

**UNION OF DISABLED PEOPLE ORGANIZATIONS (UDPO)**

**EQUAL OPPORTUNITIES FOR ALL**



Union of Disabled People Organizations (UDPO) of the Azerbaijan Republic

**BUILDINGS DESIGN AND FACILITIES FOR DISABLED PEOPLE**

**WITH LIMITED MOBILITY**

**FORMATION OF NECESSARY LIFE AND ACTIVITY CONDITIONS**

**RULES**

(Excerpts)

# UNION OF DISABLED PEOPLE ORGANIZATIONS (UDPO)

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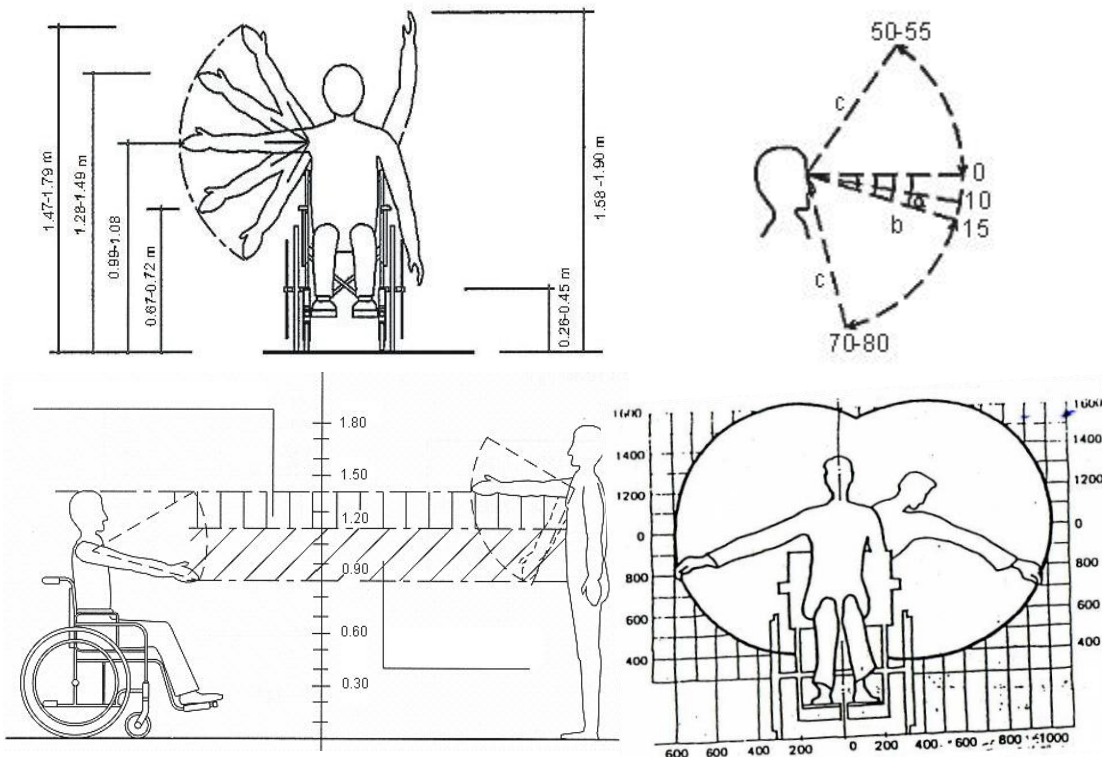
(In order Rules of "technical conditions" and "creations UDPOs".  
of items in the "Infrastructure" section)

We ask the leader contact persons of the educational institutions to ensure availability design of construction works, during execution of works, purchase and installation of equipment contact us.

### 1. Ergonomic basics of designing living and social environment for life activities of persons with disabilities.

1.1. Recommendations for creating optimal living and life activity conditions for disabled persons with impaired motor functions are based on the data of ergonomic studies.

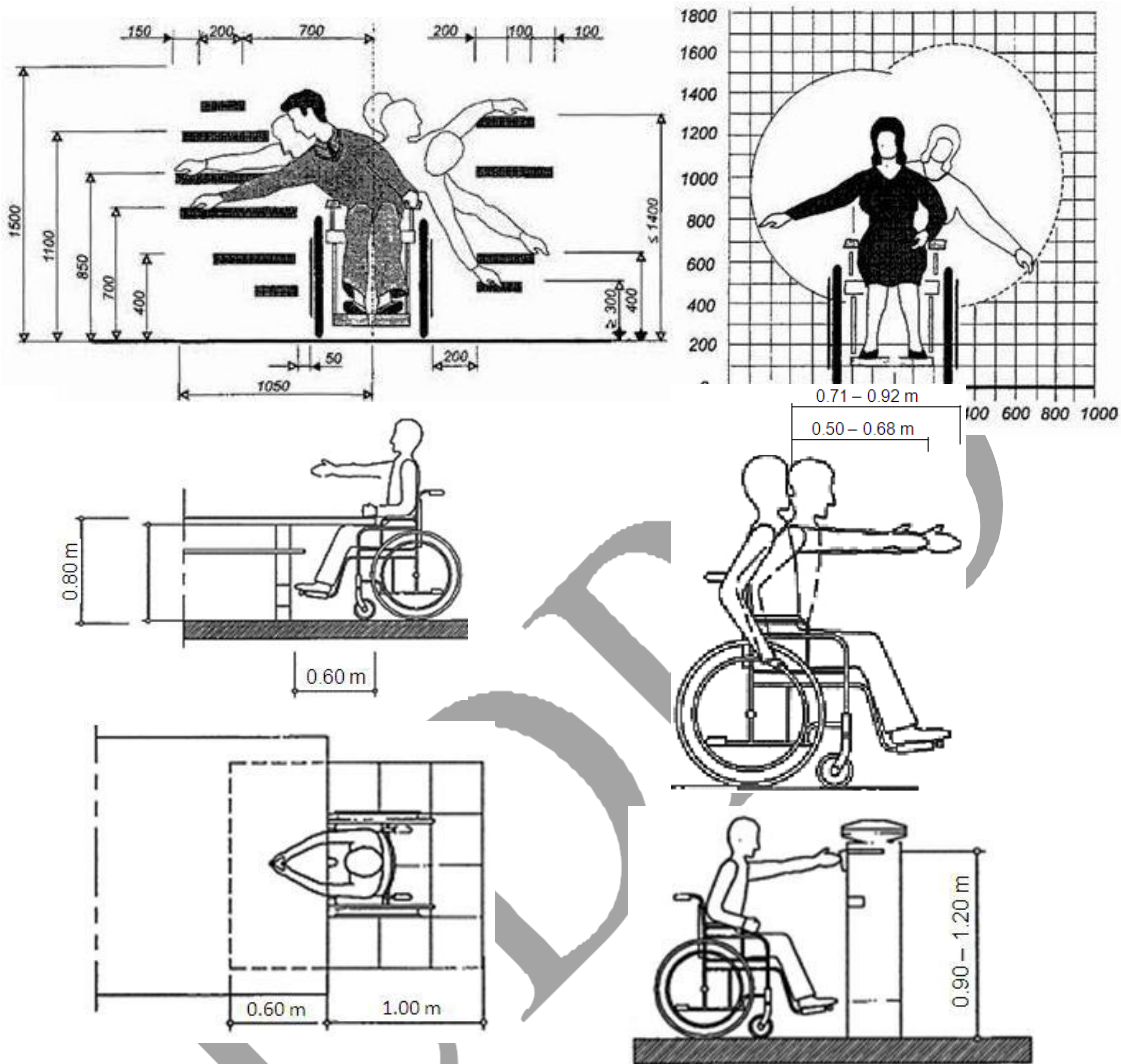
1.2. Residential facilities, public facilities and transport when designing of functional zones, as well as when placing the means necessary for the installation of equipment average anthropometric indicators of male and female figures and wheelchair dimensions has a defining meaning. The floor area that will be enough for the wheelchair to turn and move, functional zones "reachable" by a disabled person in a stationary state, or one or the other functional activity is taken into account.



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Picture 1



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#### 2. PROVISION OF INFORMATION.

2.1. For persons with disabilities of all categories the information should be comprehensible. The information system of the educational institution must be the same within the building or within the building complex of the enterprise.

2.2. Communications, entrance areas, service rooms and zones used by persons with disabilities, as well as parking spaces for disabled vehicles should be marked with signs in accordance with international standards.

2.3. It should be planned to install a replacement (sound and light) alarm connected to the fire alarm system, in rooms and areas used by people with disabilities.

2.4. Each buildings must have a rough or specially painted surface of the floor area at a distance of 0.6 m in front of the doors, stairs and ramps on the escape routes.



#### 3. Parking stations

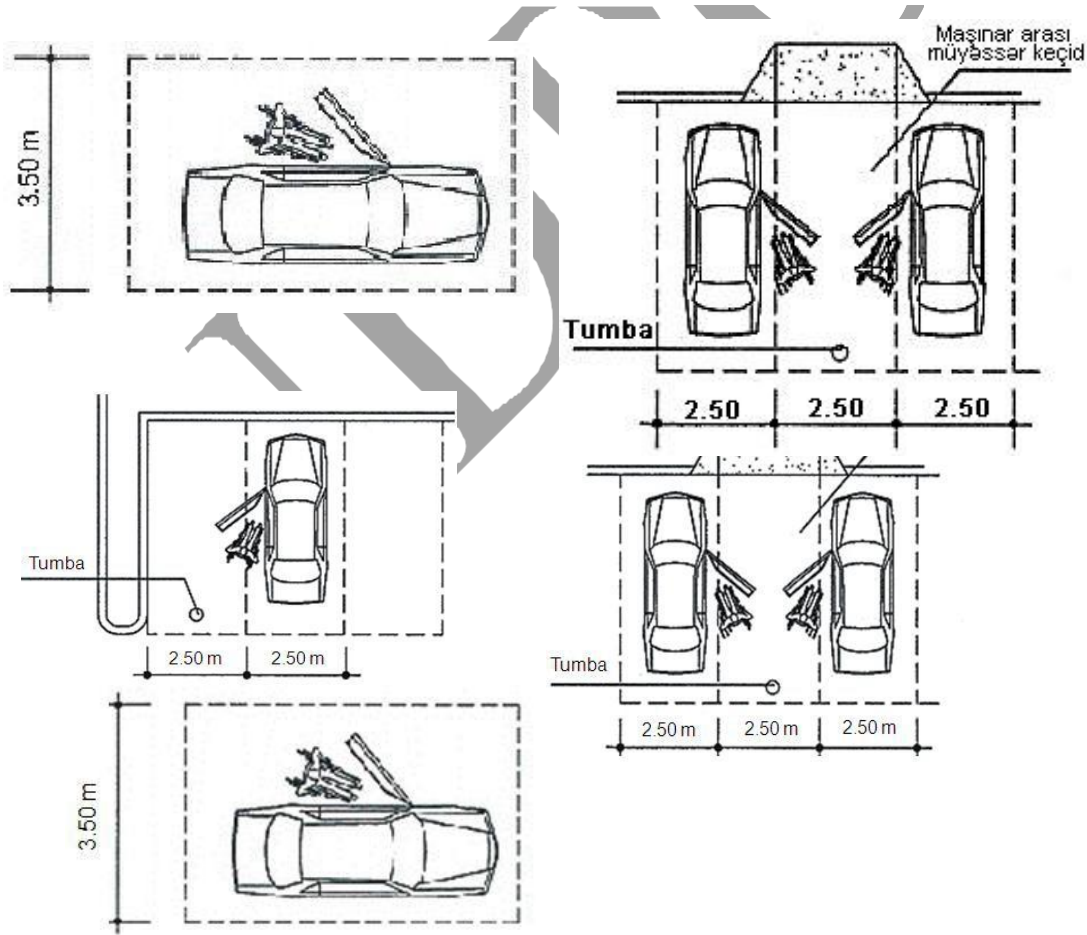
3.1. Individual transport stations for persons with disabilities, as well as public transport stops, should be located at a distance of up to 50 m from the checkpoints of enterprises. In large and reconstructed enterprises this distance exceeds 50 m and the total distance from checkpoints to the workplace is more than 300 m, it is necessary to place the transport stops for persons with disabilities in a scattered manner on the territory of the educational zone of the enterprise. In that

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cases, the possibility of allowing the personal transport of persons with disabilities into the territory of the educational institution should be taken into account.

3.2. The width of parking spaces for parking personal vehicles of disabled persons should not be less than 3.5 m.



### 4. Requirements for the territory

4.1. In the territory of the educational institution there should be footpaths for the movement of wheelchairs. Short and steep ramps should not exceed 120, and the longitudinal slope of sidewalks and footpaths should not exceed 500 (more than 85%), the height of vertical barriers (curbs and ledges) along these roads should not exceed 0.05 m. When the slope of pedestrian paths is 300-600

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(51%-102%) along these paths, horizontal areas of not less than 5 m in length should be provided



every 100 m.

4.2. The width of the footpaths must correspond at least 0.80 m. (the width of a person's lane).

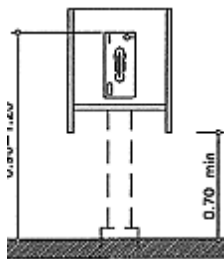
4.3. The covering of the road network and playgrounds within the borders of landscape-recreation areas should consist of floor tiles, concrete, gravel and other solid mineral materials. To cover walking paths with sand, river stone, slippery materials are not allowed, only in exceptional cases, asphalt pavements can be used.

4.4. For the convenience of people with disabilities who use wheelchairs, a payphone, one of the ATMs is located on the ground level, height should not exceed 0.80 m. (Figure 3.)

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4.5. For the development of master plans of educational institutions employing persons with



disabilities the main requirements are the following:

minimizing pedestrian paths in the area;

where pedestrian and car crossings intersect in the area informational signs in places

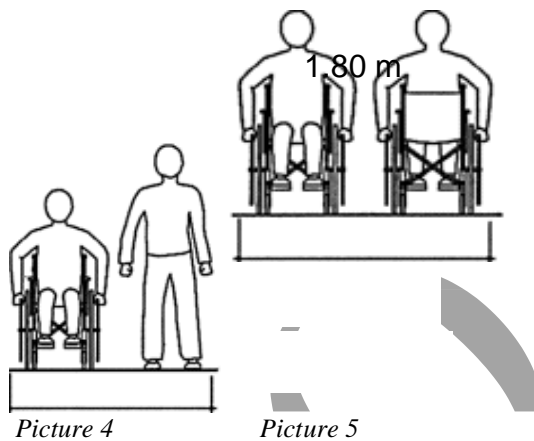
laying, placement of ramps and guards where necessary;

persons with disabilities in the direction of movement or obstruction elements replacement;

for people with disabilities with residential and educational places creating elements that provide comfortable connections;

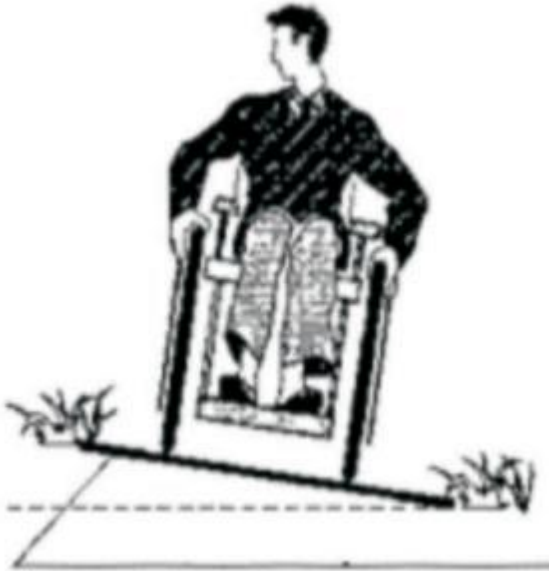
maintenance of personal vehicles of persons with disabilities for, as well as public transport equipped with special equipment placement of the additional stops as close as possible to the places of study.

4.6. The width of pedestrian paths should not be less than 1.2 m (Figure 4), and 1.8 m in mutual movement (Figure 5) in order to ensure the movement of wheelchairs in enterprise areas.



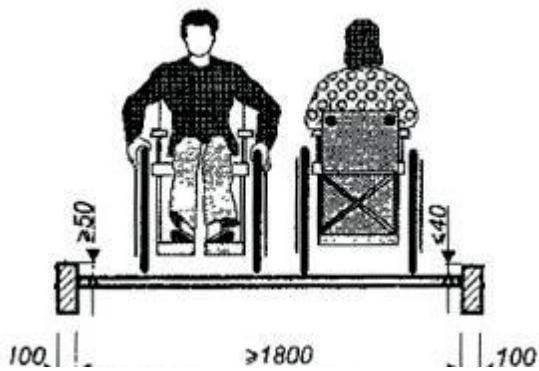
4.6. In order to ensure the movement of wheelchairs in enterprise areas, the width of pedestrian paths should not be less than 1.2 m (Picture 4), and 1.8 m in mutual movement (Picture 5).

4.7. The slope of sidewalks and footpaths should not exceed  $5^0$  (8.5%) and  $1^0$  (1.7%) across for wheelchair movement. (Picture 6)



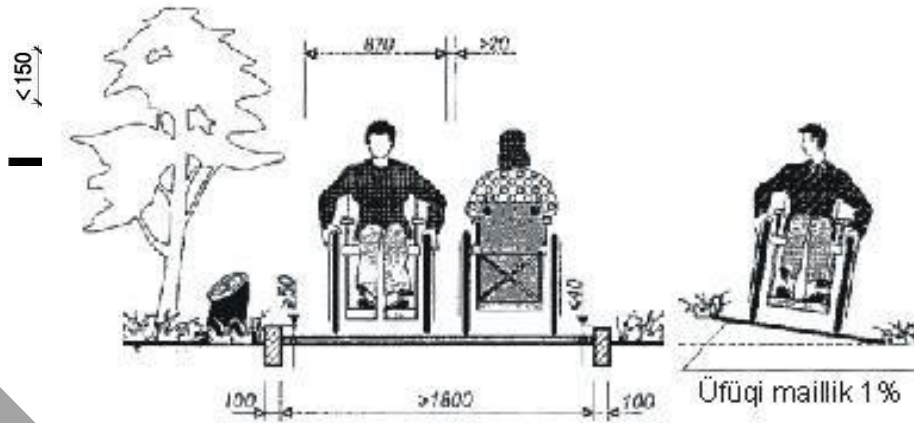
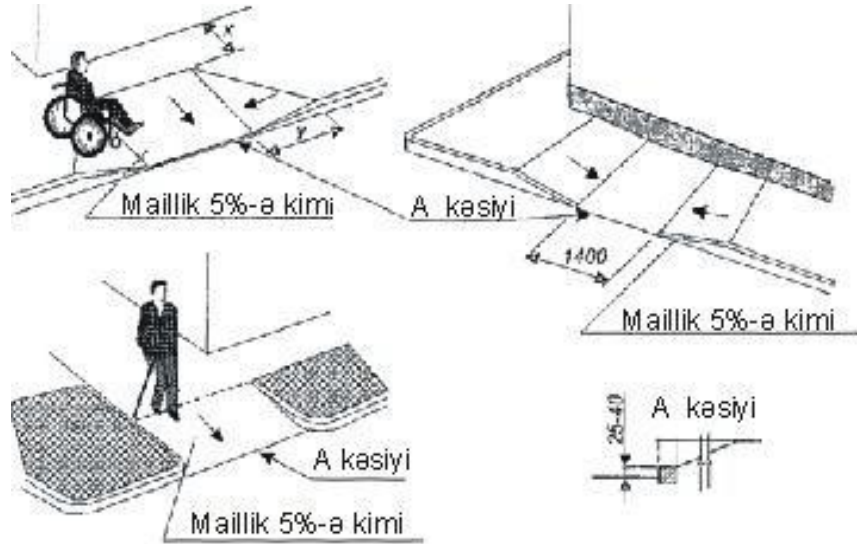
**Picture 6 transversely inclination**

4.8. If the conditions of the terrain do not allow, it is allowed to increase the slope of the 12 m long part of the road up to 100, in such cases, it is planned to level the horizontal areas on both sides in the direction of the slope of the road. In dangerous parts of the roads, curbstone guards with a height of not less than 0.05 m.





5. Road crossings



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#### 6. Access zones

6.1. Disabled persons, using wheelchairs, must be provided with free access to all public buildings and facilities. At the entrance of public buildings, a ramp with a width not less than 1.0 m for one-way traffic and 1.8 m for two-way traffic should be made. The width of the spiral ramp in the area where the wheelchair turns completely (180o) should not be less than 3.0 m.

6.2. The maximum width of the ramp between the horizontal platforms made for turning and resting depends on the slope in the longitudinal direction.

6.3. For turning and resting horizontal platforms should be parallel to the ramps and their length should not be less than 1.5 m for straight ramps and 2.0 m for grooved ramps.

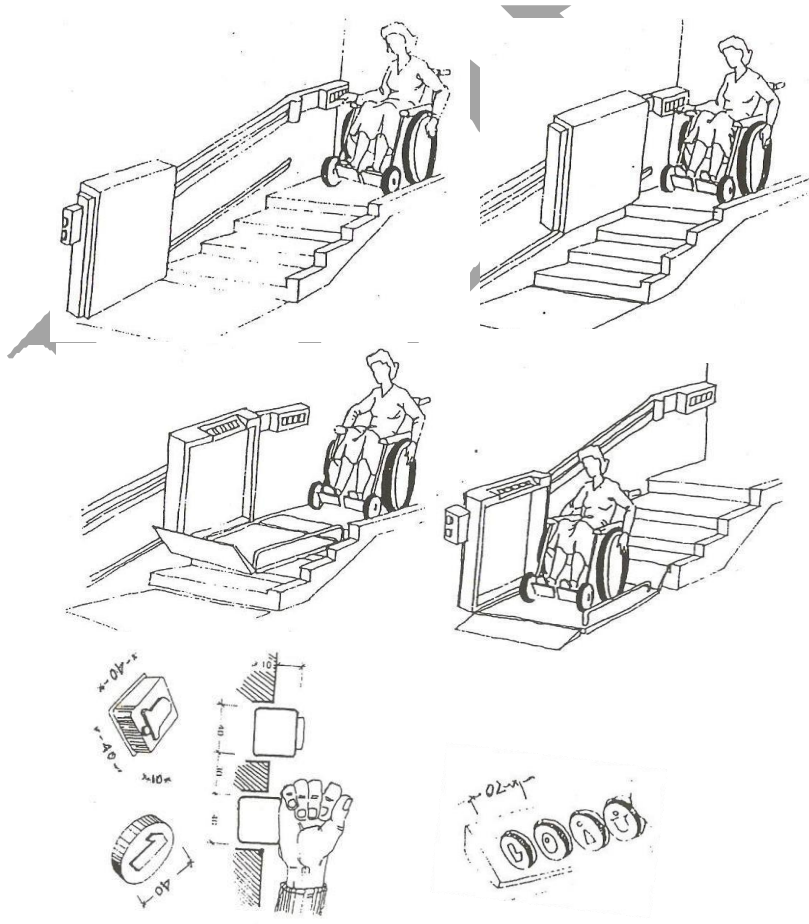
6.4. The ramp should have two handrails at a height of 0.7 m and 0.9 m, as well as a ledge along the edge of the ramp with a height of not less than 0.05 m.

6.5. If the ramp is placed along a wall or sidewalk, a mesh fence is built below the level of its edge.

6.6. The entrance to the building should be evenly lit and protected from atmospheric precipitation. All rooms of the public building intended for the audience should not have functionally unjustified barriers and obstacles.

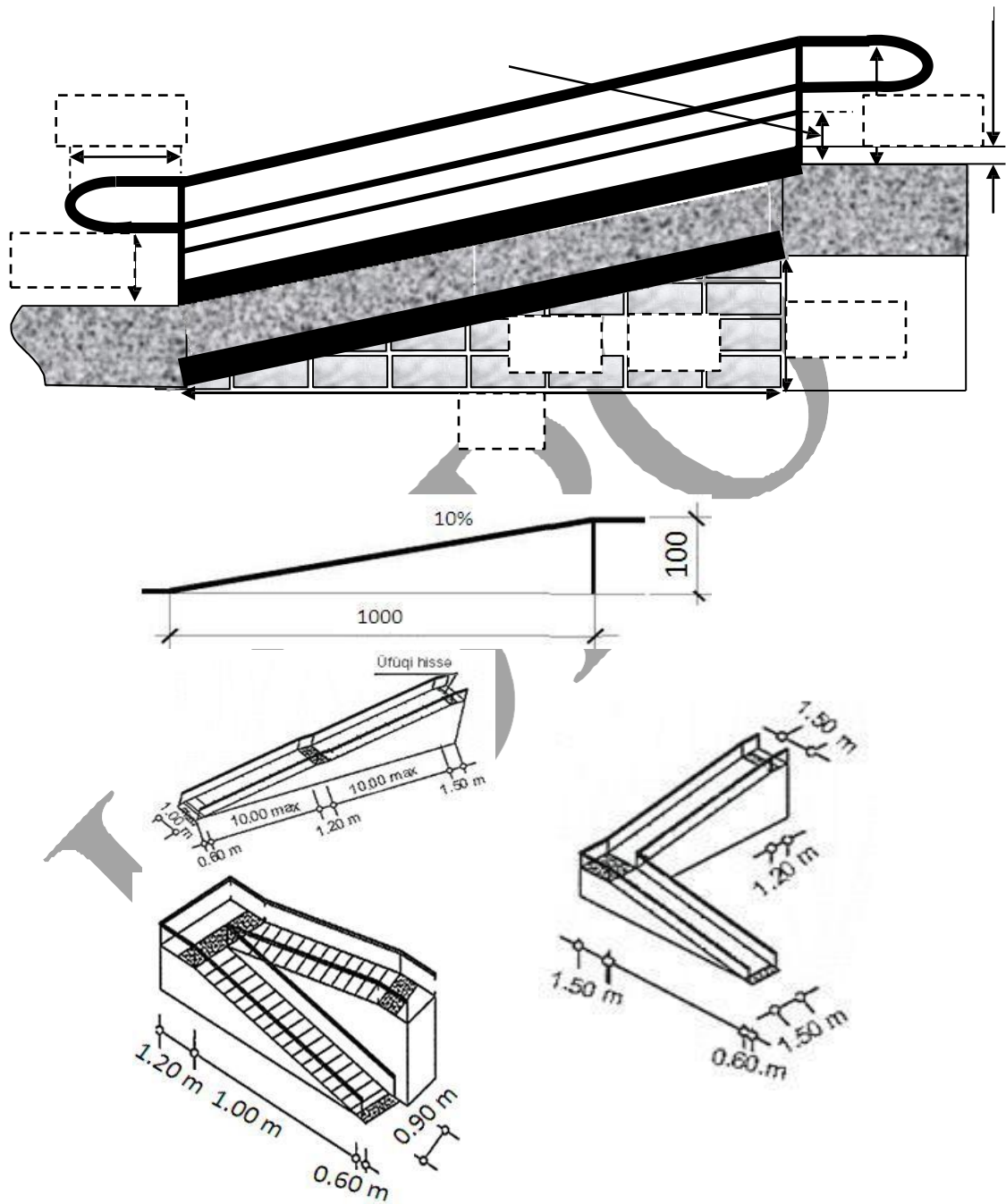
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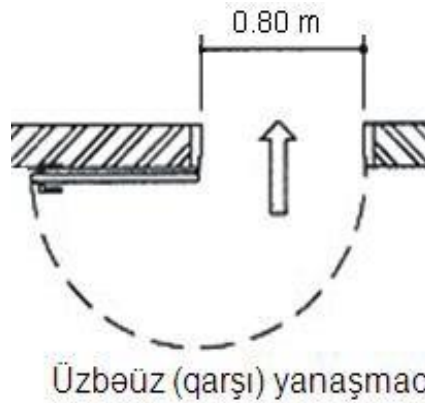
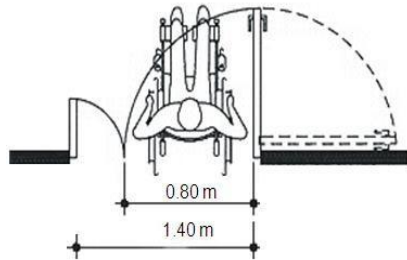
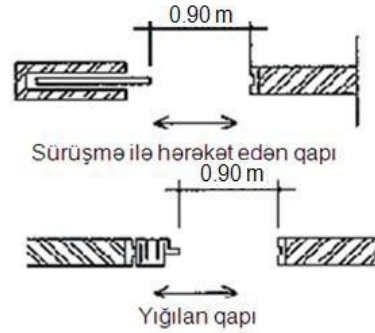
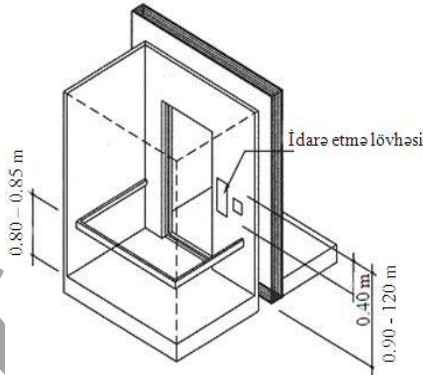
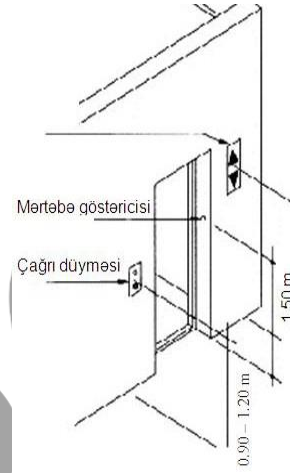
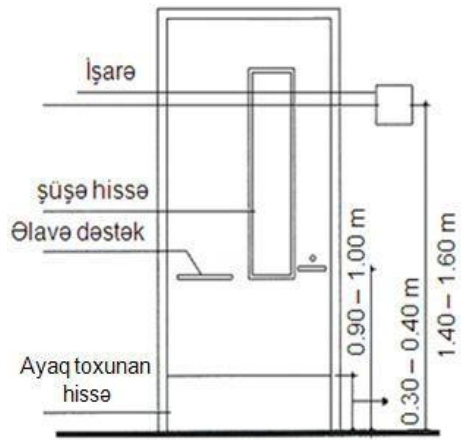
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6.7. For the use of persons with disabilities elevators must be provided in buildings that will be in public use. The plan dimensions of this elevator: width – 1.1m, depth – 1.4m, door opening width – 0.9m, in front of the elevator entrance width of the platform – at least 2.1m, elevator buttons should not be more than 1.2m above the floor level.



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6.8. In the stair march the number of steps should not be less than 3. The steps should be completely, straight and without protrusions, not slippery. The foot and handrail from slipping, the steps should have a border not less than 0.05 m high on the edges of the steps.

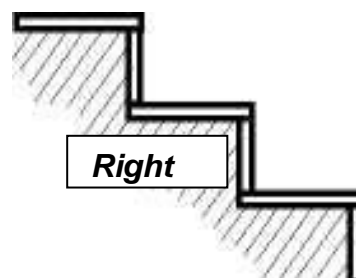
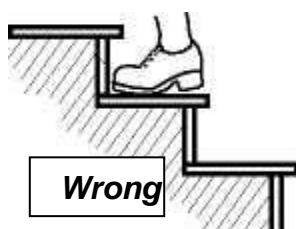
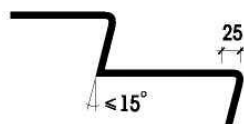
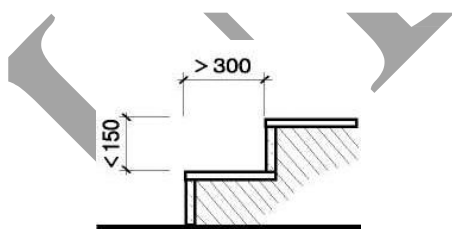
6.9. The width of the steps on the stairs: - internal stairs and steps under the cover - at least 0.3 m, open external stairs at least - 0.4 m. Height of steps: internal steps and steps under the cover - should not exceed 0.16 m; open external stairs - not more than 0.12 m.

6.10. Handrails with 0.9 m high should be made on both sides of the stairs. If the railings are circular, their diameter should be at least 0.03 m and at most 0.05 m. If the cross-section of the railing is rectangular, its thickness should be 0.025 m - 0.03 m.

Guardrails should be installed on both sides of stairs and ramps with a height of more than 0.45 m. Such handrails should be placed at a height of 0.7 m and 0.9 m on ramps, and 0.9 m on platforms. Handrails installed on the inside of the stairs should be continuous along the entire line. The end of the handrails should be 0.3 m longer than the stair march or the inclined part of the ramp.

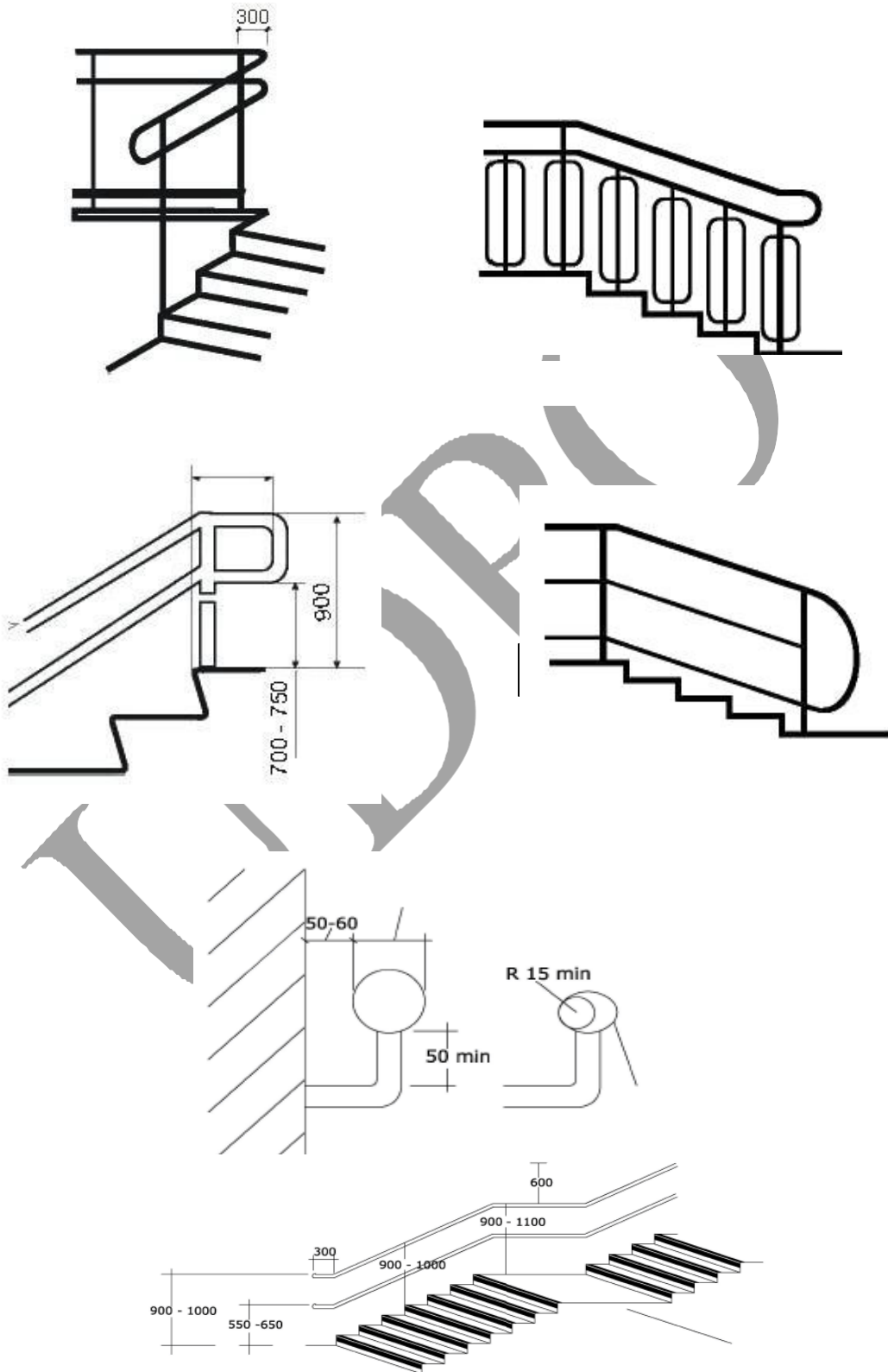
The width and height of the steps in the stairwell and marches should have the same geometric dimensions. At the edges of the stair march and ramps, if the difference in height is more than 0.45 m, a protective overhang of not less than 0.07 m should be provided to prevent the foot, crutches and wheelchairs from sliding.

At the entrance and exit of the stairs, special signs for people with visual disabilities are placed, protective tape is fixed on the front edges of the stairs.



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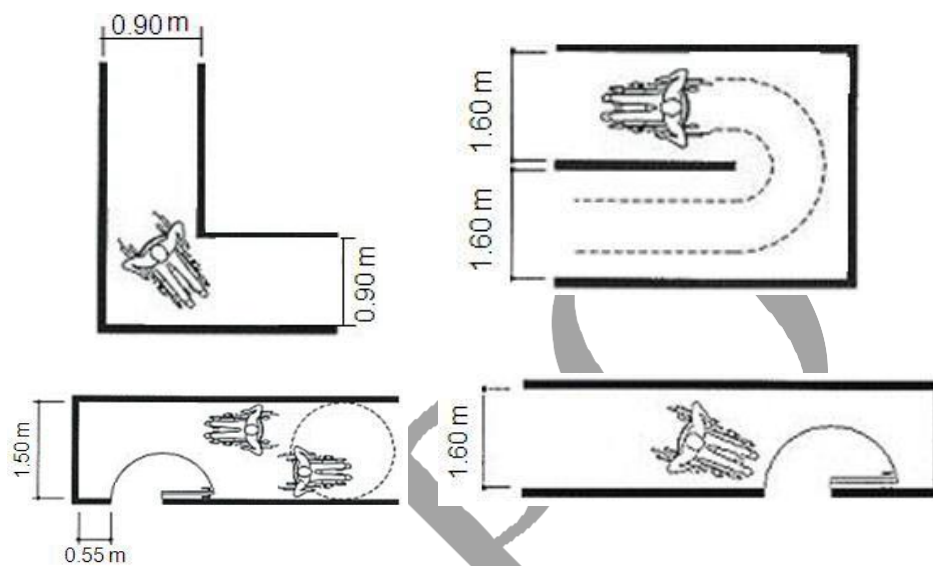
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6.11. For the turning of the wheelchair corridors should have turning areas for the cart. The doors placed on the axes of the corridors should be placed outside the axes of that corridor. From the head of the corridor to the door on the side wall should not be less than 0.6 m.



6.12. Doors of facilities and public buildings should not have bars. It is necessary to build a bar, their height should not exceed 0.025 m.



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6.13. To use doors rotating around an axis in the direction of movement of persons with disabilities in wheelchairs is prohibited.

6.13. When glass doors are used, thermally strengthened or reinforced glass should be used. The use of glass doors is allowed when they open automatically and have bright markings.

6.14. Electric switches of electromechanical doors should be installed at a distance of at least 1.4 m from the open door layer. Door and window supports should be made at a height of 0.9 m so that they can be reached by a wheelchair.

6.15. To facilitate the movement of people with disabilities in wheelchairs visual information signs should be installed in special places, and these signs should be designed according to international graphic symbols.

#### **7. Public toilets**

7.1. For persons with disabilities using wheelchairs public toilets must have at least 1 cubicle.

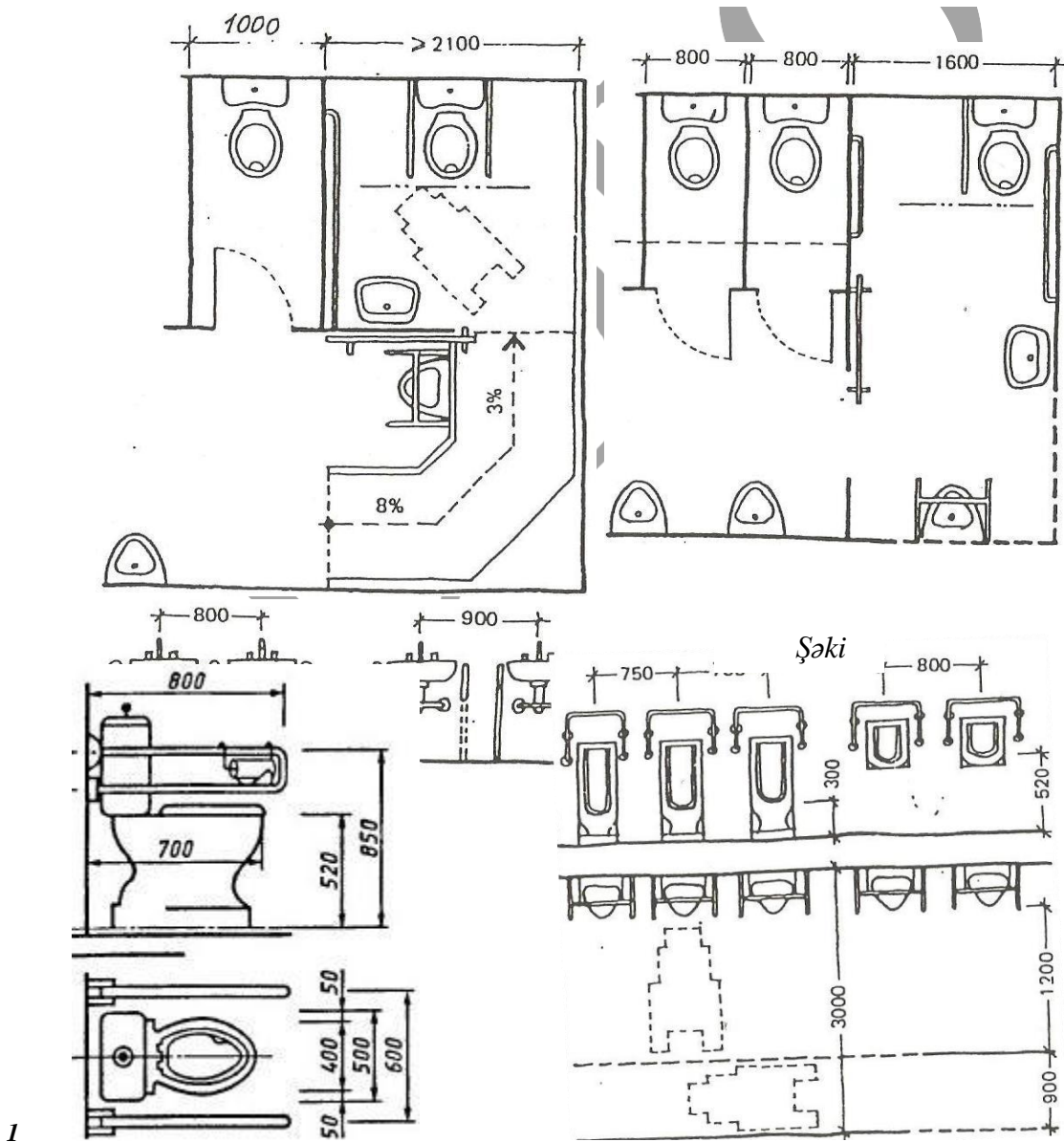
7.2. For people with disabilities when building cabins in existing public toilets, for the movement of wheelchairs should be eliminated all kinds of obstacles: door openings should be widened (up to 0.9 m), handrails should be removed, etc.

7.3. For the disabled people should be wide enough for the necessary movements for the toilet cabin. For this two ordinary cabins with appropriate equipment can be combined.

7.4. The set of equipment includes: opening, stationary, rotating handrails on constructions, handrails (to protect against damage by the wheelchairs) for pulling and moving, devices for movement directly from the cart (in the form of bar, monorail steps over urinals) is held.

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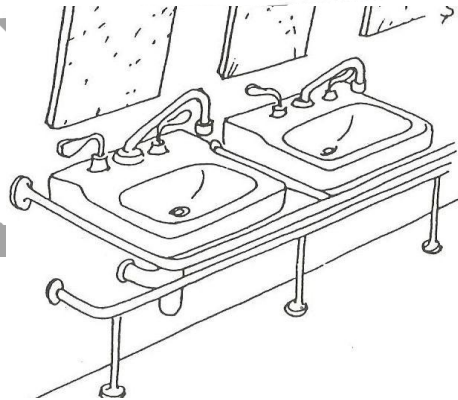
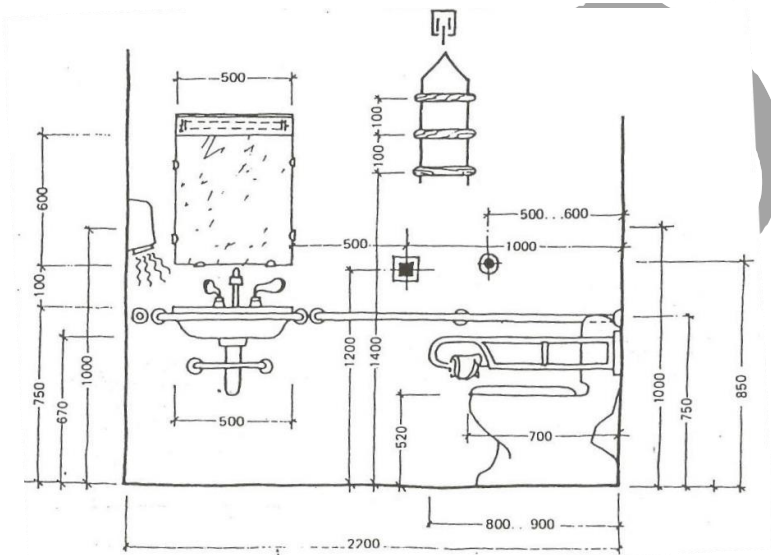
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7.5. For people with disabilities the cabin intended should be equipped with a sewage trap and an electric pipe with a hot-cold water mixer, as well as a shower head.

In the cabin a call button should be equipped next to the toilet. In the duty room near the public toilet the electric bell should be placed. At a distance of no more than 0.8 m from the floor and 0.2 m from the side wall the toilet should be installed.

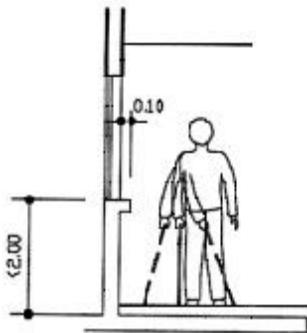
7.6. The mirror is fixed in an inclined position. The electric tower, lower edge of the mirror, or hand towel should be at a height of no more than 0.8 m from the floor level.



7.7. At a height of 1.2 m from the floor, next to the toilet, there are clothes, hand trees, etc. hooks for supplies should be provided on the wall of the cabin.

**8. ENSURING SECURITY IN BUILDINGS AND FACILITIES.**

8.1. For persons with disabilities entrance areas of buildings and facilities, as well as special stairs and lifting devices intended, must be protected from atmospheric deposits. For people with disabilities to move, the surface of such areas, structural elements and facilities should be firm, not slippery when wet, and should not make it difficult.

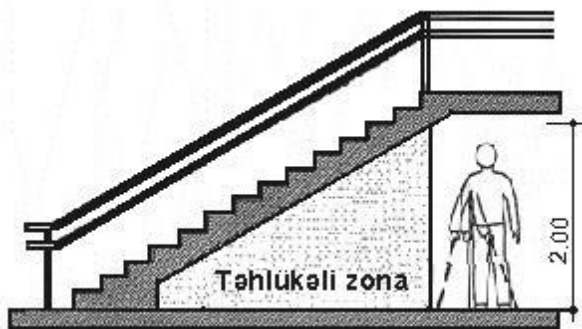


**Picture 24**

8.2. Used by persons with disabilities should be designed in accordance with the normative requirements for evacuation routes of people from the building in case of accidents access routes (dimensions, slopes, protrusions, gaps, etc.) within facilities. The use of persons with disabilities III type stairs is not allowed in the report of evacuation routes.

8.3. Constructive elements of facilities and buildings, as well as protrusions of structures placed on walls and other vertical planes in the direction of road traffic, from 0.7 m to 2.0 m from the floor level inside the building, and from 0.7 m to 2.1 m outside the building should not exceed 0.1 m. The projections should not exceed 0.3 m., if the structures are on a separate support (Picture 23.)

8.4. Other safety barriers should be installed under open stairs and in front of projections of other elements of the building with a height of less than 1.9 m. (Picture 25.)



**Picture 25**

8.5. For the movement of disabled persons in wheelchairs in performance and conference halls with auditoriums, an amphitheater, safety railings, strips and other protective elements should be provided

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around the areas or zones. Fastening places should be placed for carts, dimensions of special fuses shall be given. There should be a place for dogs and the mat should be made of material that can be removed relatively quickly.

8.6. For disabled persons in closed conditions (elevator cabin, toilet, etc.) in order to establish a two-way communication with the dispatcher or the duty officer, appropriate communication equipment should be installed in these rooms and facilities (if this system is in the building) and emergency lighting should be provided.

### **9. PROVISION OF COMFORT IN BUILDINGS AND FACILITIES.**

9.1. For the disabled persons 2-3 places for the rest should be provided on each floor of buildings and facilities used by invalids.

9.2. For the disabled people an area not less than 0.9m X 1.3m should be provided in front of tables, counters and other service areas, as well as wall-mounted devices and apparatus.

9.3. The reach of disabled people in wheelchairs in interior design, selection and placement of technological and other equipment should be within the following limits:

When it is on the side of the disabled person the equipment should not be higher than 1.4 m and lower than 0.3 m from the floor level.

When facing the disabled person from the floor level the equipment should not be installed at a level higher than 1.2 m and lower than 0.4 m.

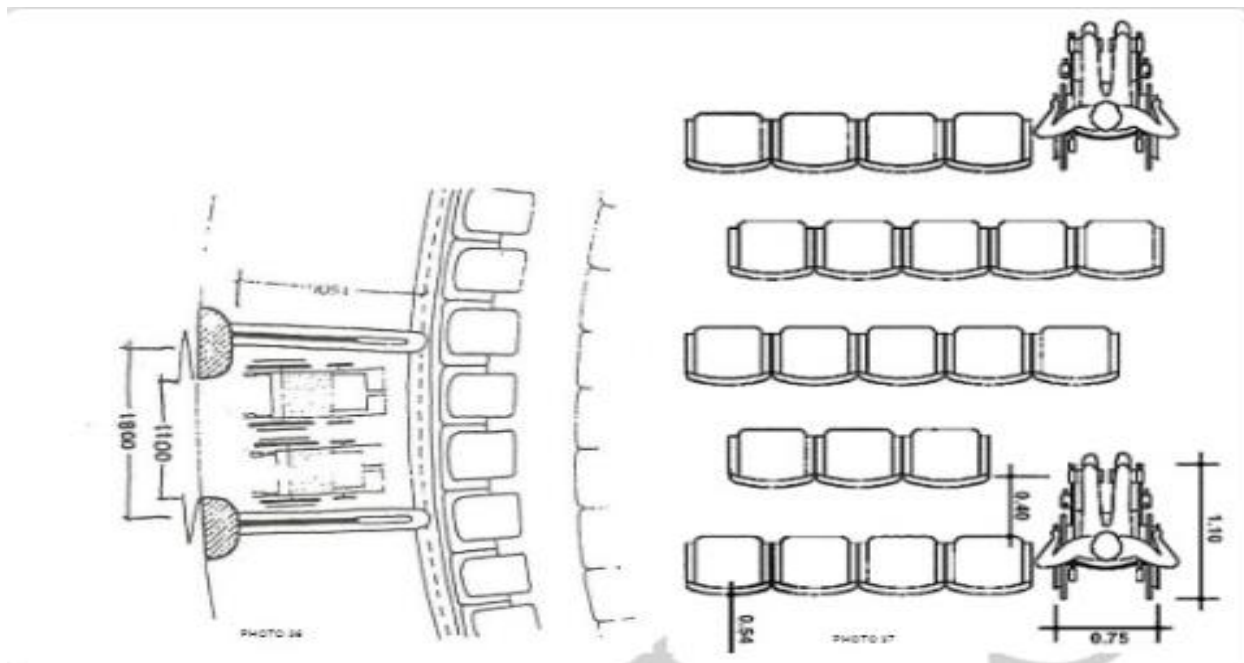
People with disabilities in wheelchairs are from the floor level, the surfaces of the tables and other service places it should not be higher than 0.8m;

Closing doors, horizontal handles, as well as water taps, buttons, switches and other elements should not be placed higher than 1.1 m and lower than 0.85 m from the floor level.

9.4. Wheelchair spaces should be considered in meeting rooms, and their placement should not obstruct other employees. Picture 36.)

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**9.5.** For people with disabilities in wheelchairs should be reserved special seats, as well as people with total and partial vision disabilities, near the entrance to food stations, canteens or buffets. It is appropriate to set aside a catering room near the enterprises, special workshops or production areas where workplaces have been opened for persons with disabilities of the specified category.

**9.6.** Institutions where persons with disabilities work should have medical centers and should be provided for the profile of diseases of persons with disabilities (ophthalmologist, neuropathologist, therapist, etc.)

**9.7.** Placing the machines, equipment and furniture in workplaces, it is necessary to ensure the possibility of normal movement of a wheelchair and equipment and furniture used by persons with this category of disability should be able to transform. For example, the possibility of changing the height of the machine and the working surface for persons with such disabilities should be taken into account, as well as the possibility of changing the position of work chairs in height and inclination.

**9.8.** All supports, faucets, buttons of various equipment, etc., that can be used by disabled people in wheelchairs should be placed at a height of 1 m above the floor level and at least 0.4 m from

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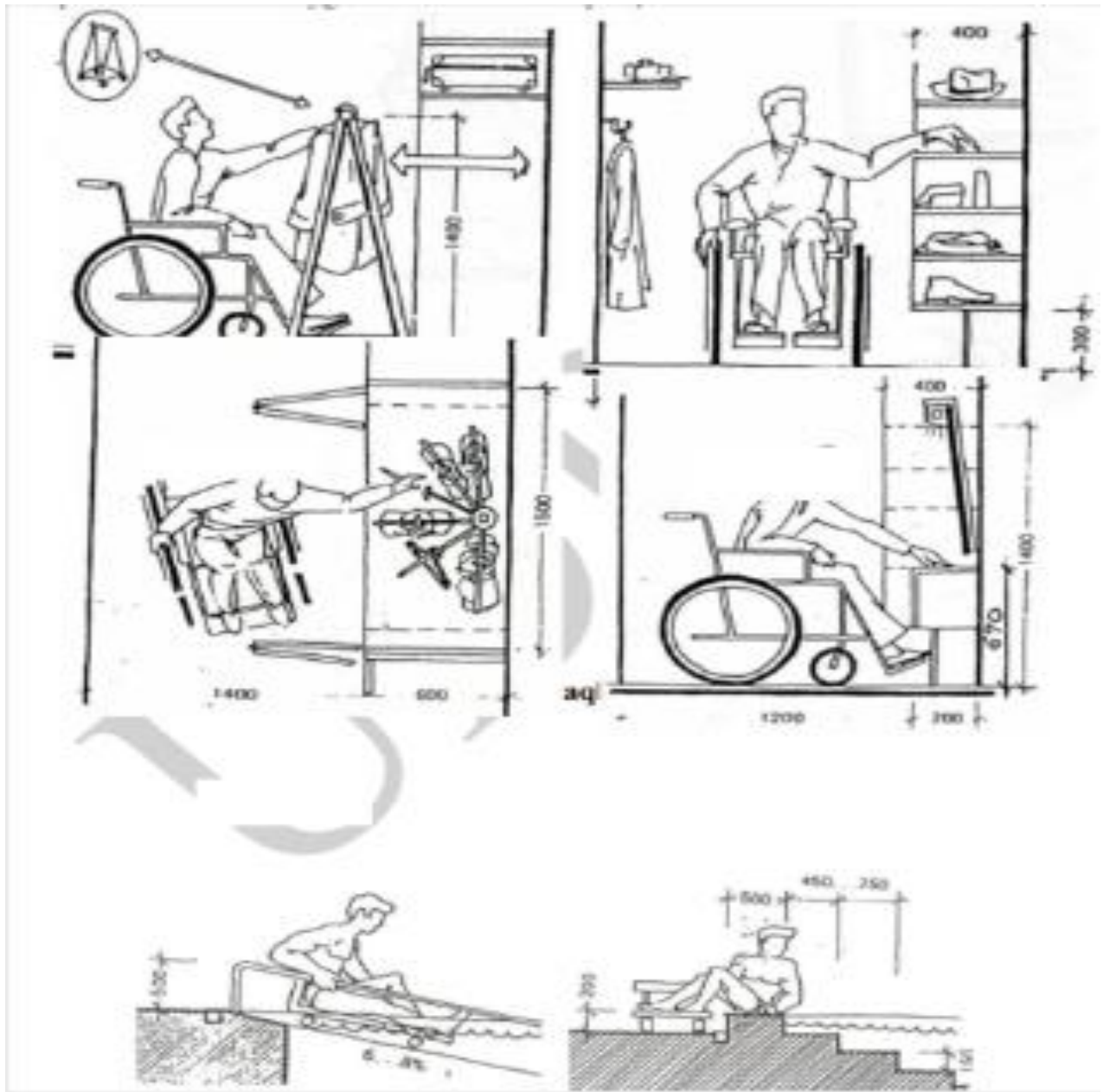
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the side wall

**9.9.** All elements of stationary equipment installed in workplaces of persons with disabilities must be strong and reliable. Equipment, regulators, electrical equipment, etc.fixed parts should protrude beyond the surface of the wall and fixed elements.

**9.10.** All unnecessary items must be removed from the corridor. There should be no excess items. Corners should be protected with metal brackets, clothes hangers and shelves should be installed at a height according to ergonomic schemes.

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Picture 46

Picture 47

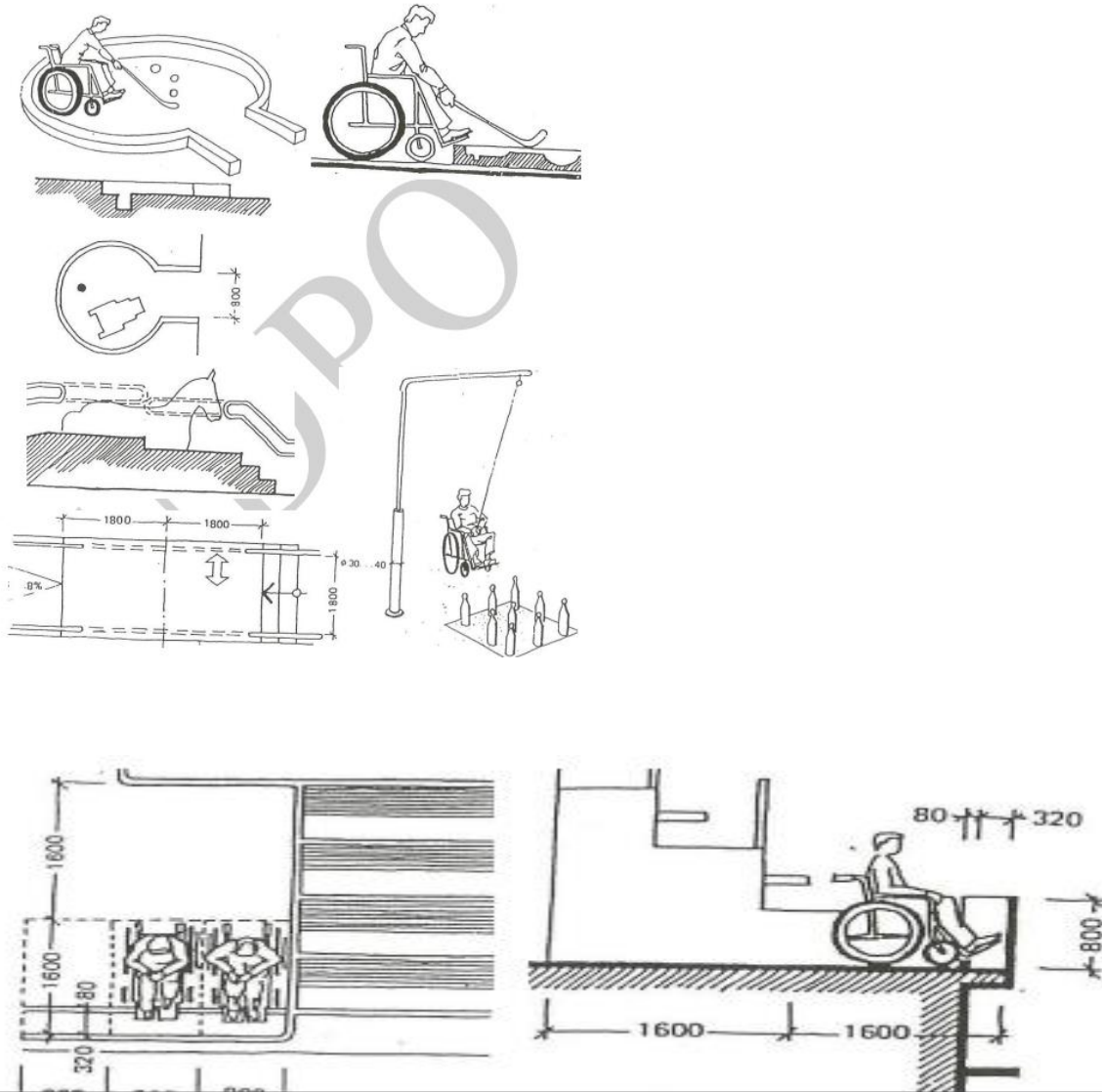
9.11. According to the interest of people with disabilities who use wheelchairs, during the design and reconstruction of sports facilities, their placement should be ensured and in the locker room for athletes, in swimming pools.



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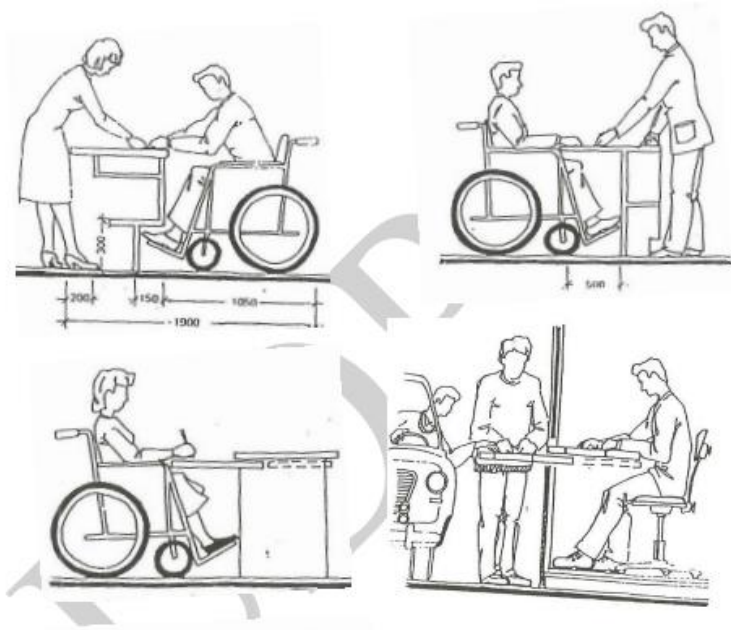
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9.12. At stadiums in swimming pools, facilities and aids should be taken into account in places intended for spectators, as well as the installation of special toilets, saunas, and special equipment.

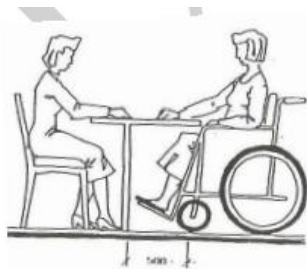


**10. Trade and household service facilities**

**11.1.** Additional requirements are put forward for the equipment of facilities for disabled people. If necessary, special equipment, furniture, materials, and carriages should be moved in accordance with the specifics of changing their place. The width of the path to the equipment and furniture should not be less than 0.9 m, if it is necessary to turn 90o with the cart, not less than 1.1 m



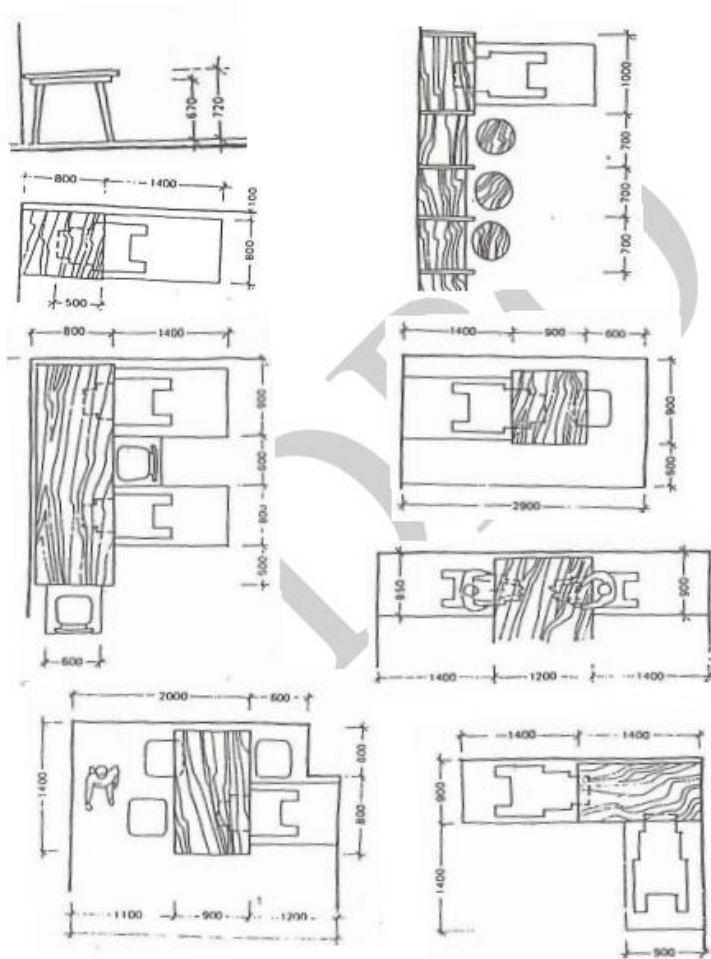
**PICTURE 79**



**11.2.** Tables, counters for service and trade, cash registers should be placed no more than 0.8 m above the floor level. In this case, the depth and width of the shelves should not be less than 0.6 m, and they should be placed at a height of more than 0.67 m.

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**PICTURE 80**

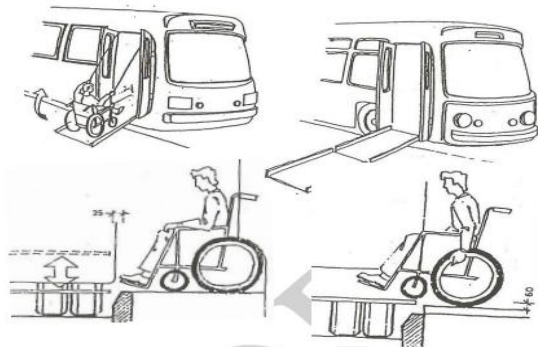
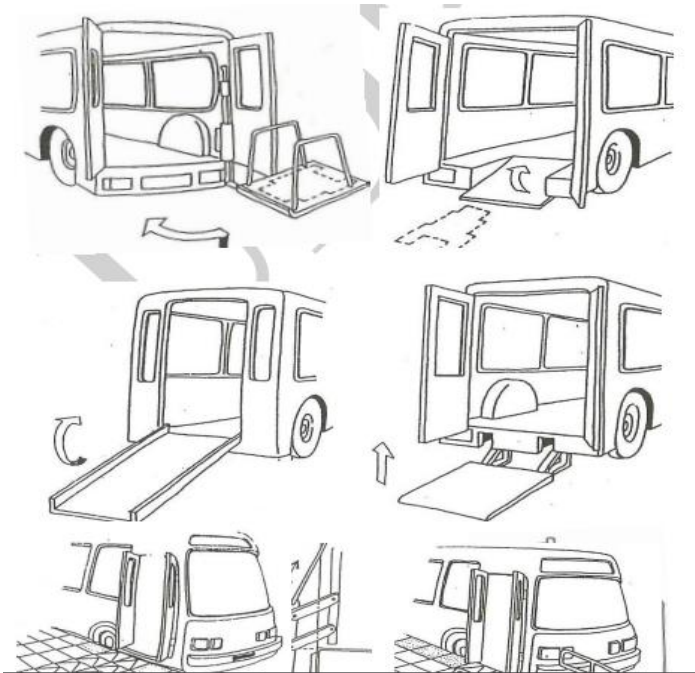
**11.3.** Supports, faucets, buttons, holes, etc. of shopping and ticket machines intended for disabled service in the cart. devices should be placed at a height of not more than 1.0 m from the floor level and at a distance of not less than 0.4 m from the side wall of the room. The supports and other controls of vending machines and devices are shaped to allow them to be firmly gripped should be Locks and automatics should allow you to handle them manually. Devices and all their elements must be strong and made in a convenient size for the disabled.

### **13. TRANSPORTATION FOR THE DISABLED PEOPLE**

**13.1.** Persons with disabilities should be provided with opportunities to move freely in the city, outside the city and the country. It is necessary to have different means of public transport adapted to serve persons with disabilities.

**13.2.** Lifts must be installed in city buses. At transport stops, platforms should be made to approach it. Expansion of the doors when the bus is rebuilt, in the rear of the bus the construction of doors should be considered.

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14. General recommendations on materials used in the preparation of products and technical means for the rehabilitation of persons with disabilities.

**14.1. Access zones.**

Railings of ramps in the entrance area, folding ramps, elements of individual lifts on stairs should be made of metal, after cleaning, it should be painted with oil paint. Handrail parts should be made of hard wood and covered with transparent varnish. Polyvinyl chloride handles can also be used.

**14.2. Bedrooms.**

Assistive devices in the bedrooms, protective railings and handles on the bed of the patient, supports for changing the position and position should be made of metal pipes chromed or coated in factory conditions.

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#### **14.3. Bathrooms and toilets.**

Equipment and tools for bathrooms and toilets, various handles, supports, supports and other tools should be made of chrome-plated pipes, and mobile seats should be made of plastic mass. Some structural load-bearing elements and parts must be made of stainless steel.

#### **14.5. Public buildings and facilities.**

Various handles, supports, etc. in stadiums, swimming pools, trade and service establishments, public toilets for vehicles from the above-mentioned materials - chrome-plated pipes, stainless steel, coated metals, etc. materials are used.

**14.6.** Transport for people with disabilities stainless steel or coated metals are used when equipping buses with special lifting equipment and installing them, as well as installing platforms for entering buses.

**14.7.** Mobility aids and tools. Here you should use chrome-plated pipes, belts, strong threads and fabrics.

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