

3D PROPERTY–TYPES OF RIGHTS

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Abstract

The use of 3D property rights has become a common feature internationally and has existed for many years. The aim of this paper is to illustrate the way 3D situations are currently registered and recognised in the Malaysian Cadastral Registration. One situation in Penang and five in Kuala Lumpur were selected to illustrate representative situations in this paper. The purpose of the illustration is to investigate if the current cadastral laws and regulations under the National Land Code 1965 (Act 56), the Strata Title Act 1985 (Act 318) and the Building and Common Property (Maintenance and Management) Act 2007 (Act 663) are adequate, or if improvements are needed. All these models have been selected because of their simplicity, and also because they are representative of several types of problems associated with 3D properties. This study encompasses three property types, namely dimensions on-surface, above surface and below surface constructions (buildings, sky bridges, basement parking, utility transmission lines), and transportation networks.

Keywords: *Rights¹, 3D property², on surface³, above-surface⁴, below-surface⁵*

1 INTRODUCTION

To present an overview of how 3D situations are presently registered in the Malaysian Cadastral Registration, six structural properties are selected as representative examples.

2 DIMENSIONS ON-SURFACE, ABOVE SURFACE AND BELOW SURFACE

Buildings may be constructed to serve different owners who may have different functions in mind for the properties. Meanwhile, infrastructure objects such as transmission lines and transportation networks are entities that are necessary for the transportation of electricity, vehicle and people. Infrastructure objects frequently cross parcel boundaries. From a cadastral point of view, it is important to register the property rights of these buildings and infrastructure objects, not only to know who the owner is but also to indicate who is responsible for the properties and objects in case of accidents and damage (Stoter, 2004).

2.1 Situation 1: Prangin Mall and Kompleks Tun Abdul Razak in Penang

Figure 1 shows a good example of a 3D situation (dimension above, on and below surface) where there are buildings, sky bridges above and basement parking below the public road at Prangin Mall and Kompleks Tun Abdul Razak (KOMTAR). Prangin Mall is a popular shopping complex located right in the centre of Georgetown, Penang. Opened for business in 2001, it is attached to KOMTAR and Pacific-KOMTAR via the sky bridges from level two and three, which is above the public roads, *Lebuh Teik Soon* and *Jalan Ria*. The mall comprises six levels including a basement floor, two levels of basement parking and a further three levels of parking at the upper floors.



(a)



(b)



(c)



(d)



(e)



(f)

Figure 1: Buildings, sky bridges above and basement parking below public road

KOMTAR is Penang's tallest building, located in the heart of Georgetown. The 65-storey tower is a 232 metres twelve-sided geometric block atop a four storey podium. It is a multipurpose complex consisting of offices and retail commercial spaces, transportation hubs, recreation facilities and administrative offices for the Penang state government. It also serves as a symbol of order and stability for the town and the province. Figure 2 shows the location map of the buildings in KOMTAR.



Figure 2: Location map of KOMTAR

On the Cadastral Map in Figure 3, we can outline the part of the building above ground surface (red line) and basement parking below surface level (blue line), which is located between Lot 398 and Lot 399 below the public road, *Lebuh Lintang*. The arrows indicate the view position of the photos taken in Figures 1 (b), (c) and (d). Prangin Mall is the owner of the building. It has the recognised common rights of the whole building and can subdivide the building into individual parcels. Meanwhile, the Penang Municipal Council, the local authority holds recognised rights of ownership on the public road, *Lebuh Lintang*. Here, Prangin Mall possesses unrecognised rights of ownership on the building and basement parking above and below public road.

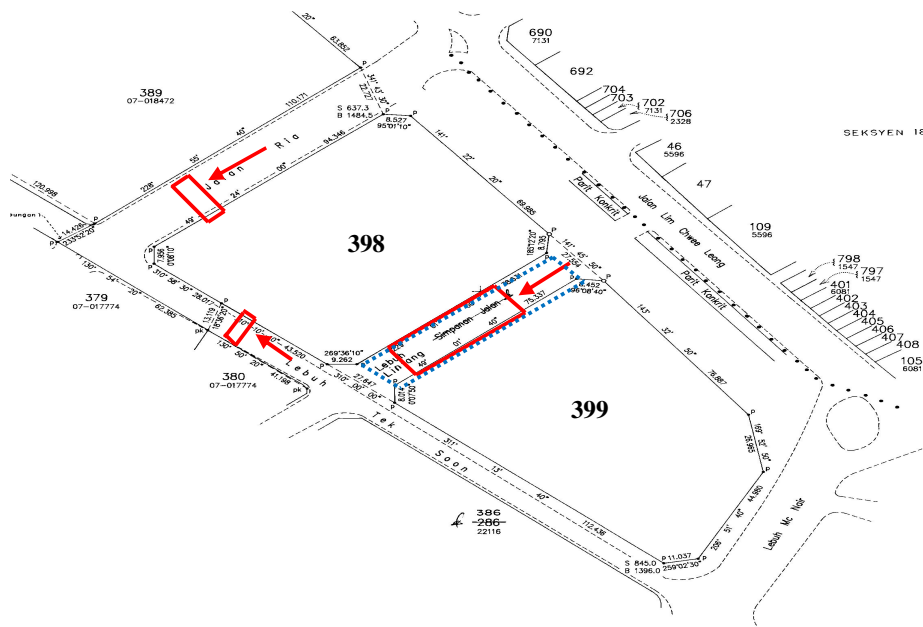


Figure 3: Cadastral Map showing location of the buildings, sky bridges and the basement parking of Prangin Mall

KOMTAR (Lot 400) is attached to Prangin Mall (Lot 398) and Pacific KOMTAR (Lot 389) via the sky bridges and building respectively from level two and three, which is above the public road that is *Lebuh Teik Soon*. On the Cadastral Map (Figure 4), we can see the buildings and sky bridges above surface level, located between Lot 400 and Lot 389 as well as Lot 400 and Lot 398 respectively, which is above the public road (*Lebuh Teik Soon*). The arrows indicate the view position of the camera in Figures 1 (e) and (f). Here again, the individual parcel owner has the recognised common rights of the individual parcel in the building, whereas the Penang Municipal Council, the local authority is supposed to hold the recognised rights of ownership on the public road that is *Lebuh Teik Soon*. However, the public road that is part of *Jalan Ria* and *Lebuh Teik Soon* was surrendered to the management corporation of KOMTAR in order to subdivide the building. The 3D model for Prangin Mall and KOMTAR, which is shown in Figure 5, gives a clearer picture of the location of buildings, sky bridges above and basement parking below the surface of public road respectively.

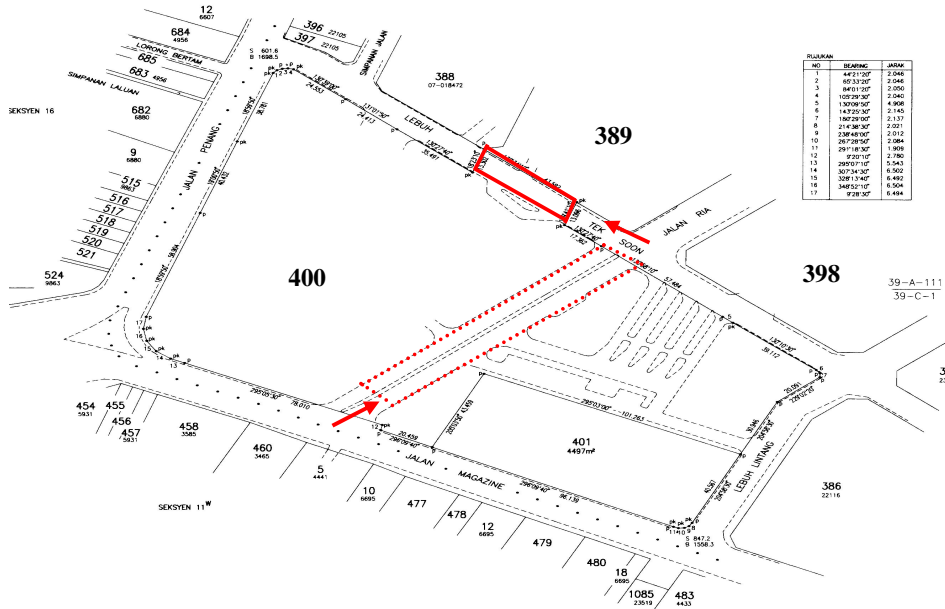


Figure 4: Cadastral Map showing the location of the buildings and sky bridges

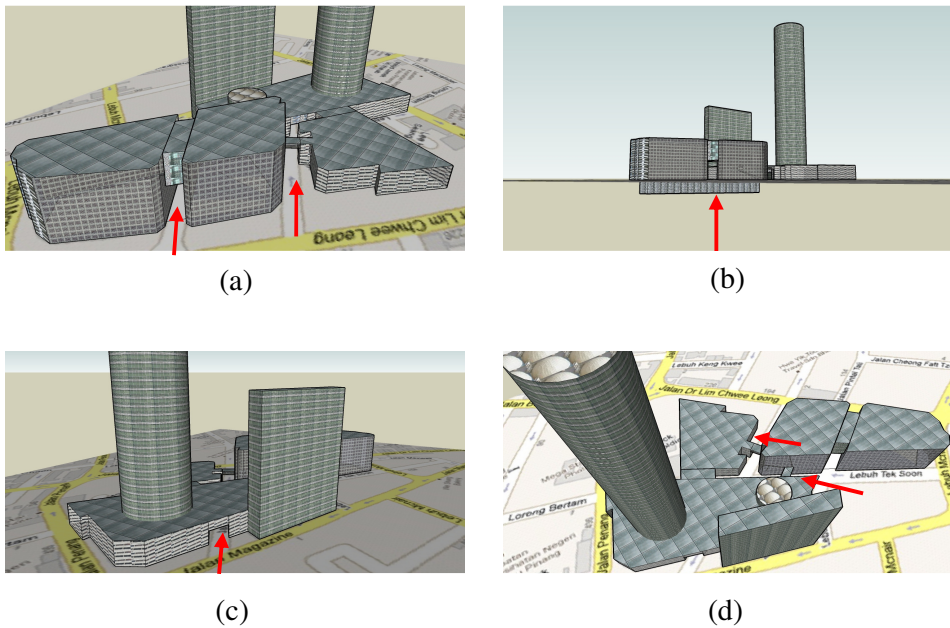


Figure 5: 3D model showing buildings, sky bridges and basement parking at Prangin Mall and KOMTAR

2.2 Situation 2: Kuala Lumpur Sentral in Kuala Lumpur

Kuala Lumpur Sentral is a multilevel public transport interchange. It is an exclusive urban centre built around Malaysia's largest transit hub, corporate office towers and business suites, five star international hotels, luxury condominiums and a shopping mall offering global connectivity, excellent investment opportunities, business convenience and an international

lifestyle. Its infrastructure supports six rail networks which consist of the KLIA Express Rail Link, KLIA Transit, RAPID KL (PUTRA LRT), KTM Komuter, KTM Intercity and KL Monorail Services. Kuala Lumpur Sentral is spread over 72 acres of land bordered by *Jalan Travers*, *Jalan Damansara* and *Jalan Tun Sambanthan*, situated in the southwest of Kuala Lumpur City and just 1.5 kilometres from the central business district. Figure 6 and Figure 7 show the overview picture and location map of Kuala Lumpur Sentral phase development respectively.

The use of common rights and management rights will be discussed in other case studies. Here, we take a closer look at the public rights and private rights. Public rights are rights that entitle its holder to build and have building or construction on surface, above surface and below the surface of different ownership. In the case of Kuala Lumpur Sentral, the holder of the recognised public rights is entitled to build and own the station on top of the railway platforms. On the other hand, others own the railway tracks and public roads in unrecognised private rights while the shops and retail stores, located on the first and second floors, hold recognised common rights, erected on Lot 75, which is on top of the basement parking, and railway platforms located on its top floor. The Cadastral Map (standard sheet) shows that the railway track (shown in red shading) is on top of the private parcels and public roads which are erected on Lot 73, Lot 74, Lot 75, Lot 77 and Lot 78 respectively. While the question of who owns the space above the railway station might seem irrelevant at the time of writing, it is possible that the problem of ownership might arise later. Nevertheless, if a developer wishes to build a business centre on top of the railway platform in the future, the ownership of the space above the railway platform will become another issue again. Figure 8 shows the Cadastral Map (standard sheet) of the rail track situation. The arrows indicate the position of the pictures taken in Figures 6 (c) and (d).

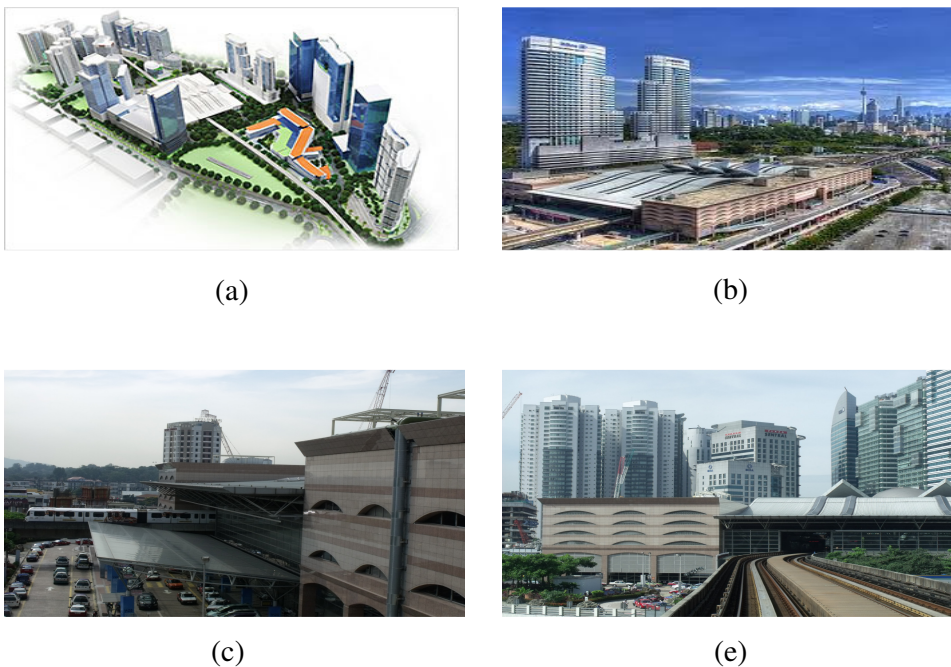


Figure 6: Overview pictures of Kuala Lumpur Sentral phase development

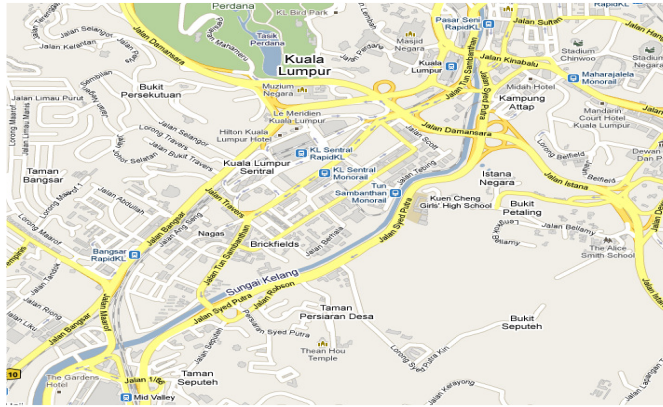


Figure 7: Location map of Kuala Lumpur Sentral phase development

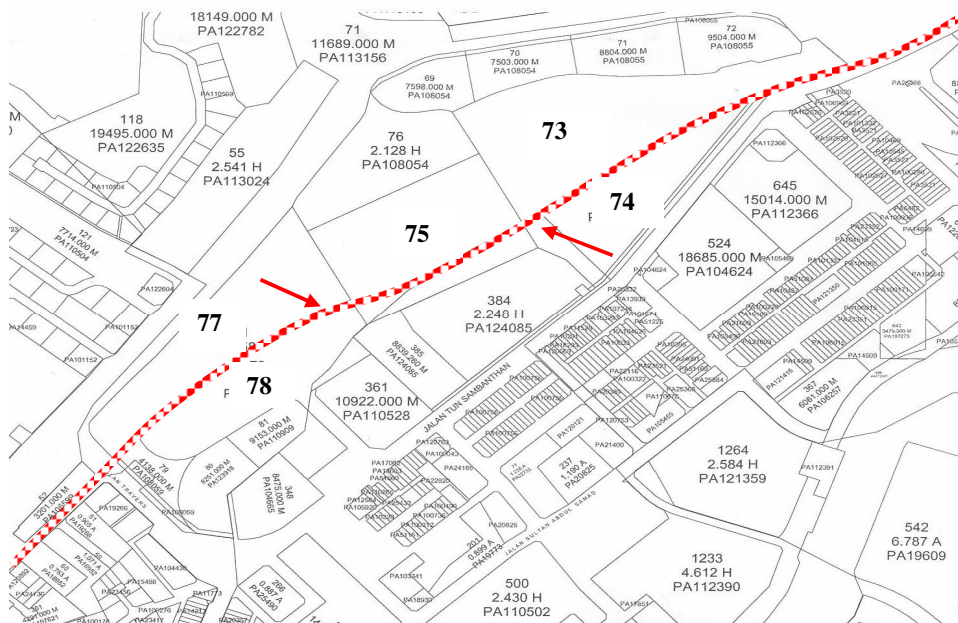


Figure 8: Cadastral Map showing location of the railway track

2.3 Situation 3: Underground Complex in Kuala Lumpur

The *Dataran Merdeka* (Merdeka Square) is located in a field fronting the Royal Selangor Club that was extensively used for cricket, hockey, tennis and rugby matches until the mid-nineties when the whole area was rebuilt to accommodate a complex that included an underground parking lot, shopping area, restaurants. Beneath the square are combinations of food stalls, leisure and an entertainment complex called Plaza Putra which contains a theatre, food court, restaurants and souvenir shops and car parks. Figure 9 and Figure 10 show the overview picture and location map of Plaza Putra respectively whereas the dash line indicates the underground Plaza Putra.



(a)

(b)

Figure 9: Overview picture of Plaza Putra complex



Figure 10: Location map of the Plaza Putra complex

The Cadastral Map (standard sheet) on Figure 11 shows the Royal Selangor Club on Lot 70, and the field fronting it that was originally the cricket green and rugby field on Lot 71, now with Plaza Putra located below it. The arrow indicates the entrance to Plaza Putra of the picture taken in Figure 9 while the dash line indicates the position of the underground Plaza Putra. In 1987, the field was reclaimed by Kuala Lumpur City Hall, which holds recognised private rights of the field, and developed the underground shopping mall and car park, which is owned by many individual proprietors with unrecognised public rights. The National Land Code 1965 (Act 56), Section 92C and Section 92D allow underground land under State land to be alienated. Also the National Land Code (Underground Land) (Minimum Depth) Regulations 2006 have specified the minimum depth of underground land to be alienated. The whole Plaza Putra is closed for reconstruction at the time of writing, with the underground land subdivision still pending.

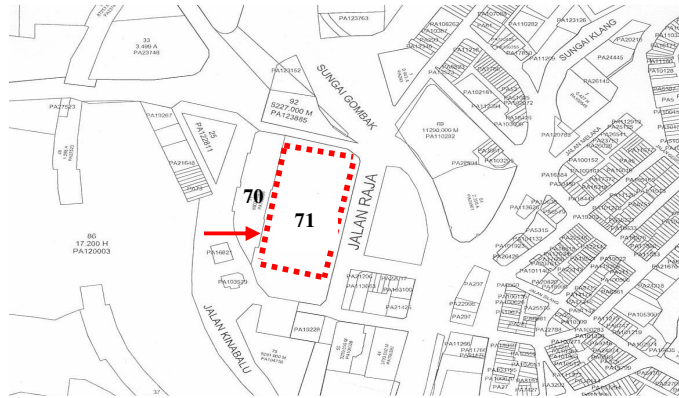


Figure 11: Cadastral Map showing the location of the underground Plaza Putra complex

2.4 Situation 4: Multifunctional Building Complex in Kuala Lumpur

Nestled among the Puncak Prima Condominium, Menara Hartamas Condominium and the nearby townhouses, Plaza Damas is a multifunctional building complex that consists of offices, a shopping centre and residential, commercial cum car park development. Hartamas Shopping Centre was integrated into the Plaza Damas development with approximately 200,000 square feet of space spread over three levels. It is surrounded by shop offices, service apartments and alfresco shopping arcades, giving the area a holistic, neighbourhood feel. Since its opening, it has provided residents a place to relax. Figure 12 and Figure 13 show the overview picture and location map of Plaza Damas development area respectively.



(a)



(b)

Figure 12: Overview picture of Plaza Damas



Figure 13: Location map of the Plaza Damas development

Plaza Damas development consists of 13 towers on a big podium with shopping complexes and car parks on Lot 56228. Each parcel is individually owned, with the proprietor holding recognised common rights on the particular parcel. Towers 'A', 'B', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L' and 'M' are shop houses on ground floor and offices for the rest while Towers 'C' and 'D' are fifteen storeys of residential apartments. The whole development is subdivided into 1110 individual parcels. The survey was completed in August 2006 while the certified plans were approved two years later. Figure 14 and Figure 15 show respectively the Cadastral Map (standard sheet) and cross sectional plan of the buildings that form part of the development. The 3D model for Plaza Damas, which is shown in Figure 16, gives a clearer picture of the location of buildings in this development.

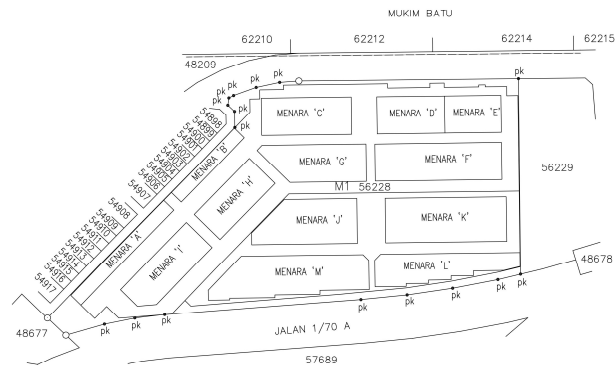


Figure 14: Cadastral Map of the Plaza Damas development

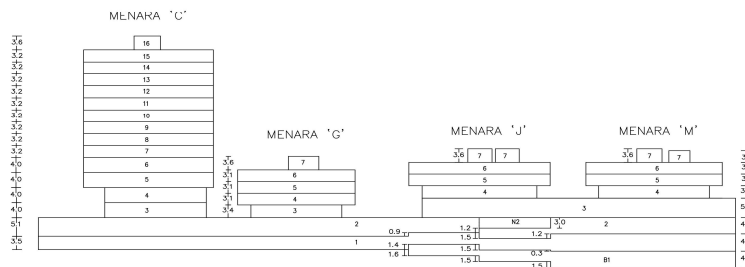


Figure 15: Cross sectional plan of part of the Plaza Damas development

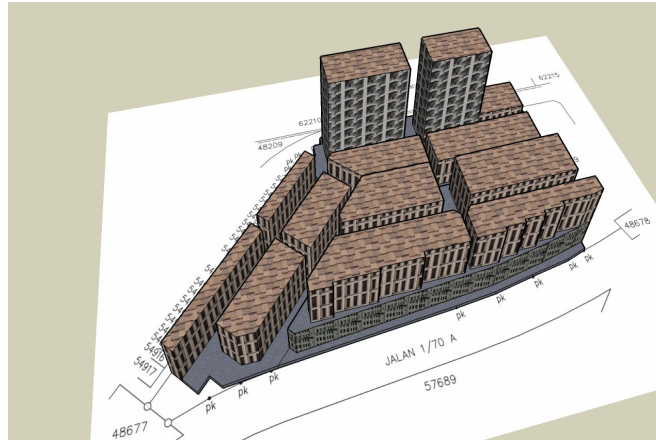


Figure 16: 3D model showing buildings located at Plaza Damas

2.5 Situation 5: Utility Transmission Lines in Kuala Lumpur

According to Ganesan and Sreejamole (2009), a transmission line is a device designed to guide electrical energy from one point to another. It is used, for instance, to transfer the output energy of a transmitter to an antenna. The transmission line has one single purpose for both the transmitter and the antenna, namely to transfer the energy output of the transmitter to the antenna with the least possible power loss. National Grid Malaysia is the main electricity transmission network linking the electricity generation, transmission, distribution and consumption in Malaysia. It is operated and owned by Tenaga Nasional Berhad (TNB). The transmission line voltages for Malaysia operate at 132kV, 275kV and 500kV.

Figure 17 shows a transmission line across a public road. According to the Malaysian Land Law, land reserved for public roads and transmission lines are not allocated with a lot number. The local authority owns public roads in municipal areas while transmission lines are given leasehold, and both hold recognised private rights. A Cadastral Map (Certified Plan) in Figure 18 shows the transmission lines across *Jalan Langkawi* in between Lot 27322, 27323 and 27321, Lot 27324 and Lot 27325. The arrow indicates the position of the pictures taken in Figure 17 (a).



(a)



(b)

Figure 17: Pictures of transmission lines above public roads

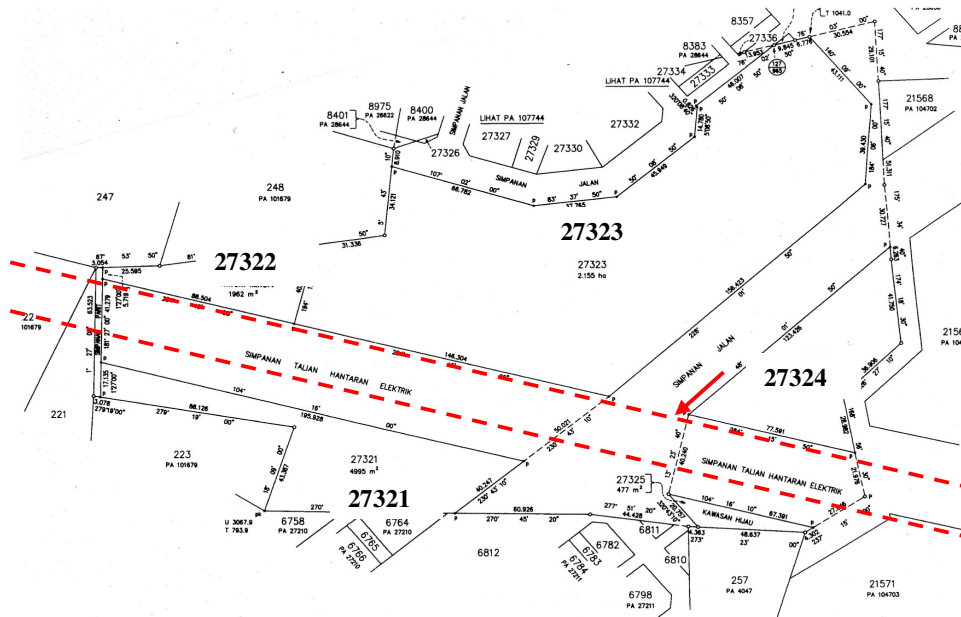


Figure 18: Cadastral Map showing location of the transmission lines across public roads

2.6 Situation 6: Light Rail Transit Track, Tunnel and Station in Kuala Lumpur

Rail transport in Malaysia comprises heavy rail, light rail transit (LRT), monorail and funicular railway lines. The two LRT lines in Kuala Lumpur are the Kelana Jaya Line (PUTRA LRT) and the Ampang Line (STAR LRT). The PUTRA LRT is a driverless automatic system with 29 kilometres of rail track, running between the northern and eastern suburbs of Kuala Lumpur and Petaling Jaya to the west of Kuala Lumpur. It is mostly elevated except for a 4.4 kilometres stretch of tunnel where it goes underground. The line includes 18 elevated stations, five underground stations and one grade station. Figure 19 shows the light rail transit tracks and tunnel.



(a)



(b)

Figure 19: Light rail transit track and tunnel

The location map in Figure 20 shows a part of the Kelana Jaya Line from Damai Station - Ampang Park Station - KLCC Station. Damai Station is an elevated station and the other two are underground stations. This rail track cuts across many land parcels and public roads, with

some parts of the track located on ground surface, some are above ground surface and others are below the surface. However, most of the rail tracks are above and below the surface of public roads. Here, the red dotted lines indicate rail track above and on the ground surface while the blue dotted lines indicate rail track below the ground surface.

On the Cadastral Map (Standard Sheet) in Figure 21, Damai Station is an elevated station located on a road reserve and, together with the rail track which is in front of Lot 1365, holds unrecognised private rights. This is the above ground surface track that cuts across the Ampang-Kuala Lumpur Elevated Highway, Klang River and passes through Lot 710 and Lot 836, between Lot 835 and Lot 834 (indicated in Fig. 7.20 by the red dotted lines). The rail track enters an underground tunnel before going to a rail track below *Jalan Ampang*, and continuing to Ampang Station which is under the road reserve located between *Jalan Ampang* and *Jalan Binjal*. The underground rail track below *Jalan Ampang* continues its way towards the underground KLCC Station, which is located below Lot 295 (indicated in Figure 20 by a blue dotted line). These cases show the overlapping of private rights and public rights, with the rail tracks and stations holding unrecognised public rights above and below the recognised private rights of public road and land parcels. Here (Figure 21), the red line indicates the rail track above the ground surface while the blue line indicates the rail track below the ground surface, and the arrows indicate the position of the pictures taken in Figures 19 (a) and (b).

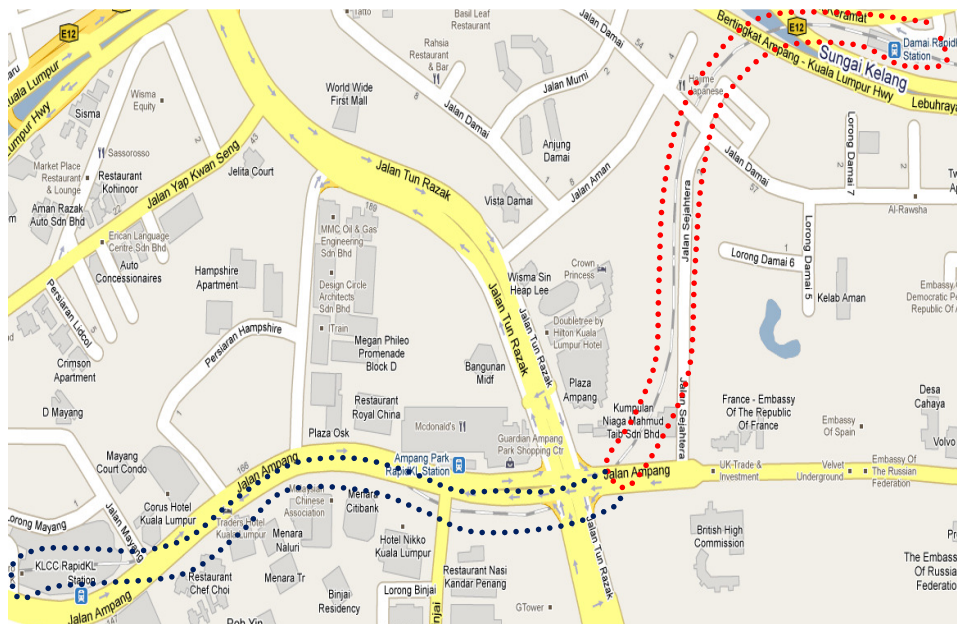


Figure 20: Location map of the light rail transit track and tunnel

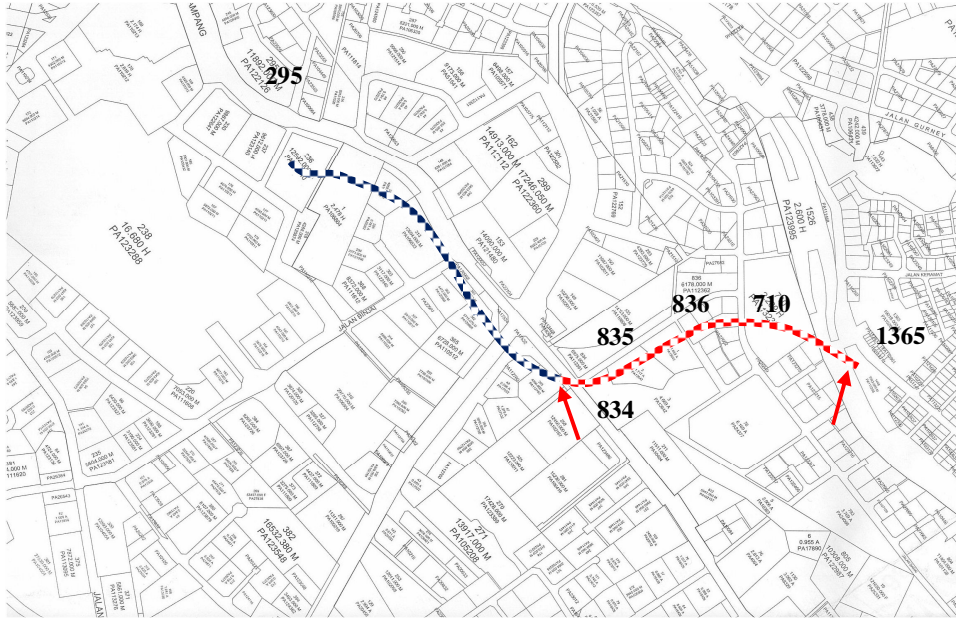


Figure 21: Cadastral Map showing location of the light rail transit track and tunnel

3 SUMMARY

From the six situations illustrated above, the legal status of the space above ground surface and below ground surface is not clearly registered either in the National Land Code 1965 (Act 56) or the Strata Titles Act 1985 (Act 318). Hence the ownership of the utility or construction or space above and below the public roads and other constructions that are registered with public rights is disputable in the legal sense, unless it is explicitly stated in the registry document and Cadastral Map. Moreover, in the current Cadastral Map and registry document, the exact location of the public rights is not stated. In the case of lease that is under private rights, the leaseholder has the right to use the whole parcel column or space within the conditions stated in the agreement. Nevertheless, certain conditions can restrict the leaseholder from using the whole space. In this study, the height limit of the space that is allowed above ground surface is neither stated in the National Land Code 1965 (Act 56) nor in Strata Titles Act 1985 (Act 318). If the heights to which the rights apply are defined precisely in the registry document and Cadastral Map, then this information can be used for construction purposes. The above examples illustrate why 3D cadastral laws and regulations are urgently required in Malaysia to remove the ambiguities surrounding the ownership rights of the stakeholders, especially in multi-level property developments. In the absence of new legislation to resolve such equivocality, the confusion arising from discrepant interpretations of property boundaries, ownerships and rights can only worsen in the future.

References

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