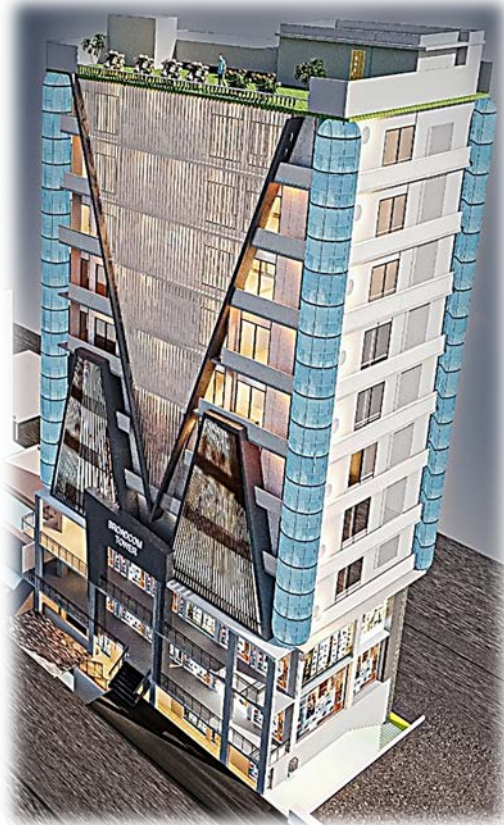


# BYELAWS COMMERCIAL BUILDINGS



# **ACKNOWLEDGMENT**

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## **List of Acronyms**

**DHAP:** Defence Housing Authority Peshawar

**SMPIC:** Sustainable Master Plan Image Concept

**COS:** Compulsory Open Space

**PEC :** Pakistan Engineering Council

**PCATP:** Pakistan Council of Architects and Town Planners

**FAR:** Floor Area Ratio

**HVAC:** Heat Ventilating and Air Conditioning

**LED:** Light Emitting Diode

**LRV:** Light Reflective Value

**SRI:** Solar Reflectance Index

**TP&BC:** Town Planning & Building Control

**UHI:** Urban Heat Island

**RCC:** Reinforced Cement Concrete

**ICT:** Information Communication Technology

**UBC:** Uniform Building Code

**WC:** Water Closet

**MEP:** Mechanical Electrical and Plumbing

**NOC:** No Objection Certificate

**PVC:** Poly Vinyl Chloride

**DPC:** Damp Proof Course

**SOP:** Standard Operating Procedure

**LPG:** Liquid Petroleum Gas

**CNG:** Compressed Natural Gas

**ASME:** American Society of Mechanical Engineers

**COP:** Car Operating Panel

**ASHRAE:** American Society of Heating Refrigerating and Air Conditioning Engineers

**ASTM:** American Society for Testing and Materials

**SWH:** Solar Water Heater

**VVVF:** Variable Voltage and Variable Frequency

**TLV:** Threshold Limit Value

**VOC:** Volatile Organic Compound

**ODP:** Ozone Depletion Compound

**NFPA:** National Fire Protection Agency

**CIBSE:** Chartered Institute of Building Service Engineers

**BF:** Basement Floor

**GF:** Ground Floor

**FF:** First Floor

**GWP:** Global Warming Potential

# Chapter I

## PRELIMINARY

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### 1.1. INTRODUCTION

In exercise of the Powers conferred under Section 8 read with Section 22 of the Defence housing Authority Peshawar Act of 2009, the Defence Housing Authority is pleased to frame the following regulations Dated \_\_\_\_\_ vide Special Executive Board Meeting, namely,  
The DHA Peshawar Commercial Building Regulations 2020.

### 1.2. SHORT TITLE, COMMENCEMENT AND SCOPE:

1. These regulations are hereby promulgated under the short title of DHAP Commercial Building Regulations 2020.
2. The DHAP is empowered to change or make amendments in these regulations as and when required.
3. They shall come into force at once.
4. Same as otherwise provided in the Act, these regulations shall relate to the carrying out the additions to, or alterations in, or demolition of the existing commercial buildings, or erection or re-erection of new commercial buildings, town planning and Security parameters to be followed in Pakistan Defence Housing Authority Peshawar (DHAP).
5. **Application:** These regulations shall extend to the Specified as well as Notified Area of 'Defence Housing Authority Peshawar' (DHAP). Further, these regulations shall have an optimistic impact on people living within the jurisdiction of DHAP Authorities.
  - a) Any member who intends to construct /carry out commercial building works in DHAP Authorities, shall strictly comply with the requirements of these Regulations.
  - b) Defaulting members are liable to disconnection of services and financial penalties.
  - c) The plot shall be strictly utilized for the purpose it has been allotted. No deviation shall be permitted.
  - d) Every member, within the limits of DHAP, intending to erect or re-erect a commercial building, carry out addition or alteration to existing commercial building or demolish the existing commercial building, shall comply with the requirements of these Regulations.

- 6. Interpretation of Regulations:** In case of any ambiguity in interpretation of these Regulations, DHAP reserves the right to deliver/ implement the interpreted contents of these Regulations.
- 7. Modification/Amendments:** These Regulations shall be reviewed periodically, and necessary amendments shall be incorporated as deemed appropriate by the DHAP Authorities from time to time.
- 8. Exemptions:** Application of these Regulations may be relaxed for buildings erected by or on behalf of the Government/ Semi Government bodies and DHAP, provided they are sound with respect to engineering, town planning and civic aspects.

# Chapter II

## DEFINITIONS

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### 2.1. INTRODUCTION:

In these regulations, frequently referred terms have the meanings as indicated below. Where any term is not defined it shall have ordinary meanings or such as the context may apply.

### 2.2. DEFINITIONS OF TERMS

1. **Acre:** means size of land equal to 43560 sqft (4047 sq.m) or 4840 sq. yards or 9.68 Kanals.
2. **Act:** The “Act” means DHA Peshawar Act 2009.
3. **Addition/Alteration:** means any structural change brought about after approval of the Building Plan without affecting or violating any provisions of these Regulations.
4. **Addition & Alteration Plan:** Building plans submitted to the Authority for obtaining approval of any structural change brought about after the completion of the building without affecting or violating any provision of these Regulations.
5. **Agency:** Agency means Building Control Agency having jurisdiction in an urban area.
6. **Alteration:** Alteration of building includes the structural or other physical alteration for making any addition/ removal or other changes in a building.
7. **Allotment Letter:** means a letter in such as may be prescribed by the Authority from time to time making allotment of a particular property/ plot to an applicant.
8. **Allotment/Allocation:** means the conveyance of a particular property / plot to an applicant by way of an allotment letter or transfer letter as prescribed by the Authority.
9. **Allottee:** means a person to whom an Allotment Letter has been issued by way of a method of conveyance as approved and/ or permitted by the Authority.
10. **Amalgamation:** means the joining of two or more adjoining (side by side and/or back-to-back) plots of the same land use into a single plot for building purposes.

- 11. Amenity Plot:** means a plot allocated exclusively for the purpose of amenity uses, such as government offices, health, welfare, education, worship places, burial grounds, parking and recreational areas.
- 12. Ancillary Building:** means a building subservient to the principal building on the same plot e.g., servant quarters, garages and guardroom etc.
- 13. Apartment:** means an independent residential unit in a building consisting of at least one bedroom, a living room, a bathroom and a kitchen.
- 14. Apartment Building:** means a building containing more than two Apartments sharing common staircase lift or access spaces.
- 15. Approved:** means approved by the concerned Agency
- 16. Approved Plan:** means plan for the building or lay out plan approved by the Authority in accordance with prescribed regulations.
- 17. Approved Scheme:** means a duly approved scheme under the Act for urban development, redevelopment or renewal and also includes the larger area plan and area specified for specific use/traffic control plan/housing and zoning schemes.
- 18. Arcade:** means a covered walkway or a verandah between the shops and the street/footpath on which the shops abut.
- 19. Architectural Plan:** means a plan showing the arrangements of proposed building works, including floor plans, elevations and sections, in accordance with the requirements of the rules and regulations of the Authority.
- 20. Area:** means the area of jurisdiction of DHA Peshawar as shown in the Master Plan of DHA Peshawar & including any extension or modification effected therein, from time to time.
- 21. Area of Defence Housing Authority (DHA):** means the area of jurisdiction of Defence Housing Authority (DHA) as shown in the master plan of Defence Housing Authority & including any extension or modification affected therein, from time to time.
- 22. Assembly:** means a building used either ordinarily or occasionally as place of worship, theater, auditorium, public hall, public concert room, public lecture room, public exhibition and hostel.
- 23. Attached Building:** A building which is joined to another building on one or more sides.
- 24. Authority:** means the Defence Housing Authority Peshawar.
- 25. Authorized Officer:** means any officer appointed and duly authorized by the Authority to conduct and accomplish such an act or acts or any other such thing as contemplated by the Authority on its behalf.
- 26. Aviary:** means a structure for keeping or breeding birds.
- 27. Balcony:** means a stage or platform projecting from the wall of the building surrounded by a railing or parapet wall.

- 28. Base:** (applied to a wall or pillar) means the underside of the course immediately above the plinth, if any, or in case of a building having no plinth immediately above the foundation.
- 29. Basement:** means the lowest part of a building, partly or completely below ground level.
- 30. Bathroom:** means a room containing a water tap or a shower or a bathtub or a bath tray and/or water closet.
- 31. Bay-Window:** means a large window or a series of windows projecting from the outer wall of the building and forming a recess within.
- 32. Board:** means the DHA Peshawar Board
- 33. Builder:** means any person having the ownership/leasehold title, project proponent, institution, company, firm, agency or government department, autonomous and semi-autonomous bodies who intend to undertake building works.
- 34. Building:** any structure for whatsoever purpose and of whatsoever materials constructed and every part thereof whether used for human habitation or not and includes foundation, plinth, walls, floors, roofs, chimneys, plumbing and building services fixed platforms, varandah, balcony, cornice or projection, part of a building or anything affixed thereto, or any wall enclosing or intended to enclose and land or space and signs and outdoor display structures. Tents, Shamianahs and tarpauline shelters shall not be considered as buildings.
- 35. Building Height:** means the total height of a building measured from the crown of the road to the top of the parapet wall excluding the structures such as chimney stacks, lift heads, staircase and water tower etc.
- 36. Building/House Line:** means a line beyond which the outer face of any building except compound wall, may not project in the direction of any existing or proposed street.
- 37. Building of Public Assembly:** means and include any building or part of a building where group of people congregate or gather for amusement, recreation, social, religious, patriotic, civil, travel, health, education, ceremonial and similar purposes including (but not limited to) theaters, cinemas, assembly hall, auditoria, exhibition halls, marriage halls, community centers, clubs, schools, colleges, universities, hospitals, museum, skating rinks, gymnasium, restaurants, places of worships, dance halls, clubs rooms, passenger stations and terminals of air surface and other public transportation services and stadiums etc.
- 38. Building Plan:** means and include the plans, sections and elevations of every floor including basement or cellar, if any, clearly describing graphically the purpose for which the building intended to be erected and the accesses to and from several parts of the building and its appurtenances, the position, form, dimensions and means of ventilation, the depth and the nature of

foundations, the proposed height of the plinth and superstructure at the level of each floor together with the dimensions and description of all the walls, floors, roofs, columns, beams, joists and girders to be used in the walls, floors and roofs of such buildings.

- 39. Building Regulations:** means the Defense Housing Authority Peshawar Commercial Building Regulations 2020.
- 40. Building Works:** means site excavation, erection or re-erection of a building or making additions and alterations to an existing building.
- 41. Byelaws:** means laws, rules and regulations approved by the Governing Body/ Executive Board/ Competent Authority of Defense Housing Authority Peshawar.
- 42. Canopy:** means a projection at roof level from the face of a building.
- 43. Cardinal Points:** means the directions of North, South, East and West as marked on the block/building plan.
- 44. Car Park:** means a shelter or open area reserved for parking of motor vehicles.
- 45. Carpet Area:** means the net floor area within a habitable, rentable or saleable unit excluding the area of peripheral walls but including the area of internal walls and columns.
- 46. Car Porch:** means a shelter or a shed for a car, which is permanently open on at least two sides.
- 47. Central Business District:** means the central business area serving the city and the township having commercial function in general. The central area also embodies commercial offices and institutional function of highest order.
- 48. Chairman:** means the chairman of DHA Peshawar.
- 49. Chamfer:** means the flat surface made by cutting of sharp edge or corner of the plot to enhance the visibility at the turning point.
- 50. Chujja:** means any structure projecting outside from the wall of any building and supported by brackets or cantilevered and used for habitation or covered with a roof.
- 51. Clinical Buildings:** means the buildings specified for the purpose of hospitals, maternity homes, nursing homes, clinics, laboratories and institutions for treating outpatients for medical advice and/or treatment.
- 52. Clear Storey Height:** means the clear height from finished floor to bottom of roof slab.
- 53. Commercial Building:** means a building having market, shops or show rooms, warehouses, offices, hotels, restaurants, marriage halls, gas and petrol filling stations, public transport and cargo terminal etc. on any floor and may also have apartments in it.
- 54. Commercial Mixed-use Building / Plot:** means building / plot constructed for combination of commercial and residential usage in which on ground

floor & basement, retail / commercial activity is allowed whereas on upper floors, only residential accommodation (apartments /pent house) are allowed.

- 55. Commercialization Committee:** means Commercialization Committee as constituted under the respective section of the commercialization Rules / Land use Rules of the Authority notified by the government from time to time.
- 56. Competent Authority:** means President / Vice President, Administrator of DHA Peshawar or concerned officer empowered by the Authority to approve the plans and to control building activity.
- 57. Completion Certificate:** means the certificate issued by the Competent Authority on the completion of building works.
- 58. Completion Plan:** means a building plan submitted to the Peshawar Development Authority for the purpose of obtaining approval after construction.
- 59. Community Use:** means the area which consists of different amenities as well as commercial and mix use buildings (prayer area, swimming pool, gym, children playing area, day care center, and visitor's lounges) to serve surrounding population of neighborhood
- 60. Compulsory Open Space (COS):** means minimum part of a plot which is to be left completely and compulsorily open to sky under the regulations, over which no structure or any integral part of the building shall be permitted.
- 61. Construction:** means site excavation, erection, re-erection of a building/ structure or making additions and alterations to an existing building/ structure.
- 62. Contractor:** means a person hired by a builder for constructing the building as per provision of sanctioned plan and other approvals.
- 63. Controlled Area:** means an area declared as such through a notification by the Defence Housing Authority Peshawar Act.
- 64. Consultant:** means a person duly registered with the respective statutory professional body and hired by a builder for designing and supervision of construction activities of the building(s) in accordance with the sanctioned plan and other approvals.
- 65. Convenience/Muhalla Shop:** means fruit and vegetable shop, grocery shop, food shop, tailor shop/embroidery shop, dairy shop, pharmacy, dry cleaners, hairdresser/barber, butcher shop, stationery, book shop, soft drink/pan shop, bakery, saloon/parlour, bicycle shops, tandoor, take away shop and ATM
- 66. Converted Plot:** means a plot converted to commercial use under the commercialization rules notified by the government from time to time.
- 67. Corner Plot:** means a plot facing two or more intersecting streets/roads.

- 68. Covered Area:** means area covered by the building / buildings above and below the ground level, but does not include the space covered by:-
- a) Courtyard at the ground level, garden, rocky area, plant nursery, water pool, swimming pool (if uncovered) platform around a tree, water tank, fountain and bench etc.
  - b) Drainage, culvert, conduit, catch-pit, chamber gutter and the like;
  - c) Compound or boundary wall, gate, slide, swing, uncovered staircase, watchman booth and pump house.
  - d) Sump tank and electricity transformer.
- 69. Cultural Zone / Area:** is designated area for cultural, amusement & entertainment activities such as recreation, educational studios for culture & art development / performance, theatres, cinemas, clubs, cafes, libraries, museums, exhibition halls, etc.
- 70. Damp Proof Course:** means a layer of material impervious to moisture.
- 71. Dangerous/Hazardous Buildings:** means a building or structure or a part thereof which is declared as structurally unsafe and/or which is hazardous.
- 72. Dead Loads:** means the load due to the weight of all walls, permanent partitions, floors, roofs and finishes including services and all other permanent construction.
- 73. Demarcation Plan:** means plan showing measurement and location of plot.
- 74. Demolition:** means the process of dismantling the building or part thereof.
- 75. Developer:** means a person or body of persons including a society engaged in developing a plot or plots for any kind of building activity for transfer by allotment to the members if a developer be a society or to the other persons on the basis of ownership or on sale.
- 76. Development Charges:** means amount on account of development charges is to be paid by the allottee of a plot.
- 77. Detached Building:** means a building not joined to another building on any side.
- 78. Director:** means in charge of a particular section in the Board of DHA Peshawar.
- 79. Director General:** means director general of the Board of DHA Peshawar.
- 80. District Centre/Divisional Centre:** means other than CBD, business/commercial areas as prescribed in the Master Plan of Peshawar as District Centre/Division Centre.
- 81. Downtown:** is an area consisting of public institutions with an administrative, cultural, educational and commercial character located in the lower part of CBD.
- 82. Drainage:** means a system of natural and artificial removal of surface and subsurface water (liquid, sewage etc.) from any area.
- 83. Educational Institution:** means a school, college, university, library, research & training centre and testing laboratory etc.

- 84. Environmental Impact Assessment:** means process of identifying, predicting, evaluating and mitigating the biological, social, and other relevant effects of the development proposal prior to major decisions being taken and commitments made.
- 85. Earthquake Resistant Structure:** means building designed to prevent total collapse, preserve life, and minimize damage in case of an earthquake or tremor, to ensure Earthquake resistant structures that absorb and dissipate seismically induced motion through a combination of means: damping decreases the amplitude of oscillations of a vibrating structure, while ductile materials (e.g., steel) can withstand considerable inelastic deformation.
- 86. Established Built up areas:** means old unplanned areas where the majority of the buildings have been in existence for a minimum period of 25 years.
- 87. Erection of Building:** means the construction of building in devolution charges premises/ boundaries which may include the structural alterations for making any additions to an existing building.
- 88. Existing Building:** means a building existing on the date of commencement of the town planning.
- 89. External Wall:** means any outer wall of a building abutting on as external or internal open space.
- 90. Extra Land:** means any additional piece of land existing adjacent to any type of Plot will remain the property of DHA Peshawar.
- 91. Factory:** means a building or part thereof used for manufacture production or repair of any article.
- 92. Fence:** means a temporary barrier around a building or structure under construction or repair.
- 93. Fire Escape:** means an exit from a building, in the event of fire.
- 94. Field Staff:** means Building Inspectors, Demolition Inspectors, Surveyor, Assistant Directors and Deputy Directors.
- 95. Fire Fighting System:** means the properly placed equipment to extinguish fire.
- 96. Flat:** means any separate dwelling used or constructed or adopted to be used wholly or principally for human habitation for a single family, where the kitchen, lavatory, bathroom or water closet are contained within the separate dwelling and that dwelling is contained a building comprising three or more such dwelling joined vertically.
- 97. Floor:** means and includes any horizontal platform forming the surface of any storey and joist, board, timber, stones, concrete, steel or other substance connected with or forming part of such platform.
- 98. Floor Area:** means the total sum of covered area on all floors of a building.
- 99. Floor Area Ratio (FAR):** means the aggregate covered area of a building or buildings (excluding the area under covered parking) on a plot divided by the total area of the plot.

- 100. Floor Height:** means the vertical distance from the top of the floor finish to the top of the floor finish on the next floor above or below.
- 101. Folding Shelter:** means a structure made of steel tubes, fixed to pillars of the porch, having fabric covering which has the arrangement for its opening (extension) and closing using gears/handles etc. for parking of vehicles only.
- 102. Footprint:** means the portion of a plot of land covered, at ground floor level, by a building or part thereof other than basement.
- 103. Form:** means a form appended to these regulations.
- 104. Foundation:** means a structure entirely below the level of the ground which carries and distributes the load from pillars, beams or walls onto the soil below.
- 105. Frontage of Corner Plot:** In case of plots abutting on more than one road will be with reference to the road mentioned in the allotment/ transfer letter.
- 106. Gallery:** means an open or a covered walkway or a long passage.
- 107. Garage:** means a building or part thereof designed, adopted or used for the housing of a motor vehicle.
- 108. Girder:** means large iron or steel beam or compound structure used for building bridges and the framework of large buildings.
- 109. Godown:** means any building or part thereof designed as godown adopted or used for storage purpose but does not include any garage ancillary to a residential building.
- 110. Governing Body:** means Defence Housing Authority Peshawar.
- 111. Government:** means the Government of Khyber Pakhtonkhwa.
- 112. Grey Water:** means all wastewater generated in households or office buildings from streams without fecal contamination, i.e. all streams except for the wastewater from toilets.
- 113. Ground Coverage:** means the percentage of the plot area that can be covered at the ground floor.
- 114. Half Bath:** means a bathroom for personal hygiene activities, generally containing at minimum a toilet and sink.
- 115. Head Room:** means the clear vertical distance measured between the finished floor level and the underside of lowest obstruction such as ceiling or rafter, whichever is lower.
- 116. Health Institutions:** means hospital, dispensary, clinic, health centre, nursing home, testing laboratories, MRI and CT scan centers and medical training institutes.
- 117. Height of Building:** means the vertical measurement from crown of the front road to the highest part of the roof.
- 118. Height of a room:** means the vertical distance measured between the finished floor level and under-side of the ceiling and where there is not, ceiling the measurement shall be to the under-side of the rafters.

- 119. Hoarding:** means any advertising tool including advertising boards, neon signs etc. which are displayed on the top of the building or in the vacant plot.
- 120. Housing/Dwelling Unit:** means a part or whole of a residential building capable of being used independently for human habitation.
- 121. Impervious material:** means any material which prevents the passage of dampness.
- 122. Industrial Building:** means a building designed for use as factory or workshop and includes any office or other accommodation on the same site the use of which is intended for the convenience of workers and a building designed for use in connection with the mining of minerals including brick earth or warehouse, depository or stores.
- 123. Industrial Zone:** means an industrial zone prescribed in the Master Plan and approved schemes.
- 124. Industry:** means factories, workshops, warehouses, industrial godowns and also includes the cottage, service, medium & heavy industries as defined by the industries department, government of the KPK.
- 125. Infrastructure:** means the basic facilities, utility services and installations including transportation and communication systems, water supply, drainage and sewerage system, telephone, sui gas, cable, power lines and grid stations.
- 126. Inter Floor:** means a floor provided between two main floors of the building.
- 127. Joist:** means the length of timber or steel supporting part of the structure of a building, typically arranged in parallel series to support a floor or roof.
- 128. Kanal:** means a size of land equal to 20 Marlas or 4500 square feet.
- 129. Kiosk:** means a kiosk is a small, removable stand-alone booth or device often used to vend merchandise or services.
- 130. Kitchen:** means any room, balcony, or verandah intended to be used wholly or partly for preparing or cooking food for human consumption.
- 131. Landscape Plan:** means a plan showing the visible features in the open area of plot around the building such as walkways, green areas, fountains, ponds, trees etc.
- 132. License:** means the permission granted under these regulations by the Authority to perform the requested acts as are allowed under these and other rules and regulations of the Authority.
- 133. Licensee:** means an individual or firm who has been duly given license by the Authority to perform the requested act as is allowed under these and other rules and regulations of the Authority.
- 134. Licensed Architect:** means a person or an architectural firm authorized by P.C.A.T.P (Pakistan Council of Architects and Town Planners) and permitted to work in the field after registration.

- 135. Licensed Civil Engineer:** means a person who is registered as Professional Engineer (Civil) with Pakistan Engineering Council and who has been granted a license to practice as Civil Engineer, under these regulations.
- 136. Licensed Engineer:** means a person or a firm authorized by P.E.C. (Pakistan Engineering Council) and permitted to work in the field after registration.
- 137. Licensed Geo-Technology Consultant:** A person holding registration from Pakistan Engineering Council (PEC) as a geo-technologist and whose name is listed on the panel of approved geo-tech consultants maintained by the DHA.
- 138. Licensed Structural Engineer:** A qualified structural engineer registered as such with the Pakistan Engineering Council (PEC) and also registered as structural engineer with DHA.
- 139. Licensed Town Planner:** means a person holding valid registration with Pakistan Council of Architects & Town Planners and enrolled on the list of approved Town Planners maintained by the Authority.
- 140. Legal Attorney** means a person who is duly authorized to act on behalf of a registered or any other person under Power of Attorney Act.
- 141. Light Industries:** Building(s) providing a workplace free from any obnoxious trade such as chemicals, explosives, noise producing and smoke/smell emitting industries.
- 142. Live Loads:** means those loads produced by the use and occupancy of a building or other structure and do not include the construction or environmental loads such as wind load, snow load, rain load, earthquake load, floor load or dead load.
- 143. Loft:** A horizontal slab used only for storage purposes, which shall be allowed in kitchens, baths, corridors and storerooms or shops with access from inside only upto five feet clear height between the loft floor and ceiling above.
- 144. Low Car Porch:** means car porch having height not more than eight feet from floor to ceiling of the porch.
- 145. Low Rise:** means a building having less than 48 ft. height, measured from the crown of the road to the top of the parapet wall excluding the structures such as chimney stacks, lift heads, staircase tower and water tower etc.
- 146. Main Civic and Commercial Centres:** means civic/commercial areas of the approved government/private housing schemes other than Neighborhood commercial areas including Divisional and District Centres as defined in the Master Plan of Peshawar.
- 147. Major Repair:** means all repairs other than the minor repair.
- 148. Mandatory Open Spaces:** means the spaces required by these Regulations to be left open at ground level around the building.
- 149. Market:** means a group of shops assigned particularly for one or more specified trades

- 150. Marquee:** means large tent used for social or commercial functions.
- 151. Marla:** means a size of land equal to 225 sqft in case of DHA Peshawar.
- 152. Master Plan:** means the latest approved land use plan of Peshawar and shall deem to include Structure plan, Outlined Development Plan, Development Plan and Spatial Plan etc.
- 153. Masonry:** means stones, bricks or cement concrete, blocks laid in lime, cement or mud mortar.
- 154. Mega Project:** The project of multiple land use/multi storey buildings predominantly of commercial use with plot area more than 30 Kanal
- 155. Mezzanine:** means any floor interposed between ground and first floor of a building and having head room not less than 6 feet and not more than 8 ft.
- 156. Minor Repairs:** means painting, white washing, plastering, paving, replacement of doors, windows, glass, floors tiles, repairing of walls and roofs, building or rebuilding of the boundary walls as per sanctioned plan.
- 157. Mixed-use Sub-District:** means a sub-district which blends in residential, commercial, cultural and institutional buildings which are physically and functionally integrated providing pedestrian connections.
- 158. Mixed-use Zone:** means a zone dedicated to having mixed-use buildings with a specific number of floors allocated to each building type as per the Master plan.
- 159. Mosque/ Masjid:** (place of Muslim worship) means a building built/ designated for the purpose of performance of religious affairs/ functions without any sectarian/ethnic affiliations.
- 160. Multi-Storey Building:** means a building having more than 48 ft. height, measured from the crown of the road to the top of the parapet wall excluding the structures such as chimney stacks, lift heads and water tower etc and classified into medium rise 1(upto 90 feet), medium rise 2 (upto 120 feet), high rise 1(upto 200 feet), high rise 2 (upto 300 feet) and skyscraper above 300 feet.
- 161. Mumty:** means structure with a covering roof over a main staircase and its landing built to enclose the stairs for the purpose of providing protection from weather alongwith room/s allowed as per these Byelaws.
- 162. NDC:** means No Demand Certificate.
- 163. Neighborhood Commercial Areas:** these include plots/units reserved for commercial/office use in mohallah or neighborhoods, sectors, blocks etc. in an approved housing scheme other than main commercial areas in approved government/private housing scheme.
- 164. NOC:** means No Objection Certificate.
- 165. Non-Conforming Use.** means the use of a plot or structure thereon not conforming to the purpose authorized or permitted under this regulation.

- 166. Non-Standard Plot:** means a plot created due to adjustment in town planning or re-planning of an area having irregular shape, dimensions and size, different from adjoining rectangular plots.
- 167. Nuisance:** includes any act or omission place or thing which causes or is likely to cause injury, danger, annoyance or offence to the sense of sight, smell or hearing, or which is or may be dangerous to life or injurious to health, property and environment.
- 168. Obnoxious Industries / Trade:** includes, amongst others, bricks kilns, coke ovens, salt glazing, sulphur working, making of cellulose lacquer, pitch bitumen, charcoal burning, gut scraping, tannery, glue making, fish meal, soap boiling, tallow making, skin dyeing and those which may be specified as Obnoxious Industries by the Industries Department from time to time.
- 169. Occupier:** means an owner in actual occupation of his own land or building or liable to pay to the owner the rent or any portion of the rent of the land or building in respect of which the work is used.
- 170. Open Space:** means area of protected or conserved land on which development is indefinitely set aside.
- 171. Open Staircase:** A staircase in a single storey or two storey (ground and first floor) building of which the roof must be fully open to the sky and of which at least two sides must be fully open and clear of any adjoining walls of the building.
- 172. Ordinary Repairs or Repair or Renovation:** means repair work to services, painting, white-washing, plastering, flooring, paving, replacement of roof of corrugated sheets, T-iron, girders, wooden/ prefabricated roof with RCC slab without change in the cubical capacity or structure approved by Authority.
- 173. Owner:** includes a person for the time being receiving the rent of the land or structure on his own account or as agent or trustee or who would so receive the same if the land or structure were let to a tenant.
- 174. Parapet Wall:** means a wall, whether plain, perforated or paneled, protecting the edge of a roof, balcony, verandah or terrace.
- 175. Parapet:** means a draft wall whether plain, perforated or paneled along the edge of a roof, balcony, verandah or terrace.
- 176. Partition:** means an internal vertical structure which is subdivided as a storey of a building into section and which supports no loads other than its own weight.
- 177. Party Wall:** means a common wall between two adjacent buildings on independent plots.
- 178. Park:** means a recreational area which may include all or any of these facilities; Jogging tracks/walkways, Water features like lakes, fountains, gushers etc., Restaurants or cafeterias or food stalls, Aviary, Tube well, Public toilets or any other outdoor recreational facilities.

- 179. Parking Space:** means an area enclosed or unenclosed covered or open sufficient in size to park vehicles in front of the commercial as well as public buildings as specified in the master plan or as recommended by the Authority thereafter.
- 180. PDOHA:** means Pakistan Defence Officers Housing Authority
- 181. Pergola:** means a structure with perforated roof consisting of cross bars in the form of reinforced concrete, wood or steel etc. of which at least 50% of the roof is open to the sky.
- 182. Period of Validity of Sanctioned Plan:** means the period specified at the time of sanctioning of building plan for the completion of the said building.
- 183. Person:** means any cooperate or individual entity that is recognized by law as having the right to hold property and to sue and be sued.
- 184. Place of Assembly:** (social/ recreational activities). Including a building designed for use as a public hall, council/community hall, theatre, cinema, music hall, dance hall or skating ring, a building for the purpose of an exhibition of trade/ industry or a building designed for use in connection with any form of amusement which is intended to be open to the public on payment of charges or a building designed for use as non-residential club or a building for any other similar use.
- 185. Plans:** means the building plans showing the proposed details of the arrangement of intended building works.
- 186. Playground:**
- a) All open spaces designated for indoor or outdoor sports activities of all types
  - b) All structures serving sports activities like sports complex, gymnasiums, swimming pools, stadium, racecourse, golf course and, sports club of all kinds.
- 187. Plinth:** means the portion of the building between the ground level and the level of the ground floor.
- 188. Plot:** means a parcel/ piece of land enclosed by definite boundaries.
- 189. Plot area ratio:** means the ratio between the plot area and the covered area of a building.
- 190. Porch:** means a roof cover supported on pillars or cantilevered projection for the purpose of pedestrian or vehicular approach to a building.
- 191. Possession.** means handing over of a demarcated plot to the member with demarcation of four corners.
- 192. Predominantly Open Areas:** means areas which may be unplanned/undeveloped or predominantly used for agriculture purpose or lying vacant.
- 193. Prescribed Form:** means a form prescribed, for various purposes by the Authority under these Regulations.

- 194. Proof Engineer:** An engineer with a minimum of ten years of service registered with the Pakistan Engineering Council (PEC) as Consulting Engineer (Structural Design) and is also registered as proof engineer with DHA.
- 195. Prohibited Area:** means an area where conversion of land use is not allowed or prohibited.
- 196. Project Director:** means the project director of DHA Peshawar.
- 197. Projection.** means an outer side projection from the building line to provide protection from weather and sun
- 198. Property:** means plot or structure to which its builder has freehold title.
- 199. Property Line:** means the boundary wall of the plot.
- 200. Public Building:** means a building designed for public use and includes dispensaries, post offices, police stations, bus/wagon stands, railway station, airport terminals, town halls, libraries and premises of social agencies such as hostels, local government offices and educational institutions, hospital and clinics, mosques, fire stations and rescue centers etc.
- 201. Ramp:** means a driveway that has a running slope steeper than one-unit vertical in 20 units horizontal (5-percent slope)
- 202. Re-erection:** means the complete demolition and reconstruction of a building in defined premises/ boundaries which includes the re-laying of the foundation of the building.
- 203. Regulation:** ‘Regulations’ means regulations made under DHA Peshawar Act 2009.
- 204. Religious Buildings:** means mosques, churches, shrines etc.
- 205. Renewable Energy:** is generally defined as energy that is collected from resources, which are naturally replenished, on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat. Renewable energy often provides energy in four important areas: electricity generation, air and water heating/cooling, transportation, and rural (off grid) energy services.
- 206. Registered Person:** means a person whether natural or legal, who is registered under the general regulations of the Authority.
- 207. Regulation:** means the Defence Housing Authority construction and development regulations and other regulations made by the Executive Board.
- 208. Repair or Renovation:** Repair work to services, painting white-washing, plastering, flooring, paving, replacement of roof of corrugated sheets or of T-iron or girders or wooden roof with RCC slab without change in the cubical capacity or structure approved by DHA.
- 209. Reserved Area:** means an area shown in the Master Plan as such, which may be developed/re-planned by the Authority for any purpose at any stage.

- 210. Residential Building:** means a building exclusively designed to be used for human habitation together with such out houses as are ordinarily ancillary to the main building and used in connection therewith.
- 211. Resident Engineer:** means construction supervising engineer, working for the builder to perform such duties and functions as stated in these Regulations.
- 212. Revised or Amended Plan:** means a previously approved drawing plan re-submitted for fresh approval with amendments in accordance with the provision of these rules/ regulations.
- 213. Right of way:** means width of road/street between two opposite property lines or the area of road including shoulder/ berms between two opposite boundary walls of row of houses/ shops or where there are no buildings astride it, it extends up to such limits as may be prescribed by the competent Authority.
- 214. Rooftop of Commercial Buildings:** Roof of the last floor of a commercial building, to house the common facilities like overhead water tank, stair tower, lift well etc being shared by all inhabitants of the building.
- 215. Scrutiny Fee:** means a fee to be determined and levied in pursuance of provisions of these regulations by Authority.
- 216. Sector Shops:** means a row of shops excluding workshops, repairing shops and offices, to be constructed in residential zones for business related to grocery, vegetables, fruit, meat, poultry, fish and tandoors, without the provision of any open space in and around the building, provided that the height does not exceed the prescribed limit from the road level with provision of mezzanine floor not covering more than 3/4 of the shop area.
- 217. Semi Government Institution & Agency:** means company or corporation owned or controlled by Government or a municipal body and agency established by the Authority to perform one or more of its functions under these regulations.
- 218. Septic Tank:** means a tank in which sewage is collected and decomposed before its discharge into a public sewer or Soakage Pit.
- 219. Setback:** means an area to be surrendered for road widening as per approved scheme/plan, under the relevant master plan of Peshawar or provided under any other rule.
- 220. Sewerage:** means wastewater containing human, industrial or any other chemical or organic waste.
- 221. Shop:** includes any room or part of a building used wholly or mainly for the purpose of retail trade or business.
- 222. Shops/Offices-cum-Flats:** means provision of shops on ground floor and basement with the facility of offices/ flats on the first and subsequent floors.

- 223.Site Engineer:** A qualified engineer engaged to supervise building operations at the site and registered with the Pakistan Engineering Council (PEC) as professional engineer.
- 224.Site Plan:** means the plan of the proposed construction site showing the position of the proposed building (s) and existing building (s), if any, the width and level of the streets on which the plot abuts and the adjoining plot numbers, if any, together with cardinal point.
- 225.Skyline:** means maximum prescribed height limit beyond which no structure including machine room, parapet wall, Mumty, HTML tower, advertisement boards/hoardings etc. are permitted
- 226.Soakage Pit:** means a pit filled with aggregate, boulders or broken brick and intended for the reception of wastewater or effluent discharged from a Septic Tank.
- 227.Society:** means a society which directly or indirectly deals with providing plot to its members for housing, commercial and industrial purposes.
- 228.Special Building:** means a building such as cinema, theater, auditorium and office building.
- 229.Special Purpose Plot:** A leasable plot allocated exclusively for the purpose of Health, Education institutions or any other use as per DHAP master plan.
- 230.Steel Structure:** means a structure, which is made from an organized combination of structural steel members designed to carry loads and provide adequate rigidity.
- 231.Storey:** means the space between the surface of one floor and the surface of the other floor vertically above or below.
- 232.Structural Alteration.** means any change in the structure of a building i.e supporting members of a building such as load bearing walls, columns, beams, slabs etc.
- 233.Structural Calculations:** means detailed calculations showing sufficiency of the strength of every load bearing member of the proposed structures
- 234.Structural Engineer:** means a consulting engineer registered with PEC with 5 years of professional experience as structural engineer and engaged by the builder.
- 235.Sun-Shade:** means an outside projection from a building over a minimum Building height of 7 ft (2.13m) from the plinth level meant to provide protection from weather.
- 236.Specified Clear Space:** means the minimum part of a plot which is to be left completely and compulsorily open to the sky under the regulations, over which no structure even temporary or any integral part of the building shall be permitted.
- 237.Special Projects:** mean land allotted/ sold/ allocated for a special purpose under an agreement duly approved by the Executive Board of Authority, falls in the category of "Special Projects".

- 238.Sub-Division** means the division of a plot held under the same ownership into two plots.
- 239.Sub-Division Plan:** means the layout plan for a proposed subdivision duly approved by the Authority as provided in these regulations.
- 240.Surcharge** means amount levied on account of default in paying development charges or any other dues on due date.
- 241.Sustainability:** is a process for meeting human development goals while sustaining the ability of natural systems to continue to provide the natural resources and ecosystem services upon which the economy and society depends.
- 242.Sustainable Master Plan & Image Concept (SMPIC):** A development plan for an area providing short term and long-term policy guidelines for a systematic and controlled growth for Business & Commercial activities including the façade and architectural elevations of the buildings and the overall area of the DHAP.
- 243.Temporary Structure:** means a structure constructed purely on temporary basis, wholly within the plot with the approval of Authority for a specific period which shall be demolished on completion of the project or lapse of the approved period.
- 244.Thermal Bridge:** It is an area of an object (frequently a building) which has a significantly higher heat transfer than the surrounding materials resulting in an overall reduction in thermal insulation of the object or building.
- 245.Thermal Insulation:** It is the reduction of heat transfer (the transfer of thermal energy between objects of differing temperature) between objects in thermal contact or in range of radiative influence.
- 246.Timbering:** means the setting of timber support or shafts for protection against falls from roof, face, or rib.
- 247.Toilet:** a fixture that consists usually of a water-flushed bowl and seat and is used for defecation and urination.
- 248.Traffic Impact Assessment Study:** means a comprehensive exercise to indicate the potential traffic impacts of any new Development and provide operation analysis of the adjacent and surrounding roadways, traffic signals, sidewalks, general traffic and public transport etc. It also suggests the various measures to mitigate/reduce the potential traffic impacts.
- 249.Transfer Letter:** means a letter in such form as may be prescribed by the Authority from time to time transferring the allotment of a particular property/ plot from an existing owner to an applicant.
- 250.Trapped Land.** Land which is not accessible / approachable by the Authority.
- 251.Total Floor Area:** The sum of the floor areas of all the floors of all the buildings on a plot, less exemption as permitted in these regulations.
- 252.TP&BC Directorate.** Town Planning & Building Control Directorate.

- 253. Urban Development Project:** means multi-storey building (s) on a converted plot of more than 2 Kanal.
- 254. Varandah:** means a roofed gallery, terrace or other portion of a building with at least one side open to courtyard or a permanent open space.
- 255. Warehouse:** means a building where raw materials, intermediate products or manufactured goods may be stored.
- 256. Water Closet:** means a fixture which is connected to a water supply system so that the excreta may be carried away by flushing and may also refer to an enclosure containing such a fixture.
- 257. Winder:** means a tread with nonparallel edges.
- 258. Zone:** means an area / area earmarked for a particular use/building height/density in approved Master Plan or approved scheme.
- 259. Zoning:** These Regulations shall be applicable to the following different Zones;
- a) Commercial Zone:** The commercial zone consists of business, financial and professional offices, buildings of public assembly, hotels, motels, show rooms, boutiques; and social welfare institutions. Following are categories of commercial Zone:-
    - i. **Central Business District:** commercial units, offices and buildings of public assembly within CBD areas.
    - ii. **Main Civic and Commercial Centres:** consists of commercial units, offices and buildings of public assembly including District and Divisional Centers and main commercial areas of approved private housing schemes.
    - iii. **Neighborhood Commercial Area:** consists of commercial units, offices and buildings of public assembly in the area reserved for sector/mohallah shops in approved private housing schemes.
  - b) Industrial Zone:** The industrial zone consists of industries, like heavy, medium, light and hazardous factories, workshops, warehouses and godowns, etc. Following are the categories of industrial zones:
  - c) Special Areas Zones:**
    - i. **Flood Plain:** Flood plains as defined in the approved master Plan of the city or notified by the relevant department shall be dealt with strictly in accordance with the recommendations of the Master Plan. However, if the government provides protective funds and safeguards in flood plain areas then the Authority may prepare special building regulations in accordance with local conditions.
    - ii. **Environmentally Sensitive Areas:** These include natural parks, wildlife parks, forest, mountainous terrain, areas having mines, mineral deposits and watershed areas etc. Authority may prepare special building regulations following the requirements of the

concerned departments and provisions of the approved Master plan and schemes.

# Chapter III

## GENERAL BYELAWS:

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### 3.1. GENERAL CONDITIONS

These regulations have been framed with a view to facilitate construction by the members, and shall apply to all types of plots, buildings and land usage.

1. Construction of ramps, stairs/steps leading to the first basement is permitted within the side and rear COS without any super structure over them.
2. In case of two basements, the ramp leading to the 2<sup>nd</sup> basement shall only be constructed within the allowable footprint of the building.
3. For mixed use commercial buildings, 3 ft. wide balcony is allowed towards the roadside and a maximum length of 20 ft. bay window in front COS is permitted with one door, only in the residential part of the building.
4. Maximum projection of sunshades over streets beyond 16 ft. height and in compulsory open space shall not exceed 2 ft. width at lintel level.
5. Underground water tank and septic tanks / grey water tank to be kept 3 ft. away from boundary walls.
6. Remaining within the allowable (prescribed) covered area of stair Tower any space becoming available beyond the requirement of stair tower may be utilized for storage purposes. Construction of room, servant quarters and bathrooms/lavatories will not be allowed, however, the same shall only be allowed as a special case with following conditions: -
  - a) Subject to fulfillment of renewable energy requirements as mentioned in the Regulations.
  - b) As a special provision for plots falling on cul-de-sac (round type).
7. Pitching of guard's tents/cabins outside the property line on DHAP land or using the open plot for guard living is strictly prohibited. However, in special circumstances DHAP authorities may allow temporary construction of a room along with a toilet not exceeding 125 sqft in front COS in addition to guardroom.
8. In case of commercial plot with extra land on site due to planning/curvature of road, the building construction shall be regulated as per category of the plot in which it is falling. Further, cost of additional land shall be paid by the allottee at 10% of the total cost of the plot to the authority before possession or decided by the DHAP Authority.

9. Whatever additional land is available between allotted plot boundary and sector limits for not more than 4 feet depth, the said land may be allotted on payment to the owner on request. In this case building rules of the original category shall be applicable. However, in case land is more than 4 feet, change in area of the allotted Plot will govern as per the Regulations.
10. Where the park is planned in the rear or on the side of the allotted plot, the owner is not allowed any opening even a pedestrian way in the park, being a public property.
11. Removal of the division wall between two plots is allowed on authority approval, provided both the plots have the same ownership/close blood relations and same land use.
12. Members to ensure a clean environment in front / around the property.
13. Exemptions from Floor Area Ratio (FAR)
  - a) Parking spaces (at any floor/level)
  - b) Recreational facilities and prayer places up to maximum 5% Arcades
  - c) Ramps and driveways
  - d) Escalators/Lift towers
  - e) Stairs and stair towers
  - f) Open balconies over streets
  - g) Passages around voids
  - h) Underground / Overhead water tanks
  - i) Electric Sub Stations
  - j) Electrical/Mechanical plant rooms / solar energy plant room
  - k) Service areas including service duct for cabling to the extent of 100 sqft per floor.
  - l) A service floor may be allowed in high rise buildings (designed as per FAR).
  - m) Any other alternative energy item
  - n) All other requirements as mentioned in related Regulations with respect to Handicap Accessibility and Utility requirements for commercial/mixed use buildings shall be followed.

### **3.2. IN CASE OF CORNER PLOT:**

The owner of the corner plot shall be required to pay additional charges as laid down by DHAP Authorities.

### **3.3. IN CASE OF OVER/UNDER SIZE PLOTS:**

Plots having less area of specified category shall be considered as per original allotment category, however if area of plot is less than 95% then DHAP Authorities shall compensate the owner as per prescribed rates. For

plots measuring more than the allotment category, Owner shall be required to pay for the extra/additional area as per the prescribed rates decided by DHAP Authorities from time to time. In case plot owner does not agree for payment of additional charges then owner may exercise any of the following options:

- a) DHAP Authorities may facilitate the owner for payment of extra land through installments.
- b) Alternate plot of that allotment category shall be offered in any sector having compatible market prices as decided by the DHAP Authorities.
- c) DHAP Authorities may buy back the plot as per prescribed rates.

### **3.4. ANNEXATION OF ADJACENT EXTRA / TRAPPED LAND:**

In case where extra land is available adjacent to the plot, it may be purchased by the member. Rates and permission of such cases is subject to approval by DHAP Authorities.

### **3.5. BIFURCATION AND AMALGAMATION OF PLOTS**

- a) Bifurcation / Subdivision is not allowed in any type of category of commercial and amenity plots.
- b) Amalgamation of commercial plots (Maximum up to 40 Marla/02 Kanal) shall be allowed upon payment of additional charges as laid down by DHAP authorities from time to time, provided that the allotment conditions of the plots are similar, and COS will be applicable as per new size/resultant plot.
- c) Amalgamation of two or more plots exceeding 40 Marla may or may not be allowed with special permission from the authority.
- d) Amenity Plots will not be considered for amalgamation.
- e) Amalgamation of plots one constructed, one or both partly constructed, is allowed provided COS conditions of new size/resultant plot is met.
- f) Amalgamation of plots both constructed is not allowed

### **3.6. LEVELING OF PLOTS:**

The plot owner shall be responsible for leveling in case of any ditch, shrubs, debris, unevenness or abnormality in the plot.

### **3.7. SERVICES:**

The DHAP Authorities will provide roads including all services and the members are required to plan extension of these services to their buildings

accordingly. Further extension of the services to other users is strictly not allowed. Defaulting members are liable to disconnection of services and financial penalties.

### **3.7.1. Water Supply**

- a) Application for water connection shall be made on the prescribed form to the DHAP Authorities, before commencing any work and no water connection/work is to commence before approval.
- b) No person is permitted to install a motor/pump on the water supply line. Only one connection shall be provided for each building.
- c) DHAP Authorities have no obligation for provision of water for swimming pools.
- d) Disposal of water from the swimming pool shall not be allowed to be drained in the sewer lines.
- e) Construction of under-ground water tank is mandatory but not on the slope side and be so located / designed such that bowser filling is facilitated.
- f) Members found violating the instructions on water supply shall have to pay violation charges as prescribed by DHAP Authorities.

#### **3.7.1.1. Water Supply for Commercial:**

- a) Separate water meter to be installed by the owner of the office/shop in the commercial buildings & flats in mixed use buildings.
- b) It will be preferred to make the underground water tank.
- c) Boring of any type for the purpose of water, sewerage, drainage etc. is strictly prohibited. However, where found necessary DHAP Authorities may allow in special circumstances by giving special permission.
- d) Underground water tank preferably should be at the front side of the building and size of the tank should be as per PHE & NRM design criteria. It should be enough for the storage of at least one day water demand of the building.

#### **3.7.2. Sewerage/Manhole:**

Regulations regarding building connection to the main sewer are as under.

- a) Washing Closet (WC) discharge is to be connected with the DHAP manhole through a septic tank.
- b) Washroom and kitchen drainage shall be connected directly to the overflow manhole of septic tank. It must not be connected to the inlet of septic tank.
- c) Rainwater/storm water is to be disposed of in open drains or on the adjacent roads as per design of the said Phase. It must not be connected to the

sewer lines.

- d) Connection to the main sewer line shall be allowed by DHAP Authorities on completion of building and members will not tamper with the main sewer line. Defaulters will be charged as per DHAP Authorities policy issued from time to time.

### **3.7.3. Gas/Telephone/Electric/ICT**

- a) The services have been laid by DHAP Departments and individual connection to plots/buildings be obtained from the respective department in accordance with respective departmental Regulations.
- b) On completion of construction and before main electrical connection is provided to the building, the member shall submit a test report of electrical system issued by a government/PESCO/ or DHAP Authority's approved wiring Inspector.
- c) An independent earth pit will be provided in the building. The earth resistance of the pit must be less than 5 ohms.

### **3.8. DAMAGES:**

Damages to roads and utility service is strictly prohibited. In case of extension of services, if any damage is likely to be caused to road, sewer line, rainwater line etc., such work shall not be undertaken without prior approval of DHAP. In case of damages, DHAP Authorities will impose penalties and cost of repair work will be recovered from member.

### **3.9. BEARING CAPACITY TEST:**

Bearing capacity tests will be arranged by the member through a DHAP Authorities approved laboratory.

### **3.10. TERMITE PROOFING:**

Members will ensure quality termite-proofing treatment before commencement of construction work.

### **3.11. BLOCKAGE OF STREET:**

All construction material shall be stored/kept within the property line. No part of street / road or footpath shall be used in connection with any construction activity like:

- a) Storage of construction material.
- b) Disposal of demolished material.
- c) Mixing of concrete or cement mortar.

- d) Erection of construction frames / supports / formwork.
- e) Excavation of street / road for access to utility service, except with prior permission of DHAP.

### **3.12. STRUCTURES ON ROOF:**

Following structures of permanent nature may be constructed on roofs provided they are designed and built to the satisfaction of the Authority:

- a) Chimneys, air conditioning and other ducts, vents and wind catchers.
- b) Water tank.
- c) Four feet high Parapet wall or railing is mandatory in case of accessible roof. Stair tower and Mumty (applicable as per related Regulations).
- d) Lift machine rooms, Sky light, etc.
- e) Alternate Energy Solutions such as Solar and wind, etc.
- f) Other structure, which the DHAP Authorities may permit by general or specified order.
- g) Mobile phone antennas and billboards may be allowed for commercial unit subject to approval of DHAP Authorities.

### **3.13. SPECIFIC INSTRUCTIONS FOR SHOP OWNERS:**

- a) Proper arrangements for disposal of garbage shall be ensured by the owner or occupant in case of tenants of shops / public buildings.
- b) No AC or its outer unit shall be fixed in front of the shop or the arcade.
- c) All outer units of split ACs shall be fixed on the roof or rear wall of the shops.
- d) Where unavoidable ACs outer units, ACs may be fixed in the front arcade at height not less than 8 feet and with prior permission of the DHAP.
- e) Wall chalking / writing on walls and pasting of posters etc. shall not be allowed.
- f) Arcade / passage in front of each shop shall be kept free of any fixed or movable items to provide clear passage to users.
- g) Showcases, sale goods, seating for customers must not be placed outside in the arcade or passage as the case may be.
- h) No room cooler, fan, water cooler, generator, UPS batteries or charger shall be placed outside the shop.
- i) No part of the building shall be altered, modified or pierced for fixing decorative material or display of goods.
- j) Sign or name boards of only specified sizes shall be allowed.

- k) No stand-alone boards will be placed on streets, roads, arcade or passage.

**3.13.1. Blasting:**

Use of explosive material for construction & demolition work is not allowed in DHAP.

**3.13.2. Inflammable Material:**

Storage of inflammable material is strictly prohibited in DHAP except where allowed by the respective government agencies / departments and DHAP Authorities.

**3.13.3. Disputes:**

No member is allowed to stop the construction activity of other members. Any dispute/interpretation of Regulations shall be referred to DHAP Authorities.

# Chapter IV

## STANDARDS FOR COMMERCIAL BUILDINGS

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### 4.1. CLASSIFICATION:

Commercial Buildings in DHA Peshawar (DHAP) are classified into two main categories depending upon the location of commercial plot to maintain a standard skyline and safety for the said areas.

- a) Central Business District (CBD)/Nasir Bagh Commercial/ Boulevard Commercial/Main Road Commercial
- b) Neighborhood Commercial/Block/Sector Commercial

Other commercial areas other than these categories will follow the Byelaws as per the approval from the Authority.

### 4.2. STANDARDS FOR CENTRAL BUSINESS DISTRICT (CBD)/NASIR BAGH COMMERCIAL/MAIN ROAD COMMERCIAL/BOULEVARD COMMERCIAL:

Different categories of commercial plots falling in Main Civic Center, Central Business District (CBD), Nasir Bagh Commercial, Main Roads/Boulevard Commercial areas as per approved Master Plan of DHAP will be followed by given building byelaws. Allowed coverage, FAR, No. of Stories, Height, Plot Size and Minimum ROW of the Roads as under:

Table 1: Building Byelaws for Central Business District

Plot Size/ Category	Max. Ground Floor Coverage including Arcade & Subsequent Floors	Floor Area Ratio (F.A.R)	Max. no. of Storey	Height (Including Parapet Wall)	Category/ Height Zone	ROW of Road	Parking Requirement
Up to 05 Marla	G.F = 95%	N.A	G+5	Up to 80 feet	Low Rise-01	Min 40 feet	Not Required
More than 05 Marla & Up to 10 Marla	G.F = 90% & Above G. F= 80%	N.A	G+7	Up to 100 feet	Low Rise-02	Min 50 feet	Not Required
More than 10 Marla & less than 01 Kanal	G.F = 80% & Above G.F= 80%	N.A	G+9	Up to 125 feet	Medium Rise 01	Min 50 feet	One car parking space for 1600 square ft. useable area
From 01 Kanal & less than 02 Kanal	G.F = 80% & Above G.F= 70%	1:6	G+11	Up to 150 feet	Medium Rise 02	Min 60 feet	One car parking space for 1600 square ft. useable area
From 02 Kanal & Up to 04 Kanal	G.F = 75% & Above G.F= 65%	1:8	G+15 (Special Approval by the Authority)	Up to 200 Feet	High Rise 01	Min 60 feet	One car parking space for 1600 square ft. useable area
More than 04 Kanal & Up to 8 Kanal	G.F = 65% & Above G.F= 55%	1:10	G+20 (Special Approval by the Authority & NOC from CAA)	Up to 250 Feet	High Rise 02	Min 80 feet	One car parking space for 1600 square ft. useable area
Above 08 Kanal & Up to 12 Kanal	G.F = 55% & Above G.F= 50%	1:12	G+24 (Special Approval by the Authority & NOC from CAA)	Up to 300 Feet	Skyscraper 01	Min 80 feet	One car parking space for 1600 square ft. useable area
Above 12 Kanal	G.F = 50% & Above G.F= 45%	Above 300 feet increase in F.A.R @ 4% Proportionate to height (e.g., if height is 400, F.A.R will be $400 \times 0.04 = 16$ )	No Height Restriction (Special Approval by the Authority & NOC from CAA)	Above 300 Feet	Skyscraper 02	Min 100 feet	One car parking space for 1600 square ft. useable area

**Note:**

- Buildings falling in the height zone of High Rise 01, High Rise 02 and Skyscrapers will need special approval by the authority.
- Extra height charges above 50 feet will be decided by the authority and may change from time to time
- All foundations to be designed in a manner to ensure that they are not going inside the other plots
- Provision of elevator is compulsory for buildings above three storeys excluding buildings having plot area upto 05 Marla.
- Only one basement is allowed with a maximum depth of 12ft (3.66m) from the road level for plot area less than 1 Kanal. However, plots having area more than 1 Kanal may have more than one basement.
- Amalgamation of neighborhood plots is permitted, though byelaws of resultant plot will be applicable.
- For mega projects FAR, Ground Coverage, Height and similar architectural/planning aspects shall be decided by the Authority depending upon the use of building and nature of project.
- For the plots category upto 5 Marla, 100% area can be covered depending upon the architectural plan and special permission from the building control department.

**4.2.1. Mandatory/Compulsory Open Spaces for Main Commercial**

Mandatory/Compulsory Open Spaces (COS) to be left according to the given table below for all commercial areas falling in the respective category as per approved master plan:

<b>Table 2: Boulevard Commercial/Major Road Commercial/Mixed Used</b>			
<b>Plot Size</b>	<b>Compulsory Open Spaces (Widths in Ft.)</b>		
	<b>Arcade</b>	<b>Rear</b>	<b>Sides</b>
Up to 8 Marla	-	40 Sqft Compulsory Ventilation Duct	
Above 8 Marla up to 10 Marla	-	50 Sqft Compulsory Ventilation Duct	
Above 10 Marla less than 1 Kanal	8'-0"	-	5'-0" (One Side)
Above 1 Kanal up to 2 Kanal	8'-0"	8'-0"	5'-0"
Above 2 Kanal up to	8'-0"	10'-0"	7'-0"

4 Kanal			
Above 4 Kanal	8'-0"	10'-0"	10'-0"

### 4.3. STANDARDS FOR NEIGHBORHOOD/BLOCK/SECTOR COMMERCIAL

Height Standards for the Commercial and Mixed-Use buildings or Mini Marts within the Residential Neighborhood/Sector shall be as follows:

Table 3: Allowed Height Neighborhood Commercial/Block Commercial/Sector Commercial		
Description	Height (ft.)	
	Max	Min
Plinth level subject to contour of plot as defined in these Byelaws	4'-6"	2'-6"
Ground floor including slab (Above the plinth)	18'-0"	12'-0"
1st Floor and subsequent floors including slab	12'-0"	10'-0"
Parapet Wall	5'-0"	3'-6"
Height of Main Building including parapet wall (B+G+3) for sector commercial.	65'-0"	50'-0"
Stair tower including slab	9'-6"	8'-6"
Stair tower including lift well	13'-0"	10'
Level of Arcade from crown of road (Varies from 8 to 12 ft. in width)	3'-6"	1'-6"
Ceiling height of basement without obstruction	10'-0"	8'-6"
Min clear height of basement for parking without obstruction	8'-6"	7'-6"

DHAP encourages modern architectural design of the buildings and may allow increase in Height of Ground Floor including the Slab i.e., more than 18 ft. subject to the architectural requirement of the building keeping the safety and structural requirements in account.

#### 4.3.1. Mandatory/Compulsory Open Spaces for Sector/Block Commercial

Compulsory open spaces shall be decided by the authority depending upon the use/type of sector/neighborhood commercial.

### 4.4. OTHER COMMERCIAL AREAS:

In all other commercial areas / roads specified in the Master Plan of the DHAP/any other Plan, the building height, coverage & Floor Area Ratio shall be

as specified by the Authority for the particular area.

## **4.5. SITE REQUIREMENTS FOR SPECIFIC COMMERCIAL AREAS:**

### **4.5.1. Standards for CNG Stations & Petrol Pumps**

Petrol pumps and CNG stations are only allowed in the designated commercial plots in DHAP Master Plan for this purpose.

- a) The minimum area of a petrol station used for petrol filling facilities and servicing activities shall not be less than 800 sq yds.
- b) The minimum area of a CNG station shall not be less than 600 sq. yds.
- c) Right-of-way of road on which petrol pump or CNG station can be established shall be minimum of 80 ft.
- d) Distance between two petrol pumps or CNG stations shall be minimum seven hundred fifty meters along the road of the site of an existing or approved petrol or CNG station unless located on the opposite side of a street having a row of not less than hundred ft. and a dividing median strip.
- e) Frontage of petrol pump and CNG station shall be minimum 70 ft. & 60 ft. respectively.
- f) A minimum of 20 ft. (6.1m) building line shall be provided. COS on sides and rear of the petrol pump and CNG station shall be minimum 10 ft. or according to the standards of explosives or concerning department.
- g) All Structures shall be single storey.
- h) Access roadways of petrol or CNG station shall be constructed in accordance with the following requirements:-
  - i. No Access roadway should cross the sidewalk at an angle of more than 45 degrees.
  - ii. The width of each lane shall be at least 12 ft.
  - iii. Both "in" and "out" roadways shall be provided, respectively for leaving and entering the approach traffic lane at an angle of not more than 45 degrees.
- i) Adequate space shall be provided in petrol stations for parking for supply tankers while discharging its load.
- j) In addition to lavatory provided for the staff, at least one lavatory shall be provided each, for ladies and gents, at petrol or CNG station exclusively for public use.
- k) All requirements for firefighting and fire prevention as laid down in Building Code of Pakistan – Fire Provisions 2016 shall be followed for all Petrol Pumps / CNG Stations.
- l) On an existing petrol pump, CNG facility shall be allowed only if the

area is 1000 Square yards or more.

- m) A Single storey office and retail mart or shall be permitted on an area not exceeding 05% (permitted up to 10% with special approval from the authority upon the payment of fee and meeting certain standards) of the plot area in addition to the tyre and puncture shop, telephone booth and drinking water facility.
- n) All building structures shall be constructed leaving a COS of at least 10 ft. from the boundary of the plot of the petrol or CNG stations or according to standards of Explosives Department whichever is more.
- o) Distance between two dispensers shall not be less than 24 ft.
- p) Distance between dispenser and road edge shall not be less than 18 ft.
- q) All title documents including site plan duly attested are to be supplied for Petrol or CNG Station. In addition, permission from the Ministry of Petroleum and Natural Resources is also required for CNG Station.
- r) The compressor station shall be located at a minimum distance of 5 ft. inside from the boundary walls and all measures provided in CNG Safety Rules, 1992, as amended from time to time will be implemented.

**Note:** All requirements of the Ministry of Industries, Ministry of Petroleum, Civil Defense Department, Explosives Department, EPA and any other concerned agencies shall be complied with by the builder.

#### **4.5.2. Standards for Bus/Minibus Stand/Station**

- a) The minimum plot area shall be as per guidelines given by the Authority or prevailing Government Byelaws.
- b) Maximum building height of any structure at the Bus Stand shall not exceed 30ft (9.15m) or 2 floors.
- c) Covered area excluding parking sheds shall not exceed 20% of the plot area.
- d) Minimum building line shall be 20ft (6.1m) and a minimum of 10ft (3.05m) space shall be left on the remaining three sides.
- e) Vehicular access shall be limited to only one exit and one entry. However, more than one pedestrian access/exit may be allowed.
- f) Parking for the visitor should be allocated as per byelaws.
- g) Drop lane shall be incorporated while designing.

**Note:** All requirements of Motor Vehicle/Government laws shall be complied with.

#### **4.5.3. Standards for Marquee/Banquet Site:**

- a) Marquee of steel structure with fire rated material sheet based upon

single storey structure abutting on road having minimum right of way of 60 feet may be installed on commercial plot after the approval from the authority, subject to following;

- i. Minimum Area of the Land : 8 Kanals
  - ii. Parking Area: : 1 car space for every 300sqft
  - iii. Front House Line : 30 feet
  - iv. Side Spaces : 13 feet (on both sides)
  - v. Rear Space : 13 feet
- b) Establishment of banquet hall in Civic Centre/Commercial Centre
  - c) Plot size minimum 1 Kanal
  - d) Parking Requirement: One car space for every 300 sqft of covered area in the building or nearby not beyond 100 meters approx.
  - e) COS for the banquet hall will be decided by the Authority depending upon the area of the proposed plot.

#### **4.6. GENERAL CONDITIONS FOR ALL COMMERCIAL BUILDINGS/AREAS:**

The following conditions shall apply to all commercial and mixed-use buildings:

##### **4.6.1. Commercial Buildings General Rules:**

- a) Each building shall have central main entry at ground level from title road/street.
- b) Minimum floor area of a shop on ground floor shall be 150 sqft for plots having area upto 05 Marla.
- c) Minimum floor area of a shop on ground floor shall be 200 sqft for plots having area more than 05 Marla.
- d) Minimum size of an office shall be 200 sqft for plots having area upto 05 Marla.
- e) Minimum size of an office shall be 300 sqft for plots having area more than 05 Marla.
- f) Provision of Staircase and Elevators as follows:
  - i. **Dimensions:** The riser of stairs in commercial buildings should not be more than 7 inches and the tread should not be less than 11 inches.
  - ii. **Handrails:** Handrails should be provided on both sides of the stairs.

- iii. Winders are strictly prohibited.
- iv. All Stairs shall be provided with one landing after a maximum of 15 risers.
- v. 3'-0" wide projections are permitted starting from the first floor upward with 16 ft clear height from road level. Front projections falling on the main roads and streets (having width of 50 ft. and more) may be utilized as habitable areas. Rear projections will stay in the form of balconies and can also house the landing of stairs, at a vertical height of 16 feet from the adjacent road.
- vi. Provision of elevators is compulsory for buildings above three (3) storeys excluding building having plot area upto 5 Marla. Minimum lift requirements and specifications shall be as per following standards: -
  - **Capacity / Numbers Required**

Numbers of elevators shall be such that the combined capacity should be able to transport at least half of buildings (approximate population (Approximate population of a building shall be estimated @ on the scale as one (1) person per 100 Sqft) as following: -

    - For buildings on plots up to 8 Marla, minimum one elevator is required (to be used for passenger/freight).
    - For buildings on plots above 8 Marla up to 1 Kanal, minimum two elevators are required (1 each for passenger and freight).
    - For buildings on plots above 1 Kanal, following shall be used as 5 trips for buildings up to 12 storeys and 10 trips for buildings more than 12 storeys.
  - **Location:**

At least one elevator shall be located within 100 ft of any point on respective floor.
  - At least one emergency staircases are required to be provided in building on for plots sizes of 400 sq. yds and above. However, plots larger than 600 sq yds staircases shall be provided as required in Building Code of Pakistan, Fire Safety Provisions – 2016.
  - Corridors or passages shall be minimum 6 ft wide.

- Prescribed fee of amalgamation will be charged.
- vii. Height of Floors:**
- Height of ground floor excluding the roof thickness shall not be more than 18 ft. if Mezzanine Floor is constructed and maximum of 14 ft. if Mezzanine Floor is not constructed.
  - Height of first floor and subsequent floors shall be 10 ft. excluding roof thickness/floor slab.
  - Height of Ground Floor under Mezzanine Floor shall be 10 ft.
  - Clear headroom of mezzanine floor shall be 8 ft.
- viii.** Mezzanine floor may be allowed at the ground floor only up to the 70% of the ground floor area excluding verandah. The area adjacent to the verandah shall be kept void. Approach to the mezzanine floor shall be from the ground floor shop/area. Access can be provided through main stairs/lifts leading to the upper floors.
- ix.** For the first floor and onward, owner shall provide stairs in his own space excluding verandah.
- x.** No step is allowed in the verandah to access the shops at ground or upper floor. Such steps shall be planned within the shop area.
- xi.** Joining of two buildings/shops through interconnecting door/opening shall not be permitted.
- xii.** Structural design and vetting is compulsory for all types of Commercial, Mixed Use and Special Use Buildings irrespective of height.
- xiii.** For plots abutting on park, COS may be condoned on special approval, however, opening of shop will not be allowed.
- xiv.** Installation of Antenna Tower may be allowed on special permission and by paying prescribed charges, permission will be granted for one year which may be renewed annually.
- xv.** Lightening Conductor shall be provided for all buildings.
- xvi.** Wood, mine coal and rubber material etc. is not allowed to be used as fuel.
- xvii.** Industrial and semi-industrial activities are not allowed.
- xviii.** Common spaces would be utilized for the defined purpose only. Utilization of the same including area under the stairs for commercial/storage is not allowed.
- xix.** Access ramps and stairs / steps to the basement or ground

floor should not fall outside of property line.

- xx.** Placement of generators, electromechanical equipment and solar energy plant, as may be required, is allowed on the roof tops subject to fulfillment of specific conditions and sound structural design duly verified / certified and documented by registered structural engineer, provided the following is satisfied:-

- Shall have proper mountings / padding to absorb vibrations.
- Limited smoke and noise should come.
- Should have a soundproof canopy.
- Should have proper electro-mechanical connections of permanent nature.
- Covering of the Generator having architectural element not exceeding 10 ft. height and protruding maximum one foot on sides of Generator, may be allowed.
- Anti-vibration pads should be provided under Generator.

**xxi. Stair Tower/Lift Well/Mumty**

In case of amalgamated plots measuring 1 Kanal and above, construction of additional stair towers will be permitted. Area of stair tower/Lift well shall be governed by the following (stair arrangements will be made accordingly): -

<b>Table 4: Area of Stair Tower/Lift Well</b>				
<b>Type</b>			<b>Plots upto 10 Marla</b>	<b>Plots above 10 Marla</b>
<b>(a)</b>	1	Box Stairs (Minimum)	200 sqft	220 sqft
	2	Dogleg Stairs (Minimum)	180 sqft	200 sqft
<b>(b)</b>	• Lift Well (Maximum)		100 sqft	100 sqft
<b>(c)</b>	<ul style="list-style-type: none"> <li>• The stair tower shall be strictly restricted to the periphery of stairs and in no case is utilized for any kind of living purpose.</li> <li>• Internal clear height of Mumty shall not be more than 8 ft from the top of last floor slab</li> </ul>			

- xxii.** Fixing of tandoor/ kitchen/ bakery, etc., in shops of commercial area will be allowed provided following conditions are fulfilled: -
- Only one tandoor per 100 sqft area of the shop will be permitted.
  - Proper exhaust arrangements for disposal of smoke and hot gases have been made by ensuring that exhaust duct is going up to the height of the building. In case tandoor/ kitchen/ bakery, etc., is made after the completion of the building, exhaust duct duly encased in cladding of approved material shall be provided.
  - Kitchens, tandoor, barbeque and any type of cooking shall not be allowed in any basement.
- xxiii.** Shops shall be allowed in the basement, subject to a proper arrangement for natural light and ventilation, fulfilling one of the following:
- Access to basement will be from front through common corridor running in front of shops at basement remaining within property line.
  - A common corridor will be provided for the shops at ground floor in front of all shops.
  - Ground floor shops can be interlinked with basement shops through proper stairs within the shop areas.
  - A compulsory ventilation duct, 40 sq. ft, from first floor upward would be provided except where adequate and permanent mechanical ventilation is provided which discharges into open space, if the facilities like kitchen and bathrooms etc. are located in the inner part of the building. If, however, these facilities are located in such a manner that ventilation / natural light are available to these, then the provision of duct may be done away with. However, in case a restaurant is provided on ground floor it must have an exhaust duct going up to the roof level
- xxiv.** Trade license for any commercial activity shall be required to be taken from DHAP Authorities.
- xxv.** Special permission will be mandatory from DHAP Authorities for the following:
- Tandoor.
  - Grinding machine for flour.

- Motor Vehicle workshops.
  - Car washing.
  - Wheel balancing/alignment.
  - Puncture/tyre shop.
  - Welding shop.
  - Pet animal/bird shop.
  - Chicken/meat shop.
  - LPG and Gas Cylinder shop
- xxvi.** Structure of commercial buildings to have inbuilt safety features against seismic threat, based on the applicable seismic zone parameters e.g., Peshawar lies in seismic zone 2B (Building code of Pakistan BCP-2007), as such the building should be safe against an earthquake of 6.5 Richter Scale intensity. An endorsement on the right margin of the submission drawing shall be made by the structure engineer duly signed by him as follows: -
- For buildings up to G+20: “the structure is designed as per the required parameters of Zone-2B Building Codes of Pakistan and UBC-1997 and ACI-318-95, ASCE7-95.”
  - For buildings above G+20: “the structure is designed as per the required parameters of Zone-2B Building Codes of Pakistan and IBC-2016.”
- xxvii.** All buildings above G+4 will mandatorily use ready mix concrete with pumps.
- xxviii.** A service floor may be allowed in high rise buildings (designed as per FAR). Its area shall not be counted in covered area and height of the building shall not be more than the allowable maximum height.
- xxix.** For odd or irregular shaped plots, the requirement of footprint area shall prevail over COS. However, COS in front shall be left as per provision of these Regulations.
- xxx.** COS on non-rectangular shaped plots shall be measured as average space between buildings and property line. At least 50% permissible COS shall be ensured.
- xxxi.** Erection of hoardings or any kind of advertisement on the front, rear or sides on buildings in DHAP is strictly prohibited unless approval is granted following specific hoardings/advertisement regulations.

- xxxii.** Swimming pools are permitted to be built after giving following undertaking: -
- Maximum Allowed Size is 40' x 20' x 6.5' and to be constructed in the basements or on the Ground floor or on the roof top ensuring sound structural design duly certified and documented by the Registered Structural Engineer. Size of the swimming pool may be increased as per architectural design followed by certification by Registered Structural Engineer and approval from the authority.
  - Proper filtration plant will be installed.
  - To be properly designed ensuring structural stability.
  - Swimming pool to be appropriately protected for privacy.
  - Not to be constructed in compulsory open space.
  - Any damage caused to neighboring structure will be made good by owner constructing swimming pool.
  - Proof of carrying out complete water proofing.
  - Change Rooms are provided with swimming pool.
  - In case pool is located on the roof top, toilet and change room shall be allowed on roof top provided they are within the allowable covered area / FAR and within the height restriction (where applicable).
  - Holding tank of appropriate capacity to be provided.
- xxxiii.** Removal of swimming pool water shall be done by owner and water shall be discharged in the Storm Water drains but not in the sewer line. Pipe network for the same up to discharge point should be provided by the owner.
- xxxiv.** In commercial buildings where FAR is applicable, a minimum of 10% of the mandatory open space shall be properly landscaped. This landscaped space shall be left open to sky and shall not be used for parking of vehicles.
- xxxv.** Plumbing, Electric, Sui gas, Internet/network and telephone works should be executed from approved/licensed contractor registered with DHA.
- xxxvi.** At least one garbage chute, non-corrosive, non-stick, smooth finished impervious inner surface; linking all floors in the building will be provided with a collection room at basement, ground or parking floor level for final disposal. The Garbage chute should be:-
- Be vertical for the whole length has an internal

diameter of not less than 24 inches

- xxxvii.** A dedicated prayer area shall be mandatory in all High-Rise Buildings in respect of overall requirement of the building. This shall be included in the 5% area exempted from FAR.
- xxxviii.** Strict adherence of firefighting, fire prevention, fire escape and fire alarm code shall be required which includes but not limited to the provision in each building, facilities like fire exits & fire stairs, heat & smoke detectors, fire hose reels, dry riser, firefighting & fire alarm systems, fire rated doors, etc. all as per Building Code of Pakistan – Fire Provisions 2016.
- xxxix.** All utilities services (Water supply, Sewerage system, Sewer Treatment plant, Drainage, Electricity, Gas, Telecom, Internet, etc.) shall be developed by DHAP, in due course of time, directly or through other departments / organizations; and the Development charges for the same shall be charged to the owner on pro-rata basis from time to time which shall be payable immediately by the owner of plots. In case of non-payment or delay in payment of Development charges by the owner of plots, the allotment / transfer/may be cancelled or no further transaction of subject plot will be executed on sole discretion of DHAP.
- xl.** No boundary wall / fence / guardroom / gates shall be allowed for any plot / building. A common façade policy to provide rhythm and harmony shall be applicable for all buildings as per the DHAP Bye- Laws for Sustainable Master Plan and Image Concept (SMPIC). DHAP will approve the façade & elevation of each building (at the time of submission of plans).
- xli.** Commercial, Mixed-Use and all Buildings shall be required to have facade cleaning done periodically. For buildings, where FAR is applicable facade cleaning system is mandatory and its design shall be included in submission plan.
- xl.ii.** **Neon, Plastic, Hoardings/Other Sign boards on shops:**
  - Shop sign boards made of flex, plastic, metal or any other material and 3D letters made of plastic/metal etc. may be installed at the specific place such that maximum width does not exceed 4 feet. It may any how extend to full front of the shop in the horizontal direction, in line with the existing shop sign board.

Depth of the back lit flex will be 8 inches while the depth of 3D letters shall not be more than 6 inches.

- All the shop sign will be back lit. No light shall be installed beyond the building line to light the sign board from the front.
- Sign boards of the basement will be adjusted on the sign boards of the ground floor in such a way that 1/3 of the front of the building will be used for the basement sign board, while 2/3 will be used for the ground floor sign board. In case of shops/plazas with more than one shop on its front, the sign of the basement will be adjusted on the top of the stair door of the shop.
- No flex/plastic sign board, billboard or advertisement board will be allowed on the roadside in the verandah or anywhere else in the building except the above-mentioned specified space.
- Shop/office sign boards shall be installed on the front side (for the corner shop) of each shop with proper holding bracket and bolts. Owner/ tenant will compensate damage to person/property of others if caused due to failure/falling of the sign board.
- All the shop/office signboards shall be installed at a height of at which existing sign boards of the adjacent buildings are installed or as approved by the building control department.
- Sky boards will not be installed on the roof top of the building without the prior permission from DHA, which will be governed by the policy on the subject.
- If a shop owner fails to remove a signboard of unspecified size by the date mentioned in the notice issued by DHA, the same will be removed by DHA at the risk and cost of the shop owner and a fine of 5000/- (Rupees Five thousand only) will be imposed for this act. The removed signboard will be returned on the payment of the fine imposed and submission of undertaking on the stamp paper by the owner that the removed signboard will be used only after necessary modification as per approved policy of DHA.
- In case of violation of DHA Policy for the second time,

a fine of Rs. 10,000/- (Rupees Ten Thousand Only) shall be imposed apart from the confiscation of signboard.

- No advertisement in the form of but not limited to signboard, banner, sticking paper, vinyl, flag, wall chalking etc. shall be placed in and on the licensed premises/shop without the prior approval of the authority and if approved subject to the payment of the fee/rent levied by the authority. Any promotional material displayed either by pasting on the glass walls of the shop or through display material close to glass walls shall have to be approved from the competent authority subject to the payment of the fee/rent levied as per DHAP Rules.

#### **4.6.2. Special Conditions**

- a) All commercial buildings shall incorporate / install CCTV cameras in both inner and outer periphery of the building which could be linked with DHAP ICT/Security System.
- b) Additional precautionary measures including Gas Alarm System to be taken wherever any Gas Cylinder or relevant facility is provided in the building.
- c) Periodic check / inspections of Electric and Gas utilities by concerned Government and DHAP departments.
- d) All commercial buildings shall use double glazed glass system with external glass color to match the scheme of the particular sector (similar facade element) conforming to a minimum 60% reflective, high performance glass. All double-glazed window spacers should be of aluminum.
- e) It is mandatory to use tempered glass to avoid accidents.

# CHAPTER V

## STANDARDS FOR SPECIAL PURPOSE BUILDINGS

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### 5.1. GENERAL CONDITIONS.

- a) Any excess area in the FAR will be charged for as per prescribed additional development charges.
- b) Basement if not utilized for parking, its area will be counted against FAR.
- c) Basement will be permitted over the entire footprint area.
- d) Basement may be utilized for laboratories; however, separate emergency exits will be provided.
- e) Placement of generators and electromechanical equipment and solar energy (as may be required) is allowed on the roof tops subject to fulfillment of specific conditions and sound structural design duly verified/certified and documented by registered structural engineer.
- f) Boundary wall may or may not be constructed in Education District and Medical units depending upon the local conditions and security.
- g) For plots which are bigger than 4 Acres, main entrance from the road should be planned in such a way that queue length of at least five vehicles should be within the plot limit to avoid vehicle blocking the main road.
- h) Integral/dedicated parking arrangements will be ensured within the premises. Parking on the roads and streets is not allowed.
- i) Facilities related to the purpose (like small canteen/tuck shop and medical stores/floral shops etc.), if planned, shall remain part of the main building.
- j) Special purpose plots neither shall be converted nor shall be utilized for any other purpose than the allotted.
- k) Proper ramps/entrance shall be made for entrance/exit of handicapped persons.
- l) Special use plots shall not be considered for subdivision. However, amalgamation may be allowed under special conditions by competent Authority.

## 5.2. STANDARDS FOR MASJID/MOSQUES

- a) Building plans of Masjid shall be considered for B+G+2 floor on case-to-case basis.
- b) Reasonable residential area for Khateeb and Moazzan not exceeding 1000 Sqft may be allowed.
- c) Adequate provisions shall be made for handicapped persons at entrance/exit in the shape of ramp.

## 5.3. STANDARDS FOR SPECIAL PURPOSE BUILDINGS IN SECTORS

Special purpose buildings shall observe the following standards:

Table 5: Standards for Purpose Buildings in Sectors							
Type of plot	Plot Sizes	FP (Max)	Minimum COS (ft)				Height
Educational			Sides				Decided by Authority
			Front	Right	Left	Rea r	
	Less than 02 Kanals	60%	10	8	8	6	
	From 02 Kanals to 10 Kanals	60%	10	10	10	8	
	Above 10 Kanals	50%	10	10	10	8	
Health	All Sizes	60%	10	10	8	6	Decided by Authority
ICT	All Sizes	60%	15	10	10	1 0	
Other Special Purpose Buildings	Less than 2 Kanals	60%	18	10	13	1 0	
	2 Kanals & above	60%	10	10	10	1 0	

### 5.3.1. Height Standards for Special Purpose Buildings in Sectors

Special purpose plots shall observe the following standards:

<b>Table 6: Height Standards for Special Purpose Buildings in Sectors</b>		
<b>Description</b>	<b>Clear Height (ft)</b>	
	<b>Maximum</b>	<b>Minimum</b>
Level of main entrance (being opened on the main street/road)	4'-0"	2'-0"
Plinth level subject to abutting road level.	5'-0"	3'-0"
Ground Floor including slab (above the plinth)	14'-0"	10'-0"
1st Floor and subsequent floors (including slab)	13'-0"	10'-0"
Parapet Wall	4'-0"	3'-0"
Height of Main Building excluding parapet wall (G+2)	45'-0"	-
Stair tower with lift machine room and / or with water tank built over it	16'-0"	13'-0"
Overall height of special use building including stair tower with lift machine room and / or water tank	Decide by authority	
Boundary wall from crown of the road	8'-0"	6'-0"
Ceiling height of basement without obstruction	10'-0"	8'-6"
Clear height of basement for parking without obstruction	8'-6"	7'-6"

## 5.4. STANDARDS FOR SPECIAL BUILDINGS IN HEALTHCARE AND EDUCATIONAL DISTRICT/AREA AT CITY LEVEL

- a) Following additional conditions shall also be applicable to buildings related to Health and Education in Healthcare District and Educational District respectively:
- i. In case where a number of blocks are designed within the plot boundary, open space in between two blocks on front and rear sides shall be minimum 20 ft.
  - ii. In all buildings a minimum of 10% of the mandatory open spaces shall be properly landscaped. This landscaped space shall be left open to sky and shall not be used for parking vehicles.
  - iii. In case a hospital (50 Beds and above) is constructed, all requirements as laid down by Environmental Protection Agency, Pakistan and Environmental Protection Agency Khyber Pakhtunkhwa are to be followed, including the following important points:
    - iv. Water, wastewater, grey water, sewerage, radiation, toxic gases, disposal of hospital waste, etc.
      - Each hospital shall provide its own treatment plant to ensure that no infected material is going into the municipal wastewater disposal network.
    - v. All kinds of hospital and medical waste shall be safely collected, transported and disposed-off:
      - In accordance with the public health standards as prescribed by Punjab Environmental Protection Agency.
      - Disposal of medical waste as per National Environmental Quality Standards (NEQS).
      - All requirements as laid down by Environmental Protection Agency, Pakistan and Environmental Protection Agency Khyber Pakhtunkhwa are to be followed.
      - In addition to above, as per full satisfaction of DHAP.
    - vi. In case a hospital (50 Beds and above) is constructed, all requirements of Pakistan Atomic Energy Commission shall be fulfilled especially for radiation, etc.
      - In case a hospital (50 Beds and above) is constructed, all required certifications from Pakistan Atomic Energy Commission and Environmental Protection Agencies are required to be taken and copies to be submitted to DHAP for their record.
      - All hospitals shall provide incinerator or other means of

hospital waste disposal and ensure that it should be properly designed with respect to its orientation which does not cause any effect on residents of nearby vicinity.

- Dedicated parking for institutions/ hospitals should be provided within the premises as per the required numbers based on the planned capacity. Major or associated roads shall not be utilized for car parking.

#### 5.4.1. Standards for Healthcare City Buildings:

Table 7: Standards for Healthcare City Buildings							
S.No	Types of Plots	Footprint	FAR	COS (in feet)			Floors
				Front	Sides	Rear	
a.	Plot Size 10 Kanals & above	G.F = 60% Above G.F = 50%	1:5	20'-0"	20'-0"	20'-0"	As per FAR
b.	Plot Size less than 10 Kanals	G.F = 70% Above G.F = 60%	1:5	10'-0"	10'-0"	10'-0"	As per FAR

#### 5.4.2. Standards for Sports/Entertainment/Recreational Facilities:

Special use plots allocated for sports/entertainment and recreational facilities to have these Byelaws parameters: -

- Footprint Area - 50%
- Building configuration - B+G+4
- Swimming pool can be either in the basement or on any other floor ensuring adequate structural design and proper water extraction arrangement approved by the Structural Engineer.

# CHAPTER – VI

## HANDICAPPED ACCESSIBILITY

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### 6.1. GENERAL

- a) DHAP Authorities would like to ensure that all DHAP Commercial and Mixed-Use Buildings have Handicap Accessibility Compliance. In this regard, Building Plans will not be approved for any building in DHAP except houses, unless they are fulfilling all the requirements of Handicap Accessibility.

b) **Symbols of Accessibility**

- i. Facilities and elements required to be identified as accessible shall use the international symbol of accessibility. The symbol shall be displayed as shown in following Figures.
- ii. Volume Control Telephones. Telephones required to have a volume control shall be identified by a sign containing a depiction of a telephone handset with radiating sound waves.
- iii. In case, telephone booth is provided in a facility then above facilities should be incorporated:

c) **Accessible Route.**

All walks, halls, corridors, aisles, skywalks, tunnels, and other spaces that are part of an accessible route shall comply with the required standards mentioned below: -

i. **Width**

The minimum clear width of an accessible route shall be 3ft (915 mm) except at doors. A person in a wheelchair must make a turnaround obstruction, the minimum clear width of the accessible route shall be as shown in following Figure 1: Accessible Route 90 Degree Turn and Figure

- ii. Accessible Route Turns around an Obstruction.

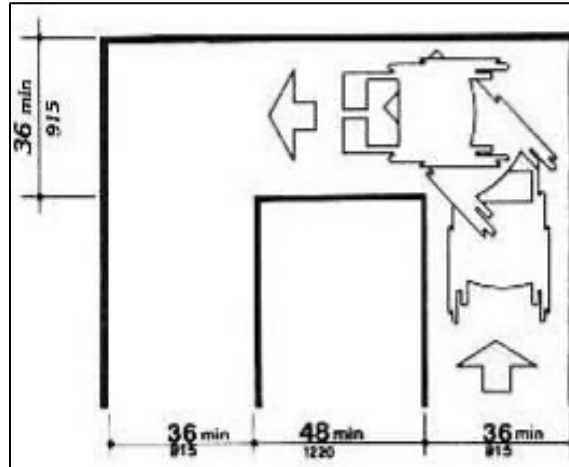


Figure 1: Accessible Route 90 Degree Turn

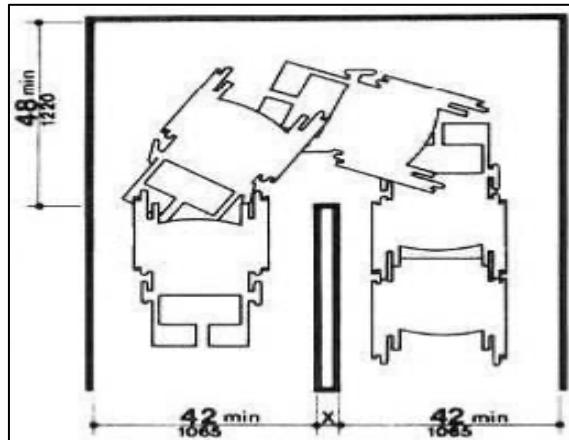


Figure 2: Accessible Route Turns around an Obstruction

**Note:** Dimensions shown apply when  $x < 48$  in (1220 mm)

### iii. Ramps

- **General.** Any part of an accessible route with a slope greater than 1:20 shall be considered a ramp.
- **Slope and Rise.** The least possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12. The maximum rise for any run shall be 2.5 ft (760 mm) (see below Figure 3: Components of a Single Ramp Run and Sample Ramp Dimensions). Curb ramps and ramps to be constructed on existing sites or in existing buildings or facilities may have slopes and rises as allowed if space limitations prohibit the use of a 1:12 slope or less.

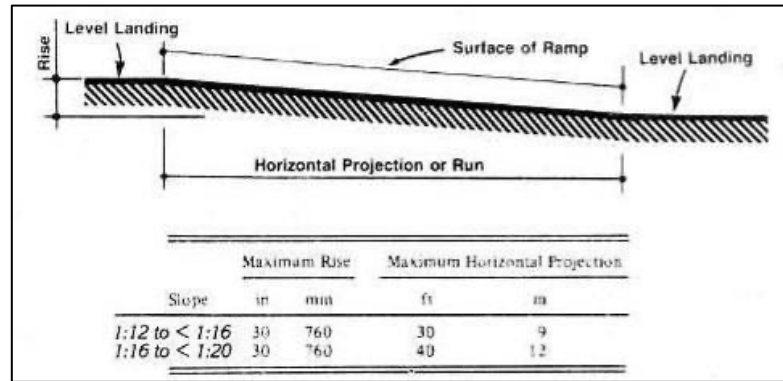


Figure 3: Components of a Single Ramp Run and Sample Ramp Dimensions

- **Clear Width:** The minimum clear width of a ramp shall be 3 ft (915 mm).
- **Landings:** Ramps shall have level landings at bottom and top of each ramp and each ramp run. Landings shall have the following features: -
  - i. The landing shall be at least as wide as the ramp run leading to it.
  - ii. The landing length shall be a minimum of 5 ft (1525 mm) clear.
  - iii. If ramps change direction at landings, the minimum landing size shall be 5 ft by 5 ft (1525 mm by 1525 mm).
  - iv. If a ramp run has a rise greater than 6 inches (150 mm) or a horizontal projection greater than 6 ft (1830 mm), then it shall have handrails on both sides. Handrails are not required on curb ramps or adjacent to seating in assembly areas. Handrails shall have the following features: -
    - Handrails shall be provided along both sides of ramp segments. The inside handrail on switchback or dogleg ramps shall always be continuous.
    - If handrails are not continuous, they shall extend at least 1 ft (305 mm) beyond the top and bottom of the ramp segment and shall be parallel with the floor or ground surface (see Figure 4: Examples of Edge Protection and Handrail Extensions below).

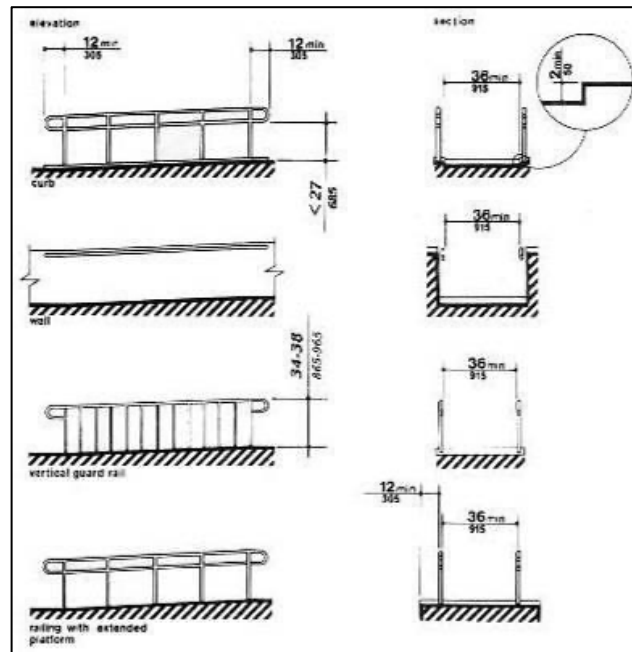


Figure 4: Examples of Edge Protection and Handrail Extensions

N

**Note:**

- The clear space between the handrail and the wall shall be 1.5 inches (38 mm).
- Gripping surfaces shall be continuous.
- Top of handrail gripping surfaces shall be mounted between 2.83 ft and 3.16 ft (865 mm and 965 mm) above ramp surfaces.
- Ends of handrails shall be either rounded or returned smoothly to floor, wall, or post.
- Handrails shall not rotate within their fittings.

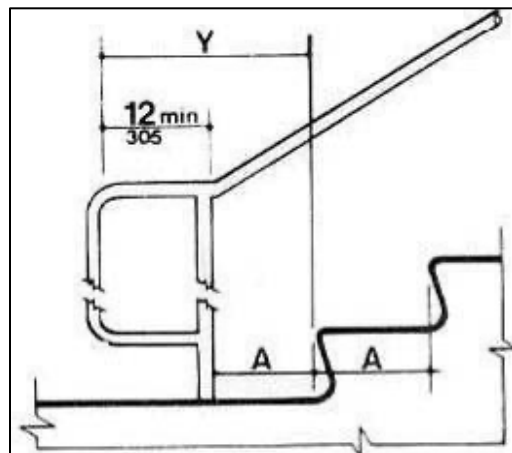


Figure 5: Stair Handrails - Extension of Bottom of Run

**Note:**

X is the 12 inches minimum handrail extension required at each top riser. Y is the minimum handrail extension of 12 inches plus the width of one tread that is required at each bottom riser)

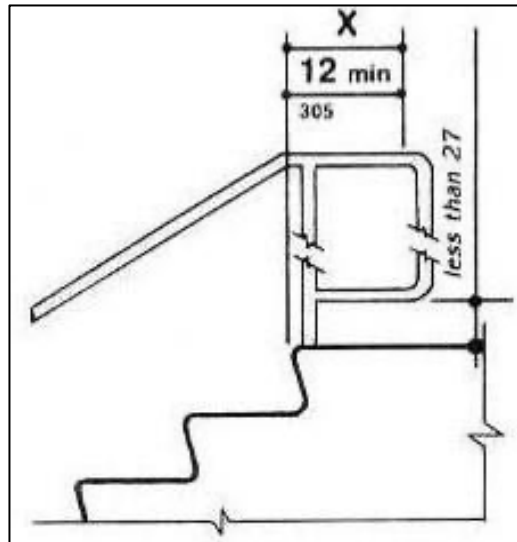


Figure 6: Stair Handrails - Extension of Top of Run

**Note:**

X is the 12 inches minimum handrail extension required at each top riser. Y is the minimum handrail extension of 12 inches plus the width of one tread that is required at each bottom riser

- The clear space between handrails and wall shall be 1.5 inch (38mm)
- Gripping surfaces shall be uninterrupted by newel posts, other construction elements, or obstructions.
- Top of handrail gripping surface shall be mounted between 2.83 ft and 3.16 ft (865 mm and 965 mm) above stair nosing.

#### iv. Elevators

- a) **General.** Elevators shall be on an accessible route and shall comply with the ASME A17.11990, Safety Code for Elevators and Escalators. Freight elevators shall not be considered as meeting the requirements of this section unless the only elevators provided are used as combination passenger and freight elevators for the public and employees.
- b) **Traction Belts:** Traction belts consist of thin metal cables sheathed with rubber or polyurethane Traction belts are flexible.
  - i. Braille notations indicating the floor levels shall be incorporated next to each button at the handicap Car Operating Panel (COP) and handicap hall call buttons.
  - ii. Handrail not less than 600 mm long at 900 mm above the floor level shall be fixed adjacent to the control panel.
  - iii. Car operating panel inscription in Braille also to be provided, level to be lower than the normal, to be accessible by a person sitting on wheelchair.
- c) **Automatic Operation.** Elevator operation shall be automatic. Each car shall be equipped with a self-leveling feature that will automatically bring the car to floor landings within a tolerance of 0.5 inch (13 mm) under rated loading to zero loading conditions. This self-leveling feature shall be automatic and independent of the operating device and shall correct the over-travel or under-travel.
- d) **Hall Call Buttons.** Call buttons in elevator lobbies and halls shall be centered at 3.5 ft (1065 mm) above the floor. Such call buttons shall have visual signals to indicate when each call is registered and when each call is answered. Call buttons shall be a minimum of 0.75 inch (19 mm) in the smallest dimension. The button designating the up direction shall be on top. (See Figure 7: Car Control Panels Detail). Buttons shall be raised or flush. Objects mounted beneath hall call buttons shall not project into the elevator lobby more than 3.75 inch (100 mm).

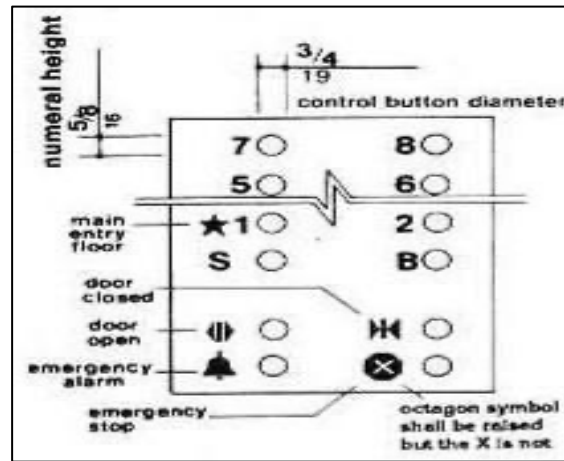


Figure 7: Car Control Panels Detail

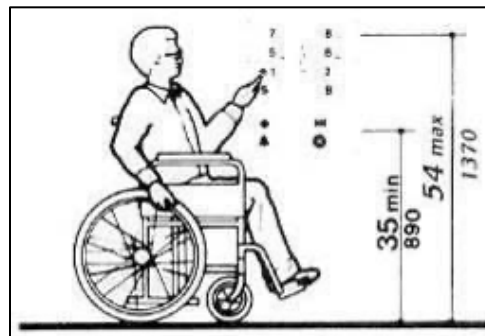


Figure 8: Car Control Height

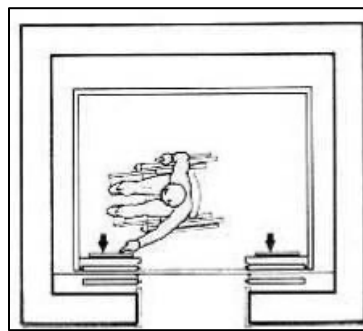


Figure 9: Car Controls - Alternate Locations of Panel with Center Opening Door

#### v. Floor Plan of Elevator Cars

The floor area of elevator cars shall provide space for wheelchair users to enter the car, maneuver within reach of controls, and exit from the car. Acceptable door opening and inside dimensions shall be as shown in Figure 10: Hoist-way and Elevator Entrances below. The clearance between the car platform sill and the edge of any hoist-way landing shall be no greater than 1.25 inches (32 mm).

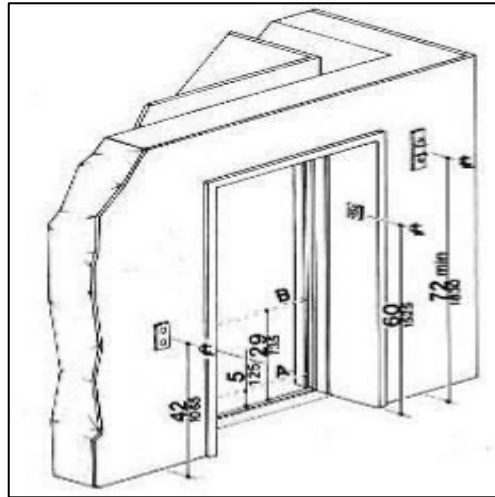


Figure 10: Hoist-way and Elevator Entrances

#### vi. Doors.

Doorways shall have a minimum clear opening of 2.67 ft. (815 mm) with the door open 90 degrees, measured between the face of the door and the opposite stop (see Figure 11: Clear Doorway Width and Depth Detail, Figure 12: Clear Doorway Width and Depth Hinged Door, Figure 13: Clear Doorway Width and Depth Sliding Door, Figure 14: Clear Doorway Width and Depth Folding Door, Figure 15: Clear Doorway Width and Depth, Maximum Doorway Depth). Openings more than 2 ft. (610 mm) in depth.

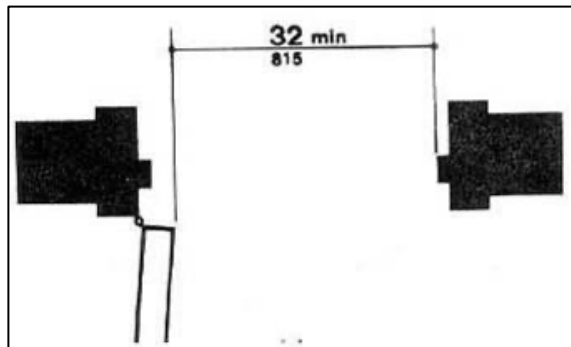


Figure 11: Clear Doorway Width and Depth Detail

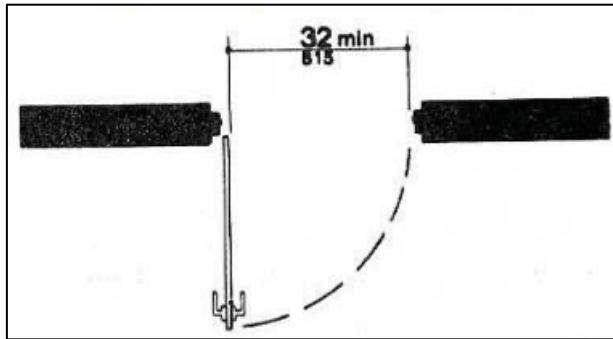


Figure 12: Clear Doorway Width and Depth Hinged Door

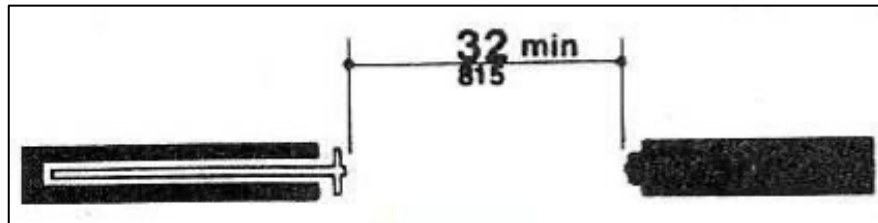


Figure 13: Clear Doorway Width and Depth Sliding Door

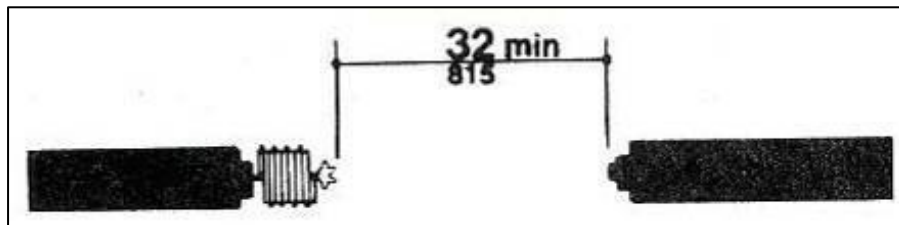


Figure 14: Clear Doorway Width and Depth Folding Door

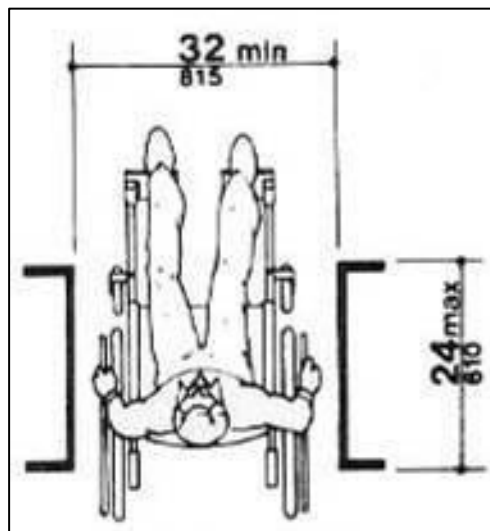


Figure 15: Clear Doorway Width and Depth, Maximum Doorway Depth

### vii. Maneuvering Clearances at Doors.

Minimum maneuvering clearances at doors that are not automatic, or power assisted shall be as shown in following Figure 16: Maneuvering Clearances at Doors. The floor or ground area within the required clearances shall be level and clear.

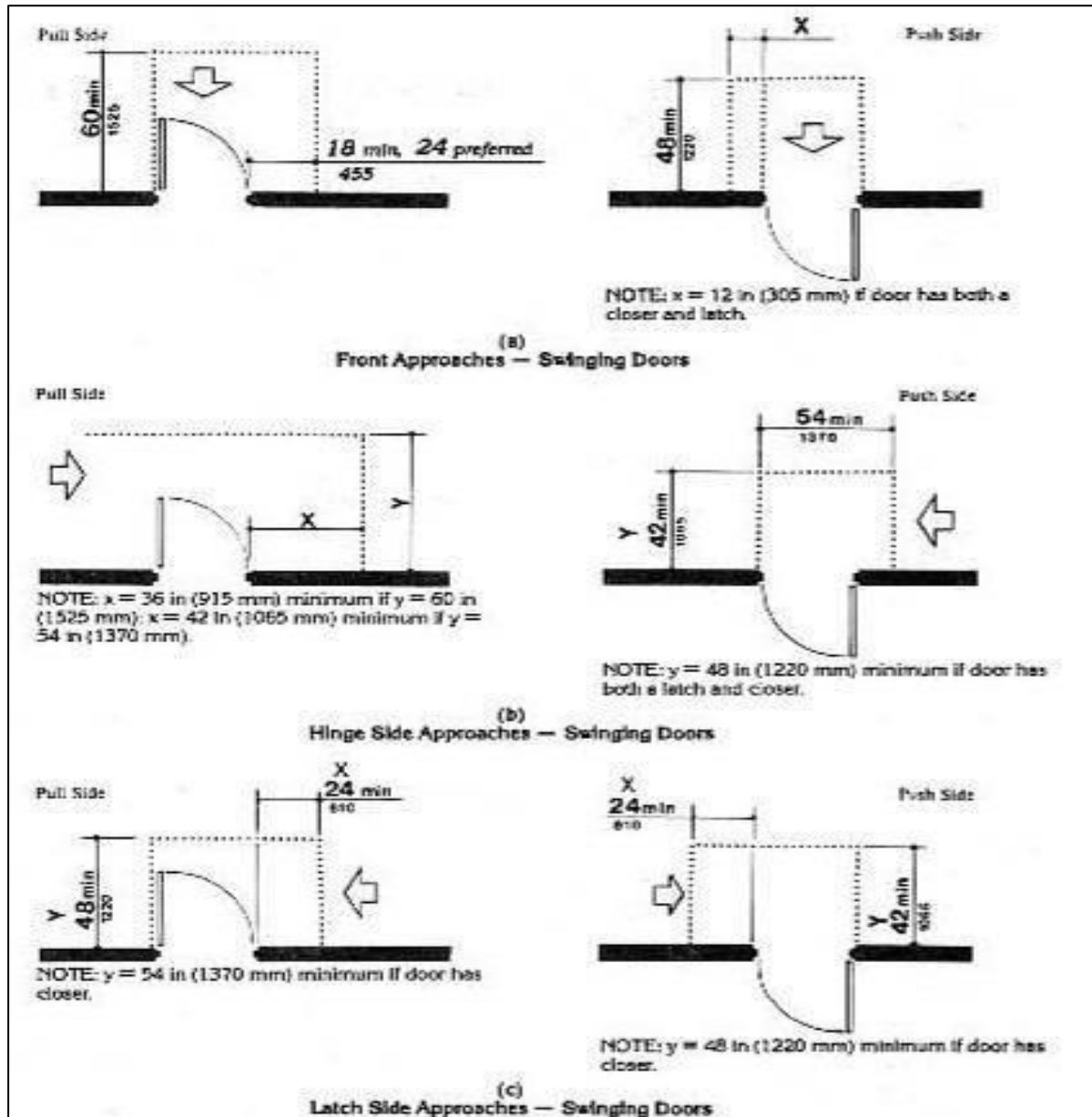


Figure 16: Maneuvering Clearances at Doors

#### Note:

All doors in alcoves shall comply with the clearances for front approaches.

## viii. Water Closets.

Water Closet shall have following standards: -

- Clear Floor Space at Water Closets:** Clear floor space for water closets not located in stalls shall comply with following. Clear floor space may be arranged to allow either a left-handed or right-handed approach. Figure 17: Clear Floor Space at Water Closets.

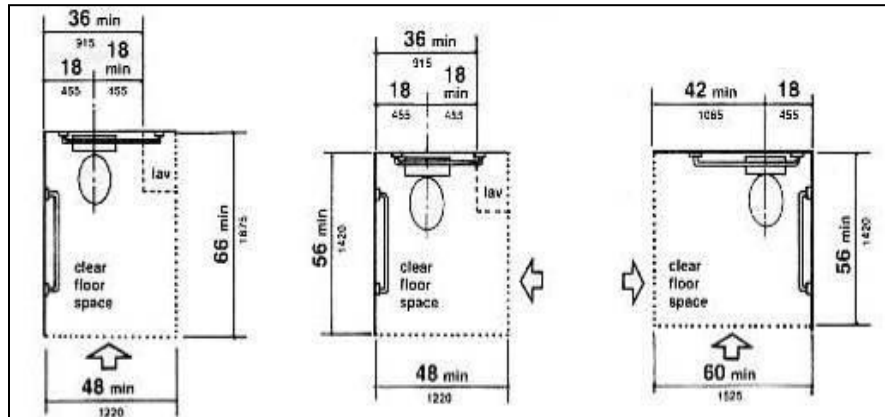


Figure 17: Clear Floor Space at Water Closets

- Height:** The height of water closets shall be 1.41 ft to 1.6 ft (430 mm to 485 mm), measured to the top of the toilet seat (see Figure 18: Grab Bars at Water Closets). Seats shall not be sprung to return to a lifted position.

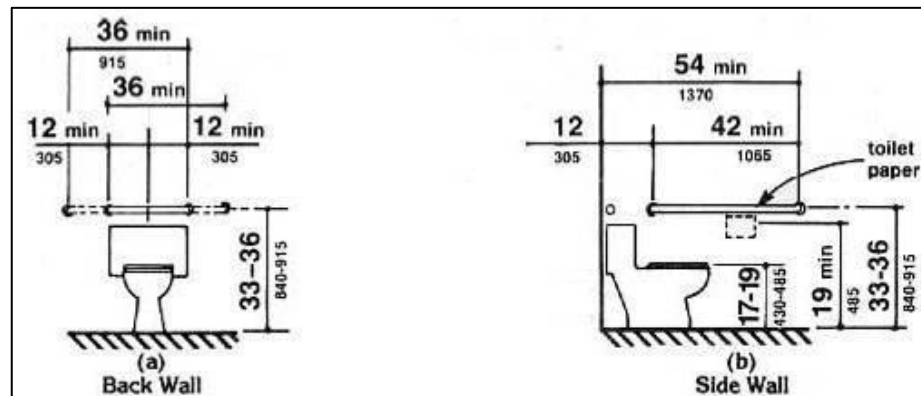


Figure 18: Grab Bars at Water Closets

- Grab Bars:** Grab bars for water closets not located in stalls shall comply with Figure 19: Grab Bars at Water Closets Side Wall below. The grab bar behind the water closet shall be 3 ft (915 mm) minimum.

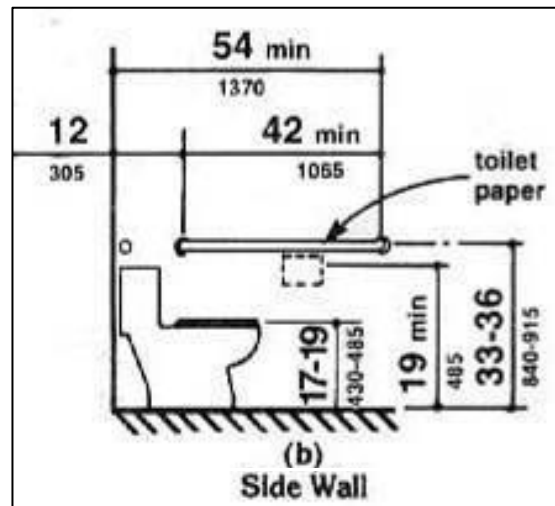


Figure 19: Grab Bars at Water Closets Side Wall

#### ix. Toilet Stall

- Size and Arrangement:** The size and arrangement of the standard toilet stall shall comply with Figure 29 below, Standard Stall. Standard toilet stalls with a minimum depth of 4.65 ft (1420 mm) shall have wall-mounted water closets. If the depth of a standard toilet stall is increased at least 3 inches (75 mm), then a floor-mounted water closet may be used. Arrangements shown for standard toilet stalls may be reversed to allow either a left or right hand approach.
- Doors:** Doors of Toilet stall, including its hardware. If toilet stall approach is from the latch side of the stall door, clearance between the door side of the stall and any obstruction may be reduced to a minimum of 42 inches (1065 mm).
- Grab Bars:** Grab bars complying with the length and positioning shown in following figures, shall be provided. Grab bars may be mounted with any desired method as long as they have a gripping surface at the locations shown and do not obstruct the required clear floor area.

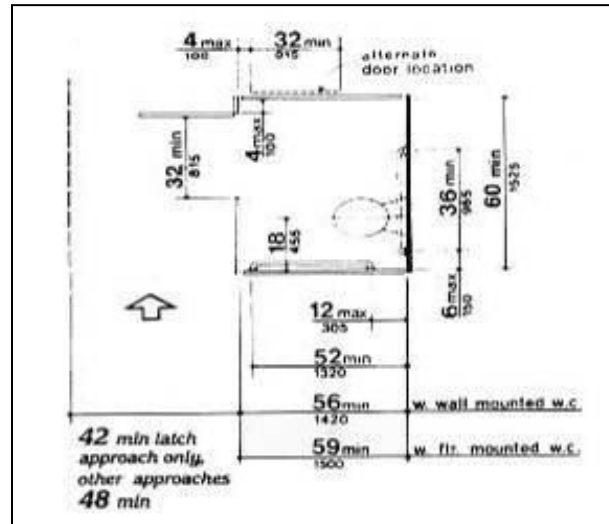


Figure 20: Toilets Stalls - Standard Stall

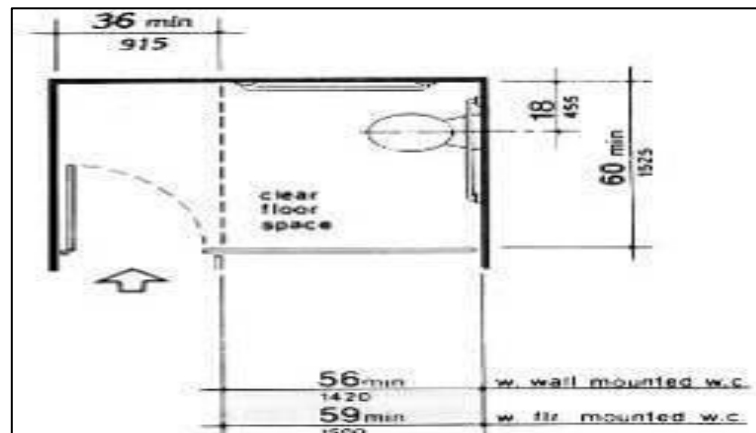


Figure 21: Toilets Stalls - Standard Stall (End of Row)

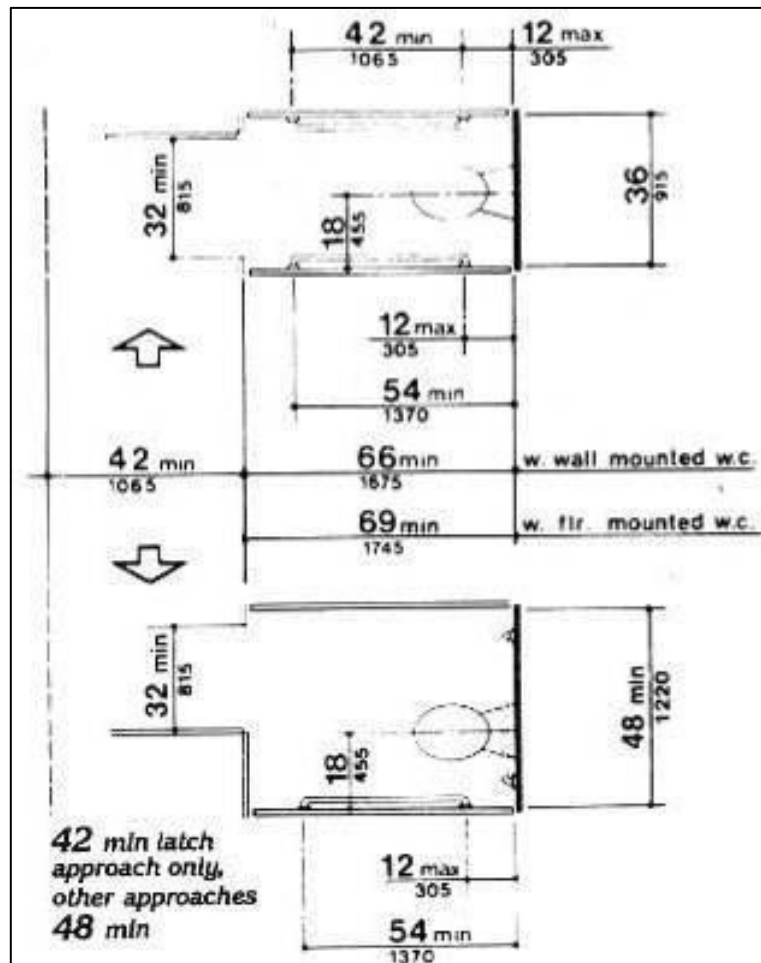


Figure 22: Toilet Stalls - Alternate Stalls

# Chapter VII

## UTILITIES REQUIRED FOR COMMERCIAL & MIXED-USE BUILDINGS

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### 7.1. UTILITIES REQUIREMENTS FOR COMMERCIAL AND MIXED USED BUILDINGS

#### 7.1.1. Central Air-Conditioning

- a) All buildings in DHAP shall be required to have centrally air conditioning in such a way that external units are not visible on the elevations (external). Particularly, for buildings located in Central Business Sub- District (CBD), shall be required to have properly designed central A/C systems.
- b) The Design & Drawings of Central A/C system, to be prepared by recognized Consulting firms, shall be required to be submitted for approval.
- c) For air conditioning, only green gases shall be used i.e., Chlorofluorocarbon (CFC) Free Refrigerant, in HVAC&R Systems for domestic and commercial use. Also, those- Refrigerants are allowed that have an Ozone Depletion Potential (ODP) of zero and a Global Warming Potential (GWP) of less than 50.

#### 7.1.2. Service Elevators

- a) Each building (1Kanal & above) shall have an independent Service Elevator besides the Passenger Elevators.
- b) Minimum size of all service elevator cabin shall be 4 ft x 6 ft with 4 ft wide opening accompanied by two speed doors.
- c) The number of Elevators shall be installed as per the latest International Building Code (IBC).

#### 7.1.3. Utility Policy

- a) Utility spaces / structures / machine room (sub-stations, meter rooms, etc.) with proper design allowed in basements or Ground Floor (not counted in FAR) and will not be allowed in COS.
- b) Only generators shall be allowed in rear COS (where available & as per approval).

- c) Cooling tower/Chiller Plants shall be allowed on roof top.
  - i. Central back-up Generator for the whole of commercial or Highrise building shall be provided & maintained by the owner & incorporated in the MEP plans.
  - ii. Detailed Utility Design & Drawings for Electrical, Solar Energy, Gas, Telecom, Water, Sewer & Drainage shall be prepared & submitted by the Owner / Developer for approval (as per DHAP utility policy updated from time to time).
  - iii. Development charges for utilities shall be levied separately.

## **7.2. MAINTENANCE POLICY FOR COMMERCIAL / MIX USE & HIGH-RISE BUILDINGS: -**

- a) Each commercial / mix use or high-rise building in DHAP, shall be maintained by the Owner / Developer of the Building directly or through a proper Maintenance Company registered at DHAP. A heavy penalty will be imposed if maintenance system of the building is not created by the owner / developer.
- b) Monthly Maintenance Fees shall be charged to the occupants by the Owner / Developer (this term shall be mandatory at time of sale of floor space as per Byelaws).
- c) Maintenance shall include the cleaning (external & internal) & maintenance items including common utilities, Electrical & Mechanical works, Central A/C, Central Backup Generator, Firefighting, Lifts, Trash handling, External Window Cleaning, etc.
- d) Trash handling shall be done using trash/refuse chutes and receptacles. These shall be provided of a type approved by the DHAP and shall confirm with the following clauses: -
  - i. At least one garbage chute, non-corrosive, non-stick, smooth finished impervious inner surface; linking all floors in the building will be provided with a collection room at basement, ground or parking floor level for final disposal. The Garbage chute should be:
    - Be vertical for the whole length.
    - Have an internal diameter of not less than 24 inches.
  - ii. Shall be provided 4 ft above the roof and shall be covered with a ventilating skylight and flushing spray and sprinkler head above top loading door.
  - iii. Discharge into a suitable movable receptacle or receptacles of adequate size and pattern.

- iv. Be fitted with a self-closing hopper tight fitting plank or hopper, constructed of non-inflammable materials.
- v. Be enclosed with walls of masonry of minimum two hours of fire resistance.
- vi. Refuse receptacles shall be housed in a chamber which shall:
  - Be provided with concrete curbs for the refuse receptacles to stand on.
  - Be adequately fly and vermin proof.
  - Be connected to and drained by a foul water drain.
  - Open to the external air.
  - Be lined throughout with glazed tiles.
- d) Commercial, Mixed-Use and all Buildings shall be required to have façade cleaning done periodically. For buildings, where FAR is applicable, the facade cleaning system is mandatory, and its design shall be included in the submission plan.

### **7.3. WATER CONSERVATION (FOR ALL TYPES OF BUILDINGS):**

- a) Construction of grey water tank:

In case of DWTS, Grey water tank shall be constructed by every plot holder. Tank shall be connected with the building through separate plumbing for grey water collection, appropriate grey water treatment shall be emplaced. Only health facilities are exempted due to anticipated high-rate pathogens.
- b) Use of water efficient fixtures i.e., shower, kitchen sink, taps, laundry machine, toilet flush, faucets etc. with the target of above 50% reduction in water.
- c) No plot holders will be allowed to install ground water extraction facilities (including open well, bore hole etc.). In any justifiable requirement where it will be required, prior permission from DHAP shall be obtained.
- d) DHAP will strictly monitor and audit the water utilization plan according to approvals given to any plot holder. Any anomalies found legitimate action will be taken against the individual.

# Chapter VIII

## PARKING REQUIREMENTS

### 8.1. GENERAL

In case, a commercial building is proposed to be used for multi-purposes like hotel, banquet hall or apartments etc. the parking requirements for these uses shall be calculated separately on the basis of proposed uses as per these Regulations.

The requirements of parking space shall not be applicable in such commercial areas including Neighborhood Commercial Areas, Central Business District, Main Civic Centre and Commercial Centers, where provisions for parking space have been shown in the approved layout plan or made by the development authority.

### 8.2. PARKING SPACE STANDARDS

#### 8.2.1. Standards for Car Parking

Table 8: Parking Space Standards for Cars	
Category	Car Space
Apartment Building	One car space for every 1200 sq ft. (111.52 sq m) of covered area subject to a minimum of one car space for every housing unit
Authority Offices, Pvt. Offices, Police Stations	One car space for 1600 sqft of floor area
Hotels/Motels/Commercial	a) One car space for every 6 rooms, provided that in case of family suites, each room will be counted separately as one room for calculation of parking spaces b) One car space for every 800 sq ft (75 sq m) of shopping area. c) One car space for every 1000 sq ft (92.95 sq m) of office area. d) One car space for every 500 sq ft (46.47 sq m) of floor area. Under restaurant, café and banquet hall.
Hospitals & Exhibition Halls.	One car space for 1000 sq ft of floor area

Restaurants, Clubs & Cafes	One car space for 500 sq. ft of floor area
Marriage Halls, Banquet Halls & Community Centers	One car space for 300 sqft of floor area
Cinema, Theatres & Concert Hall	3 car spaces for 1000 sq ft of floor area
Cultural Institutions (Parks & Monuments)	One car space for 2000 sq ft of floor area
Schools, Colleges and Educational Institutions	a) One car space for 2000 sq ft of floor area. b) One car space for 40% of car parking shall be reserved for motorcycle and buses
Taxi Stands and Bus Terminals	1 Car per 5-Busses and 1-Car per 10-Taxies
Bus Terminals/Truck Stands On Highways	1 Car per 5-Busses and 1 car per 10-Taxies
Hostels	1 Car per 5-Rooms and 1-Motor Cycle for Each Room

### 8.2.2. Standards for Motorcycle

In addition to car parking space, an area equal to 16% of the total car parking area shall be provided for motorcycle.

## 8.3. PARKING SPACES SPECIFICATIONS

### 8.3.1. Calculating the Parking Requirements

- a) For the purpose of calculating parking requirements, the gross floor area shall not include the area of mechanical plant rooms, air conditioning plants, electric substation, space provided for prayer, ducts, service shafts, public toilets for common use, lifts, escalators, stairs, covered parking and circulation of vehicles.
- b) If corridors and arcades provided are more than 10 ft in width, then additional area under corridors and arcades shall be excluded for calculating the car parking requirements.
- c) In case of additions/alterations additional parking will have to be provided for the additional floor area according to the standards given in these Regulations.

### 8.3.2. Floor Height

Minimum height of parking floors shall not be less than 8 ft (2.44m).

### 8.3.3. Parking Geometry

Configuration of parking spaces and driveway etc. shall conform to the following Minimum standards:

Table 9: Standards for Parking Spaces		
Component	M/Car	M/Cycle
Stall width	8 ft (2.44m)	2ft- 6 inch (0.76m)
Stall length	16 ft (4.88m)	6ft (1.83m)
Turning Radius (measured from middle of two-way ramp or outer curve of one way ramp)	20 ft (6.1m)	6 ft (1.83m)
Lot turning radius	17.5 ft (5.33m)	-----
Approach ramp width/driving lane <ul style="list-style-type: none"> <li>One way</li> <li>Two way</li> </ul>	10 ft (3.05m) 18 ft (5.49m)	3 ft (0.91m) 6 ft (1.83m)
Width of approach ramp would increase at the turns allowing for the turning radius of 20 ft.		
Gradient of Ramp	1:10	1:10
The ramp slopes may be increased to maximum 1:5 provided that for slopes over 1:10, a transition at least 8 ft (2.44m) long is provided at each half end of the ramp at one half the gradient of ramp itself as shown in figures given below.		
Aisle width (minimum) <ul style="list-style-type: none"> <li>i. One way <ul style="list-style-type: none"> <li>90 degree</li> <li>Less than 90-degree stall</li> </ul> </li> <li>ii. Two way</li> </ul>	16 ft. (4.88m) 14 ft. (4.27m)  18 ft. (5.49m)	

## **8.4. DESIGN, VENTILATION & FIRE PROTECTION IN PARKING**

### **8.4.1. Area**

Adequate means of ventilation, fire protection and emergency exits shall be provided in the parking areas.

### **8.4.2. Lighting Arrangement**

All parking areas must be properly lit for clear visibility and safety.

### **8.4.3. Basement, Ramp, Parking**

- a) The lower ground floor/basement if used for car parking purposes can be constructed after leaving 4ft (1.22 m) space all around within the plot. This would apply in the case where only one basement is provided with a maximum excavation of 12 ft (3.66 m). Ramp may be provided in the mandatory open spaces in the basements subject to the condition that it shall not obstruct these spaces on ground level.
- b) For the construction of basement beyond 12 ft (3.66 m) depth from road level, the entire plot area can be covered subject to the provision of RCC piling along all four sides of the plot.
- c) No ramp is allowed inside and rear spaces at ground level if these spaces are not abutting a road.
- d) However, the level of the roof of the basement in the mandatory open spaces required to be provided under these bye laws shall not exceed 6 inches above the crown of the road.
- e) The lower ground floor/basement if used for purposes other than car parking shall be constructed after leaving all the mandatory open spaces as required under these bye laws.
- f) No Ramp shall start within 10ft clear space from the plot line for entry and exit purposes. Such ramp should have a maximum slope of 1:5, with transition slopes minimum 8ft long and maximum 1:10 gradient at both ends (See fig. 24).
- g) Where entry/exit to the basement is from the rear mandatory open space, a minimum chamfer of 6x6 ft shall be provided at the rear two corners of the building at the ground floor.
- h) In case, a commercial building is proposed to be used for multi-purposes like hotel, banquet hall or apartments etc. the parking requirements for these uses shall be calculated separately on the basis of proposed uses as per these bye laws.

### **8.4.4. Signage/Hoardings**

- a) The building plans should clearly show entry, exits, gradient of

ramp, turning radius, storage spaces, circulation and movement of vehicles etc.

- b) Proper parking signage such as entry and exit, directional arrows and road marking must be provided.

#### 8.4.5. Construction of Partition Walls

No partition walls shall be constructed in parking areas.

#### 8.4.6. Incentive for Provision of Additional Parking

Following incentives shall be given to the builder for providing car parking spaces over and above the requirements:

- a) If the car parking spaces are 10% more than the requirement, then the building plan fee shall be reduced by 10% for approval
- b) If the car parking spaces are 20% more than the requirement, then the building plan fee shall be reduced by 20% for approval

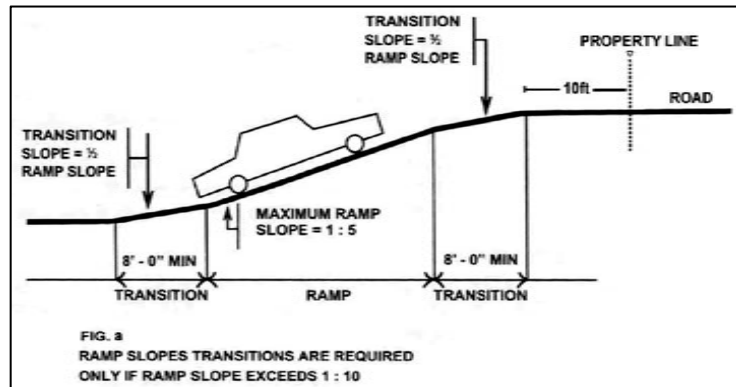


Figure 24 Ramp Slopes & Transition:

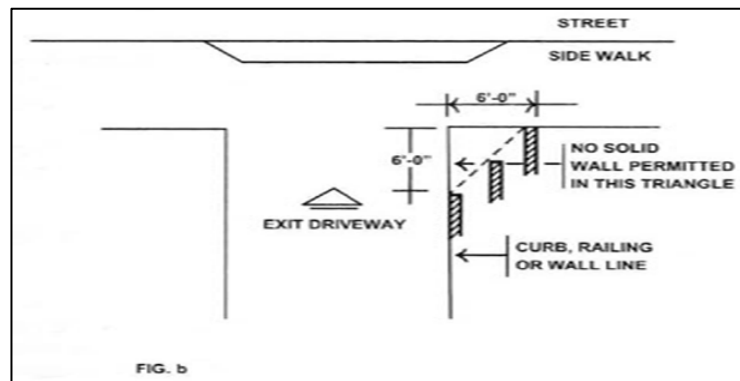


Figure 23 Chamfering at Driveway

# Chapter IX

## DRAINAGE & SANITATION

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### 9.1. CONNECTION TO PUBLIC SEWER.

Sludge water shall be conveyed through sludge chamber. to public sewer.  
Sewer connections shall not be granted without sludge chamber.

#### 9.1.2. Private Sewers

- a) Where any drain or sewer is constructed adjacent to a load bearing part of a building, such precaution shall be taken to ensure that the trench should not impair the stability of the building.
- b) Except where the nature of the ground makes it unnecessary, where any drain or private sewer is adjacent to a wall and the bottom of the trench is lower than the foundation of the wall, the trench shall be filled in with concrete to a level which is not lower than the bottom of the foundation of the wall by more than the distance from that foundation to the near side of the trench less than twelve inch.
- c) In case, where the trench is within three feet of the foundation of the wall, the trench shall be filled in with concrete to the level of the underside of the foundation.

### 9.2. SANITARY PROVISIONS.

The minimum sanitary provisions as prescribed shall be followed as under:

- a) **Single rooms.** For every five (5) single room units or servant quarters, there shall be one (1) wash basin, one (1) W.C. and one (1) bathroom shall be provided.
- b) **Boarding or Guest Houses.** For every ten (10) bedrooms or less in a boarding house or guest house, there shall be at least two (2) W.C's, two (2) wash basins and two (2) showers.
- c) **Dormitory or Hostels:** For every twenty (20) persons in a dormitory and hostel, there shall be at least three (3) W.C's, three (3) wash basins and three (3) showers, and for every ten (10) additional persons one (1) W.C., one (1) wash basin, and one (1) shower is to be added.
- d) **Office.** In an office with twenty (20) persons (calculated at a rate of one person per one hundred square feet (100 sqft), there shall be minimum of two (2) W.Cs., two (2) wash basins and one (1) urinal. For every additional twenty persons (20) there shall be one (1) W.C., one (1) wash basin and one (1) urinal. One (1) wash basin or equivalent washing space per

twenty-five (25) or less persons shall be provided for ablution purposes.

- e) **Shopping Center**. A minimum of three (3) W.C.'s, one (1) urinal, and one (1) wash basin shall be provided for 3000 Sqft total floor area. For every additional 2000 Sqft floor area, one (1) W.C., one (1) wash basin and one (1) urinal shall be provided.
- f) **Public Assembly Building**. Two (2) W.C's, one (1) wash basin, and three (3) urinals shall be provided for 1500 Sqft total floor area and for every additional 1500 Sqft total floor area one (1) W.C., one (1) wash basin and two (2) urinals shall be provided.
- g) **Masjid**. Eight (8) ablution spaces for 100 Namazis, two (2) W.Cs., one i. Shower room shall be provided. For every additional 100 Namazis, the number of ablution spaces will be extended by 8, 6 and 4 respectively. In addition to this, special arrangement for female worshippers having a capacity of 100 Namazis, three (3) ablutions and one (1) W.C shall be provided.
- h) **School**. Four (4) W.C.'s and two (2) wash basins per 100 students and for every additional fifty (50) students, one (1) W.C. and one (1) wash basin shall be provided.
- i) **Hospital**. For every ten (10) beds in a general ward, there shall be at least one (1) water closet, one (1) washbasin, one (1) ablution tap and one (1) bathroom with shower. One (1) kitchen sink shall be provided in each ward.
- j) **Restaurants**. For fifty (50) seats of restaurant, one (1) water closet, one (1) urinal, one (1) wash basin shall be provided.
- k) All fixtures shall be divided proportionately amongst the genders.
- l) Two (2) urinals may be replaced by W.C., while proportionately dividing the fixtures for ladies.

### 9.2.2. Handicapped Persons

- a) Provision of one (1) W.C. for special (disabled) persons shall be provided.
- b) Shopping centers, Masjid, clubs, hotels, restaurants and schools must have adequate arrangements of toilets for handicapped persons.

# Chapter X

## LIGHTENING AND VENTILATION:

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### 10.1. LIGHTING AND VENTILATION

#### 10.1.1. Size of External Openings:

Every room, other than rooms used predominantly for the storage of goods, shall be provided with natural light and natural ventilation by means of one or more openings in external walls. These openings shall have a combined area of not less than 10% for habitable rooms and 7.5% for other rooms of the floor space of such opening, and the whole of such openings shall be capable of allowing free and uninterrupted passage of air. Area for openings in case of warehouse, godown, storage places etc. shall not be less than 5% of the floor area unless the space is mechanically ventilated.

#### 10.1.2. Size of Internal Openings:

Unless the light and ventilation requirements are met by an air well or ventilation duct, all internal habitable rooms must have openings in internal air wells in addition to door openings not less than 7.5% of the floor area of such a room. Access for maintenance of the shaft be provided at level from where the shaft commences.

#### 10.1.3. Internal Air Wells:

Habitable rooms may receive daylight and natural ventilation from internal air wells which shall conform to the following minimum sizes:

- a) For buildings up to 2 storeys, 20 Sqft with minimum width of well 5ft.
- b) For buildings with 3 to 5 storeys, 100 Sqft with minimum width of well 8 ft.
- c) For buildings higher than 5 storeys, 100 Sqft plus 10 Sqft for each additional floor over storeys and minimum width of well 10 ft.
- d) Where only kitchens, WC and bathrooms receive daylight and ventilation from air wells, the size of wells shall conform to the following minimum widths: -
  - i. For building up to 2 storeys, 20Sqft with minimum width of well 3ft.
  - ii. For buildings with 3 to 5 storeys, 40 Sqft with minimum width of well 5 ft.

- iii. For building higher than 5 storeys, 40 Sqft plus 5 Sqft on each additional floor with minimum width of well 5 ft.
- e) Permanent Openings in Kitchen: Every kitchen shall have openings for permanent ventilation into the external air space not less than 15 % of its floor area.

#### **10.1.4. Water Closet, Bathroom & Ablution Places:**

Every water closet, urinal stall and bathroom and ablution area shall be provided with natural lighting and ventilation by means of one or more openings in external walls having a combined area of not less than 2 Sqft (1 ft x 2 ft) per water closet, urinal or bathroom except where adequate and permanent mechanical ventilation is provided which discharges into an open space.

#### **10.1.5. Garages:**

Every garage shall be provided with opening of not less than 5% of the floor area for ventilation and lighting incorporated in a wall or in the door.

#### **10.1.6. Staircase:**

All staircases which are enclosed shall be provided with adequate lighting and ventilation from openings not less than 7.5% of the staircase area.

#### **10.1.7. Mechanical Ventilation and Central Air Conditioning Waiver (Minimum Requirement)**

- a) Where undertaking for central air conditioning and permanent mechanical ventilation is provided, the relevant clauses of these Regulations dealing with natural ventilation, lighting and heights of rooms may be relaxed depending upon the duct size of AC.
- b) Where permanent mechanical ventilation in respect of lavatories, water closets, bathrooms or corridors has been provided for and maintained in accordance with the following clauses, conditions relating to natural ventilation and natural lighting under these Regulations may be relaxed for such lavatories, water closets, bathrooms or corridors.

# Chapter XI

## STRUCTURAL DESIGN OF MULTI STOREY BUILDINGS & BTS/TOWERS/ANTENNAS:

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### 11.1. DESIGN

#### 11.1.1. Earthquake Resistant Design

- a) The structural design of buildings and its individual elements shall conform to the requirements of the applicable codes such as UBC 1997, for resisting earthquake forces.
- b) The seismic zone factor for buildings shall be based on the Seismic Zone Map of Pakistan.

#### 11.1.2. Structural/Engineering Design

- a) Basic Loads to be considered in Design: following loads shall generally be taken into account, as a minimum:
  - i. Dead loads
  - ii. Live loads
  - iii. Earth pressure
  - iv. Pressure of water and other liquids
  - v. Wind loads, where they govern the design
  - vi. Seismic Loads
  - vii. Such other loads as are relevant
- b) Additional Loads to be Included In Special Cases: following loads shall additionally be taken into account, where there is reasonable probability of their occurrence or in cases where the applicable codes require that they also be considered:
  - i. Explosion (use the specific risk specified)
  - ii. Impact (use the specific risk specified)
  - iii. Influence of equipment (use the specific characteristics of the equipment intended to be placed)
  - iv. Removal of Support (Use the specific facts of the case and only when undertaking modification of an existing building).

**11.1.2.1. Compliance to Design Codes**

- a) The structural design of buildings shall meet the requirements of the current edition of the following design codes:
  - i. Uniform Building Code, 1997 Edition, International Conference of Building Officials, USA
  - ii. International Building Code, 2006 Edition, International Code Council, USA.
  - iii. Building Code Requirements for Structural Concrete (ACI 318-99) and Commentary (ACI 318 R-99), American Concrete Institute, USA
  - iv. Building Code of Pakistan (Seismic Provisions 2007)
  - v. Building Code of Pakistan (Energy Provision 2013)
  - vi. Building Code of Pakistan (Fire Safety Provision 2016)
- b) The geotechnical investigations shall be done in the light of the specific details of the building, the order of loads and special requirements, if any. The scope and quantum of testing shall be consistent with the applicable parameters of the project.

**11.1.2.2. Structural Drawings**

- a) Structural drawings shall show the information and level of detail customarily required to be carried by design drawings.
- b) Drafting shall follow the generally accepted conventions and practices.
- c) All drawings shall be numbered and revision numbers with dates shall be clearly marked.
- d) The structural drawings/documents shall also show the following information:
  - i. Specific values of the various geotechnical parameters adopted.
  - ii. Specific values of the various parameters adopted for computation of the earthquake loads and the code of practice followed.
  - iii. Specific values of the various parameters adopted for computation of the wind loads and the code of practice followed.
  - iv. Design live loads adopted for each floor.
  - v. Uniformly distributed and other dead loads adopted for each floor.
  - vi. A description of partitions at each floor and the loading adopted to account for them.
- e) Structural drawings shall bear the seal and signature of the structural engineer.
- f) Tests for construction materials:
  - i. The Authority may require the testing of any construction materials to determine if materials are of quality specified.
  - ii. Tests of materials shall be carried out by an approved agency at the cost of the builder. Such tests shall be made in accordance with the prevailing standards.
  - iii. A complete record of tests of materials and their results shall be available for inspection during progress of work.

## **11.2. SITES**

### **11.2.1. Building Site**

No building shall be erected upon a site reclaimed with town sweeping or other refuse, until the whole ground surface or site of such building has been rendered innocuous and has been covered with a layer of clean earth, sand, hard core, clinker or ash rammed solid at least 12 inches (0.30 m) thick.

### **11.2.2. Boundary Wall**

Boundary walls abutting the public streets, footways, or places which the public are allowed to use shall not have fencing consisting of barbed wire or any material likely to cause injury to persons or animals.

### **11.2.3. Foundations**

#### **11.2.3.1. Ground Test**

The builder shall cause tests to be made to prove the nature of the soil, wherever considered necessary by the Authority. Such tests must be made for all sites intended to be constructed upon with buildings having four storey and above.

#### **11.2.3.2. Foundation near Drain**

Where a building is to be erected near a drain or an excavation at a distance less than the depth of the said drain or excavation, the builder shall satisfy the Authority that the foundations of the buildings are safe.

#### **11.2.3.3. Structural Calculations**

The builder shall submit structural calculations and a certificate from a qualified structural engineer to verify the structural stability of foundations and super structure, if required by the Authority.

#### **11.2.3.4. Damp Proof Course**

- a) Proper damp proofing shall be provided for walls and floors according to the standard specifications in Uniform Building Code, 1997 or International Building Code, 2006 of USA & NRM, 1986.
- b) Where the floor or wall of a building is, in the opinion of the Authority, subject to water pressure, that portion of the building below ground level shall be suitably waterproofed.

## **11.3. DESIGN REQUIREMENTS FOR BTS / TOWERS / ANTENNAS**

BTS/Towers/Antennas may be permitted on commercial/converted plots subject to NOC from the concerned Authorities. No BTS/Tower/Antennas shall be allowed in residential building.

# Chapter XII

## SUSTAINABLE MASTER PLAN & IMAGE CONCEPT

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### 12.1. SUSTAINABLE MASTER PLAN & IMAGE CONCEPT (SMPIC).

DHAP Authorities is first smart, sustainable and green city of Pakistan, also have aesthetic consisting different architectural styles.

### 12.2. SIMILAR FAÇADE ELEMENTS.

In order to have an aesthetic consistency, different architectural styles are adopted for different sectors under similar façade policy as provided herein.

- a) All buildings are to be developed based on the façade policy of each sector and Architects should ensure that the Design elements as provided herein are part of the façade.
- b) **Architectural Styles of Buildings.** Architectural styles of building are planned to keep in view old and modern concept.
  - i. **Modern Styles:** Modern styles have following major features:
    - Straight, Square or Rectangle openings
    - Flat Roofs
    - Smooth surfaces with minimal variety of materials
    - Straight lines with no decoration in elevation
  - ii. **Spanish Styles:** Spanish styles have following major features.
    - Tapered Tiled Roof (Terrace tiles)
    - Round Arch Windows (openings)
    - Iron over the Framework exterior
    - Fluted and decorated classical
    - Columns
    - Wall finish with textured plaster
    - Classical column with Flute and sculptural decorations

- iii. **Ottoman Styles:** Ottoman styles have following major features:
  - Pointed/ Round arches
  - Tapered and curved building Profile
  - Bands of alternate color stones and bricks
  - Distinct pencil shaped minarets style
  - Ornate tile / stone decoration
  - Spires on roof tops of building
  - Wide roof with over hangs supporting brackets
- iv. **Post Modern.** Post Modern style have following major features:
  - Variety in Forms, Textures and Opening
  - Combination of Contrasting
  - Diverse Roof Profile
  - Variety in façade elements

### 12.3. SUSTAINABLE FAÇADE ELEMENTS.

Based on the Sustainable Master Plan and Image Concept (SMPIC) of DHAP, buildings are required to have sustainable façade which includes the following:

- a) **Windows:** Windows should have the following:
  - i. All windows used in all buildings at DHAP shall be required to have Aluminum or UPVC (white) double glazed windows and ventilators (including curtain wall).
  - ii. Frames for all windows & ventilators are required to be anchored on masonry with hardened rubber sandwich in between, apart from using silicon for water proofing purposes.
  - iii. In case of sliding windows, rubber gasket should be used between the sliding panels & edges of panels.
  - iv. In case of curtain wall, all mullion joiners should be of aluminum. All aluminum sections should be inclusive of built-in architrave / beading (commonly known as collar windows).
- b) **Window Glass.** Window glass should have following criteria:
  - i. All Glass to be used shall be double glazed with color to match the scheme of the particular sector (similar facade element) conforming

- 60% reflective, high performance glass for heat.
- ii. All double-glazed window spacers should be of aluminum/UPVC.
  - iii. It is mandatory to use tempered glass in commercial, mix use and special purpose buildings (where FAR is applicable), to avoid accidents.
  - iv. In case the total glazed elements in an external wall which let in light is up to forty percent (40%) of the external wall area, then the glazing elements must meet the following performance criteria of Thermal Transmittance (summer U value)  $\Rightarrow U = 2.1 \text{ W/m}^2\text{K}$  (Max.) and Shading Coefficient (SC) = 0.2 (Min) and Light Transmittance = 0.2 (Min.).
  - v. In case the total glazed elements in an external wall which let in light is within a range of forty percent (40 %) to sixty percent (60%) of the external wall area, then the glazing elements must meet the following performance criteria of Thermal Transmittance (summer U value)  $\Rightarrow U = 1.9 \text{ W/m}^2\text{K}$  (Max) and Shading Coefficient (SC) = 0.32 (Min) and Light Transmittance = 0.1 (Min) or as approved by DHAP Authorities.
- c) **External Walls Cladding (Ground Floor):** In commercial buildings, on Ground Floor (where applicable), maintenance free lighter color granite stone / color crete shall be provided on front and rear elevations and all three sides in case of corner plot.
- d) **External Wall Cladding (Upper Floors).** External wall cladding on upper floors should have following:
- i. On upper floors of all commercial buildings, robust & maintenance free aluminum cladding (similar façade element)/reflective paint / color crete is required to be used.
  - ii. Aluminum cladding used shall be fire resistant.
  - iii. Any other sustainable and maintenance free material may also be allowed with special permission by DHAP Authorities provided that the approved color scheme of that area along with its overall ambience is not affected.
- e) **External Walls (Insulated).** All external walls shall be provided with Insulation on hollow blocks, light weight insulation blocks or blocks with insulation etc. on south and west facades of all commercial buildings for energy conservation with emphasis on following:
- f) **Minimum Envelope Performance Requirements.** For all new commercial buildings, exterior building elements must have average thermal transmittance (also known as U Value) and Shading Coefficients (SC) that does not exceed the values specified and Light Transmittance greater than or equal to the values specified.
- g) **External Walls and Floors**
- i. Building elements forming the external walls and floors (where

one side of the floor is exposed to ambient conditions) must have an average thermal transmittance (U Value) which does not exceed  $U = 0.57 \text{ W/m}^2\text{K}$ .

- ii. Where the floor is in contact with the ground, the insulation should be applied up to one meter (1m) below from the top most point in contact and shall be all around perimeter of the building.
- h) Plumbing & Other Services.** To ensure that the buildings will look aesthetically pleasing, no pipes are to be visible on front and back elevations. Independent pipe chases, ducts or shafts shall be required to be provided.
- i) Side Walls.** In case plot on which the construction is proposed has an empty plot/s adjacent to it, the plot owner shall ensure to provide side walls to be plastered with grooves and to provide paint (similar color of cladding or paint) and to keep it maintained.
- j) Corner Plots.** All sides of a corner plot are to be treated as front elevation i.e., no visible plumbing, no external air conditioning units to be placed on any elevation. All external air conditioning units to be placed on roof, balcony or in ducts via pipe chases.
- k) External Air Condition Units.** No external AC units to be placed on any elevation of the commercial buildings and all external units to be placed on roof balcony in duct via pipe chase.
- l) Signboards**
- i. To control defacing of buildings in DHAP, all signboards on all commercial buildings are to be in-line with the DHAP Signboard Regulations (Chapter 4 General Rules). Signboards sizes and shapes are to be first submitted to Building Control Branch on A3 paper (in triplicate) showing the signboards shapes & sizes shown in color prior to installation. After installation, a photograph on A4 size is to be submitted also for the record of TP&BC. Signboards for shops in commercial buildings will be of size having length covering entire length of the shop or, part thereof, width of 3 ft and 1 ft raised from the wall. For display of the name of the Commercial building, Group etc. size will be 10 ft x 4 ft x 1 ft.
  - ii. However, DHAP Authorities may allow variant size of the sign board based on aesthetics corresponding the size of the building, building front, shape of the building. Signboards may be allowed more than one depending upon size, shape and view from different sides of the building.

- m) **Glazing.** Ratio of glazing on front & back elevations are to be minimum thirty percent (30%) for structure to look visually de-massed with following requirements: -

n) **Glazed Elements – Fenestration Requirements**

In case the total area of external walls that let in light is up to thirty percent (30%) of the external wall area, then the glazing elements must meet the following performance criteria:

- i. Thermal Transmittance (Summer U Value)  $U = 2.1 \text{ W/m}^2\text{K}$  (max.)
- ii. Shading Coefficient (SC) - 0.4 (max.)
- iii. Light Transmittance - 27%
- iv. In case the total area of external walls that let in light is between thirty percent (30%) and seventy percent (70%) of the external wall area, then the glazing elements must meet the following performance criteria: -
  - Thermal Transmittance (Summer U Value)  $U = 1.9 \text{ W/m}^2\text{K}$  (max.)
  - Shading Coefficient (SC) - 0.32 (max.)
  - Light Transmittance - 20%

**Note:-** The owners are required to submit with completion plan certification from glass supplier/manufacturer that the glass used in the said building is fulfilling the requirements numerated above.

- o) **Balcony Parapets.** All Balcony parapets are either to be of block masonry with aluminum cladding on it or in case railing is used, it is to be of stainless steel or any other maintenance free non corrosion material.

p) **Green and Insulated Roofs.** Building roofs should have following:

- a) All roofs shall be provided with water proofing membranes along with insulation / Insulated tiles or green roof to ensure minimum envelope performance requirements to ensure an average Thermal Transmittance (U Value) which does not exceed a  $U \text{ Value} = 0.3 \text{ W / m}^2\text{K}$ .
- b) Also, where Green roofs are provided, they should be provided with proper root barrier and drainage and irrigation systems. The owner shall be required to provide documentary proof of the same to DHAP Authorities.

q) **Solar Water Heaters (SWH).** Building should have:

- a) For all commercial buildings, use of Solar Water Heaters (SWH) with automatic Electric backup system and/or Electrical Heater is mandatory. All SWH works to be done by specialist vendors.
- b) All Pipe materials to be used for SWH, plastic materials shall preferably be used, which are resistant to UV radiation and to the temperatures upto  $95^\circ\text{C}$ . All hot water pipes connected to

SWH are preferably to be insulated to reduce heat losses from hot water mains.

- c) Integration of backup system is also mandatory (electrical or gas, however, electrical is mostly recommended backup system as only electrical rod is required with no extra piping will be required).
- d) At the time of submission of plans, the owner is required to submit backup systems which he is planning to use, for the approval of P&D, DHA. Also, at the time of completion of plans, the owner is required to submit pictures of the roof showing the installed SWH on the commercial building.
- r) **Water Saving Devices**. It is mandatory to use water saving faucets, showers fittings, and flushing devices (water conservation) in all new commercial buildings.
- s) **Water Efficient Fittings (for all commercial buildings)**. Water efficient system and fitting shall be used.
  - i. Water-conserving fixtures must be installed, meeting the following criteria: -

Table 10: Criteria for Water Conserving Fixtures		
i.	Showerheads	8 Liters per minutes
ii.	Hand wash basins	6 Liters per minutes
iii.	Kitchen sinks	7 Liters per minutes
iv.	Dual flush toilets	6 Liters full flush, 3 Liters part flush
v.	Urinal	1 Liter per flush or waterless

- ii. Dual Flush toilets must be used.
- iii. Automatic (proximity detection) / push button faucets must be installed in all public facilities.
- iv. Cisterns serving single or multiple urinals in commercial buildings must be fitted with manual or automatic flush controls that are responsive to usage patterns. Only sanitary flushing is acceptable during building closure or shutdown.

## 12.4. SUSTAINABILITY

- a) **Mixed Use Buildings only**
  - To promote and support the use of low emitting, at least 5% of the total vehicle parking spaces reserved for low-emitting, fuel- efficient vehicles.

- To promote and support the use of bicycles, they should be provided within the building or within a shaded area located no more than 30 meters from a building entrance within the plot limit.
- Minimum one motor vehicle parking space shall be provided for every 1500 Sqft of floor area for hospitals.
- Where car lifts are provided there shall be a minimum of two car lifts with facilities of standby generator where-ever so required.

**b) Energy.**

Energy conservation have to be kept in all designs.

- To promote sustainable design:
- Provide adequate natural daylight to reduce reliance on electrical lighting and to improve conditions for the occupants.
- Residential and public buildings must provide direct line of sight (views) to the outdoor environment
- To ensure high quality indoor spaces:-
  - i. All ventilation system outdoor air intakes must be located at suitable distance from potential sources of contamination to reduce the possibility of odor or air contaminants entering the ventilation.
  - ii. Exhausted air must be discharged in a manner to avoid it being drawn back into the building.
  - iii. Indoor air quality testing must be carried out prior to occupancy.
  - iv. Air Quality testing must be carried out by an air testing company or laboratory accredited by the Administration.
  - v. Testing equipment must have initial and periodical calibration certificate from an external calibration facility accredited by the Administration.
  - vi. Air Quality Test report must be provided with completion plan of all commercial buildings.

<b>Table 11: Maximum Limit for Air Containment</b>			
<b>Sampling Schedule</b>	<b>Type of Samples</b>	<b>Maximum Acceptable</b>	<b>Sampling Duration</b>
Pre-Occupancy	Formaldehyde	< 0.08 parts per million (ppm)	8-hour continuous monitoring (8 hour time-Weighted average [TWA])
	Total Volatile Organic Compound (TVOC)	< 300 micrograms/m <sup>3</sup>	
	Suspended Particulates (<10 microns)	< 150 micrograms/m <sup>3</sup>	

- c) **Air protection systems for hazardous fumes.** Where activities produce hazardous fumes or chemicals, spaces must be provided with separate air extraction systems to create negative pressure and exhaust the fumes or chemicals to ensure they do not enter adjacent rooms.
- d) **HVAC maintenance standards:** The cleanness of HVAC systems must be maintained, and all parts must be inspected and cleaned by licensed specialized maintenance companies by DHAP Authorities.
- e) **Air quality in parking spaces.** Mechanical ventilation must be provided to ensure that the Carbon Monoxide (CO) concentration in the enclosed parking area is maintained below fifty (50) parts per million (ppm) by:
- i. Providing a minimum of six (6) outside air changes per hour, or
  - ii. Installing a variable volume ventilation system controlled in response to input from a minimum of one CO sensor per four hundred square meters (400 m<sup>2</sup>) floor area of parking.
  - iii. To establish energy efficiency in the building sector, all buildings should acquire an energy certificate indicating energy class and consumption.
  - iv. To enhance building envelope performance: -
    - Building elements forming the external walls, roofs, and floors (where one side of the floor is exposed to ambient conditions) must have an average thermal transmittance (U Value) which does not exceed specific values.
    - Double glazed units for windows and roof lights must meet specific performance criteria.
  - v. To minimize Thermal Bridges: -
    - Thermal Bridges must be eliminated or insulated to reduce the amount of heat transfer. For this reason, the use of External Thermal Insulation Composite Systems shall preferably be installed.
    - Other than houses, all regularly used air-conditioned entrance lobbies must be protected by a door design which acts as a barrier to the loss of conditioned air.
  - vi. To Eliminate Urban Heat Island Effect and promote thermal and occupant comfort:
    - All opaque external roofing surfaces must comply with a minimum Roof Solar Reflective Index (SRI) value for a minimum of 75% of the roof area.
    - Normal occupied spaces should have an average air velocity between (0.2– 0.3) m/s.
    - HVAC system must be capable of providing a range of conditions as follows for 95% of the year.

vii. To optimize lighting features, for optimum and efficient lighting ceilings should be able to reflect light back into the space. The reflective ability of a ceiling is indicated by its Light Reflectance or LR value. High light reflectance or Hi-LR ceilings should be used with an LR of 0.83 or higher.

viii. To promote energy efficient lighting features: -

- All light fixtures intended for the general illumination of interior or exterior spaces must be fitted with Fluorescent Lamps or Light Emitting Diodes (LED).
- High frequency electronic ballasts must be used with fluorescent lights and metal halide of 150 W and less. High frequency electronic ballasts must be labeled as conforming to an international standard approved by the local Administration.

ix. To increase energy efficiency of lighting system:

- The average Lighting Power Density for the interior connected lighting load for specific building types must be no more than the watts per m<sup>2</sup> of gross floor area given in the Table.

<b>Table 12: Maximum Average W/m<sup>2</sup> Requirements across total building area</b>	
<b>Building Type</b>	<b>Maximum average W/m<sup>2</sup> across total building area</b>
Commercial/Public: Offices, Hotels, Resorts, Restaurants	10
Educational Facilities	12
Manufacturing Facility	13
Retail Outlets, Shopping Malls, Workshop	14
Warehouses	8

**Note:**

Lighting Power Densities for building types not listed in the above Table should be no greater than those values given in ASHRAE 90.1-2010 or equivalent as approved by the Administration.

- x. To increase energy efficiency of lighting in outdoor spaces:
  - The average Lighting Power Density for the exterior connected lighting load for specific building types must be no more than the watts per m<sup>2</sup> of gross floor area given in the Table.

<b>Table 13: Maximum Average W/m<sup>2</sup> Requirements across total Building Area</b>	
<b>Building Area</b>	<b>Maximum W/m<sup>2</sup> or linear meter</b>
Uncovered parking lots and drives	1.6 W/m <sup>2</sup>
Walkways less than 3 meters wide	3.3 W/linear metre
Walkways 3 meters wide or greater	2.2 W/m <sup>2</sup>
Outdoor Stairways	10.8 W/m <sup>2</sup>
Main entries	98 W/linear meter of door width
Other doors	66 W/linear meter of door width
Open sales areas (including vehicle sales lots)	5.4 W/m <sup>2</sup>
Building Facades	2.2 W/m <sup>2</sup> for each illuminated wall or surface or 16.4 W/linear meter for each illuminated wall or surface length
Entrances and gatehouse inspection stations at guarded facilities	13.5 W/m <sup>2</sup>
Drive-up windows at fast food restaurants	400 W per drive-through

**Note:**

Lighting Power Densities for building types not listed in the above Table should be no greater than those values given in ASHRAE 90.1-2010 or equivalent as approved by local Administration.

- xi. Increase energy efficiency through lighting control:
  - Occupant Lighting Controls must be provided so as to allow lighting to be switched off when daylight levels are adequate or when spaces are unoccupied and to allow occupants control over lighting levels.

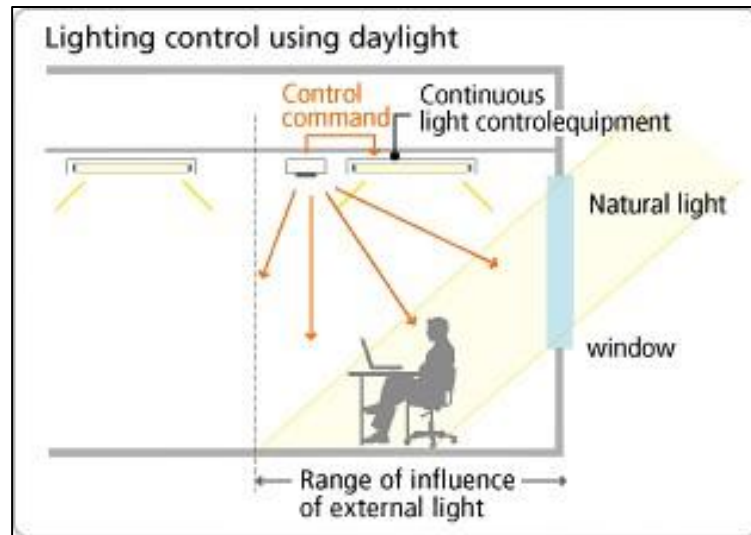


Figure 25: Lighting Control using daylight

- Corridors and lobbies should reduce lighting levels to no more than 25% of normal when unoccupied.
- In offices and education facilities all lighting zones must be fitted with occupant sensor controls capable of switching the electrical lights on and off.
- To Increase energy efficiency through lighting control:
  - i. The artificial lighting in spaces within 6 meters in depth from exterior windows must be fitted with lighting controls incorporating photocell sensors capable of adjusting the level of electric lighting to supplement natural daylight only when required.

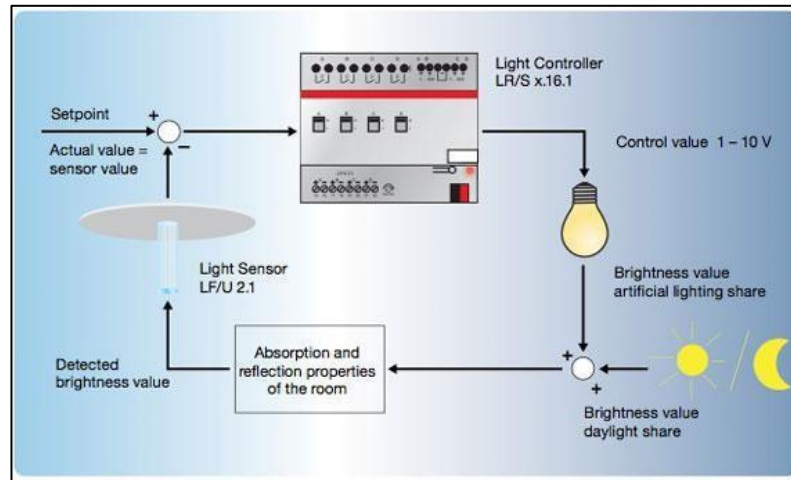


Figure 26: Energy Efficiency through Light Control

- ii. The combined artificial and daylight must provide an illumination level at the working plane between 400 and 500 lux. When there is 100% daylight, the lux levels may exceed 500lux.
- iii. Achieve energy efficiency in HVAC systems (in accordance with the American Society of Heating, Refrigerating, and Air- Conditioning Engineers (ASHRAE) 90.1-2010, Section 6.4.3. or equivalent as approved by Administration).
  - Sub-division of systems into separate control zones to correspond with each area of the building that has a significantly different solar exposure, or cooling load, or type of use.
  - All separate control zones must be capable of:
    - i. Independent temperature control.
    - ii. Inactivation when the building, or part of building served by the system, is not occupied.
    - iii. The operation of central plant only when the zone systems require it.
- xii. To minimize heat loss and prevent condensation:
  - Pipes and ducts passing through conditioned spaces must be insulated in accordance with BSI British Standard BS 5422:2009 or other insulation standards approved by the Administration.
  - Insulation materials used must meet the requirements of Byelaws, Thermal and Acoustical Insulation Materials or BS 5422:2009, whichever is the more stringent. All insulation installations must have a suitable vapor barrier and

protection from UV light.

- To minimize heat loss and prevent condensation, Pipes passing through outside or unconditioned spaces must be insulated with the minimum insulation thickness:

<b>Table 14: Effect of Insulation Thickness on Heat Loss</b>						
<b>Steel pipe nominal pipe size (mm)</b>	<b>Temperature of contents (°C)</b>					
	<b>10° C</b>	<b>5° C</b>			<b>0° C</b>	
	<b><math>\lambda = 0.018</math> W/mK</b>	<b><math>\lambda = 0.038</math> W/mK</b>	<b><math>\lambda = 0.018</math> W/mK</b>	<b><math>\lambda = 0.038</math> W/mK</b>	<b><math>\lambda = 0.018</math> W/mK</b>	<b><math>\lambda = 0.038</math> W/mK</b>
15	50	30	45	30	45	30
20	60	30	55	30	45	30
25	60	40	55	35	55	30
32	65	40	55	35	55	30
40	65	40	60	35	55	30
50	70	45	60	40	60	30
65	70	45	60	40	60	40
80	75	45	65	40	60	40
100	75	45	65	40	70	40
150	90	50	80	45	75	40
200	90	55	80	45	75	45
250	100	55	80	55	75	45
300 +	100	80	100	75	80	70

xiii. To provide accurate records of electricity consumption:

- Additional electrical sub-metering must be installed in all buildings with a cooling load of at least 1MW or gross floor area of 5,000 m<sup>2</sup> or greater. All major energy consuming systems with a load of 100kW or greater, must be sub-metered.
- Each individual tenancy shall have a sub-meter installed.
- Meters used must be specifically designed for the measurement of chilled water rather than for hot water.
- All meters must be capable of remote data access, have data logging capability and be used for demand management and cost allocation purposes.

- f) **Small to Medium Scale Embedded Generators:** When a building incorporates on-site generation of electricity from small or medium scale embedded generators using renewable energy sources; the equipment, installation and maintenance of the system must be standalone (off-grid) or, if connected to the local Electricity grid, comply to all specifications and standards set by the electricity utility company and the manufacturer.

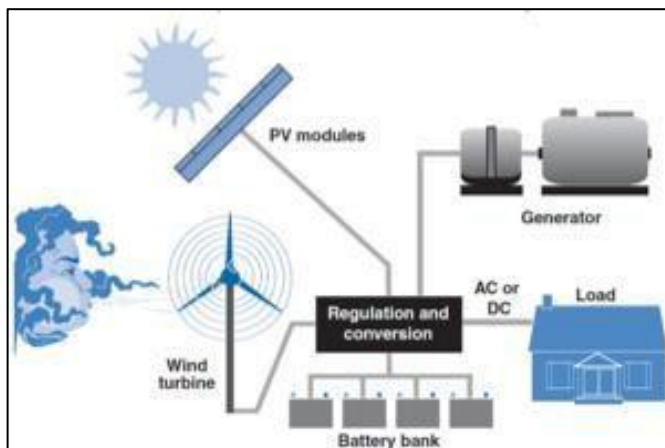


Figure 27: Byelaw and Conversion

- g) **Operation of Solar Water Heating System.** For all new houses and sports facilities, a solar water heating system must be installed to provide 75% of domestic hot water requirements. Solar water heating installations must be fitted with insulated storage tanks and pipes, sized and fitted in accordance with the solar panel manufacturer's requirements for each specific application. The supplementary heating system shall be controlled so as to obtain maximum benefit the solar heater before operating.

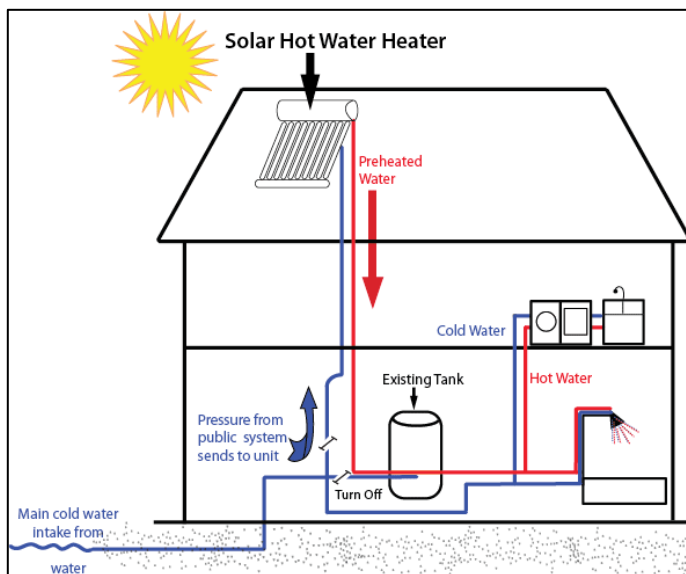


Figure 28: Solar Water Heating System

#### h) Energy efficient elevators and escalators

- i. Escalators shall change to a slower speed or when no activity has been detected for a period of a maximum of 3 minutes and shall shutdown for 15 minutes inactivity. Energy efficient soft start technology should be used. The escalator shall start automatically when required; the activation shall be by photocells installed in the top and bottom landing areas.
- ii. Elevators should use AC Variable-Voltage and Variable-Frequency (VVVF) drives on non-hydraulic elevators. Energy efficient lighting inside the elevator including controls to turn lights off when the elevator has been inactive for a period of a maximum of 5 min.

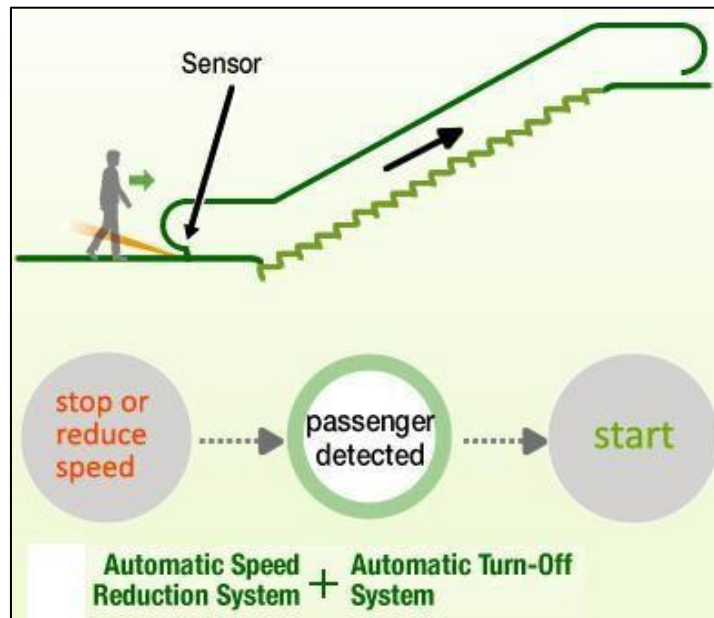


Figure 29: Energy efficient elevators and escalators

- i) **Minimize Duct Work Air Leakage.** Ductwork with its equipment with an external static pressure exceeding 250Pa and all ductwork exposed to external ambient conditions or within unconditioned spaces must be pressure tested prior to occupancy in accordance with a method approved by local Administration and a compliant amount of air leakage achieved.
- j) **Ductwork leakage testing.** Must be carried out by a company approved by local Administration to conduct commissioning of buildings.

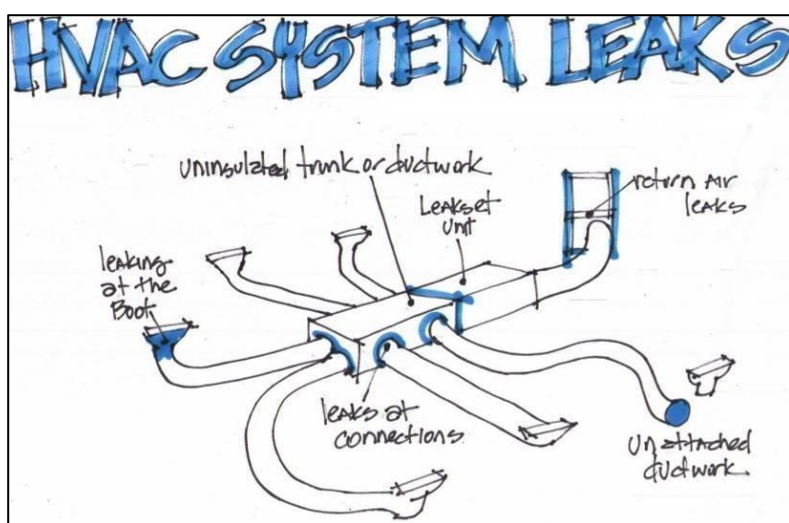


Figure 30: HVAC system leaks

- i. Set HVAC maintenance standards
  - HVAC systems must be accessible for regular inspection, maintenance and cleaning of the equipment.
  - A maintenance manual and schedule should be developed by the manufacturers or suppliers of equipment or according to the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) 62.1 – 2010 or equivalent as approved by local Administration.
  - Service records including details of both preventative and corrective maintenance must be kept onsite and be readily available for inspection by local Administration.
- ii. Ensure the proper operation of Building Services in new buildings

with a cooling load of 1MW or greater. Commissioning must be carried out in accordance with the **CIBSE Codes** listed below or any other commissioning Standard or Code approved inspection by local Administration.

- Commissioning of buildings must be carried out by a licensed company of DHAP Authorities.
- Commissioning results must be recorded and available for inspection by local Administration. A systems manual must be developed and provided to the building owner or facilities operator following commissioning.

<b>Table 15: Chartered Institution of Building Services Engineers (CIBSE) Codes</b>
The Chartered Institution of Building Services Engineers (CIBSE) Commissioning Code, Air Distribution Systems, Code A-2006" Restaurants
CIBSE Commissioning Code, Water Distribution Systems, Code W-2003"
'CIBSE Commissioning Code, Lighting, Code L-2003"
CIBSE Commissioning Code, Automatic Controls, Code C-2001" for central control and Building Management System (BMS)
„CIBSE Commissioning Code R: 2002 Refrigeration Systems
„CIBSE Commissioning Code B: 2002 Boilers"

- iii. Ensure the proper operation of Building Services in existing buildings with a cooling load of 2MW or greater. The re-commissioning of ventilation, water systems central plant, lighting and control systems must be carried out at least once every 5 years.
- iv. Provide full central control of all the building's technical systems
  - For all new buildings with a cooling load of 1 MW or gross floor area of 5,000 m<sup>2</sup> or greater, the building must have a central control and monitoring system capable of ensuring that the building's technical systems operate as designed and as required during all operating conditions, and that the system provides full control and monitoring of system operations, as well as diagnostic reporting.
  - At a minimum, the system must control the chiller plant, HVAC equipment, record energy and water consumption and monitor and record the performance of these items.



Figure 31: Building Energy Management System

#### k) Water

- i. To promote water conservation:
  - Water-saving fixtures should comply with minimum flow rates given.
  - Dual Flush toilets, Automatic (proximity detection) / push button faucets in public spaces and Cisterns with manual or automatic flush controls should be installed.
  - Faucets installed as a component of a specialized application may be exempt from
  - the flow rates upon application to Administration.

Table 16: Minimum Flow Rate	
Fixture Type	Maximum Flow Rate
Showerheads	8 Liters Per Minute
Hand wash basins	6 Liters Per Minute
Kitchen sinks	7 Liters per minute
Dual Flush Toilets	6 Liters Full flush, 3 Liters Part flush
Urinal	1 Liter per flush or waterless

- ii. To promote water recycling, for all new buildings with cooling loads equal to or greater than 400kW, condensate water from all air conditioning equipment units handling outside air, or a mixture of return air and outside air where the outside air is not preconditioned, must be recovered and used for irrigation, toilet flushing, or other onsite purpose where it will not come into contact with the human body.

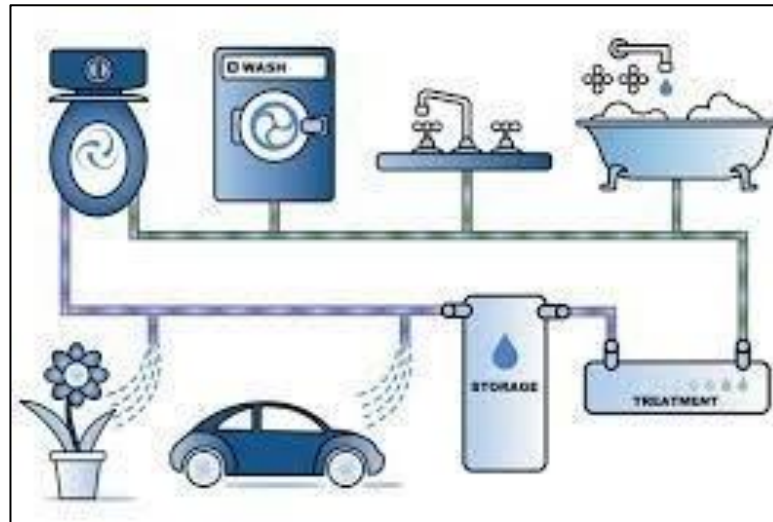


Figure 32: Water Recycling System

- iii. To promote water efficiency in irrigation:
- 100% of the total exterior landscaping must be irrigated using non-potable water or drip or subsoil water delivery systems.
  - All irrigation systems must incorporate, at any point that they connect to a portable water supply, backflow prevention devices which must be checked 12 months. Testing must be in line with the manufacturer's recommended practice for field testing or any other testing regime approved by local Administration.

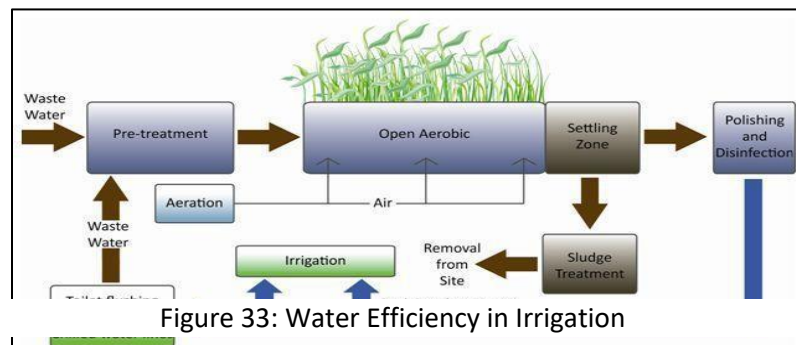


Figure 33: Water Efficiency in Irrigation

- iv. To achieve water conservation and savings through water metering: -
- For all buildings with a cooling load of at least 1 MW or gross floor area of 5,000m<sup>2</sup> or greater, additional water metering must be installed.
  - The building operator shall be responsible for water metering.
  - All meters must be capable of remote data access and must have data logging capability and complying with international and local specifications.
  - Water metering should be integrated into BMS where it exists.
  - Sub-meters should be used for demand management and cost allocation purposes.
- v. To promote Grey water reuse: -
- The building must be dual plumbed for the collection and recycled use of grey water. Pipes which transport grey water must be color coded differently from pipes that are used for potable water and be labeled “Not Suitable for Drinking. ”

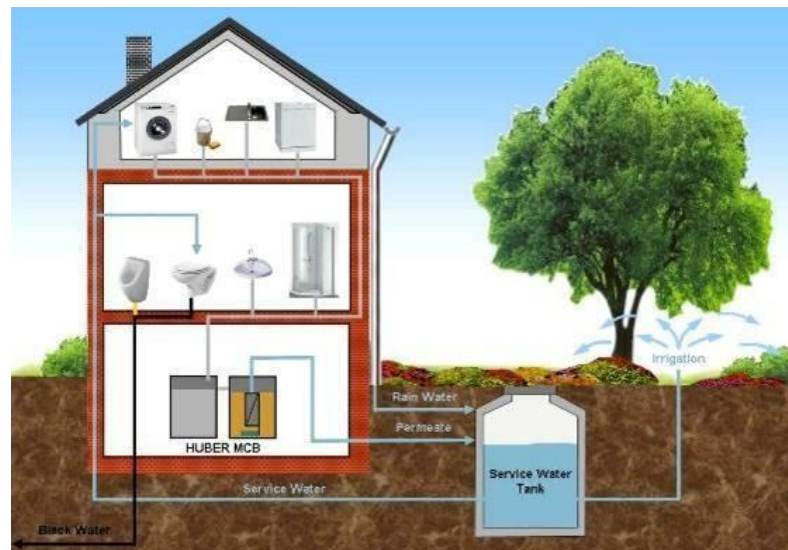


Figure 34: Grey Water Collection & Recycle Process

- There must be a minimum air break of 25mm between any potable water sources and grey water collection systems.
- Grey water must not be used for purposes where it will come into contact with the human body. It must be treated to the standard required by local

Administration.

- vi. To Promote health and safety, All Water Features with a water storage volume of over 1,000 litres and which create a water spray or aerosol including but not limited to waterfalls, ponds, streams etc., must be maintained, cleaned, disinfected and checked periodically to minimize the risk of Legionella bacteria or germs contamination and not exceed the maximum limits outlined in the technical guidelines issued by the administration.

**l) Waste**

- i. To promote recycling:
- ii. Domestic kitchens must have a minimum storage facility of two 10 litres waste receptacles clearly labeled for 'recyclable' and 'non-recyclable'.
- iii. All new apartment, office, educational and recreational buildings must have a garbage room with a minimum area of 7.5 m<sup>2</sup> (80.72 sqft) where non-recyclable and recyclable waste can be stored until collected. This facility must be easily accessible and sized as a percentage from the total Built up Area (BUA) of the building in accordance with the following Table.

<b>Table 17: Minimum Requirement for Storage of Recyclables</b>	
<b>Built Up Area (BUA)</b>	<b>Minimum Space for Storage of Recyclables</b>
Less than 500 m <sup>2</sup>	7.5m <sup>2</sup>
50 m <sup>2</sup>	1.5% of BUA
1,000 m <sup>2</sup>	0.8% of BUA
5,000 m <sup>2</sup>	0.35% of BUA
10,000 m <sup>2</sup> or greater	0.25% of BUA

- iv. To Support waste management, for all new apartment, office, educational and recreational buildings, an area must be provided for occupants to place items of bulky waste such as furniture. The area provided must cover an area of approximately 10 m<sup>2</sup> (107.63 sqft) and be reachable but not restrict access to the building.

**m) Materials**

- i. To promote occupants' health and safety through thermal and acoustical insulation materials: -
  - Insulation manufactured without the use of Chlorofluorocarbons (CFC"s), non-toxic and not release

- toxic fumes during combustion, have a Threshold Limit Value (TLV ) of 0.1 or less of Individual VOCs and be fire resistant in accordance with the local requirements.
- They should achieve all the requirements of the approved specifications by local Byelaws.
  - All thermal and acoustical insulation must be installed as per the manufacturer's instructions.
- ii. To improve indoor air quality and protect occupant's health:
- All paints and coatings used should not exceed locally allowed limits of Volatile Organic Compound (VOC).
  - Paints, coatings, adhesive bonding primers, adhesive primers, sealants and sealant primers must be accredited/ certified from specialized labs or any source approved by the Administration.
- iii. To eliminate the use of hazardous materials:
- Asbestos containing materials must not be used in the construction and maintenance of buildings.
  - Lead or Heavy Metals Containing Materials must be accredited /certified according to international/local standards by any source approved by the local administration.
- iv. To protect natural resources, reduce waste, strengthen local community and economy:



Figure 35: Product Lifecycle

- Recycled content must account for at least 5% of the total volume.
  - Building materials sourced regionally must constitute at least five 5% of the total volume of materials used.
- v. To protect the ozone layer, the installations HVAC equipment must contain refrigerants with zero ozone depletion potential (ODP) or with global warming potential (GWP) less than 100, with the exception of equipment containing less than 0.23 kilograms (kg) of refrigerant.

**n) Open Spaces**

- i. To protect the local ecosystem, a minimum of 25% of the total planted area of a building plot, including vegetated roofs, must utilize plant and tree species indigenous or adapted to the local climate and region.
- ii. To minimize exterior lighting pollution: -
- All exterior light fixtures must be shielded so that all of the light is projected below the
  - horizontal plane passing through the lowest part of the fixture.
  - Wall washing lights must spill no more than 10% of the lighting past the building façade.
  - Downward directed lighting must be used for lighting of signage.
  - All exterior lighting must be fitted with automatic controls to ensure that lights do not operate during daylight hours.
- iii. To Optimize construction of paved areas, 50% of the hardscape of the development must:
- Demonstrate a Solar Reflective Index (SRI) of at least twenty-nine (29), or
  - Use an open grid pavement system or
  - Be shaded by vegetation or
  - A combination of the above.
- iv. To Promote solar control in outdoor spaces, in all buildings - other than houses- all pedestrian linkages within the plot

area must be shaded using materials with a SRI equal to or greater than those specified in the table.

<b>Table 18: Minimum Roof SRI Requirements</b>	
<b>Type of Roof</b>	<b>Minimum Roof SRI</b>
Steep Sloped Roofs (slopes steeper than 1:6)	$\geq 29$
Flat and Low Sloped Roofs	$\geq 78$

# Chapter XIII

## SUBMISSION OF BUILDING/COMPLETION PLAN FOR SANCTION:

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### 13.1. POSSESSION OF PLOTS:

Following procedure is laid down:

#### 13.1.1.Site plan:

DHAP Authorities shall provide the Site Plan indicating measurements, size and location of Main Gate of the Plot to the member upon providing NOC from Transfer and Finance Branch.

#### 13.1.2.Building Plan:

For preparation of building plans (new or alteration) the member should engage a licensed architect and structural engineer, existing on the panel of approved consultants of DHAP.

#### 13.1.3.Submission of Drawings:

Members are responsible to submit the following drawings in accordance with DHAP Regulations.

#### 13.1.4.Architectural Drawings:

Member shall submit five sets of architectural drawings and a soft copy along with application form, covering following details:

- a) All drawings shall be submitted on sheet size of 30 x 40 inches and all details be given at a minimum scale of  $1/8" = 1' - 0"$ .
- b) The plans of basement, ground floor, upper floors and roof along with stair tower/Mumty.
- c) Two points perspective view in color with material finishes (showing front and side).
- d) All elevations, two sections along x and y axis passing through stairs providing maximum details.
- e) Site plan /key plan showing plot dimensions, width of the road(s), detail of neighboring plots, location of gate(s), position of underground water tank, grey water tank and location of North.
- f) Elevation and section of boundary wall, gate(s), ramp and water channel with

- respect to adjoining road/street.
- g) External dimensions of building.
  - h) The clear dimensions of all rooms and position of doors, windows and ventilators in each room at every story.
  - i) The position and dimensions of all projections beyond the walls of the building.
  - j) Roof plan showing the location/dimension of overhead water tank, stair tower/Mumty.
  - k) Total height of building with reference-to-reference point including level of finished floor, and split-levels (levels be indicated on plans also).
  - l) Location of reference service manhole and its invert level and
  - m) location of water connection shall be clearly shown on submission drawing.
  - n) Details of alternate energy solutions on roof/roof top with dimensions and heights.
  - o) Location and size of overhead and underground tank (for commercial/mixed use plots: show domestic and firefighting water in a section along with its calculations).
  - p) The sewerage line and wastewater/soap line should be laid independently and marked properly on the plan. The soap water should not be connected directly to the septic tank. It should be connected to underground grey water tank or directly to the main sewer line.
  - q) A water channel minimum 6-inch x 6-inch would be constructed along the main gate line. This drain would be suitably connected to overflow manhole of Septic Tank or Storm Water Drain through a minimum 4-inch dia pipe.
  - r) Schedule of open / covered areas. Schedule of doors and windows. Covered area calculation block plan.
  - s) Compliance of architectural features for elevations as per Sustainable Master Plan Image Concept (SMPIC).
  - t) Signature of Owner and the Licensed Architect on drawings along with required forms.
  - u) Drawings must be of acceptable Architectural standards.
  - v) All documents as per checklist relating to the plot shall be provided with the application.

#### **13.1.5. Structural and MEP drawings:**

On receipt of approval of architectural drawings, the owner shall submit complete structural and MEP drawings and calculations with 5 x sets of hard copies on sheet size of 30-inch x 40 inch and two soft copies (1 x AutoCAD & 1 x PDF) as per following details:

- a) Soil investigation report (one hard copy and one soft copy in PDF) along with structural drawings, duly signed by the DHAP's approved structural engineer

along with a certificate on letter head that the structure is safe catering seismic design along with structural calculations. The drawings showing layout and sectional details of foundations, beams, columns, lintels, slabs, underground and overhead water tanks. This set of drawing is only for DHAP record and Authority has no responsibility regarding the stability / safety of the structure. In case of any building over G+ 2 stories, the structural design should be duly vetted by the DHAP approved vetting engineer.

- b) Security charges as per DHAP's approved rates (mentioned in form attached), which will be refunded at the time of issuance of completion certificate after deduction of charges / penalty (if any) imposed on violations during the course of construction.

#### **13.1.6. Scrutiny of Drawings:**

Following procedure shall be followed: -

- a) Member shall submit the plans with DHAP for approval as per the Regulations.
- b) Plans not conforming to these Regulations shall be returned by mail or by hand.
- c) Members can collect approved drawings along with an Approval letter.
- d) On approval of the Architectural plan, the owner shall submit Structural drawings for approval as per procedure of Residential and Commercial buildings.
- e) After approval, member can proceed for demarcation.

#### **13.1.7. Oversight in Scrutiny of Drawings:**

Any oversight in the scrutiny / NOC of documents and drawings at the time of approval and sanctioning of the building plan does not entitle the member to violate the Regulations. If found at any stage during construction, the member will be responsible to rectify the violation as per the Regulations, at his own risk & cost.

### **13.2. RESPONSIBILITY FOR STRUCTURAL STABILITY:**

For any building constructed at DHAP, the structural engineer shall be liable for the design part, whereas the contractor shall be responsible for the structure stability being the constructor of the building. DHAP Authorities shall not be liable for structure stability of any building. In case of structural failure, procedure laid under dangerous buildings shall be followed.

### **13.3. INSPECTION CARD FOR CONSTRUCTION:**

- a) Inspection card shall be provided by DHAP Authorities to the member along with prescribed demarcation proforma (mentioned in the form attached).

Inspection card shall be held by owner, ensuring safe custody with up-to-date entries of different inspection stages by DHAP official.

- b) It is the responsibility of member to ensure that the inspection of work on each stage of construction is carried out as per Inspection Chart/ schedule duly signed by building inspector of DHAP. If any anomaly is identified at a later stage, member will be held.
- c) Prescribed charges will also be levied for issuance of new inspection chart, in case of loss.

### **13.4. DEMARCATION OF PLOT:**

After approval of Architectural, Structural and MEP drawings, member is required to apply for demarcation of Plot. On receipt of Demarcation letter, member is advised to follow steps given below for physical demarcation of plot before undertaking construction and thereafter for confirmatory check by survey team of DHAP:

#### **13.4.1.Step-I:**

Member to deposit the inspection card prescribed by DHAP and arrange following items for demarcation on site at coordinated time: -

- Four pieces of 4- inch Dia PVC pipe having length of 2-½ ft each.
- Cement, aggregate and water along with its batching preparation items.
- Required skilled labor. Member/Contractor will get the demarcation Pillars grouted / installed at the location indicated by DHAP survey team in their presence. Demarcation Pillars shall not be disturbed or removed till the final demarcation of boundary wall up to DPC level.

#### **13.4.2.Step-II:**

Inspection Card will be forwarded to DHAP Authorities for inspection of building construction activities after completion of initial demarcation. Member shall ensure demarcation for second time on laying of lean concrete after excavation of the boundary wall before applying issuance of Plinth Level NOC on the inner building in case of no basement. However, in case of basement(s), member shall ensure demarcation for second time on laying of lean concrete and third time at DPC level of boundary wall whenever the basement is completed.

#### **13.4.3.Step-III:**

Before start of construction of boundary wall, member must intimate DHAP Authorities for final demarcation of lean/ DPC level. DHAP Authorities will also ensure that the plot is finally demarcated on lean / DPC level of boundary wall before undertaking any further construction.

Notes:

- The steps mentioned above are laid down for the convenience of members / contractors in order to avoid any violation at later stage. These SOP may be followed strictly otherwise members will be held responsible of any violation.
- In case of disturbance of pillars, demarcation will be done again, and prescribed charges will be levied.

#### **13.4.3.1. Approved Drawings:**

The member/contractor must keep one full set of approved drawings (architectural, structural and MEP) on site, which may be made available to DHAP staff during inspection. In case of non-availability of approved drawings; penalty would be imposed as per policy of DHAP at prescribed rates from time to time.

#### **13.4.3.2. Inspection of Building at Various Construction Stages:**

Inspection of building shall be carried out by team of DHAP and documented as per the procedure laid in the inspection card. Inspection shall be carried out at following stages, however, construction stages may increase/ decrease depending on the demand of time/ resources/ technology:

- a) In case basement is to be constructed then: -
  - i. On ground demarcation of area to be dug in.
  - ii. Lean/Foundation.
  - iii. Roof level before pouring roof.
  - iv. Ground floor at Finished Floor Level including boundary wall.
  - v. On attaining roof height of Ground Floor before pouring in of roof.
  - vi. On raising of structure/ pillars one (1) foot above floor level of first floor and upper floors.
  - vii. On attaining roof height of first floor and upper floors.
  - viii. On attaining roof height of water tank and Mumty, whichever is higher (if applicable).
  - ix. On completion of Septic Tank prior to putting their cover.
  - x. Air & water pressure quality test of Plumbing lines (for commercial buildings).
  - xi. Structural Engineer has to submit quality control and quality assurance proforma at different stages during the course of construction so that DHAP Authorities can give the go ahead for next step.
  - xii. Members who are found violating the Regulations of DHAP during the course of construction will be charged as approved by DHAP Authorities from time to time

**13.4.3.3. Deviations:**

All Construction activities shall be processed as per approved building plans. However, if owner desires to make any changes during the construction, then a deviation plan shall be submitted for approval of DHAP Authorities prior to modification at site. Subsequent construction can proceed as per approved deviation plan. Any construction other than approved building plan or deviation plan shall be considered unauthorized and subject to penalty as per prescribed rates.

**13.5. COMPLETION OF THE BUILDING**

- a) The member will ensure completion of residential Building (maximum in 2.5 yrs) and commercial building (maximum within 4 yrs.) within the stipulated time frame from the date of approval of submission drawings. Any member not ensuring completion as per the allowable duration will be liable to pay the late completion penalty as per prescribe rates. DHAP authorities may allow extension in time up to maximum one-year meriting justified reasons, if applied by the owner, one month prior to date of completion. Another one-year extension may also be granted in extreme justified reasons and late completion penalty as per prescribed rates will be levied after this period as per prescribed rates.
- b) For Buildings designed on FAR and special purpose buildings, owner will get the completion time approved prior to start of the construction activities from DHAP Authorities. If timelines are not approved specifically for a project than above mentioned completion time will be applicable and late completion penalty will be imposed accordingly.
- c) In case member intends to construct the building in phases, the sequence of construction in phases duly numbered shall be indicated on the submission drawings along with structural drawings (foundation plan) conforming the complete building design of all phases.

**13.5.1. Completion Plan:**

The member shall submit completion plans to obtain a completion certificate within 30 days of completion of entire work. Any member not submitting completion drawings within due date will be liable to a penalty as per prescribed rates.

The documents to be attached with completion plan are as under:

- a) x set of drawings.
- b) Prescribed dues as decided by DHAP Authorities from time to time.
- c) Inspection Card duly signed by the concerned Officers.
- d) All respective forms for adherence to Regulations & quality control in

construction, respectively duly signed by the respective consultants as provided below:

- i. Architect
- ii. MEP Consultant (Mechanical, Electrical, Plumbing).
- iii. Structural Engineer
- iv. Details of Alternate Energy Solutions Installed (DHAP Form No. 9 as per Appendices) With Photographs.
- v. Contractors certificate for structure stability.
- vi. Fire Safety Precautions Adherence
- vii. Two sets of Soft copy of drawings (1 x PDF, 1 x AutoCAD each).
- viii. After the receipt of completion drawings, DHAP Authorities technical staff shall arrange to inspect such work before Completion Certificate.
- ix. In case of violations, completion plan shall be returned unsanctioned with an order for demolition of un- authorized construction.
- x. In case of no violation, completion case shall be put up to the Completion Board of Officers detailed by DHAP Authorities for final approval.

### **13.6. OCCUPANCY OF BUILDING**

- a) Buildings shall only be occupied after obtaining Occupancy Certificate which will be issued after approval of completion plan.
- b) If the member wants to occupy partly completed building, then he should submit completion plan as per the completed portion with an application showing justified reasons for subsequent occupation of the building. However electrical metering at commercial rates will apply till obtaining of completion NOC from TP & BC Department.
- c) For purpose of obtaining occupancy certificate of a building, the minimum requirement is completion of ground floor in all respects.
- d) If member occupies the building without getting approval from DHAP Authorities, penalty would be imposed as per prescribed rates.
- e) Membership of respective DHAP Sector Clubs will be granted after Occupancy Certificate as per the prescribe rates and membership certificate shall be required to be submitted with completion plan.
- f) Illegal occupants and violators will not be entertained with social & civic facilities of DHAP Authorities.

### **13.7. ADDITION, ALTERATION AND RENOVATION OF BUILDING AFTER APPROVAL OF COMPLETION PLAN AND EXECUTION OF “B” & “C” LEASE**

- a) Such addition, alteration and renovation may be done to building after obtaining approval for proposed works from DHAP Authorities. Addition and alterations executed after the approval shall be followed by submitting completion plans and other required documents as per checklist.
- b) Failing to get approval of addition and alterations on proper completion plan and undertaking such additions and alterations without prior approval of DHAP Authorities, the unauthorized construction shall be demolished at the risk and cost of the owner.
- c) In case any resistance in demolition of unauthorized construction, it shall be considered as illegal and plot file will be freeze by DHAP Authorities for any further transactions till removal of violation.
- d) In case of B/C lease of such premises is liable to be cancelled.

#### **13.7.1. Revised Building Plan:**

Submission of revised building plans shall be mandatory in the following conditions: -

- a) Structural changes required during construction.
- b) After approval of completion plan, if changes / modification is more than 40% of total constructed area.
- c) In case of time barred during construction.

#### **13.7.2. Revised Completion Plan:**

- Revised completion plan will be mandatory in following conditions: -
  - a) After approval of revised building plan.
  - b) After completing the partially constructed building.
- All utility services such as water supply, sewerage system, sewer treatment plant, drainage, electricity, gas, telecom, internet, etc. shall be developed by DHAP Authorities, in due course of time directly or through other departments/organizations and the development charges for utility services shall be charged to the owner on pro-rata basis from time to time which shall be payable immediately by the owner of plots. In case of non-payment or delay in payment of development charges by the owner of the plots, the allotment/transfer may be cancelled on sole discretion of DHAP Authorities.
- Any plot owner who is not following the agreed payment schedule is

liable to get his/her plot cancelled or re-located as per discretion of DHAP Authorities.

- For special plots, in case the party to whom the plots are allocated, are not following the agreed Construction plan (approved), construction schedule, allotment of such plots is liable to be cancelled.
- **Special Use Plot:** Special use plot reserved for the specific purpose shall not be utilized for any other purpose.
- **Residential Plots:** Residential plot shall not be utilized for any other purpose.
- **Commercialization of plots:** Conversion of residential plot into commercial shall be allowed only according to a uniform commercialization policy formulated and revised from time to time with the approval of the Competent Authority through notification on the basis of comprehensive study of various urban areas under pressure for commercialization. Individual plots outside the policy will not be considered for commercialization. Procedure to be followed is as under: -
  - a) DHAP shall issue a public notice for the change of land use of the plots in accordance with the provisions of these Regulations and the expenses shall be borne by the applicant.
  - b) DHAP shall give due consideration to the objections from the public, if any, in light of the Regulations.
  - c) Final No Objection Certificate (NOC) of change of land use shall be issued by the DHAP Authorities.

The applicant shall pay the prescribed fees and other charges to DHAP.

# Chapter XIV

## ADMINISTRATIVE ASPECTS

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### 14.1. Commercial Activity

No Commercial / semi commercial activity is allowed in the residential area.

### 14.2. Clubs /Guest Houses

No Clubs, Guest House, Guest Room or Hostel etc., to be established in residential Areas.

### 14.3. Utilization of Vacant Plots

Vacant plots/ Open areas not to be used for any function/ gatherings except funeral gathering.

### 14.4. Fire Works / Discharge of Arms

Display of fireworks (Aatish Bazi) and discharge / testing of arms (Hawai firing) are strictly prohibited in DHAP Authorities.

### 14.5. Distinctive Marking / Flags:

Flags / Banners showing Political / Religious/ Sectarian affiliations are not allowed on both residential and commercial buildings in DHAP.

### 14.6. Graveyard

Burial in DHAP graveyards will only be carried out after formal approval and procedures from DHAP Authorities.

### 14.7. Hiring of House/Shop/Apartment:

Any tenant hiring of a house/ shop/ apartment will be required to get NOC from DHAP Authorities before occupation.

#### **14.8. Guard Rooms:**

Security Check Post/ Guard Room within plot line up to maximum defined size will be allowed after approval from Competent Authority. No check post will be allowed outside the property line.

#### **14.9. Vehicles Stickers:**

All the Residents in DHAP are required to get their vehicles sticker from DHAP Authorities.

#### **14.10. Traffic Rules:**

All the residents are required to drive within speed limits specified by DHAP Authorities. Any driver caught over speeding / wreck loss driving will be dealt with traffic laws. Driving without License is strictly prohibited. Similarly, riding a motorbike without a safety helmet is not allowed within DHAP.

#### **14.11. Servant Passes:**

Member / Residents to get passes for all domestic servants from DHAP after proper registration.

#### **14.12. Hazardous Materials / Chemicals:**

Storage of any kind of hazardous materials, chemicals, explosives etc. is prohibited.

#### **14.13. Utilization of DHA Land**

If any person/plot owner wants to utilize DHA land (vacant/untitled open space) for commercial purpose shall seek special permission from the authority, whereas no permanent structure will be allowed.

#### **14.14. Disputes & Arbitration**

Efforts will be made to settle the disputes through mutual consent. However, the decision of the Management shall be final and cannot be challenged at any forum.

# **Chapter XV**

## **SAFETY AND SECURITY MEASURES DURING CONSTRUCTION**

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### **15.1. GUIDELINES FOR THE STAFF DURING CONSTRUCTION**

1. Architect and engineers should make sure safety of the building by practicing proper engineering technique, professional skills and execution procedures as per health and safety standards.
2. Architects, engineers and other professional persons involved in design of building should make sure not to include anything in the design that would necessitate the use of unwarrantably dangerous structural procedures and undue hazards, which could be avoided by design modifications.
3. Every member, contractor and sub-contractor shall make an arrangement during operation, handling, transport, storage of building material to ensure the safety and health of the labor and public.
4. Every member, contractor and sub-contractor shall ensure that all workers are properly informed of the hazards of their respective occupations and the precautions necessary and adequately supervise to avoid accidents, injuries and risk to health, in particular that of young workers, newly engaged workers and illiterate workers.
5. Blasting and use of explosives for excavation / demolition is not allowed.
6. Debris shall be handled and disposed-off by a method, which will not endanger workers and public safety and health.
7. No youth under the age of 14 is permitted on the habitat construction site.
8. Use of ladders is not allowed during poor weather or on windy days.
9. Safety of worker, labour and visitor will be sole responsibility of member / owner.

### **15.2. SAFETY MEASURES TO BE ENSURED DURING CONSTRUCTION**

#### **15.2.1. Site Hoardings**

No member shall start construction of building work on a site abutting on a street without having first arranged hoarding or barriers to the satisfaction of the DHAP along the peripheral length of such site so as to prevent danger/injury/mishap to the public or the persons employed at the site. However, that these Byelaws do not apply in the case of building works in

connection with structures situated at least 15 ft away from a public street and being not more than 25 ft in height.

#### **15.2.2. Neighbors Safety**

If entire plot is excavated for the foundation, it is essential for the owner to ensure that adequate safety measures are taken against possible damage to neighboring compound walls, foundations and structures etc. A safety distance of 5 ft is to be left while excavating the basement(s). Any damage occurring due to excavation shall be made good by the owner of under constructed property who started excavation for basement. Work may be stopped by DHAP Authorities if the owner fails to take remedial action.

#### **15.2.3. Use of Public Streets**

No part of any street shall be used in connection with the construction, repair or demolition of any building except with the written permission of the DHAP Authorities. Any person holding such permission shall put up and maintain to the satisfaction of the DHAP Authorities, fences or barriers in order to separate the building work from such street. Where such separation is not possible member shall make arrangement for the security of public to the satisfaction of DHAP Authorities.

#### **15.2.4. Caution Light's for Obstructions**

Any person causing any building material or other things to be deposited, any excavation to be made or any hoarding to be erected shall at his own expense cause sufficient and adequate red lights to be fixed upon or near the same while such materials, hoardings, things or excavation remain. In addition to above red flags of reflective material shall be provided during daytime.

#### **15.2.5. Obstruction to be lit marked**

Any person causing any building material or other things to be deposited, any excavation to be made or any and other utility services installation of alternative arrangements shall be made, and precautions shall be taken according to the laid down procedure of the utility agencies and to the satisfaction of the Board to divert to keep clear of obstruction of any other drain during the period of temporary obstruction.

#### **15.2.6. Utility Services not to be obstructed**

All materials, hoarding, fences or other obstructions on any street shall be kept clear of any fire hydrants of any and other utility services installation or alternative arrangements shall be made, and precautions shall be taken

according to the laid down procedure of the utility agencies and to the satisfaction of the DHAP Authorities to divert and to keep clear of obstruction of any roadside or other drain during the period of temporary obstruction.

#### **15.2.7. Removal of Obstruction after Completion of Works**

All obstructions shall be removed within seven days of the completion of the construction work and the street and all drains and public utility installation made clean, tidy and serviceable conditions.

#### **15.2.8. Dangerous Obstruction**

If any material, hoarding, excavation or any other thing near or on any street shall be in the opinion of the DHAP Authorities dangerous to the passers-by along such street, the DHAP Authorities shall cause the same to be removed, protected or enclosed so as to prevent danger there from and shall be entitled to recover the expenses thereof from the owner of such materials or from the person who made such hoarding, excavation or other thing to become dangerous.

#### **15.2.9. Stability of Adjacent Building**

No excavation, dewatering, earthwork or demolition of a building which is likely to affect the failure of adjacent building shall be started or continued unless adequate steps are taken before and during the work to prevent the collapse or damage of any adjacent building or the fall or any part of it.

#### **15.2.10. Filling of Excavated Site**

A site once excavated shall not be kept open and idle for a period beyond the validity period of building plan failing which DHAP shall not revalidate the plan and in case of any mishaps the owner shall be responsible for life and property of the effectees. Excavated site shall be filled in by DHAP Authorities at the risk and cost of owner, if found appropriate.

#### **15.2.11. Supervision of Demolition Work**

The demolition of a building and the operations incidental thereto shall only be carried out under the direct supervision of a professional.

#### **15.2.12. Safe Loading**

No roof, floor or other part of the building shall be loaded at the demolition and construction with debris or materials as to render it unsafe.

#### **15.2.13. Scaffolds.**

- a) Suitable and sufficient scaffolds shall be provided for all work that cannot safely be done from the ground or from part of the building or, from a ladder or other available means. Support and sufficient safe means of access shall be provided to every place at which any person has to work at any time.
- b) Every scaffold and means of access and every part thereof shall be adequately fabricated with suitable and sound material and of required strength to ensure safety. All scaffolds, working platforms, gangways, runs and stairs shall be maintained to ensure safety and security.
- c) All vertical members of scaffolds on ground level facing roadside should be adequately wrapped with spongy material upto a height of at least seven feet. Any horizontal member if used, upto a height of seven feet from ground, should be wrapped all along its length with such material.

#### **15.2.14. Roadside Protection**

- a) To ensure adequate safety of the pedestrian and other road users, all buildings having a height of more than ground + two floors should have adequate arrangement by way of providing protective covering of suitable material
- b) Adequate provision of safe passage for pedestrian shall be provided, in case the scaffolding covers part of the road or footpath.

#### **15.2.15. Working Platform**

- a) Every working platform, which is more than seven feet height from which a person is liable to fall, shall be at least two feet wide provided the platform is used as a working platform only and not for the deposit of any material.
- b) A clear passageway at least one and half foot wide shall be left between one side of any working platform and any fixed obstruction or deposited materials.

#### **15.2.16. Guard Rails**

Every side of a working platform height, gangway and stair shall be provided with a suitable guardrail of adequate strength, upto at least one meter above the platform, gangway or steps.

#### **15.2.17. Ladders**

Every ladder shall be of good construction, sound material and adequate strength for the purpose for which it is used. b. Every ladder shall be securely fixed when in use and shall not have any missing or defective rungs.

#### **15.2.18. Work on Slopping Roofs**

- a) Where work is to be done on the slopping surface of a roof, suitable precautions shall be taken to prevent persons employed from falling off.
- b) Suitable and sufficient ladders or wooden planks, securely supported, shall be provided and used to avoid concentration of loads.
- c) Where persons are employed in a position below the edge of sloping roof and where they are in position of being endangered by work done on the roof, proper protection shall be taken to prevent tools or materials falling from such roofs so as to endanger such persons or passers-by.

#### **15.2.19. Precautions for Raising and Lowering Loads.**

For raising or lowering loads or for suspending those by hand or power operation, every precaution shall be observed to ensure safety of human and materials on the construction site.

- a) Adequate safety measures shall where necessary be provided and used to protect any person from falling on earth, rock or other material of or adjacent to any excavation or earth work.
- b) Material shall not be placed or stocked near the edge of any excavation so as to endanger persons working below.
- c) No load shall be placed or moved near the edge or any excavation where it is likely to cause a collapse of the side of excavation and to endanger any person.
- d) Where vehicles or machineries are used close to any excavation there shall be measures to prevent the vehicles or machineries from overrunning and falling into the excavation or causing collapse of any side of the excavation.

In all buildings of greater than twenty feet height temporary rails, scaffolding or barriers shall be installed during construction at the edge of slabs and around all openings such as lift or stairwell, etc.

# Chapter XVI

## FIRE SAFETY PRECAUTIONS

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### 16.1. INTRODUCTION

Every new building except residential buildings upto 2 storeys in heights shall if required by the scheme shall be provided with sufficient means for extinguishing such as:-

- a) Emergency Fire Exits/doors
- b) Fire extinguishers
- c) Firefighting buckets
- d) Fire Alarm System
- e) Smoke detectors
- f) Water pump
- g) Independent fire hydrants, hose pipes fitted with couplings and nozzles.
- h) Clear access and removal of obstructions
- i) Excavation plan and emergency lighting system
- j) Emergency response Team

### 16.2. FIRE RESISTANCE AND FIRE PRECAUTIONS.

For the purpose of fire-resistance and fire precautions, the following conditions shall apply, namely:-

- a) Building or any structural part of a building, other than a single storey building shall have an adequate standard of fire resistance and shall be built of the following components, namely:
  - i. In the external walls, all partition walls and the enclosing walls of stair-cases a minimum of 9 inches (0.23m) solid brick work or 3.1/2 inches (0.09 m) reinforced concrete or 4 inches (0.1 m) solid concrete block.
  - ii. In the floors and the roof, a minimum of 3.1/2 inches (0.09 m) of reinforced concrete.
  - iii. For special buildings, every garage shall be constructed in fire resisting materials.
  - iv. Special provisions shall apply to places of assembly, stages in theatres and cinema projection rooms.

**b) For Air-conditioning System:**

- i. Except in residential buildings, all air-conditioning or ventilation ducts including framing, shall be constructed entirely of noninflammable materials and shall be adequately supported throughout their length.
- ii. Where ducts pass through floors or walls, the space around the duct shall be sealed with rope asbestos, mineral wool or other noninflammable material to prevent the passage of flames and smoke.
- iii. The air intake of any air-conditioning apparatus shall be so situated that air does not re-circulate from any space in which objectionable quantities of inflammable vapors or dust are given off and shall be so situated as to minimize the drawing of inflammable material or other fire hazards; and
- iv. Where the duct systems serve two or more floors of a building or pass-through walls, approved fire dampers with fusible links and access doors shall be located at the duct opening and such dampers shall be so arranged that the disruption of the duct will not cause failure to protect - 50 - the opening;

**c) For the purpose of extinguishment of fires, every new building except residential buildings up to 3 storey in height, shall be provided with sufficient means for extinguishing fire as follows: -**

- i. All buildings shall have one multipurpose (A, B, C) dry chemical powder 6 Kg fire extinguisher for each 2000 sqft of floor area. At least two fire extinguishers of 6 Kg each shall be placed on each floor if floor size is less than 2000 sqft
- ii. The maximum travel distance to a fire extinguisher shall not exceed 75 ft. but for kitchen areas this distance shall be 30 ft
- iii. Provision of firefighting buckets.
- iv. Provision of an independent water supply system in pipes of steel or cast iron with adequate hydrants, pumps and hose reels.
- v. All multistorey buildings having four to ten floors shall have a pressurized internal fire hydrant system with an independent over-head water tank of minimum 7500 gallons and external under-ground water tank of 15000 gallons. In case where the building is over 10 storey high, it shall have an independent over-head tank of 15000 gallons and external under-ground water tank of minimum 30000 gallons. The external under-ground water tank shall be accessible to the fire-fighting vehicles at all times.
- vi. The pressurized internal fire hydrant system shall be independent and separate from the normal water supply system and shall be maintained at 3-5 bar pressure at all floors through an electric pump of suitable

- capacity for firefighting, which remains operational even if the power supply of main building is shut off.
- vii. The hydrant system shall have two compatible standard inlets at ground level for connecting with the emergency fire vehicles.
  - viii. The pressurized internal fire hydrant system shall have a water hydrant outlet, with shutoff valve and pressure gauge, connected to a 1.5-inch x 100 ft fire hose stored in a metallic hose cabinet at or near an emergency staircase.
  - ix. All firefighting pumps shall be placed in such a manner that their base is at least two ft below the bottom of the water tank.
  - x. For external fire hydrants all buildings shall have engine operated standby external fire-fighting pump connected to an adequate water source and supplying water to an external pipeline serving to external fire hydrants.
  - xi. The external fire hydrant shall be located at least six ft away and not more than fifty ft from the building. The distance between any two hydrants shall not exceed more than 100 ft.;
  - xii. Provision of separate fire exit stairs;
  - xiii. Provision of fire alarm system;
  - xiv. Provision of first aid box;
  - xv. Provision of smoke masks;
  - xvi. Provision of breathing apparatus; and
  - xvii. A plan showing the firefighting provisions in the building shall be displayed at the site.
- d)** For fire drills, necessary directions shall be issued to the occupants or, as the case may be, owners of the multi-storey buildings and buildings of public assembly to hold and arrange firefighting drills at frequent intervals but at least once a year in consultation with the firefighting department of the DHAP.

**Note:**

All firefighting arrangements shall comply with the requirements under rule 9 of Civil Defence (Special Powers) Rules, 1951.

## **16.3. EQUIPMENT FOR FIRE EXTINGUISHING AND PREVENTION**

### **16.3.1. Standpipe Equipment (Hose Reel)**

- a) For the purpose of prevention and fire extinguishments, every multi-storeyed building shall be equipped with standpipes as under: -
  - i. From four to eight storeys in height shall be equipped with not less than 2.5 inch dia pipes.
  - ii. Over eight storeys in height shall be equipped with not less than 4 inch dia stand pipes.
- b) The number of standpipes shall be such that all parts of every floor area are at a maximum distance of one hundred and twenty feet from the standpoint.
- c) Insofar as practicable, standpipes shall be located with outlets within stairway enclosures, but if these are not available, the standpipes shall be located in a common corridor. In any case one shall be located in the main.
- d) The construction of standpipes be of galvanized iron/gun metal.
- e) Standpipe risers shall extend from the lowest to the topmost storey of the building or part of building which they serve.
- f) When more than one standpipe is required, they shall be interconnected at their bases by pipes equal in size to that of the largest riser.
- g) Every standpipe or stand-system in case of interconnected standpipes, shall be equipped with a fire department approved in-let connection of corrosion resistant metal (e.g., gunmetal) located on an outer building face nearest to street approximately twenty to thirty feet above finished ground and suitably marked "fire department connection standpipe."
- h) Standpipes shall be provided in every storey with a one and half inch dia flexible hose not less than one hundred feet long, with a half inch nozzle, being in an approved rack or cabinet.
- i) The standpipe shall be fed by an overhead water tank reserved solely for this purpose. The minimum capacity of this tank shall not be less than five thousand gallons, with a minimum of seven feet head above the highest discharge point.

### **16.3.2. Dry Riser.**

- a) For each commercial and mixed-use building, 18-meter-tall, a dry riser (supply system intended to distribute water to multiple levels or compartments of a building, as a component of its firefighting systems) shall be provided to ensure that firstly a fixed distribution system within

- the building is provided that requires no fire service resources or equipment. Secondly, to maintain, the compartmentation of the building.
- b) Dry risers are a building Byelaws requirement in occupied buildings over 18 meters tall. The designers or architects may opt for the superior protection of wet risers. Wet risers are a building Byelaws requirement in buildings over 50 meters. Dry risers may also be found in environments where access is limited or compartmentation is an issue i.e., multilevel basements, carparks or hospital corridors etc.
  - c) Dry riser shall consist of 3 components to meet BS 5041 BS 5306, BS 9990 or other National Fire Protection association (NFPA) equivalent.

#### **16.3.3.External Inlets.**

- a) Inlets enable connection of fire service water supplies shall be required to be provided with an external cabinet or enclosure marked “DRY RISER INLET”. Within this enclosure, a collecting head with at least 2 BS Instantaneous male couplings shall be provided. In this cabinet, a drain down valve to enable the dry riser to be emptied of water following fire service operations or testing shall also be provided. These enclosures should be secure from vandalism but should be designed for immediately accessible with a breakable area in the door to facilitate urgent fire service connection.

#### **16.3.4.Pipe work.**

- a) All required pipe work shall be provided to make it functional by ensuring that the pipe is maintained EMPTY of water. The designer should ensure that the pipe work of dry riser distribution systems is of Galvanized steel pipe based on British standards laid down requirements for the pipes internal diameters or equivalent National Fire Protection association (NFPA) requirements.
- b) In buildings over 18 meters provide single outlets on each floor (100 mm or 4-inch internal diameter pipe work fitted). For taller buildings and for situations where multiple outlets on floors are required, 150 mm or 6-inch internal pipe work is fitted. Where larger diameter dry riser pipe work is required, the same should be accompanied by a 4-way inlet collecting head. The pipe work is usually enclosed within fire resisting enclosures or shafts.
- c) The top of the pipe work should be provided with vent pipe to allow the air in the dry riser to be expelled when it is charged with water.

### **16.3.5.Outlet Points.**

- Outlets (Landing Valves) - the connection points for enabling the fire service, are to be attached and advance its hose lines within a building. Each outlet should consist of a single or double BS instantaneous female outlet, under the control of a gate valve. Also, outlets should be protected by enclosures with a breakable area in the door to facilitate urgent Fire Service connection. Outlets are to be situated in a protected lobby, stairway or cupboard, one of a buildings fire escape staircases, enclosures or lobbies. Provision is to be made at roof level for an additional "testing" outlet, where possible.

### **16.3.6. Automatic Sprinkler System.**

Automatic sprinkler system shall be provided in:-

- a) Every public use / institutional building which serves restrained or handicapped persons.
- b) Covered car parking areas in building of which upper storeys are designed for other uses when such parking area exceeds five thousand square feet.
- c) Out garages or terminals for passengers serving more than four buses at a time.
- d) All building compartments used for cottage manufacturing display or sale of combustible materials and products which are more than 7500 sqft in covered area.
- e) All areas of theatres except auditorium, music hall and lobbies.
- f) All building areas used primarily for storage of goods, and materials including areas clearly specified for storage of incombustible materials and goods, which are more than 1000 sqft in area.
- g) Sprinkler provision shall be made in the immediate vicinity of generators or any electrical equipment.
- h) For all generators or any electrical, Information and Communications Technology (ICT) equipment FM-200 (Clean Agent and IFC 227 ea system) or any other clean, colorless and environment friendly fire suppression agent that is electrically non-conductive and safe for humans is allowed.

### **16.3.7. Construction of Sprinkler System.**

Sprinkler pipes, hangers and sprinkler heads shall be protected from corrosion.

- a) Every sprinkler system shall be equipped with a fire department approved inlet connection located on an outer building face nearest to street

approximately twenty to thirty feet above finished ground and suitably marked "Fire department Connection-Automatic sprinklers".

- b) Automatic sprinkler system from the incoming supply along with automatic fire booster pump set, shall be connected to a building's RCC water storage tanks. This tank shall be of enough capacity to meet the daily storage requirements of the building's occupancy along with the minimum water storage requirement as recommended by NFPA. There shall be minimum pressure (3 bars or 20 PSI) above the highest discharge point according to NFPA.
- c) Automatic sprinkler system shall set off automatic alarm system simultaneously.

Every sprinkler system shall be provided with a readily accessible outlet valve to control all sources of water supply.

#### **16.4. PORTABLE FIRE EXTINGUISHING IN COMMERCIAL AND PUBLIC BUILDINGS.**

These shall be provided:

- a) Two extinguishers in stage area, in each dressing room and one immediately outside each entry in theatres.
- b) One extinguisher in each 2000 sqft of area of public assembly buildings, but not less than one on each occupied floor, and not less than one in each lab, workshop or vocational room.
- c) At least one extinguisher on each floor at stairway landing and in corridor at each lift or group of lifts in mixed use and commercial buildings.

#### **16.5. EMERGENCY FIRE EXITS**

- a) Emergency fire exits of non-combustible material shall be provided in all commercial and public use buildings.
- b) Complete Civil Defense drawings for Fire Safety Precautions shall be required to be submitted for approval of DHAP prior to construction.

#### **16.6. EMERGENCY FIRE EXIT SPECIFICATIONS.**

For the purpose of emergency exit specification and means of escape in case of emergency,

- a) All means of escape from a building including extra corridors, stairs etc. shall permit unobstructed access to a street or to an open space or to an adjoining building or roof from where access to the street may be obtained.
- b) All buildings shall have windows on the street elevation within convenient reach and of adequate size to enable persons to escape in case of emergency.

#### **16.6.1. Emergency Staircase/Elevator**

- a) Every Building in DHAP of 1 Kanal and above shall have at least two emergency staircases.
- b) Emergency Staircase shall be designed with Fire Rated Doors (1 ½ hours rated), Fire resistance rated floor or commonly known as fire door within 2 hours rated walls and shall be naturally ventilated. It will exit towards open space on ground floor.
- c) At Least one emergency staircase will be located within 100 ft of any point on a floor for building larger than 1 Kanal.
- d) All elevators / lifts should be equipped with functions for emergencies like power failure, fire and earthquake.
- e) All elevators / lifts should have in-built emergency landing devices, so that upon power failure, a car automatically moves to the nearest floor using a rechargeable battery to ensure that the lift door is opened to facilitate the safe evacuation of passengers.
- f) every block of apartment building having more than 6 apartments at each floor shall be served with an additional staircase.
- g) in a block of apartment buildings emergency staircases shall be provided in addition to the main staircase or staircases.
- h) an emergency staircase shall be sited at such a position that it should be accessible to all the apartments without any hindrance or obstruction and it should be open to a permanently ventilated space.
- i) every multi-storey building should be provided with emergency staircase or staircases, as the case may be in addition to the main staircase or staircases in the following manner, namely: -
- j) For buildings on plots less than 4 Kanal: 1 emergency staircase
- k) For buildings on plots 4 Kanal & above: 2 emergency staircases located at two ends of floor
- l) The staircase shall be separated from the main building by two fire doors, opening outwards. The fire door shall be hinge type with clear width of at least 3 ft and minimum one-hour fire resistant rating.

- m) The staircase shall have an accessible window or opening towards the road with adequate size (minimum 2.5 ft x 3 ft) to enable evacuation of persons in case of an emergency.
- n) The staircase(s) route shall be adequately illuminated at all times and free from all obstructions.
- o) Each staircase shall be clearly marked by a sign reading “EXIT” in plainly legible letters not less than 6 inches high.
- p) In case of an earthquake, seismic sensors installed in elevator should detect the earthquake, move the elevator car to nearest floor, and open to the doors for safe evacuation of passengers.
- q) All elevators should be in Handicapped Accessibility compliant as per the following ADA requirements as a minimum: -
  - i. Elevator hall and car buttons should be mounted at 42 inches height with call buttons minimum 0.75 inches in diameter, with illumination levels for buttons.
  - ii. Braille plates next to buttons and at entrance jambs.
  - iii. Two-way communication in elevator cab / car so that Deaf / Blind users can utilize it effectively.
  - iv. Chimes / verbal announcements that indicate floor passing and the next arrival floor.
  - v. A car / cab large enough to accommodate a wheelchair and a 360-degree turn.
  - vi. Door protective / re-opening devices that will re-open the door without physical contact.
  - vii. Emergency control that is grouped at the bottom of the elevator control panel and have their center lines not less than 36 inch above the finish floor.
  - viii. Handrails to be provided at a height of 30-inches.
- c) Door Safety sensors, emergency light, emergency call button / phone, all required safety features for the stability of the elevator system, safety brakes.

## **16.7. IN CASE OF SPECIAL BUILDINGS**

- a) Every garage shall be constructed in fire resisting materials.
- b) Special provisions shall apply to places of assembly, stages in theatres and cinema projection room.

## **16.8. Lightning Protection Systems**

- a) To ensure adequate protection of multi-storey buildings against lightening and its effects, every multi-storey building shall install a proper lightning protection system. The systems shall comply the national or the international standard for Lightning Protection.

# Chapter XVII

## VIOLATION OF BYELAWS

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### 17.1. GENERAL

The members shall not violate Construction and Building Regulations. The portions having variations and deviations from the approved plans/bylaws shall be liable to be demolished at the risk and cost of the owner. Executive Committee is empowered to take strict punitive action in addition to disconnection of services so as to preserve the sanctity of planning and parameters.

### 17.2. CONSTRUCTION VIOLATIONS

Defaulters shall be liable to fine which may extend up to Rs. One lac depending on gravity of the case. Some of the foreseeable violations are as under: -

#### 17.2.1. Sewer

Connection of building sewer with main network without the knowledge of DHAP staff is unauthorized. Owners should not open the plug and join the sewer themselves unless completed house has been checked by the Scheme staff. Main Sewer manhole will not be tampered with for drainage of surface/rainwater.

#### 17.2.2. Improper Ramp.

There is tendency to extend the slope of ramp beyond permissible limits which may causes obstruction. The following points are submitted for the information of all members: -

- a) Ramp slope must finish within 5 feet from the boundary wall and driveway will have a slope conforming to road slope towards the house.
- b) Since the area outside the boundary wall is liable to be dug by Scheme for giving connections/repairs without intimation, members are advised not to make costly ramps.
  - i. No water point/tap will be left outside the boundary wall.
  - ii. Erection of permanent fence or growing of hedge in any form is not permitted outside boundary wall.
  - iii. Earth filling outside the compound will not be above the adjoining berm level.
  - iv. No Pacca / permanent "Sentry Post" will be constructed.

- v. Permanent / temporary fence, rockery, hedge and other such structures outside the boundary wall shall not be permitted'
- vi. Damaging the road by mixing concrete or cutting/bending steel bars on the road, placing concrete mixer on road berm.
- vii. Cutting the road surface without written approval from the Authority or causing damage to the road or erecting speed breakers or any other obstruction on road.
- viii. Providing permanent brick soling, pavers and concreting etc along the metal road in the berm area.
- ix. installation of Generator in violation of rules & regulations of Authority'
- x. Any other violation which is declared as such by the Authority as per its prevailing rules and regulations.

### **17.3. POWER TO SEAL A BUILDING FOR VIOLATION OF THE REGULATIONS.**

The Director-General DHAP or any other officer of the Authority, duly authorized by him, shall have the powers to seal any building, structure or any other premises for violation of any provisions of these regulations, as the case may be.

### **17.4. REMOVAL OR PREVENTION OF VIOLATION**

- a) DHAP shall carry out inspection and take other appropriate measures to ensure compliance with these Byelaws. For compliance of the Byelaws, DHAP shall carry out inspections of any Residential as well as Commercial premises. Inspections shall be arranged on periodic, on occasional, on any observation, or on any complaint from the neighborhood, basis. Owner/Occupant of the property shall arrange the inspection of the premises by DHAP detailed inspection team. Inspection of premises may be asked through writing (notice), verbal or Telephonic correspondence. However, owner shall verify the identification of DHAP inspection team before entry to the premises. Representative of the owner/occupant shall accompany the DHAP Inspection Team during the inspection.
- b) If DHAP finds that any of the provisions of these Byelaws, or any rules relating thereto, or any conditions of a general or special permit, are being or have been violated, it shall serve a notice in writing to any person responsible for the violation.
- c) The notice shall indicate the nature of the violation and DHAP may order such action as it may deem appropriate to correct the violation including but not limited to: -
  - i. Discontinuance of any illegal work being done on, or activities being conducted in relation to, building.

- ii. Requiring the owner or builder who are carrying out or have carried out such building works, on or before such day as shall be specified in such notice, by a statement in writing subscribed by him or by an agent duly authorized by him and addressed to DHAP, to show sufficient cause why such building works or such part thereof shall not be removed or altered to comply with these Byelaws.
- iii. If such person fails to show sufficient cause to the satisfaction of DHAP why such building works or part thereof shall not be removed or altered. DHAP may take following actions: -
  - Require the person who has carried out the works against the provisions of these Byelaws to alter or cessation of the whole or part of construction works thereof.
  - Any other measures authorized by these Byelaws, or with the conditions of permit.
  - The order shall specify the period within which the violation shall be corrected and in the event of non-compliance with the order, DHAP may take appropriate measures under the relevant Byelaw or Act to be taken to effect compliance. The expenses shall be recoverable from the owner in the manner provided for the recovery of arrears of revenues or taxes.
  - The giving of notice and making and serving of an order under this clause shall not be a prerequisite to the initiation of, and shall not bar, any prosecution under any applicable law, and DHAP may take action under this clause whether or not a prosecution has been initiated.

### **17.5. ENFORCEMENT BY DHAP.**

Administrator/Secretary DHAP may direct the concerned officer (under whose jurisdiction violations have occurred) to take action under these Byelaws with respect to any violation including entering upon and sealing of premises.

### **17.6. APPEALS**

- a) Within thirty days from the date of receipt of any order of DHAP under these Byelaws or of its determination on an appeal under the preceding sub Byelaws, the aggrieved person so served may appeal to the Administrator, which may give him an opportunity to be heard, if deemed appropriate or worth hearing, and within reasonable time.
- b) Administrator, may arrange hearing of the person by himself or depute an officer for the purpose. The deputed officer or officers shall report, may be written or verbal, along with recommendations to Administrator.

- c) DHAP after considering a report and any recommendations of the hearing officer, may affirm, modify or amend the order or determination.

#### **17.7. FINALITY OF ORDERS OR DETERMINATION.**

Unless an appeal has been admitted as provided by Byelaws, an original or appellate order, or determination of the Administrator shall be final.

#### **17.8. PENALTY FOR VIOLATION OF CONSTRUCTION OR TRESPASSING INTO SEALED BUILDING.**

Any person, who enters into or opens a sealed building or initiates construction in a sealed building within the areas, shall be liable for imprisonment for a term which may extend to three (03) years or with fine which may extend to rupees one million or with both.

#### **17.9. PENALTY FOR ENCROACHMENT.**

Whoever, encroaches or violates the approved site plan or structure of a building in the Authority areas, shall be liable for imprisonment for a term which may extend to three (03) years or with fine which may extend to rupees two million or with both:

Provided that no person shall be subject to fine or proceedings under this section unless he is given a notice and he has failed to remedy the violation within fifteen (15) days thereof at his own costs and expense.

# Chapter XVIII

## PLANNING GUIDELINES

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### 18.1. GATED COMMUNITY:

DHAP is a Gated Community that would provide more secure environment inside.

### 18.2. ENVIRONMENT CONTROL

It is the earnest endeavor of DHAP to provide congenial environment with economy of resources. The residents on their part shall be required to conceive their building with proper designs incorporating all comforts and safety precautions.

- a) Shading Devices. People are encouraged to employ shading devices for trees plantation and insulation on exposed surfaces of habitable rooms that face direct sun, to balance temperature within. These shall be incorporated in proposals and shown on submission drawings.
- b) Landscaping. Outdoor spaces shall be properly landscaped to reduce glare and reflective heat energy.
- c) Natural Ventilation. Natural lighting and ventilation in all habitable rooms / area shall be ensured by providing windows to outside or to internal ventilating ducts as prescribed in these Byelaws.
- d) Air-Conditioning. All air-conditioning units shall meet minimum energy standards (Energy Efficiency Ratio)  $EER \geq 2.9$ .

### 18.3. POWER EFFICIENCY

Every member shall follow the power policy set forth by DHAP:

- a) Power Supply. In order to supplement power generation, owners of commercial plots and of residential plots having area of more than 500 sq.yds shall be required to install solar power systems in their buildings. The system shall produce min. 30% of their peak demand. This power shall be used to energize external lights, water and sewerage pumps. Any excess power, if generated shall be purchased by the city Authority for re-distribution.

Wind, Gas and solar energy shall be used as alternative energy sources.

### 18.4. WATER EFFICIENCY

The city will have dual water supply system i.e., potable water and non-potable

water:

- a) Internal water supply system shall be designed to cater for both accordingly i.e., separate lines and separate water tank shall be kept.
- b) Non-potable water shall be used for flushing & gardening.

### **18.5. SEPTIC TANK**

Every building / plot shall have a septic tank constructed as per approved design with a retention capacity for at least seven days disposal.

### **18.6. SEWERAGE SYSTEM**

Every member shall install two pipe systems for conveyance of sewage and sludge separately. Sludge shall be conveyed directly to city mains whereas sewage shall be collected in septic tank for decomposing and use for gardening or disposal to city mains.

### **18.7. SOLID WASTE MANAGEMENT.**

Every building shall be required to keep dry, wet and metal trash in separate bags that should be distinguished by their color.

### **18.8. SOLAR WATER HEATER.**

Solar Water Heaters (SWH) with automatic electric backup system or electric/gas heater is mandatory.

### **18.9. DESIGNS OF UTILITY SERVICES.**

Design of building shall include services designs viz., mechanical, electrical and plumbing (MEP) designs.

### **18.10. BUILDING MATERIALS.**

There has been tremendous development and changes in construction industry within recent past. We may make use of the same to our advantage to improve sustainability and maintain quality. There are methods to be adopted for aesthetic & functionality.

### **18.11. WIND CATCHER.**

It may be allowed as per design of building and required by the owner.

## **18.12.ROOF GARDENS.**

Construction of roof Garden will be encouraged in DHAP provided appropriate arrangements for seepage water retention have been made.

# Chapter XIX

## DANGEROUS BUILDINGS

### 19.1. GENERAL

The authorities who are responsible for the management of inspection dangerous buildings inspection and the relevant issues, are as under;

Table 19: Authorities for Dangerous Building Inspection		
Sr. No	Designation	Description
1	President	Administrator DHAP
2	Members	Chief Engineer DHAP
		Representative from Development/Services Department
		Representative from Legal Department
		Representative from Security & Vigilance Department
		Nominated Senior Architect(s) registered with PCATP & DHAP
		Nominated Senior Structure Engineer(s) registered with PEC & DHAP

### 19.2. CATEGORIES OF DANGEROUS BUILDINGS

For the purposes of this chapter all such buildings, walls or structure which are declared by the Evaluation committee as dangerous under section 126 of the Act shall lie in the following two categories, as described below.

#### 19.2.1. Category-1

Building or structure whose strength, stability, serviceability, robustness or durability has been impaired due to any reason such as improper structural design and detailing, faulty or poor construction, decay, dilapidation, obsolescence, natural disasters or leading to abandonment due to all these reasons to a level, where it cannot be restored to its original status shall be classified as dangerous building of category-1 by the authorized structural engineer of the Evaluation committee or a structural engineer as appointed by the Evaluation committee for said purpose and shall liable to be demolished.

#### 19.2.2. Category-2

Any building or structure or part thereof whose strength, stability, robustness, serviceability or durability has been impaired due to all such reasons as cited in clause(a) to a level where it could by way of strengthening, appraisal and restoration be brought partially or wholly near to its original status shall be classified as dangerous building of category-2 by the authorized structural engineer of the Evaluation committee, or as appointed by the Evaluation committee, for the said purpose and shall be governed by byelaws prevailing.

### **19.3. INSTRUCTIONS FOR DANGEROUS BUILDINGS**

1. If in the opinion of the Evaluation committee, a building or part thereof has become dangerous for human habitation it shall give at least twenty-four hours' notice to the owner, occupants or tenants (who need not to be named) for inspection of such building by the technical representative of the Evaluation committee.
2. In case the Evaluation committee considers a building or a part thereof repairable or modifiable without causing danger of human life or property, it may issue such orders to the owner, occupants or tenants (who need not to be named) of such building in this regard.
3. If the Evaluation committee finds such building dangerous, ruinous or unsafe after proper inspection and investigation by the structural engineer of the Evaluation committee or so appointed by the Evaluation committee for the said purpose, the Executive Officer shall serve to the owner of such building or structure, a written notice stating the defects thereof and shall require the owner or person in charge of the building or premises to commence either the required repairs or improvements, or demolition and removal of the building or structural portion thereof as the case may be, and all such works shall be commenced and completed within the period specified by the Evaluation committee.

### **19.4. IDENTIFICATION OF BUILDINGS THAT ARE INAPPROPRIATE FOR HUMAN HABITATION AND NOTICE OF PROHIBITION**

- If for any reason it shall appear to the Evaluation committee that any building or part thereof intended or used for human habitation or human occupation for any purpose whatsoever is unfit for such use, it shall signify its intention to prohibit further use of such building or part of the building and call upon the owner or occupiers or tenants to state in writing their objections, if any, to such prohibition within fifteen days after the receipt of such notice. If no objection is raised by such owner or occupier or tenant within the prescribed period or if any objection which is raised appears to the Evaluation committee to be invalid or insufficient, the Evaluation committee may prohibit by an order in writing further use of such building or part thereof. The owner, occupier or tenant of the building shall be given an opportunity of appearing before Cantonment Executive Officer in person or by an authorized agent in support of the objection, if so desired.
- Thirty days' notice of such prohibition shall be served in person or by any courier service, mail or by pasting at site in presence of authorized representative of the Evaluation committee whereby every such person shall remove himself and his property from the said building or part thereof, failing compliance, the Evaluation committee may cause him and his property to be removed at his own risk and cost. In case of imminent danger, twenty-four hours" notice may be issued by the Evaluation committee.
- When a building or part of a building has been vacated under the Act or bye- laws made thereunder, the owner shall display at each entrance at prominent places to such building

a notice in English and Urdu to read “Do Not Enter, Unsafe to Occupy”. Such notice shall remain displayed until the required repairs, demolition or removal are completed.

### **19.5. ALTERATION, MODIFICATION, UPDATES AND REPAIRS OF DANGEROUS BUILDINGS OF CATEGORY-2**

- At any time after a building or part of a building has been vacated under the byelaws made thereunder, if the Evaluation committee considers that it can be rendered fit for human habitation by the structural alterations, repairs or modification or updates or repairs before or after the vacation of habitants from such buildings, the Evaluation committee may by notice in writing call upon the owner to commence, through professional contractor or consultant, within such time as may be specified but not less than thirty days, and to complete within the period as specified in the notice but not more than ninety days from the date of receipt of such notice, such structural alterations, modifications, up-dates or repairs, as deemed necessary and if at the expiration of the aforesaid period such alterations, modification, updates or repairs have not been commenced or completed to the satisfaction of the Evaluation committee it shall issue to the said owner a notice in writing ordering the demolition within thirty days from the date of receipt of such notice.
- If the Evaluation committee considers it impracticable to render such building or part thereof fit for human habitation, the Cantonment Executive Officer may by notice in writing call upon the owner to demolish it in a period specified by the Evaluation committee.

### **19.6. DEMOLITION OF DANGEROUS BUILDING ON EXPIRATION OF NOTICE PERIOD.**

- If at the expiration of the period specified in the notice and order to demolish a building or part of a building issued under the byelaws made thereunder, has not been complied with, the Evaluation committee may direct, by an order in writing, the demolition thereof through a contractor who has on his roll at least one professional responsible for undertaking all necessary safety measures during the process of demolition as per procedure laid down by the Evaluation committee.
- All expenses incurred by the Evaluation committee under the byelaws made thereunder shall be paid by the owner of the building.
- For sufficient causes, the Evaluation committee may extend the time prescribed under the byelaws made thereunder for structural alterations, modifications, updates or repairs of the repairable buildings.

### **19.7. EVACUATION OF DANGEROUS BUILDINGS**

- If in the opinion of the Evaluation committee, any building wall or structure or anything affixed thereto is in a hazardous or dangerous state, the Evaluation committee may, by

notice in writing, require the owner or occupier thereof either to remove the same or to cause such repairs to be made thereto forthwith as the Evaluation committee deem require to avert such danger, including the evacuation without notice from such building of all the occupiers thereof.

- Any expenses incurred by the Evaluation committee under the Act or byelaws made thereunder shall be paid by the owner of the building.
- When the owner of any building, wall, structure or anything affixed thereto fails to execute the repairs required from him by the Evaluation committee, the tenant or occupant of such building, wall, structure or anything affixed thereto may, with the previous approval of the Evaluation committee, carry out such repairs which may be cast to the owner by them.
- Except with the permission in writing of the Evaluation committee, no person shall enter into or remain in any building from which the tenant or occupier has been removed under the Act or byelaws made thereunder.

# Chapter XX

## STANDARDS FOR PUBLIC SALES PROJECTS

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### 20.1. NO OBJECTION CERTIFICATE.

The owner/builder of commercial/mixed-use/multi-storeyed buildings, to be constructed, for onward sale/rent is required to obtain NOC from DHAP authorities in accordance with these Byelaws. The sale of building/project may be through sale deed, as a whole or piece meal or transfer of the title in the form of sub lease, etc. The rent of project may be through rental agreement, as a whole or piece meal. All formalities with respect to public sale projects shall be completed before issuance of demarcation letter. However, DHAP may give time to complete the formalities before NOC at plinth level.

### 20.2. APPLICATION FOR NOC.

A builder applying for NOC to DHAP shall furnish the requisite documents and particulars in Prescribed Form duly signed by all concerned as mentioned therein.

### 20.3. UNDERTAKING OF THE BUILDER WITH THEIR PROFESSIONALS.

The builder and his/her architect and engineer shall submit the undertaking on the Prescribed Form. The undertaking of the builder, architect and engineer shall be on a stamp paper in accordance with format specified in Form.

### 20.4. DETERMINATION OF PRICE AND COST ESTIMATES.

A builder shall submit the selling price of various units for registration purposes with required details, specifications and work programme for the project as specified in the Prescribed Form. This price shall be quoted in all the advertisement and promotion literature published by the builder. No escalation in the cost shall be allowed except where inflation (as defined by the Ministry of Finance) is above double digits for particular year; in such case excess over the double digits shall be the percentage of price increase. In this case the builder shall inform the DHAP along with relevant inflation figure in writing along with supporting documents and get the approval of DHAP authorities. No escalation shall be granted to the builder who has failed to complete the project in time.

### 20.5. PROCESSING FEE FOR OBTAINING NOC.

A builder shall pay to DHAP authorities a processing fee for obtaining the "NO OBJECTION CERTIFICATE (NOC)" to publish a notice by him/her in the newspaper, print

media or electronic media, defining the salient features of the public sale/rent project. The salient features shall include name of project, address, builder, office address, architect and engineers, number of floors, number and sizes of shops, flats, offices, compulsory open spaces, date of completion, and draft sale/rent agreement, etc.) within seven days of issuance of "NOC for Sale."

## 20.6. SECURITY DEPOSIT

- a) The builder shall deposit cash security equivalent to one percent of the cost of construction of the project with the DHAP to be held in an account which shall be recovered in advance from owner or builder before issue of approval of NOC for sale. In addition, in case of delay in completion of the project, where such delay has not been condoned as per by-law, deduction from the security shall be made in proportion to the extent of the delay.
- b) Security deposit amount shall be refunded on the expiry of one-year maintenance period and shall be accordingly enunciated in the NOC granted by the DHAP. Maintenance period of the building shall start from the date of the approval of completion plan, submitted by the owner or authorized person on his/her behalf. Successful completion of the project, approval of completion plan and occupancy certificate are pre-requisite for refund of the security deposit.
- c) DHAP shall have the right to utilize the security deposit to rectify any fault or defect in the construction of the building after receiving complaints or notice and if the builder fails to rectify the same by himself or violation of any condition of the NOC granted by the DHAP that come to light at the time of the completion of the project or in case the builder fails to comply with any of the following:
  - To construct the building in accordance with the design specifications agreed with the purchaser and approved by DHAP.
  - To complete the building on time as per agreement with the purchaser.
  - To provide services as per agreement with purchaser.
  - To obtain Occupancy Certificate from DHAP.
  - If builder is found to be involved in any unlawful activities in the project.
  - To rectify defects after occupation provided the builder is at fault.
- d) Any such defect or violation shall have to be made good by the builder at his own cost and risk and the cash security deposit, shall not absolve the builder of his responsibility to the project as per condition of NOC.
- e) This security deposit shall not in any way prejudice the DHAP's rights under these Byelaws to initiate any other proceedings or action in the event or violation of any of these Byelaws.

**20.7. APPLICATION FORM FOR ALLOTMENT.**

After the receipt of NOC from the DHAP the builder shall get filled in an application form from a person intending to book a unit in the project.

**20.8. EXECUTION OF SUB-LEASE.**

A unit shall be offered for sale on cash or cash- cum-loan basis as per schedule of payment. Sub-lease shall be executed as per sale and allotment conditions, in favor of allottee, before delivering the possession of the unit. The allottee shall own the building structure of his unit and shall proportionately share the price or rent of land of the unit with other allottees of the project.

**20.9. CONFIRMATION OF ALLOTMENT.**

The builder through an allotment letter to the allottees shall confirm the allocation of the unit, within fifteen days of booking. The allotment letter shall specify the unit number, floor, floor area of the unit, general facilities, fittings and fixtures with their make and material, the total price of the unit and details of other charges together with the key plan of unit in line with key plan approved by the DHAP at the time of NOC.

**20.10. AGREEMENT WITH ALLOTTEE.**

Within fifteen days of the issuance of allotment letter and before calling other installments in respect of the unit, the builder shall execute an agreement with the allottees.

**20.11. PAYMENT OF INSTALLMENT**

- a) The payment of installment shall be made by the allottee strictly according to the schedule of payment. In case of failure a fifteen days' notice shall be issued through registered courier service on the last given address and if the allottee fails to make payment within the above period another notice shall be issued by the builder up to another thirty days. In case of further failure, a cancellation letter shall be issued to the allottee and a copy of which shall be endorsed to the DHAP. The builder shall not rebook the cancelled unit within thirty days of receipt of copy of cancellation letter by the DHAP. Provided that builder shall publish the cancellation notice in the two-leading newspaper (English and Urdu) under the heading of cancellation of flat or unit.
- b) In response to the above cancellation notice, if the allottee intends to continue the booking, the builder shall restore the allotment, after receipt of pending payment and charging the mark up on the prevailing bank rate for the period of delay on unpaid installments.
- c) If no response to the DHAP is received from the allottee during the said period, the cancellation of the unit shall be confirmed automatically. In case the cancellation is made before allocation, the builder shall refund the total amount paid till that time by

the allottee within thirty days. However, after allotment of unit, the builder shall retain four percent of the amount paid that far, and the rest of the amount shall be refunded within thirty days.

- d) In spite of failure to make payment of installments in time, if the builder does not resort to cancellation as provided in these Byelaws, the builder may or may not charge markup at the prevailing bank rate on the unpaid installments and the allottee shall be informed accordingly.

## **20.12.LOAN COMPONENT**

- a) The builder may arrange the availability of loan, if the project contains a loan component. If the loan is refused or reduced due to any reason whatsoever by the loan giving agency, the allottee shall pay the loan amount from his own resources. However, extra time of at least six months shall be given to allottee to pay the loan component to the builder.
- b) The allottee must complete all documentation for lease and loan within one hundred and twenty days of booking as written in the agreement and the builder shall issue a reminder. The repayment of the loan installments shall be made by the allottee or borrower to the loaning agency as and when it falls due as per rules of the relevant agency. The allottee or borrower shall abide by the arrangements of loan, will follow rules, Byelaws, orders and instructions of the loaning agency.

## **20.13.DOCUMENTATION, CONNECTION AND METER CHARGES.**

Documentation charges for sub-lease and loan, and external services connection charges for gas, electricity, sewerage and water shall be paid in proportion to the unit area in accordance with the actual payment made to these agencies plus fifteen percent as service charges for their respective services. This amount should be paid at the time of deposit of challan. In case any allottee fails to make this payment, he shall pay mark up on the amount at the prevailing bank rate.

## **20.14.MINOR CHANGES.**

The builder shall construct the building strictly according to the approved building plans. However, minor changes, if any, within the unit may be made by mutual arrangement between builder and allottee provided that these do not contravene the Byelaws and such changes do not affect the structural stability of the building and do not usurp the right of the other allottees.

## **20.15.CLEARANCE OF DUES FOR EXECUTION OF SUB-LEASE.**

The sublease of the unit shall be executed in favor of the allottee before handing over the possession of the unit, provided the allottee has made payment of outstanding

amount up to that time.

#### **20.16.TIMELY COMPLETION OF THE PROJECT.**

The builder shall maintain steady progress of work irrespective of the situation of payment by the individual allottees and availability of loan by the loan-giving agency. The builder shall fulfill the obligation of the timely completion of the project by arranging the deficit finances from his own resources. The builder shall inform the allottees every three months regarding progress of the project.

#### **20.17.WITHDRAWAL OF ALLOTMENT.**

The allottee can surrender his allotment of the unit by surrendering the original letter of allocation or allotment to the company and in this event the builder will refund to the allottee the amount deposited till that time. In case the cancellation is made before allotment due to the default of the allottee, builder shall refund total amount paid by the allottee till cancellation within thirty days. However, after the allotment of unit four percent of the amount paid that far, for the unit, shall be retained by the builder and the rest of the amount shall be refunded within thirty days.

#### **20.18.EXTENSION IN DATE OF COMPLETION.**

Extension in date of completion shall be allowed to a builder if he produces documentary proof that more than fifty percent of his clients have defaulted in payments of two or more installments for over six months' period. The builder shall also submit consent of at least fifty percent of the allottees while applying for the extension in time.

#### **20.19.SUBLET AND TRANSFERS OF ALLOTMENT.**

The allottee can sublet, transfer or sell his unit to anyone, with prior written permission of the builder, who shall allow transfer on receipt of all outstanding dues up to that time and transfer fee at rate of half percent of total price of unit. No transfer fees shall be charged in case the transfer is made within three months of allotment.

#### **20.20.PHYSICAL POSSESSION AND CARE TAKING CHARGES.**

The builder shall, after obtaining Occupancy Certificate from the DHAP, which shall include the provision of electric, gas, water and sewerage services (obtained by the builder from respective civic agencies), issue intimation letters to the allottees. The allottee shall take over possession of the unit within thirty days of receipt of such letter from the builder. In case of delay, the builder shall charge per month as specified in the agreement from the allottee for caretaking of the unit in good condition.

**20.21.DELAY IN COMPLETION AND COMPENSATION FOR PERIOD OF DELAY.**

The builder shall complete the project and hand over physical possession of the unit complete in all respect to the allottee by the time specified by the DHAP. In case of delay in handing over possession, the builder shall pay mark up to the allottee at the rate of prevailing banks rate on the total amount paid, for the period of delay calculated from the completion time specified by the DHAP or extension made thereof.

**20.22.ABANDONMENT OF THE PROJECT.**

If, for any reason, the project is abandoned by the builder, the builder will refund the total amount received from the purchaser with mark up at the prevailing bank rate on the same, for the whole period of retention of the money. An additional compensatory amount equal to ten percent of the amount received from the allottee up to date against the booked unit, within sixty days of the announcement to the effect of the abandonment of the project, shall also be paid by the builder.

**20.23.DEFECT LIABILITY.**

The builder shall assume defect liability of the unit for a period of one year in respect of structure and six months in respect of fixture from the date of offering possession of the unit after obtaining Occupancy Certificate, and all defects shall be rectified.

**20.24.SALE OR TRANSFER OF THE PROJECT (EXCLUDING SPECIAL PROJECTS).**

No builder shall sell or transfer the whole project to any one for sale or transfer the units of the project to the general public, unless prior intimation to the DHAP is given and No Objection from the two-third majority of the allottees is obtained. The new builder shall assume all responsibility and liabilities of the agreement made between outgoing builder and allottees after completing the transfer procedure as per Transfer Byelaws of DHAP. In addition, the new builder must get a fresh NOC from DHAP in his favour. In case the owner/transferee fails to comply with these Byelaws, A/B Lease as well as Allotment shall be determined forthwith by DHAP.

**20.25.FORMATION OF ASSOCIATION AND MAINTENANCE OF UTILITIES.**

The allottees would form an association to handle the affairs of the project and maintenance of the services and amenities. The rights of easement, appurtenances and other common rights shall be transferred to such association.

**20.26.SETTLEMENT OF DISPUTES.**

All disputes of the builder and allottee shall be referred to the DHAP. Any appeal against the decision made by the authorized officer of the HAM may be filed before the Administrator DHAP, whose decision shall be final and binding.

#### **20.27.INSTRUCTIONS OF DHAP.**

Besides the above Byelaws, the orders and instructions of the DHAP in accordance with these Byelaws, issued from time to time, in this regard shall be followed strictly.

#### **20.28.USE OF AMENITY SPACES.**

Common use or amenity spaces, recreational area, parking area in the project shall neither be converted nor mis-utilized but will be used exclusively for the benefits of the allottees of the project as per approved plan.

# **Chapter XXI**

## **POSSESSION/CONSTRUCTION, OCCUPATION/RENTING/ SALE PROCEDURE**

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### **21.1. Day 1-7**

#### **21.1.1. Step 1 – NOC for Possession**

1. Obtain NOC from Transfer Branch (Form attached)
2. Obtain NOC from Finance Branch (Form attached)
3. Submit this NOC to TP & BC at site and get Possession

#### **21.1.2. Step 2 – Submission of Drawings & NOC for Construction**

After Possession, submit drawings to TP & BC **(Form attached)**, undertaking by the owner **(Form attached)** and payment of dues **(Form attached)**

### **21.2. Day 8 – 65**

#### **21.2.1. Step 3 – Drawings Approval**

1. TP & BC will notify member of any amendments/ corrections, if needed
2. NOC for construction (Form attached) will be granted within 2x months of submitting drawings / amendments/ corrections
3. Registered Architectural Consultant certificate **(Form 5)**, Registered Engineer Certificate **(Form 6)** and Structural Soundness Certificate (Form attached) are mandatory along with Drawings.
4. Swimming Pool Indemnity Bond (Form attached)
5. Alternate Power Proposal (Form attached)

## **21.3. After Day – 65**

### **21.3.1. Step 4 – Construction Inspection Card & Temporary Service**

- 1.** Apply Temporary Electrical Meter (Form – 10), after obtaining Construction NOC
- 2.** Get construction Inspection Card (Form – 11) from TP & BC Team after obtaining NOC for Construction

Note.

For details, DHAP Byelaws and list of Charges/ Fines may be consulted, available on [www.dhapeshawar.org.pk](http://www.dhapeshawar.org.pk)