

## Quick Guides for Development Proposals: Access Arrangements for Residential Developments

### Objectives

Within any development, the design, position and arrangement of access points are critical. They ensure that vehicles can enter or leave the development safely, and do not adversely affect traffic along the public street to which it connects.

This quick guide aims to help Architects, Engineers and Builders to identify the critical design elements for the access points of residential developments, better appreciate the principles behind these requirements, and avoid making common mistakes.

### About this series

Since April 2020, LTA has been publishing a series of quick guides to improve the industry's understanding of LTA's building plan regulations and processes. The guides feature an in-depth explanation of the principles behind specific requirements, coupled with examples of good practices & common mistakes.

Our topics are curated based on LTA's observations of prevailing trends of actual submissions. All publications are made available at LTA's corporate website, under Industry & Innovations > Industry Matters > Development & Construction resources.

## 1. Location of Access Points

Generally, vehicular access points shall be suitably located to ensure safe vehicular movements and reliable traffic flow on roads. In determining the location of an access point, the following requirements shall be complied with:

- 1 Access point shall be located **at least 30m** away from any bus stops / overhead pedestrian bridges
- 2 Access point shall be located **at least 30m** away from any road junctions or the edge of the development boundary.
- 3 Where a development is accessible from two public streets, it shall be designed to take access from the road which is classified as a lower category in the Road Line Plan (RLP) and not with cycling path where possible.
- 4 Access point shall be staggered with opposite accesses of other developments, if any.
- 5 Access point shall be designed/maintained as a **Left-In, Left-Out (LILO)** arrangement if it is located along a category 3 (and above) road.
- 6 For commercial and shophouse developments, where a rear service road is available or safeguarded, access shall be taken from the rear service road.

Other requirements (not illustrated in the layout plan below)

1. Direct access from expressways, junctions, slip roads, acceleration or deceleration lanes and bus or taxi bays are **not allowed**.
2. Access points are to be located at a safe distance (**at least 30m**) from road bend such that sufficient line of sight is provided to the motorist exiting at the access against the oncoming traffic along the road.

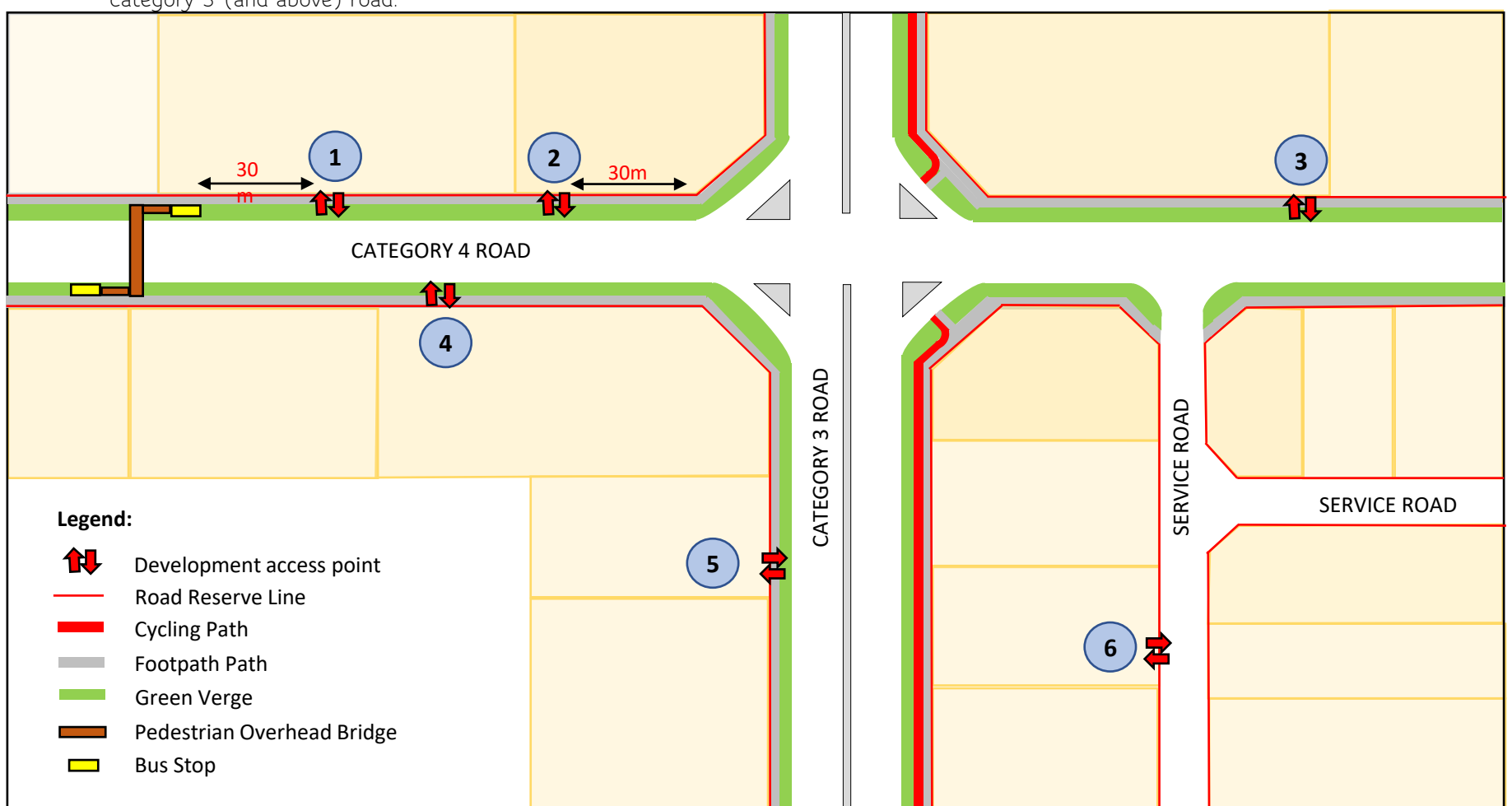


Figure 1 - Pictorial representation summarizing key considerations when determining the location of development access points

## 2. Access Arrangement for Residential Developments

A good design of development access shall ensure that all types of vehicles serving the development which includes cars, bicycles, pedestrian, service vehicles, school buses, refuse trucks and delivery vehicles, are able to enter and exit safely.

### 1 Dedicated Pedestrian Gate / Cyclist route

- Pedestrian and cyclist routes and accesses shall not be shared with vehicular traffic and shall be clearly seen by all users. A dedicated pedestrian access into the development shall be provided. It is advisable for pedestrian gates to swing into the development so as to not cause disamenity to pedestrian and cyclists using the footpath'
- Adequate sight distance shall be provided to minimize conflicts between users coming in/out of the development and along the path within road reserve.
- A safe path shall be provided for walk-in visitors to clear security at the security guardhouse.

### 2 Location of Drop Barrier

- A minimum 2 cars queuing lengths shall be provided before the drop barrier, within the development boundary.
- The visitor lane shall be located next to the guard house for ease of security clearances.

### Sight Visibility at Egress

- 3 • To allow sufficient line of sight between vehicles exiting the development & pedestrians/ cyclists using the footpath, LTA recommends for hard structures such as concrete boundary walls/ fencing/ etc. to be adequately recessed within the development boundary. Alternatively, the boundary wall/ fencing may be constructed using porous materials.
- 4 • It is advisable for the centre divider to be free of hard structures and tall & dense vegetation to ensure sight visibility.

### Treatment at Development Access Point

- 5 • To refer to Quick Guide 1: Designing Tactile Indicators for Safe Travel for tactile tiles arrangement
- 6 • To refer to LTA's Standard Details of Road Elements (SDRE), Chapter 21 for details.

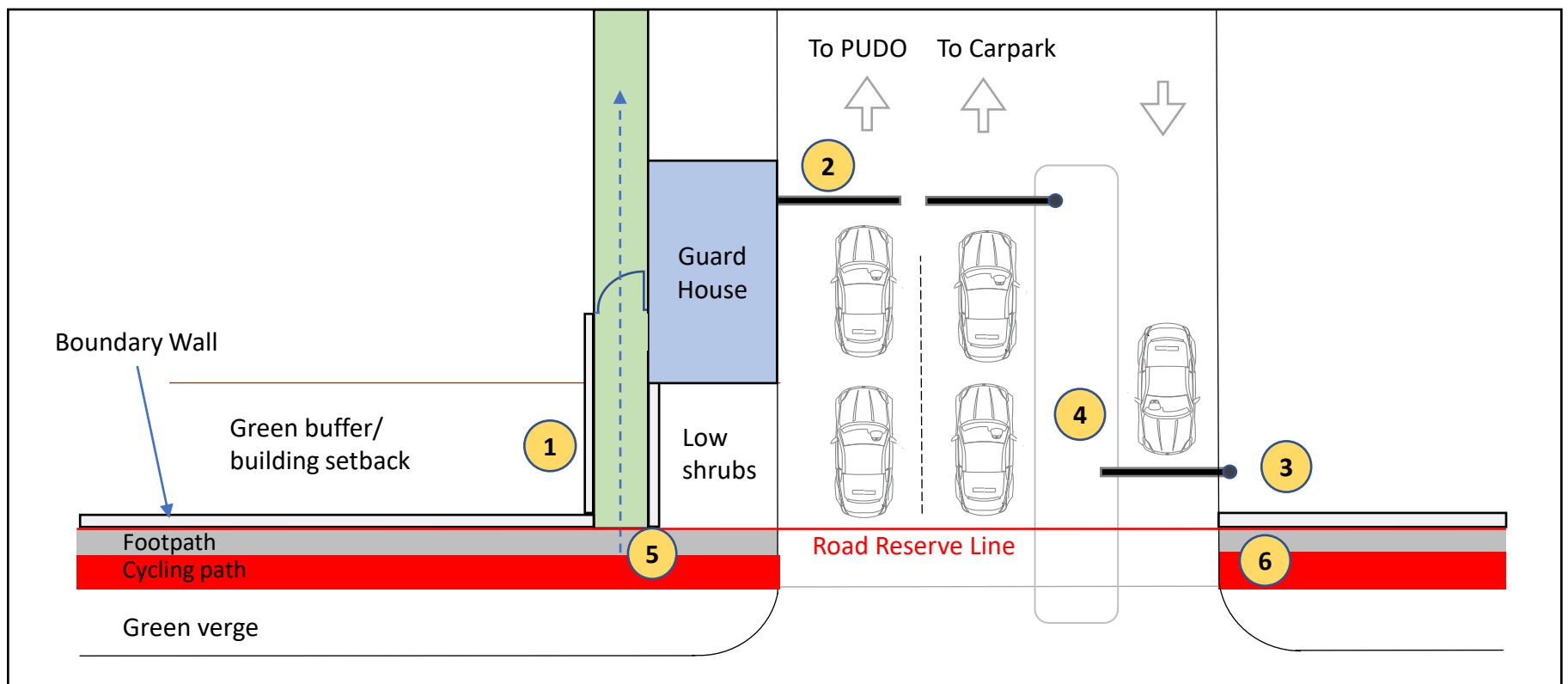
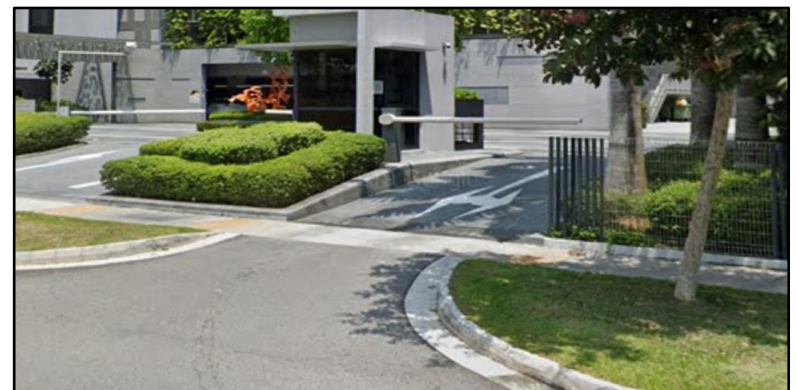


Figure 2 - Pictorial representation summarizing key design elements of a residential access point (for condominiums and private apartments)

### Examples of Good Access Design



- Sufficient queuing length provided before the drop barrier, within the development boundary.
- Provision of a dedicated pedestrian gate to de-conflict pedestrians and vehicles.
- Setback of development wall and pedestrian gate for increased sight visibility



- Provision of porous boundary wall for increased sight visibility
- Low height planting at the egress.

### 3. Design Elements for an Access Point for Landed Houses

The key design elements for landed house access ensures that vehicles can manoeuvre safely in and out of the access and pedestrians including wheelchair users can travel safely along the footpath.

- 1 Pedestrian Gate**
  - A dedicated pedestrian access is provided for safe entry.
  - It is recommended for gates to swing into the development, so as to not cause disamenity to pedestrians and cyclists.
- 2 Meter Compartment**
  - The meter compartment shall not be located in between paired access.
- 3 Footpath**
  - Barrier Free.
  - The longitudinal gradient of the footpath shall not be steeper than 1:12.
- 4 Entrance Culvert**
  - Shall be flat and same width with adjoining footpath.
  - No grating / manhole is allowed at the culvert
  - Shall be in concrete finishes.
- 5 Turning Road Kerb**
  - The turning road kerb shall be aligned with gate post.
  - Please refer to recommended turning radius in LTA's COP for Street Works Proposal relating to Development Works.
- 6 Drop inlet chamber**
  - Drop inlet chambers shall be provided at the tangent point of turning road kerb.
- 7 Entrance approach**
  - The gradient of the entrance approach shall not be steeper than 1:10.
  - The entrance approach shall be finished in premix (W3B).
- 8 Access width**
  - Please refer to recommended access width in LTA's COP for Street Works Proposal relating to Development Works.

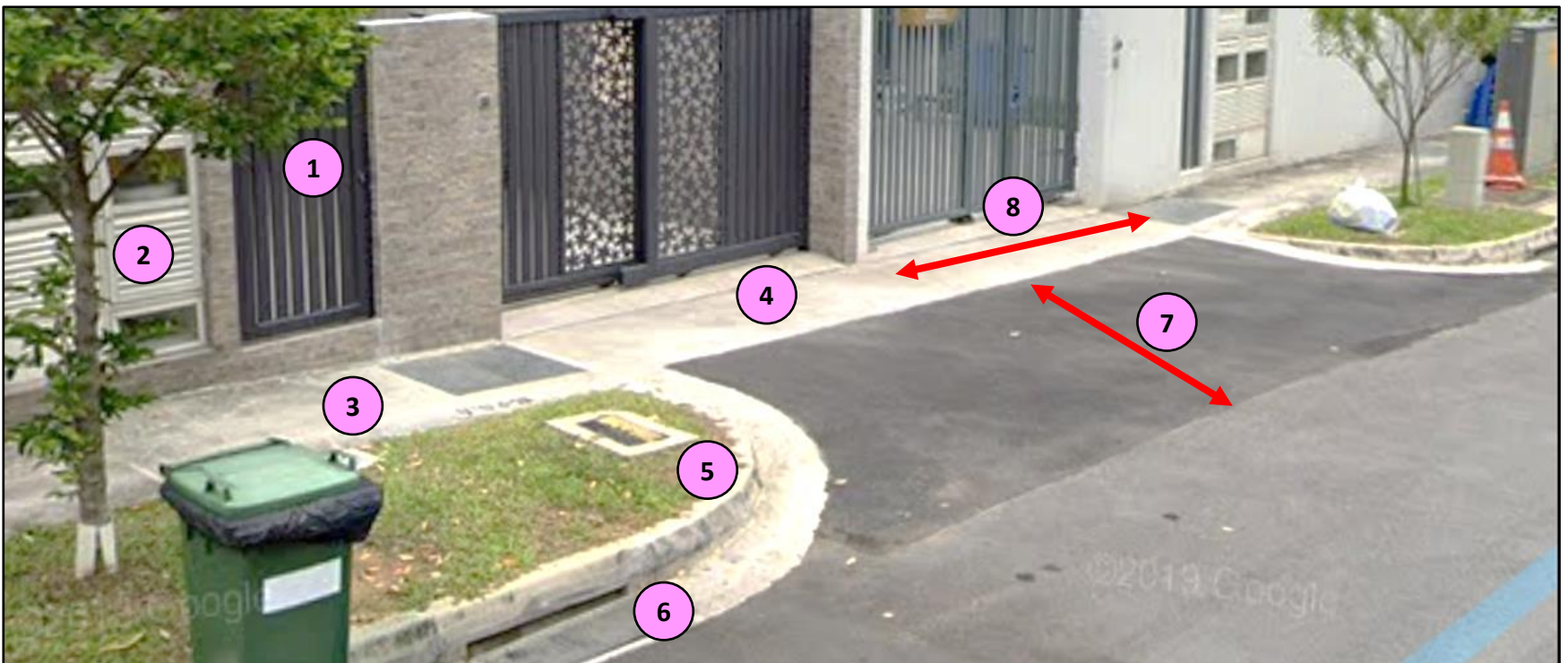


Figure 3 - Pictorial representation summarizing key design elements of landed house access

#### Common Mistakes in Access Design

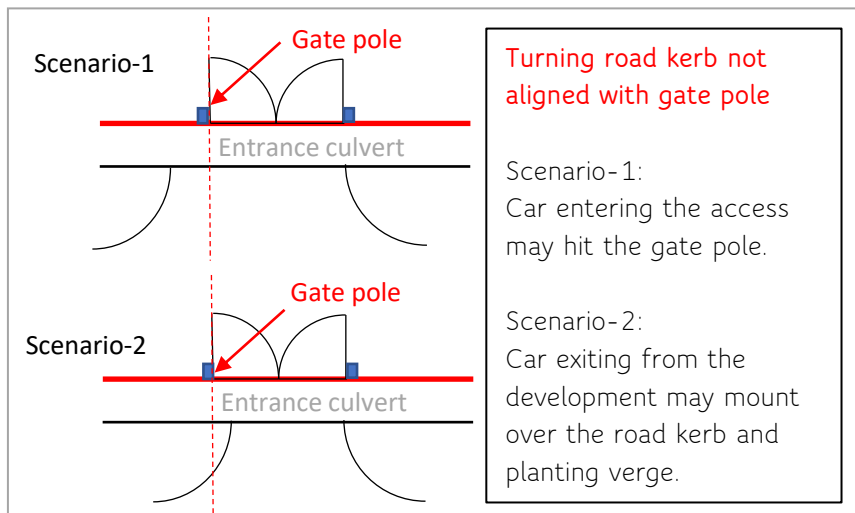


Figure 4 - Common Mistake: Turning road kerb not aligned with gate post.

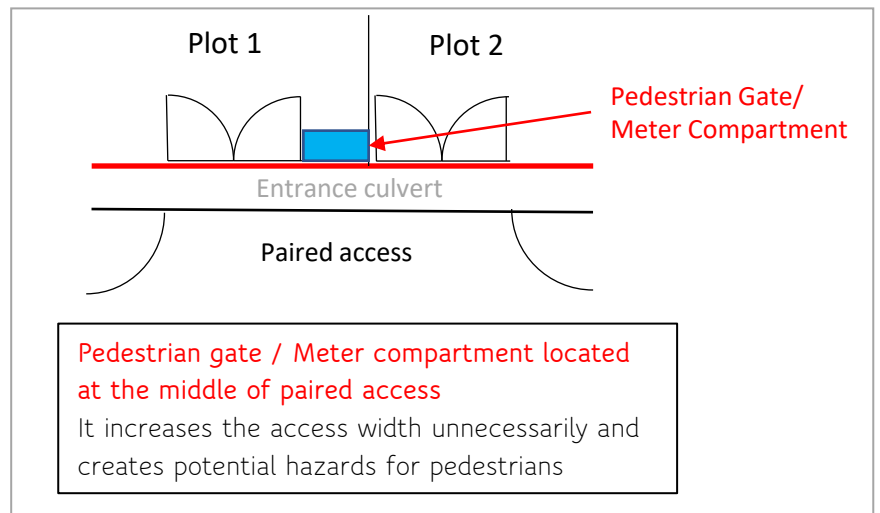


Figure 5 - Common Mistake: Pedestrian Gate / Meter compartment located at the middle of paired access

#### Reference:

1. Code of Practice for Street Works Relating to Development Works
2. Standard Details of Road Elements (SDRE)