (Gehl 1987:109).					
People prefer sitting with their backs to something, their gaze oriented to a view or activity. Create a sequence of views and open spaces, where each open space looks out onto a larger space – allowing for a balance between viewing something else and providing a “back” to the space (Alexander et al 1977:557-560,599-602).					

Guideline	Poor	Below Ex- pectations	Acceptable	Exceeds Ex- pectations	Outstanding
Place activity pockets around the public spaces, in order to locate places for staying around the edges, and to create activity that people can watch (Alexander et al 1977:557-560,599-602).					
Create stair seats along the edges of public spaces, so that users are low enough to place people in the activity range, or high to have a vantage point over all the activity in the space (Alexander et al 1977:603-605).					
In larger spaces, provide something roughly in the middle of the space, so that when the edges are oversaturated with activity, a secondary nucleus can form around an object (Alexander et al 1977:606-608).					
Users must pass through the public spaces on their way into or out of the building, or on the way from the entrance towards the more private spaces, allowing them to linger if something catches their attention (Gehl 1987:123).					
Public spaces must be at the centre of gravity of the building and equally accessible to all (Gehl 1987:123).					
Public spaces must give users something to do – sit, eat, venture outside, have a discussion (Alexander et al 1977:617-621,773-776, Gehl 1987:123).					
If exposure is the main driver for the success of the space, allow users to move through and become a part of the activity (Alexander et al 1977:773-776).					
"The quality of experiencing a large space is greatly enriched when the approach occurs through a small space" (Gehl 1987:143).					
Create areas where users feel comfortable to stay for longer periods of time, which increases the users' chances of chance encounters, initiating social contact or becoming part of activities already occurring in the space.					
Apply a graded transition of private to public when entering the public spaces, creating a smooth transition with minimal effort from the users' approach.					
Ensure the transitional areas between spaces accommodate lingering, providing enough space for this to occur without influencing the traffic to and from the public spaces.					
Ensure that transitional areas provide sufficient views into both adjoining spaces.					
Seating in public spaces must be provided along the edges, and be considerate of the spatial and functional qualities such as the views, activities, sun, wind, etc.					
Different types of seating should be provided for different stays – stair seats for short stays, benches with backs for longer stays.					

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Guideline	Poor	Below Ex- pectations	Acceptable	Exceeds Ex- pectations	Outstanding
Public to Private Transition					
The transition between the public and private spaces of a building should be gradual yet defined – both for security and experience purposes.					
Users are provided with a choice between living close to or further away from public activity					
Users are provided with specific, defined zones of influence outside their homes.					
Place areas that are most active/public within the unit itself, close to the entrance or directly adjacent to the entrance to the unit. This allows users to transition into the more public areas outside their units with greater ease.					
Provide areas for lingering outside the unit, preferably with a dedicated function					
Allow for views from the unit's interior and other public activities onto the public spaces such as paths, squares, and activities – both to serve as an invitation to participate and as a method of passive surveillance.					
Allow users to share a clearly delineated intermediate public space with another units/users, to enhance the feeling of territoriality and responsibility. Users must be able to look out into these spaces, as well as the larger public spaces beyond.					
Public spaces should be divided into different areas of influence – building, floor, groups of units, specific units. Each public space must have specific groups or persons responsible for each (Gehl 1987:199; Newman 1972:50).					
To enhance the barriers and definition of the various zones of influence, barriers should be created, either physical or symbolic.					
The barriers must be well-defined, surveyed, and leave a low tolerance for ambiguity (Gehl 1987:63; Newman 1972:63-64).					



Appendix B

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Requirements/Guidelines	Complies (x)	Comments
Entrance from the street		
The entrance to the building should be within 40m of the street (Newman 1972:83).		
From street level, there must be a clear line of sight to either the secondary access door, main vertical circulation, or to the first point of contact for information - preferably a manned reception counter (Newman 1972:83).		
The entrance shall have an overhang of at least 1200 mm on the exterior of the building to provide a sheltered waiting area (Nussbaumer 2012:110)		
A minimum of 1550x1500 mm level, clear space shall be provided on the outside of the building to serve as a waiting area (Nussbaumer 2012:110)		
The access doors shall be automatic, movement activated sliding doors. Where doors cannot be automatic sliding doors, they shall be fitted with a door closer that does not require more than 25 Newtons of power exerted by a user to open.		
The clear opening width of the doorway or access point shall not be less than 900 mm.		
The access route from the street to the main entrance of the building shall be fully accessible. It must: Have a clear, trafficable surface width of at least 1200 mm Have a non-slip surface finish in both dry and wet weather conditions Where a level change is required, a gentle slope or ramp with a maximum incline of 1:15, but preferably of 1:20 shall be provided Have a general illuminance of not less than 200 lux on the walking surface. Be provided with a tactile warning strip before any barriers such as entrance doors or level changes Be provided with a handrail according (see requirements below) on both sides of the main access path		
Entrance lobby and reception		
There shall be a level, clear, unobstructed space of 1550 x 1550 mm directly inside the entrance point/door: allowing users to step aside, if needed, or pause to orientate themselves without obstructing others entering or exiting the building (Nussbaumer 2012:110).		
All directional signage shall be visible and readable being sized, oriented and designed to be viewed from this primary viewing angle. These include signs indicating lifts, stairs, principal circulation routes, WCs, and reception desk/information panels.		

<p>Where space permits, there shall be a reception counter that complies to all of the following:</p> <p>Counters should be located away from large sources of noises such as entrance doors, or large gathering spaces</p> <p>Counters should not be located directly in front of exterior windows where faces can be silhouetted</p> <p>Backgrounds which are pattern-heavy or reflective surfaces should be avoided</p> <p>There shall be a clear manoeuvring space on either side of the counter. This space shall be 1800x1200 mm</p> <p>As far as possible, both the visitor and staff member serving them should be on the same floor level</p> <p>Counters should be provided at 950-1100 mm for standing use.</p> <p>A section of minimum 1000mm long counter should be dropped to 760mm AFFL with 700mm AFFL space underneath to allow for leg-room.</p> <p>Knee recesses should be 500 mm on the customer side, and 650 mm deep on staff side</p> <p>Counter depth, where an allowance has been made for wheelchair use, should be at least 700 mm</p> <p>There should be a colour contrast between the counter surface, edgings, and adjacent wall and floor surfaces</p> <p>All counter edges are rounded</p> <p>In the case of an enclosed reception desk, a fully openable section of glazing should be provided to allow for ease of communication. If this is not possible, a voice amplification system shall be installed</p> <p>Lighting should be designed to adequately light both the staff members' and customer/visitor's face to enable lip-reading</p> <p>Staff to have access to controls that control glare, direct sun and minimises direct and indirect glare</p> <p>Artificial light controls are within reach and operable from a wheelchair, and operable with a closed fist or open hand</p> <p>Provision to be made for artificial task lighting for staff</p>		
<p>All routes to amenities and other functions from the entrance area shall have a clear, unobstructed width of at least 1200 mm</p>		
<p>Seating should be provided in a designated waiting area. This seating shall:</p> <p>Access to seating should be direct and unobstructed</p> <p>All seating should be on a level ground or floor surface</p> <p>A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep</p> <p>There shall always be seats with backs available</p> <p>Seating in reception areas shall have cushioned seating</p> <p>Seating should visually contrast with the surrounding surfaces</p>		
<p>Vertical Circulation</p>		
<p>All changes in level shall have a handrail on both sides of the level change</p>		

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Ramps will have an incline of maximum 1:15, with an optimal incline of 1:20		
Ramps will not have a trafficable width less than 1100 mm		
Ramps will have a level landing at the top and bottom of 1,2m at the top and bottom in length and with a width not less than that of the ramp		
Ramps will have a central rail if the width of the ramp is more than 2400 mm		
All stairways will have a minimum width of 900 mm, with an optimal width of 1200 mm		
All stair treads to have a maximum riser of 170 mm, and a minimum tread of 250 mm		
The tread and riser of stairways shall be of contrasting colours		
All stairways shall have solid risers		
All stairways shall have contrasting nosings of 40 mm depth, and be inset from the edge by 10 mm		
Maximum height of flight of stairs not more than 1530 mm		
Landing serving two flights of stairs in a straight line at least 1,1 m long		
There is to be no lip or overhang on any stair, as they would create tripping hazards		
Tactile warning strips should be placed at the beginning and end of every level change		
<p>All handrails to comply to the following regulations:</p> <ul style="list-style-type: none"> • Handrails have an elliptical gripping surface of at least 50 mm wide and 40 mm deep, or a circular profile not less than 35 mm or more than 50 mm • Height to top of railing is between 900 to 1000 mm AFFL and is consistent along length of stairway or ramp • Handrails to be securely fixed and rigid • Surface free of abrasive and sharp elements • Clear width of 60 mm between handrail and adjacent wall • Handrails extend 300 mm horizontally beyond top and bottom of the ramp or stairway and returns to supporting structure or is finished with a positive return • Handrails are continuous across landings where they don't create a hazard • Handrails supported centrally from below not less than 50 mm between the underside of the handrail and the top of the support 		

At least one accessible lift shall be included in all buildings over 1 storey		
<p>An accessible lift shall comply to the following:</p> <ul style="list-style-type: none"> • The lift shall be large enough to accommodate a wheelchair and provide access to main foyer/lobby, entrance, main circulation corridor and other public areas • Call buttons should be within reach and visible to all users. • Call buttons should give positive feedback both in visual (lighting) and audible forms • At each landing station there must be a clear circulation space of 1550 x 1550 mm • The control buttons must be located in a contrasting panel, which contrasts with the surrounding wall • Pushbuttons should be around 20-30 mm in width • Button legends must be raised at least 1 mm from the face of the button to give tactile representation of numeral or include Braille • Minimum numeral height should be 15 mm and 3 mm wide 		
Horizontal circulation		
All paths of travel to have a general lighting level of 200 lux		
All general circulation paths to have a minimum clear trafficable width of 1200 mm, but preferably 1500 mm. This will be wide enough to allow wheelchair users to make 90° turns into a doorway or opening with a clear opening width of 750 mm, i.e. 1200 mm		
Where walking surfaces are less than 1500 mm, passing spaces shall be provided at every 5000 mm. Passing spaces shall be 1550x1550 mm in size.		
No revolving doors, gates and turnstiles shall form part of an accessible route		
Pause spaces with suitable seating shall be provided adjacent to paths at 25 m intervals		
Accessible routes are free of obstructions reducing the clear width of route		
Hanging elements/objects that protrude into circulation spaces have a clearance of 2 m above trafficable surface		
No windows or doors will open across walkway, corridor, stair or ramp		
<p>Wall-mounted fire-extinguishers, hose reels, telephones, letter bins and other wall mounted fittings:</p> <ul style="list-style-type: none"> • Can be easily seen • Are shielded or recessed to prevent injuries • Have a feature warning persons using a cane or stick of potential hazard 		

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All paths to have stable and firm floor finishes		
All walking surfaces to be smooth and level		
All surfaces to be hard and resilient, and should have non-slip surfaces		
Carpet, carpet tiles and all finishes to be securely attached and level across all types of pile		
Pile height of carpets do not exceed 3 mm		
Openings in floor finish or ground surface do not exceed 13 mm in diameter, or are placed perpendicular to path of travel if larger than 13 mm in diameter		
Vertical change in level between surfaces do not exceed 5 mm in height		
Cobbles, gravel sand and other raised or loose finishes do not form part of accessible route		
All paths and surrounding environment to have colour contrast between wall and floor, and wall and ceiling		
Public Spaces		
<p>Laundry areas must apply to the following requirements:</p> <ul style="list-style-type: none"> • All machines must be front-loading to reduce the need to stoop or lean over • All controls to be on the front of the appliance for ease of access • All machines to be placed on pedestals of 250-300mm to allow appliances to be operated from a seated position or a non-bent stance • There should be a clear space of 1200 mm across the full width in front of the washer and dryer that also extends 500 mm beyond the right and left sides to provide easier access from a seated position • Working surfaces must have a lighting level of 500 lux 		
Seating must be provided within 5 m of amenities, such as water fountains, public telephones, waste receptacles, restrooms, laundry areas		
All amenities must be fully accessible by either providing facilities at heights accessible from a seated position, or be provided in facilities of various heights		
Amenities should be indicated clearly with signage		
General lighting level to be 500 lux		

<p>There shall be seating provided in public spaces. This seating shall comply to the following:</p> <ul style="list-style-type: none"> • Access to seating should be direct and unobstructed • All seating should be on a level ground or floor surface • A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep • There shall always be seats with backs available • Seating in reception areas shall have cushioned seating • Seating should visually contrast with the surrounding surfaces • Seating with armrests shall be provided 		
A wheelchair turning circle of 1550 mm shall serve as a benchmark for open areas in the public spaces		
There shall be a strong contrast between freestanding elements and the adjacent floor finish		
There shall be a strong contrast between the floor and wall finishes, and wall and ceiling finishes		
Signage shall indicate the entrance to the public space from the main circulation area		
Signage shall indicate the exit to the main circulation area and be visible throughout the public space		
Where dedicated activities/functions such as a play area is located within a public space, the edges of this space shall be indicated with a tactile warning strip on the floor and adjacent walls, where applicable		
The ambient noise levels will not be more than 45 dB in public spaces.		
The signal to noise ratio of all public spaces shall be equal to or less than 15 dB		
Barriers such as walls, columns and entrances shall be indicated with a tactile warning strip on the floor, and, where applicable, on an uninterrupted wall surface. The tactile warning shall not create a tripping hazard. The manner of application, placement distances from obstacles and finish shall be consistent throughout the whole building.		

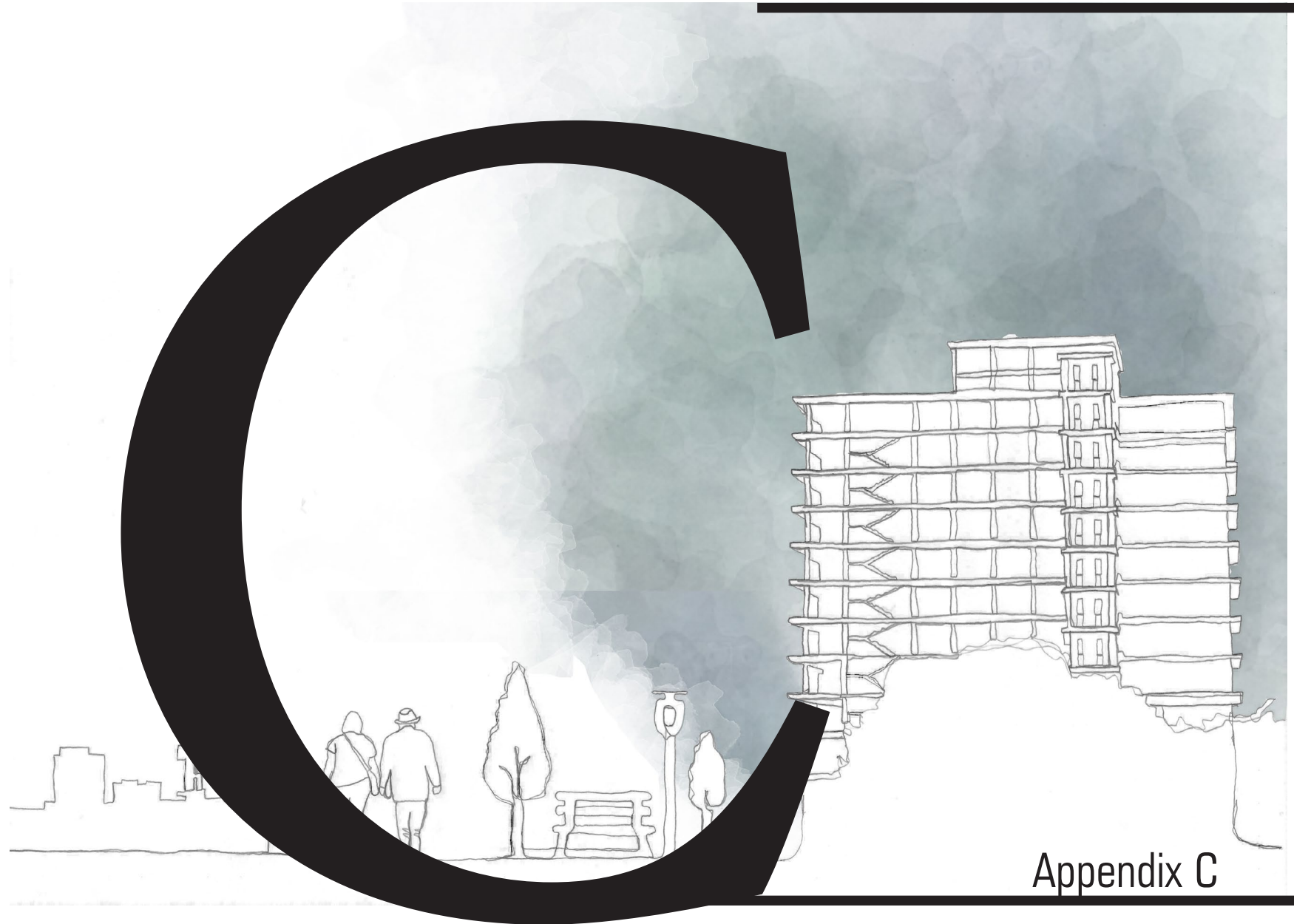
Social housing with interior public spaces

<p>Study rooms shall comply to the following:</p> <ul style="list-style-type: none"> • Provide seating with and without armrests • Provide seating of adjustable height • Provide desks at a height of 760 mm AFFL • Provide a general lighting level of 500 lux on working surfaces • Provide stations with dedicated task lighting • Wall finishes which are pattern-heavy should be avoided • Some walls can be finished with moderately reflective surfaces to allow hearing impaired users to see people approaching from the back • Meeting tables shall have a depth of 650 mm for wheelchair use • The maximum ambient noise level must be less than 45 dB 		
<h3>Signage</h3>		
<p>International symbol for access for specific inclusive facilities located at:</p> <ul style="list-style-type: none"> • Main entrance • Suitable positions en route towards these facilities • Symbol not less than 110 mm in height • Sign in clear, visible and tactile format <p>Signs indicating direction and name of accessible facility must have:</p> <ul style="list-style-type: none"> • Incorporation of international symbol • Lettering not less than 50 mm • Lettering size increased accordingly for viewing distances larger than 10 m 		
<p>Signage next to doors or on walls located at level of 1,4 – 1,7 m AFFL on the latch side of the door</p>		
<p>Signage indicating amenities must be between 1,4-1,7 m AFFL with tactile, with lettering raised 2 mm above the surface</p>		
<p>Marks and signs must comply with the requirements set out in SANS 1186-1</p>		
<p>Signs to be lit at 50 lux above the surrounding environment to ensure target value</p>		
<p>All signs with lettering must have a combination of upper- and lowercase lettering</p>		

The font should be of such a ratio that the height of the lowercase letter 'x' is 75% of the height of the capital letter		
Internal signs must be at least 25 mm capital height, with directional signs to be at least 37 mm (capital height) for a viewing distance of 5 m.		
External signs must be a minimum of 75 mm capital height for directional signs.		
All signs must have surface finishes that are low-gloss in nature		
Signs must have a high target value, which is achieved by ensuring high contrast between the lettering and background		
The contrast between the sign and its background must have a high target value. This can also be achieved by placing a contrasting border around the applicable sign		
Directional signs with arrows, must be justified to the side of the direction of the arrow. I.e. left pointing arrows and text to be flush left and be displayed first, and for right-pointing arrows and text to be displayed next and flush right. Where text and arrows indicate a direction straight ahead, they should be placed at the top and arrows to be placed on both sides pointing straight on		
All directional signs within the building must be placed at a consistent height		
Lower placement band for tactile signs to be at 1300-1600 mm AFFL		
All lift and stair floor signs should have 100 mm high lettering indicating the floor number on sign, and top of sign at 1600 mm AFFL		
Braille shall be applied to large information signs that are within reach, at central and key points of the building. All other signs to have only raised lettering		
A tactile map should be provided at the entrance area of the building to help users orient themselves before entering the main building		
Symbols are used as far as possible, and supplemented with text		
All glazing and glazed doors must have markings at 1600 mm AFFL (eye-level)		
Egress		
Emergency warning signals, such as smoke detection, fire alarms and evacuation signals, need to be both audible and visible.		
Where a fire safe lift is present, it must be clearly indicated with signage		

Social housing with interior public spaces

<p>The provision of emergency exits as well as the design of these routes must comply with the SANS 10400 Part T: Fire Protection. All fire escape designs and applications must be approved by a fire design specialist.</p>		
<p>A fire hose will be provided for every 500 m² of floor surface, or part thereof. The placement and design of these elements shall strictly comply to all regulations set out above with regards to obstacles in the main route of travel.</p>		
<p>In buildings over 3 storeys, an Evac-chair shall be provided for each fire escape and clearly indicated with signage indicating the location of the chair. For buildings of 5 storeys or more, 2 additional chairs shall be added per 5 storeys.</p>		
<p>Each fire escape shall have a refugee area where a person with a disability can wait out of the way of traffic for assistance, with signage clearly indicating that the fire escape is accessible. The evac-chair must be visible from this area to allow users in need of assistance can point it out and ask for assistance.</p>		



Appendix C

Social housing with interior public spaces

Requirements/Guidelines	Complies (x)	Comments
Entrance from the street	2/7	
The entrance to the building should be within 40m of the street (Newman 1972:83).	X	
From street level, there must be a clear line of sight to either the secondary access door, main vertical circulation, or to the first point of contact for information - preferably a manned reception counter (Newman 1972:83).	X	
The entrance shall have an overhang of at least 1200 mm on the exterior of the building to provide a sheltered waiting area (Nussbaumer 2012:110)		
A minimum of 1550x1500 mm level, clear space shall be provided on the outside of the building to serve as a waiting area (Nussbaumer 2012:110)		
The access doors shall be automatic, movement activated sliding doors. Where doors cannot be automatic sliding doors, they shall be fitted with a door closer that does not require more than 25 Newtons of power exerted by a user to open.		
The clear opening width of the doorway or access point shall not be less than 900 mm.		
The access route from the street to the main entrance of the building shall be fully accessible. It must: <ul style="list-style-type: none"> • Have a clear, trafficable surface width of at least 1200 mm • Have a non-slip surface finish in both dry and wet weather conditions • Where a level change is required, a gentle slope or ramp with a maximum incline of 1:15, but preferably of 1:20 shall be provided • Have a general illuminance of not less than 200 lux on the walking surface. • Be provided with a tactile warning strip before any barriers such as entrance doors or level changes • Be provided with a handrail according (see requirements below) on both sides of the main access path 		
Entrance lobby and reception	1/7	
There shall be a level, clear, unobstructed space of 1550 x 1550 mm directly inside the entrance point/door: allowing users to step aside, if needed, or pause to orientate themselves without obstructing others entering or exiting the building (Nussbaumer 2012:110).		
All directional signage shall be visible and readable being sized, oriented and designed to be viewed from this primary viewing angle. These include signs indicating lifts, stairs, principal circulation routes, WCs, and reception desk/information panels.		

<p>Where space permits, there shall be a reception counter that complies to all of the following:</p> <ul style="list-style-type: none"> Counters should be located away from large sources of noises such as entrance doors, or large gathering spaces Counters should not be located directly in front of exterior windows where faces can be silhouetted Backgrounds which are pattern-heavy or reflective surfaces should be avoided There shall be a clear manoeuvring space on either side of the counter. This space shall be 1800x1200 mm As far as possible, both the visitor and staff member serving them should be on the same floor level Counters should be provided at 950-1100 mm for standing use. A section of minimum 1000mm long counter should be dropped to 760mm AFFL with 700mm AFFL space underneath to allow for leg-room. Knee recesses should be 500 mm on the customer side, and 650 mm deep on staff side Counter depth, where an allowance has been made for wheelchair use, should be at least 700 mm There should be a colour contrast between the counter surface, edgings, and adjacent wall and floor surfaces All counter edges are rounded In the case of an enclosed reception desk, a fully openable section of glazing should be provided to allow for ease of communication. If this is not possible, a voice amplification system shall be installed Lighting should be designed to adequately light both the staff members' and customer/visitor's face to enable lip-reading Staff to have access to controls that control glare, direct sun and minimises direct and indirect glare Artificial light controls are within reach and operable from a wheelchair, and operable with a closed fist or open hand Provision to be made for artificial task lighting for staff 		
<p>All routes to amenities and other functions from the entrance area shall have a clear, unobstructed width of at least 1200 mm</p>	X	
<p>Seating should be provided in a designated waiting area. This seating shall:</p> <ul style="list-style-type: none"> Access to seating should be direct and unobstructed All seating should be on a level ground or floor surface A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep There shall always be seats with backs available Seating in reception areas shall have cushioned seating Seating should visually contrast with the surrounding surfaces 		
<p>Vertical Circulation</p>	6/15	
<p>All changes in level shall have a handrail on both sides of the level change</p>	X	

Social housing with interior public spaces

Ramps will have an incline of maximum 1:15, with an optimal incline of 1:20	X	
Ramps will not have a trafficable width less than 1100 mm		
Ramps will have a level landing at the top and bottom of 1,2m at the top and bottom in length and with a width not less than that of the ramp		
Ramps will have a central rail if the width of the ramp is more than 2400 mm	N/A	
All stairways will have a minimum width of 900 mm, with an optimal width of 1200 mm	X	
All stair treads to have a maximum riser of 170 mm, and a minimum tread of 250 mm	X	
The tread and riser of stairways shall be of contrasting colours		
All stairways shall have solid risers	X	
All stairways shall have contrasting nosings of 40 mm depth, and be inset from the edge by 10 mm		
Maximum height of flight of stairs not more than 1530 mm	X	
Landing serving two flights of stairs in a straight line at least 1,1 m long	N/A	
There is to be no lip or overhang on any stair, as they would create tripping hazards	N/A	
Tactile warning strips should be placed at the beginning and end of every level change		
<p>All handrails to comply to the following regulations:</p> <ul style="list-style-type: none"> • Handrails have an elliptical gripping surface of at least 50 mm wide and 40 mm deep, or a circular profile not less than 35 mm or more than 50 mm • Height to top of railing is between 900 to 1000 mm AFFL and is consistent along length of stairway or ramp • Handrails to be securely fixed and rigid • Surface free of abrasive and sharp elements • Clear width of 60 mm between handrail and adjacent wall • Handrails extend 300 mm horizontally beyond top and bottom of the ramp or stairway and returns to supporting structure or is finished with a positive return • Handrails are continuous across landings where they don't create a hazard • Handrails supported centrally from below not less than 50 mm between the underside of the handrail and the top of the support 		TO BE REFURBISHED

At least one accessible lift shall be included in all buildings over 1 storey		
<p>An accessible lift shall comply to the following:</p> <ul style="list-style-type: none"> The lift shall be large enough to accommodate a wheelchair and provide access to main foyer/lobby, entrance, main circulation corridor and other public areas Call buttons should be within reach and visible to all users. Call buttons should give positive feedback both in visual (lighting) and audible forms At each landing station there must be a clear circulation space of 1550 x 1550 mm The control buttons must be located in a contrasting panel, which contrasts with the surrounding wall Pushbuttons should be around 20-30 mm in width Button legends must be raised at least 1 mm from the face of the button to give tactile representation of numeral or include Braille Minimum numeral height should be 15 mm and 3 mm wide 		
Horizontal circulation	13/19	
All paths of travel to have a general lighting level of 200 lux		
All general circulation paths to have a minimum clear trafficable width of 1200 mm, but preferably 1500 mm. This will be wide enough to allow wheelchair users to make 90° turns into a doorway or opening with a clear opening width of 750 mm, i.e. 1200 mm	X	
Where walking surfaces are less than 1500 mm, passing spaces shall be provided at every 5000 mm. Passing spaces shall be 1550x1550 mm in size.	X	
No revolving doors, gates and turnstiles shall form part of an accessible route	X	
Pause spaces with suitable seating shall be provided adjacent to paths at 25 m intervals		
Accessible routes are free of obstructions reducing the clear width of route	X	
Hanging elements/objects that protrude into circulation spaces have a clearance of 2 m above trafficable surface	X	
No windows or doors will open across walkway, corridor, stair or ramp	X	
<p>Wall-mounted fire-extinguishers, hose reels, telephones, letter bins and other wall mounted fittings:</p> <ul style="list-style-type: none"> Can be easily seen Are shielded or recessed to prevent injuries Have a feature warning persons using a cane or stick of potential hazard 		

Social housing with interior public spaces

All paths to have stable and firm floor finishes	X	
All walking surfaces to be smooth and level	X	
All surfaces to be hard and resilient, and should have non-slip surfaces	X	
Carpet, carpet tiles and all finishes to be securely attached and level across all types of pile	X	
Pile height of carpets do not exceed 3 mm	X	
Openings in floor finish or ground surface do not exceed 13 mm in diameter, or are placed perpendicular to path of travel if larger than 13 mm in diameter	X	
Vertical change in level between surfaces do not exceed 5 mm in height		
Cobbles, gravel sand and other raised or loose finishes do not form part of accessible route	X	
All paths and surrounding environment to have colour contrast between wall and floor, and wall and ceiling		
Public Spaces	3/16	
<p>Laundry areas must apply to the following requirements:</p> <ul style="list-style-type: none"> • All machines must be front-loading to reduce the need to stoop or lean over • All controls to be on the front of the appliance for ease of access • All machines to be placed on pedestals of 250-300mm to allow appliances to be operated from a seated position or a non-bent stance • There should be a clear space of 1200 mm across the full width in front of the washer and dryer that also extends 500 mm beyond the right and left sides to provide easier access from a seated position • Working surfaces must have a lighting level of 500 lux 		
Seating must be provided within 5 m of amenities, such as water fountains, public telephones, waste receptacles, restrooms, laundry areas	X	
All amenities must be fully accessible by either providing facilities at heights accessible from a seated position, or be provided in facilities of various heights		
Amenities should be indicated clearly with signage		
General lighting level to be 500 lux		

<p>There shall be seating provided in public spaces. This seating shall comply to the following:</p> <ul style="list-style-type: none"> • Access to seating should be direct and unobstructed • All seating should be on a level ground or floor surface • A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep • There shall always be seats with backs available • Seating in reception areas shall have cushioned seating • Seating should visually contrast with the surrounding surfaces • Seating with armrests shall be provided 		
A wheelchair turning circle of 1550 mm shall serve as a benchmark for open areas in the public spaces		
There shall be a strong contrast between freestanding elements and the adjacent floor finish	X	
There shall be a strong contrast between the floor and wall finishes, and wall and ceiling finishes	X	
Signage shall indicate the entrance to the public space from the main circulation area		
Signage shall indicate the exit to the main circulation area and be visible throughout the public space		
Where dedicated activities/functions such as a play area is located within a public space, the edges of this space shall be indicated with a tactile warning strip on the floor and adjacent walls, where applicable		
The ambient noise levels will not be more than 45 dB in public spaces.		
The signal to noise ratio of all public spaces shall be equal to or less than 15 dB		
Barriers such as walls, columns and entrances shall be indicated with a tactile warning strip on the floor, and, where applicable, on an uninterrupted wall surface. The tactile warning shall not create a tripping hazard. The manner of application, placement distances from obstacles and finish shall be consistent throughout the whole building.		

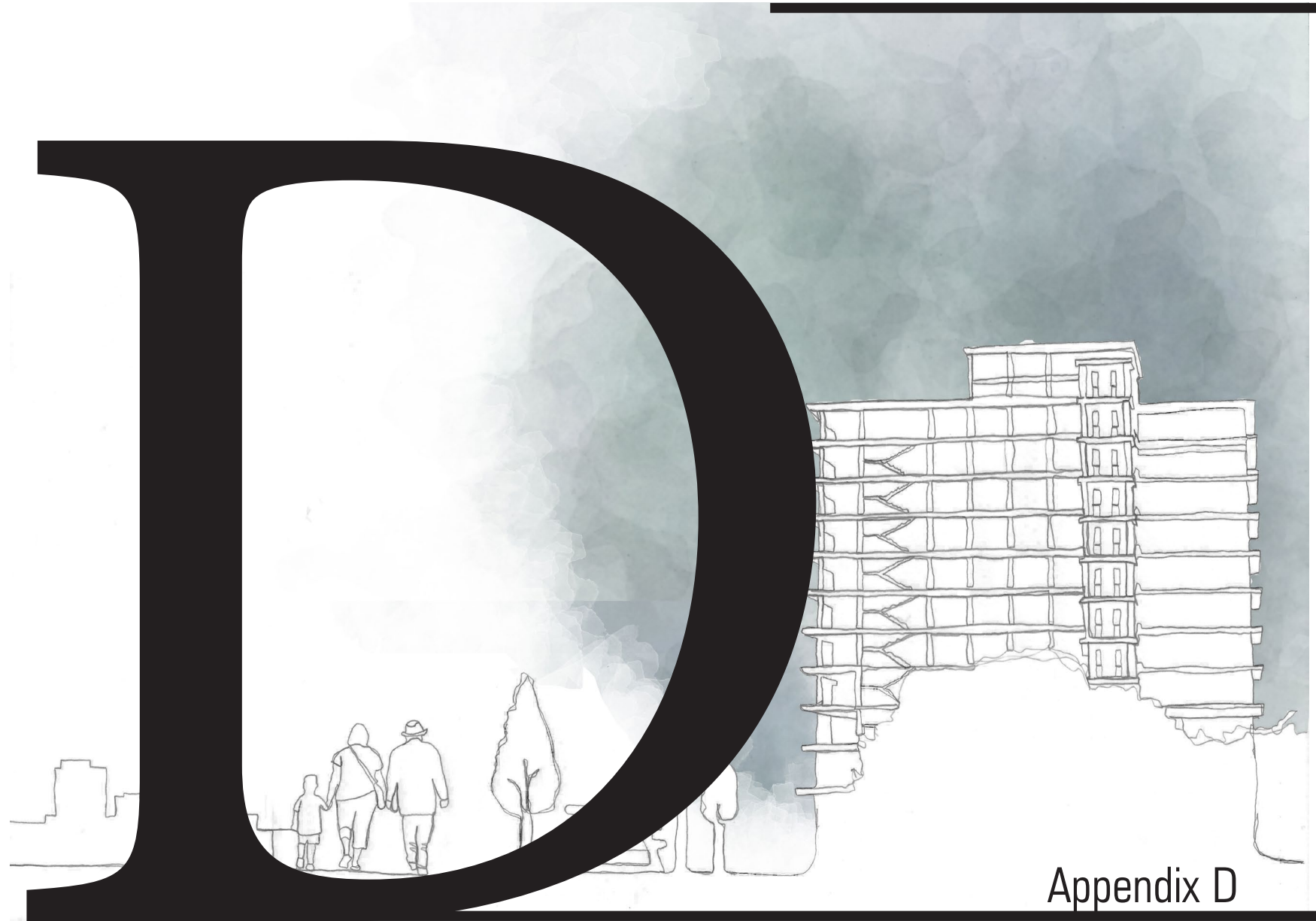
Social housing with interior public spaces

<p>Study rooms shall comply to the following:</p> <ul style="list-style-type: none"> • Provide seating with and without armrests • Provide seating of adjustable height • Provide desks at a height of 760 mm AFFL • Provide a general lighting level of 500 lux on working surfaces • Provide stations with dedicated task lighting • Wall finishes which are pattern-heavy should be avoided • Some walls can be finished with moderately reflective surfaces to allow hearing impaired users to see people approaching from the back • Meeting tables shall have a depth of 650 mm for wheelchair use • The maximum ambient noise level must be less than 45 dB 		
Signage	0/20	
<p>International symbol for access for specific inclusive facilities located at:</p> <ul style="list-style-type: none"> • Main entrance • Suitable positions en route towards these facilities • Symbol not less than 110 mm in height • Sign in clear, visible and tactile format <p>Signs indicating direction and name of accessible facility must have:</p> <ul style="list-style-type: none"> • Incorporation of international symbol • Lettering not less than 50 mm • Lettering size increased accordingly for viewing distances larger than 10 m 		
Signage next to doors or on walls located at level of 1,4 – 1,7 m AFFL on the latch side of the door		
Signage indicating amenities must be between 1,4-1,7 m AFFL with tactile, with lettering raised 2 mm above the surface		
Marks and signs must comply with the requirements set out in SANS 1186-1		
Signs to be lit at 50 lux above the surrounding environment to ensure target value		
All signs with lettering must have a combination of upper- and lowercase lettering		

The font should be of such a ratio that the height of the lowercase letter 'x' is 75% of the height of the capital letter		
Internal signs must be at least 25 mm capital height, with directional signs to be at least 37 mm (capital height) for a viewing distance of 5 m.		
External signs must be a minimum of 75 mm capital height for directional signs.		
All signs must have surface finishes that are low-gloss in nature		
Signs must have a high target value, which is achieved by ensuring high contrast between the lettering and background		
The contrast between the sign and its background must have a high target value. This can also be achieved by placing a contrasting border around the applicable sign		
Directional signs with arrows, must be justified to the side of the direction of the arrow. I.e. left pointing arrows and text to be flush left and be displayed first, and for right-pointing arrows and text to be displayed next and flush right. Where text and arrows indicate a direction straight ahead, they should be placed at the top and arrows to be placed on both sides pointing straight on		
All directional signs within the building must be placed at a consistent height		
Lower placement band for tactile signs to be at 1300-1600 mm AFFL		
All lift and stair floor signs should have 100 mm high lettering indicating the floor number on sign, and top of sign at 1600 mm AFFL		
Braille shall be applied to large information signs that are within reach, at central and key points of the building. All other signs to have only raised lettering		
A tactile map should be provided at the entrance area of the building to help users orient themselves before entering the main building		
Symbols are used as far as possible, and supplemented with text		
All glazing and glazed doors must have markings at 1600 mm AFFL (eye-level)		
Egress	1/5	
Emergency warning signals, such as smoke detection, fire alarms and evacuation signals, need to be both audible and visible.	X	
Where a fire safe lift is present, it must be clearly indicated with signage	N/A	

Social housing with interior public spaces

<p>The provision of emergency exits as well as the design of these routes must comply with the SANS 10400 Part T: Fire Protection. All fire escape designs and applications must be approved by a fire design specialist.</p>		
<p>A fire hose will be provided for every 500 m² of floor surface, or part thereof. The placement and design of these elements shall strictly comply to all regulations set out above with regards to obstacles in the main route of travel.</p>		
<p>In buildings over 3 storeys, an Evac-chair shall be provided for each fire escape and clearly indicated with signage indicating the location of the chair. For buildings of 5 storeys or more, 2 additional chairs shall be added per 5 storeys.</p>		
<p>Each fire escape shall have a refugee area where a person with a disability can wait out of the way of traffic for assistance, with signage clearly indicating that the fire escape is accessible. The evac-chair must be visible from this area to allow users in need of assistance can point it out and ask for assistance.</p>		



Appendix D

Social housing with interior public spaces

Requirements/Guidelines	Complies (x)	Comments
Entrance from the street	7/7	
The entrance to the building should be within 40m of the street (Newman 1972:83).	X	
From street level, there must be a clear line of sight to either the secondary access door, main vertical circulation, or to the first point of contact for information - preferably a manned reception counter (Newman 1972:83).	X	
The entrance shall have an overhang of at least 1200 mm on the exterior of the building to provide a sheltered waiting area (Nussbaumer 2012:110)	X	
A minimum of 1550x1500 mm level, clear space shall be provided on the outside of the building to serve as a waiting area (Nussbaumer 2012:110)	X	
The access doors shall be automatic, movement activated sliding doors. Where doors cannot be automatic sliding doors, they shall be fitted with a door closer that does not require more than 25 Newtons of power exerted by a user to open.	X	
The clear opening width of the doorway or access point shall not be less than 900 mm.	X	
The access route from the street to the main entrance of the building shall be fully accessible. It must: <ul style="list-style-type: none"> • Have a clear, trafficable surface width of at least 1200 mm • Have a non-slip surface finish in both dry and wet weather conditions • Where a level change is required, a gentle slope or ramp with a maximum incline of 1:15, but preferably of 1:20 shall be provided • Have a general illuminance of not less than 200 lux on the walking surface. • Be provided with a tactile warning strip before any barriers such as entrance doors or level changes • Be provided with a handrail according (see requirements below) on both sides of the main access path 	X	
Entrance lobby and reception	5/5	
There shall be a level, clear, unobstructed space of 1550 x 1550 mm directly inside the entrance point/door: allowing users to step aside, if needed, or pause to orientate themselves without obstructing others entering or exiting the building (Nussbaumer 2012:110).	X	
All directional signage shall be visible and readable being sized, oriented and designed to be viewed from this primary viewing angle. These include signs indicating lifts, stairs, principal circulation routes, WCs, and reception desk/information panels.		

<p>Where space permits, there shall be a reception counter that complies to all of the following:</p> <ul style="list-style-type: none"> Counters should be located away from large sources of noises such as entrance doors, or large gathering spaces Counters should not be located directly in front of exterior windows where faces can be silhouetted Backgrounds which are pattern-heavy or reflective surfaces should be avoided There shall be a clear manoeuvring space on either side of the counter. This space shall be 1800x1200 mm As far as possible, both the visitor and staff member serving them should be on the same floor level Counters should be provided at 950-1100 mm for standing use. A section of minimum 1000mm long counter should be dropped to 760mm AFFL with 700mm AFFL space underneath to allow for leg-room. Knee recesses should be 500 mm on the customer side, and 650 mm deep on staff side Counter depth, where an allowance has been made for wheelchair use, should be at least 700 mm There should be a colour contrast between the counter surface, edgings, and adjacent wall and floor surfaces All counter edges are rounded In the case of an enclosed reception desk, a fully openable section of glazing should be provided to allow for ease of communication. If this is not possible, a voice amplification system shall be installed Lighting should be designed to adequately light both the staff members' and customer/visitor's face to enable lip-reading Staff to have access to controls that control glare, direct sun and minimises direct and indirect glare Artificial light controls are within reach and operable from a wheelchair, and operable with a closed fist or open hand Provision to be made for artificial task lighting for staff 	X	
<p>All routes to amenities and other functions from the entrance area shall have a clear, unobstructed width of at least 1200 mm</p>	X	
<p>Seating should be provided in a designated waiting area. This seating shall:</p> <p>Access to seating should be direct and unobstructed</p> <p>All seating should be on a level ground or floor surface</p> <p>A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep</p> <p>There shall always be seats with backs available</p> <p>Seating in reception areas shall have cushioned seating</p> <p>Seating should visually contrast with the surrounding surfaces</p>	X	
<p>Vertical Circulation</p>	11/15	
<p>All changes in level shall have a handrail on both sides of the level change</p>	X	

Social housing with interior public spaces

Ramps will have an incline of maximum 1:15, with an optimal incline of 1:20	X	
Ramps will not have a trafficable width less than 1100 mm	X	
Ramps will have a level landing at the top and bottom of 1,2m at the top and bottom in length and with a width not less than that of the ramp	X	
Ramps will have a central rail if the width of the ramp is more than 2400 mm	N/A	
All stairways will have a minimum width of 900 mm, with an optimal width of 1200 mm	X	
All stair treads to have a maximum riser of 170 mm, and a minimum tread of 250 mm	X	
The tread and riser of stairways shall be of contrasting colours		
All stairways shall have solid risers	X	
All stairways shall have contrasting nosings of 40 mm depth, and be inset from the edge by 10 mm		
Maximum height of flight of stairs not more than 1530 mm	X	
Landing serving two flights of stairs in a straight line at least 1,1 m long	N/A	
There is to be no lip or overhang on any stair, as they would create tripping hazards		
Tactile warning strips should be placed at the beginning and end of every level change		
<p>All handrails to comply to the following regulations:</p> <ul style="list-style-type: none"> • Handrails have an elliptical gripping surface of at least 50 mm wide and 40 mm deep, or a circular profile not less than 35 mm or more than 50 mm • Height to top of railing is between 900 to 1000 mm AFFL and is consistent along length of stairway or ramp • Handrails to be securely fixed and rigid • Surface free of abrasive and sharp elements • Clear width of 60 mm between handrail and adjacent wall • Handrails extend 300 mm horizontally beyond top and bottom of the ramp or stairway and returns to supporting structure or is finished with a positive return • Handrails are continuous across landings where they don't create a hazard • Handrails supported centrally from below not less than 50 mm between the underside of the handrail and the top of the support 	X	

At least one accessible lift shall be included in all buildings over 1 storey	X	
An accessible lift shall comply to the following: <ul style="list-style-type: none"> The lift shall be large enough to accommodate a wheelchair and provide access to main foyer/lobby, entrance, main circulation corridor and other public areas Call buttons should be within reach and visible to all users. Call buttons should give positive feedback both in visual (lighting) and audible forms At each landing station there must be a clear circulation space of 1550 x 1550 mm The control buttons must be located in a contrasting panel, which contrasts with the surrounding wall Pushbuttons should be around 20-30 mm in width Button legends must be raised at least 1 mm from the face of the button to give tactile representation of numeral or include Braille Minimum numeral height should be 15 mm and 3 mm wide 	X	
Horizontal circulation	18/19	
All paths of travel to have a general lighting level of 200 lux	X	
All general circulation paths to have a minimum clear trafficable width of 1200 mm, but preferably 1500 mm. This will be wide enough to allow wheelchair users to make 90° turns into a doorway or opening with a clear opening width of 750 mm, i.e. 1200 mm	X	
Where walking surfaces are less than 1500 mm, passing spaces shall be provided at every 5000 mm. Passing spaces shall be 1550x1550 mm in size.	X	
No revolving doors, gates and turnstiles shall form part of an accessible route	X	
Pause spaces with suitable seating shall be provided adjacent to paths at 25 m intervals	X	
Accessible routes are free of obstructions reducing the clear width of route	X	
Hanging elements/objects that protrude into circulation spaces have a clearance of 2 m above trafficable surface	X	
No windows or doors will open across walkway, corridor, stair or ramp	X	
Wall-mounted fire-extinguishers, hose reels, telephones, letter bins and other wall mounted fittings: <ul style="list-style-type: none"> Can be easily seen Are shielded or recessed to prevent injuries Have a feature warning persons using a cane or stick of potential hazard 		

Social housing with interior public spaces

All paths to have stable and firm floor finishes	X	
All walking surfaces to be smooth and level	X	
All surfaces to be hard and resilient, and should have non-slip surfaces	X	
Carpet, carpet tiles and all finishes to be securely attached and level across all types of pile	X	
Pile height of carpets do not exceed 3 mm	X	
Openings in floor finish or ground surface do not exceed 13 mm in diameter, or are placed perpendicular to path of travel if larger than 13 mm in diameter	X	
Vertical change in level between surfaces do not exceed 5 mm in height	X	
Cobbles, gravel sand and other raised or loose finishes do not form part of accessible route	X	
All paths and surrounding environment to have colour contrast between wall and floor, and wall and ceiling	X	
Public Spaces	8/16	
<p>Laundry areas must apply to the following requirements:</p> <ul style="list-style-type: none"> • All machines must be front-loading to reduce the need to stoop or lean over • All controls to be on the front of the appliance for ease of access • All machines to be placed on pedestals of 250-300mm to allow appliances to be operated from a seated position or a non-bent stance • There should be a clear space of 1200 mm across the full width in front of the washer and dryer that also extends 500 mm beyond the right and left sides to provide easier access from a seated position • Working surfaces must have a lighting level of 500 lux 	X	
Seating must be provided within 5 m of amenities, such as water fountains, public telephones, waste receptacles, restrooms, laundry areas	X	
All amenities must be fully accessible by either providing facilities at heights accessible from a seated position, or be provided in facilities of various heights	X	
Amenities should be indicated clearly with signage		
General lighting level to be 500 lux		

<p>There shall be seating provided in public spaces. This seating shall comply to the following:</p> <ul style="list-style-type: none"> • Access to seating should be direct and unobstructed • All seating should be on a level ground or floor surface • A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep • There shall always be seats with backs available • Seating in reception areas shall have cushioned seating • Seating should visually contrast with the surrounding surfaces • Seating with armrests shall be provided 	X	
A wheelchair turning circle of 1550 mm shall serve as a benchmark for open areas in the public spaces	X	
There shall be a strong contrast between freestanding elements and the adjacent floor finish	X	
There shall be a strong contrast between the floor and wall finishes, and wall and ceiling finishes	X	
Signage shall indicate the entrance to the public space from the main circulation area		
Signage shall indicate the exit to the main circulation area and be visible throughout the public space		
Where dedicated activities/functions such as a play area is located within a public space, the edges of this space shall be indicated with a tactile warning strip on the floor and adjacent walls, where applicable	X	
The ambient noise levels will not be more than 45 dB in public spaces.		TO TEST
The signal to noise ratio of all public spaces shall be equal to or less than 15 dB		TO TEST
Barriers such as walls, columns and entrances shall be indicated with a tactile warning strip on the floor, and, where applicable, on an uninterrupted wall surface. The tactile warning shall not create a tripping hazard. The manner of application, placement distances from obstacles and finish shall be consistent throughout the whole building.		TO SPECIFY

Social housing with interior public spaces

<p>Study rooms shall comply to the following:</p> <ul style="list-style-type: none"> • Provide seating with and without armrests • Provide seating of adjustable height • Provide desks at a height of 760 mm AFFL • Provide a general lighting level of 500 lux on working surfaces • Provide stations with dedicated task lighting • Wall finishes which are pattern-heavy should be avoided • Some walls can be finished with moderately reflective surfaces to allow hearing impaired users to see people approaching from the back • Meeting tables shall have a depth of 650 mm for wheelchair use • The maximum ambient noise level must be less than 45 dB 		TO SPECIFY
Signage	7/20	
<p>International symbol for access for specific inclusive facilities located at:</p> <ul style="list-style-type: none"> • Main entrance • Suitable positions en route towards these facilities • Symbol not less than 110 mm in height • Sign in clear, visible and tactile format <p>Signs indicating direction and name of accessible facility must have:</p> <ul style="list-style-type: none"> • Incorporation of international symbol • Lettering not less than 50 mm • Lettering size increased accordingly for viewing distances larger than 10 m 		
Signage next to doors or on walls located at level of 1,4 – 1,7 m AFFL on the latch side of the door		
Signage indicating amenities must be between 1,4-1,7 m AFFL with tactile, with lettering raised 2 mm above the surface		
Marks and signs must comply with the requirements set out in SANS 1186-1		
Signs to be lit at 50 lux above the surrounding environment to ensure target value		
All signs with lettering must have a combination of upper- and lowercase lettering	X	

The font should be of such a ratio that the height of the lowercase letter 'x' is 75% of the height of the capital letter	X	
Internal signs must be at least 25 mm capital height, with directional signs to be at least 37 mm (capital height) for a viewing distance of 5 m.	X	
External signs must be a minimum of 75 mm capital height for directional signs.		
All signs must have surface finishes that are low-gloss in nature		
Signs must have a high target value, which is achieved by ensuring high contrast between the lettering and background	X	
The contrast between the sign and its background must have a high target value. This can also be achieved by placing a contrasting border around the applicable sign	X	
Directional signs with arrows, must be justified to the side of the direction of the arrow. I.e. left pointing arrows and text to be flush left and be displayed first, and for right-pointing arrows and text to be displayed next and flush right. Where text and arrows indicate a direction straight ahead, they should be placed at the top and arrows to be placed on both sides pointing straight on	X	
All directional signs within the building must be placed at a consistent height	X	
Lower placement band for tactile signs to be at 1300-1600 mm AFFL		
All lift and stair floor signs should have 100 mm high lettering indicating the floor number on sign, and top of sign at 1600 mm AFFL		
Braille shall be applied to large information signs that are within reach, at central and key points of the building. All other signs to have only raised lettering		
A tactile map should be provided at the entrance area of the building to help users orient themselves before entering the main building		
Symbols are used as far as possible, and supplemented with text		
All glazing and glazed doors must have markings at 1600 mm AFFL (eye-level)		
Egress	4/5	
Emergency warning signals, such as smoke detection, fire alarms and evacuation signals, need to be both audible and visible.	X	
Where a fire safe lift is present, it must be clearly indicated with signage	N/A	

Social housing with interior public spaces

<p>The provision of emergency exits as well as the design of these routes must comply with the SANS 10400 Part T: Fire Protection. All fire escape designs and applications must be approved by a fire design specialist.</p>	X	
<p>A fire hose will be provided for every 500 m² of floor surface, or part thereof. The placement and design of these elements shall strictly comply to all regulations set out above with regards to obstacles in the main route of travel.</p>		
<p>In buildings over 3 storeys, an Evac-chair shall be provided for each fire escape and clearly indicated with signage indicating the location of the chair. For buildings of 5 storeys or more, 2 additional chairs shall be added per 5 storeys.</p>	X	
<p>Each fire escape shall have a refugee area where a person with a disability can wait out of the way of traffic for assistance, with signage clearly indicating that the fire escape is accessible. The evac-chair must be visible from this area to allow users in need of assistance can point it out and ask for assistance.</p>	X	



Appendix E

Social housing with interior public spaces

Requirements/Guidelines	Complies (x)	Comments
Entrance from the street	7/7	
The entrance to the building should be within 40m of the street (Newman 1972:83).	X	
From street level, there must be a clear line of sight to either the secondary access door, main vertical circulation, or to the first point of contact for information - preferably a manned reception counter (Newman 1972:83).	X	
The entrance shall have an overhang of at least 1200 mm on the exterior of the building to provide a sheltered waiting area (Nussbaumer 2012:110)	X	
A minimum of 1550x1500 mm level, clear space shall be provided on the outside of the building to serve as a waiting area (Nussbaumer 2012:110)	X	
The access doors shall be automatic, movement activated sliding doors. Where doors cannot be automatic sliding doors, they shall be fitted with a door closer that does not require more than 25 Newtons of power exerted by a user to open.	X	
The clear opening width of the doorway or access point shall not be less than 900 mm.	X	
The access route from the street to the main entrance of the building shall be fully accessible. It must: <ul style="list-style-type: none"> • Have a clear, trafficable surface width of at least 1200 mm • Have a non-slip surface finish in both dry and wet weather conditions • Where a level change is required, a gentle slope or ramp with a maximum incline of 1:15, but preferably of 1:20 shall be provided • Have a general illuminance of not less than 200 lux on the walking surface. • Be provided with a tactile warning strip before any barriers such as entrance doors or level changes • Be provided with a handrail according (see requirements below) on both sides of the main access path 	X	
Entrance lobby and reception	4/5	
There shall be a level, clear, unobstructed space of 1550 x 1550 mm directly inside the entrance point/door: allowing users to step aside, if needed, or pause to orientate themselves without obstructing others entering or exiting the building (Nussbaumer 2012:110).	X	
All directional signage shall be visible and readable being sized, oriented and designed to be viewed from this primary viewing angle. These include signs indicating lifts, stairs, principal circulation routes, WCs, and reception desk/information panels.		TO SPECIFY

<p>Where space permits, there shall be a reception counter that complies to all of the following:</p> <ul style="list-style-type: none"> Counters should be located away from large sources of noises such as entrance doors, or large gathering spaces Counters should not be located directly in front of exterior windows where faces can be silhouetted Backgrounds which are pattern-heavy or reflective surfaces should be avoided There shall be a clear manoeuvring space on either side of the counter. This space shall be 1800x1200 mm As far as possible, both the visitor and staff member serving them should be on the same floor level Counters should be provided at 950-1100 mm for standing use. A section of minimum 1000mm long counter should be dropped to 760mm AFFL with 700mm AFFL space underneath to allow for leg-room. Knee recesses should be 500 mm on the customer side, and 650 mm deep on staff side Counter depth, where an allowance has been made for wheelchair use, should be at least 700 mm There should be a colour contrast between the counter surface, edgings, and adjacent wall and floor surfaces All counter edges are rounded In the case of an enclosed reception desk, a fully openable section of glazing should be provided to allow for ease of communication. If this is not possible, a voice amplification system shall be installed Lighting should be designed to adequately light both the staff members' and customer/visitor's face to enable lip-reading Staff to have access to controls that control glare, direct sun and minimises direct and indirect glare Artificial light controls are within reach and operable from a wheelchair, and operable with a closed fist or open hand Provision to be made for artificial task lighting for staff 	X	
<p>All routes to amenities and other functions from the entrance area shall have a clear, unobstructed width of at least 1200 mm</p>	X	
<p>Seating should be provided in a designated waiting area. This seating shall:</p> <ul style="list-style-type: none"> Access to seating should be direct and unobstructed All seating should be on a level ground or floor surface A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep There shall always be seats with backs available Seating in reception areas shall have cushioned seating Seating should visually contrast with the surrounding surfaces 	X	
<p>Vertical Circulation</p>	14/15	
<p>All changes in level shall have a handrail on both sides of the level change</p>	X	

Social housing with interior public spaces

Ramps will have an incline of maximum 1:15, with an optimal incline of 1:20	X	
Ramps will not have a trafficable width less than 1100 mm	X	
Ramps will have a level landing at the top and bottom of 1,2m at the top and bottom in length and with a width not less than that of the ramp	X	
Ramps will have a central rail if the width of the ramp is more than 2400 mm	N/A	
All stairways will have a minimum width of 900 mm, with an optimal width of 1200 mm	X	
All stair treads to have a maximum riser of 170 mm, and a minimum tread of 250 mm	X	
The tread and riser of stairways shall be of contrasting colours		
All stairways shall have solid risers	X	
All stairways shall have contrasting nosings of 40 mm depth, and be inset from the edge by 10 mm	X	
Maximum height of flight of stairs not more than 1530 mm	X	
Landing serving two flights of stairs in a straight line at least 1,1 m long	N/A	
There is to be no lip or overhang on any stair, as they would create tripping hazards	X	
Tactile warning strips should be placed at the beginning and end of every level change	X	
<p>All handrails to comply to the following regulations:</p> <ul style="list-style-type: none"> • Handrails have an elliptical gripping surface of at least 50 mm wide and 40 mm deep, or a circular profile not less than 35 mm or more than 50 mm • Height to top of railing is between 900 to 1000 mm AFFL and is consistent along length of stairway or ramp • Handrails to be securely fixed and rigid • Surface free of abrasive and sharp elements • Clear width of 60 mm between handrail and adjacent wall • Handrails extend 300 mm horizontally beyond top and bottom of the ramp or stairway and returns to supporting structure or is finished with a positive return • Handrails are continuous across landings where they don't create a hazard • Handrails supported centrally from below not less than 50 mm between the underside of the handrail and the top of the support 	X	

At least one accessible lift shall be included in all buildings over 1 storey	X	
An accessible lift shall comply to the following: <ul style="list-style-type: none"> The lift shall be large enough to accommodate a wheelchair and provide access to main foyer/lobby, entrance, main circulation corridor and other public areas Call buttons should be within reach and visible to all users. Call buttons should give positive feedback both in visual (lighting) and audible forms At each landing station there must be a clear circulation space of 1550 x 1550 mm The control buttons must be located in a contrasting panel, which contrasts with the surrounding wall Pushbuttons should be around 20-30 mm in width Button legends must be raised at least 1 mm from the face of the button to give tactile representation of numeral or include Braille Minimum numeral height should be 15 mm and 3 mm wide 	X	
Horizontal circulation	17/19	
All paths of travel to have a general lighting level of 200 lux		TO TEST
All general circulation paths to have a minimum clear trafficable width of 1200 mm, but preferably 1500 mm. This will be wide enough to allow wheelchair users to make 90° turns into a doorway or opening with a clear opening width of 750 mm, i.e. 1200 mm	X	
Where walking surfaces are less than 1500 mm, passing spaces shall be provided at every 5000 mm. Passing spaces shall be 1550x1550 mm in size.	X	
No revolving doors, gates and turnstiles shall form part of an accessible route	X	
Pause spaces with suitable seating shall be provided adjacent to paths at 25 m intervals	X	
Accessible routes are free of obstructions reducing the clear width of route	X	
Hanging elements/objects that protrude into circulation spaces have a clearance of 2 m above trafficable surface	X	
No windows or doors will open across walkway, corridor, stair or ramp	X	
Wall-mounted fire-extinguishers, hose reels, telephones, letter bins and other wall mounted fittings: <ul style="list-style-type: none"> Can be easily seen Are shielded or recessed to prevent injuries Have a feature warning persons using a cane or stick of potential hazard 		TO SPECIFY

Social housing with interior public spaces

All paths to have stable and firm floor finishes	X	
All walking surfaces to be smooth and level	X	
All surfaces to be hard and resilient, and should have non-slip surfaces	X	
Carpet, carpet tiles and all finishes to be securely attached and level across all types of pile	X	
Pile height of carpets do not exceed 3 mm	X	
Openings in floor finish or ground surface do not exceed 13 mm in diameter, or are placed perpendicular to path of travel if larger than 13 mm in diameter	X	
Vertical change in level between surfaces do not exceed 5 mm in height	X	
Cobbles, gravel sand and other raised or loose finishes do not form part of accessible route	X	
All paths and surrounding environment to have colour contrast between wall and floor, and wall and ceiling	X	
Public Spaces	8/16	
<p>Laundry areas must apply to the following requirements:</p> <ul style="list-style-type: none"> • All machines must be front-loading to reduce the need to stoop or lean over • All controls to be on the front of the appliance for ease of access • All machines to be placed on pedestals of 250-300mm to allow appliances to be operated from a seated position or a non-bent stance • There should be a clear space of 1200 mm across the full width in front of the washer and dryer that also extends 500 mm beyond the right and left sides to provide easier access from a seated position • Working surfaces must have a lighting level of 500 lux 	X	
Seating must be provided within 5 m of amenities, such as water fountains, public telephones, waste receptacles, restrooms, laundry areas	X	
All amenities must be fully accessible by either providing facilities at heights accessible from a seated position, or be provided in facilities of various heights	X	
Amenities should be indicated clearly with signage	X	
General lighting level to be 500 lux		TO TEST

<p>There shall be seating provided in public spaces. This seating shall comply to the following:</p> <ul style="list-style-type: none"> • Access to seating should be direct and unobstructed • All seating should be on a level ground or floor surface • A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep • There shall always be seats with backs available • Seating in reception areas shall have cushioned seating • Seating should visually contrast with the surrounding surfaces • Seating with armrests shall be provided 	X	
A wheelchair turning circle of 1550 mm shall serve as a benchmark for open areas in the public spaces	X	
There shall be a strong contrast between freestanding elements and the adjacent floor finish	X	
There shall be a strong contrast between the floor and wall finishes, and wall and ceiling finishes	X	
Signage shall indicate the entrance to the public space from the main circulation area		
Signage shall indicate the exit to the main circulation area and be visible throughout the public space		
Where dedicated activities/functions such as a play area is located within a public space, the edges of this space shall be indicated with a tactile warning strip on the floor and adjacent walls, where applicable		TO SPECIFY
The ambient noise levels will not be more than 45 dB in public spaces.		TO TEST
The signal to noise ratio of all public spaces shall be equal to or less than 15 dB		TO TEST
Barriers such as walls, columns and entrances shall be indicated with a tactile warning strip on the floor, and, where applicable, on an uninterrupted wall surface. The tactile warning shall not create a tripping hazard. The manner of application, placement distances from obstacles and finish shall be consistent throughout the whole building.		

Social housing with interior public spaces

<p>Study rooms shall comply to the following:</p> <ul style="list-style-type: none"> • Provide seating with and without armrests • Provide seating of adjustable height • Provide desks at a height of 760 mm AFFL • Provide a general lighting level of 500 lux on working surfaces • Provide stations with dedicated task lighting • Wall finishes which are pattern-heavy should be avoided • Some walls can be finished with moderately reflective surfaces to allow hearing impaired users to see people approaching from the back • Meeting tables shall have a depth of 650 mm for wheelchair use • The maximum ambient noise level must be less than 45 dB 		TO SPECIFY
Signage	6/20	
<p>International symbol for access for specific inclusive facilities located at:</p> <ul style="list-style-type: none"> • Main entrance • Suitable positions en route towards these facilities • Symbol not less than 110 mm in height • Sign in clear, visible and tactile format <p>Signs indicating direction and name of accessible facility must have:</p> <ul style="list-style-type: none"> • Incorporation of international symbol • Lettering not less than 50 mm • Lettering size increased accordingly for viewing distances larger than 10 m 		
Signage next to doors or on walls located at level of 1,4 – 1,7 m AFFL on the latch side of the door		
Signage indicating amenities must be between 1,4-1,7 m AFFL with tactile, with lettering raised 2 mm above the surface		
Marks and signs must comply with the requirements set out in SANS 1186-1		
Signs to be lit at 50 lux above the surrounding environment to ensure target value		
All signs with lettering must have a combination of upper- and lowercase lettering	X	

The font should be of such a ratio that the height of the lowercase letter 'x' is 75% of the height of the capital letter	X	
Internal signs must be at least 25 mm capital height, with directional signs to be at least 37 mm (capital height) for a viewing distance of 5 m.	X	
External signs must be a minimum of 75 mm capital height for directional signs.		
All signs must have surface finishes that are low-gloss in nature		
Signs must have a high target value, which is achieved by ensuring high contrast between the lettering and background	X	
The contrast between the sign and its background must have a high target value. This can also be achieved by placing a contrasting border around the applicable sign	X	
Directional signs with arrows, must be justified to the side of the direction of the arrow. I.e. left pointing arrows and text to be flush left and be displayed first, and for right-pointing arrows and text to be displayed next and flush right. Where text and arrows indicate a direction straight ahead, they should be placed at the top and arrows to be placed on both sides pointing straight on	X	
All directional signs within the building must be placed at a consistent height		
Lower placement band for tactile signs to be at 1300-1600 mm AFFL		
All lift and stair floor signs should have 100 mm high lettering indicating the floor number on sign, and top of sign at 1600 mm AFFL		
Braille shall be applied to large information signs that are within reach, at central and key points of the building. All other signs to have only raised lettering		
A tactile map should be provided at the entrance area of the building to help users orient themselves before entering the main building		
Symbols are used as far as possible, and supplemented with text		
All glazing and glazed doors must have markings at 1600 mm AFFL (eye-level)		
Egress	4/5	
Emergency warning signals, such as smoke detection, fire alarms and evacuation signals, need to be both audible and visible.	X	
Where a fire safe lift is present, it must be clearly indicated with signage		TO SPECIFY

Social housing with interior public spaces

<p>The provision of emergency exits as well as the design of these routes must comply with the SANS 10400 Part T: Fire Protection. All fire escape designs and applications must be approved by a fire design specialist.</p>	X	
<p>A fire hose will be provided for every 500 m² of floor surface, or part thereof. The placement and design of these elements shall strictly comply to all regulations set out above with regards to obstacles in the main route of travel.</p>		TO SPECIFY
<p>In buildings over 3 storeys, an Evac-chair shall be provided for each fire escape and clearly indicated with signage indicating the location of the chair. For buildings of 5 storeys or more, 2 additional chairs shall be added per 5 storeys.</p>	X	
<p>Each fire escape shall have a refugee area where a person with a disability can wait out of the way of traffic for assistance, with signage clearly indicating that the fire escape is accessible. The evac-chair must be visible from this area to allow users in need of assistance can point it out and ask for assistance.</p>	X	



Appendix F

Social housing with interior public spaces

Requirements/Guidelines	Complies (x)	Comments
Entrance from the street	7/7	
The entrance to the building should be within 40m of the street (Newman 1972:83).	X	
From street level, there must be a clear line of sight to either the secondary access door, main vertical circulation, or to the first point of contact for information - preferably a manned reception counter (Newman 1972:83).	X	
The entrance shall have an overhang of at least 1200 mm on the exterior of the building to provide a sheltered waiting area (Nussbaumer 2012:110)	X	
A minimum of 1550x1500 mm level, clear space shall be provided on the outside of the building to serve as a waiting area (Nussbaumer 2012:110)	X	
The access doors shall be automatic, movement activated sliding doors. Where doors cannot be automatic sliding doors, they shall be fitted with a door closer that does not require more than 25 Newtons of power exerted by a user to open.	X	
The clear opening width of the doorway or access point shall not be less than 900 mm.	X	
The access route from the street to the main entrance of the building shall be fully accessible. It must: <ul style="list-style-type: none"> • Have a clear, trafficable surface width of at least 1200 mm • Have a non-slip surface finish in both dry and wet weather conditions • Where a level change is required, a gentle slope or ramp with a maximum incline of 1:15, but preferably of 1:20 shall be provided • Have a general illuminance of not less than 200 lux on the walking surface. • Be provided with a tactile warning strip before any barriers such as entrance doors or level changes • Be provided with a handrail according (see requirements below) on both sides of the main access path 	X	
Entrance lobby and reception	5/5	
There shall be a level, clear, unobstructed space of 1550 x 1550 mm directly inside the entrance point/door: allowing users to step aside, if needed, or pause to orientate themselves without obstructing others entering or exiting the building (Nussbaumer 2012:110).	X	
All directional signage shall be visible and readable being sized, oriented and designed to be viewed from this primary viewing angle. These include signs indicating lifts, stairs, principal circulation routes, WCs, and reception desk/information panels.	X	

<p>Where space permits, there shall be a reception counter that complies to all of the following:</p> <ul style="list-style-type: none"> Counters should be located away from large sources of noises such as entrance doors, or large gathering spaces Counters should not be located directly in front of exterior windows where faces can be silhouetted Backgrounds which are pattern-heavy or reflective surfaces should be avoided There shall be a clear manoeuvring space on either side of the counter. This space shall be 1800x1200 mm As far as possible, both the visitor and staff member serving them should be on the same floor level Counters should be provided at 950-1100 mm for standing use. A section of minimum 1000mm long counter should be dropped to 760mm AFFL with 700mm AFFL space underneath to allow for leg-room. Knee recesses should be 500 mm on the customer side, and 650 mm deep on staff side Counter depth, where an allowance has been made for wheelchair use, should be at least 700 mm There should be a colour contrast between the counter surface, edgings, and adjacent wall and floor surfaces All counter edges are rounded In the case of an enclosed reception desk, a fully openable section of glazing should be provided to allow for ease of communication. If this is not possible, a voice amplification system shall be installed Lighting should be designed to adequately light both the staff members' and customer/visitor's face to enable lip-reading Staff to have access to controls that control glare, direct sun and minimises direct and indirect glare Artificial light controls are within reach and operable from a wheelchair, and operable with a closed fist or open hand Provision to be made for artificial task lighting for staff 	X	
<p>All routes to amenities and other functions from the entrance area shall have a clear, unobstructed width of at least 1200 mm</p>	X	
<p>Seating should be provided in a designated waiting area. This seating shall:</p> <ul style="list-style-type: none"> Access to seating should be direct and unobstructed All seating should be on a level ground or floor surface A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep There shall always be seats with backs available Seating in reception areas shall have cushioned seating Seating should visually contrast with the surrounding surfaces 	X	
<p>Vertical Circulation</p>	15/15	
<p>All changes in level shall have a handrail on both sides of the level change</p>	X	

Social housing with interior public spaces

Ramps will have an incline of maximum 1:15, with an optimal incline of 1:20	X	
Ramps will not have a trafficable width less than 1100 mm	X	
Ramps will have a level landing at the top and bottom of 1,2m at the top and bottom in length and with a width not less than that of the ramp	X	
Ramps will have a central rail if the width of the ramp is more than 2400 mm	N/A	
All stairways will have a minimum width of 900 mm, with an optimal width of 1200 mm	X	
All stair treads to have a maximum riser of 170 mm, and a minimum tread of 250 mm	X	
The tread and riser of stairways shall be of contrasting colours	X	
All stairways shall have solid risers	X	
All stairways shall have contrasting nosings of 40 mm depth, and be inset from the edge by 10 mm	X	
Maximum height of flight of stairs not more than 1530 mm	X	
Landing serving two flights of stairs in a straight line at least 1,1 m long	N/A	
There is to be no lip or overhang on any stair, as they would create tripping hazards	X	
Tactile warning strips should be placed at the beginning and end of every level change	X	
<p>All handrails to comply to the following regulations:</p> <ul style="list-style-type: none"> • Handrails have an elliptical gripping surface of at least 50 mm wide and 40 mm deep, or a circular profile not less than 35 mm or more than 50 mm • Height to top of railing is between 900 to 1000 mm AFFL and is consistent along length of stairway or ramp • Handrails to be securely fixed and rigid • Surface free of abrasive and sharp elements • Clear width of 60 mm between handrail and adjacent wall • Handrails extend 300 mm horizontally beyond top and bottom of the ramp or stairway and returns to supporting structure or is finished with a positive return • Handrails are continuous across landings where they don't create a hazard • Handrails supported centrally from below not less than 50 mm between the underside of the handrail and the top of the support 	X	

At least one accessible lift shall be included in all buildings over 1 storey	X	
An accessible lift shall comply to the following: <ul style="list-style-type: none"> The lift shall be large enough to accommodate a wheelchair and provide access to main foyer/lobby, entrance, main circulation corridor and other public areas Call buttons should be within reach and visible to all users. Call buttons should give positive feedback both in visual (lighting) and audible forms At each landing station there must be a clear circulation space of 1550 x 1550 mm The control buttons must be located in a contrasting panel, which contrasts with the surrounding wall Pushbuttons should be around 20-30 mm in width Button legends must be raised at least 1 mm from the face of the button to give tactile representation of numeral or include Braille Minimum numeral height should be 15 mm and 3 mm wide 	X	
Horizontal circulation	18/19	
All paths of travel to have a general lighting level of 200 lux	X	
All general circulation paths to have a minimum clear trafficable width of 1200 mm, but preferably 1500 mm. This will be wide enough to allow wheelchair users to make 90° turns into a doorway or opening with a clear opening width of 750 mm, i.e. 1200 mm	X	
Where walking surfaces are less than 1500 mm, passing spaces shall be provided at every 5000 mm. Passing spaces shall be 1550x1550 mm in size.	X	
No revolving doors, gates and turnstiles shall form part of an accessible route	X	
Pause spaces with suitable seating shall be provided adjacent to paths at 25 m intervals	X	
Accessible routes are free of obstructions reducing the clear width of route	X	
Hanging elements/objects that protrude into circulation spaces have a clearance of 2 m above trafficable surface	X	
No windows or doors will open across walkway, corridor, stair or ramp	X	
Wall-mounted fire-extinguishers, hose reels, telephones, letter bins and other wall mounted fittings: <ul style="list-style-type: none"> Can be easily seen Are shielded or recessed to prevent injuries Have a feature warning persons using a cane or stick of potential hazard 	X	

Social housing with interior public spaces

All paths to have stable and firm floor finishes	X	
All walking surfaces to be smooth and level	X	
All surfaces to be hard and resilient, and should have non-slip surfaces	X	
Carpet, carpet tiles and all finishes to be securely attached and level across all types of pile	X	
Pile height of carpets do not exceed 3 mm	X	
Openings in floor finish or ground surface do not exceed 13 mm in diameter, or are placed perpendicular to path of travel if larger than 13 mm in diameter	X	
Vertical change in level between surfaces do not exceed 5 mm in height	X	
Cobbles, gravel sand and other raised or loose finishes do not form part of accessible route	X	
All paths and surrounding environment to have colour contrast between wall and floor, and wall and ceiling	X	
Public Spaces	16/16	
<p>Laundry areas must apply to the following requirements:</p> <ul style="list-style-type: none"> All machines must be front-loading to reduce the need to stoop or lean over All controls to be on the front of the appliance for ease of access All machines to be placed on pedestals of 250-300mm to allow appliances to be operated from a seated position or a non-bent stance There should be a clear space of 1200 mm across the full width in front of the washer and dryer that also extends 500 mm beyond the right and left sides to provide easier access from a seated position Working surfaces must have a lighting level of 500 lux 	X	
Seating must be provided within 5 m of amenities, such as water fountains, public telephones, waste receptacles, restrooms, laundry areas	X	
All amenities must be fully accessible by either providing facilities at heights accessible from a seated position, or be provided in facilities of various heights	X	
Amenities should be indicated clearly with signage	X	
General lighting level to be 500 lux	X	

<p>There shall be seating provided in public spaces. This seating shall comply to the following:</p> <ul style="list-style-type: none"> • Access to seating should be direct and unobstructed • All seating should be on a level ground or floor surface • A clear space should be provided to the side of fixed seating, minimum size to be 900 mm wide and 1400 mm deep • There shall always be seats with backs available • Seating in reception areas shall have cushioned seating • Seating should visually contrast with the surrounding surfaces • Seating with armrests shall be provided 	X	
A wheelchair turning circle of 1550 mm shall serve as a benchmark for open areas in the public spaces	X	
There shall be a strong contrast between freestanding elements and the adjacent floor finish	X	
There shall be a strong contrast between the floor and wall finishes, and wall and ceiling finishes	X	
Signage shall indicate the entrance to the public space from the main circulation area	X	
Signage shall indicate the exit to the main circulation area and be visible throughout the public space	X	
Where dedicated activities/functions such as a play area is located within a public space, the edges of this space shall be indicated with a tactile warning strip on the floor and adjacent walls, where applicable	X	
The ambient noise levels will not be more than 45 dB in public spaces.	X	
The signal to noise ratio of all public spaces shall be equal to or less than 15 dB	X	
Barriers such as walls, columns and entrances shall be indicated with a tactile warning strip on the floor, and, where applicable, on an uninterrupted wall surface. The tactile warning shall not create a tripping hazard. The manner of application, placement distances from obstacles and finish shall be consistent throughout the whole building.	X	

Social housing with interior public spaces

<p>Study rooms shall comply to the following:</p> <ul style="list-style-type: none"> • Provide seating with and without armrests • Provide seating of adjustable height • Provide desks at a height of 760 mm AFFL • Provide a general lighting level of 500 lux on working surfaces • Provide stations with dedicated task lighting • Wall finishes which are pattern-heavy should be avoided • Some walls can be finished with moderately reflective surfaces to allow hearing impaired users to see people approaching from the back • Meeting tables shall have a depth of 650 mm for wheelchair use • The maximum ambient noise level must be less than 45 dB 		TO SPECIFY
Signage	20/20	
<p>International symbol for access for specific inclusive facilities located at:</p> <ul style="list-style-type: none"> • Main entrance • Suitable positions en route towards these facilities • Symbol not less than 110 mm in height • Sign in clear, visible and tactile format <p>Signs indicating direction and name of accessible facility must have:</p> <ul style="list-style-type: none"> • Incorporation of international symbol • Lettering not less than 50 mm • Lettering size increased accordingly for viewing distances larger than 10 m 	X	
Signage next to doors or on walls located at level of 1,4 – 1,7 m AFFL on the latch side of the door	X	
Signage indicating amenities must be between 1,4-1,7 m AFFL with tactile, with lettering raised 2 mm above the surface	X	
Marks and signs must comply with the requirements set out in SANS 1186-1	X	
Signs to be lit at 50 lux above the surrounding environment to ensure target value	X	
All signs with lettering must have a combination of upper- and lowercase lettering	X	

The font should be of such a ratio that the height of the lowercase letter 'x' is 75% of the height of the capital letter	X	
Internal signs must be at least 25 mm capital height, with directional signs to be at least 37 mm (capital height) for a viewing distance of 5 m.	X	
External signs must be a minimum of 75 mm capital height for directional signs.	X	
All signs must have surface finishes that are low-gloss in nature	X	
Signs must have a high target value, which is achieved by ensuring high contrast between the lettering and background	X	
The contrast between the sign and its background must have a high target value. This can also be achieved by placing a contrasting border around the applicable sign	X	
Directional signs with arrows, must be justified to the side of the direction of the arrow. I.e. left pointing arrows and text to be flush left and be displayed first, and for right-pointing arrows and text to be displayed next and flush right. Where text and arrows indicate a direction straight ahead, they should be placed at the top and arrows to be placed on both sides pointing straight on	X	
All directional signs within the building must be placed at a consistent height	X	
Lower placement band for tactile signs to be at 1300-1600 mm AFFL	X	
All lift and stair floor signs should have 100 mm high lettering indicating the floor number on sign, and top of sign at 1600 mm AFFL	X	
Braille shall be applied to large information signs that are within reach, at central and key points of the building. All other signs to have only raised lettering	X	
A tactile map should be provided at the entrance area of the building to help users orient themselves before entering the main building	X	
Symbols are used as far as possible, and supplemented with text	X	
All glazing and glazed doors must have markings at 1600 mm AFFL (eye-level)	X	
Egress	5/5	
Emergency warning signals, such as smoke detection, fire alarms and evacuation signals, need to be both audible and visible.	X	
Where a fire safe lift is present, it must be clearly indicated with signage	X	

Social housing with interior public spaces

<p>The provision of emergency exits as well as the design of these routes must comply with the SANS 10400 Part T: Fire Protection. All fire escape designs and applications must be approved by a fire design specialist.</p>	X	
<p>A fire hose will be provided for every 500 m² of floor surface, or part thereof. The placement and design of these elements shall strictly comply to all regulations set out above with regards to obstacles in the main route of travel.</p>	X	
<p>In buildings over 3 storeys, an Evac-chair shall be provided for each fire escape and clearly indicated with signage indicating the location of the chair. For buildings of 5 storeys or more, 2 additional chairs shall be added per 5 storeys.</p>	X	
<p>Each fire escape shall have a refugee area where a person with a disability can wait out of the way of traffic for assistance, with signage clearly indicating that the fire escape is accessible. The evac-chair must be visible from this area to allow users in need of assistance can point it out and ask for assistance.</p>	X	

Social housing with interior public spaces

Dankie. Ek sou hierdie twee jaar nie kon aanpak of klaarmaak sonder die ondersteuning van almal om my nie.

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Interiors

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Anika

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*“I don’t mean to compare
Those days to these
‘cause these are the best I ever had
in the middle of the hardest years.”*

Plush, “Right Here”