Conservation Guidelines

Urban Redevelopment Authority

To make Singapore a great city to live, work and play in

CONTENTS

PREFACE

The Urban Redevelopment Authority (URA) is the national planning and conservation authority for Singapore. Its active involvement in conservation started as early as the 1970s with the rehabilitation of some state-owned properties for adaptive reuse. Since then, a variety of buildings – from shophouses to institutions and bungalows to local landmarks – have been conserved to retain the different memories of Singaporeans from all walks of life. Buildings from different periods of Singapore's history – from the days when we were a migrant settlement to our post independence years – are also conserved to capture the depth of Singapore's history and roots.

Conservation of our built heritage is an integral part of urban planning and development in Singapore. The restoration of our historic areas adds variety to our streetscapes and modulates the scale of our urban fabric, creating the visual contrast and excitement within the city while protecting the important reminders and representations of our past. In addition, it adds to the distinctive character and identity of our city, giving it a sense of history and memory of place.

As part of URA's on-going efforts to facilitate the conservation of our built heritage, a set of conservation guidelines has been put in place to inform and guide the public on restoration works. A comprehensive review of the conservation guidelines is carried out regularly in consultation with professional bodies and interest groups. The latest edition is dated December 2017.

ABOUT THE CONSERVATION GUIDELINES

This document provides the conservation principles, planning parameters and restoration guidelines for conserved shop house and bungalow building typologies, as well as planning parameters and envelope control guidelines for new buildings within conservation areas. Owners, architects and engineers intending to carry out restoration works or development within conservation areas are required to comply with the guidelines accordingly. For other building types, which do not conform to the standard shop house or bungalow typology, these will be evaluated on a case by case basis in accordance with conservation principles[1].

This document is to be read in conjunction with the **Specific Facade Restoration Guidelines** for the subject building.

[1] The conservation guidelines for shop houses and bungalows will generally be applied by URA in the consideration of a development application. However, if the circumstances or planning considerations relevant to a case warrant it, URA may in its discretion decide to depart from these general guidelines. The guidelines, principles and illustrations found in the guidelines are not exhaustive in covering all possible site conditions and variations in building type. Persons intending to carry out a development are advised to take this into consideration and check with URA through enquiries or development applications to confirm if their proposals can be allowed.

PART 1: OVERVIEW

1 INTRODUCTION

Historic buildings provide a valuable link to Singapore's heritage and conserving them is an important part of Singapore urban planning. So far, over 7,000 buildings have been gazetted for conservation. They are located mainly in the city centre and around its fringes, and comprise largely shophouses and bungalows.

CONSERVATION AREAS AND GUIDELINES

The majority of conservation areas in Singapore fall into four distinct categories, and the conservation guidelines vary for each of these categories. See Key Conservation Area Map. The four main categories are as follows:

Historic Districts

The Historic Districts, which include Boat Quay, Chinatown, Kampong Glam and Little India, are among the city's oldest areas. Most of the buildings in these areas are still intact, and the entire building has to be retained and restored.

Residential Historic Districts

The Residential Historic Districts at Blair Plain, Cairnhill and Emerald Hill are residential areas which developed close to the city centre. A new rear extension lower than the main roof can be built for greater flexibility in adapting the building for modern living.

Secondary Settlements

The Secondary Settlements such as Geylang and Joo Chiat are areas which developed later when people started to move out of the crowded city to live at the fringe. These are typically areas where there are already many new developments so emphasis is placed on retention of the streetscape. In these areas, a new rear extension up to the maximum height allowed for the area can be built.

Bungalows

The bungalows are detached buildings which come in a variety of architectural styles and are predominantly for residential use. New extensions can be built at the side and rear of the bungalow. Large sites can be subdivided for additional new developments. For a site where flat or condominium housing development can be built, the bungalow can be used for residential purpose or as a clubhouse to serve the development.

FACILITATING RESTORATION EFFORTS

The Government provides various forms of assistance to encourage private owners to restore their buildings. They include:

- waiver of development charge and car park deficiency charge, where applicable; and
- waiver of the need to provide car park lots where applicable.

Technical guidelines and standards are also drawn up to guide owners and professionals in restoring their buildings. Publications on conservation are produced to assist private owners to better understand the conservation principles and guidelines.

In addition, the government builds infrastructure and utilities to improve the environment of the conservation areas. Examples of these include pedestrian malls at Boat Quay to allow spillover of activities from the conserved buildings to liven up the areas.

2 CONSERVATION PRINCIPLES

Singapore's architectural history is the story of skilled craftsmen and architects who have invested in quality places for work and play. Old and new skills, past knowledge and current technologies all combine to bring the past back to productive life.

Quality restoration is more than just preserving a facade or the external shell of a building. It retains the inherent spirit and original ambience of historic buildings. It requires an appreciation and understanding of the architecture and structure of historic buildings, good practice and management.

2.1 THE "3R" PRINCIPLE

The fundamental principle of conservation applicable to all conserved buildings, irrespective of scale and complexity, is **maximum Retention, sensitive Restoration and careful Repair - the "3R"s**. Selective replacement should be considered only when absolutely necessary. Total reconstruction goes against accepted international conservation practices.

Conserved buildings are to be restored in accordance with the conservation guidelines. All original structural and architectural elements are to be retained and restored. Where replacement is necessary, e.g. where building elements are found to contain asbestos, owners should seek URA's clearance for one-to-one replacement.

When upgrading and adapting a building to new uses, the existing structure is to be retained by strengthening and repairing the structural elements. Any alteration or strengthening to structural elements is to be done in the most sympathetic and unobtrusive way, using original methods and materials wherever possible.

Before any conservation work commences, a thorough research and documentation is to be carried out on the conserved building to ensure that restoration work is faithfully carried out. At every stage of the conservation work, the technical aspects and process of the various activities are to be documented.

2.2 APPLICATION TO THE VARIOUS CONSERVATION AREAS

In the Singapore context, conservation guidelines are applied in different degrees to the different groups of conservation areas taking into consideration their historical significance, the context of the surrounding developments and the long-term planning intention for each area. The extent of the building to be conserved and the degree of adaptation allowed are shown in Figure1.

The four main groups of conservation areas are:

* The Historic Districts of Boat Quay, Chinatown, Kampong Glam and Little India;
* The Residential Historic Districts of Blair Plain, Cairnhill and Emerald Hill;
* The Secondary Settlements of Balestier, Beach Road, Geylang, Jalan Besar, Jalan Jurong Kechil, Joo Chiat, Mount Sophia, River Valley, Tanjong Katong,Upper Circular Road and Tiong Bahru; and
* The Bungalow Areas of the Good Class Bungalow Areas and Fringe (Chatsworth Park Conservation Area, Holland Park/Ridout Road Conservation Area and Nassim Road/Whitehouse Park Conservation Area) and the Mountbatten Road Conservation Area.

2.2.1 In the **Historic Districts**, the entire building is to be conserved. Change of use to commercial or residential use is permitted in these historic districts. The strictest form of conservation is practised in these districts.

2.2.2 The **Residential Historic Districts** are smaller areas mainly for residential use. In view of the restriction in building uses, an extension at the rear lower than the main roof is permitted to make the terrace houses more attractive and liveable to suit the needs of the individual owners.

2.2.3 Conservation within the **Secondary Settlements** is on a streetscape basis as the conserved buildings are adjacent to new developments. In these areas, the owners may choose to conserve the entire building or have a new rear extension up to the maximum height allowable for the area.

2.2.4 Conservation of bungalows is on a highly selective basis. They represent the architectural styles of different eras.

For conserved bungalows located within a site which is allowed for flat or condominium development, the bungalow may be strata-subdivided into apartment units or converted to a clubhouse. The owner may choose to conserve the entire building, including the outhouse, or just the main building to suit his needs and to optimise the use of land.

3 ADAPTIVE REUSE OF SHOPHOUSES

Traditionally, shophouses are designed to provide for business premises on the ground floor and residential accommodation on the upper storeys; terrace houses and bungalows are designed purely for residential use. Structurally speaking, the original use is always the best use for a conserved building.

However, old buildings may often have to be restored and upgraded to meet modern living needs or to accommodate new uses. In restoring and adapting a conserved building to new uses, it is important to adhere to the conservation principle in order to retain the intrinsic character and historical value of the building. Alterations or strengthening of the building structure is to be done in the most sympathetic and unobtrusive way, using the original methods and materials wherever possible.

The restoration and adaptation of conserved buildings to new uses require an understanding of the behaviour of traditional buildings, traditional building construction methods, and how the buildings hold themselves together by the intricate interaction of the various elements.

4 UNDERSTANDING THE SHOPHOUSE

4.1 KEY ELEMENTS OF THE SHOPHOUSE

The conservation guidelines for shophouses and terrace houses relate to the key elements of the typology of the building. Constructed between 1840 and 1960, these simple buildings are two- to three-storeys high, built in contiguous blocks with common party walls.

The design and material of the shophouses and terrace houses vary according to the architectural style of the building. Singapore shophouses fall into six styles. They are the Early Shophouse, the First Transitional Shophouse, the Late Shophouse, the Second Transitional Shophouse, the Art Deco Shophouse and the Modern Shophouse.

In conserving a shophouse, the key elements to be respected are:

(See Figure 2, Figure 3 and Figure 4)

(a) **Roofs**

Roofs are pitched and finished with overlapping V-profile or flat natural colour unglazed clay tiles, laid on timber battens and bonded with mortar. Where the tiles end at the edge of the front and rear shophouse roofs, they are often covered with a timber fascia complete with galvanised iron gutters and downpipes. Roofs are waterproofed using bituminous asphalt, galvanised iron flashing and copings.

(b) **Party Walls**

Party walls are principal load-bearing walls which demarcate one shophouse from its neighbour. The party walls normally protrude approximately 30cm above the roof of the shophouse and break the continuous length of the shophouses into individual lots.

Party walls are constructed of bricks laid out in continuous stretcher bond courses. The internal surfaces of the party walls are usually unpierced and unadorned. To ensure structural stability, the base of the party wall is thickened to transfer the dead-load to the base of the foundation.

(c) **Timber Structural Members**

The timber structural members include the main timber beams, the secondary timber beams, the timber floor boards and the timber rafters. The main timber beams are key horizontal structural members that run parallel to the facade, spanning from one party wall to the other. They are usually made of chengal, a hardwood timber which is resistant to the dead-load transferred from upper floors.

The secondary timber beams supporting the timber floor boards for the upper floors serve as horizontal structural members to evenly distribute the dead and live load from the upper floors to the party walls. The timber floor boards are thin horizontal structural members laid horizontally on the secondary beams and joined to one another by the traditional tongue and groove method. Timber rafters are inclined structural members supporting the pitched roof. They are in turn supported by timber purlins or roof beams spanning between the party walls.

(d) **Airwells**

Airwells are positioned between sections of the tiled roofs. They open directly to the sky to provide natural ventilation and lighting to the interior. The airwells lend interest to the spatial experience of shophouses by offering alternating naturally-lit spaces.

(e) **Rear Court**

The rear court is an open space at the back of the shophouse bounded by the rear boundary wall, the service block, the rear facade of the main part of the shophouse and the party wall. The juxtaposition of these elements produces several different rear court configurations.

The windows in the walls facing the rear court allow light to penetrate into the interior of the shophouse. They are normally casement windows of a design compatible with the windows on the front facade. The existing doors on the rear facade are either timber doors or original metal (mild steel) doors.

(f) **Timber Windows**

Shophouse windows include the timber windows of a French or casement design. French windows, found on the upper storey facade, are full-height, side-hung and double-shuttered, and may feature transom windows or fanlights above them. The timber post and rail or cast iron balustrades are part of the original design of the French windows. Casement windows are only half the height of French windows, with openings starting at the balcony rail height. Casement windows on the first storey, unlike those on the upper storeys that swing outwards, always open inwards and are recessed to allow for installation of security devices.

(g) **Timber Staircase**

Internal staircase arrangements vary between shophouses and range from straight and dog-leg designs to curved quarter and half-turn designs. Balusters and newel posts are often ornately detailed and reflect early Dutch influences. Handrails are made of polished hardwood.

(h) **Front Facade**

The shophouse facade has six distinct elements:

The **Upper Floor** that projects over the five-foot way to form a covered pedestrian arcade.

The **Columns** at the front of the building that form the five-foot way colonnades and support the upper floors.

The **Five-foot Way** which serves as a sheltered space for social activities and for circulation. It is an important element that contributes to the experience of walking through a conservation area. The elements that contribute to the experience are the floor, colonnade, residential or shopfront and the ceiling. In order to retain the traditional character of the five-foot way, the original height of the covered walkway, the design and size of the columns are to be retained.

The retention or reintroduction of the traditional materials and finishes of the five-foot way is encouraged. Traditional finishes for the five-foot way floors include cement screed, terra cotta tiles, clay tiles, cement terrazzo, mosaic, marble-chip terrazzo or granite slab. The five-foot way often features granite edging parallel to the road side drain and granite steps. Tile patterns used on the five-foot way are sometimes repeated on the front wall of the shophouse either ending as a skirting or under the window to form a decorative wall.

Where the existing floor finishes are not original, traditional materials are to be considered. The selection of the floor finishes preferably matches the architectural style of the shophouses. For instance, it is common for Early Style shophouses to have red-coloured cement screed with gridded rope indentations and granite edge slabs. Art Deco shophouses may have marble-chip terrazzo finish in a variety of colours or mosaic finish. It is untraditional for five-foot ways to be finished in ceramic tiles or slate.

The **Timber Windows** on the upper storeys are evenly spaced across the facade and are either French windows or casement windows with timber shutters, louvred shutters are hinged on the timber window frames.

The **Roof** is finished with natural colour unglazed V-profile or flat clay tiles complete with a timber fascia and galvanised iron gutters and downpipes. The pitched roofs are supported by timber purlins which are set onto the load-bearing party walls.

The Shophouse Styles comprise the Early Shophouse Style, First Transitional Shophouse Style, Late Shophouse Style, Second Transitional Shophouse Style and the Art Deco Shophouse Style. The shophouse facade features one of these six basic styles.

The **First Storey** may be a residential front or an open shopfront.

Residential fronts are characterised by a double-leafed timber door flanked on both sides by timber casement windows, or by two double-leafed timber doors and a timber casement window. The main door often has a pair of half-doors, known as 'pintu pagar', which are often intricately carved. The timber-framed windows usually have timber-panelled shutters, which open inwards and vertical iron security bars.

Shopfronts have a range of traditional features including demountable timber shutter boards, timber or metal sliding and folding doors, or glass display cases. Access doors are incorporated into the shopfronts and these may be single or double-leafed, glazed or timber-panelled, louvred or of rail and stile design.

(i) **Forecourt**

Some residential terrace houses also feature a **Forecourt**. The forecourt is an important feature that gives spatial and green relief to the usual narrow street that is lined with traditional houses. Some forecourts feature ornamentation on walls and gateposts and have decorative gates and entrance arch with lamp.

5 UNDERSTANDING THE BUNGALOW

5.1 KEY ELEMENTS OF THE BUNGALOW

The conservation guidelines for bungalows are directly related to the typology of the building.

Large bungalows, the majority of which were built prior to World War II, are a significant part of Singapore's heritage. Bungalows are independent dwelling units which are usually one- or two-storeys high. They were first introduced into Singapore and Malaya by the British in the 1830s. They tend to be located in serene and wooded environments away from the hustle and bustle of the city.

Quality restoration of a bungalow requires an appreciation and understanding of the architecture of the building.

Bungalows in Singapore normally consist of the main building which houses the main living and dining areas and the bedrooms. An outhouse is normally part of the original design. It is linked back to the main building and houses the kitchen, toilets and servants' quarters.

In conserving a bungalow, the key elements to be respected are as follows:

(a) **Roofs**

(b) **Structural Members**

(c) **The Facades of the Building**

(d) **Doors and Windows**

(e) **Significant Interior Features Including Staircases, Decorative Mouldings, Double Volume Spaces, etc**

The design and material of the bungalows vary according to the architectural style of the building. Singapore bungalows fall into five styles. They are the Early Bungalow, the Victorian Bungalow, the Black & White Bungalow, the Art Deco Bungalow and the Modern Bungalow.

PART 2: PLANNING PARAMETERS AND RESTORATION GUIDELINES

2.1 HISTORIC DISTRICTS

The Historic Districts of Boat Quay, Chinatown, Kampong Glam and Little India are characterized by predominantly two- and three-storey shophouses, ranging from the Early Shophouse Style to the Art Deco Shophouse Style.

- **BOAT QUAY**

  The Boat Quay Historic District, bounded by South Bridge Road, Circular Road, Lorong Telok and North Canal Road, was traditionally the centre of trading activities along the Singapore River.

  Located next to the Downtown Core, its shophouses and warehouses, which lined the river, give it a unique charm and character. Today, it is an area with predominantly commercial premises of retail and eating establishments.

- **CHINATOWN**

  The Chinatown Historic District, located south of Singapore River, is the original settlement of the Chinese community in Singapore. It is a largely intact area of shophouses with original texture and fabric, depicting the simple lifestyles of the early immigrant community. The District comprises 4 sub-districts, each with a distinctive character. They are:

  * Kreta Ayer, bounded by New Bridge Road, Park Road, Upper Cross Street, South Bridge Road, Sago Street, Trengganu Street and Smith Street, is known for its bustling street atmosphere and festive events.
  * Telok Ayer, bounded by South Bridge Road, Cross Street, Boon Tat Street, Stanley Street, McCallum Street, Amoy Street, Ann Siang Road and Erskine Road, is associated with long rows of shophouses and religious buildings along Telok Ayer Street, and hilly residential and club houses at Ann Siang Hill.
  * Bukit Pasoh, bounded by New Bridge Road, Keong Saik Road, Kreta Ayer Road, Neil Road and Cantonment Road, provides the setting for a mixture of residential, association and commercial activities.
  * Tanjong Pagar, bounded by Neil Road, Maxwell Road, Peck Seah Street, Wallich Street, Tanjong Pagar Road and Craig Road, features winding streets and a mixture of residential and commercial activities.

  There are altogether five national monuments within the Chinatown Historic District. They are the Sri Mariamman Temple and Jamae Mosque in Kreta Ayer, and the Thian Hock Keng Temple, Nagore Durgha Shrine and Al-Abrar Mosque in Telok Ayer.

- ## KAMPONG GLAM

  The Kampong Glam Historic District, bounded by Ophir Road, Victoria Street, Jalan Sultan and Beach Road, was traditionally a Malay residential area with ethnic-based activities at the periphery and along Arab Street. Its unique characteristic lies in the contrast between its streetscape, with its low and uniform scale, and the large open spaces of the palace grounds.

  It is largely an area of shophouses with original texture and fabric. The presence and influence of the Arabs in the early 1910s were registered by the names allocated to its streets.

  The Sultan Mosque and the Istana Kampong Gelam, both national monuments, are located within the Kampong Glam Historic District.

- ## LITTLE INDIA

  The Little India Historic District, bounded by Serangoon Road, Sungei Road and Jalan Besar, is recognised as the hub of Indian community life in Singapore. It is well patronised by local Indians and people of other ethnic origins, and Indians from abroad. It was once used for agriculture and later for cattle trade.

  The District's historical value lies in its rich variety of buildings, streetscape and urban texture of its main streets, side roads, backlanes and open spaces. Most of its built fabric of the late 19th century or early 20th century is still largely intact.

  The Abdul Gaffoor Mosque, a national monument, is located within the Little India Historic District.

2.1.1 PLANNING PARAMETERS

2.1.1.1 Conservation Plan

The plans (Appendix II) show the boundary of the conservation areas, the core areas, the buildings to be conserved, national monuments to be preserved and the envelope control sites. The entire conserved building is to be restored in accordance with conservation guidelines. Vacant lands and buildings not designated for conservation can be redeveloped subject to envelope control guidelines.

2.1.1.2 Building Use

The use shall follow the Master Plan intention and the prevailing guidelines for the respective areas. Residential and institutional use can be considered for sites zoned Commercial.

In Chinatown, Kampong Glam and Little India, certain streets are located within the designated core area. The core area is the part of the historic district where the focal point of traditional activities are located. It is, therefore, important that the traditional ambience is retained.

The first storey in the core area has to be for activity-generating uses such as shops. Certain trades are not permitted in the Historic Districts and the core areas. New restaurants are not allowed in areas designated as Problematic Traffic Areas (PTA) (See Appendix IA for Incompatible Uses and Appendix IB for Location of Core Areas).

For other information on the allowable use of the building, please refer to eAdvisor.

2.1.1.3 Plot Ratio

The allowable plot ratio shall be the resultant of the building envelope.

2.1.1.4 Building Height

The original building height is to be retained.

2.1.1.5 Building Profile

The original building profile is to be retained. If it has undergone unauthorised alterations, the original profile is to be reinstated.

2.1.1.6 Development Charge

Under the Planning Act, development charge, equivalent to the difference between the Development Baseline and the Development Ceiling for that land, is payable in respect of any development of the land or when there is a change in the use of the land or building. Exemption from payment of development charge, if applicable, is given in respect of the *value enhancement arising from the proposed use or use changes on the gross floor area for the building or part thereof on the land to be conserved* provided that such conservation is carried out in accordance with the approved plans and completed within a period of 2 years from the date of conservation permission.

2.1.1.7 Carparking

Provision of car parks or payment of car park deficiency charge for a conserved building is waived if the conservation guidelines are fully complied with and the conservation works are completed in accordance with the approved plans.

2.1.1.8 Strata Subdivision

Strata subdivision of shophouses in the Historic Districts is not allowed.

In the Historic Districts, only Art Deco and Modern style conserved buildings can be strata subdivided if they have the following features:

(a) Original purpose-built compartmentalized common staircase designed to serve different floors;
(b) Staircase forms part of the external architectural expression; and
(c) Original reinforced concrete floors and structures.

2.1.2 RESTORATION GUIDELINES

Key Elements Subject To Mandatory Compliance

The following tables specify the design, location and material for all key elements. The fundamental principle, the "**3R**", is **maximum Retention, sensitive Restoration and careful Repair**. Where replacement is necessary, e.g. where building elements are found to contain asbestos, owners should seek URA's clearance for one-to-one replacement, following the original design and materials. New installation/addition must not drastically affect the intrinsic character of the building.

IMPORTANT NOTE:

Where applicable, the requirements of the relevant technical departments are to be complied with. Owners are also required to obtain the consent of the relevant parties for roof eaves, canopies and projections of any nature beyond the site boundary.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
A. Roofs	
A1. Structure	The majority of conserved shophouses have a pitched clay tile roof supported by timber roof structure. Structural strengthening or supports like steel or reinforced concrete roof beams, if required to be added, are to be sensitively designed to minimise visual impact on the traditional timber system which is to be retained.
A2. Main Roof and Rear Secondary Roof	The original profile, pitch, height, party wall and eaves projection are to be retained and restored. The traditional roofing materials provide contrast to the form, scale and texture of the cityscape. It is important that the authenticity of materials, form and construction be retained during restoration. Traditional roofing material of small size, V-profile, unglazed, natural colour clay roof tile is to be used. Flat, interlocking ("Marseilles") clay roof tile and reinforced concrete can only be used if these materials were originally used for the roof. The underside of roof eaves can be exposed or covered with plasterboard. For units with existing ornamental roof ridge, the ridge profile and ornamentation is to be kept. New jackroof is not allowed for such units. To refer to "Specific Facade Restoration Guidelines" of the subject building.
A3. Jackroof	Existing jackroof(s), if any, can be retained or removed. New jackroof(s) can be added subject to compliance with the positioning, setbacks and maximum allowable dimensions. See Figure 1 Roof tiles are to be identical to that of the main roof. The sidewall is to be solid and finished with plaster or timber/plasterboard. Front and rear openings can be fixed or openable of any infill material. If metal is used, it is to be anodised or colour coated.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
A4. Skylight	New skylight(s) can be added on the rear slope of the main pitched roof and on secondary pitched roof(s). The skylight is to be on the same plane as the subject roof and the area of the skylight cannot exceed 30% of the subject slope of the pitched roof. The protrusion of the skylight should not exceed 150mm beyond the roof tiles. New skylight(s) can also be added on a conserved building with flat roof. While the design, treatment and materials used can vary, the height cannot exceed 1m, which is the typical roof parapet height, so that the skylight is not visible from the street level. The skylight area is to be computed as part of the 35% coverage allowable for new single storey structure on the flat roof (see item A6). The skylight is to be of transparent or translucent material on a framework of timber or metal - painted or anodised or colour coated. The design, treatment and material used can vary. It can consist of glass louvers, retractable panels or even solar panels laid on the same plane as the roof. For solar panels, the metal supporting structure is to be painted, anodised or colour coated. To minimise disruption to the roofscape, the skylight cannot be an opening or void without cover and is to be set back from the roof eaves and roof ridge.
A5. Dormer Window	Dormer windows are not allowed.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
A6. Existing Flat Roofs	Some conserved shophouses, particularly those of the Art Deco or Modern style, may have reinforced concrete flat roofs. The existing flat roof can be landscaped to add interest to the roofscape. It can also be converted into usable space as an extension of the existing building. Conservation Permission must be obtained for the change of use. New structures can be added on the existing flat roof, subject to the following guidelines: (a) Material, Roof Form & Storey Height The structure can be of reinforced concrete or lightweight material with flat roof and single-storey in height not exceeding 3600mm. The design and treatment are to be compatible with the architecture of the conserved building. (b) Coverage The total coverage of all existing and new structures on the flat roof, including skylights but excluding moveable shelter like umbrella structures and retractable awnings, cannot exceed 35% of the flat roof area of the unit. All large service installations on the roof are to be grouped together and included in the 35% allowable coverage for structure on flat roof. (c) Setback The new structure is to be set back a minimum of 3m from the front and side street elevations so that it is not visually obvious from the street. Setback is not required from the backlane. If the subject unit is higher than the neighbours, setback of the new structure from the common boundary with the neighbouring units is required. If the subject unit is not higher than the neighbours, setback of the new structure from the common boundary with the neighbouring units is not required. See Figure 2 (d) Railings To meet technical agencies' requirements, railings of compatible design and material set back a minimum of 1m from the front façade can be added.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
	(e) Security Fence For security and privacy between common boundaries, a metal security fence (anodised / colour coated) or timber screen up to 1800mm from the finished floor level can be added.
B. Forecourt	
B1. Enclosure	The original size and ornamentation of the wall and gate are to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building. The original open spatial character of the forecourt should be kept.
C. Front / Side Facade	
C1. Shopfront	Traditional shopfront designs include demountable timber shutter boards, collapsible/sliding/folding timber or metal gates and display cases. Where there were doors, these were either single or double-leafed, glazed or timber-panelled, louvered or of rail and stile design. Design and material of new shopfronts can vary except for selected street blocks where the original shopfront is to be retained, such as the 32 units at Bussorah Street in Kampong Glam Conservation Area as shown in Appendix II. However, it must not be a blank wall as it gives a passive character to the streetscape. Existing original ornamental transom panels, vents or decorative mouldings/murals above the shop front, are to be retained. Fixed glass panels can be added behind the vents. To refer to "Specific Facade Restoration Guidelines" of the subject building.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C2. Residential Front	Residential Fronts are characterised by timber casement windows flanking a double-leafed timber door. All buildings with residential front which is existing and/or identified in the 'Specific Façade Restoration Guidelines', regardless of land use zoning, shall be retained and restored. The following guidelines are applicable to a conserved building allowed for non-residential use: (a) The original 2 windows and 1 door first storey residential front can be changed to 2 doors and 1 window if the new door is required for direct access to the upper storey. The design and material of the new door are to match those of the original one. However, if there are ornamental features e.g. dado tiles below the windows, these are to be retained and the conversion of the window to a door is not allowed. (b) If the original infill panel of the first storey casement windows and doors are plain without any design features, they can be replaced with clear glass. However, if the infill panels are carved with decorations, they are to be retained and cannot be replaced with clear glass. To refer to 'Specific Facade Restoration Guidelines' of the subject building. (c) Alternatively, fixed frameless or timber framed glazed panels can be added instead of secondary windows, and frameless or timber framed glass doors can be added as secondary doors while the original timber windows and doors are retained and restored. This gives owners another option to keep the original architecture of the conserved building while achieving greater transparency and climatic control of the internal space.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C3. Window Screen / Security Bars	For units with residential fronts, existing traditional window screens, if any, are to be retained. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New window screens can be added and the design is to be traditional. The frame is to be timber and the infill may be timber or obscure glass. Metal security bars at windows and timber security gates at doors, if any, can be retained or removed. Similar new security bars and gates of traditional design and material can be added.
C4. Pintu Pagar	For units with residential fronts, the existing pintu pagar, if any, is to be retained. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New pintu pagar can be added and the design is to be traditional. The frame is to be timber and the infill is to be of traditional materials i.e. timber and obscure glass.
C5. Dado Tiles	The following guidelines are applicable to a conserved building with dado tiles: (a) If the tiles are intact, the original tile panel is to be retained. (b) If there are cracked or missing tiles, (i) Replace the missing tiles with tiles matching the original tiles, (ii) Leave the tile panel as it is, or (iii) Patch the gaps with colour cement to match the colour of the tiles.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C6. Fanlights, Windows, Doors and Vents, Balconies and Verandahs	The doors, windows and vents in conservation buildings give the facade a sense of scale and added architectural expression. The original fanlights, windows, doors, vents, balconies and verandahs are to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building. The balcony or verandah is to be kept open and not enclosed with window or fixed glazing. The inner facade behind the balcony or verandah is also to be retained and restored. The windows of the inner facade can be changed to doors for better access to the balcony or verandah. The design and material of the new door are to match that of the original one. New internal elements such as staircase landings, walls, and partitions cannot abut the original windows, door openings and vents, and are to be sufficiently set back. Existing mild steel frames of doors, windows and vents can be changed to powder coated aluminium frames of similar appearance as the mild steel frames. Existing coloured glass in doors, windows, fanlights and vents cannot be replaced with clear glass.
C7. Balustrades for French Window	The original balustrade for French window is to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C8. Secondary Windows and Doors	Most shophouses have air-conditioning to meet modern standards of comfort and user requirements. A secondary layer can be introduced to accommodate this change. New secondary casement, French or sliding window and door can be added subject to the design being compatible with those of the main window and door. For conserved buildings with timber windows / doors, owners are encouraged to use timber frames as they are more compatible. If metal frame is used, it is to be anodised or colour coated. The infill can be of timber or glass. Tinted, coloured and obscure glass can be used. Frameless fixed glass panels can be installed at the first storey windows. However, they cannot be used in place of secondary windows on the upper storeys of a conserved building as they will lead to difficulty in accessing and maintaining the original windows. Frameless glass secondary doors can be used. Traditional bat-shaped, circular or precast vents can be sealed with glass. See Figure 3
C9. Decorative Features	The shophouse façade may feature decorative work such as ornamental plasterwork, faux tile render and cut-porcelain tile decorations. The original decorative features, if any, are to be retained and restored. To refer to ‘Specific Facade Restoration Guidelines’ of the subject building.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C10. Canopy and Awnings	The original tile canopy, if any, is to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building. A new tile canopy can be added at 2nd storey floor level. Traditional roofing material of small size, V-profile, unglazed, natural colour clay tiles identical to those of the main roof or green glazed Chinese clay tiles can be used. See Figure 4 Retractable awning can be added at 2nd storey floor level. It is to be sensitively installed under or at the main beam, and not cover or block any key architectural features. See Figure 5 They are subject to relevant technical agency's requirements, e.g. Singapore Land Authority (SLA), Land Transport Authority (LTA), Fire Safety and Shelter Department (FSSD).
C11. Finishes	(a) Paint & Plaster finish Shophouses were originally rendered in lime plaster and painted with lime wash. In re-plastering or repainting historic buildings, lime plaster and lime wash or its modern day equivalents e.g. mineral paint, should be used. (b) Timber Surfaces Timber surfaces can be either painted or stained. (c) Shanghai Plaster Finish For a building with existing unpainted Shanghai plaster finish, the finish is to be retained and restored. If the Shanghai plaster finish is already painted over, the owner is to look into recovering the original Shanghai plaster finish. (d) Fair-faced Brickwalls For a building with existing unpainted fair-faced brickwalls, the fair-faced brickwalls are to be retained and restored. If the fair-faced brickwalls are already painted over, the owner is to look into recovering the original fair-faced finish.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C12. Building Colours	Traditional paint schemes and colours are to be used to recall the historic streetscape. Generally the base colour of shophouses has a pastel hue. Where necessary, darker or lighter shades can be used to highlight selected features or decorative ornamentations. Black should not be used as a base colour as this hides the architectural features. A paint scraping analysis can be carried out to determine the original colour of the building. Original traditional painted murals and cut-tile decorations are not to be removed or painted over. For buildings with distinctive colour, e.g. the “Gedung Kuning” (Yellow Mansion) in Kampong Glam, the same colour should remain. To refer to the ‘Specific Restoration Guidelines’ for the subject building.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
D. Five-Foot Way	
D1. Floors	A unique adaption to the hot and wet climate, the five-foot way is a continuous colonnaded covered walkway running the length of the front and sometimes the sides of a shophouse block. The retention or reintroduction of the traditional materials and finishes of the five-foot way is encouraged. Traditional materials and finishes of the five-footway contribute to the overall character of the conservation area. They include cement screed, terracotta tiles, clay tiles, cement terrazzo, mosaic, marble chip terrazzo or granite slab. Where the existing floor finishes are not original, owners are strongly encouraged to reintroduce traditional floor finishes. The selection of the floor finishes should preferably match the architectural style of the shophouses. The tiling material is to be non-slip for the safety of pedestrians. Highly polished gloss finish is not allowed. The level of the five-foot way is to match the adjacent units and open walkway where possible. Where the difference in level is not more than 175mm, a ramp is to be provided. The gradient of the ramp cannot be steeper than 1:10. As shophouses are typically under different ownership and restored at different times, an owner has the following options: (a) Liaise with neighbours to level the ramp. (b) Provide gradual ramps. (c) Keep the existing step if the adjacent units are not restored. See Figure 6 The design and placement of letter boxes along the five-footway is to take into account pedestrian safety. They can be integrated into the design of the shop front or residential front.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
D2. Ceiling	Exposed upper floor structure of timber boards and timber joists is preferred. Existing exposed reinforced concrete floor above, if any, can remain. False ceiling of timber frame and plaster /timber board, not lower than the front facade beam, can be added. Variations in design and use of alternative compatible material can also be added at the main entrance.
E. End Gable Wall	
E1. Windows, Doors and Vents	For shophouses which abut a public road or lane, existing openings such as casement windows, doors and vents, if any, in the end gable wall can be retained or sealed up. New openings, casement windows, doors and vents can be added subject to retention of the solid and void expression of the end gable wall, i.e. the wall space between the windows should have a minimum dimension equal to the new window opening width. They should align with the existing windows, if any, and the proportion should follow the existing windows. The design and material of the new windows and doors are to match the original windows at the end gable wall, or those of the front facade upper storey windows. To refer to 'Specific Facade Restoration Guidelines' of the subject building for the front facade windows. Vents can be of any material. If metal is used, it is to be anodised or colour coated. See Figure 7 New internal elements such as staircase landing, wall and partition cannot abut the window or door openings and vents, and are to be sufficiently setback. No openings are allowed for gable walls which share a common boundary with a neighbouring property.

RESTORATION GUIDELINES HISTORIC DISTRICTS		
Key External Elements		**Design / Location / Material**
E2.	**Canopies**	New canopies over doors and windows with a projection of not more than 450mm can be added. The frame is to be timber and the roof material, similar to that of the main roof. See Figure 7 They are subject to relevant technical agency's requirements, e.g. Singapore Land Authority (SLA), Land Transport Authority (LTA), Fire Safety and Shelter Department (FSSD).
F.	**Rear Facade Of Main Building**	
F1.	**Window Facing Rear Court**	The original windows facing the rear court can be retained and restored, or changed to French windows subject to the design and material matching those of the front facade. See Figure 8 New internal elements such as staircase landing, wall and partition cannot abut the window openings and vents, and are to be sufficiently setback.
F2.	**Vents**	Existing vents, if any, can be retained or removed. New vents of any material can be added. If metal is used, it is to be anodised or colour coated.
F3.	**Canopies**	New canopies over doors and windows with a projection of not more than 450mm can be added. The frame is to be timber and the roof material, similar to that of the main roof.
G.	**Rear Service Block**	
G1.	**Windows and Openings Facing Rear Court**	Existing windows and openings, if any, can be retained and restored. New casement and French windows with or without brickwall between windows, can be added subject to the design and material matching those of the front facade upper storey windows. Existing openings can also be infilled with grilles. If metal is used, it is to be anodised or colour coated. See Figure 9 New internal elements such as staircase landing, wall and partition cannot abut the original window openings and vents, and are to be sufficiently setback.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
G2. Vents	Existing vents, if any, can be retained or removed. New vents of any material can be added. If metal is used, it is to be anodised or colour coated.
G3. Canopies	New canopies over doors and windows with a projection of not more than 450mm can be added. The frame is to be timber and the roof material similar to that of the main roof.
H. Rear Court	
H1. Roof	A new roof can be added over the rear court, provided the roof is not higher than the 2nd storey floor level. Jackroof and skylight can be introduced in the new roof which can be reinforced concrete, light weight material or same roof material as the main roof. If metal is used, it is to be anodised or colour coated. Reinforced concrete flat roof can be used as a roof garden and landscape furniture can be considered. The rear boundary wall can be raised up to the sill height of the 2nd storey windows to form a parapet, not exceeding 1m in height. The space along the parapet can be used to house condensing units. Any screening above is to be kept minimal in height and is to be effective screening in the form of simple grilles or louvers. If metal is used, it should be anodised or colour-coated. If condensing units are taller than the 1m parapet height, the level of the reinforced concrete flat roof on which the condensing units are housed is to be lowered such that the height of the condensing units does not exceed the parapet wall or 1m above the 2nd storey level. See Figure 10

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
H2. External Staircase	External staircases within rear courts are distinctive architectural features of the conserved buildings. For selected streetblocks, the intact external staircases are to be kept and used as secondary access routes. These street blocks are Nos. 15 to 43 (odd nos. only) Tanjong Pagar Road in the Tanjong Pagar Conservation Area. In other areas, owners are encouraged to keep the existing external staircase so as to contribute to the charm and character of the area. If a new external secondary staircase in addition to the internal primary staircase is required to meet SCDF's fire safety regulations, the location, design and material are subject to evaluation. If metal is used, it is to be anodised or colour coated.
I. Rear/Side Boundary Wall	
I1. Wall Height	The original height of the wall is to be retained, except (a) when the rear court is to be roofed over and the wall has to be raised up to the 2nd storey floor level to give sufficient headroom, and (b) when required to meet the minimum parapet height for roof terrace over the rear court or for screening of condensing units (refer to item H1).
I2. Windows and Vents	At upper storeys, new vents and casement windows can be added subject to the design and material matching those of the front facade upper storey windows. At the 1st storey, only vents and high level windows can be added. Vents can be of any material. If metal is used, it is to be anodised or colour coated. The frames of high level windows are to match those of the upper storey front facade windows and the infill can be glass. New internal elements such as staircase landing, wall and partition cannot abut the window openings and vents.
I3. Doors	Existing door position can be retained or changed. The doorway can be enlarged subject to a width of not more than 1800mm. Timber or metal can be used. If metal is used, it is to be anodised or colour coated.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
I4. Canopy	New canopies over doors and windows with a projection of not more than 450mm can be added. The frame is to be timber and the roof material, similar to that of the main roof. They are subject to relevant technical agency's requirements, e.g. Singapore Land Authority (SLA), Land Transport Authority (LTA), Fire Safety and Shelter Department (FSSD).
J. Airwell	
J1. Size	The original size and location is to be retained and restored.
J2. Roof	A new roof can be added over the airwell, provided the roof is lower than the eave of the main roof. No other above ground structure, lift or floor can be added within the airwell space. Light weight transparent or translucent roof covering is to be used. If metal framework is used, it is to be anodised or colour coated. The cover can be retractable or fixed. See Figure 11
J3. Windows	The original windows are to be retained and restored. New casement/French windows can be added subject to the design and material matching those of the front facade upper storey windows. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New internal elements such as staircase landing, wall and partition cannot abut the window openings and vents.
J4. Enclosure	Original decorative or ornamental features, if any, at the airwell are to be retained and restored. The existing windows/openings in only one of the three sides of the airwell, excluding the existing party wall, can be fully walled up.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
K. Floors	
K1. Structure	The majority of conserved buildings have timber floor boards on timber structure. The structure consists of the timber joists which span between the party walls. The timber floor boards are then laid horizontally on the joists and are usually joined by the tongue and groove method. Being one of the key architectural elements which contributes to the internal spatial quality and original character of the shophouse, it is important that the timber floor should be retained. Horizontal and/or vertical structural supports, if required to be added, are to abut the party walls to minimise impact on the existing structural system which is to be retained. For original reinforced concrete framed buildings, the original structural grids are to be retained. New columns, if required to be added, are to align with and respect the original grids. Provided the structural integrity of the building is not compromised, flexibility to shift some columns to meet the specific operational/ functional requirements can be considered on a need-to basis.
K2. Upper Storey Levels	The existing level, timber floor and structural system are to be retained and restored. If the original shophouse has reinforced concrete floors, the reinforced concrete floors can be retained. Voids up to 25% of the floor area of each floor of the unit, can be introduced. If the original shophouse has timber floors, localised areas can be changed to reinforced concrete floor for wet areas such as toilets and kitchen. An alternative solution is to add a composite floor above the existing timber floor for such wet areas. If subsequent works are carried out where the wet areas are no longer required, the timber floor is to be reinstated.
K3. 1st Storey Level	The existing floor level can be raised to meet the minimum platform level required by the relevant technical agency. Part of the existing level can be lowered by not more than 600mm for landscaping/ponds/lift pits.
K4. Basement	New basement is not allowed.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
L. Party Wall	
L1. Structure	Party walls are principal load-bearing walls. They are either constructed of brickwork or of column-and-beam construction with non-structural infill walls. The load bearing walls are supported on continuous strip foundation whilst columns rest on brick footings. Horizontal and/or vertical structural supports, if required to be added, are to abut the party walls to minimise impact on the existing structural system which is to be retained.
L2. Openings	The first 3-metre length of the load-bearing party wall perpendicular to the 1st storey shopfront is to be retained to keep the fine-grained character of the shophouses. Slight reductions or variations within the first 3m can be considered on a need-to basis. Openings in the load-bearing party walls can be introduced, provided the total width of the openings is less than 50% of the total length of the party wall within the building envelope. For original reinforced concrete framed buildings, there is no control on party wall openings and the first 3-metre length of the party wall perpendicular to the 1st storey shopfront need not be retained.
M. Staircase	Existing staircase can be retained, removed or relocated. If the building has timber floors, new staircase to replace or supplement the existing one is to be constructed in timber or metal. New reinforced concrete staircase is not allowed. The layout and railing design of the new staircase can vary. New staircase cannot abut any door or window openings or vents at the front, side and rear facades, airwell, rear service block or end gable wall.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
N. Roof Mezzanine	New roof mezzanine can be added within the building envelope. The new floor structure is to be set back: (a) A minimum of 1500mm from the inner face of the front facade wall if it is not lower than the top of the window/fanlight at the front facade of the uppermost storey. (b) A minimum of 2500mm from the inner face of the front facade wall if it is lower than the top of the window/fanlight at the front facade of the uppermost storey. If the front facade has an existing balcony, it is not necessary to set back the new floor. The floor cannot abut any window/door or transom/fanlight. Minimum headroom and floor area are subject to compliance with the requirements of relevant technical agencies. Traditional material of timber floor boards on timber joists are to be used. Reinforced concrete can be used only if the original uppermost floor is of the same material. See Figure 12
O. Ceiling	Uppermost Floor Typically, the false ceiling is at or above the springing line. If the ceiling is lowered below the springing line, it is to be setback 1500mm or 2500mm following the roof mezzanine guidelines [refer to Item N(a) and (b)]. Lower Floors Exposed upper floor structure of timber boards and timber joists is preferred. If required, new false ceilings not lower than the original window openings or transom/fanlight/vents can be added.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Mechanical & Electrical and Others	**Design / Location / Material**
P. Flue	Existing masonry flue, if any, can be retained, repositioned or removed. New flue can be added. Repositioned or new flue is to be neatly located in either the rear slope of the main roof or the rear secondary roofs or abutting the wall of rear facade/rear service block within the rear court. It can also abut the rear service block wall of the adjacent unit. The roof of the flue can be pitched or flat and is to be lower than the ridge of the main roof. See Figure 13 All external walls are to be of plastered brick or plaster board, and the pitched roof to be unglazed natural colour clay tiles of profile identical to the main roof or of reinforced concrete. Alternatively, metal flues can be exposed and painted the same colour as the background wall. The use of electrostatic air cleaning system is encouraged.
Q. Exhaust Fan	Exhaust fan is to be placed at the rear facade or rear service block facing the rear court. Any material can be used. If metal is used, it is to be anodised or colour coated.
R. Lift Shaft	Lifts can be added within the building envelope. However, if the shaft protrudes beyond the roof, it must be located at the rear slope of the main roof or on the secondary roof and lower than the roof ridge of the main roof. Lifts cannot be added within the airwell or at the rear court.
S. Conduits and Pipes	Rainwater downpipes, gas pipes can be mounted on the surface of the rear wall. Rainwater downpipes including gutters, if provided, are not to be in stainless steel. All other utility/conduit pipes are not to be mounted on the surface of the external walls, unless specifically required by the relevant technical agencies. Exposed lightning tape and conductor are to be installed at a location least obtrusive from the front exterior. The use of piped gas is encouraged. Where the use of cylinder gas is required, the gas tanks are to be located within the property boundary, e.g. in a recess created within the rear boundary wall.

RESTORATION GUIDELINES HISTORIC DISTRICTS	
Mechanical & Electrical and Others	**Design / Location / Material**
T. Air Conditioning System	Condensing units are to be integrated within the building envelope at the rear in a recess created within the rear boundary wall, or an opening created within the roof of the rear service block. The opening is to be properly screened. If metal is used for the screening, it is to be anodised or colour coated. See Figure 14 However, due to practical constraints in integrating the units within the building envelope and the differing needs of tenants and users, the condensing units can be neatly or compactly placed at the rear and lined along the parapet, party walls or rear service block walls. The units are to be screened unless they are small and not visible from the street level. See Figure 15 Other locations for placing the condensing units can be considered on the merits of each case if there are particular site constraints, e.g. when the conserved building is “back-to-back” with another building.
U. Rooftop Mechanical & Electrical Plants and Services	Mechanical & electrical plants and rooftop services are to be visually screened from the top and all sides. If metal is used for the screening, it is to be anodised or colour coated. The spacing of trellises, louvres or other similar types of construction used for screening are to be equal or less than the depth of its individual members. The screening elements are to be orientated to cut off views of the services from the street level and surrounding buildings. If perforated panels are used, the porosity (i.e. percentage of void-to-solid) of the perforated panels is to be equal or less than 25% and the size of openings cannot exceed 30mm in diameter.

2.1.3 DRAWINGS & ILLUSTRATIONS

(Click here to see Figure 1 to Figure 15)

- Figure 1: Jackroof
- Figure 2: Allowable Structures on Existing Flat Roofs
- Figure 3: Secondary Windows
- Figure 4: Canopy
- Figure 5: Retractable Awning
- Figure 6: Five-Foot Way Floors
- Figure 7: End Gable Wall
- Figure 8: Rear Façade of Main Building
- Figure 9: Rear Service Block
- Figure 10: Rear Court and Rear Boundary Wall
- Figure 11: Airwell
- Figure 12: Roof Mezzanine
- Figure 13: Flue
- Figure 14: Condensing Units Integrated within Building Envelope
- Figure 15: Condensing Units Placed at Rear Parapet and Walls

2.2 RESIDENTIAL HISTORIC DISTRICTS

The historic buildings in Blair Plain, Cairnhill and Emerald Hill Conservation Areas are predominantly two-and three-storey terrace houses which stand in contrast to the neighbouring new and modern high-rise developments. Their low-rise urban form coupled with their narrow streets and architectural significance gives a streetscape not commonly found in Singapore.

- ### BLAIR PLAIN

  The Blair Plain Residential Historic District, located to the west of the Downtown Core, is still an attractive residential area with some commercial activities along Kampong Bahru Road. It is a compact cluster of two-and three-storey shophouses and residential terrace houses of the Early, Transitional, Late Shophouse and Art Deco Styles.

- ### CAIRNHILL

  The Cairnhill Residential Historic District, located to the north-west of the Downtown Core, is a quiet residential area of predominantly two-storey terrace houses built in the Late Shophouse and Art Deco Styles. Today, though the area is surrounded by high-rise buildings of varying scale, the charm of the pre-war terrace houses is still retained.

- ### EMERALD HILL

  The Emerald Hill Residential Historic District located to the north-west of the Downtown Core, is an attractive and quiet residential area. It has some commercial premises in the shopping zone along Orchard Road. The predominantly two-storey terrace houses showcase a variety of architectural styles ranging from Transitional to Art Deco Styles built over ninety years. There are some modern high-rise buildings towards the northern end of Emerald Hill Road.

2.2.1 PLANNING PARAMETERS

2.2.1.1 Conservation Plan

The plans (Appendix II) show the boundary of the conservation areas, the buildings to be conserved, and the envelope control sites. For buildings to be conserved, the entire building is to be restored in accordance with the conservation guidelines. Vacant lands and buildings not designated for conservation can be redeveloped subject to envelope control guidelines.

2.2.1.2 Building Use

The use shall follow the Master Plan intention for the respective areas which are predominantly for residential use. The exceptions are as follows:

Blair Plain:	House Nos. 1 to 89 (Odd Nos.) Kampong Bahru Road are zoned Commercial.
	House No. 167 Neil Road, House Nos. 52 and 54 Blair Road and House Nos. 63, 64, 68 & 69 Spottiswoode Park Road are zoned Residential with Commercial at the 1st storey. As they are within a residential area, it is preferable that they are used for residential purpose.
Cairnhill:	House No. 56 Cairnhill Road is zoned Commercial.
Emerald Hill:	House No. 180 Orchard Road (Peranakan Place), House No. 202 Orchard Road, House Nos. 2, 3, 5, 7 and 9 Emerald Hill Road and House Nos. 17 to 49 (Odd Nos.) Cuppage Road are zoned Commercial.

2.2.1.3 Plot Ratio

The allowable plot ratio shall be the resultant of the building envelope.

2.2.1.4 Building Height

The original building height is to be retained.

2.2.1.5 Building Profile

The original building profile is to be retained. If it has undergone unauthorised alteration, the original profile is to be reinstated.

2.2.1.6 Rear Extension

The predominant use in these areas is residential. In view of the restriction on use, all units can have extension at the rear of the main conserved building. The rear extension is to be lower than the main roof and not to exceed the allowable number of storeys for landed housing development i.e. 3 storeys.

2.2.1.7 Development Charge

Under the Planning Act, development charge, equivalent to the difference between the Development Baseline and the Development Ceiling for that land, is payable in respect of any development of the land or when there is a change in the use of the land or building.

However, exemption from payment of development charge, if applicable, is given in respect of the *value enhancement arising from the proposed use or use changes on the gross floor area for the building or part thereof on the land to be conserved* provided that such conservation is carried out in accordance with the approved plans and completed within a period of 2 years from the date of conservation permission.

2.2.1.8 Carparking

Provision of car parks or payment of car parks deficiency charge for a conserved building is waived if the conservation guidelines are fully complied with and the conservation works are completed in accordance with the approved plans.

2 RESTORATION GUIDELINES

Key Elements Subject To Mandatory Compliance

The following tables specify the design, location and material for all key elements. The fundamental principle, the "**3R**", is **maximum Retention, sensitive Restoration and careful Repair**. Where replacement is necessary, e.g. where building elements are found to contain asbestos, owners should seek URA's clearance for one-to-one replacement, following the original design and materials. New installation/addition must not drastically affect the intrinsic character of the building.

IMPORTANT NOTE: Where applicable, the requirements of the relevant technical agencies are to be complied with. Owners are also required to obtain the consent of the relevant parties for roof eaves, canopies and projections of any nature beyond the site boundary.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
A. Roofs	
A1. Structure	The majority of conserved shophouses have a pitched clay tile roof supported by timber roof structure. Structural strengthening or supports like steel or reinforced concrete roof beams, if required to be added, are to be sensitively designed to minimise visual impact on the traditional timber system which is to be retained.
A2. Main Roof and Rear Secondary Roof	The original profile, pitch, height, party wall and eaves projection is to be retained and restored. The traditional roofing materials provide contrast to the form, scale and texture of the cityscape. It is important that the authenticity of materials, form and construction be retained during restoration. Traditional roofing material of small size, V-profile, unglazed, natural colour clay roof tile is to be used. Flat, interlocking ("Marseilles") clay roof tile and reinforced concrete can only be used if these materials were originally used for the roof. The underside of roof eaves can be exposed or covered with plasterboard. For units with existing ornamental roof ridge, the ridge profile and ornamentation is to be kept. New jackroof is not allowed for such units. To refer to "Specific Facade Restoration Guidelines" of the subject building.
A3. Jackroof	Existing jackroof, if any, can be retained or removed. New jackroof can be added subject to compliance with the positioning, setbacks and maximum allowable dimensions. See Figure 1 Roof tile is to be identical to that of the main roof. Sidewall is to be finished with plaster or timber/ plasterboard or glazed panels. Front and rear openings can be fixed or openable of any infill material. If metal is used, it is to be anodised or colour coated.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
A4. Skylight	New skylight can be added on the rear slope of the main pitched roof, on secondary pitched roof and on the rear slope of new jackroof. Skylight on the jack roof is to be located beyond the first quarter of the rear slope of the jackroof to keep the character of a typical jackroof. See Figure 1 The skylight is to be on the same plane as the subject roof and the total area of the skylight cannot exceed 30% of the subject slope of the pitched roof. The protrusion of the skylight should not exceed 150mm beyond the roof tiles. New skylight can also be added on a conserved building with flat roof. While the design, treatment and materials used can vary, the height cannot exceed 1m, which is the typical roof parapet height, so that the skylight is not visible from the street level. The skylight area is to be computed as part of the 35% coverage allowable for new single storey structure on the flat roof. See item A6 The skylight is to be of transparent or translucent material on framework of timber or metal - painted or anodised or colour coated. The design, treatment and material used can vary. It can consist of glass louvers, retractable panels or even solar panels laid on the same plane as the roof. For solar panels, the metal supporting structure is to be painted, anodised or colour coated. To minimise disruption to the roofscape, the skylight cannot be an opening or void without cover and is to be set back from the roof eaves and roof ridge.
A5. Dormer Window	Dormer window is not allowed.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
A6. Existing Flat Roof	Some conserved shophouses, particularly those of the Art Deco or Modern style, may have reinforced concrete flat roofs. Existing flat roof can be landscaped to add interest to the roofscape. New structures can be added on the existing flat roof, subject to the following guidelines: (a) Material, Roof Form & Storey Height The structure can be of reinforced concrete or lightweight material with flat roof and single-storey in height not exceeding 3600mm. The design and treatment are to be compatible with the architecture of the conserved building. (b) Coverage The total coverage of all existing and new structures on the flat roof, including skylights but excluding moveable covers e.g. umbrella structures and retractable awnings, cannot exceed 35% of the flat roof area of the unit. All service installations on the roof are to be grouped together and included in the 35% allowable coverage for structure on flat roof. (c) Setback The new structure is to be set back a minimum of 3m from the front and side street elevations so that it is not visually obvious from the street. Setback is not required from party wall and backlane. If the subject unit is higher than the neighbours, setback of the new structure from the common boundary with the neighbouring units is required. If the subject unit is not higher than the neighbours, setback of the new structure from the common boundary with the neighbouring units is not required. See Figure 2 (d) Railings To meet technical agencies' requirements, railings of compatible design and material set back a minimum of 1m from the front façade can be added. (e) Security Fence For security and privacy between common boundaries, a metal security fence (anodised / colour coated) or timber screen up to 1800mm from the finished floor level can be added.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
B. Forecourt	
B1. Enclosure	For forecourt with special features such as gateposts and ornamental forecourt wall, the original size and ornamentation of the wall and gateposts are to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building. For forecourts with no special features and to facilitate carparking provision within the residential development, the entrance can be widened to a maximum of 3m and the forecourt lowered to be at-grade with the road. Retention of the original forecourt gate is encouraged. If replaced, the forecourt gate is to be of a compatible design. The open spatial character of the forecourt is to be retained. For the terrace houses along 128 to 128H Cairnhill Road, the raised forecourts cannot be lowered. The existing blank walls fronting the street can be modified for garages to be added under the forecourts.
C. Front / Side Facade	
C1. Shopfront	Design and material of new shopfronts can vary. However, it must not be a blank wall as it gives a passive character to the streetscape. Existing original ornamental transom panels, vents or decorative mouldings / murals above the shop front, are to be kept. Fixed glass panels can be added behind the vents. To refer to "Specific Facade Restoration Guidelines" of the respective building.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C2. Residential Front	Residential Fronts are characterised by timber casement windows flanking a double-leafed timber door. All buildings with residential front which is existing and/or identified in the 'Specific Façade Restoration Guidelines', regardless of land use zoning, shall be retained and restored. The following guidelines are applicable to a conserved building allowed for non-residential use: (a) The original 2 windows and 1 door first storey residential front can be changed to 2 doors and 1 window if the new door is required for direct access to the upper storey. The design and material of the new door are to match those of the original one. However, if there are ornamental features e.g. dado tiles below the windows, these are to be retained and the conversion of the window to a door is not allowed. (a) If the original infill panel of the first storey casement windows and doors are plain without any design features, they can be replaced with clear glass. However, if the infill panels are carved with decorations, they are to be retained and cannot be replaced with clear glass. To refer to 'Specific Facade Restoration Guidelines' of the subject building. (b) Alternatively, fixed frameless or timber framed glazed panels can be added instead of secondary windows, and frameless glass doors can be added as secondary doors while the original timber windows and doors are retained and restored. This gives owners another option to keep the original architecture of the conserved building while achieving greater transparency and climatic control of the internal space.
C3. Window Screen / Security Bars	For units with residential front, existing traditional window screen, if any, is to be retained. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New window screen can be added and the design is to be traditional. The frame is to be timber and the infill may be timber or obscure glass. Metal security bars at windows and timber security gates at doors, if any, can be retained or removed. Similar new security bars and gates of traditional design and material can be added.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C4. Pintu Pagar	For units with residential front, the existing pintu pagar, if any, is to be retained. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New pintu pagar can be added and the design is to be traditional. The frame is to be timber and the infill is to be of traditional materials i.e. timber and obscure glass.
C5. Dado Tiles	The following guidelines are applicable to a conserved building with dado tiles: (a) If the tiles are intact, the original tile panel is to be retained. (b) If there are cracked or missing tiles, (i) Replace the missing tiles with tiles matching the original tiles, (ii) Leave the tile panel as it is, or (iii) Patch the gaps with colour cement to match the colour of the tiles.
C6. Fanlights, Windows, Doors and Vents, Balconies and Verandahs	The doors, windows and vents in conservation buildings give the façade a sense of scale and added architectural expression. The original fanlights, windows, doors, vents, balconies and verandahs are to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building. The balcony or verandah is to be kept open and not enclosed with window or fixed glazing. The inner facade behind the balcony or verandah is also to be retained and restored. The windows of the inner facade can be changed to doors for better access to the balcony or verandah. The design and material of the new door are to match those of the original one. New internal elements such as staircase landing, wall and partition cannot abut the original window or door openings and vents and are to be sufficiently set back. Existing mild steel frames of doors, windows and vents can be changed to powder coated aluminium frames of similar appearance as the mild steel frames. Existing coloured glass in doors, windows, fanlights and vents cannot be replaced with clear glass.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C7. Balustrades for French Window	The original balustrade for French window is to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building.
C8. Secondary Windows & Doors	Most shophouses have air-conditioning to meet modern standards of comfort and user requirements. A secondary layer can be introduced to accommodate this change. New secondary casement, French or sliding window and door can be added subject to the design being compatible with those of the main window and door. For conserved buildings with timber windows / doors, owners are encouraged to use timber frames as they are more compatible. If metal frame is used, it is to be anodised or colour coated. The infill can be of timber or glass. Tinted, coloured and obscure glass can be used. Frameless glass secondary doors can be used. Frameless fixed glass panels can be installed at the first storey windows. However, they cannot be used in place of secondary windows on the upper storeys of a conserved building as they will lead to difficulty in accessing and maintaining the original windows. Traditional bat-shaped, circular or precast vents can be sealed with glass. See Figure 3
C9. Decorative Features	The shophouse façade may feature decorative work such as ornamental plasterwork, faux tile render and cut-porcelain tile decorations. The original decorative features, if any, are to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C10. Canopy & Awnings	Original tile canopy, if any, is to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New tile canopy can be added at 2nd storey floor level. Traditional roofing material of small size, V-profile, unglazed, natural colour clay tiles identical to those of the main roof or green glazed Chinese clay tiles can be used. See Figure 4 Retractable awning can be added at 2nd storey floor level. It is to be sensitively installed under or at the main beam, and not cover or block any key architectural features. See Figure 5 They are subject to relevant technical agency's requirements, e.g. Singapore Land Authority (SLA), Land Transport Authority (LTA), Fire Safety and Shelter Department (FSSD).
C11. Finishes	(a) Paint & Plaster finish Shophouses were originally rendered in lime plaster and painted with lime wash. In re-plastering or repainting historic buildings, lime plaster and lime wash or its modern day equivalents e.g. mineral paint, should be used. (b) Timber Surfaces Timber surfaces can be either painted or stained. (c) Shanghai Plaster Finish For a building with existing unpainted Shanghai plaster finish, the finish is to be retained and restored. If the Shanghai plaster finish is already painted over, the owner is to look into recovering the original Shanghai plaster finish. (d) Fair-faced Brickwalls For a building with existing unpainted fair-faced brickwalls, the fair-faced brickwalls are to be retained and restored. If the fair-faced brickwalls are already painted over, the owner is to look into recovering the original fair-faced finish.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
C12. Building Colors	Traditional paint schemes and colours are to be used to recall the historic streetscape. Generally the base colour of shophouses has a pastel hue. Where necessary, darker or lighter shades can be used to highlight selected features or decorative ornamentations. Black should not be used as a base colour as this hides the architectural features. A paint scraping analysis can be carried out to determine the original colour of the building. Original traditional painted murals and cut-tile decorations are not to be removed or painted over. For Emerald Hill Conservation Area, a special pastel-colour paint scheme has been developed together with the Emerald Hill Conservation Association (EHCA). Please refer to the Step-By-Step Guide for more information.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
D. Five-Foot Way	
D1. Floors	A unique adaption to the hot and wet climate, the five-foot way is a continuous colonnaded covered walkway running the length of the front and sometimes the sides of a shophouse block. The retention or reintroduction of the traditional materials and finishes of the five-foot way is encouraged. Traditional materials and finishes of the five-footway contribute to the overall character of the conservation area. They include cement screed, terracotta tiles, clay tiles, cement terrazzo, mosaic, marble chip terrazzo or granite slab. Owners are strongly encouraged to keep the original floor finish, if existing. Where the existing floor finishes are not original, owners are strongly encouraged to reintroduce traditional floor finishes. The selection of the floor finishes should preferably match the architectural style of the shophouses. The tiling material is to be non-slip for the safety of pedestrians. Highly polished gloss finish is not allowed. The level of the five-foot way is to match the adjacent units and open walkway where possible. Where the difference in level is not more than 175mm, a ramp is to be provided. The gradient of the ramp cannot be steeper than 1:10. As shophouses are typically under different ownership and restored at different times, an owner has the following options: (a) Liaise with neighbours to level the ramp. (b) Provide gradual ramps. (c) Keep the existing step if the adjacent units are not restored. See Figure 6 The design and placement of letter boxes along the five-footway is to take into account pedestrian safety. They can be integrated into the design of the shop front or residential front.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
D2. Ceiling	Exposed upper floor structure of timber boards and timber joists is preferred. Existing exposed reinforced concrete floor above, if any, can remain. False ceiling of timber frame and plaster timber board, not lower than the front facade beam, can be added. Variations in design and use of alternative compatible material can also be added at the main entrance of the building.
E. End Gable Wall	
E1. Windows, Doors & Vents	For shophouses which abut a public road or lane, existing openings such as casement windows, doors and vents, if any, in the end gable wall can be retained or sealed up. New openings, casement windows, doors and vents can be added subject to retention of the solid and void expression of the end gable wall, i.e. the wall space between the windows should have a minimum dimension equal to the new window opening width. They should align with the existing windows, if any, and the proportion is to follow the existing. The design and material of the new windows and doors are to match the original windows at the end gable wall, or those of the front facade upper storey windows. To refer to 'Specific Facade Restoration Guidelines' of the subject building for the front facade windows. Vents can be of any material. If metal is used, it is to be anodised or colour coated. See Figure 7 New internal elements such as staircase landing, wall and partition cannot abut the window or door openings and vents, and are to be sufficiently setback. No openings are allowed for gable walls which share a common boundary with a neighbouring property.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS		
Key External Elements		**Design / Location / Material**
E2.	**Canopies**	New canopies over doors and windows with a projection of not more than 450mm can be added. The frame is to be timber and the roof material, similar to that of the main roof. See Figure 7 They are subject to relevant technical agency's requirements, e.g. Singapore Land Authority (SLA), Land Transport Authority (LTA), Fire Safety and Shelter Department (FSSD).
F.	**Rear Facade Of Main Building**	
F1.	**Window Facing Rear Court**	If the existing rear court is kept, the original windows can be retained and restored, or replaced with new French or casement windows. The frames are to be timber and the infill can be timber or glass. See Figure 8 New internal elements such as staircase landing, wall and partition cannot abut the window openings and vents, and are to be sufficiently setback.
F2.	**Vents**	Existing vents, if any, can be retained or removed. New vents of any material can be added. If metal is used, it is to be anodised or colour coated.
F3.	**Canopies**	New canopies over doors and windows with a projection of not more than 450mm, can be added. The frame is to be timber and the roof material similar to that of the main roof.
G.	**Rear Service Block**	
G1.	**Windows and Openings Facing Rear Court**	If the existing rear service block is kept, existing windows and openings, if any, can be retained and restored. New casement and French windows with or without brickwall between windows can be added. The frames are to be timber and the infill can be timber or glass. Existing openings can also be infilled with grilles. See Figure 9 New internal elements such as staircase landing, wall and partition cannot abut the window or door openings and vents, and are to be sufficiently setback.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
G2. Vents	Existing vents, if any, can be retained or removed. New vents of any material can be added. If metal is used, it is to be anodised or colour coated.
G3. Canopies	New canopies over doors and windows with a projection of not more than 450mm can be added. The frame is to be timber and the roof material similar to that of the main roof.
H. Rear Court	
H1. Roof	A new roof can be added over the rear court, provided the roof is not higher than the 2nd storey floor level. Jackroof and skylight can be introduced in the new roof which can be reinforced concrete, light weight material or same roof material as the main roof. If metal is used, it is to be anodised or colour coated. Reinforced concrete flat roof can be used as a roof garden and landscape furniture can be considered. The rear boundary wall can be raised up to the sill height of the 2nd storey windows to form a parapet, not exceeding 1m in height. The space along the parapet can be used to house condensing units. Any screening above is to be kept minimal in height and is to be effective screening in the form of simple grilles or louvers. If metal is used, it should be anodised or colour-coated. If condensing units are taller than the 1m parapet height, the level of the RC flat roof on which the condensing units are housed is to be lowered such that the height of the condensing units does not exceed the parapet wall or 1m above the 2nd storey level. See Figure 10
H2. External Staircase	External staircases within rear courts are distinctive architectural features of the conserved buildings. Owners are encouraged to keep the existing external staircase so as to contribute to the charm and character of the area. However, existing external staircase, if any, can be retained or removed and new external staircase of any material can be added. If metal is used, it is to be anodised or colour coated. If a new external secondary staircase in addition to the internal primary staircase is required to meet SCDF's fire safety regulations, the location, design and material are subject to evaluation.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
I. Rear/Side Boundary Wall	
I1. Wall Height	The original height of the wall is to be retained, except (a) when the rear court is to be roofed over and the wall has to be raised up to the 2nd storey floor level to give sufficient headroom, and (b) if it is required to meet the minimum parapet height for roof terrace over the rear court or for screening of condensing units (refer to item H1). See Figure 10
I2. Windows & Vents	At upper storeys, new vents and casement windows can be added. At the 1st storey, only vents and high level windows can be added. Vents can be of any material. If metal is used, it is to be anodised or colour coated. Casement and high level windows are to be timber frame and the infill can be timber/ glass. New internal elements such as staircase landing, wall and partition cannot abut the window openings and vents.
I3. Doors	Existing door position can be retained or changed. The doorway can be enlarged subject to a width of not more than 1800mm. Timber or metal can be used. If metal is used, it is to be anodised or colour coated.
I4. Canopy	New canopies over doors and windows with a projection of not more than 450mm can be added. The frame is to be timber and the roof material, similar to that of the main roof. They are subject to relevant technical agency's requirements, e.g. Singapore Land Authority (SLA), Land Transport Authority (LTA), Fire Safety and Shelter Department (FSSD).

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
J. Airwell	
J1. Size	The original size and location is to be retained and restored.
J2. Roof	A new roof can be added over the airwell, provided the roof is lower than the eave of the main roof. No other above ground structure, lift or floor is to be added within the airwell space. Light weight transparent or translucent roof covering is to be used. If metal framework is used, it is to be anodised or colour coated. The cover can be retractable or fixed. See Figure 11
J3. Windows	The original windows are to be retained and restored. New casement /French windows can be added subject to the design and material matching those of the front facade upper storey windows. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New internal elements such as staircase landing, wall and partition cannot abut the original window openings and vents.
J4. Enclosure	Original decorative or ornamental features, if any, at the airwell are to be retained and restored. The existing windows/openings in only one of the three sides of the airwell, excluding the existing party wall, can be fully walled up.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
K. Floors	
K1. Structure	The majority of conserved buildings have timber floor boards on timber structure. The structure consists of the timber joists which span between the party walls. The timber floor boards are then laid horizontally on the joists and are usually joined by the tongue and groove method. Being one of the key architectural elements which contributes to the internal spatial quality and original character of the shophouse, it is important that the timber floor should be retained. Horizontal and/or vertical structural supports, if required to be added, are to abut the party walls to minimise impact on the existing structural system which is to be retained. For original reinforced concrete framed buildings, the original structural grids are to be retained. New columns, if required to be added, are to align with and respect the original grids. Provided the structural integrity of the building is not compromised, flexibility to shift some columns to meet the specific operational/ functional requirements can be considered on a need-to basis.
K2. Upper Storey Levels	The existing level, timber floor and structural system is to be retained and restored. If the original shophouse has reinforced concrete floors, the reinforced concrete floors can be retained. Voids up to 25% of the floor area of each floor of the unit, can be introduced. If the original shophouse has timber floors, localised areas can be changed to reinforced concrete floor for wet areas such as toilets and kitchen. An alternative solution is to add a composite floor above the existing timber floor for such wet areas. If subsequent works are carried out where the wet areas are no longer required, the timber floor is to be reinstated.
K3. 1st Storey Level	The existing floor level can be raised to meet minimum platform level required by the relevant technical agency. Part of the existing level can be lowered by not more than 600mm for landscaping/ ponds/lift pits.
K4. Basement	New basement is not allowed.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
L. Party Wall	
L1. Structure	Party walls are principal load-bearing walls. They are either constructed of brickwork or of column-and-beam construction with non-structural infill walls. The load bearing walls are supported on continuous strip foundation whilst columns rest on brick footings. Horizontal and/or vertical structural supports, if required to be added, are to abut the party walls to minimise impact on the existing structural system which is to be retained.
L2. Openings	The first 3-metre length of the load-bearing party wall perpendicular to the 1st storey shopfront is to be retained to keep the fine-grained character of the shophouses. Slight reductions or variations within the first 3m can be considered on a need-to basis. Openings in the load-bearing party walls can be introduced provided the total width of the openings is less than 50% of the total length of the party wall within the building envelope. For original reinforced concrete framed buildings, there is no control on party wall openings and the first 3-metre length of the party wall perpendicular to the 1st storey shopfront need not be retained.
M. Staircase	Existing staircase can be retained, removed or relocated. If the building has timber floors, new staircase to replace or supplement the existing one is to be constructed in timber or metal. New reinforced concrete staircase is not allowed. The layout and railing design of the new staircase can vary. New staircase cannot abut any door or window openings or vents at the front, side and rear facades, airwell, rear service block or end gable wall.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Key External Elements	**Design / Location / Material**
N. Roof Mezzanine	New roof mezzanine can be added within the building envelope. The new floor structure is to be set back: (a) A minimum of 1500mm from the inner face of the front facade wall if it is not lower than the top of the fanlight/window at the front facade of the uppermost storey. (b) A minimum of 2500mm from the inner face of the front facade wall if it is lower than the top of the fanlight/window at the front facade of the uppermost storey. If the front facade has an existing balcony, it is not necessary to set back the new floor. The floor cannot abut any window/ door or transom/ fanlight. Minimum headroom and floor area are subject to compliance with the requirements of relevant technical agencies. Traditional material of timber floor boards on timber joists is to be used. Reinforced concrete can be used only if the original uppermost floor is of the same material. See Figure 12
O. Ceiling	Uppermost Floor Typically, the false ceiling is at or above the springing line. If the ceiling is lowered below the springing line, it is to be setback 1500mm or 2500mm following the roof mezzanine guidelines [refer to Item N(a) and (b)]. Lower Floors Exposed upper floor structure of timber boards and timber joists is preferred. If required, new false ceilings not lower than the original window openings or transom/fanlight/vents can be added.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS		
Key External Elements		**Design / Location / Material**
P.	**New Rear Extension** *If the rear of the main conserved building is to be extended, the following guidelines are applicable instead of items F, G, H, I and J.*	
P1.	**Roof**	If a pitched tile roof is proposed, it can be higher than the eaves of the main conserved building but lower than the ridge of the main roof. The material and pitch are to be the same as those of the main roof. If a flat roof is proposed, it is to be lower than the eaves of the main conserved building. The new roof can be of any material. If metal is used, it is to be anodised or colour coated. Staircase and lift with flat or pitched tile roofs can be added on the flat roof of the new extension. The structures can be higher than the eaves of the main conserved building but lower than the ridge of the main roof. The height of new rear extension shall be interpreted as the total height inclusive of the jackroof, if any. Thus, the secondary jackroof shall not be higher than the ridge of the main roof, even if the main roof has a jackroof. See Figure 13
P2.	**Windows, Doors and Vents**	Design and material can vary.
P3.	**Canopy**	Canopies, if any, are to have projection of not more than 450mm.
P4.	**Rear Boundary Wall**	If the rear boundary wall abuts the adjacent lot boundary i.e. without a backlane, the rear boundary wall height is to be retained and a minimum rear setback of 3m is to be provided for the extension.
P5.	**Floors**	Additional floors of any material can be constructed over the entire rear space. The new rear extension cannot exceed the allowable number of storeys for landed housing development i.e. 3 storeys. The new floor levels need not be the same as the original floor levels. New basement is not allowed.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Mechanical & Electrical and Others	**Design / Location / Material**
Q. Flue	Existing masonry flue, if any, can be retained, repositioned or removed. New flue can be added. Repositioned or new flue is to be neatly located in either the rear slope of the main roof or the rear secondary roofs or abutting the wall of rear facade/rear service block within the rear court. It can also abut the rear service block wall of the adjacent unit. The roof of the flue can be pitched or flat and is to be lower than the ridge of the main roof. See Figure 14 All external walls are to be of plastered brick or plasterboard, and the pitched roof to be unglazed natural colour clay tiles of profile identical to the main roof or of reinforced concrete. Alternatively, metal flues can be exposed and painted the same colour as the background wall. The use of electrostatic air cleaning system is encouraged.
R. Exhaust Fan	Exhaust fan is to be placed at the rear facade or rear service block facing the rear court. Any material can be used. If metal is used, it is to be anodised or colour coated.
S. Lift Shaft	Lifts can be added within the building envelope. However, if the shaft protrudes beyond the roof, it must be located at the rear slope of the main roof or on the secondary roof and lower than the roof ridge of the main roof. Lifts cannot be added within the airwell or at the rear court.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Mechanical & Electrical and Others	**Design / Location / Material**
T. Conduits and Pipes	Rainwater downpipes, gas pipes and air-condensing conduit pipes can be mounted on the surface of the rear wall. The air-condensing conduit pipes are to be properly encased and neatly laid out. Rainwater downpipes including gutters, if provided, are not to be in stainless steel. All other utility/conduit pipes are not to be mounted on the surface of the external walls, unless specifically required by the relevant technical agencies. Exposed lightning tape and conductor are to be installed at a location least obtrusive from the front exterior. The use of piped gas is encouraged. Where the use of cylinder gas is required, the gas tanks are to be located within the property boundary, e.g. in a recess created within the rear boundary wall.
U. Air Conditioning System	Condensing units are to be integrated within the building envelope at the rear in a recess created within the rear boundary wall, or an opening created within the roof of the rear service block. The opening is to be properly screened. If metal is used for the screening, it is to be anodised or colour coated. See Figure 15 However, due to practical constraints in integrating the units within the building envelope and the differing needs of tenants and users, the condensing units can be neatly or compactly placed at the rear and lined along the parapet, party walls or rear service block walls. The units are to be screened unless they are small and not visible from the street level. See Figure 16 Other locations for placing the condensing units can be considered on the merits of each case if there are particular site constraints, e.g. when the conservation building is “back-to-back” with another building.

RESTORATION GUIDELINES RESIDENTIAL HISTORIC DISTRICTS	
Mechanical & Electrical and Others	**Design / Location / Material**
V. Rooftop Mechanical & Electrical Plants and Services	Mechanical & Electrical plants and rooftop services are to be visually screened from the top and all sides. If metal is used for the screening, it is to be anodised or colour coated. The spacing of trellises, louvres or other similar types of construction used for screening are to be equal or less than the depth of its individual members. The screening elements are to be orientated to cut off views of the services from the street level and surrounding buildings. If perforated panels are used, the porosity (i.e. percentage of void-to-solid) of the perforated panels is to be equal or less than 25% and the size of openings cannot exceed 30mm in diameter.

2.2.3 DRAWINGS & ILLUSTRATIONS

(Click here to see Figure 1 to Figure 16)

- Figure 1: Jackroof and Skylight on Jackroof
- Figure 2: Allowable Structures on Existing Flat Roofs
- Figure 3: Secondary Windows
- Figure 4: Canopy
- Figure 5: Retractable Awning
- Figure 6: Five-Foot Way Floors
- Figure 7: End Gable Wall
- Figure 8: Rear Facade of Main Building
- Figure 9: Rear Service Block
- Figure 10: Rear Court and Rear Boundary Wall
- Figure 11: Airwell
- Figure 12: Roof Mezzanine
- Figure 13: New Rear Extension
- Figure 14: Flue
- Figure 15: Condensing Units Integrated within Building Envelope
- Figure 16: Condensing Units Placed at Rear Parapet and Walls

2.3 SECONDARY SETTLEMENTS

The Secondary Settlements in areas like Balestier, Beach Road, Geylang, Jalan Besar, Jalan Jurong Kechil, Joo Chiat, Mount Sophia, River Valley, Tanjong Katong, Upper Circular Road and Tiong Bahru were largely developed between the 1900s and the 1960s as a result of outward movement of the population from the city centre. Besides shophouses of various styles, some of the areas also have bungalows of the Early, Victorian and Art Deco Styles.

- ## BALESTIER

  The Balestier Conservation Area is located along Balestier Road, between Thomson Road and Moulmein Road. The street blocks comprise a mix of two-storey pre-war shophouses as well as more recent three- to six-storey shop / flat developments.

  The buildings reflect the evolution of physical development since the 1840s and serve as reminders of the history of the area. The shophouses range from the Early Shophouse Style to the ornate Late Shophouse and the more streamlined Modern Style built after World War Two.

  Of particular visual interest are the ornate Late Style shophouses at the junctions of Kim Keat Road and Jalan Kemanan.

  Other key landmarks are the old Balestier Market from the 1920s and the Gochor Tua Pek Kong Temple and Wayang Stage with history which can be traced back to the 1840s.

- ## BEACH ROAD

  The Beach Road Conservation Area is located just north of the Downtown Core. It consists of buildings along Purvis Street, Liang Seah Street and Tan Quee Lan Street which are the roads linking the major thoroughfares of North Bridge Road and South Bridge Road.

  The Beach Road Area was designated the European Town during the time of Raffles. It was located between the Commercial Quarter and Kampong Glam, and was the original seafront before reclamation. Its sea-frontage (which has since been reclaimed) made it the main European residential area as well as that of the wealthy Asians. The area is mainly dominated by two- and three-storey shophouses built in blocks of identical architectural features and ornamentations, with each block being different from the other.

- ## GEYLANG

  The Geylang Conservation Area is located 5km to the east of the city and stretches along Geylang Road and selected lorongs.

  Historically, the area was probably a processing centre for local agricultural produce and fishing. Its history dates as far back as the 1840s when the British Government resettled the Malay floating village at the mouth of the Singapore River to this area. Today, the wide range of shophouses along Geylang Road; the combination of the low-rise bungalows and rows of shophouses along the lorongs provide a gentle contrast, giving this area a rich architectural heritage.

- ## JALAN BESAR

The Jalan Besar Conservation Area is located just outside the boundaries of the Little India Historic District and stretches along Jalan Besar and Foch Road, the upper portions of Tessensohn Road, Race Course Road and Tyrwhitt Road, along Cavan Road and Hamilton Road, parts of Serangoon Road, Lavender Street, Kitchener Road, Sam Leong Road, Maude Road. It also includes the ornate row of terrace houses along Petain Road.

The area was originally an estate of over six acres extending from Serangoon Road to Jalan Besar, where historically, sireh and nipah were extensively cultivated. The area is significant for its historic streetscapes created by buildings with a variety of vernacular architecture of the late 19th and early 20th centuries, a period in Singapore's history when the elaborately decorated shophouses flourished.

- ## JALAN JURONG KECHIL

The Jalan Jurong Kechil Conservation Area is situated at the junction of Upper Bukit Timah Road and Jalan Jurong Kechil. It consists of ten two-storey Transitional style shophouses and three Art Deco Style single-storey terraces which contribute to the streetscape experience of the Anak Bukit area.

Their pre-war architecture make the remaining row of shophouses stand out as an important landmark located at the entrances to the Anak Bukit area.

- ## JOO CHIAT

The Joo Chiat Conservation Area stretches along the entire main Joo Chiat Road, the upper portion of Onan Road, parts of Joo Chiat Terrace, Joo Chiat Place, Everitt Road, Koon Seng Road and Tembeling Road. It also includes the stretch of East Coast Road from Marshall Road to Telok Kurau Road.

The area was originally part of a coconut plantation which stretched inland from the coast to what is Geylang Serai today. The area is not only rich in architecture and history but is also a thriving commercial and residential node today. Joo Chiat, with rich historical links to the Peranakan culture, is a renowned food paradise. A wide variety of shophouses and bungalow styles which reflect the prevailing architecture at the turn of the century can be found within this area.

- ## MOUNT SOPHIA

The Mount Sophia Conservation Area, located between the historically important areas of Fort Canning / Bras Basah, the Little India and Jalan Besar Conservation Areas, is an important part of the old inner city of Singapore since the turn of the 19th century.

The different shophouse styles which chart the evolution of developments along Selegie Road gave this important trunk road its signature streetscape. The largely intact terrace houses along Niven Road present a charming intimate streetscape while the shophouses along Mackenzie Road remain vibrant after many years. Marking the entrance to Mount Sophia are the Church of Christ of Malaya and Sophia Flats, both established landmarks of the area.

- ## RIVER VALLEY

The River Valley Conservation Area is adjacent to the Robertson Quay area to the south of River Valley Road. It consists of buildings lining Mohamed Sultan Road from its junction with River Valley Road up to its junction with Kim Yam Road. The area also includes stretches of Tong Watt Road and Kim Yam Road near Mohamed Sultan Road and a group of buildings located at the junction of Kim Yam Road and River Valley Road.

The shophouses within this area played an important role in the early trading activities of Singapore which was centred on the Singapore River. These shophouses catered to the owners and workers of the godowns and warehouses along the river. The shophouses are mainly of the Late Shophouse and Transitional Shophouse Styles.

- ## TANJONG KATONG

The Tanjong Katong Conservation Area is located along Tanjong Katong Road, between Dunman Road and Mountbatten Road.

The ornate Late Style and the more geometric Art Deco Style shophouses together with the more streamlined Modern Style shophouses built after the World War Two provide the critical mass that gives this historic road its sense of place and help anchor the social memory for both residents and visitors. Other landmarks along the road are the former Tanjong Katong Girls School, built in 1954 by the then Public Works Department. The Tanjong Katong Post Office and the Telecom Exchange Building are also prominent markers.

- ## UPPER CIRCULAR ROAD

The Upper Circular Conservation Area is bounded by Upper Circular Road, South Bridge Road, North Canal Road and New Bridge Road. It contains mainly three- to five-storey buildings built mainly in the 1930s to the late 1960s and are of different Modern architectural styles. They serve as important markers of what "Modern" meant to each generation and how architectural taste has evolved with the passage of time.

- ## TIONG BAHRU

The Tiong Bahru Conservation Area is bounded by Outram Road, Seng Poh Road, Yong Siak Street and the Central Expressway.

Tiong Bahru estate, the first public housing in Singapore, is well known and valued by Singaporeans. The flats built by the then Singapore Improvement Trust mark an important period of public housing in Singapore before the formation of Housing Development Board. The estate is an illustration of the distinctive planning and architectural ideas prevalent in British public housing of the same period.

The two rows of shophouses within the area and the single-storey building located within the streetblock along Outram Road are closely associated to Tiong Bahru estate, being very much a part of its physical fabric. Fronting Tiong Bahru and Outram Road, they are highly visible to those who pass through the area.

2.3.1 PLANNING PARAMETERS

2.3.1.1 Conservation Plan

The plans (Appendix II) show the boundary of the conservation areas, the buildings to be conserved, national monuments to be preserved and the envelope control sites. For buildings to be conserved, the main shophouse building is to be restored in accordance with the conservation guidelines. Vacant lands and buildings not designated for conservation can be redeveloped subject to envelope control guidelines.

2.3.1.2 Building Use

The building use is to follow the Master Plan intention and the prevailing guidelines for the respective areas.

2.3.1.3 Plot Ratio

The plot ratio shall be the resultant of the building envelope of the conserved building or part thereof to be conserved, as well as that of the new extension(s) if any, and subject to the maximum prescribed permissible plot ratio in the Master Plan for the respective areas.

2.3.1.4 Restoration/Development Options

Shophouse
The applicant can consider the following options:

i) to conserve the entire shophouse building.

OR

ii) to conserve the main shophouse building with a new rear extension as shown in Figure 1. The new rear extension is subject to Development Control guidelines and the requirements of relevant technical agencies. The number of storeys allowable for new rear extensions differ from area to area (See para 2.3.1.6 below).

For conserved buildings with asymmetrical main roofs where the rear slope is longer than the front slope, the length of rear slope can be adjusted to achieve a symmetrical main roof so that there is sufficient depth for a meaningful rear extension. The 600mm minimum gap between the main building and the new rear extension is still applicable.

For the Geylang Conservation Area, the new extensions are also subject to the Geylang Urban Design Guidelines.

For the Pre-war SIT flats at Blocks 55 to 59, 64 to 66 & 71 to 82 in the Tiong Bahru Conservation Area, the entire building is to be conserved. As such, option (ii) above does not apply. Please refer to the conservation guidelines for the pre-war SIT flats at Tiong Bahru.

For shophouses with 2 main buildings in the River Valley Conservation Area, both the main buildings are to be conserved. New rear extension is to be located beyond the 2 main buildings. Except for 301 to 309 (Odd Nos) River Valley Road, option (ii) is applicable. See Figure 1.

Detached Building
For detached building, please refer to Part 2.4 on "Bungalows".

2.3.1.5 Building Profile

For both shophouses and detached buildings, the original profile of the building or part thereof to be conserved is to be retained. If it has undergone unauthorised alteration, the original profile is to be reinstated.

2.3.1.6 Building Height

The original height of the building or part thereof to be conserved is to be retained. The allowable number of storeys that can be built up for new extensions are as follows:

Conservation Area	Allowable Number of Storeys for New Extensions*
Balestier	Up to 6 storeys
Beach Road	Up to 5 storeys
Geylang	Along main Geylang Road: Up to 5 storeys Up to 6 storeys (west of Kallang Paya Lebar Expressway) Along the Lorongs: up to 8 storeys Also subject to the Geylang Urban Design Guidelines (GUDG)
Jalan Besar	Up to 6 storeys
Jalan Jurong Kechil	Up to 4 storeys
Joo Chiat	Up to 5 storeys
Mount Sophia	Up to 36m AMSL
River Valley	Up to 10 storeys
Tanjong Katong	Up to 4 storeys For units no. 241-259 (odd nos. only): up to 5 storeys
Tiong Bahru	Shophouses: Up to 4 storeys Blocks 55-59, 64-66, 71-82: Not applicable (*conservation of entire building)*
Upper Circular Road	Minimally, the front 7.5m of the conservation building must be conserved. The rear portion of the site can be built up to a maximum of 6 storeys. *The above is not applicable for units 27, 29, 31 & 33 New Bridge Road where the entire main pitched roof is to be conserved. For the other units, conservation of the entire main building or main pitched roof is encouraged.

NOTE * The allowable number of storeys for new extensions is guided by the allowable storey height of the respective Planning Areas and the development type. For landed housing, it cannot exceed 3 storeys.

2.3.1.7 Service Lane

Under all restoration/development options, the rear is to be set back in compliance with the service lane widening requirements, where applicable.

2.3.1.8 Development Charge

Under the Planning Act, development charge, equivalent to the difference between the Development Baseline and the Development Ceiling for that land, is payable in respect of any development of the land or when there is a change in the use of the land or building.

However, exemption from payment of development charge, if applicable, is given in respect of the *value enhancement arising from the proposed use or use changes on the gross floor area for the building or part thereof on the land to be conserved* provided that such conservation is carried out in accordance with the approved plans and completed within a period of 2 years from the date of conservation permission.

Development charge, where applicable, shall be leviable to the new extension(s), as well as to any new floor areas e.g. roof mezzanines within the envelope of the building to be conserved.

2.3.1.9 Carparking

Provision of car parks or payment of car parks deficiency charge for a conserved building or any part thereof that is conserved is waived if the conservation guidelines are fully complied with and the conservation works are completed in accordance with the approved plans.

The requirement for provision of carparking spaces under the Parking Places (Provision of Parking Places and Parking Spaces) Rules and any statutory modifications or re-enactments thereof for the time being in force shall be complied with in full for the new extension(s).

2.3.1.10 Strata Subdivision

Strata-subdivision is allowed for conserved shophouses in the Secondary Settlements. Any proposed internal wall and partition in these shophouses must not abut window openings. However, the first storey space cannot be strata subdivided for sale as two or more units and must continue to be held under one single ownership.

2 RESTORATION GUIDELINES

Key Elements Subject To Mandatory Compliance

Conservation in the Secondary Settlements is mainly on a streetscape basis. Owners are given the option to conserve the entire building or just the main building of the shophouse or detached building. New extensions to the sides and rear, if any, are subject to the controls herein, Development Control guidelines and the requirements of relevant technical agencies.

The fundamental principle, the "**3R**", is **maximum Retention, sensitive Restoration and careful Repair**. This principle applies to key elements which are significant to the conserved buildings and the streetscape. Where replacement is necessary, e.g. where building elements are found to contain asbestos, owners should seek URA's clearance for one-to-one replacement, following the original design and materials. New installation/addition does not drastically affect the intrinsic character of the building.

IMPORTANT NOTE: Where applicable, the requirements of the relevant technical agencies are to be complied with. Owners are also required to obtain the consent of the relevant parties for roof eaves, canopies and projections of any nature beyond the site boundary.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
A. Roofs	
A1. Structure	The majority of conserved shophouses have a pitched clay tile roof supported by timber roof structure. Structural strengthening or supports like steel or reinforced concrete roof beams, if required to be added, are to be sensitively designed to minimise visual impact on the traditional timber system which is to be retained.
A2. Main Roof and Rear Secondary Roof	The original profile, pitch, height, party wall and eaves projection is to be retained and restored. The traditional roofing materials provide contrast to the form, scale and texture of the cityscape. It is important that the authenticity of materials, form and construction be retained during restoration. Unglazed, natural colour clay roof tiles are to be used. They can be v-profile tiles or flat interlocking ("Marseilles") tiles. Reinforced concrete roof can only be used if this was the original roof material. The underside of roof eaves can be exposed or covered with plasterboard. To facilitate the addition of a link or staircase and to reduce the fire-escape distance, a mono-pitched tile roof adjacent to the party wall can be added between the main conserved building and the new rear extension. The addition is akin to the typical roof form of a rear service block. As such, it is complementary to the architecture and character of a traditional shophouse. See Figure 2.
A3. Jackroof	Existing jackroof, if any, can be retained or removed. New jackroof can be added subject to compliance with the positioning, setbacks and maximum allowable dimensions. Roof tile is to be identical to that of the main roof. See Figure 3 Sidewall can be finished with plaster or timber/plasterboard or glazed panels. Front and rear openings can be fixed or openable of any infill material. If metal is used, it is to be anodised or colour coated.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
A4. Skylight	New skylight can be added on the rear slope of the main pitched roof, on secondary pitched roof and on the rear slope of new jackroof. Skylight on the jack roof is to be located beyond the first quarter of the rear slope of the jackroof to keep the character of a typical jackroof. See Figure 3 The skylight is to be on the same plane as the subject roof and the total area of the skylight cannot exceed 30% of the subject slope of the pitched roof. The protrusion of the skylight should not exceed 150mm beyond the roof tiles. New skylight can also be added on a conserved building with flat roof. While the design, treatment and materials used can vary, the height cannot exceed 1m, which is the typical roof parapet height, so that the skylight is not visible from the street level. The skylight area is to be computed as part of the 35% coverage allowable for new single storey structure on the flat roof (see item A6). The skylight is to be of transparent or translucent material on framework of timber or metal - painted or anodised or colour coated. The design, treatment and material used can vary. It can consist of glass louvres, retractable panels or even solar panels laid on the same plane as the roof. For solar panels, the metal supporting structure is to be painted, anodised or colour coated. To minimise disruption to the roofscape, the skylight cannot be an opening or void without cover and is to be set back from the roof eaves and roof ridge.
A5. Dormer Window	Not allowed.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
A6. Existing Flat Roofs	Some conserved shophouses, particularly those of the Art Deco or Modern style, may have reinforced concrete flat roofs. Existing flat roof can be landscaped and / or converted into usable space as an extension of the existing building. Conservation Permission must be obtained for the change of use. For a fully conserved building without any new rear extension, new structures can be added on the existing flat roof, subject to the following guidelines: (a) Material, Roof Form & Storey Height The structure can be of reinforced concrete or lightweight material with flat roof and single-storey in height not exceeding 3600mm. The design and treatment are to be compatible with the architecture of the conserved building. (b) Coverage The total coverage of all existing and new structures on the flat roof, including skylights but excluding moveable covers e.g. umbrella structures and retractable awnings, cannot exceed 35% of the flat roof area of the unit. All large service installations on the roof are to be grouped together and included in the 35% allowable coverage for structure on flat roof. (c) Setback The new structure is to be set back a minimum of 3m from the front and side street elevations so that it is not visually obvious from the street. Setback is not required from party wall and backlane. If the subject unit is higher than the neighbours, setback of the new structure from the common boundary with the neighbouring units is required. If the subject unit is not higher than the neighbours, setback of the new structure from the common boundary with the neighbouring units is not required. See Figure 4 (d) Railings To meet technical agencies' requirements, railings of compatible design and material set back a minimum of 1m from the front façade can be added.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
	(e) Security Fence For security and privacy between common boundaries, a metal security fence (anodised / colour coated) or timber screen up to 1800mm from the finished floor level can be added.
B. Forecourt	
B1. Enclosure	For forecourt with special features such as gateposts and ornamental forecourt wall, the original size and ornamentation of the wall and gate are to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building. For forecourts with no special features and to facilitate carparking within the premise, the entrance can be widened to a maximum of 3m and the forecourt lowered to be at-grade with the road. Retention of the original forecourt gate is encouraged. If replaced, the forecourt gate is to be of a compatible design. The original open spatial character of the forecourt should be kept. For 24 to 29 Mohammed Sultan Road and 301 to 309 River Valley Road (odd nos.), widening of the forecourt entrance and lowering of the forecourt is not allowed.
C. Front/Side Facade	
C1. Shopfront	Traditional shopfront designs include demountable timber shutter boards, collapsible/sliding/folding timber or metal gates and display cases. Where there were doors, these were either single or double-leafed, glazed or timber-panelled, louvered or of rail and stile design. Design and material of new shopfronts can vary. However, it must not be a blank wall as it gives a passive character to the streetscape. Existing original ornamental transom panels, vents or decorative mouldings / murals above the shop front, are to be kept. Fixed glass panels can be added behind the vents. To refer to "Specific Facade Restoration Guidelines" of the respective building.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
C2. Residential Front	Residential fronts are characterised by timber casement windows flanking a double-leafed timber door. All buildings with residential front which is existing and/or identified in the 'Specific Façade Restoration Guidelines', regardless of land use zoning, shall be retained and restored. The following guidelines are applicable to a conserved building allowed for non-residential use: (a) The original 2 windows and 1 door first storey residential front can be changed to 2 doors and 1 window if the new door is required for direct access to the upper storey. The design and material of the new door are to match those of the original one. However, if there are ornamental features e.g. dado tiles below the windows, these are to be retained and the conversion of the window to a door is not allowed. (b) If the original infill panel of the first storey casement windows and doors are plain without any design features, they can be replaced with clear glass. However, if the infill panels are carved with decorations, they are to be retained and cannot be replaced with clear glass. To refer to 'Specific Facade Restoration Guidelines'. (c) Alternatively, fixed frameless or timber framed glazed panels can be added instead of secondary windows, and frameless glass doors can be added as secondary doors while the original timber windows and doors are retained and restored. This gives owners another option to keep the original architecture of the conserved building while achieving greater transparency and climatic control of the internal space.
C3. Window Screen/ Security Bars	For units with residential front, existing traditional window screen, if any, is to be retained. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New window screen can be added and the design is to be traditional. The frame is to be timber and the infill may be timber or obscure glass. Metal security bars at windows and timber security gates at doors, if any, can be retained or removed. Similar new security bars and gates of traditional design and material can be added.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
C4. Pintu Pagar	For units with residential front, existing pintu pagar, if any, is to be retained. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New pintu pagar can be added and the design is to be traditional. The frame is to be timber and the infill is to be of traditional materials i.e. timber and obscure glass.
C5. Dado Tiles	The following guidelines are applicable to a conserved building with dado tiles: (a) If the tiles are intact, the original tile panel is to be retained. (b) If there are cracked or missing tiles, (i) Replace the missing tiles with tiles matching the original tiles, (ii) Leave the tile panel as it is, or (iii) Patch the gaps with colour cement to match the colour of the tiles.
C6. Fanlights, Windows, Doors and Vents, Balconies and Verandahs	The doors, windows and vents in conservation buildings give the façade a sense of scale and added architectural expression. The original fanlights, windows, doors, vents, balconies and verandahs are to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building. The balcony or verandah is to be kept open and not enclosed with window or fixed glazing. The inner facade behind the balcony or verandah is also to be retained and restored. The windows of the inner facade can be changed to doors for better access to the balcony or verandah. The design and material of the new door are to match those of the original one. New internal elements such as staircase landing, wall and partition cannot abut the original window or door openings and vents and are to be sufficiently set back. Existing mild steel frames of doors, windows and vents can be changed to powder coated aluminium frames of similar appearance as the mild steel frames. Existing coloured glass in doors, windows, fanlights and vents cannot be replaced with clear glass.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
C7. Balustrades for French Window	The original balustrade for French window is to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building.
C8. Secondary Windows and Doors	Most shophouses have air-conditioning to meet modern standards of comfort and user requirements. A secondary layer can be introduced to accommodate this change. New secondary casement, French or sliding window and door can be added subject to the design being compatible with those of the main window and door. For conserved buildings with timber windows / doors, owners are encouraged to use timber frames as they are more compatible. If metal frame is used, it is to be anodised or colour coated. The infill can be of timber or glass. Tinted, coloured and obscure glass can be used. Frameless glass secondary doors can be used. Frameless fixed glass panels can be installed at the first storey windows. However, they cannot be used in place of secondary windows on the upper storeys of a conserved building as they will lead to difficulty in accessing and maintaining the original windows. Traditional bat-shaped, circular or precast vents can be sealed with glass. See Figure 5
C9. Decorative Features	The shophouse façade may feature decorative work such as ornamental plasterwork, faux tile render and cut-porcelain tile decorations. The original decorative features, if any, are to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
C10. Canopy and Awnings	Original tile canopy, if any, is to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject building. New tile canopy can be added at 2nd storey floor level. Roofing material of unglazed, natural colour clay tiles identical to those of the main roof or green glazed Chinese clay tiles can be used. See Figure 6 Retractable awning can be added at 2nd storey floor level. It is to be sensitively installed under or at the main beam, and not cover or block any key architectural features. See Figure 7 They are subject to relevant technical agency's approval, e.g. Singapore Land Authority (SLA), Land Transport Authority (LTA), Fire Safety and Shelter Department (FSSD).
C11. Finishes	(a) Paint & Plaster finish Shophouses were originally rendered in lime plaster and painted with lime wash. In re-plastering or repainting historic buildings, lime plaster and lime wash or its modern day equivalents e.g. mineral paint, should be used. (b) Timber Surfaces Timber surfaces can be either painted or stained. (c) Shanghai Plaster Finish For a building with existing unpainted Shanghai plaster finish, the finish is to be retained and restored. If the Shanghai plaster finish is already painted over, the owner is to look into recovering the original Shanghai plaster finish. (d) Fair-faced Brickwalls For a building with existing unpainted fair-faced brickwalls, the fair-faced brickwalls are to be retained and restored. If the fair-faced brickwalls are already painted over, the owner is to look into recovering the original fair-faced finish.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
C12. Building Colours	Traditional paint schemes and colours are to be used to recall the historic streetscape. Generally the base colour of shophouses has a pastel hue. Where necessary, darker or lighter shades can be used to highlight selected features or decorative ornamentations. Black should not be used as a base colour as this hides the architectural features. A paint scraping analysis can be carried out to determine the original colour of the building. Original painted murals and cut-tile decorations are not to be removed or painted over. For buildings with distinctive colour, e.g. the Red House at Katong, the same colour should remain. To refer to the 'Specific Restoration Guidelines' for the subject building.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
D. Five-Foot Way	
D1. Floors	A unique adaption to the hot and wet climate, the five-foot way is a continuous colonnaded covered walkway running the length of the front and sometimes the sides of a shophouse block. The retention or reintroduction of the traditional materials and finishes of the five-foot way is encouraged. Traditional materials and finishes of the five-footway contribute to the overall character of the conservation area. They include cement screed, terracotta tiles, clay tiles, cement terrazzo, mosaic, marble chip terrazzo or granite slab. Where the existing floor finishes are not original, owners are strongly encouraged to reintroduce traditional floor finishes. The selection of the floor finishes preferably matches the architectural style of the shophouses. The tiling material is to be non-slip for the safety of pedestrians. Highly polished gloss finish is not allowed. The level of the five-foot way is to match the adjacent units and open walkway where possible. Where the difference in level is not more than 175mm, a ramp is to be provided. The gradient of the ramp cannot be steeper than 1:10. As shophouses are typically under different ownership and restored at different times, an owner has the following options: (a) Liaise with neighbours to level the ramp. (b) Provide gradual ramps. (c) Keep the existing step if the adjacent units are not restored. See Figure 8 The design and placement of letter boxes along the five-footway is to take into account pedestrian safety. They can be integrated into the design of the shop front or residential front.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
D2. Ceiling	Exposed upper floor structure of timber boards and timber joists, reinforced concrete, or false ceiling of timber frame and plaster timber board, not lower than the front façade beam, can be added. Variations in design and use of alternative compatible material can also be added at the main entrance of the building.
E. End Gable Wall	
E1. Windows, Doors and Vents	Existing openings such as casement windows, doors and vents, if any, in the end gable wall can be retained or sealed up. New openings, casement windows, doors and vents can be added subject to retention of the solid and void expression of the end gable wall, i.e. the wall space between the windows should have a minimum dimension equal to the new window opening width. They should align with the existing windows, if any, and the proportion should follow the existing windows. The design and material of the new windows and doors are to match the original windows at the end gable wall, or those of the front facade upper storey windows. To refer to 'Specific Facade Restoration Guidelines' of the subject building for the front facade windows. Vents can be of any material. If metal is used, it is to be anodised or colour coated. See Figure 9 New internal elements such as staircase landing, wall and partition cannot abut the window or door openings and vents, and are to be sufficiently setback. No openings are allowed for gable walls which share a common boundary with a neighbouring property.
E2. Canopies	New canopies over doors and windows with a projection of not more than 450mm can be added. The frame is to be timber and the roof material, similar to that of the main roof. See Figure 9 They are subject to relevant technical agency's approval, e.g. Singapore Land Authority (SLA), Land Transport Authority (LTA), Fire Safety and Shelter Department (FSSD).

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
F. Rear Facade of Main Building	Existing openings can be retained or sealed up, and new ones can be added. The resultant solid and void expression of the rear facade is to be compatible with the subject building. Design and material of doors and windows are to preferably match those on the upper storeys of the front facade. Metal vents are to preferably be anodised or colour coated. See Figure 10 New internal elements such as staircase landing, wall and partition cannot abut the window openings and vents, and are to be sufficiently setback.
G. Rear Service Block	If the existing rear service block is retained and restored, existing openings can be retained or sealed up, and new ones can be added. The resultant solid and void expression of the rear facade is to be compatible with the subject building. Design and material of doors and windows are to preferably match those on the upper storeys of the front facade. Metal vents are to preferably be anodised or colour coated. See Figure 11. New internal elements such as staircase landing, wall and partition cannot abut the window openings and vents and are to be sufficiently setback.
H. Rear Court	
H1. Roof	A new roof can be added over the rear court, provided the roof is not higher than the 2nd storey floor level. Jackroof and skylight can be introduced in the new roof which can be reinforced concrete, light weight material or same roof material as the main roof. If metal is used, it is to be anodised or colour coated. Reinforced concrete flat roof can be used as a roof garden and landscape furniture can be considered. The rear boundary wall can be raised up to the sill height of the 2nd storey windows to form a parapet, not exceeding 1m in height. The space along the parapet can be used to house condensing units. Any screening above it should be in the form of simple grilles or louvres. If metal is used, it should be anodised or colour-coated. If condensing units are taller than the 1m parapet height, the level of the RC flat roof on which the condensing units are housed is to be lowered such that the height of the condensing units does not exceed the parapet wall or 1m above the 2nd storey level. See Figure 12

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
H2. External Staircase	External staircases within rear courts are distinctive architectural features of the conserved buildings. For selected streetblocks where the external staircases are intact, they will be required to be kept and their function as secondary access routes can be retained. In other areas, owners are encouraged to keep the existing external staircase so as to contribute to the charm and character of the area. If a new external secondary staircase in addition to the internal primary staircase is required to meet SCDF's fire safety regulations, the location, design and material are subject to evaluation. If metal is used, it is to be anodised or colour coated.
I. Rear/Side Boundary Wall	
I1. Wall Height	The original height of the wall is to be retained, except (a) when the rear court is to be roofed over and the wall has to be raised up to the 2nd storey floor level to give sufficient headroom, and (b) when required to meet the minimum parapet height for roof terrace over the rear court or for screening of condensing units (refer to item H1). See Figure 12
I2. Openings	New doors, windows and vent openings can be added. The resultant solid and void expression of the subject wall is to be compatible with the subject building. Design and material of doors and windows are to preferably match those on the upper storeys of the front facade. Metal vents are to be preferably anodised or colour coated. New internal elements such as staircase landing, wall and partition cannot abut the window or door openings and vents.
I3. Canopy	New canopies over doors and windows with a projection of not more than 450mm, can be added. The frame is to be timber and the roof material, similar to that of the main roof. They are subject to relevant technical agency's approval, e.g. Singapore Land Authority (SLA), Land Transport Authority (LTA), Fire Safety and Shelter Department (FSSD).

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
J. Airwell* *Applicable to shophouse with 2 main buildings where the central airwell is to be retained. For shophouse with only 1 main building, the airwell need not be retained.*	
J1. Size	The original size and location is to be retained.
J2. Roof	A new roof can be added over the airwell, provided the roof is lower than the eave of the main roof. No other above ground structure, lift or floor can be added within the airwell space. Light weight transparent or translucent roof covering is to be used. If metal framework is used, it is to be anodised or colour coated. The cover can be retractable or fixed. See Figure 13
J3. Windows	Design and material of windows are to preferably match those on the upper storeys of the front facade. New internal elements such as staircase landing, wall and partition cannot abut the window or door openings and vents.
J4. Enclosure	Original decorative or ornamental features, if any, at the airwell are to be retained and restored. The existing windows/openings in only one of the three sides of the airwell, excluding the existing party wall, can be fully walled up.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
K. Floors	
K1. Upper Storey Levels	The existing level is to be retained. Voids are allowed up to 25% of the floor area of each floor of the unit, can be introduced. Existing timber floor with timber boards on timber joists is encouraged to be retained and restored. Horizontal and/or vertical structural supports, if required to be added, are to abut the party walls to minimise impact on the existing structural system. For original reinforced concrete framed buildings, the original structural grids are to be retained. New columns, if required to be added, are to align with and respect the original grids. Provided the structural integrity of the building is not compromised, flexibility to shift some columns to meet the specific operational/ functional requirements can be considered on a need-to basis.
K2. 1st Storey Level	The existing floor level can be raised to meet minimum platform level required by relevant agencies. Part of the existing level can be lowered by not more than 600mm for landscaping/ponds/lift pits.
K3. Basement	New basement is not allowed.
L. Party Wall	
L1. Structure	Party walls are principal load-bearing walls. They are either constructed of brickwork or of column-and-beam construction with non-structural infill walls. The load bearing walls are supported on continuous strip foundation whilst columns rest on brick footings. Horizontal and/or vertical structural supports, if required to be added, are to abut the party walls to minimise impact on the existing structural system which is to be retained.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
L2. Openings	The first 3-metre length of the load-bearing wall perpendicular to the 1st storey shopfront is to be retained to keep the fine-grained character of the shophouses. Slight reductions or variations within the first 3m can be considered on a need-to basis. For the rest of the party wall, there is no control on the percentage of openings to be introduced in the party wall. For original reinforced concrete framed buildings, there is no control on party wall openings and the first 3-metre length of the party wall perpendicular to the 1st storey shopfront need not be retained.
M. Staircase	Existing staircase can be retained or removed or relocated. New staircase to replace or supplement the existing one can be of any material. The layout and railing design of the new staircase can vary. New staircase cannot abut any door or window openings or vents at the front, side and rear facades, airwell, rear service block or end gable wall.
N. Roof Mezzanine	New roof mezzanine can be added within the building envelope. The new floor structure is to be set back: (a) A minimum of 1500mm from the inner face of the front facade wall if it is not lower than the top of the fanlight/window at the front facade of the uppermost storey. (b) A minimum of 2500mm from the inner face of the front facade wall if it is lower than the top of the fanlight/window at the front facade of the uppermost storey. If the front facade has an existing balcony, it is not necessary to set back the new floor. The floor cannot abut any window/door or transom/fanlight. See Figure 14 Minimum headroom and floor area are subject to compliance with the requirements of relevant technical agencies. New mezzanine floors of timber boards on timber joists are encouraged if the original timber floors of the main building are retained.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
O. **Ceiling**	<u>Uppermost Floor</u> Typically, the false ceiling is at or above the springing line. If the ceiling is lowered below the springing line, it is to be setback 1500mm or 2500mm following the roof mezzanine guidelines [refer to Item N(a) and (b)]. <u>Lower Floors</u> Exposed upper floor structure of timber boards and timber joists is preferred. If required, new false ceilings not lower than the original window openings or transom/fanlight/vents can be added.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS		
Key External Elements		**Design / Location / Material**
P.	**New Rear Extension** *For New Rear Extension, the following guidelines are applicable instead of items F, G, H, I and J.*	
P1.	**Roof** *	Design and material can vary.
	* *In the Geylang Conservation Area, the roof forms of the new rear extensions are also subject to the Geylang Urban Design Guidelines.*	
P2.	**Façade**	Setback The new rear extension that protrudes above the eaves of the main pitched roof is to be set back a minimum of 600mm clear from the main conserved building for articulation between the old and new buildings. To give greater design flexibility in the treatment of the new rear extension, facade articulations of the new rear extensions such as fins, ledges and planter boxes, can be considered within the 600mm set back. See Figure 15 End Gable Wall and Rear Facade Design and material can vary.
P3.	**New Rear Extensions for Corner Shophouse Units***	The approach for new rear extensions to corner shophouse units varies according to the context. Adjacent to other low-rise conserved streetblocks For corner units fronting two roads, the pitched roof of the corner block is to be retained and restored. The new rear extension of the corner unit can only be built up to the height of the pitched roof ridge of the corner block. For corner units with end gable walls, the new rear extension can be built up to the height of the eave of the main pitched roof of the conserved building. For corner units with flat roofs, the new rear extension can be built up to the height of the flat roof of the corner unit. Adjacent to high-rise development For corner units fronting two roads, the new rear extension can start from the pitched roof ridge of the corner block which is to be retained and restored, and from the eave of the main pitched roof of the conserved building.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Key External Elements	**Design / Location / Material**
	For corner units with end gable walls, the new rear extension can start from the eave of the main pitched roof of the conserved building. For corner units with flat roofs, the new rear extension can start after the main conserved building and after the first structural grid of the side block. See Figure 16 If there are distinctive architectural features such as staircores, they are to be retained and restored, and the new rear extension is to be adequately set back from these elements.
P4. Floors *	Floor levels, including any basement and roof mezzanine, are to comply with Development Control guidelines. * The floors of the new extension can be of any material.
*	*In the Geylang Conservation Area, the floor levels of the new rear extensions are also subject to the Geylang Urban Design Guidelines.*
P5. Car Parks	Carparking spaces, if required, are to be provided within the new rear extension. Ingress and egress are to be taken from existing/proposed rear service road.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Mechanical & Electrical and Others	**Design / Location / Material**
Q. Flue	Original masonry flue, if any, can be retained, repositioned or removed. New flue can be added. Repositioned or new flue is to be neatly located in either the rear slope of the main roof or the rear secondary roofs or abutting the wall of rear facade/rear service block within the rear court. It can also abut the rear service block wall of the adjacent unit. The roof of the flue can be pitched or flat and is to be lower than the ridge of the main roof. See Figure 17 All external walls are to be of plastered brick or plasterboard and the pitched roof to be unglazed, natural colour clay tiles of profile identical to the main roof or of reinforced concrete. Alternatively, metal flues can be exposed and painted the same colour as the background wall. The use of electrostatic air cleaning system is encouraged.
R. Exhaust Fan	Exhaust fan is to be placed at the rear facade or rear service block facing the rear court. Any material can be used. If metal is used, it is to be anodised or colour coated.
S. Lift Shaft	Lifts can be added within the building envelope. However, if the shaft protrudes beyond the roof, it must be located at the rear slope of the main roof or on the secondary roof and lower than the roof ridge of the main roof.

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Mechanical & Electrical and Others	**Design / Location / Material**
T. Conduits and Pipes	Rainwater downpipes, gas pipes and air-condensing conduit pipes can be mounted on the surface of the rear wall. The air-condensing conduit pipes are to be properly encased and neatly laid out. Rainwater downpipes including gutters, if provided, are not to be in stainless steel. All other utility/conduit pipes are not to be mounted on the surface of the external walls, unless specifically required by relevant technical agencies. Exposed lightning tape and conductor are to be installed at a location least obtrusive from the exterior. The use of piped gas is encouraged. Where the use of cylinder gas is required, the gas tanks are to be located within the property boundary, e.g. in a recess created within the rear boundary wall.
U. Air Conditioning System	Condensing units are to be integrated within the building envelope at the rear in a recess created within the rear boundary wall, or an opening created within the roof of the rear service block. The opening is to be properly screened. If metal is used for the screening, it is to be anodised or colour coated. See Figure 18 However, due to practical constraints in integrating the units within the building envelope and the differing needs of tenants and users, the condensing units can be neatly or compactly placed at the rear and lined along the parapet, party walls or rear service block walls The units are to be screened unless they are small and not visible from the street level. See Figure 19 Other locations for placing the condensing units can be considered on the merits of each case if there are particular site constraints, eg when the conserved building is “back-to-back” with another building. ***For Secondary Settlements within Central Area*** For developments within the Central Area, all condensing units and rooftop M&E plants and services located on the new extensions or new developments are to comply with the screening requirements stipulated in the "Screening of Mechanical & Electrical Services and Car Parks, on Roofs and Building Facades Within the Central Area". See URA’s Circular to Professional Institutes dated 6 Sep 2004 (Circular No: URA /PB/2004/29-CUDD).

RESTORATION GUIDELINES SECONDARY SETTLEMENTS	
Mechanical & Electrical and Others	**Design / Location / Material**
V. Rooftop Mechanical & Electrical Plants and Services	Mechanical & Electrical plants and rooftop services are to be visually screened from the top and all sides. If metal is used for the screening, it is to be anodised or colour coated. The spacing of trellises, louvres or other similar types of construction used for screening are to be equal or less than the depth of its individual members. The screening elements are to be orientated to cut off views of the services from the street level and surrounding buildings. If perforated panels are used, the porosity (i.e. percentage of void-to-solid) of the perforated panels is to be equal or less than 25% and the size of openings cannot exceed 30mm in diameter.

2.3.3 DRAWINGS & ILLUSTRATIONS

(Click here to see Figure 1 to Figure 19)

2.4 BUNGALOWS

Bungalows are independent dwelling units usually of one- or two-storeys. They tend to be located in serene and wooded environments away from the hustle and bustle of the city. Bungalows were first introduced into Singapore and Malaya by the British in the 1830s. The early versions of the bungalow were largely one-storey and had timber floors elevated on brick piers or timber posts to allow air circulation underneath.

The old bungalows in Singapore generally fall into five types. These are:

1 **The Early Bungalow (1860s)**
This bungalow is characterised by single storey buildings on stilts constructed either of timber or masonry.

2 **The Victorian Bungalow (1870-1890s)**
This bungalow is characterised by the heavy application of decorative ornamentation on the facade.

3 **The Black and White Bungalow (1900-1920s)**
This bungalow is characterised by its half-timber construction, broad, simple, over-hanging hipped roof and the sharp definition of openings in the plain white walls.

4 **The Art Deco Bungalow (Late 1920s-1930s)**
This bungalow is characterised by the simple, geometric streamlining of the classical motifs on its facade.

5 **The Modern Bungalow (1950s-1960s)**
This bungalow is characterised by its geometric, free-form approach.

For a detailed description of each type of bungalow, please refer to Part 1 on ‘Understanding the Bungalows’.

2.4.1 PLANNING PARAMETERS

2.4.1.1 Conservation Plan

The plans (Appendix II) show the boundary of the conservation areas and the buildings to be conserved. The different types of bungalows to be conserved are largely located within the following conservation areas:

(a) **Good Class Bungalow Areas**
i. Chatsworth Park
ii. Holland Park & Ridout Road
iii. Nassim Road & White House Park

(b) **Mountbatten Road**

(c) **Southern Ridges**

Some are located within gazetted Conservation Areas like Joo Chiat and Geylang while a few are stand-alone conserved bungalows.

2.4.1.2 Building Use

The use shall follow the Master Plan intention for the respective areas.

2.4.1.3 Plot Ratio

The plot ratio for the bungalows within the Good Class Bungalow Areas, Mountbatten Road and Southern Ridges shall be the resultant of the building envelope of the conservation building or part thereof to be conserved, as well as that of the new extension(s), if any, which are to comply with the development control and planning guidelines for the areas.

For the other bungalows, the plot ratio shall be the resultant of the building envelope of the conservation building or part thereof to be conserved, as well as that of the new extension(s) if any, and subject to the maximum prescribed permissible plot ratio in the Master Plan for the respective areas.

For bungalows located on sites with GPR control and gazetted for conservation after 7 Jun 2004, the GFA of the bungalows can be computed as additional GFA over and above the Master Plan GPR.

2.4.1.4 Conserved bungalows and Intensification

The applicant can consider the following options:

(a) To conserve the entire bungalow including the outhouse.

OR

(b) To conserve only the main building. If there is vacant land to the rear or sides, new extensions can be added subject to Development Control guidelines, the allowable building height of the area, and the requirements of relevant technical departments.

See Figure 1

New Extensions

New extensions are not to adversely affect the visibility of the conserved bungalows. In other words, the conserved bungalows are to be clearly discernible from the new developments.

Setbacks and interfacing zones are to be maintained so that there is articulation between the old and the new.

- **Setback**

  To safeguard the prominence of the conserved bungalow, the new extensions are to be recessed from the front facade line of the conserved bungalow and restricted to the rear wherever possible. Exceptions can be considered based on merits of the case if extensions are located at a considerable distance away from the conserved bungalow.

  The new extensions are also to comply with the prevailing Development Control guidelines such as boundary setback and buffer provisions.

- **Interfacing zone**

  An interfacing zone is to be provided around the conservation building to separate it from the new extensions. The new extensions generally cannot encroach onto the interfacing zone, although proposals to make use of the interfacing zone to integrate the old and new buildings may be allowed subject to evaluation on the effectiveness and suitability of such proposals from the architectural point of view.

- **Linkage**

  Linkages can be added between the new extensions and the conserved bungalow. The new extensions are not to abut the conserved bungalow directly as this will obliterate the original features on the facades. The sketch in Figure 2 can be used as a guide.

The design of the new extensions is to be compatible to the conserved bungalow. Compatibility need not, however, mean a direct replication of the conserved bungalow.

These serve only as broad guidelines and are not meant to dictate developments on the sites. The detailed parameters and guidelines for each site will be established with the applicants at the planning application stage.

See Annexure 1 and Figures 3(a) to 3(e) for the specific parameters and controls for new extensions for bungalows at Mountbatten Road.

2.4.1.4 SUBDIVISION OF LAND

For bungalows located on larger sites, the land can be subdivided to accommodate the conserved bungalow and for redevelopment of the remaining site.

In the Good Class Bungalow Areas, as a concession to facilitate the subdivision of land, one sub-standard plot size of not less than 1000 sq m can be considered provided the total land area together with the conserved bungalow plot is not less than 2800 sq m. Please refer to Figure 4 for illustration.

At Mountbatten Road, the balance land within the larger conserved bungalow lots can be subdivided into additional bungalow/semi-detached plots. The conserved bungalow and the new extensions can also be strata-subdivided into apartment units.

At other locations, the subdivision of the conserved bungalow lot and the new developments are subject to current planning and Development Control guidelines.

2.4.1.5 Development Charge

Under the Planning Act, development charge, equivalent to the difference between the Development Baseline and the Development Ceiling for that land, is payable in respect of any development of the land or when there is a change in the use of the land or building.

Exemption from payment of development charge, if applicable, is given in respect of the *value enhancement arising from the proposed use or use changes on the gross floor area for the building or part thereof on the land to be conserved* provided that such conservation is carried out in accordance with the approved plans and completed within a period of 2 years from the date of conservation permission.

Development charge, where applicable, shall be leviable to the new extension(s), as well as to any new floor areas e.g. roof mezzanines within the envelope of the building to be conserved.

2.4.1.6 Carparking

Provision of car parks or payment of car parks deficiency charge for a conservation building or any part thereof that is conserved is waived if the conservation guidelines are fully complied with and the conservation works are completed in accordance with the approved plans.

The requirement for provision of carparking spaces under the Parking Places (Provision of Parking Places and Parking Spaces) Rules and any statutory modifications or re-enactments thereof for the time being in force shall be complied with in full for the new extension(s).

2 RESTORATION GUIDELINES

Key Elements Subject To Mandatory Compliance

The following tables specify the design, location and material for all key elements. The fundamental principle, the "**3R**", is **maximum Retention, sensitive Restoration and careful Repair**. Where replacement is necessary, e.g. where building elements are found to contain asbestos, owners should seek URA's clearance for one-to-one replacement, following the original design and materials. New installation/addition must not drastically affect the intrinsic character of the building.

IMPORTANT NOTE:

Where applicable, the requirements of the relevant technical departments are to be complied with. Owners are also required to obtain the consent of the relevant parties for roof eaves, canopies and projections of any nature beyond the site boundary.

RESTORATION GUIDELINES BUNGALOWS	
Key External Elements	**Design / Location / Material**
A. Roofs	
A1. Main Roof	The original profile, pitch, height and eaves projection are to be retained and restored. Owners may be required to keep the original roof tile material, colour and profile if it is a unique feature of the building. Please refer to the "Specific Facade Restoration Guidelines" of the subject bungalow. Otherwise, unglazed, natural colour clay roof tiles, of any size and profile, are to be used. Existing reinforced concrete roof can be retained. The underside of roof eaves can be exposed or covered with plasterboard. Structural strengthening or supports like steel or reinforced concrete roof beams, if required to be added, are to be sensitively designed to minimise visual impact on the traditional timber system to be retained.
A2. Jackroof	New jackroof is not allowed.
A3. Skylight	Subject to evaluation.
A4. Dormer Windows	Subject to evaluation.
B. Building Facades	
B1. Architectural Features (Windows and doors, ornaments, etc.)	The original fanlights, windows, doors and vents are to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject bungalow. New internal elements such as staircase landing, wall and partition are not to abut the original window or door openings. Security bars at windows and doors, if any, can be retained or removed. New security bars of traditional design and material can be added. Existing mild steel frames of doors, windows and vents can be changed to powder coated aluminium frames of similar appearance as the mild steel frames. Existing coloured glass in doors, windows, fanlights and vents cannot be replaced with clear glass.

RESTORATION GUIDELINES		
BUNGALOWS		
Key External Elements		**Design / Location / Material**
B2.	**Canopy / Porch / Verandah / Balcony / Balustrades**	The original canopy, porch, verandah, balcony and balustrades are to be retained and restored. The inner facade behind the balcony or verandah is also to be retained and restored. To refer to 'Specific Facade Restoration Guidelines' of the subject bungalow. The balconies and verandahs can be enclosed with new windows subject to the design and material matching those of the respective facade. This is not applicable to terrace or open to sky balcony or verandah. Frameless clear glass with sensitive installation details can be considered subject to the merits of the case. However, owners are encouraged to keep the verandahs and balconies open as they add depth and facade articulation to the building.
B3.	**Secondary Windows and Doors**	New secondary casement, French or sliding window and door can be added subject to the design being compatible with those of the main window and door. The frame can be of any material. If metal is used, it is to be anodised or colour coated. The infill can be of timber or glass. Tinted, coloured and obscure glass can be used.
B4.	**Paint and Plaster Finish**	Some bungalows were originally rendered in plain or textured lime plaster and painted with lime wash. In re-plastering or repainting historic buildings, lime plaster and lime wash or its modern day equivalents e.g. mineral paint, should be used.
B5.	**Timber Surfaces**	Timber surfaces can be either painted or stained.
B6.	**Shanghai Plaster Finish**	For a building with existing unpainted Shanghai plaster finish, the finish is to be retained and restored. If the Shanghai plaster finish is already painted over, then the building can be repainted although the owner is encouraged to remove the paint work and revert to the original Shanghai plaster finish.
B7.	**Fair-faced Brickwalls**	For a building with existing unpainted fair-faced brickwalls, the fair-faced brickwalls are to be retained and restored If the fair-faced brickwalls are already painted over, then the walls can be repainted although the owner is encouraged to remove the paint work and revert to the original fair-faced finish.

RESTORATION GUIDELINES BUNGALOWS	
Key External Elements	**Design / Location / Material**
C. Outhouse	To refer to 'Specific Facade Restoration Guidelines' of the subject bungalow. The applicant has the choice to keep or demolish the outhouse for new extension.
D. Floors	
D1. Structure	The existing structural system is to be retained and restored. Horizontal and/or vertical structural supports, if required to be added, are to abut the load-bearing walls to minimise impact on the existing structural system which is to be retained. For original reinforced concrete framed buildings, the original structural grids are to be retained. New columns, if required to be added, are to align with and respect the original grids. Provided the structural integrity of the building is not compromised, flexibility to shift some columns to meet the specific operational/ functional requirements can be considered on a need-to basis.
D2. Upper Floors	The existing level, timber floor and structural system are to be retained and restored. If the existing floors are reinforced concrete, the same material can be retained. Voids up to 25% of the floor area of each floor, can be introduced. For wet areas e.g. toilets and kitchen, reinforced concrete floor can be used. The floor material can vary for new extension linked to the conserved bungalow.
D3. Raised Ground Floor	Conserved bungalows, which are raised more than 1m from the ground, can have an additional floor below with different facade design and material, and subject to the following : (a) The structural stability of the bungalow is to be maintained. (b) The facades of the additional floor is set back based on a 45-degree control from the underside of the existing floor slab of the bungalow. (c) The resultant storey height of the bungalow complies with the height control for the area. See Figure 5

RESTORATION GUIDELINES	
BUNGALOWS	
Key External Elements	**Design / Location / Material**
D4. Basement	New basement are to be located only within the new extension. Basement is not allowed under the conserved bungalow.
E. Staircase	Owners may be required to keep the original staircase if it is a unique feature of the building. Otherwise, existing staircase can be retained, removed or relocated. New staircase to replace or supplement the existing one is to be constructed in timber or metal if the building has timber floors. The layout and railing design of the new staircase can vary. New staircase cannot abut any door or window openings or vents at the front, side and rear facades. Reinforced concrete staircase, only if existing, can be retained.
F. Internal Finishes	Some buildings have internal ceiling/wall/floor finishes that give a distinctive character to the building. Owners may be required to keep such original finishes.
G. Building Colours	For bungalows with distinctive colour, e.g. “Black and White” bungalows, the same colour should remain. To refer to the ‘Specific Restoration Guidelines’ for the subject building. A paint scraping analysis can also be carried out to determine the original colour of the building.

RESTORATION GUIDELINES BUNGALOWS	
Mechanical & Electrical and Others	**Design / Location / Material**
H. Exhaust Fan	Fan is to be placed behind vents. The design of the vent is to be compatible with the character of the conserved bungalow. Opening for exhaust fan is to be timber framed fixed timber louvre/precast concrete/porcelain vents.
I. Air-conditioning System	Air-conditioning units are to be located out of sight from public road and be least obtrusive from the exterior. The condensing units are to be screened unless they are small and not visible from the street levels. See Figure 6 For developments within the Central Area, they are to comply with the screening requirements stipulated in the "Screening of Mechanical & Electrical Services and Car Parks on Roofs and Building Facades Within the Central Area". See URA's Circular to Professional Institutes dated 6 Sep 2004 (Circular No: URA/PB/2004/29-CUDD)

2.4.3 **DRAWINGS & ILLUSTRATIONS**

(Click here to see Figure 1 to Figure 6 and Annexure 1)

- Figure 1: Extent of Building to be Conserved
- Figure 2: New Extension to Conservation Bungalows
- Figures 3(a) to 3(e): Schematic Diagrams of New Extension
- Figure 4: Good Class Bungalow Area
- Figure 5: Additional Floor below Conservation Bungalows
- Figure 6: Air-Condensing System
- Annexure 1: Bungalows at Mountbatten Road

ANNEXURE 1: BUNGALOWS AT MOUNTBATTEN ROAD

The following are the parameters for the new extensions for bungalows at Mountbatten Road:

a) Building Height

The maximum building height of the new extensions is up to 2 storeys. Basement and attic are allowable subject to Development Control guidelines and the requirements of relevant technical departments.

b) Setbacks – See Figures 3(a) to 3(e)

Front	The new extensions are to be set back a distance equivalent to 40% of the depth of the conservation building from the front facade line of the conservation building. For bungalows at 744, 760, 777, 779 Mountbatten Road, exceptions can be considered for extensions that are located at a considerable distance away from the conserved bungalow. In such cases, the new extensions are to comply with the usual Development Control guidelines such as boundary setback and buffer provisions.
Sides	Minimum 2.0m from lot/plot boundary line.
Rear	Minimum 3.0m from lot/plot boundary line.

c) Site coverage

The site coverage is the resultant of the building envelope, inclusive of the conserved bungalow, and is subject to Development Control guidelines.

d) Interfacing zone

Interfacing zones of typically 2m to 6m wide are demarcated around the conserved bungalow to separate it from the new extension

See Figures 3(a) to 3(e)

e) Other requirements

The developments are to comply with other planning and Development Control requirements as well as the requirements of relevant technical departments, where applicable.

Based on the above controls for the setbacks and interfacing zones (items b and d), 'new extension zones' have been demarcated as shown in Figures 3(a) to 3(e). These serve only as broad guidelines and are not meant to dictate developments on the sites. The detailed parameters and guidelines for each site will be established with the applicants at the planning application stage.

Note:
For House No. 738 Mountbatten Road on lot 2244 MK 25, the conserved bungalow is to be retained and restored in accordance with the controls and guidelines herein. The balance of the land within the lot can be developed up to the storey height allowable in the building height plan for the Planning Area.

PART 3: ENVELOPE CONTROL GUIDELINES

Envelope control sites are vacant lands and buildings located within Conservation Areas, but not designated for conservation. The Conservation Plans in Appendix II show their location within each of the Historic Districts, Residential Historic Districts and Secondary Settlements. These sites can be redeveloped subject to envelope control guidelines. The envelope is defined by the front facade, the roof and rear facade. Envelope control sites in the Geylang Conservation Area are also subject to the Geylang Urban Design Guidelines (GUDG).

The Historic Districts and Residential Historic Districts have two types of envelope control sites:

a) **Infill Development**
Sites located between or adjacent to conserved buildings.

b) **Independent Development**
Stand-alone sites or sites located within a streetblock without any conserved building.

The Secondary Settlements have three types of envelope control sites:

a) **Type I Infill Development**
Sites located between or adjacent to conserved buildings. The total width of the site and adjacent envelope control sites, if any, is not more than the width of two typical shophouse units.

b) **Type II Infill Development**
Sites located between or adjacent to conserved buildings. The total width of the site and adjacent envelope control sites, if any, is more than the width of two typical shophouse units.

c) **Independent Development**
Stand-alone sites or sites located within a streetblock without any conserved building.

3.1 PLANNING PARAMETERS

3.1.1 Building use

Historic Districts

The use shall follow the Master Plan intention of the respective areas. If the site is located within the core area, the first storey must be for activity generating uses such as shops. The Conservation Plans show the extent of the designated core areas in Chinatown, Kampong Glam and Little India. Certain trades are not permitted in the Historic Districts and the core areas. (See Appendix IA for Incompatible & Pollutive Trades and Appendix IB for Location of Core Areas).

Residential Historic Districts

Blair Plain: Based on the Master Plan, the entire area is zoned Residential except for House Nos. 1 to 89 (Odd Nos.) Kampong Bahru Road which is for commercial use. House Nos. 167 Neil Road; 52 and 54 Blair Road; 63, 64, 68 and 69 Spottiswoode Park Road, are zoned Residential with Commercial at the first storey. As they are in a residential area, it is preferable that they are used for residential purpose.

Emerald Hill: Based on the Master Plan, the entire area is zoned Residential except for House Nos. 180 Orchard Road (Peranakan Place), House No. 202 Orchard Road, House Nos. 2, 3, 5, 7 and 9 Emerald Hill Road and House Nos. 17 to 49 (Odd Nos.) Cuppage Road which are zoned Commercial.

Secondary Settlements

The use shall follow the Master Plan intention of the respective areas.

3.1.2 Plot Ratio

Historic Districts & Residential Historic Districts

The plot ratio shall be the resultant of the building envelope following the envelope control guidelines and, where applicable, subject to the maximum permissible plot ratio determined by the Competent Authority.

Secondary Settlements

The plot ratio shall follow the prescribed maximum permissible plot ratio in the Master Plan for the respective areas.

3.1.3 Development Charge

Under the Planning Act, development charge, equivalent to the difference between the Development Baseline and the Development Ceiling for that land, is payable in respect of any development of the land or when there is a change in the use of the land or building.

3.1.4 Carparking

Car parks shall be provided in accordance with the Parking Places (Provision of Parking Places and Parking Spaces) Rules and any statutory modifications or re-enactments thereof for the time being in force.

3.2 ENVELOPE CONTROL GUIDELINES

3.2.1 New Building

The objective of the envelope control guidelines is to ensure that new buildings will continue to respect:

a) The characteristics of the existing street, such as the provision of covered walkways and the continuity of the streetscape, and

b) The overall scale and character of the area.

3.2.2 Items/Key Elements For Compliance

The guidelines for the infill envelope control sites within the Historic Districts and Residential Historic Districts, and the Secondary Settlements are listed in the following tables. Where applicable, the requirements of the relevant technical departments are to be complied with.

3.2.3 Independent Developments

For independent developments, located on stand-alone sites or sites located within a streetblock without any conserved building, street block control and development control guidelines apply. In Historic Districts, the allowable number of storeys is shown in the Conservation Plans in Appendix II. In Secondary Settlements, the allowable number of storeys is to follow the height control of the respective areas. Covered walkway is to be provided to maintain the character of the streetscape, and the floor level is to match that of the open walkway. The form, design and material of the roof, front, side and rear facades can vary. Any party wall exposed as external wall cannot have any opening. Basement is allowed.

3.3 STRUCTURAL STABILITY OF ADJACENT CONSERVED BUILDINGS

A professional engineer is to be engaged to ensure that the structural stability of the adjacent conserved buildings are not adversely affected by the new building. This is particularly essential when a new basement is to be constructed next to a conserved building. All reasonable care and protection are to be accorded to the adjacent conserved buildings to ensure retention of their structural integrity.

ENVELOPE CONTROL GUIDELINES	
HISTORIC DISTRICTS AND RESIDENTIAL HISTORIC DISTRICTS	
Key Elements	**Infill Development**
A. Building Height	The allowable number of storeys is shown in the Conservation Plans in Appendix II. The overall scale of the building, in terms of the springing line, roof ridge or top of the roof parapet where applicable, is to match that of the adjacent conserved buildings. If the adjacent conserved buildings have different heights, the higher building forms the basis of the height control. See Figure 1
B. Setback	Front and rear facades of the building are to line up with the adjacent conserved buildings.
C. Roof	Form and material can vary.
D. Front Facade	Design and material can vary. The design of the front façade is to take reference from the scale and rhythm of the adjacent conserved buildings.
D1. Covered Walkway	Colonnaded covered walkway is to be provided to maintain the continuity of the streetscape. The width and height are to match that of adjacent conserved buildings and the soffit height cannot exceed 3.6m. The floor level is to match that of the adjacent conserved building. Where the difference in level is not more than 175mm, a ramp is to be provided. The gradient of the ramps cannot be steeper than 1:10. The flooring can be of any materials provided it does not have a highly polished gloss finish.
E. Side Facade	Design and material can vary.
F. Rear Facade	Design and material can vary.
G. Party Wall	The party wall form of development is to be kept. Party wall, if existing, is to be retained. Any party wall exposed as external wall cannot have any opening.
H. Basement	Basement can be considered on a case to case basis and it must not affect the structural stability of adjacent conserved buildings.

ENVELOPE CONTROL GUIDELINES	
HISTORIC DISTRICTS AND RESIDENTIAL HISTORIC DISTRICTS	
Key Elements	**Infill Development**
I. Mechanical/Electrical	
I1. Flue and Vent	Flue and vent are to be located at the rear and their height, not higher than the ridge of the main roof.
I2. Lift Shaft	Lift shaft is to be located at the rear slope of the main roof or on secondary roof. The height cannot exceed the ridge of the main roof.
I3. Air Conditioning System	Condensing units are to be located out of sight from public road and be least obtrusive from the exterior. The condensing units are to be screened unless they are small and not visible from the street levels. See Figure 5 For developments within the Central Area, they are to comply with the screening requirements stipulated in the "Screening of Mechanical & Electrical Services and Car Parks on Roofs and Building Facades Within the Central Area". See URA's Circular to Professional Institutes dated 6 Sep 2004 (Circular No: URA/ PB/2004/29-CUDD)
I4. Rooftop Mechanical & Electrical Plants and Services	Mechanical & Electrical plants and rooftop services are to be visually screened from the top and all sides. If metal is used for the screening, it is to be anodised or colour coated. The spacing of trellises, louvers or other similar types of construction used for screening are to be equal or less than the depth of its individual members. The screening elements are to be orientated to cut off views of the services from the street level and surrounding buildings. If perforated panels are used, the porosity (i.e. percentage of void-to-solid) of the perforated panels is to be equal or less than 25% and the size of openings cannot exceed 30mm in diameter.
J. Signages	Please refer to Part 4 on "Signage Guidelines" for conserved buildings.

ENVELOPE CONTROL GUIDELINES		
SECONDARY SETTLEMENTS		
Key Elements	**Type I Infill Development**	**Type II Infill Development**
A. Building Height*	The building form and massing of the main building fronting the road, in terms of the springing line, roof ridge or top of the roof parapet where applicable, is to match that of the adjacent conserved buildings. If the adjacent conserved buildings have different heights, the higher building forms the basis of the height control. See Figure 1 The rear can be developed up to the maximum number of storeys allowable within the respective areas. The floor-to-floor height of the rear is to comply with Development Control guidelines.	The building form and massing of the main building fronting the road is to be compatible with the adjacent conserved buildings. The height should not exceed the roof ridge of the adjacent conserved buildings. If the adjacent conserved buildings have different heights, the higher building forms the basis of the height control. See Figure 3 The rear can be developed up to the maximum number of storeys allowable within the respective areas. The floor-to-floor height of the rear is to comply with Development Control guidelines.
B. Setback*	Front façade of the building is to line up with the adjacent conserved buildings. The rear is to be set back to the rear service road widening line. See Figure 2	The front façade of the building is to be built up to the line of Road Reserve and line up with the adjacent conserved buildings where possible. The rear is to be set back to the rear service road widening line. See Figure 3
C. Roof*	Form and material can vary	Form and material can vary
D. Front Facade	Design and material can vary. The design of the front façade is to take reference from the scale and rhythm of the adjacent conserved buildings. See Figure 4	Design and material can vary. The design of the front façade is to take reference from the scale and rhythm of the adjacent conserved buildings. See Figure 4

ENVELOPE CONTROL GUIDELINES		
SECONDARY SETTLEMENTS		
Key Elements	**Type I Infill Development**	**Type II Infill Development**
D1. Covered Walkway*	Colonnaded covered walkway is to be provided to maintain the character of the streetscape. The width and height are to match that of adjacent conserved buildings and the soffit height cannot exceed 3.6m. The floor level is to match that of the adjacent conserved building, as well as that of the open walkway wherever possible. Where the difference in level is not more than 175mm, a ramp is to be provided. The gradient of the ramps cannot be steeper than 1:10. The flooring can be of any material provided it does not have a highly polished gloss finish.	Colonnaded covered walkway is to be provided to maintain the character of the streetscape. The width and height of covered walkways are to comply with Development Control guidelines. The floor level is to match that of the adjacent conserved building, as well as that of the open walkway wherever possible. Where the difference in level is not more than 175mm, a ramp is to be provided. The gradient of the ramps cannot be steeper than 1:10. The flooring can be of any material provided it does not have a highly polished gloss finish.
* *For Geylang Conservation Area, the building height, setbacks, roof forms and covered walkway of envelope control sites are also subject to the Geylang Urban Design Guidelines.* *For Upper Circular Road Conservation Area, for Type 1 Infill Developments, the front 7.5m of the development is to match the storey height of the adjacent conservation building. The rear portion of the site can be built up to a maximum of 6 storeys. For Type 2 Infill & Independent Development, the entire site can be built up to a maximum of 6 storeys.*		
E. Side Facade	Design and material can vary.	Design and material can vary.
F. Rear Facade	Design and material can vary.	Design and material can vary.
G. Party Wall	The party wall form of development is to be kept. Party wall, if existing, is to be retained. Any party wall exposed as external wall cannot have any opening.	The party wall form of development is to be kept. Party wall, if existing, is to be retained. Any party wall exposed as external wall cannot have any opening.

ENVELOPE CONTROL GUIDELINES		
SECONDARY SETTLEMENTS		
Key Elements	**Type I Infill Development**	**Type II Infill Development**
H. Basement	Basement is allowed provided it does not affect the structural stability of adjacent conserved buildings.	Basement is allowed provided it does not affect the structural stability of adjacent conserved buildings..
I. Mechanical/Electrical		
I1. Flue and Vent	Flue and vent are to be located at the rear.	
I2. Lift Shaft	Lift shaft is to be located away from the road and not on the front slope of the main roof.	
I3. Air Conditioning System	Condensing units are to be located out of sight from public road and be least obtrusive from the exterior. The condensing units are to be screened unless they are small and not visible from the street levels. See Figure 5 For developments within the Central Area, they are to comply with the screening requirements stipulated in the "Screening of Mechanical & Electrical Services and Car Parks on Roofs and Building Facades Within the Central Area". See URA's Circular to Professional Institutes dated 6 Sep 2004 (Circular No: URA/ PB/2004/29-CUDD)	
I4. Rooftop Mechanical & Electrical Plants and Services	Mechanical & Electrical plants and rooftop services are to be visually screened from the top and all sides. If metal is used for the screening, it is to be anodised or colour coated. The spacing of trellises, louvres or other similar types of construction used for screening are to be equal or less than the depth of its individual members. The screening elements are to be orientated to cut off views of the services from the street level and surrounding buildings. If perforated panels are used, the porosity (i.e. percentage of void-to-solid) of the perforated panels is to be equal or less than 25% and the size of openings cannot exceed 30mm in diameter.	
J. Signages	Please refer to Part 4 on "Signage Guidelines" for conserved buildings.	

3.4 DRAWINGS & ILLUSTRATIONS

(Click here to see Figure 1 to Figure 3)

- Figure 1: Building Height of Infill Developments at Historic & Residential Historic Districts and Type 1 Infills in Secondary Settlements
- Figure 2: Envelope of Type 1 Infill Developments in Secondary Settlements
- Figure 3: Envelope of Type 2 Infill Developments in Secondary Settlements
- Figure 4: Grain Control for Type 1 and Type 2 Infill Developments in Secondary Settlements
- Figure 5: Air Conditioning System

PART 4: SIGNAGE GUIDELINES

Building signs have many functions. They are used for the identification and naming of places, buildings and tenant business names. They also add interest and character to a building particularly if it is designated part of a conservation area. Building signs are different from advertisement signs which are used for promoting a brand, product, service or event. Tenant business signs can incorporate small advertisements, up to one-third of the overall content of each sign.

4.1 SIGNS IN CONSERVATION AREAS

Two types of signs are common in conservation areas.

4.1.1 Traditional Signs

These take the form of carved timber panels with gold-painted Chinese characters sometimes combined with English translations, and letterings/characters formed in plaster relief or painted onto timber boards or metal panels. The degree of embellishment varies considerably. Traditional signs are not self-illuminating.

Owners are to retain existing traditional signs that have acquired significance e.g. plaster relief signs on the outer face of columns, beams, friezes and pediments. They are part of the cultural history of the building and cannot be removed. However, they can be covered over with a new sign panel, if necessary, without damaging the original plaster reliefs.

The original building date on the facade or pediment cannot be removed or replaced.

4.1.2 Contemporary Signs

These are made usually of plastic with characters or words formed in contrasting colours, and can be lit from within their casings, i.e. self-illuminating. Some contemporary signs include painted metal panels and cloth banners to publicise events or promote sale.

4.2 DESIGN, LOCATION AND SIZE OF SIGNS

Business signs are useful, interesting and attractive when thoughtfully and tastefully designed, and compatible with the character of the building and streetscape. As such, care is to be taken when designing such signs.

Signs are to be carefully positioned so that they are clear and easy to read from the street level and do not visually dominate the building. Most important of all, they do not cover or block any key architectural features.

A sensitively planned and designed sign will complement a building's heritage. The incorrect use of signage can severely compromise the character and unity of a building and its setting.

The following guidelines are applicable to business signs which also have to comply with the requirements of the relevant technical departments. Variations can be considered based on the merits of each case.

4.3 APPROVAL FOR CONSERVATION SIGNAGE

All signage proposals within Conservation Areas are to be submitted directly to the Advertising Licensing Section of the Building and Construction Authority (BCA).

SIGNAGE GUIDELINES	
KEY ELEMENTS	**LOCATION / SIZE**
A. Forecourt Wall	Signs can be mounted on top or on the surface of a forecourt wall. They are to be confined within the width or surface area of the wall, and do not cover or block any architectural features. See Figure 1
B. Front Facade	
B1. Shopfront & Residential Front	For a shopfront (either full-width or with side staircase entrance), signs can be mounted within the transom panel. For an original residential front, signs can be mounted above the entrance door and are not to exceed the width of the door. See Figure 2
B2. Five- Foot Way	Signs can be suspended within the clear width between the column and the party wall. The underside of the sign is to have a minimum headroom clearance of 2500mm above the walkway level. See Figure 3
B3. First Storey Column	Signs can be projected from a column or mounted on the surface of column. For signs projected from a column, the following are applicable : (a) They are located at the left hand side of the building as viewed from the road. (b) They do not exceed the height of the column shaft. (c) They do not project beyond existing roadside drain at first storey. (d) The width is not more than 600mm. (e) The underside of the sign is to have a minimum headroom clearance of 2500mm above the walkway level. For signs on the surface of column, individual letters or sign panel cannot be larger than the surface of the column and must follow the shape of the column. See Figure 4
B4. Frieze	Individual letters or sign panel can be mounted within a frieze or suspended from a frieze. See Figure 5

SIGNAGE GUIDELINES	
KEY ELEMENTS	**LOCATION / SIZE**
B5. Upper Storey Facade	Signs can be projected from an upper storey pilaster. They are to be located at the left hand side of the building as viewed from the road. The overall height of the sign (inclusive of the suspension brackets) cannot exceed the shaft of the pilaster. The width of the sign is not more than 600mm, and the width for brackets is not more than 200mm. See Figure 6 For a building of Art Deco or Modern style, individual letters sensitively planned and designed, can be mounted on the facade. They cannot cover or block any architectural features. See Figure 7
C. End Gable Wall	Sign can be mounted within the width of an entrance to a five-foot way and a door to the upper storey, where applicable. Variations in the size and location can be considered on merits of the case if they meet the following criteria: (a) The sign is attractively designed. (b) It comprises mural painting on the wall, individual letters and graphics, or flat-mounted display panels. Projected sign is not allowed. (c) The sign does not cover or block any architectural elements or features/ornaments. (d) It does not overwhelm or adversely impact on the architectural character of the building. See Figure 8. Signs are not allowed for gable walls which share a common boundary with a neighbouring property.
D. Rear Wall	Signs can be mounted above a rear door and not to exceed the width of the door. Variations can be considered based on the merits of the case. See Figure 9.

Note: Business signs can incorporate small advertisements, up to one-third of the overall content of each sign.

PART 5: **APPENDICES**

APPENDIX IA **- INCOMPATIBLE USES**

Incompatible Uses Not Allowed in Historic District Core Areas

(See Appendix 1B for location of core areas)

1. Western fast-food restaurants
2. Supermarkets
3. Building material showrooms
4. Nursing homes
5. Offices (except at the upper storeys); excludes banks which can be considered on all storeys

Uses Not Allowed in Historic Districts

1. New bars, pubs, nightclubs and karaoke lounges are not allowed.
2. New massage establishments and spas are not allowed.
3. Amusement centres are not allowed.
4. Motor vehicle showrooms are not allowed.
5. Warehouse stores are not allowed. They may only be considered if such a use is ancillary to the main use.
6. Places of worship, unless previously authorised, are not allowed. They should be located on land zoned for places of worship.
7. Pollutive trades such as engineering, spray-painting, welding, plumbing, motor, metal and joinery workshops, tyre and battery shops, and plastic products manufacturing are not allowed.

Other Use Controls in Historic Districts

1. Eating Houses

New eating houses and expansion of existing eating houses are not allowed in areas designated as Problematic Traffic Areas (PTA), as listed in URA's Circular to Professional Institutes dated 30 May 2016. These are Kampong Glam Conservation Area, Serangoon Road / Jalan Besar within the Little India Conservation Area and Kampong Bahru Road / Spottiswoode Park Road within the Blair Plain Conservation Area.

2. Hotels and backpacker hostels

New hotels and backpacker hostels are not allowed within Little India Conservation Area and certain areas within Chinatown Conservation Area, as listed in URA's Circular to Professional Institutes dated 12 August 2016.

3. Shops

Shop use can generally be considered. However, planning approval is required for the following types of uses classified under shop use –

- Foot reflexology
- Beauty salon
- Traditional Chinese Medicine (TCM) clinic
- Take-away foodshop

New telco and mobile phone shops are not allowed within the Little India Conservation Area.

APPENDIX IB – **LOCATION OF CORE AREAS**

1 Chinatown Historic District

2 Kampong Glam Historic District

3 Little India Historic District

APPENDIX II - **CONSERVATION AREA PLANS**

To view the conservation area maps, please click here.