

ACCESS AUDIT REPORT



Under the Project



Accessible University of Delhi

by



SAMARTHYAM

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November 2007

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ACCESS AUDIT REPORT BY

Access Resource Group, Samarthyam

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INTRODUCTION

The University of Delhi is the premier university of the country and is known for its high standards in teaching & research. It offers courses at the Undergraduate and Post Graduate levels in most subjects and at present, there are around 71 colleges spread all over the city. With the number of students exceeding 3,00,000, it is among the largest universities in the world. The University of Delhi is taking all measures to achieve the goal of “Education for All”. Special emphasis has been on the students with diverse disabilities. In this year more than 700 students have been admitted in various colleges. Still, many opt out because of accessibility issue. Physical access to the college building, both external & internal is usually full of barriers, are un-approachable and non-usable.

The University of Delhi in association with Samarthyam (a Civil Society Organization promoting Accessible Environments for Disabled Persons) has launched a Project “Accessible University of Delhi”, to make all colleges disabled friendly. It is also mandatory under The Persons With Disabilities (PWD) Equal Opportunities, Protection of Rights and Full Participation Act, 1995. University Grants Commission (UGC) has issued necessary orders/directions to all the Universities and Colleges to implement provisions of the PWD Act, and for this a one time grant amount has also been allocated. It is extremely important that this Project should be expedited as efficiently and as conscientiously as possible; to ensure that all persons with disabilities (students, teaching and non teaching staff) receive an equal opportunity to participate and succeed in the academic program.

ACCESS AUDIT & REPORT

Samarthyam’s Access Resource Group, which includes trained access auditors with diverse disabilities and professionals, greatly appreciates Vice Principal, Kirori Mal College for extending all co-operation during the access audit of the College premises.

It may be pertinent to mention that access audit is not a fault finding exercise. The **objective** of the access audit is to assess the existing facilities and provide suggestions for further improvement. The Report recommendations of the access audit are based on ground realities and provide cost effective solutions. A list of companies/vendors supplying accessible accessories is also given in the report.

GENERAL INFORMATION

Number of Students with Disabilities: 39
Number of Teachers/Faculty with disabilities: 5
Number of non-teaching Employees with disabilities: Nil

AREAS REQUIRING URGENT ATTENTION

Lifts in the Library, Science and Art’s block, handrails in all staircases, accessible toilets for staff, students (boys and girls) are proposed urgently.

EXTERNAL

SIGN BOARD

There is a sign board on the compound wall.

- ✚ However, it is proposed to provide one sign board with directional arrows, at the turning of the main road.
- ✚ Should be mounted above 2100mm from the floor level.
- ✚ To be in bright colour contrast and bold/large lettering.
- ✚ Font Size 100–170mm.



MAIN GATE

It was found that both vehicular and pedestrian movement takes place from this entrance.

- ✚ Main gate to be painted in bright colors (preferably yellow/red) for easy identification by persons with low vision from a distance.

Unmaintained road trapped small wheels of the wheelchair and can cause trip hazard also for persons using mobility aids.

- ✚ Periodic General maintenance of the road should be undertaken.



APPROACH

Barbed wire fencing marks the parking, pathway leading to the main entrance and garden area.

It was told by persons with vision impairments, both students and faculty, that many a times they get hurt with sharp fence wires while commuting from these areas.

- ✚ It is strongly proposed to replace the barbed fencing.



GENERAL PARKING

Both Student and Staff parking inside the premises near the building entrance.

- ✚ Parking area to be clearly specified with directional signage.



The exit gate from the parking is narrow and has a big step.

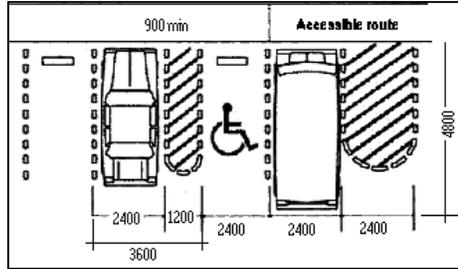
- ✚ **Clear wide opening of 900mm to be provided with leveled (no-step) flooring.**



RESERVED PARKING

For staff/students with mobility impairments driving their own vehicles (scooter/car) reserved parking should be provided in the parking lot.

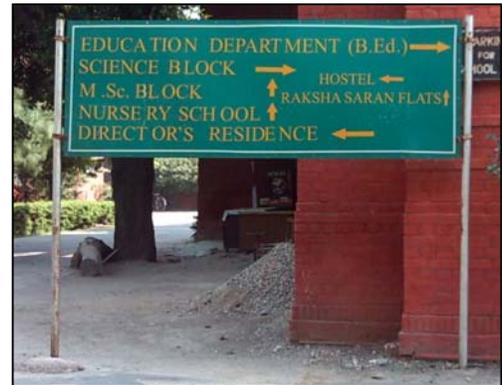
- ✚ Approach to the parking to be maintained.
- ✚ Parking should be within 30 meters of the main entrance of the building.
- ✚ Two accessible parking lots with overall minimum dimension 3600mm x 4800mm, should be provided. It should have the access symbol painted on the ground and also on a signpost/board put near it.
- ✚ There needs to be directional signs guiding people to the accessible parking.
- ✚ All security guards/staff should be sensitized and well informed about these reserved parking for Persons with Disabilities (PwDs).



ENTRANCE TO THE MAIN BUILDING

There are two entrances for the teaching blocks.

- ✚ Way finding signages to be provided which benefits everyone (refer photo on right).



MAIN ENTRANCE TO THE ADMINISTRATIVE BLOCK

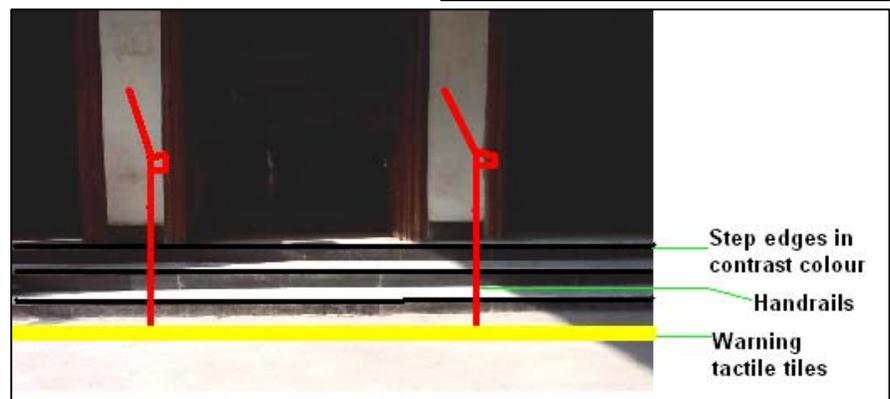
Three steps mark the entrance (total height- 570mm).

- ✚ L- shape ramp with handrails (as per Annexure I and III) is proposed.
- ✚ For the steps- handrails, warning tactile tiles and contrast colour on the step edges are proposed.

Existing



Proposed

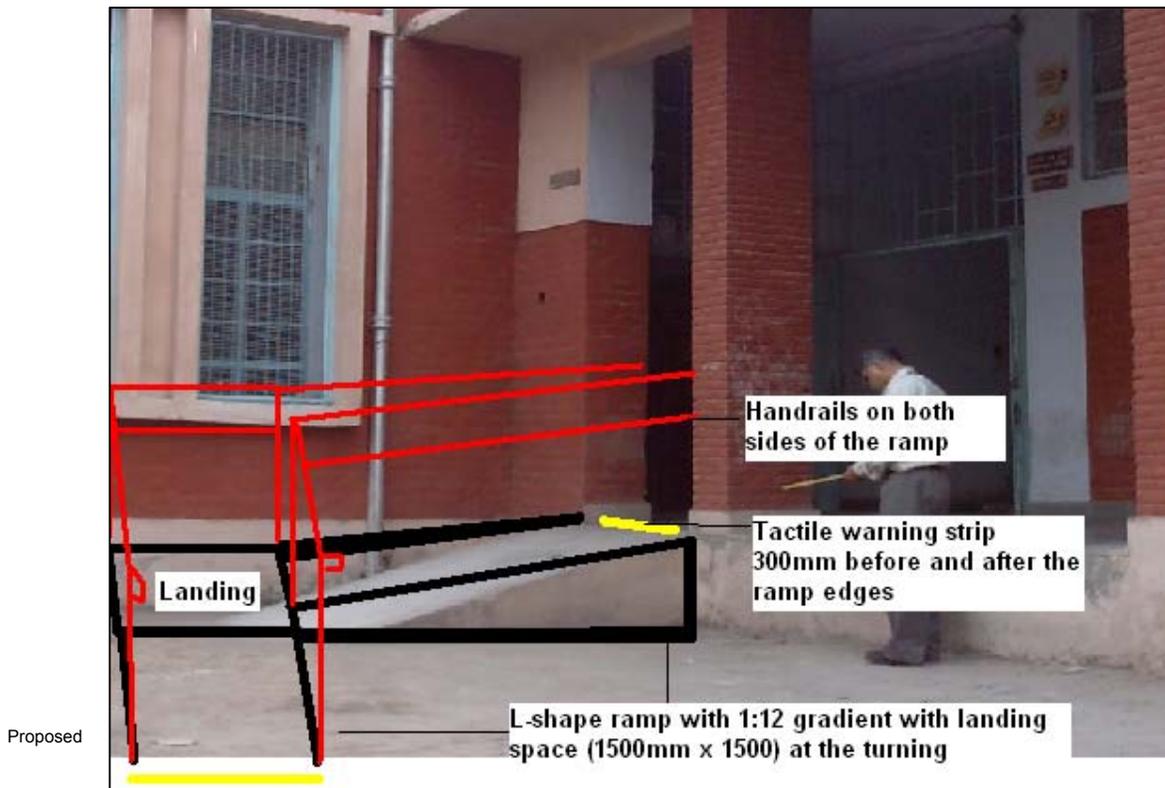


Steep ramp without handrails mark the entrance to the teaching block.

- ✚ L-shape ramp with landing (refer proposed illustration and Annexure I & II) should be provided.
- ✚ Handrails (refer Annexure III)
- ✚ Warning strip (Annexure IV) should be provided 300mm before and after the steps and ramp edges.



Existing



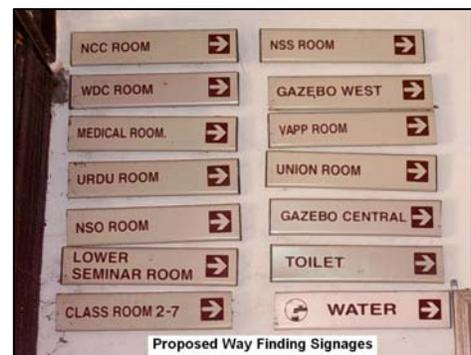
Proposed

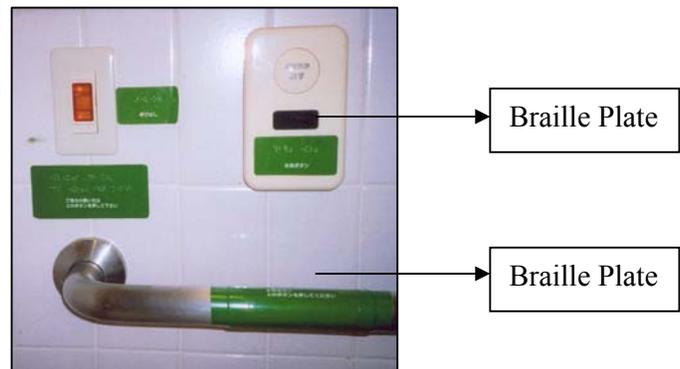
INTERNAL

WAY FINDING SIGNAGES

Signage on the wall is provided at strategic locations regarding all the amenities/ lecture room etc.

- ✚ However, floor wise key plans are proposed next to steps on each floor and at the proposed ramp.
- ✚ Floor signage may be provided that help identify facilities by persons with short stature, wheelchair users etc.
- ✚ Braille plates giving information of class rooms/labs etc. may be provided on the handrails of ramp and stairs.



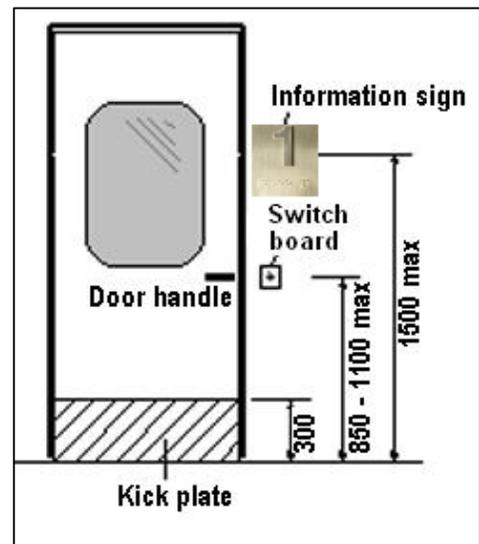


ROOM SIGNAGES

- ✚ Signs should be mounted between 1400mm and 1700mm from floor level on the wall (preferably on right side of all doors).
- ✚ The individual characters between 15mm-50mm tall and raised by 1-1.5mm.
- ✚ **Signage, nameplates and numbers of the rooms** to be in Braille & raised alphabets at the eye level, on the wall, bold & color contrasted with their background.



Proposed Braille signage on wall



PRINCIPAL'S ROOM

Fairly accessible

- ✚ Room signage is dull and should be as mentioned above.
- ✚ Door to be 900mm wide (refer Annexure V).
- ✚ A PVC strip 900mm wide to be placed from the door directing towards the seating arrangement on the floor. This orients persons with vision impairment in big rooms such as this.



ADMINISTRATIVE/ACCOUNTS ROOM FEES DEPOSIT COUNTER

Access from main building for fees deposit counter is not possible by disabled persons. However, students/staff using mobility aids are allowed to access the Accounts Room from the main entrance.

- ✚ Same needs to be mentioned on the notice board and displayed outside the accounts room also.
- ✚ Existing counter height to be reduced to 800 mm for easy access by wheelchair users.



GENERAL CIRCULATION AREA

These are the main movement areas for visitors, students and staff.

Placement of the signage for the 'Office' is nicely done. However the font is too small and is not clearly visible.

- ✚ Signage to be as per the standards mentioned on page 5.



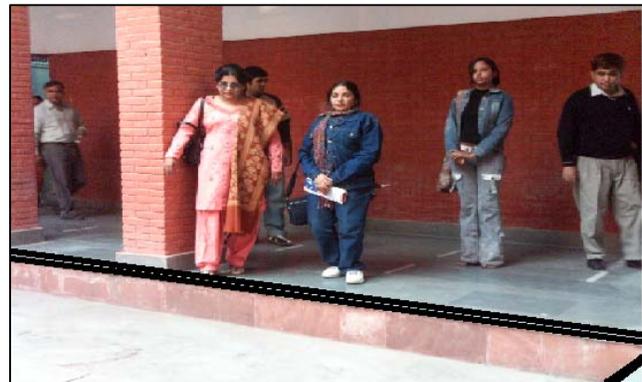
CORRIDORS

In front of the Office block there is sunken court all around the passage/corridor and entrance to some rooms.

- ✚ It is strongly proposed to provide warning/ guard rails (100mm above floor level) to prevent persons with vision impairments and low vision to fall in the sunken area.
- ✚ The width of the warning to be 50mm and in bright colour contrast. (For example green Kota stone flooring may have black granite warning strip).



Existing



Proposed

FOOT MAT

Good orienting cue for persons with vision impairment and low vision.

- ✚ To be placed for entrance to all departments, room and toilet entrances.
- ✚ However, coir foot mats to be replaced by bright colour (red/yellow/orange) rubber mats, as it is difficult to move mobility aids on thick coir mats.
- ✚ In all new constructions foot mats to be embedded in a niche (refer photo on right).



Existing



Proposed

STEPS & STAIRS

Many staircases connect the ground floor with other floors.

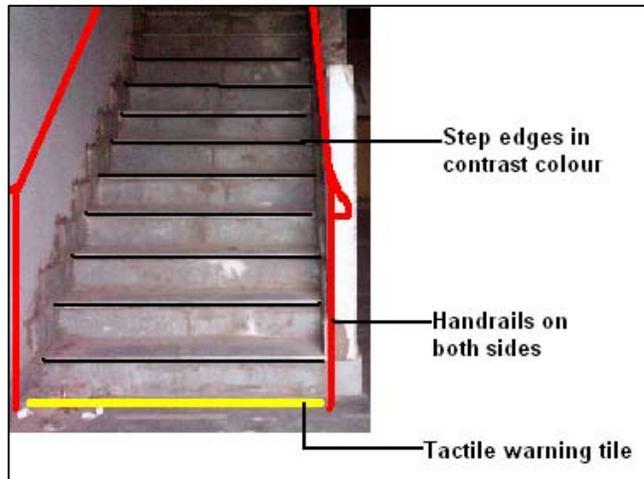
Handrail height is at 1050mm.

There is no extension of handrails for first step and wall side handrails are missing.

- ✚ Step riser is 170mm, to be reduced to 150mm in all new constructions.
- ✚ Handrails to be provided on wall side (at 900mm) to help persons with reduced mobility to take support while descending (refer Annexure II).
- ✚ **Stair edges** (50mm min.) should have bright contrasting colors, which helps persons with low vision to identify height and depth of each step. Refer Annexure II for steps and Annexure III for handrail standards.



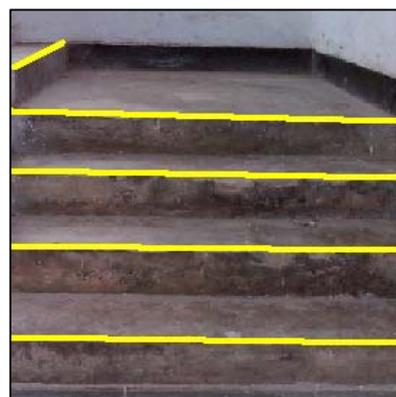
Existing



Proposed



Existing



Proposed

LABORATORY

Approach

A steep ramp (newly constructed) marks the Science block.

- ✚ It is proposed to relocate the ramp in the centre of the corridor for better gradient and easy access from the main entrance passage.
- ✚ L-shape ramp with handrails as per Annexure I & III to be provided.



- ✚ Lab signage to be as mentioned on page 6.



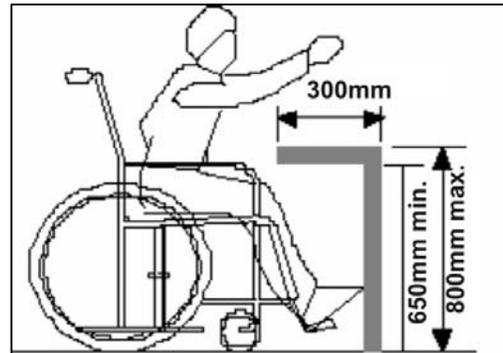
WORKING TABLE

All labs to have at least a separate table with a lowered washbasin/sink for persons using mobility aids such as wheelchair, crutches, walker etc. as per the illustrations given below.

Working table is 900mm with knee clearance 780mm.

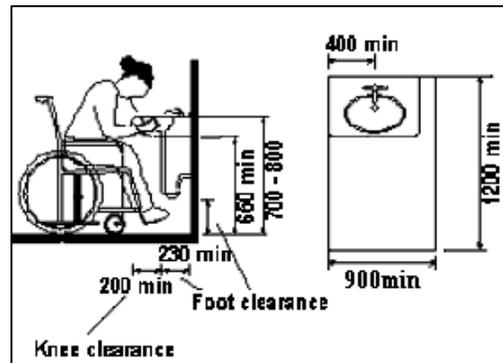
A part of the tables to be lowered down to 850mm and proper signage to be provided for service area in contrast colour.

- ✚ Counter/table top should not be more than 800mm from the floor, with a minimum clear knee space of 650mm-680mm high and 280mm-300mm deep.
- ✚ Aisle space to reach this table should not be less than 900mm.



WASH BASIN/SINK

- ✚ Be of dimensions 520mm and 410mm, so mounted that the top edge is between 700mm-800mm from the floor; have a knee space of at least 760mm wide by 200mm deep by 650mm-680mm high.
- ✚ Lever type handles for taps are recommended.
- ✚ Tap to be extended by 50mm to allow students using wheelchairs/in seated position to access the same.



COMPUTER LAB

- ✚ Two computers with Screen reading software and one scanner to be provided for students/teachers with vision impairment.
- Existing Key board is at the height of 600mm.
- ✚ At least two tables to be provided with keyboard height of 700-750mm to allow wheelchair user to access it.

CLASS ROOM

CL T1 has less illumination and Black Board is non-glazed.

- ✚ Signage on the wall with Braille (as per the standards mentioned on page 6 should be provided).
- ✚ At least two class rooms on the ground floor to have space for wheelchair users in the front row by providing movable table and chair.



LIGHTING

- ✚ At least six tube lights to be provided in all class rooms/ Lecture theaters.
- ✚ Light should also be placed above the teacher seat to provide uniform illumination on black board for low vision student as well as focused illumination on teacher for lip reading by the student with hearing impairment.

AUDITORIUM

A flight of steps mark the entrance to Auditorium.

- ✚ An L-shape ramp along side the wall is proposed with 1:12 gradient and

Existing



Proposed



LIBRARY

Temporary wooden ramp (gradient 1:2) has been provided at the entrance step of 280mm height.

- It is proposed to provide a permanent concrete ramp as per annexure I.



Two iron grating covers have been placed as foot mats. These can trap front wheels of a wheelchair as well as white cane and the collapsible gate's threshold poses a trip hazard for everybody.

- Coir mat and grating covers to be completely removed as it hampers free movement to be removed and rubber foot mats may be placed in a niche in the floor surface.



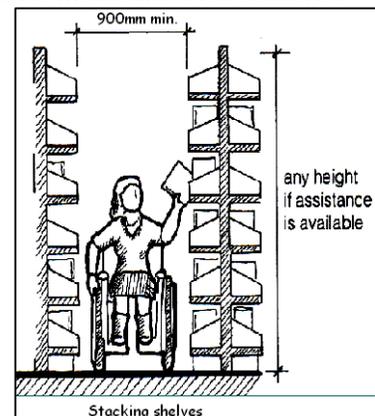
Book issue counter is at 1070mm, which is fairly accessible.

Aisle space between stacks is only 680mm.

- Reading table bottom clearance is 650mm, to be at least 700mm
- Uniform illumination on the reading tables should be provided.
- Books in Braille and Screen Reading Software to be provided for persons with vision impairment. A separate room with bigger space to be allocated for Braille Library.
- Aisle space (900mm min.) between stacking shelves/almirah to be maintained for students using mobility aids.

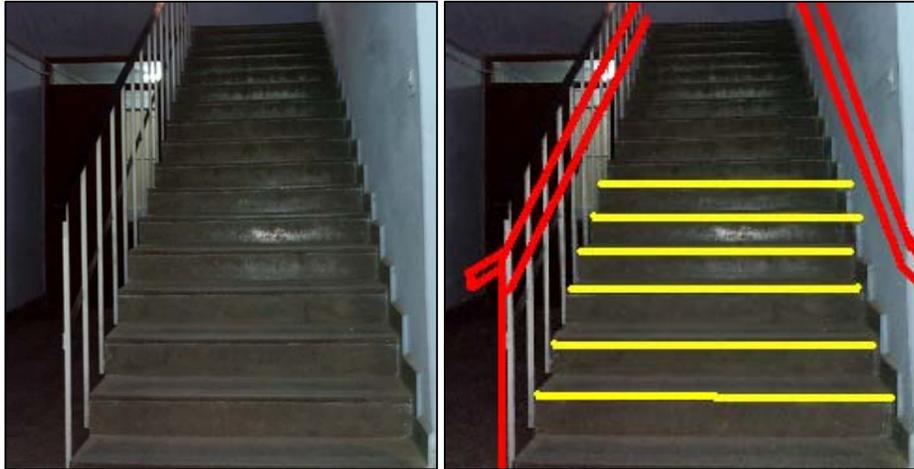


Existing



Proposed

Staircase to the reading rooms in the Library



Existing

Proposed

STAFF ROOM

Seating system- tables and chairs are too low.



- ✚ One high table and few chairs with seat height at 500mm should be provided for the convenience of persons with mobility impairments.

STAFF TOILETS

- ✚ Signage for the general toilets to be provided on the wall as mentioned in Annexure VII.

Unisex Accessible Toilet

An accessible toilet cubicle is proposed in the staff toilet in the space identified in the photo on right.

- ✚ Good space is available 1625mmx 2500mm
- ✚ Step to be removed and toilet to be modified as per the Annexure VI.



BOY'S TOILET

Space next to the toilet cubicle in the Science Block and the teaching block is proposed to be used for accessible toilet for Boy's. (Refer Annexure VI).



GIRL'S COMMON ROOM

✚ Attached toilet to be modified to provide accessible toilet by combining two toilet cubicles.



CANTEEN

Way to canteen is extremely dirty and loose sand prohibits free movement of wheelchair/walker/walking stick etc.

✚ **Pathway to be paved with leveled and non skid surface.**

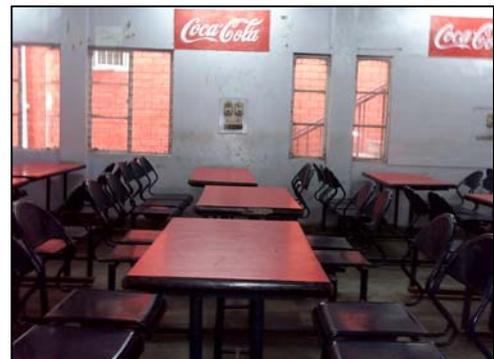
✚ Entrance to the canteen to have L-shape ramp along side the wall as per Annexure I.

Seating area outside the canteen and service counter inside is fairly accessible.



Internal- Fixed seating arrangement of tables and chairs

✚ It is proposed to provide at least one table and few separate chairs for the convenience of mobility aid users to enter and exit the seating system.



Wash basin has one step.

- Wash basin to have level access.
- Sink/taps to be modified as per the standards given in drinking water facility.



- Menu and rate list with pictograms and bigger fonts to be provided as per the photo on the right.



Existing Proposed

DRINKING WATER

All drinking water areas are marked by step (200mm high) making it impossible to reach it and tap height is 1050mm. At least one tap especially near the canteen and Library to be modified as per the standards given below.

- Tap to be lowered down so that all operable parts are between 900mm-1000mm height.
- Leg and knee space to be provided (as shown in the diagrams) with basin to avoid spilling of water.
- This allows both front and parallel access to taps for students using mobility aids like wheel chair, crutches etc.



In the Arts Block- Water cooler/taps to be relocated and brought forward (near the edge of the sunken court) to allow everyone to access them with ease

BOYS COMMON ROOM

It is located on the first floor and is marked by a steep flight of steps.

- ✚ Common Room may be relocated at ground floor.



PHOTO COPY SHOP/P.C.O

Way to photo copy shop is unpaved and there are no signage directing to the shop.

- ✚ Leveled paved pathway with overhead shed to be provided.

A high threshold (150mm) marks the entrance of the photo copy shop.

- ✚ Threshold to be removed and to prevent water clogging during rains, slope towards the road side is proposed.



Access Resource Group with the faculty and students of Kirori Mal College during the Access Audit

EMERGENCY EVACUATION

There are no 'Exit' signage and fire hydrant observed.

- ✚ **Emergency exits** should be clearly marked with proper signage and should be clear of all obstructions.
- ✚ **Emergency alarm** both audio (hooter type) and visual (flashing bulb) to be provided on each floor/level at strategic locations.
- ✚ **Employees/staff and security guards**, need to be drilled for the same at periodic intervals.
- ✚ An **access sensitization/ awareness training** to be given to security guards and staff handling/transferring students with disabilities to refuge area during emergency.



GENERAL REMARKS

✚ **Lighting**- Adequate and well distributed lighting should be installed. Glare from excessively bright lights should be avoided. Staircases & corridors should have adequate lighting.

✚ **Induction Loop System** in classrooms/Lecture rooms and Seminar Halls etc.

People with hearing impairments find it difficult to grasp mass audio activity. In an enclosed venue, it is possible to enclose a small area with a loop-induction system so that people with hearing impairments within it can hear voices and sounds without ambient noise. A loop-induction system comprises of a microphone, an amplifier and a loop (a conducting wire encircling the enclosure). The sound of music or the voices of actors are converted into electromagnetic signals. The signals are carried to the loop. A pickup coil fitted in a hearing aid picks up the electromagnetic signals and the receiver in the ear converts this into comprehensible speech or music. Since the hearing aid does not pick up actual sound signals, it receives no ambient noise, ensuring good quality of sound.

LIST OF NGOS/COMPANIES FOR ACCESSORIES

- **For Braille plates/signage/tactile maps**
Mr. R. K. Pandey, National Federation of the Blind (NFB), Bahadurgarh
(Factory) 95127-6235849 (M) 9873346121 NFB Office Ph: 23562277, 23562546
- **Handrails/Grab bars**
Access Plus (M) 9810558321, 9910359591
- **Guiding/warning tactile tiles**
Mr. Ashok K. Luthra (M) 9810545699, Pelican Ceramic Industries Pvt.Ltd.,410, Suneja Tower-1, District Centre, Janakpuri, New Delhi-58 Tel No. 25552097, 32482791, 32982791
- **Induction Loop System**
Mr. V.P. Sah, AYJ National Institute for the Hearing Handicapped, Kasturba Niketan, Lajpat Nagar-II, New Delhi-110024 (O) 011-29815093, (R) 95120-2611784

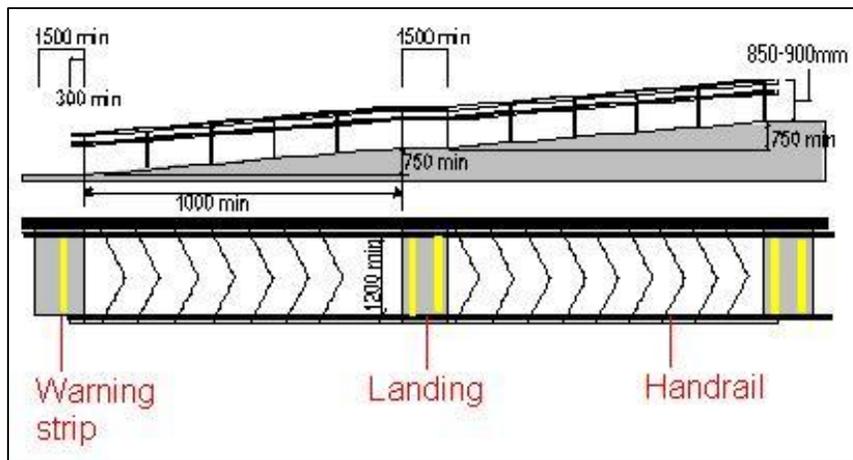
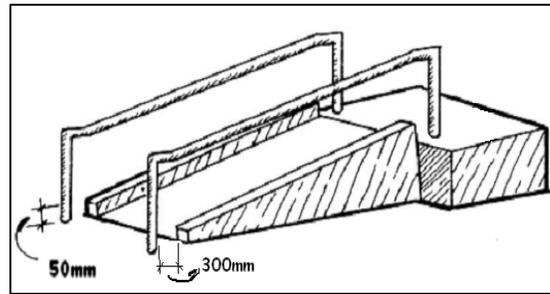
REPORT COMPLIED BY:

Access Resource Group, Samarthyam

Contact person: Ms. Anjlee Agarwal (M) 9810558321 Email: samarthyaindia@yahoo.com

RAMP

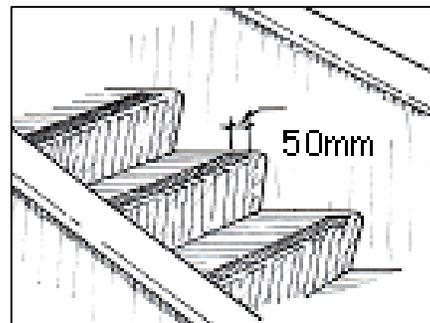
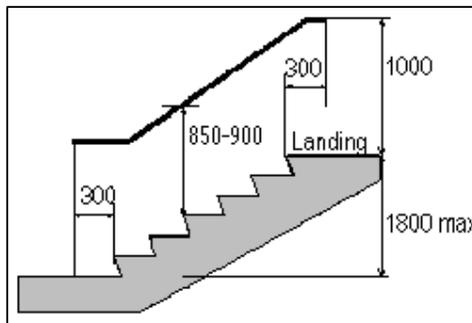
- ✚ **Indoor-** Gentle slope of 1:12 max.
- ✚ **Outdoor-** For first floor and above 1:15 or 1:20 gradient ramp is advised depending upon availability of space.
- ✚ Landings- every 750 mm of vertical rise clear space of 1500mm x 1500mm minimum.
- ✚ Ramp width to be 1200 mm or more.
- ✚ Handrails to be on both sides at a height of 850mm-900mm; both ends to be rounded and grouted and extend 300mm beyond top and bottom of ramp.
- ✚ Surfaces (ramp + landing) should be slip resistant.
- ✚ Strip of warning blocks should be placed 300mm before and after the ramp edges.



Annexure II

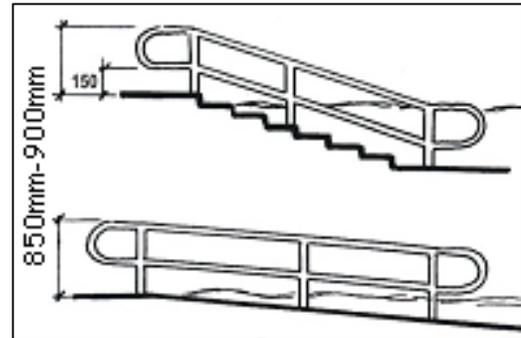
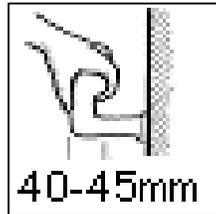
STEPS & STAIRS

- ✚ Have continuous handrails on both sides including the wall (if any) at 850mm – 900mm.
- ✚ Warning strip to be placed 300mm at the beginning and at the end of all stairs.
- ✚ Nosing to be avoided.
- ✚ There needs to be signage indicating the floor level on each floor. It is also desirable to have a directory of services available on each floor at the landing areas.
- ✚ It is desirable to use tactile features on the handrail to indicate the end of the rail and to give information for benefit to visually impaired people. (e.g. it is possible to indicate the floor level on each handrail by adopting the use of raised spots, where one spot indicates first floor, two spots indicate second floor etc.).



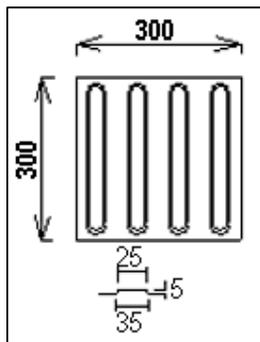
HANDRAILS

- ✚ Should be circular in section with a diameter of 40-45mm;
- ✚ At least 45mm clear of the surface to which they are attached;
- ✚ At the height of 850mm-900mm from the floor;
- ✚ Extend by at least 300mm beyond the head and foot of the flight and ramp in the line of travel and grouted in the ground.
- ✚ Should be in bright color contrast to the surroundings (preferably red/yellow).

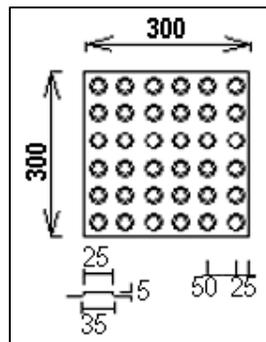


Tactile Surfaces: Guiding strip & Warning blocks

- ✚ Line-type blocks indicate the correct path/route to follow.
- ✚ Dot-type blocks provides warning signal, to screen off obstacles, drop-offs or other hazards, to discourage movement in an incorrect direction and to warn of a corner or junction. Should be placed 300mm at the beginning and end of the ramps, stairs and entrance to any door.



Guiding path

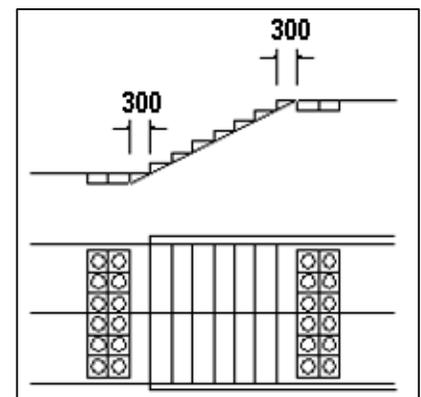


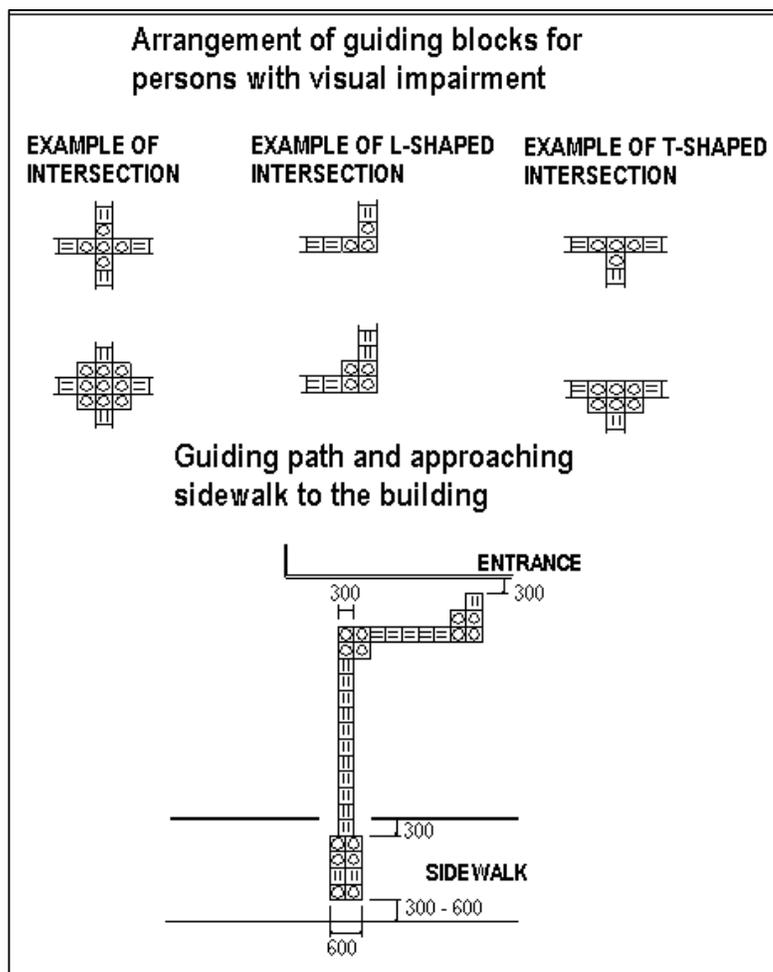
Warning strip



Places to install guiding blocks:

- ✚ In front of an area where traffic is present.
- ✚ In front of an entrance/exit.
- ✚ To and from a staircase or multi-level crossing facility.
- ✚ In open space to orient students with vision impairment.





Annexure V

DOORS

- ✚ Should provide a clear opening of 900mm.
- ✚ Be fitted with a lever action locks and D-handles of circular section, between 850mm and 1100mm from floor level.
- ✚ Also be fitted with vision panels at least between 900mm and 1500mm from floor level.
- ✚ Be color contrasted with the surrounding wall and should not be heavier than 22N to open.
- ✚ Kick plates are recommended 300mm from the bottom, to resist wear and tear.

Annexure VI

ACCESSIBLE TOILET

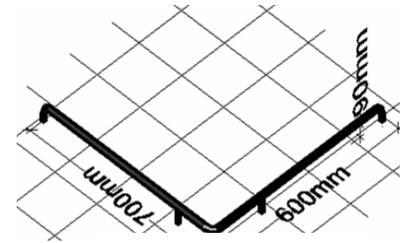
A minimum of one toilet compartment should have enough floor space for wheelchair users to enter and exit.

- ✚ Clear floor space 2000mm x 1750mm.
- ✚ Provide a door of clear opening of at least 900mm with the door swing outwards or be folding or sliding type.
- ✚ Should have slip resistant flooring.
- ✚ **Accessible toilet** should have a switch near the WC (one at 300mm and the other at 900mm from the floor level), which activates an emergency audio alarm (at the reception/attendants desk, etc.).



WATER CLOSET (WC)

- Have clear space of not less than 900mm wide next to the water closet.
- Be located between 460mm to 480mm from the centerline of the WC to the adjacent wall and have a clear dimension of 800mm from the edge of the WC to the rear wall to facilitate side transfer.
- The top of the WC to be 475-490mm from the floor.

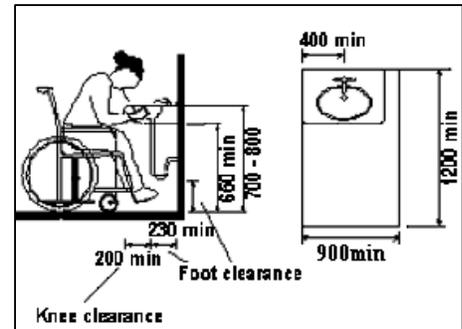


L-shape grab bar

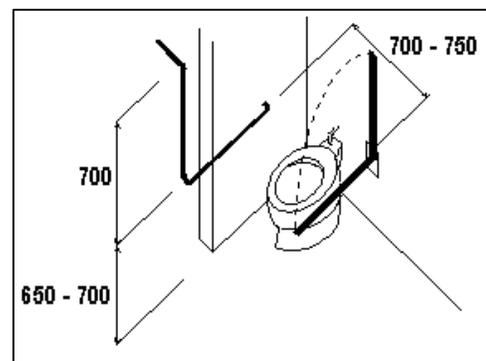
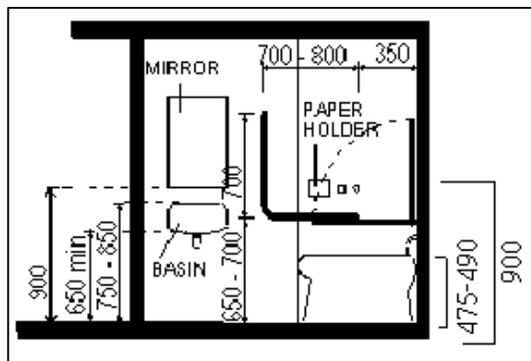
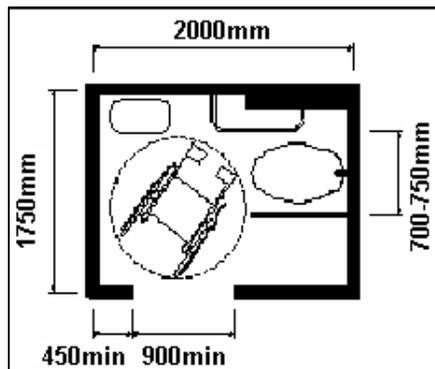
- Have a back support.
- Grab bars at the transfer side of the WC and the adjacent wall.
- On the transfer side of the WC- swing up type and on the wall side L-shape grab bars should be provided.

WASHBASIN

- With dimensions 520mm and 410mm, so mounted that the top edge is between 700mm-800mm from the floor; have a knee space of at least 760mm wide by 200mm deep by 650mm-680mm high.
- Lever type handles for taps are recommended.
- Mirror's bottom edge to be 900-1000mm from the floor and the mirror may be inclined at an angle.



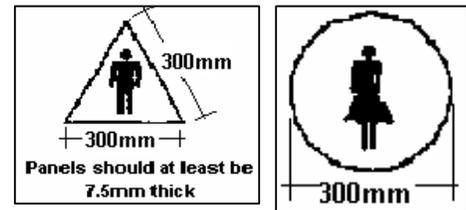
PLANS OF ACCESSIBLE TOILET



Annexure VII

GENERAL TOILETS to have pictogram (male in triangle and female in circle), marked on plates along with Braille & raised alphabets, put on wall next to door, for the benefit of the persons with vision impairment.

- ✚ For students/employees with low vision and vision impairments, following are proposed:
- ✚ Warning strip/ door mat 300mm before the toilet entrance.
- ✚ Braille signage should be displayed on the right side of every toilet by indicating embossed letters with ladies and gents pictogram.
- ✚ All signage to be in raised alphabets at the eye level, on the wall and in bold and contrasting colors.

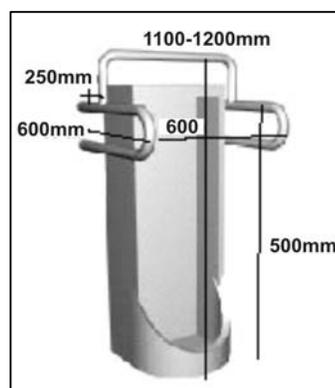


Annexure VIII

URINALS

- ✚ At least one of the urinals in the **Gents toilet** should have grab bars; installed on each side and in the front of the urinal to support ambulant persons with disabilities (for example, crutch users).
- ✚ The front bar is to provide chest support; the sidebars are for the user to hold on to while standing.
- ✚ Urinals shall be stall-type or wall-hung, with an elongated rim at a maximum of 430mm above the finish floor.
- ✚ A clear floor space 760mm by 1220mm should be provided in front of urinals to allow forward approach. Urinal shields (that do not extend beyond the front edge of the urinal rim) may be provided with 735 mm clearance between them.

Accessible Urinal



Urinal with grab bar, Dilli Haat



