

**EMA**

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Facilitating Awareness of Inclusive Environments for Persons With Disabilities

Baroda Lions Club Education Trust

Accessibility Solutions for Baroda High School
Alkapuri, Vadodara, Gujarat - February 2019

Introduction

The buildings are of relatively good quality but do not conform with many of the building standards. Even some of the building bye laws which have been in place for more than 20 years. Regarding the inclusive education for Persons With Disabilities (PWD), BHS has been far ahead of most schools having included students with visual impairment and mobility impairment for many years. Some of those students have moved onto becoming very successful students and successful employees.

We know that there are at least two students with cerebral palsy whose physical disabilities at BHS Alkapuri that require that they have a helper to move around the school. Once such student, Armaan Bhatkar (4th Standard) has considerable difficulty moving alone and using the stairs alone would be extremely dangerous. For him and others who are disabled to become more independent there needs to be a number of modifications in the school's architecture as the school is largely in-accessible for the physically disabled.

Legal Matters

Several laws related to the issue of accessibility and the rights of the disabled were updated in 2016. These are:

- Rights of Persons With Disabilities Act 2016 (RPWD)
- National Building Code 2016 (NBC)
- General Development Permission Regulations (GDCR)

Without going into too much detail the cumulative effect of this is as follows:

- It is illegal to construct any new building used by the public without the accessibility related features included (see GDCR and NBC).
- **All existing buildings must be made compliant by June 2023.**
- The law says that anyone found to abuse PWD, mis-use a facility designated for the PWD, or fail to take the correct actions for the inclusion of accessible features in the tender for or any stage of design or construction, is liable penalties upto 5 lakhs rupees and imprisonment for repeat offenders.
- Every child has a right to education and cannot be denied access to the school of their choice based upon their disabilities.
- Schools must develop Special Educations Needs (SEN) and inclusion policies in line with government policy.



What needs to be considered

What are the main areas for Accessibility for Persons With Disabilities? In order to understand the needs of PWD it is necessary to understand what types of disabilities there are and how their symptomatic disabilities affect their ability to see, move, hear, think, and speak.

Main Disabilities

- Physical Impairment preventing mobility, and dexterity
- Visual Impairment
- Hearing Impairment
- Speaking Impairment
- Mental - Learning and Communication Impairments
- Health related impairments - breathing difficulties, fragility, incontinence and others.

Consequences of Disabilities

- Need of mobility assistance devices; Wheelchair and walking assistive devices.
- Need of use of larger toilet area for change of catheter or other incontinence related issues.
- Need of high contrast or physical textures for understanding the local environment.
- Need of hearing aids, good acoustic environment or visual communication.
- Need of sensitivity and adjusted communication techniques.

Initial Steps Towards Inclusion - Sensitisation

The most important factor for inclusion in any environment is sensitisation. Without sensitising the staff, the faculty and the children the purpose of accessibility will fail. The school should be a socially accepting environment. This means that a program of sensitisation is a must. It will help everyone to understand why some of the school features need to be adjusted and why everyone should adjust their incorrect perceptions and learned behaviours. These unadjusted attitudes and behaviours could be harmful to other and to themselves.

Policies

Keeping in mind the above it is essential that the school develop policies that are based upon best-practice for inclusion and SEN. All policies will need to be adjusted to follow law as per the RPWDA.

Major Issues

Lack of Facilities

For an inclusive physical environment everyone should have equitable access to all the areas and facilities. So everywhere a non-disabled person can go or do something the person with disability should also be able to go. They should be able to participate to the maximum of their ability without barriers. Following are several issues which are of primary concern:

Toilets

None of the toilets blocks are suitable for disabled. There are considerable obstacles including unusual and non-compliant single step level changes. This means the school is not inclusive to most potential adult employees and children with physical disabilities.

There does not look like there is enough space for any kind of wheelchair accessible toilet (NBC Type-A or Type-B) in the current toilet blocks. Additional space on each floor for at least one NBC Type B toilet should be planned.

It is recommended that a further survey with the school appointed architects can come up with a solutions. It is recommended that all the western toilet cubicles be adapted into NBC - Ambulant Disabled with fitting of grab-rails.



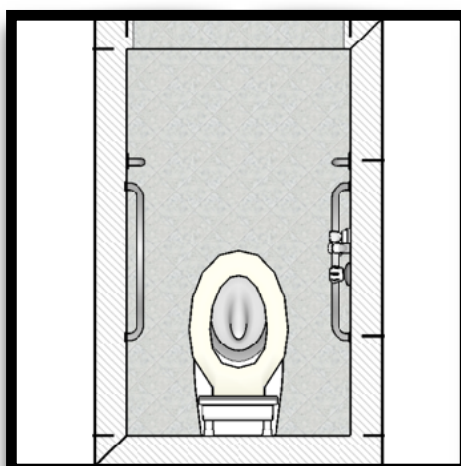
Toilet blocks are reached via a single step level change and narrow entrance.



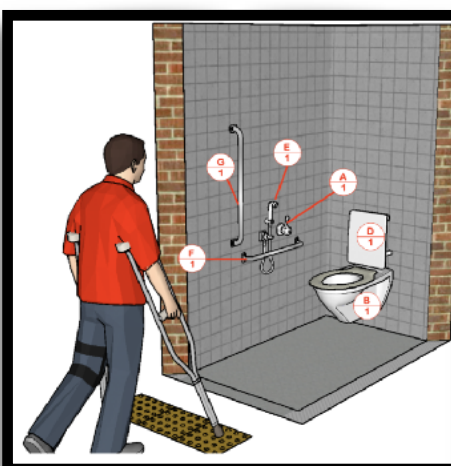
Inside the toilet blocks there is another single step level change and narrow entrance.



The western toilet cubicles have narrow doors that open inwards.



The western toilets can easily be adapted into ambulant toilets.



By fixing grab rails and wall mounted controls.



The door should open outwards.

Parking

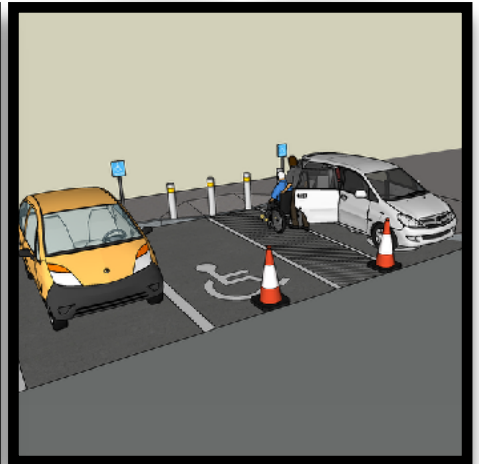
Persons with Disabilities often have trouble to walk or move quickly therefore it is important to prioritise parking spaces as near to the building entrances as possible.



There is sufficient space for parking but the pavement needs to be made regular.



At least one disabled car parking space is possible and also parking for one three wheeler scooter.



Disabled parking should be accompanied by an accessible route to the building.

Stairs and Ramps without Handrails

All stairs must have handrails on both sides at two heights. This means that when people are passing on either side both can use the handrail to go up or down safely. This includes the courtyard area and the plinth of the stage.



Courtyards steps are without handrails, missing colour contrast and non-slip nosing.



Entrance steps are without handrails missing colour contrast and non-slip nosing.

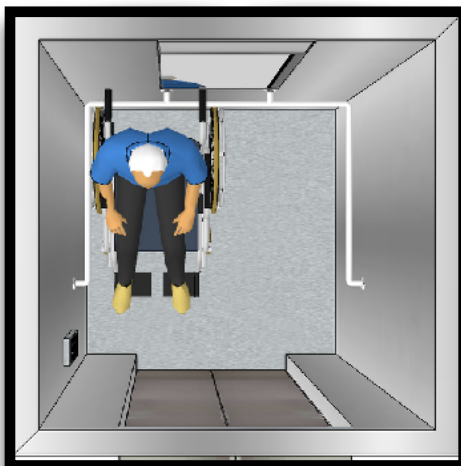


All steps need handrails. Steps should have colour contrast and non-slip nosing.



Access to Upper Floors

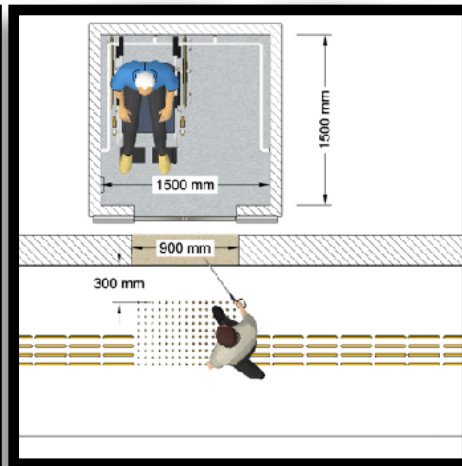
For the physically challenged the upper floor is inaccessible. The obvious solution is lifts. Some buildings have long slopes but these use a great deal of space and unnecessarily tire the users who may already be weak from their condition. By law any level change above 2m should be facilitated by a lift.



A lift of minimum 1.5m x 1.5m is required in each multi-storey building.



The lift should have automatic doors and handrails at 1m height.



At the entrance to the lift there should be tactile tiles for the visually impaired.

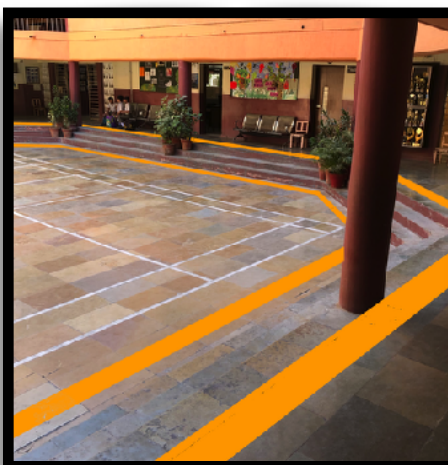
Tactile Tiling or Studs

Raised pattern of dots or lines in warning and guiding patterns. This is essential for Persons with Visual Impairment. In the future all new buildings will have these and it is important that children with visual impairment learn how to use them. These should be placed at:

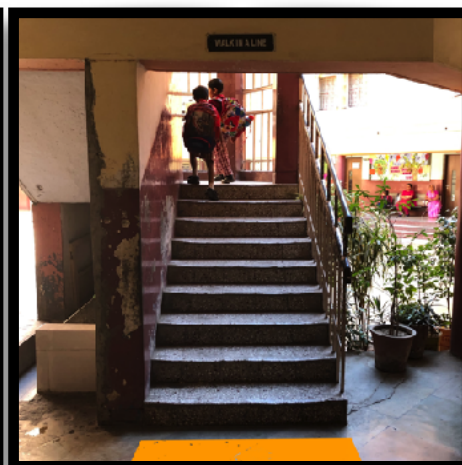
- Both ends of ramps and stairs.
- At the edge of any hazard such as the surrounding plinth of the auditorium.
- All major doorways like office, classrooms, toilets
- Guiding tiles or strips between major locations from parking all the way to the classroom.



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Water Fountains

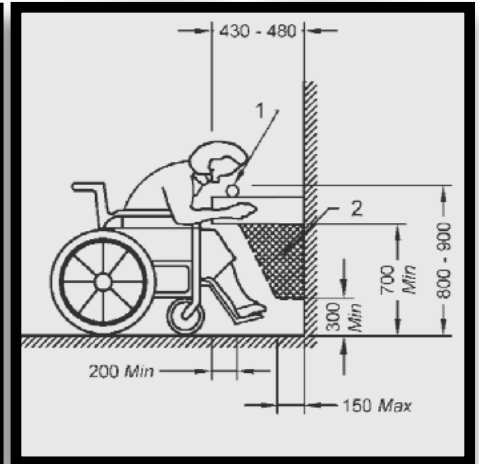
These are not accessible and are difficult to adjust. Maybe a separate commercially wall hung fountain would be most suitable.



Water fountains should be provided at different heights and be accessible from wheelchair.



Example of multi height water fountains.

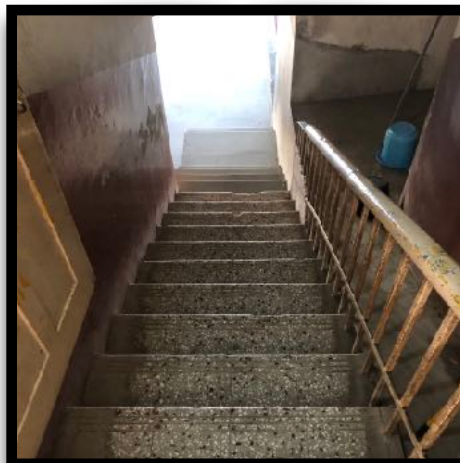


NBC B-7.11 Drinking Water Facility. Dimensions.

Other Issues & Dangerous Features

Flight of steps without handrails

The flight of steps to SNEH level -1 has the last 6 steps without any handrails. This urgently needs to be rectified.



These stairs are too narrow missing contrast colour, non-slip nosing.



The flight is more than 12 steps. Also missing handrails.



All stairs must have continuous hand rails at two heights for adults and children.

Single Step - Level Change & Stage Plinth Edge

There are many areas where there is a single step level change. This is not allowed in any building standards for obvious safety reasons. Level changes below 150mm should be merged with sloped surfaces of less than 1:20 gradient.



The unprotected edge of the plinth of the “stage” area is more than 15” is dangerous specially as the edge is not colour contrasted with the upper and lower surfaces.



Stage area has irregular steps of over 150mm. Front edge of stage needs non-slip contrast.



Single step onto glossy surface on 1st floor corridor to toilets. Non-compliant.



Single step onto glossy tiles into toilets. Non-compliant.

Main Staircases

The two main staircases are non-compliant and definitely not upto building safety standards. In planning according to the “loading” number people using each floor the staircase width would be adjusted. However the absolute minimum for staircase width is 1.5m. These staircases are considerably narrower. They also only have a handrail on one side. This is dangerous for all people and even more dangerous for those with ambulatory weakness (difficulty walking of standing).

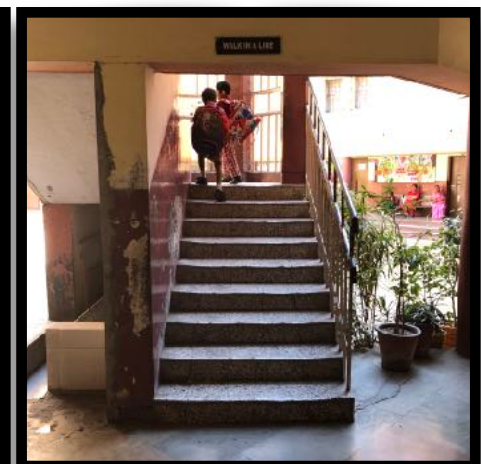
The narrowness of the stairs is such that it is extremely difficult for two way traffic. It is practically impossible for two way traffic without significant risk of minor impacts between ascending/ descending persons. This means that those on the side without handrails are at considerable risk of losing footing. For those with any type of disabilities other than hearing will be at serious risk.



A student with physical disabilities has difficulty with stairs.



Students come down stairs using their hands against the wall for “support”.



The stairs are narrow, missing handrails, and contrast non-slip nosing.

Other Issues

Absence of signposting. Although these are not as essential as the other features they are very helpful to avoid the PWD from wondering here and there at great difficulty to find the correct facility.

Braille signs for doorways and controls. These are helpful but not all visually impaired are able to read braille.

Not Assessed

Sensitivity and awareness of employees and lighting of areas were not accessed in this audit.

Recommendations for Remediation

Table of Remediations v Priority/Cost-Complexity

Please see the table and make your plan according to your priorities and resources. All the items need to be corrected by June 2023 as per RPWDA 2016 Rules.

The priority level “1” is urgent and compulsory. Without the implementation of these there will be little or no proper inclusion of children with disabilities. How it will be achieved will be determined by planning according to the capability of the school board in dealing with the cost/complexity. priority level “2” is important but can be planned for later implementation and priority level “3” is lower level but still required eventually.

Some items just need meetings to discuss policy changes and implementation of changes to employment policy, employee/student discipline policy and school manifesto (statements about inclusion and non-discrimination).

Planning and budgeting for Early Intervention/Special Needs professional development of the faculty teachers and coordinators. The faculty members will need training on courses for identifying the needs of children with disabilities (either physical, mental or behavioural) and they will also learn about mitigations for integration of their abilities into the class activities.

The most complex and costly Priority 1 item is lifts. These are required for proper inclusion. Budgeting and planning will possibly need more careful consideration and maybe CSR funding could help. Alumni maybe possible sources of support.

ID	Description	Priority	Time Required	Resources	Cost/Complexity
1, 8	Assign the position of PWD Affairs Officer	1	1 Week	Assign responsibility to key person. Person to help board develop SEN policy. Board Meeting. Training	0/ Medium

These are the index numbers you will find in the audit summary report.

Priority 1 is urgent and mandatory, 2 Mandatory & 3 “nice too have”

Approximate time it will take to complete

Approx. Level of cost in thousands of rupees

This description is the definition of the task that needs to be performed to achieve compliance.

What materials, services, financing or other resources will be required.

What level of expertise, legal, technical will be needed. Easy is using typical in-house resource while difficult requires much more planning

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1, 8	Assign the position of PWD Affairs Officer	1	1 Week	Assign responsibility to key person. Person to help board develop SEN policy. Board Meeting. Training budget.	0/ Medium
2	Inform all staff who the assigned PWD Affairs is	1	1 Week	Staff Meeting + Memo	0/Easy
3	Inform all staff which toilets, entrances, parking facilities are for designated as preferred for PWD	1	1 Week	Staff Meeting + Memo	0/Easy
4	Know how to avoid use of terms rude/PC to PWD	1	1 Week	Scheduled PWD Sensitisation Sessions for all staff. Consultancy Budget	3K/Easy
5	Know to avoid inappropriate assistance	1	1 Week	Scheduled PWD Sensitisation Sessions for all staff. Consultancy Budget	3K/Easy
6	Faculty are given PD to identify/respond to PWD special needs and methods.	1	Continuous	Consult for PWD PD methods for faculty. PD Budget.	3K+ ?/ Medium
7	Faculty early intervention methods awareness	1	3 Months	Consult for PWD PD for staff and assign budget for PD training of faculty. Faculty PD Budget.	3K+ ?/ Medium
26	Alighting Point at each main public/work entrance	1	3 Months	Develop plan for main entrances with accessible features, paths signs. Budget	3K/Easy
27	Alighting Point symbols on signs to guide to entry	1	3 Months	Develop main entrances with accessible signs. Budget	6K/Easy
28	Alighting Point has path with no step to walking/ wheelchair.	1	3 Months	Develop main entrances with footpaths. Budget.	1-2 lakh?/ Medium
31	Alighting Point has Tactile Ground Surface Indicators	2	3 Months	Develop main entrances with tactile tiling from parking to entrance. Budget.	6K/ Medium
32	Alighting Point has Site map in braille in entrance	3	3 Months	Develop main entrances with braille map. Budget.	6K/ Complex
35	Adequate light along all pathways.	2	3 Months	Develop lighting along all accessible routes from gate to entrances and parking. Budget.	9K?/ Medium
34	Path is covered from weather	2	3 Months	Cover the ramp and alighting points. Budget.	1 lakh/ Medium
51 to 62	Designate Parking for PWD in parking area and at dropdown point nearest to entrance	1	1 Week	Designate a parking space for 2 three wheeler scooters and 1 car nearest to main entrance. Signage and marking and surface paving. Inform and memo staff of arrangements (especially security). No costs	3K/Easy
81	Nonslip Contrast Nosing	2	3 month	Consult with contractor for modification of the steps. Budget.	10-20k/ Easy

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84 to 91	Handrails on stairs	1	3 months	Consult with contractor for installation of handrails. Budget	50K??? Medium
95 to 98	TGSI at stairs beginning and end of each flight	1	3 months	Consult with contractor for installation of TGSI studding in floor. Budget	20K?/ Medium
108 to 115	Handrails for ramp(s)	1	3 months	Consult with contractor for installation of handrails. Budget	20K/ Easy
122 to 124	TGSI at ramp beginning and end	1	3 months	Consult with contractor for installation of TGSI. Budget	4K/Easy
126 to 149	Modify western toilets to Ambulant toilets	1	1 Month	Consult with contractor for installation of grab rails, signage etc. Budget	10K/ Easy
126 to 149	Develop one Type A toilet nearest to main entrance on ground floor	1	6 months	Consult with contractor for design and installation of Type A toilet. Budget	1.5Lkh/ Complex
126 to 149	Provide at least one Type-B toilet on each floor.	1	6 months	Consult with contractor for design and installation of Type B toilet. Budget	30K/ Medium
151 to 167	Develop one lift in each main building.	1	1 year	Consult with contractor for design and installation of lifts. Development Budget	18Lakh? / Complex
176 to 179	Provide signage for PWD at all major locations.	1	3 months	Consult with contractor for design and installation of signs. Budget	15K/ Moderate