A Guide To Better Public Toilet

Design and Maintenance

A Publication by the Restroom Association (Singapore)



In Partnership with

The National Environment Agency

www.toilet.org.sg



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A Guide to Better Public Toilet Design and Maintenance ³ Introduction

In recent years, thanks to various publicity programmes, the issue of Public Toilets has evolved from being an embarrassing subject to one that is gaining widespread awareness and discussion.

When we ask "Why is the Toilet Dirty?" we trace its origin to many diverse and interrelated Toilet issues including Design, Behaviour, Public Health, Social Graciousness, Cleaning Skills and Methods, Building Maintenance, Accessibility, Setting Norms and Standards, Legislation, Research & Development, Technologies, Public Education and Environmental issues such as Water.

These issues are also different in each kind of building e.g. a factory's toilet serves different visitors than that of a shopping centre, or a school, a hospital, an office, a coffee shop, etc.

The Toilet needs of a man are also different from a woman, a child, an elderly person, an infant and different kinds of handicapped people like the visually handicapped, blind, wheel-chair bound, etc. Furthermore, ethnic and cultural needs also have to be addressed.

The first Guidebook for Better Public Toilet Design and Maintenance was first published in 1999. As an ongoing effort to update our knowledge base on the subject, we are glad to bring you this second edition. As we continue to search for answers to our Toilet issues, we hope you'll be able to use these information in your design and maintenance, and offer our society a more predictably pleasant Toilet environment for their next visit.

Thank you.

Jack Sim President Restroom Association (Singapore)

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Definition of "A Well Designed Toilet"

Anyone, who has even been in an overcrowded or uncomfortable public toilet, will value a good toilet design. The usual demands placed on a high-profile, high traffic and heavily used facility requires extra thoughts for each process. A well-designed public toilet has to be:

- (a) Clean and dry
- (b) Well ventilated
- (c) Easy to maintain
- (d) Carefully planned layout
- (e) Handicap friendly

There are various types of toilets:

- Public toilets provided by shopping centres, supermarkets, wet markets, eating establishments, food centres, bars, nightclubs, conference halls, cinemas, theatres, parks, tourist sites, public resorts, piers, bus terminals, MRT stations, stadia, public swimming pools and petrol stations. Use of these facilities is generally open to any member of the public or restricted to the patrons of the owner of the facility.
- Private toilets for staff in offices, factories or occupants of buildings where the use is restricted to patrons of the service provider or by the building management.
- 3. Private Residences (This is beyond the scope of this guidebook)

Public toilets are places where one is obliged to ease oneself in unfamiliar surroundings among the strangers of the same sex. Therefore, the fundamental principles of design of toilets include psychological studies and not just physical clearances and space requirement.

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I Design

1.0 Introduction

A number of different activity spaces are shown in the diagram (See Illustration 1): space occupied by the appliances itself, additional space required by the user and further space for their own belongings or circulation within the toilets. In many cases, these latter spaces may overlap on occasion. Common sense will dictate when this is appropriate and when it is not.

Placing the appliances in order of use simplifies the circulation and reduces the distance travelled by the user. Using sensor-operated appliances should encourage hygiene.

It is difficult and costly to insulate the toilets acoustically and this problem can be resolved by planning isolation as much as possible.

No unsupervised installation can prevent vandalism. Even with the most vandalresistant appliances, an unsupervised facility will eventually become sub-standard. In most cases, facility engineers and cleaners play an important role, which will result in well-maintained toilets. However, all designs should allow for individual items to be replaced. Pipe work, traps and electrical supplies should be concealed for aesthetic and hygiene reasons.

1.1 Layout

Single entrance/exit plans work satisfactorily provided the path of the users do not cross each other and the entrance is wide enough. Dispensing with the entrance door to the public toilet not only helps to improve the ventilation within the toilet but also minimizes hand contact for hygiene reasons (See Illustration 2). In many toilets, doors have been replaced by offset entrance maze which blocks the view yet allows easier, hands-free access. This approach eliminates the need for automatic doors and thus meeting stringent disability access guidelines.

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Public toilets should be designed to minimise hand contact as far as possible for hygienic reasons. Electronic products for toilets such as flush valves and faucets require minimum maintenance but offer enhanced operations that promote sanitation and perceived cleanliness because of hands-free operation.

There are several screening arrangement for installations showing the visibility from outside in each case (See Illustration 3). Consideration should be given to the positioning of the mirrors and to the gaps created by the hinges.

For example, the access entrance to male public toilets should not open directly to the urinal area. Avoid entrances opening onto a wall surface with the mirror reflecting the urinals. (See Illustration 4)

Directional signs leading to the toilets should meet the needs of the Handicap Welfare Association (HWA). The detailed requirements can be found in Building and Construction Authority's (BCA) "Code for Barrier-Free Accessibility in Buildings" (See Illustration 5). Location of toilets should not be too remote from main traffic area to avoid long distance walking for the aged with weak knees. It has to be easily accessible for those with urgency and for better personal safety for the user.

Further to this, signages used should be sufficient and prominently displayed in all main traffic passageways, so that the user does not need to ask for directions. Signages used should show contrast of dark solid figure against a white background and significant to be seen by the visually handicapped and the aged. Fancy signage using "Queen" and "King" or "Hat", "High-heel shoes" are confusing and should not be encouraged. It is not easily distinguished by the visually handicapped and the aged.

The ratio of fittings in male and female toilets should be 1 W.C & 1 Urinal for male: 2 W.C.s for female.

As far as possible, fixtures such as urinals and W.C.s should be fitted back-to-back with common pipe ducts in between.

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All public toilets should be mechanically ventilated. Small public toilets should be fitted with an exhaust fan as minimum.

1.2 Lighting

A well-designed lighting system will save electrical energy and improve the appearance of the toilet. Poorly designed fixtures with discoloured diffusers go a long way to make a toilet dingy. Dark and shadowy, off-coloured lighting can create the impression that a toilet isn't clean.

Natural lighting can be used to help create a softer, friendlier environment. Harsh lighting can create a cold and unwelcoming air while being inappropriate for the tasks being performed. It can also highlight hard-to-clean areas. Thoughtful selection of fixtures and lamps coupled with careful placement is essential (Refer to Illustration 6 and 7 for examples).

All public toilets should be provided with warm-colour lighting for general lighting as well as down lights above the wash basin/mirror (Refer to Illustration 8 for examples). The minimum general lighting level is 300 lux.

Warm-colour lighting aids in creating a better ambience in the toilets, which in turn encourages more care and responsibility from the users.

1.3 Materials

Materials used should be durable and resistant to vandalism and neglect. Applied finishes such as paint should be avoided.

Examples of good materials: -

(a) Floor

Non-slip ceramic tiles, natural stone, homogeneous tiles, terrazzo.

(b) Wall

Ceramic tiles, natural stone, homogeneous tiles, stainless steel, enamelled

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steel panels, glass block, aluminium panels, phenolic cladding.

(c) Ceiling

Mineral fibre board, fibrous plaster board, Aluminium panels or strips

Carefully selected, durable materials minimise maintenance and prevent misuse. It is highly desirable that painted finishes are avoided, together with any materials, which are affected by moisture or corrosion (e.g. woodchip products and ferrous metals).

Floor finishes are available in a wide variety of materials. When selecting a finish, it is important to note that the material support the image being presented. The finishes must be sufficiently durable to withstand the anticipated traffic levels and the toilet-cleaning frequency should also be sufficient to keep the floor looking well maintained and clean.

Non-slip homogeneous tiles are often selected because they are durable and are relatively easy to clean. The walls should be tiled, allowing the cleaners to sponge down the walls and floors thoroughly with little difficulty. Another alternative is to use ceramic tiles or wall cladding.

Wall and floor tiles of large surface areas are encouraged for easy maintenance. The tile size should be at least 100mm by 200mm. Alternatively, any of the panels listed above could also be installed at the walls.

The most common type of ceiling finishes includes calcium silicate board and suspended ceiling tiles. If there is piping above the ceiling, for example, suspended tiles will permit easy access for maintenance and are more easily repaired in the event of spot damage. Calcium silicate board may be better suited for applications where access above the ceiling is not required. When the time comes for renewal of ceiling finishes, it is far less expensive to repaint calcium silicate board than to replace ceiling tile.

Use colours to brighten the toilet, create interest, and produce a conducive environment

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Colour, achieved with materials and lighting, is one of the vital ingredients in creating ambience. It can be part of the tile or stone finishes, or added to the applied finishes such as the enamelling on steel or aluminium. If paint is to be used, it should be restricted to areas that are out of reach, e.g. ceilings.

1.4 Urinals

All Urinals should be fitted with a flush valve and an automatic flushing device. The fixture should be concealed for easy maintenance and to deter vandalism.

Urinals should be individual wall hung units, more than 300mm wide, and the lip of the collection area should project from the wall by at least 300 mm. Space around urinal(s) should be in accordance with Appendix I. Urinals should be separated by modesty boards of not less than 300 x 800 mm (Height). (Refer to Illustration 9 and 10 for examples).

If 2 or more urinals are installed, one should be installed at child's height. As a further enhancement to keep the urinal areas dry, stainless steel grating could be installed over the drainage and below the urinal bowls. (See Illustration 11)

1.5 Water Closets

All W.C.s should preferably be wall hung and should be fitted with a flush valve and an automatic flushing device with a manual bypass. The fixture should be concealed for easy maintenance and to deter vandalism. W.C. cubicles should be 850mm (min) x 1500mm (min). All W.C. cubicles should be fitted with drum roll toilet paper dispensers (Refer to Illustration 12 for more examples).

Coat hooks (double hooks) should be affixed behind cubicle doors. A platform or foldable shelf could be installed in the cubicles for putting personal items. Cubicle partition board should be of rigid design and wall or ceiling hung, where practical, without leg support for easy cleaning of the floor area.

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An ablution tap coupled with hose and a spring-loaded nozzle should be installed in at least 1 W.C compartment in male and female toilets. Floor trap should be provided within the W.C. where it is fitted with the ablution tap. The flooring of W.C. cubicles should be properly graded towards the floor trap so as to keep the floor as dry as possible. That particular cubicle should have signage displayed for easy identification.

1.6 Wash Basins

Wash basins should be substantial in size. The basins should have a minimum size of 500mm in length and 400mm in width (Refer to Illustration 13 for examples).

The space around wash hand basins should be in accordance with Appendix II.

All wash basins should be installed into vanity tops, and located beneath the vanity as shown in Appendix II and Illustration 14.

Vanity tops should have backsplash and apron edges as shown in Appendix III and Illustration 15.

All wash basin taps should be provided with PUB-approved aerators. As an effort to conserve water, electronically controlled taps can be considered. Sensor controlled taps with their precise flow settings and positive shutoff characteristics, offer effective means for providing adequate water flow when it is required. Further to this, it will minimize hand contact.

The water pressure and tap/wash basin position should not cause water to splash onto user's body during activation.

Where there are 2 or more basins, one should be installed at child's height.

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In order to keep the floor dry, the vanity top-cum-wash basin should be installed outside the toilets for common use by all users. Liquid soap dispensers, paper towel dispenser or hand dryer and litter bins should be installed adjacent to the wash basins.

1.7 **Provision of Facilities**

All public toilets should be fitted with :

- (a) Waste bins (Illustration 16 and 17) inside each male and female toilet and outside toilets located directly below or in close proximity to the washbasin vanity.
- (b) Either paper towel dispenser or hand dryer, directly above or in close proximity to the washbasin vanity as shown in Appendix IV and Illustration 18.
- (c) Sanitary disposal bins in female toilets
- (d) Suitable air fresheners to promote a fragrant, pleasing environment. Any airfresheners spray should avoid spraying directly at user's hair, face and body. It should spray away in non-traffic directions or upwards.
- (e) Sanitizers in each W.C bowl/ urinal fitting.
- (f) Wash areas should also be provided outside public toilets serving wet markets and beaches.
- (g) A slop sink and it should preferably be housed in a separate compartment.

1.8 Special needs

(a) Diaper changing station. (See Illustration 19)

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(b) Toilet for the handicapped:

Where sanitary provisions are to be made for wheelchair users, such provisions shall be in accordance with the requirements stipulated under BCA's "Code on Barrier-Free Accessibility in Buildings". The wash basin in handicap toilets should be within reach from a seated position so that the handicapped can do his washing without shifting himself. (See Illustration 20)

1.9 Installation Standards

All pipe works should be concealed, except for final connections to the fixtures. Pipe work exposed to view should be chrome-plated.

Avoid surface mounting of cables. They should be fully concealed.

Avoid sharp corners or edges. Coved tiles or PVC strips should be provided along these edges as far as possible.

Access panels to pipe ducts should be located as far as possible in inconspicuous areas.

Mirrors should be flush with the wall surface.

1.10 Ventilation System

Proper ventilation of a public toilet is one of the highest priorities. Ineffective ventilation can make a public toilet unbearable, even if it is well designed. Effective ventilation ensures that vitiated air is quickly extracted, and helps to avoid dampness and subsequent growth of mould on floors and walls.

The toilet air should be extracted to the outside by a mechanical ventilation system at a rate not less than 15 air charges per hour.

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The mechanical ventilation system of exhaust fans and, where applicable, ventilation ducts and grilles should ensure that every part of the toilet is within 3m of the fan inlet or an intake grille, measured horizontally. Preferably, intake grilles should also be provided at low levels near the W.C.s to enable foul-air to be extracted quickly before diffusing into other areas of the toilet.

Where service access ducts are provided, these should be connected to the toilet exhaust ducts to extract air at a rate of 5 air changes per hour. The make-up air to the service access ducts may be taken through extract grilles installed at low level on the walls between the W.C. compartments and the access duct. (Refer to Illustration 21 for more examples)

The exhaust air should be discharged to the exterior of the building at a position at least 2 m above the pavement level and at least 5 m from any window or fresh air intake.

Replacement air should be supplied to the toilet to make up for the exhaust air. The replacement air may be taken directly from the exterior, or from adjacent spaces that are permanently air-conditioned or naturally ventilated. The replacement air may be drawn through louvres in the doors, cuttings under the door, or other openings. If replacement air is taken from the exterior, the quantity shall be lower than that of the exhaust air so that a lower pressure is created in the toilet, which minimises the possibility of vitiated air entering the adjacent spaces.

Replacement air should preferably be discharged close to the floor level near the wash basins to help keep the floor dry.

Air locks should be incorporated to separate the toilet areas from food consumption or preparation areas.

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1.11 Looscaping

The ambience of public toilets can be enhanced further by:

- (a) Introducing easy maintenance plants inside the toilets as well as surrounding the public toilets.
- (b) Placing of wall pictures and illuminated with delicate lighting on them.
- (c) Placing of ornaments or sculptures at the 'dead' corners of the toilets.

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II Maintenance

2.1 Sequence of Cleaning

General cleaning should be carried out daily. It should follow a systematic sequence to avoid areas, which were previously cleaned from becoming wet and soiled again before the cleaning process is completed.

The general cleaning should be divided into spot and thorough cleaning. Spot cleaning refers to the process whereby only specific areas are cleaned (i.e. those that are soiled). Thorough cleaning refers to the cleaning of the entire restroom and is usually carried out once a day.

The sequence of cleaning should follow this checklist:

- (a) Replace all expendable supplies
- (b) Pick up litter and sweep floor
- (c) Clean and sanitize commodes and urinals
- (d) Clean and sanitize basins
- (e) Clean mirrors and polish all bright work
- (f) Spot-clean walls, ledges, vents and partitions
- (g) Wet-mop floors
- (h) Inspect work and correct any errors

An inspection card should be used in the supervising and monitoring of the daily maintenance of the toilet. This card should be placed at the back of the entrance door to the toilet. A copy of the inspection card is shown in Illustration 22.

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2.2 Schedule Cleaning

Scheduled cleaning should be carried out periodically on a weekly, fortnightly or monthly basis (different surfaces, wares and fittings require different cleaning periods to maintain their cleanliness).

Scheduled cleaning should be carried out during off-peak hours to avoid inconveniencing the user. The periodic cleaning schedule shown in Appendix V should be adopted.

2.3 Timing and Frequency of Cleaning

The timing and frequency of cleaning should be determined by the crowd flow. Cleaning should be done more often during peak hours and less during off-peak hours. Frequency of cleaning is usually determined by expectation and standard of maintenance required by the management of the property and also the budget available for the maintenance of toilets.

The frequency of cleaning should vary for different building types. Shopping centres will require more frequent cleaning than condominiums. Appendix VI should be used as a guide to the frequency of cleaning in different building types.

2.4 Basic Equipment and Supplies

Different equipment for different joints and corners, as well as different disinfectants, should be used in the cleaning of different sanitary wares and fittings.

To carry out proper toilet maintenance, cleaners should have the equipment listed in Appendix VII

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2.5 Correct Use of Cleaning Agents

Cleaners of public toilets should be trained in the proper usage of specific cleaning, agents and equipment for different types of materials and finishes in the toilets, e.g. tiles, mirrors, stainless steel. A recommended list of the appropriate type of cleaning agents for the different types of finish is shown in Appendix VIII

2.6 Mechanical Ventilation System

Mechanical ventilation systems should be: -

- (a) Properly maintained to ensure maximum efficiency and optimal operating conditions.
- (b) Checked and serviced on a monthly basis. Cleaning of the systems should also be done weekly via wiping or dusting.

2.7 Training

Toilet cleaners should be properly trained and certified to perform the task well. One such certification is the National Skills Recognition System (NSRS) for cleaning toilets. Supervisors should also be trained with the right knowledge and skills to effectively supervise the cleaners.

2.8 Performance-Based Contracts

Toilet operators who engage cleaning contractors for toilet cleaning should specify in their contract a performance-based outcome rather than headcount-based outcome. The performance-based contract should also stipulate a requirement for trained cleaners (e.g. NSRS certified)

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III User Education

3.1 Persuading Users to do their Part

Having public education messages in the toilets can help persuade users to do their part in keeping toilets clean.

In order to be effective in persuading people to do their part, a message has to be

- (a) attended to
- (b) assimilated
- (c) remembered (for future action)

3.2 Message Design

People readily attend to visuals. This makes the use of visuals an important part of the design of the message. Generally, visuals should be

- (a) Simple and uncluttered
- (b) Attractive
- (c) Eye-catching

The language of public education has to be kept simple. This helps ensure that the message reaches all Singaporeans regardless of their educational level. It also ensures that the message is attended to, understood and remembered for future action.

- (a) The reading level (in any of the four official languages) should not be more advanced than that of a Primary Six reader.
- (b) Jargon, big words and long sentences should be avoided.

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(c) Slogans can be very effective because they are short, catchy and easy to remember.

Subtle humour can be used to deal with the personal and sensitive issues surrounding toilet use.

- (a) Humour can be successfully tapped through cartoon characterizations of toilet fixtures such as wash basin, toilet bowl and litter bin.
- (b) An additional benefit of cartoon characters is that they can be used with minimal text, reducing the need for translation to other languages.

3.3 Message Placement

The usual means of message placement in public toilets are posters and stickers.

To maximize the effectiveness of the message, the right medium and manner of displace should be selected.

Generally, stickers should be used if:

- (a) The main purpose of user education is to address specific behavioural concerns such as littering, careless aiming or the flinging of water everywhere
- (b) Subtlety is preferred

For display, stickers should be:

- (a) Made of vinyl material, rather than paper.
- (b) Made with adhesive than can be peeled off without leaving unsightly marks.

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(c) Placed strategically at the spot where the problem behaviour occurs. For example: on the wall above the urinal – to encourage better aiming; At the wash basin area – to discourage flinging of water everywhere

Posters can be used to convey generic messages such as "Help Keep This Toilet Clean and Nice".

Posters should only be used when

- (a) Displayed in a way that makes them repellent to watere.g. Laminated on both sides or protected by acrylic sheets
- Mounted with non-marking adhesives
 Adhesives such as scotch tape and double-sided tape may damage certain types of wall surfaces and should therefore be avoided.





Illustration 1: Space Occupied by appliances, wet areas and dry areas.

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Illustration 2: Off-set entrance maze without doors.



Illustration 3: Various Screening arrangements for toilets showing the visibility from external area.



Illustration 4: Off-set entrance maze without doors.

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Illustration 5: Directional signage.



Illustration 5.1: Directional signage.

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Illustration 5.2: Signage.



Illustration 5.3: Signage.

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Illustration 6: Natural Lighting.

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Illustration 7: Non-suspended PLC downlight, mounted onto ceiling.



Illustration 7.1: Suspended fitting for low voltage downlighting and halogen uplighting with the option of twin feeds. All the electrical components are built into the extruded aluminium profile. Finish white, black, yellow, grey and red.



Illustration 8: Use of warm-colour lighting for general lighting.



Illustration 9: Wall hung urinals separated by modesty board.



Illustration 10: Wall-hung urinal.



Illustration 10.1: Wall-hung Built-in-sensor urinal.



Illustration 11: Adult height and child height urinal.



Illustration 11.1: Stainless steel grating over drainage .

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Illustration 12: Wall hung WC with drum roll toilet paper dispenser.



Illustration 13: Wash basin of adequate size.

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Illustration 14: Under counter wash basin.



Illustration 14.1: Under counter wash basin.

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Illustration 15: Vanity top with back splash and apron edge.



Illustration 15.1: Vanity top with back splash and apron edge.



Illustration 16: Untouchable Square Conveniently sized receptacle offers maximum flexibility so that it can be used in virtually every area of your facility. No-touch lid funnels trash into container, keeping floor free of debris.



Illustration 17: Waste bin next to wash basin area.

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- 1. Hand Drying System
 - Controlled dispensing
 - Stub roll feature
 - Refill outlet signal

Illustration 18:

- 2. Liquid Soap System
 - No-clog pump
 - Concentrated formula
 - Compact size
- 3. Personal Seats System
 - Single dispensing
 - Easy access knob
 - High capacity



- 4. Toilet Tissue System - Tissue access knob
 - Jumbo roll

5. Folded Towel Hand Drying System - Refill Indicator A Guide to Better Public Toilet Design and Maintenance ³⁶



Illustration 19: Diaper changing station (closed).



Illustration 19.1: Diaper changing station (opened).

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Illustration 20: Toilet for the handicapped.

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Illustration 21: Low level mechanical exhaust.



Illustration 21.1: Low level mechanical exhaust.

Washroom Inspection Card



Illustration 22: Washroom Inspection Card.

APPENDIX I

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APPENDIX I



MULTIPLE URINAL



URINAL IN RIGHT ANGLE



DOUBLE URINAL

APPENDIX II

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APPENDIX II



SINGLE WASH BASIN



DOUBLE WASH BASIN



WASH BASIN IN RIGHT ANGLE

APPENDIX III

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APPENDIX III



TYPICAL VANITY



APPENDIX IV





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APPENDIX V, VI, VII & VIII

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	PERIODIC CLEANING SCHEDULE	
ITEM	ACTIVITY	FREQUENCY
Floor	Machine scrub to ensure removal of soil from grouting	Fortnightly
Walls	Hand scrub to ensure removal of soil from grouting	Monthly
Bins	Hand scrub to ensure removal of soil from grouting	Fortnightly
Basins	Scrub with scrubbing pad to remove stubborn stains	Weekly
Bowls/Urinals	Scrub with scrubbing pad to remove stubborn stains	Weekly
	Scrub beneath rim to ensure removal of yellow stains	
Soap Dispensers	Dismantle and check/clear chokes	Weekly
Exhaust Fans	Wipe clean to remove dust	Weekly

APPENDIX V

APPENDIX VI

FREQUENCY OF CLEANING				
Light Industry Building	once or twice a day			
Condominium	twice a day and increase to 4 times a day during weekend			
Office Building	4 to 5 times a day			
Hotel	6 times a day			
Shopping Centre	6 to 8 times a day			
Hawker Centre	1 to 2 hourly cleaning during non peak hours every $1/2$ an hour cleaning during peak hours			

NOTE:

The above frequencies refer to thorough cleaning once a day and spot cleaning for the remaining "cleans". E.g. the frequency of cleaning toilets in hotel is six times a day. This is equal to one thorough cleaning plus five spot cleanings a day.

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APPENDIX VII

	EQUIPMENT AND SUPPLIES LIST FOR CLEANERS	
1)	Service tray or cart	
2)	Premixed glass cleaner (with spray bottle)	
3)	Premixed disinfectant cleaner (with spray bottle)	
4)	Disinfectant cleaner concentrate	
5)	Scouring power	
6)	Stainless steel cleaner (if necessary)	
7)	Toilet bowl swab and container	
8)	Putty knife	
9)	Broom	
10)	Dust-pan corner brush	
11)	Mop/bucket/wringer	
12)	Signages such as 'wet floor' and 'closed for cleaning'	
13)	Duster (feather/lamb's wool)	
14)	Clean cloth	
15)	Paper towels/toilet paper/soap	

16) Gloves

APPENDIX VIII

CLEANING AGENTS FOR DIFFERENT FINISHES				
 Wall/Floor (ceramic, granite and marble tiles) 	Use neutral-based cleaners or disinfectants. Do not use acid-based cleaner on marble			
 Glass/Mirror Neutral cleaners can also be used. 	Use ammonia- or neutral-based cleaners			
3) Sanitary Wares	Use disinfectant cleaners			
4) Stainless Steel / Chrome	Use stainless steel/chrome polish			
5) Plastic/PVC	Use neutral based cleaners			
6) Toilet Bowls	Use disinfectant or mild abrasive liquid cleaners			

SUGGESTED LAYOUT OF PUBLIC TOILETS

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ELEVATION





Holland Road Market Toilet

DO'S AND DON'TS IN DESIGNING TOILETS

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DO'S

Use of task lighting, down lighting, colourful tiles and colourful artworks to create ambience.



a. Colourful Artworks





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DO'S

Provision of modesty boards; wash basin at child height.



a. Wash Basin at Child Height.

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DO'S

Example of features and amenities that should be found in the toilets of coffeeshops.



a. Sensor Flush b. Toilet Paper Dispenser c. Litter Bin



- a. Soap Dispenser
- b. Back Splash
- c. Wash Basin Rim
- below Vanity Top
- d. Vanity Top
- e. Apron Edge
- f. Hand Dryer

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Correct positioning of soap dispensers, hand dryer, waste bins as well as provision of a bench for placing personal belongings.







a. Soap Dispenser 5. Waste Bin 2. Hand Dryer d. Bench

Air Freshener

A Guide to Better Public Toilet Design and Maintenance ⁶⁵

DO'S

Provision of ledge for placing personal belongings within a toilet cubicle as well as wash area in toilet serving wet market.



a. Wash Area



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DON'TS

Wrong positioning of mirrors and absence of modesty boards.



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Absence of vanity top; exposed pipeworks, surface mounting of cables; urinals of inadequate size.





c. Surface Mounting of Cables



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DON'TS

Presence of painted surface; exposed piping; no apron edge to vanity top and basin rim projecting above vanity top.



a. Painted Surface b. Exposed Piping

a. Basin Rim Projecting Above Vanity Top b. No Apron Edge



A Guide to Better Public Toilet Design and Maintenance ⁷⁰

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