PROJECT DESCRIPTION

MELBOURNE METRO TUNNELS AND STATIONS PPP

TAS-CYP-SDL-ZWD-REP-XLP-NAP-X0008

Date: 30th April 2018

MELBOURNE METRO RAIL AUTHORITY

Cross Yarra Partnership

VICTORIA State Government

Document Verification

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Abbreviation Table

Cross Yarra Partnership	CYP
Environment Effects Statement	**EES**
Environmental Performance Requirements	**EPRs**
Environmental Impact Assessment	**EIA**
Environmental Risk Assessment	**ERA**
Planning Scheme Amendment	**PSA**
Tunnel Boring Machine	**TBM**

1 Introduction

Cross Yarra Partnership (CYP) has been contracted by Melbourne Metro Rail Authority (MMRA) to design, build and maintain the tunnels and stations for the Metro Tunnel Project (the project). The project includes two nine-kilometre train tunnels and five new underground train stations, linking the north-west Sunbury rail corridor and the south-east Cranbourne/Pakenham rail corridor, unlocking additional capacity in the existing City Loop. The five new underground stations are located at Arden, Parkville, CBD North, CBD South and Domain.

The project has already undergone an extensive and robust planning and environmental assessment process. As part of this original approvals phase, MMRA published and received public comment on:

- An Environment Effects Statement (EES) that presented an integrated assessment of the potential environmental, social, economic and planning impacts of the project, and the proposed approach to managing these impacts.
- A Draft Planning Scheme Amendment (PSA) to facilitate the use and development of the project, as well as, establishing a mechanism to protect the tunnels, stations and associated infrastructure from potential adverse effects of development in their vicinity.

In December 2016, the Minister for Planning released his assessment of the environmental effects of the project. The Minister subsequently approved Amendment GC45 for the project which, among other things, inserted the *Melbourne Metro Rail Project Incorporated Document (December 2016)* into the Maribyrnong, Melbourne, Port Phillip, and Stonnington Planning Schemes and gave legal effect to the Incorporated Document through Clause 52.03 of each of these planning schemes. The Incorporated Document was subsequently amended by Amendment GC67 to facilitate the Park Street, South Melbourne tram stop. The latest Incorporated Document is *Melbourne Metro Rail Project Incorporated Document (May 2017)*, hereafter referred to as the approved planning scheme amendment (PSA).

The Incorporated Document includes conditions for both construction and operational phases (hereafter the controls applied under Amendment GC67 are referred to as the approved Incorporated Document).

The approved Incorporated Document:

- Permits and facilitates the use and development of Project Land for the purposes of the project.
- Exempts the project from any other provisions of the relevant planning scheme.

The approved Incorporated Document applies to the Project Land as depicted in the maps attached to the Incorporated Document.

The EES and PSA process assessed a Concept Design and indicative construction methodology for that project that was prepared by MMRA. During the Melbourne Metro Tunnels and Stations PPP tender process, CYP proposed enhancements and changes to the Concept Design that will deliver improvements in accessibility as well as construction and operational efficiencies. However, these enhancements to the project necessitate changes to the boundary of the Project Land, which can only be done by modifying the plans appended to the Incorporated Document. The amendments to the Incorporated Document are reflected in draft Amendment GC82. The CYP changes predominately relate to the provision of underground support structures, additional station connections and temporary road occupations that affect surface land.

A PSA to amend the Incorporated Document is an appropriate planning response to the project changes, as the alternative would be to seek either multiple planning permits or planning scheme amendments. The CYP design changes affect land located both inside and outside of the approved Project Land. These changes will also impact the extent of the Design and Development Overlay (DDO). MMRA have amended the existing DDO to reflect the project changes. The Project Description should be read in conjunction with *The Future Development Loading Report and 'Amendment GC82 - Changes to the Project Land (2-2A Chambers St, South Yarra)* prepared by AJM to support GC82.

1.1 Purpose

The overarching purpose of this Project Description is to describe CYP's proposed design and construction changes to the Concept Design that result in a need to modify the approved Project Land. The CYP design and construction elements necessitating a change to the approved Project Land (pursuant to the proposed PSA) are summarised in Table 1 overleaf.

These changes will also require a variation to the designated Project Area under the *Major Transport Projects Facilitation Act 2009* (MTPF Act). Varying the designated Project Area will also enable strata divestment of the additional Project Land under the MTPF Act, where required.

TABLE 1: DESIGN AND CONSTRUCTION ELEMENTS

Element	Description
Underground support structures	Underground support structures are ancillary structures that are used for stabilisation of a primary structure such as a shaft, station box or tunnel: ▪ Usually rock bolts are shorter in length and used predominantly along the rail tunnels. ▪ Rock anchors are longer in length and can be used to support shafts at the stations. In both instances, each stabiliser can sit 1.5 to 2 metres apart and protrude at an angle. CYP are further refining the tunnel construction methodology and will confirm the use of these underground support structures or other construction techniques during the detailed design process. Note: The underground support structures will be used temporarily by CYP to provide ground support during the construction phase and then will remain *in situ* pending removal or modification as part of any future redevelopment by others.
Rail alignment	The modified rail alignment represents a change in horizontal or vertical alignment (i.e. change in track geometry).
Pedestrian adits	A pedestrian adit is a permanent underground passage that connects the tunnel or station to a ground level access point and has a primary purpose of facilitating passenger movements.
Construction adits	A construction adit is an underground passage that will connect the station to a ground level access point. It is typically used for the movement of equipment, materials and excavated material. It can also be used for storage purposes.
Additional road areas	Additional road areas are road reserves required for construction management, together with temporary and legacy road requirements. TMPs will be prepared and implemented in accordance with the approved EPRs, for each area, setting out specific traffic management activities and legacy roadworks. Generally, temporary traffic management will involve signs, workers and possible signage line marking adjustments. Legacy roadworks will generally involve the re-surfacing of road, kerb and channels, road works, pedestrian/cycle crossings, and hard and soft landscaping.

The CYP design changes summarised in Table 1 generally occur in the following areas:

- Parkville Station to CBD North Station
- CBD North Station
- CBD South Station
- Swanston Street (between CBD North and CBD South Station)
- Project wide additional road requirements.

Other proposed CYP design changes to the project are located within the approved Project Land, and therefore do not necessitate a PSA. As such, these changes are not described in this document.

2 Parkville Station to CBD North Station

2.1 Scope

Parkville Station to CBD North Station covers both Parkville Station and the tunnel alignment through to CBD North Station. It extends from the eastern side of Royal Parade, North Melbourne through to the eastern side of Leicester Street, Carlton. The northern boundary runs along the northern side of Grattan Street and it includes part of the University of Melbourne. The southern boundary is bounded by Pelham Road. This area includes the rail alignment curve that extends from Parkville Station through to the northern side of Victoria Street and CBD North Station.

2.2 Design and construction

Small changes to the rail tunnel alignment are proposed by CYP to improve the operational performance of the Metro passenger services. Some of these alignment changes also require additions to the approved Project Land. These changes are depicted on Figure 1 to Figure 4. Also as a result of these changes, two properties will be removed from the approved Project Land. They are 212 Berkeley Street, Carlton and 214 Berkeley Street, Carlton.

A combination of struts underground support structures, including rock anchors, is proposed to be used at Parkville Station to support and maintain the piled walls during excavation. Some of the underground support structures will extend beyond the boundary of the approved Project Land, at a depth of approximately 15 metres, south of Grattan Street. The underground support structures are to be used temporarily during construction, but will remain *in situ* pending removal or modification as part of any future redevelopment by others. The extent of land required for the underground support structures is shown in Figure 4, while Figure 5 provides a lateral perspective of the construction sequencing for Parkville Station and the overall depth and extent of the underground support structures.

Table 2 describes the changes in this area, together with their physical extent and the rationale.

TABLE 2: ELEMENTS, SCOPE AND RATIONALE FOR ADDITIONAL PROJECT LAND BETWEEN PARKVILLE AND CBD NORTH

Element	Scope	Rationale
Rail tunnel alignment	Excursion outside of the approved Project Land is as follows: • south of Grattan Street (near the corner of Bouverie Street), Carlton • south of Church Street, Carlton • Lincoln Street North, Carlton • Swanston Street, Lincoln Street North to Pelham Street, Carlton • Swanston Street, south of Kelvin Place and north of Queensberry Street, Carlton.	The change to the rail tunnel alignment will reduce: • tunnel maintenance thereby reducing exposure to safety risks • traction power for trains thereby reducing greenhouse gas emissions and operational costs. • track degradation and therefore future maintenance expenditure
Additional underground support structures	Excursion outside of the approved Project Land is as follows: • southern side of Grattan Street, east of Royal Parade and west of Barry Street	The underground support structures that will extend outside the approved Project Land: • provide safe and less restricted construction space for the excavation works due to the omission of struts throughout the whole cavern • safely support the geological profile surrounding Parkville Station and shafts • accommodate and support the design improvements to Parkville Station • allow for more efficient construction techniques, particularly accelerated excavation, to be employed • allow for the combined use of struts and rock anchors to control ground movement closer to the surface box with a combination of struts and underground support structures (see Figure 5)

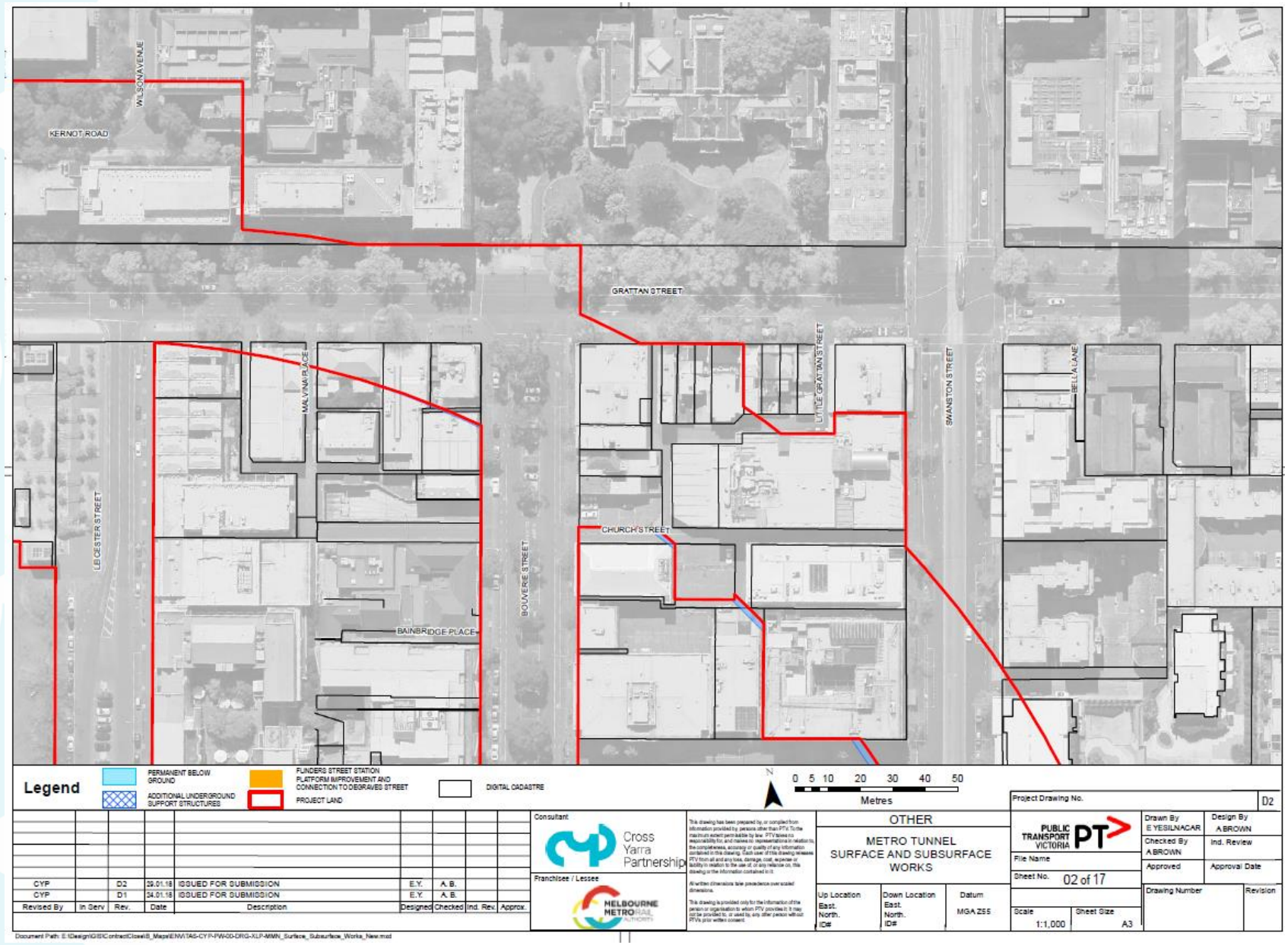

FIGURE 1 ADDITIONAL PROJECT LAND REQUIRED FOR PERMANENT BELOW GROUND BETWEEN PARKVILLE STATION AND CBD NORTH STATION

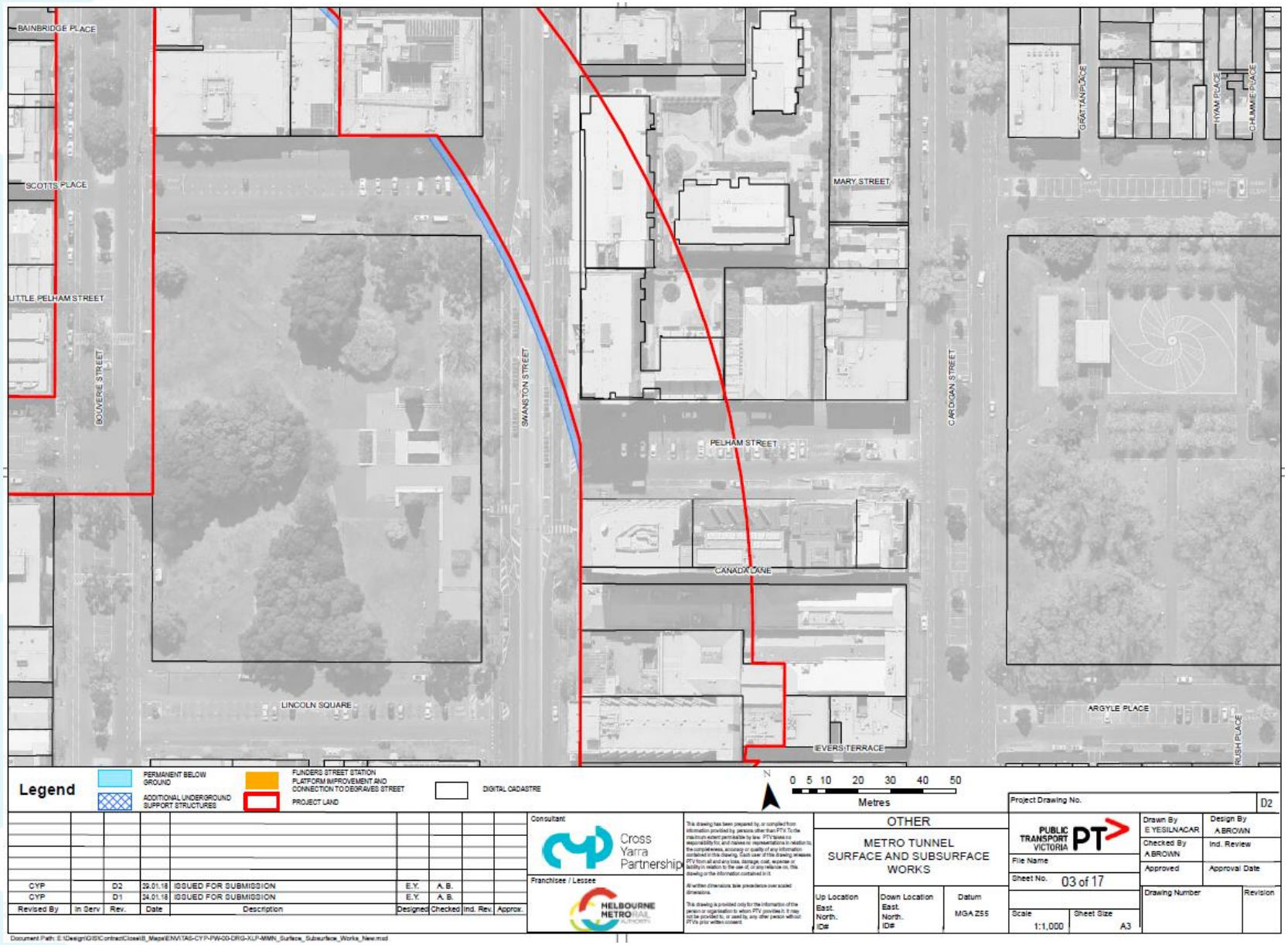

FIGURE 2: ADDITIONAL PROJECT LAND REQUIRED FOR PERMANENT BELOW GROUND AT PARKVILLE STATION

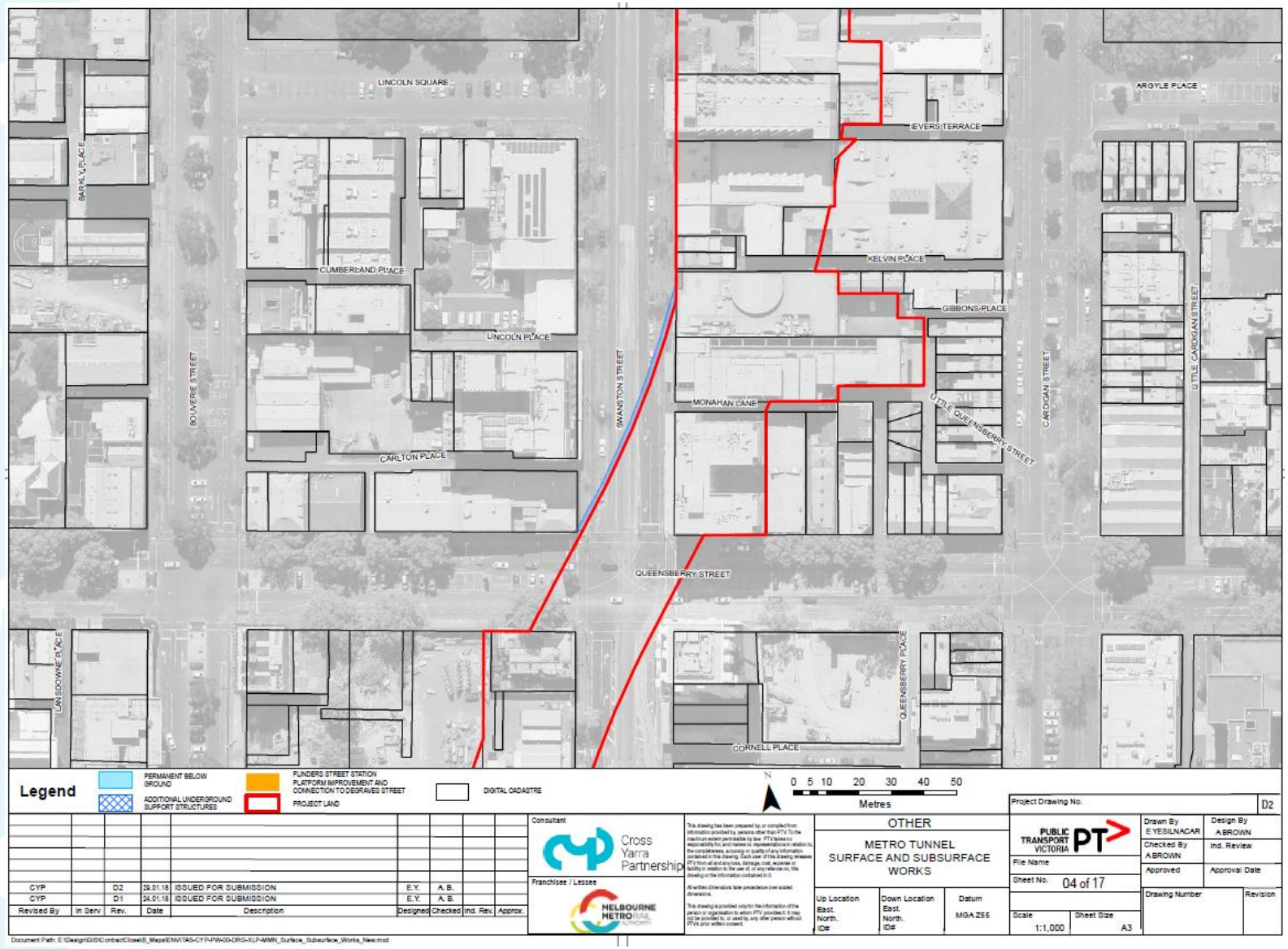

FIGURE 3: ADDITIONAL PROJECT LAND REQUIRED FOR PERMANENT BELOW GROUND AT PARKVILLE STATION

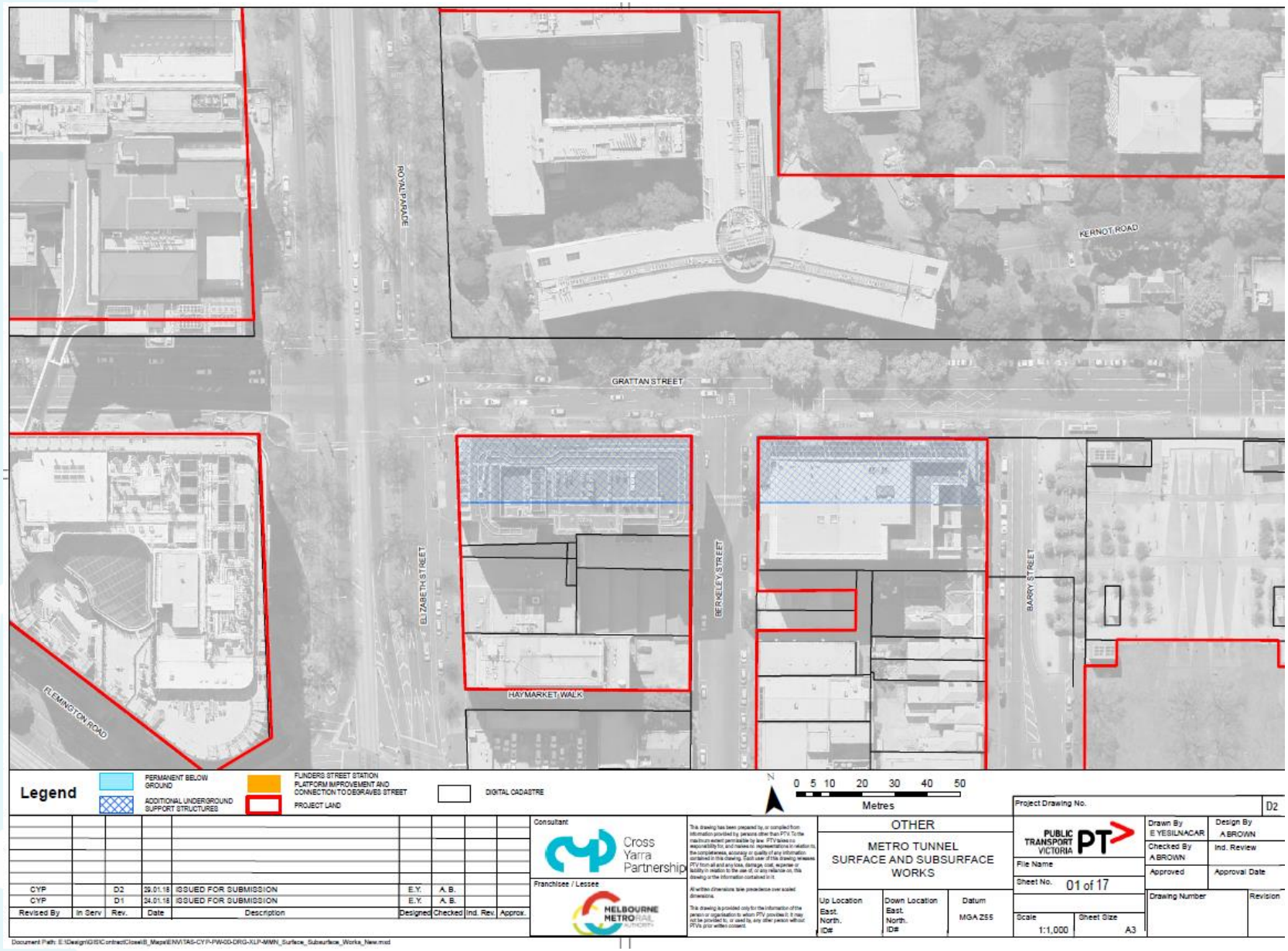

FIGURE 4: ADDITIONAL PROJECT LAND REQUIRED FOR UNDERGROUND SUPPORT STRUCTURES AT PARKVILLE STATION

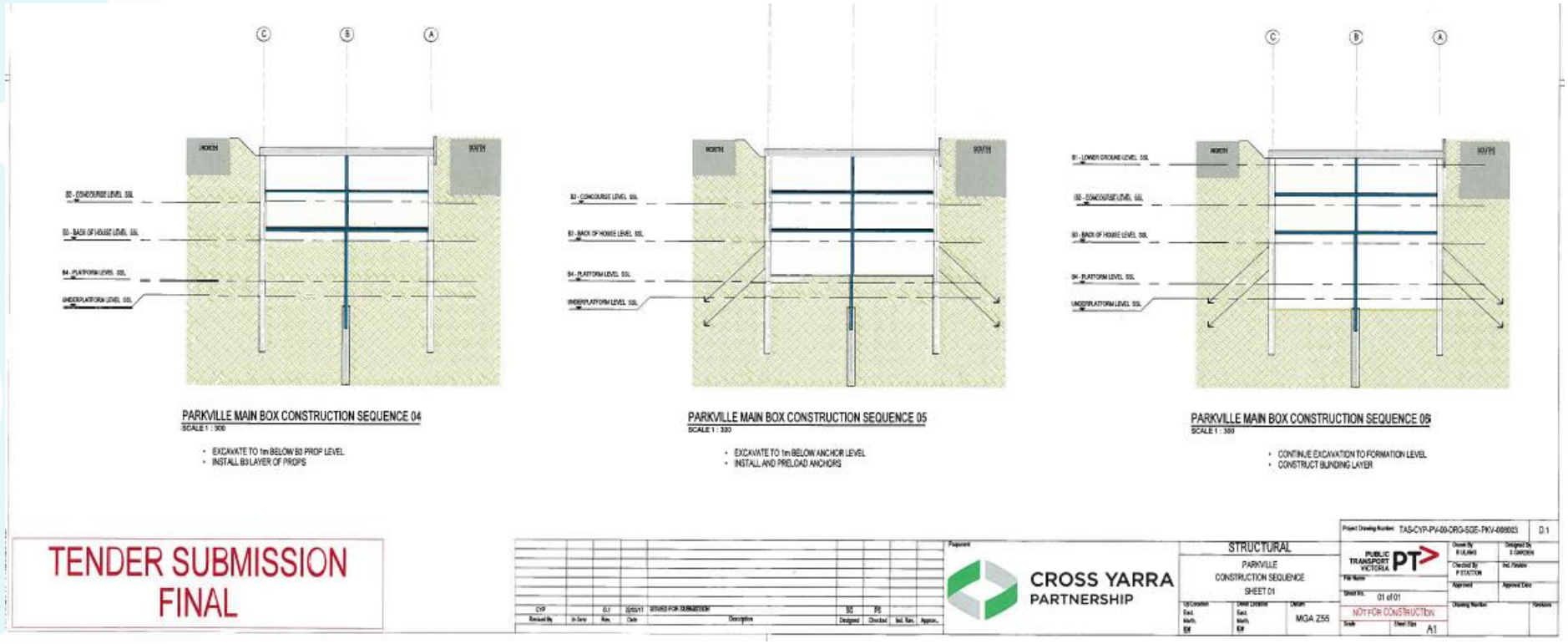

FIGURE 5: CONSTRUCTION SEQUENCE FOR PARKVILLE STATION BOX WITH COMBINATION OF STRUTS AND UNDERGROUND SUPPORT STRUCTURE

3 CBD North Station and Swanston Street

3.1 Scope

The majority of the CBD North Station is located directly beneath Swanston Street. It extends from the southern side of Victoria Street through to the northern side of Little Bourke Street. The eastern boundary runs through RMIT University, to the west of Bowen Lane and it includes the Melbourne City Baths. The western boundary is positioned on the western side of Stewart Street extending through to La Trobe Street before veering under Melbourne Central.

3.2 Design and construction

The design proposed by CYP at CBD North Station requires changes to the approved Project Land. The modifications comprise new or extended lateral infrastructure protection areas and the provision of underground support structures around the three shafts at CBD North. The location of the proposed changes to the Project Land are depicted on Figure 6 and Figure 7.

A combination of struts and underground support structures, including rock anchors, is proposed to be used at CBD North Station to support and maintain the piled walls during excavation. Rock bolts will be inserted along Swanston Street and encasing the adits. Some of these underground support structures extend outside the approved Project Land.

Table 3 describes these changes within this area, together with their physical extent and the rationale.

TABLE 3: ELEMENTS, SCOPE AND RATIONALE FOR ADDITIONAL PROJECT LAND AT CBD NORTH STATION

Element	Scope	Rationale
Rail tunnel alignment	Excursion outside of the approved Project Land is 3 metres or less as follows: • along Swanston Street, between Franklin Street East and Little Lonsdale Street (east of alignment) • along Swanston Street between Franklin Street West and Little Lonsdale Street (west of alignment)	• CYP's station design between CBD North and CBD South now incorporates a trinocular design, which better responds to the ground conditions. To accommodate the improved design, the rail alignment needed to move. • the changes to rail alignment will support a safer and well-designed standard • the changes to rail alignment will reduce tunnel maintenance thereby reducing exposure to safety risks
Additional underground support structures	Excursion outside of the approved Project Land is as follows: • north and south Franklin Street West, between Swanston Street and Stewart Street • south of Franklin Street East • along Swanston Street, between Franklin Street West and A'Beckett Street • 391 Swanston Street • north of Literature Lane and between south of Literature Lane and north of Little La Trobe Street • along Swanston Street between La Trobe Street and Little Lonsdale Street (east of alignment) • south Franklin Street east along Swanston Street, between south Franklin Street to Red Cape Lane between La Trobe Street (east side of alignment)	The additional underground support structures: • stabilise the shafts at Franklin Street east, Franklin Street west, A'Beckett Street and the Swanston Street tunnels • provide safe construction space for the excavation works as the omission of walers provides greater space within the cavern • provide safe and less restricted construction space for the excavation works due to the omission of struts throughout the whole cavern • allow for more efficient constructing techniques, particularly accelerated excavation, to be employed • allow for the combined use of struts and rock bolts to control ground movement closer to the surface • accommodate and support the design improvements to CBD North Station.

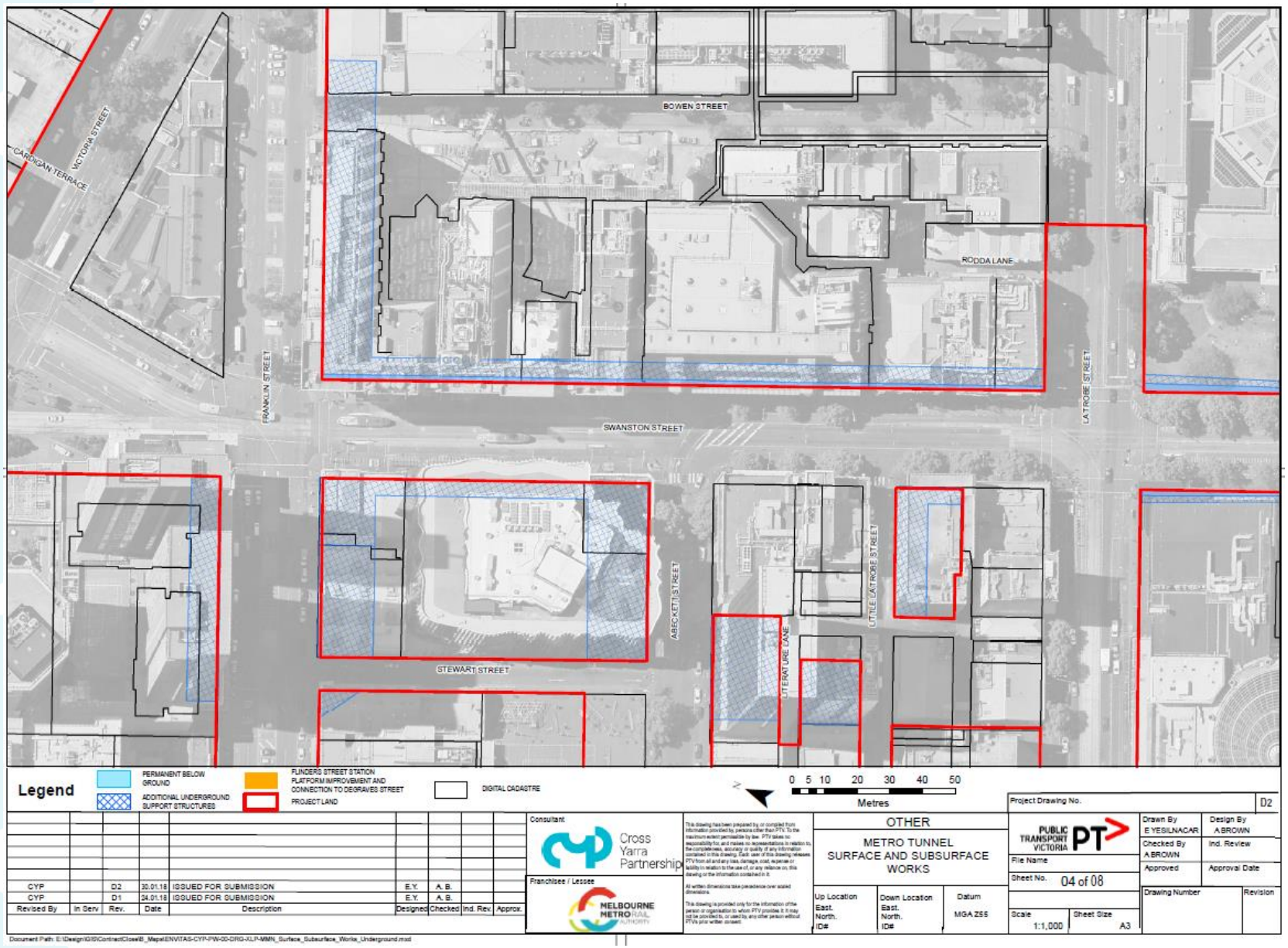

FIGURE 6: ADDITIONAL PROJECT LAND REQUIRED FOR UNDERGROUND SUPPORT STRUCTURES AT CBDNORTH STATION

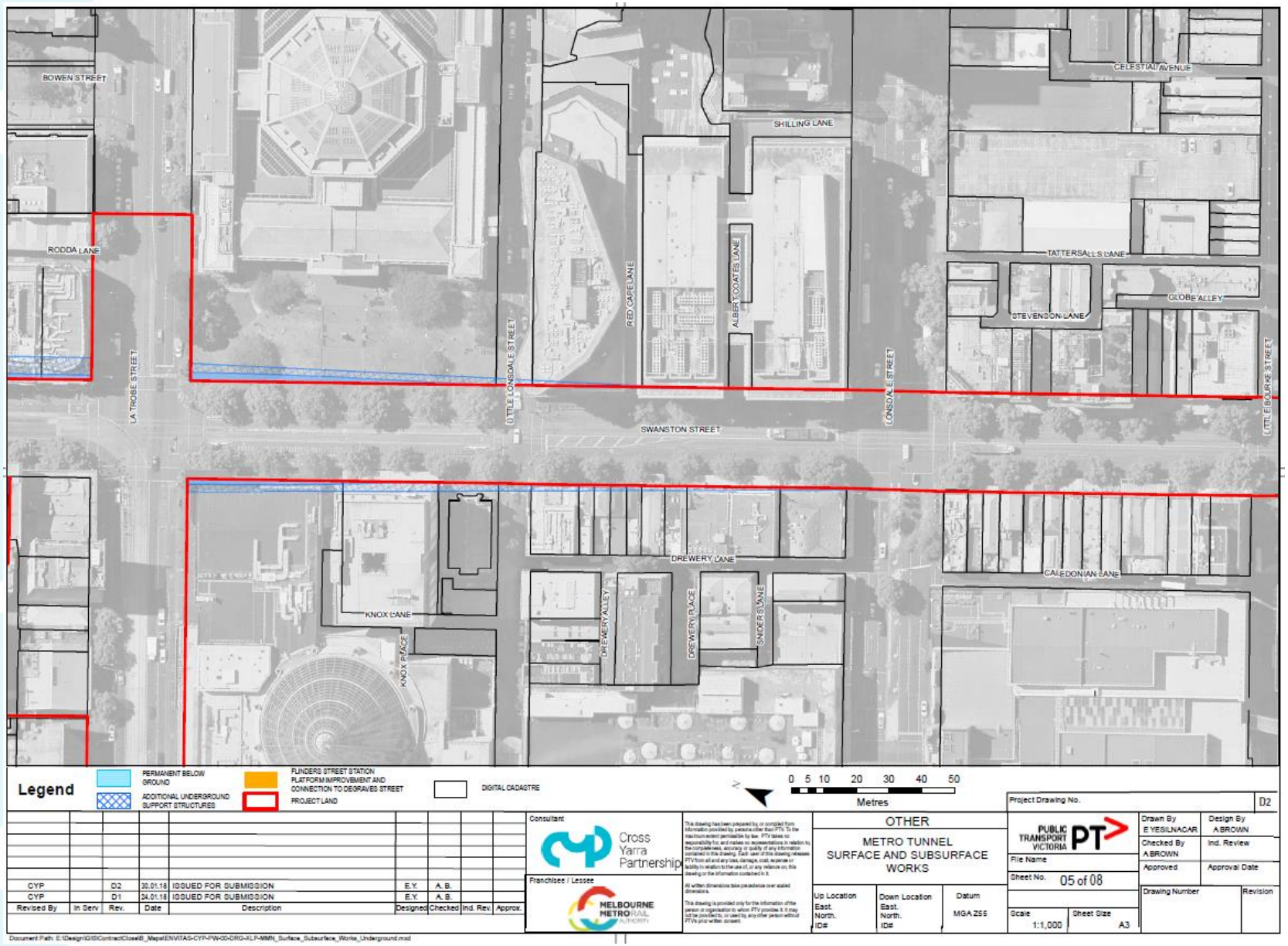

FIGURE 7: ADDITIONAL PROJECT LAND REQUIRED FOR UNDERGROUND SUPPORT STRUCTURES AT CBD NORTH STATION

4 CBD South Station and Swanston Street

4.1 Scope

CBD South Station extends from the southern side of Bourke Street through to the northern side of the Yarra River. The eastern boundary of the Project Land at the CBD South Station runs predominantly along Regent Place, until Charter House Lane. The western boundary is located east of Masons Lane/Monaghan Place, until Flinders Street. The area also included Degraves Street, south of Degraves Place and North of Flinders Street and Flinders Street Platforms.

4.2 Design and construction

The design changes proposed by CYP at CBD South Station that necessitate modifications to the approved Project Land comprise:

- adjustments to the rail tunnel alignment as shown in Figure 8 and Figure 9
- underground support structures (predominantly rock bolts) along Swanston Street and encasing the adits. The location of the additional Project Land required to accommodate the pedestrian and construction adits at CBD South are also shown on Figure 8 to Figure 9 while Figure 10 and Figure 11 presents a schematic of the pedestrian and construction adits and their integration with the CBD South Station.

Additionally, improvements will be made to the Degraves Street Underpass/Campbell Arcade and Flinders Street Platforms. These changes comprise of:

- mid-platform works to improve universal access at Flinders Street Station and works at Degraves Street Underpass and Campbell Arcade, the location of which is depicted on Figure 11:
- The improvements to Flinders Street Station lifts includes:
    - installation of passenger lift supporting structures, lifts, power and controls
    - removal of one stairwell serving each platform to accommodate new lifts
    - modification and/or reinstatement works required to the existing platform structures (including platform canopy)
    - any identified platform strengthening works to address structural issues

- The works at Degraves Street Underpass and Campbell Arcade will largely be cosmetic. These modifications will include:
    - unblocking and cleaning drains in Degraves Street Underpass and repairing/refurbishing any critical water pumps to ensure Degraves Street Underpass meets applicable watertightness Codes of Practice.
    - removal of any loose or cracked wall tiles
    - retention of existing finishes where practicable with appropriate cleaning and localised repairs
    - installation of new finishes using materials similar to those initially used

As a result of CYP's design modifications, the car parking area located at Chapter House Lane, adjoining St.Paul's Cathedral, can be omitted from the Project Land.

Table 4 describes these changes, together with their physical extent and the rationale for including each of the elements.

TABLE 4: ELEMENTS, SCOPE AND RATIONALE FOR ADDITIONAL PROJECT LAND AT CBD SOUTH STATION

Element	Scope	Rationale
Rail tunnel alignment	Excursion outside of the approved Project Land are as follows: • between Collins Street and Flinders Lane (west side of alignment) • between the southern side of Collins Street and the northern side of Flinders Lane (west side of alignment) • south Flinders Lane to north Flinders Street (east side of alignment) • a small section of the Federation Square forecourt (east side of alignment).	• CYP's station design between CBD North and CBD South now incorporates a trinocular design, which better responds to the ground conditions. To accommodate the improved design, the rail alignment needed to move. • the changes to rail alignment will support a safer and well-designed standard • the changes to rail alignment will reduce tunnel maintenance thereby reducing exposure to safety risks
Additional underground support structures	Excursion outside of the approved Project Land are as follows: • between south Bourke Street and the north	The additional underground support structures will: • provide safe construction space for the mined excavation works

	Collins Street • between south of Collins Street and the north Flinders Lane (west side of alignment only) • between south Flinders Lane and north Flinders Street (east side of alignment only)	• provide safe access to the tunnels for contractors • allow for more efficient constructing techniques to be employed • maintain the lateral or tunnel integrity buffer.
Pedestrian adits	A pedestrian adit will be required to link CBD South Station with Federation Square. This will sit parallel to St.Paul's Cathedral footprint and Swanston Street, between south of Flinders Lane and north of Flinders Street. Another pedestrian adit will be required to provide an emergency egress from the tunnel to City Square. This will sit under Melbourne Town Hall footprint and the footpath at the corner of Collins Street and Swanston Street.	The pedestrian adits will: • provide commuters with seamless accessibility between CBD South Station to Federation Square and Flinders Street Station • create more entrance and exit points to reduce pedestrian congestion • enable easier commuter circulation, particularly during peak hours. • be informed by rigorous modelling to minimise damage to surrounding buildings, particularly St.Paul's Cathedral.
Construction adit	A construction adit extending diagonally south from Flinders Lane towards Swanston Street, under the north western corner of St.Paul's Cathedral.	The construction adit is required to: • enable an efficient and safe construction sequence that will minimise ground stress • provide an additional access points during construction to enable efficient construction sequence • reduce the geotechnical stress near the corner of Flinders Lane and Swanston Street • create safer turning points for vehicles at strata • be informed by rigorous modelling to minimise damage to surrounding buildings, particularly St.Paul's Cathedral.
Flinders Street Station Platform Works and Campbell Arcade/Degraves Street Underpass	The CYP design changes at Flinders Street Station will require an extension to the approved Project Land to include the middle section of Flinders Street Station Platforms. The cosmetic changes will occur at Degraves Street Underpass/Campbell Arcade. There are no planned works at 250 Flinders Street (see Figure 10), but rather the cosmetic works may include the stairs access from Degraves Street to the Underpass.	The full extent of the individual platforms at Flinders Street will not be affected as lifts and staircases are to be installed mid-platform to improve universal access between Flinders Street Station and the Degraves Street Underpass. Overall, these design changes will: • provide commuters seamless accessibility from CBD South Station to Flinders Street Station • provide a superior station access design for commuters by connecting the middle of Flinders Street Station platforms, avoiding the already congested forecourt area of Flinders Street Station • ensure improved access is provided mid-platform at Flinders Street Station • avoid invasive works within the Flinders Street Station forecourt • provide cosmetic improvements to Campbell Arcade that respects the heritage value • a heritage permit will be required for works to Campbell Arcade and options will be investigated to retain heritage features, wherever possible. • ensure the underpass meets water tightness standards

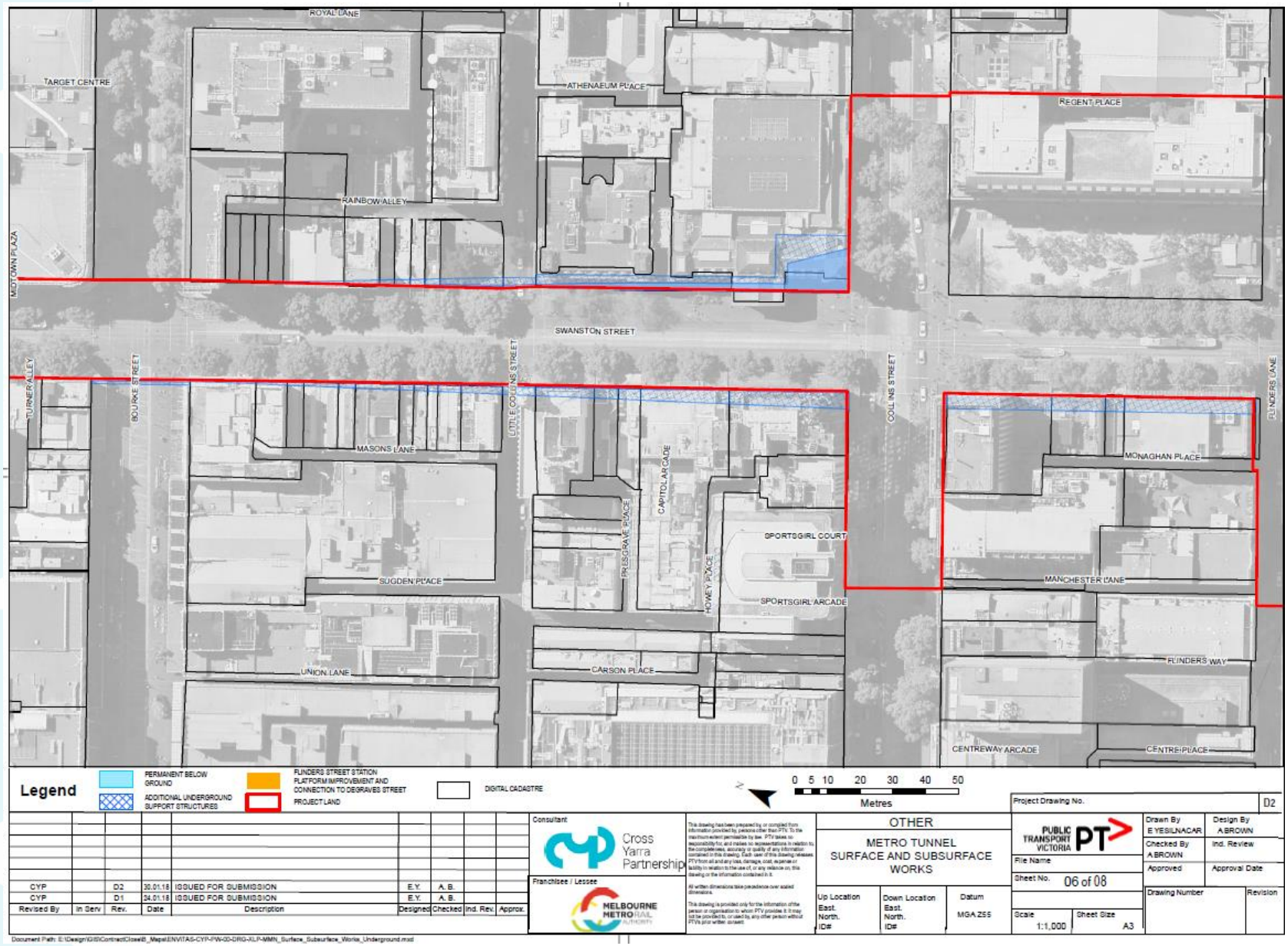

FIGURE 8 ADDITIONAL PROJECT LAND REQUIRED FOR PERMANENT BELOWGROUND AND UNDERGROUND SUPPORT STRUCTURES AT CBD SOUTH STATION

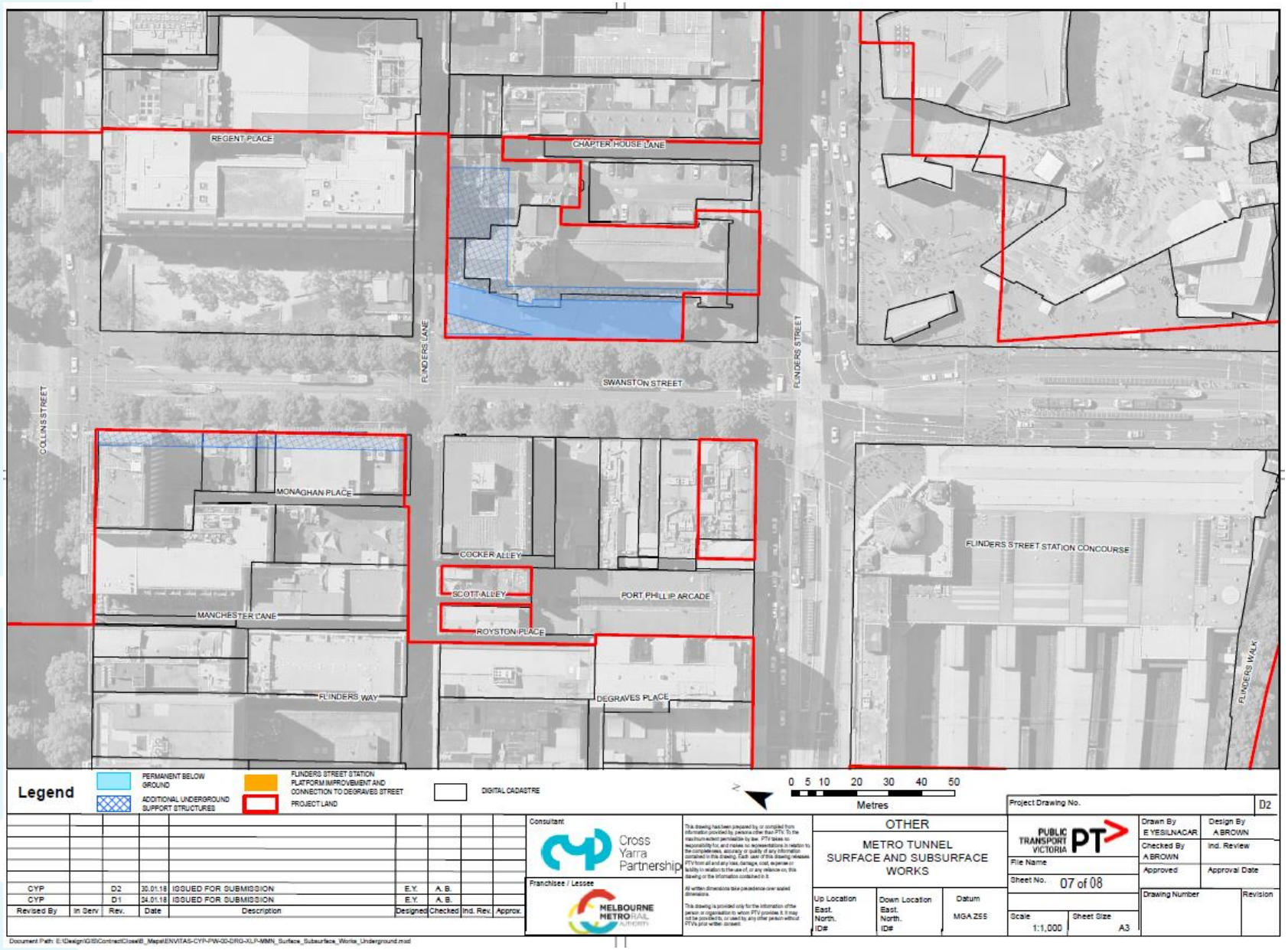

FIGURE 9: ADDITIONAL PROJECT LAND REQUIRED FOR PERMANENT BELOWGROUND AND UNDERGROUND SUPPORT STRUCTURES AT CBD SOUTH STATION

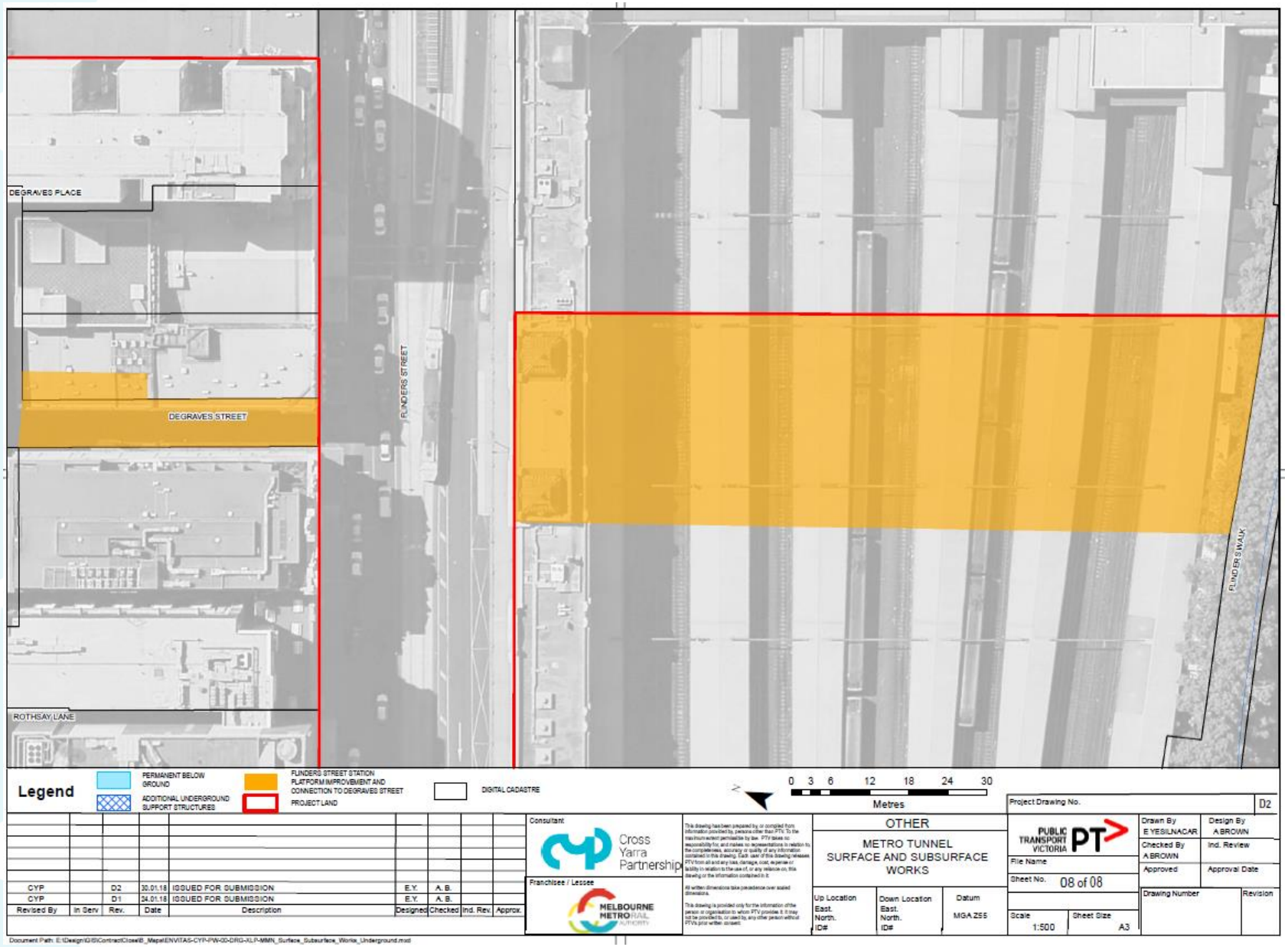

FIGURE 10: ADDITIONAL PROJECT LAND REQUIRED FOR FLINDERS STREET STATION PLATFORM IMPROVEMENTS AND CONNECTION TO DEGRAVES STREET

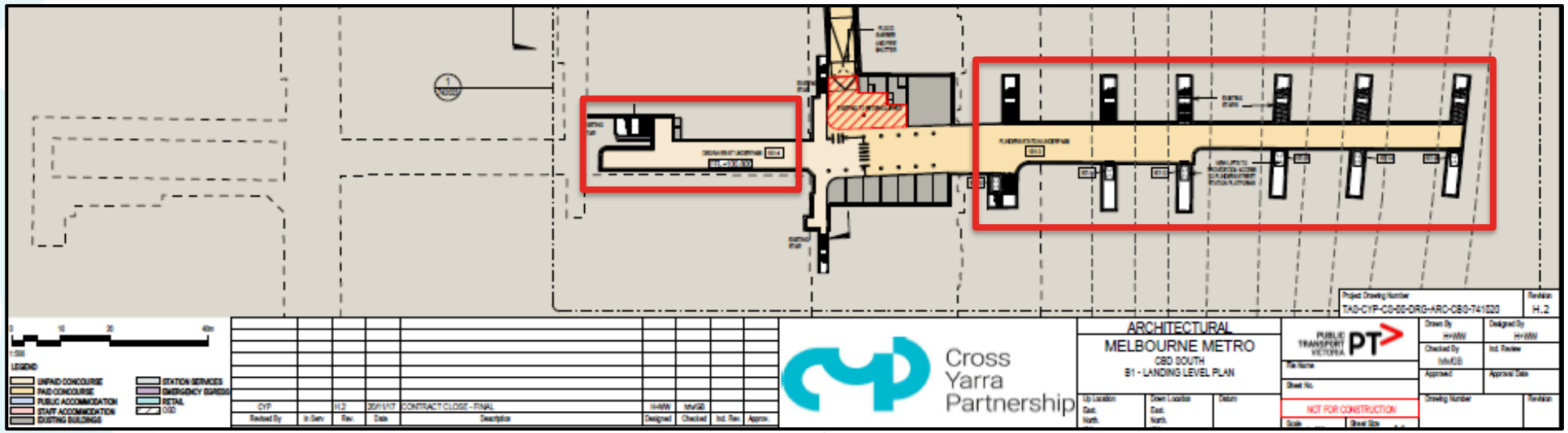

FIGURE 11: CAMPBELL ARCADE/DEGRAVES STREET UNDERPASS AND FLINDERS STREET STATION MID-PLATFORM ACCESS PLAN

5 Additional road surface works

5.1 Scope

To accommodate the construction phase and permanent (i.e. legacy) phase requirements proposed by CYP, road reserves located outside of the approved Project Land have been identified for inclusion in the Project Land. These will be used for traffic management purposes during construction phase, with some segments requiring legacy road works (such as new tramways, road adjustments, line marking and resurfacing, footpath resurfacing and landscaping). For ease of reference, these additional roads have been summarised in the following section. As construction management plans are developed for each station, these will be presented to the Traffic and Transport Working Group (TTWG) prior to submission to regulatory bodies for formal comment. The TTWG provides an opportunity to identify any "show stoppers" as well as work through the impacts on the transport network in a coordinated manner. The TTWG will also provide a similar opportunity for the legacy design packages, allowing the design to be presented to members of the TTWG prior to their collation of formal comments from individual organisations.

Transport Management Plans (TMPs) for the project as well as Traffic Management Plans/Traffic Guidance Schemes for construction traffic management events will be prepared as well as the various requirements of the Transport Environmental Performance Requirements (EPRs). The Transport EPRs specify the various modal and approval requirements for traffic management.

5.2 Additional roads required for temporary road traffic management

Table 5 lists the CYP construction requirements for the roads outside the approved Project Land. The TMPs will be prepared and implemented in accordance with the approved EPRs for the project, setting out specific traffic management activities. The TTWG will be also be presented with the TMPs for comment. Temporary traffic management measures will typically involve signage, line marking and small kerb and channel adjustments.

The roads located outside the approved Project Land identified by CYP as being required for temporary road traffic management are shown in Figure 12 to Figure 20.

TABLE 5: ROAD MANAGEMENT ACTIVITIES FOR THE CONSTRUCTION PHASE

Element	Scope	Rationale

Arden Street	Located south of North Melbourne Football Club and north of Laurens Street and west of Fogarty Street and west of Dryburgh Street	The whole section of road is required for temporary traffic management. This will:
		• allow for construction work to be carried out safely and ensure that travel, either through or around, work sites can be appropriately managed keeping traffic delays to a minimum by strategically managing traffic (motorists, pedestrians and cyclists), which may include but is not limited to;
		  • detours
		  • night works
		  • working adjacent to traffic
		  • safety barriers
		  • access to adjoining properties.
		• entries and exits to include clear advanced warning signage
		• complying with safety guidelines and regulations.
		
		Overall, this is likely to be short term - on a day to day basis. There is the potential for some longer-term impacts of up to three months.

Royal Parade	Located south of Storey Street to Genetics Lane. The area is required for road management lanes 2, 3, 4 (west to east) and tram tracks.	The whole section of road is required for temporary traffic management. This will: • allow for construction work to be carried out safely • entries and exits to cater for expected traffic volumes and with respect to sight distances, acceleration and deceleration provision and clear advanced warning signage • keep traffic delays to a minimum by strategically managing traffic • minimising disturbances to the environment • complying with safety guidelines and regulations • potential traffic realignment to facilitate safe road use. Overall, there is the potential for some longer-term impacts of up to three months.

Grattan Street	Located east of Bouverie Street and west of Swanston Street.	The whole section of road is required for temporary traffic management. This will: • allow for construction work to be carried out safely • entries and exits to cater for expected traffic volumes and with respect to sight distances, acceleration and deceleration provision and clear advanced warning signage • keeping traffic delays to a minimum by strategically managing traffic • minimising disturbances to the environment • complying with safety guidelines and regulations. Overall, this is likely to be short term - on a day to day basis. There is the potential for some longer-term impacts of up to three months.
Cardigan Street	Located north of Victoria Street and south of Earl Street.	The whole section of road is required for temporary traffic management. This will: • allow for construction work being carried out safely • entries and exits to cater for expected traffic volumes and with respect to sight distances, acceleration and deceleration provision and clear advanced warning signage • keeping traffic delays to a minimum by strategically managing traffic • minimising disturbances to the environment • complying with safety guidelines and regulations • potential traffic realignment to facilitate safe road use. Overall, this is likely to be short term - on a day to day basis. There is the potential for some longer-term impacts of up to three months.
Flinders Street	Located east of Queen Street and west of Elizabeth Street.	The section of Flinders Street will be required for traffic management to allow for: • construction work being carried out safely • entries and exits to cater for expected traffic volumes and with respect to sight distances, acceleration and deceleration provision and clear advanced warning signage • keeping traffic delays to a minimum by strategically managing traffic • minimising disturbances to the environment • complying with safety guidelines and regulations • potential traffic realignment to facilitate safe road use. Overall, traffic management along Flinders Street is likely to be required on a day to day basis throughout the duration of the project construction phase with the possibility of some longer-term impacts of up to three months.
Flinders Lane	Located west of Elizabeth Street and east of Swanston Street. More specifically, the western half of this area is required for temporary traffic management.	The western section of Flinders Lane will be required for traffic management to allow for: • construction work being carried out safely • entries and exits to cater for expected traffic volumes and with respect to sight distances, acceleration and deceleration provision and clear advanced warning signage • keeping traffic delays to a minimum by strategically managing traffic • minimising disturbances to the environment • complying with safety guidelines and regulations • potential traffic realignment to facilitate safe road use. Overall, this is likely to be short term - on a day to day basis. There is the potential for some longer-term impacts of up to three months.

Flinders Lane	Located west of Swanston Street and east of Russell Street.	The whole section of road is required for temporary traffic management. This will: • allow for construction work to be carried out safely • entries and exits to cater for expected traffic volumes and with respect to sight distances, acceleration and deceleration provision and clear advanced warning signage • keeping traffic delays to a minimum by strategically managing traffic • minimising disturbances to the environment • complying with safety guidelines and regulations • potential traffic realignment to facilitate safe road use. Overall, this is likely to be short term - on a day to day basis. There is the potential for some longer-term impacts of up to three months.
Kings Way	Located south of Palmerston Crescent and north of Albert Road.	The whole section of road is required for temporary traffic management. This will: • allow for construction work being carried out safely • entries and exits to cater for expected traffic volumes and with respect to sight distances, acceleration and deceleration provision and clear advanced warning signage • keeping traffic delays to a minimum by strategically managing traffic • minimising disturbances to the environment • complying with safety guidelines and regulations • potential traffic realignment to facilitate safe road use. Overall, this is likely to be short term - on a day to day basis. There is the potential for some longer-term impacts of up to three months.
Albert Road	Located west of Kings Way and east of Stead Street.	The whole section of road is required for temporary traffic management. This will: • allow for construction work to be carried out safely • entries and exits to cater for expected traffic volumes and with respect to sight distances, acceleration and deceleration provision and clear advanced warning signage • keeping traffic delays to a minimum by strategically managing traffic • minimising disturbances to the environment • complying with safety guidelines and regulations • potential traffic realignment to facilitate safe road use. Overall, this is likely to be short term - on a day to day basis. There is the potential for some longer-term impacts of up to three months.
Toorak Road	Located west of Darling Street and east of Claremont Street.	The whole section of road is required for temporary traffic management. This will: • allow for construction work to be carried out safely • entries and to exits cater for expected traffic volumes and with respect to sight distances, acceleration and deceleration provision and clear advanced warning signage • keeping traffic delays to a minimum by strategically managing traffic • minimising disturbances to the environment • complying with safety guidelines and regulations • potential traffic realignment to facilitate safe road use. Overall, this is likely to be short term - on a day to day basis. There is the potential for some longer-term impacts of up to three months.

5.3 Additional legacy road surface works

The roads outside the approved Project Land identified by CYP as being required for legacy road surface works under short-term occupations are shown in Figure 13, Figure 16, Figure 19 and Figure 20

Table 6 below lists the legacy road surface works. A series of TMPs will be prepared and implemented in accordance with the approved EPRs, in line with TTWG formal comment.

TABLE 6: LEGACY ROAD MANAGEMENT ACTIVITIES

Element	Scope	Rational
Royal Parade	Located on Royal Parade to the south of Storey Street through to Genetics Lane.	The legacy road work will include: • road adjustment, line marking and resurfacing • bus stop adjustment • footpath resurfacing • landscaping. This will ensure the roads are reinstated to (or exceed) pre-development standards and that the correct road adjustments meet applicable road standards and regulations. Landscaping will improve the public realm. These works will have impacts of up to three months.
Flinders Street	Located to the east of Queen Street and west of Elizabeth Street. It also includes a small section of Elizabeth Street near the Flinders Street intersection.	From Elizabeth Street to Flinders Street, the new tram curves and associated overhead wires will be installed. These are required to: • allow the trams 19, 57 and 59 to integrate into the current tram network along Flinders Street • allow more trams onto the network overall • reduce delays currently experienced on the network due to trams terminating at the Elizabeth Street/Flinders Lane final stop. Reinstatement of the road will ensure: • the re-surfacing of road, kerb and channels are compliant with road regulations • associated landscaping works improve the public realm. Overall, these road works will have some longer-term impacts of up to six months for the Degraves Street connection and one month for the Elizabeth Street curve.
Flinders Lane	Located on the eastern half of Flinders Lane to the west of Elizabeth Street and east of Swanston Street.	The legacy works will include: • road works • drainage • utility • hardscaping. This will ensure the roads are reinstated to (or exceed) pre-development standards and meet applicable road regulations. Landscaping will improve the public realm. Overall, these works will have some longer-term impacts of up to six months.
Kings Way	Located south of Palmerston Crescent and north of Albert Road.	The legacy works will include: • minor adjustments to kerb and channel • pedestrian/cycle crossings • traffic signals. This will ensure the roads are reinstated to pre-development standards and meet applicable road regulations. Landscaping will improve the public realm. Overall, these works will have some longer-term impacts of up to four months.
Albert Road	Located west of Kings Way and east of Stead Street.	The legacy works will include: • minor adjustments to kerb and channel, • pedestrian/cycle crossings • traffic signals. This will ensure the roads are reinstated to pre-development standards and meet applicable road regulations. Landscaping will improve the public realm. Overall, these works will have some longer-term impacts of up to six months.
Toorak Road	Located west of Darling Street and east of Claremont Street.	The legacy works are related to underground utilities. These are required to upgrade and protect utilities on Toorak Road. Overall, this will have some longer-term impacts of up to two months.

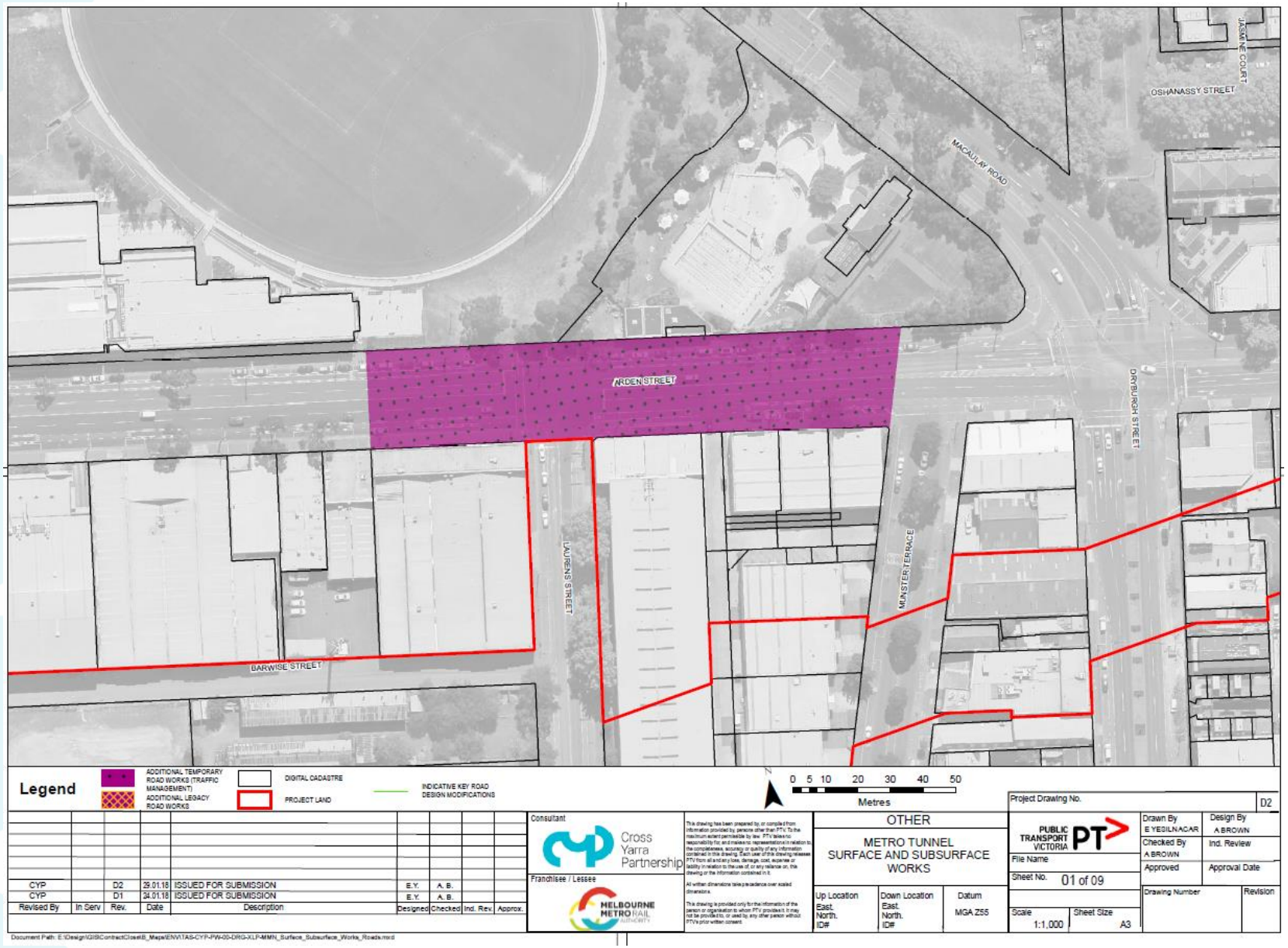

FIGURE 12: ARDEN STREET ADDITIONAL ROAD SURFACE WORKS

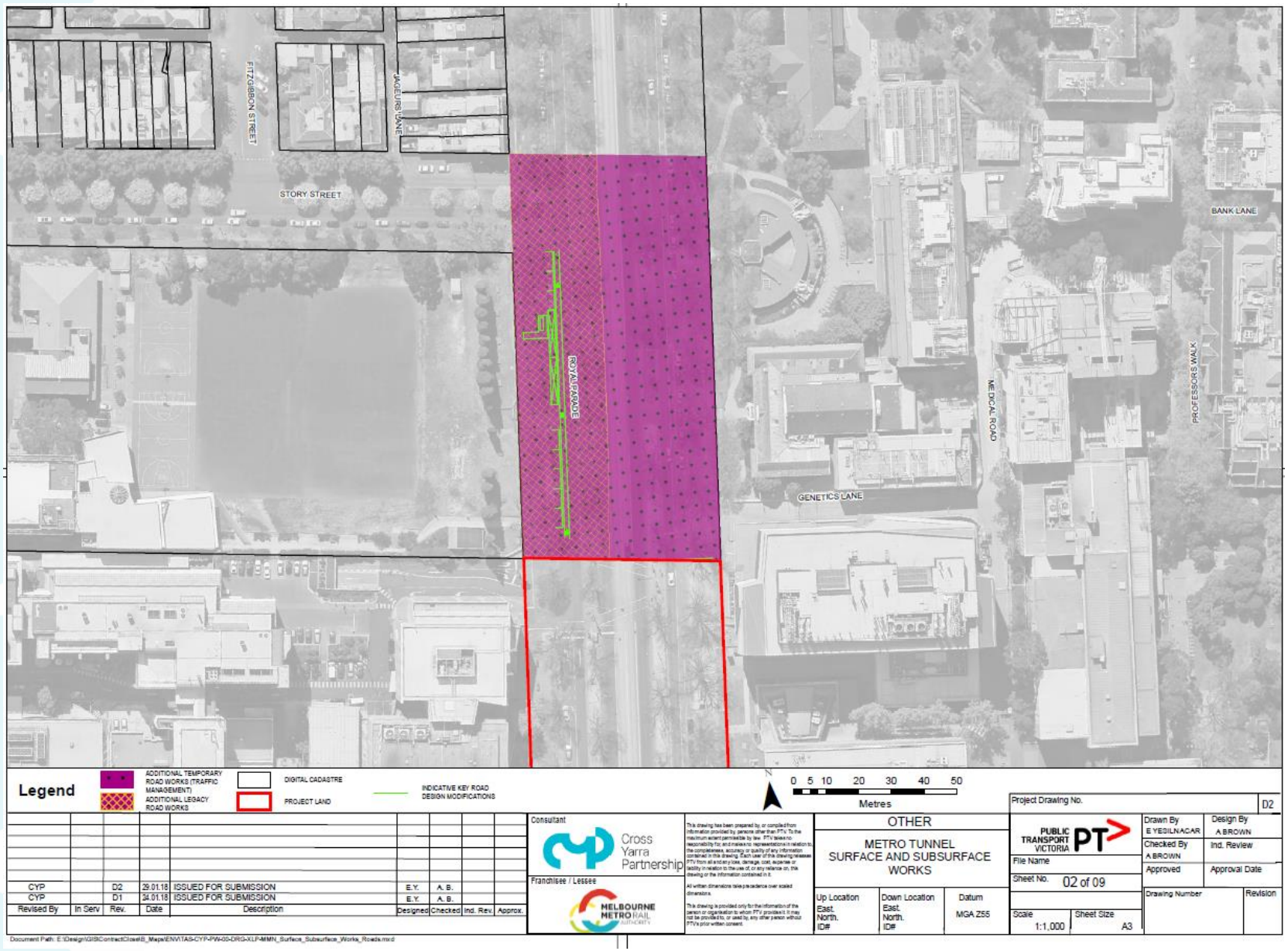

FIGURE 13: ROYAL PARADE ADDITIONAL ROAD SURFACE WORKS

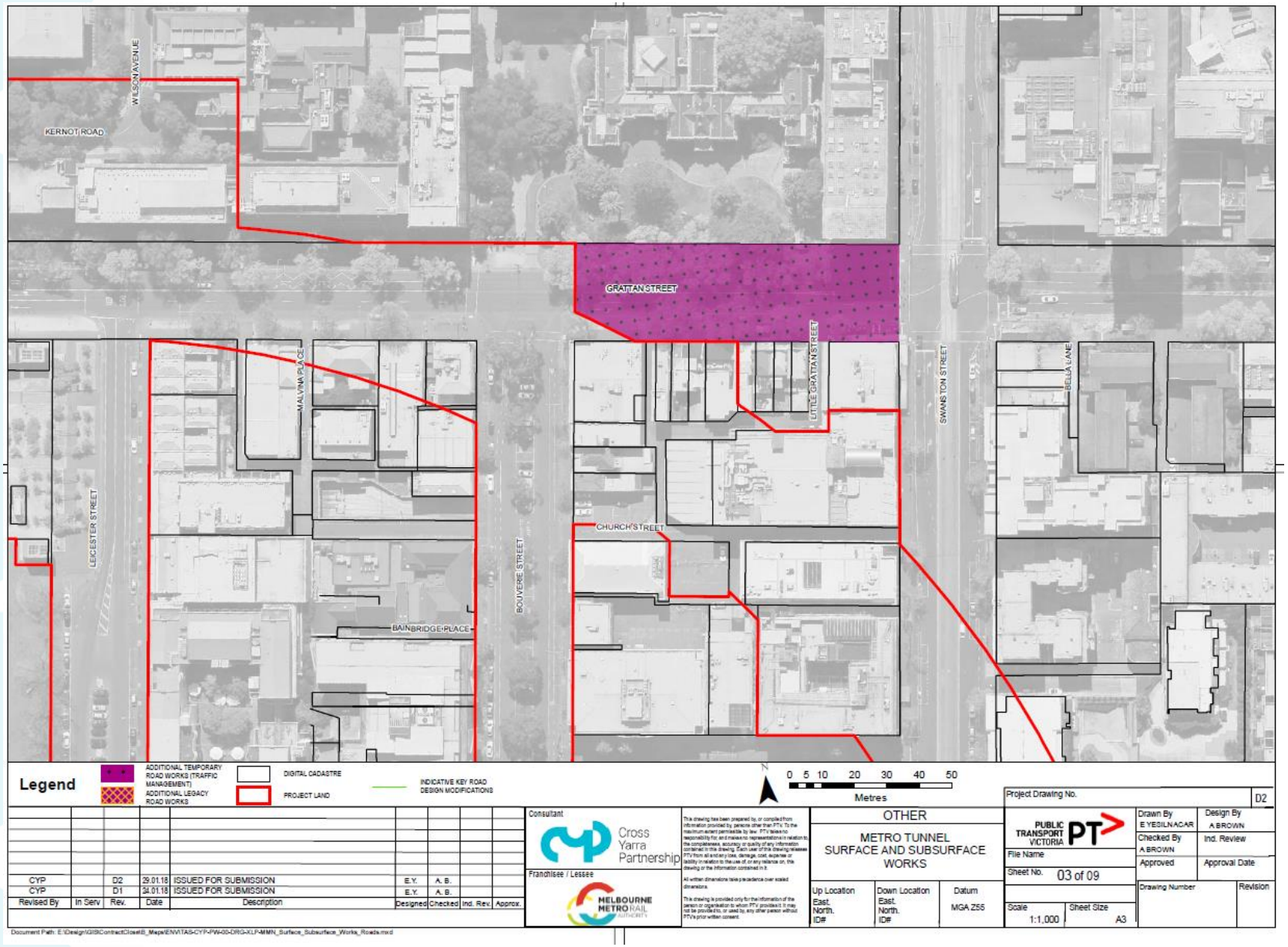

FIGURE 14: GRATTAN STREET ADDITIONAL ROAD SURFACE WORKS

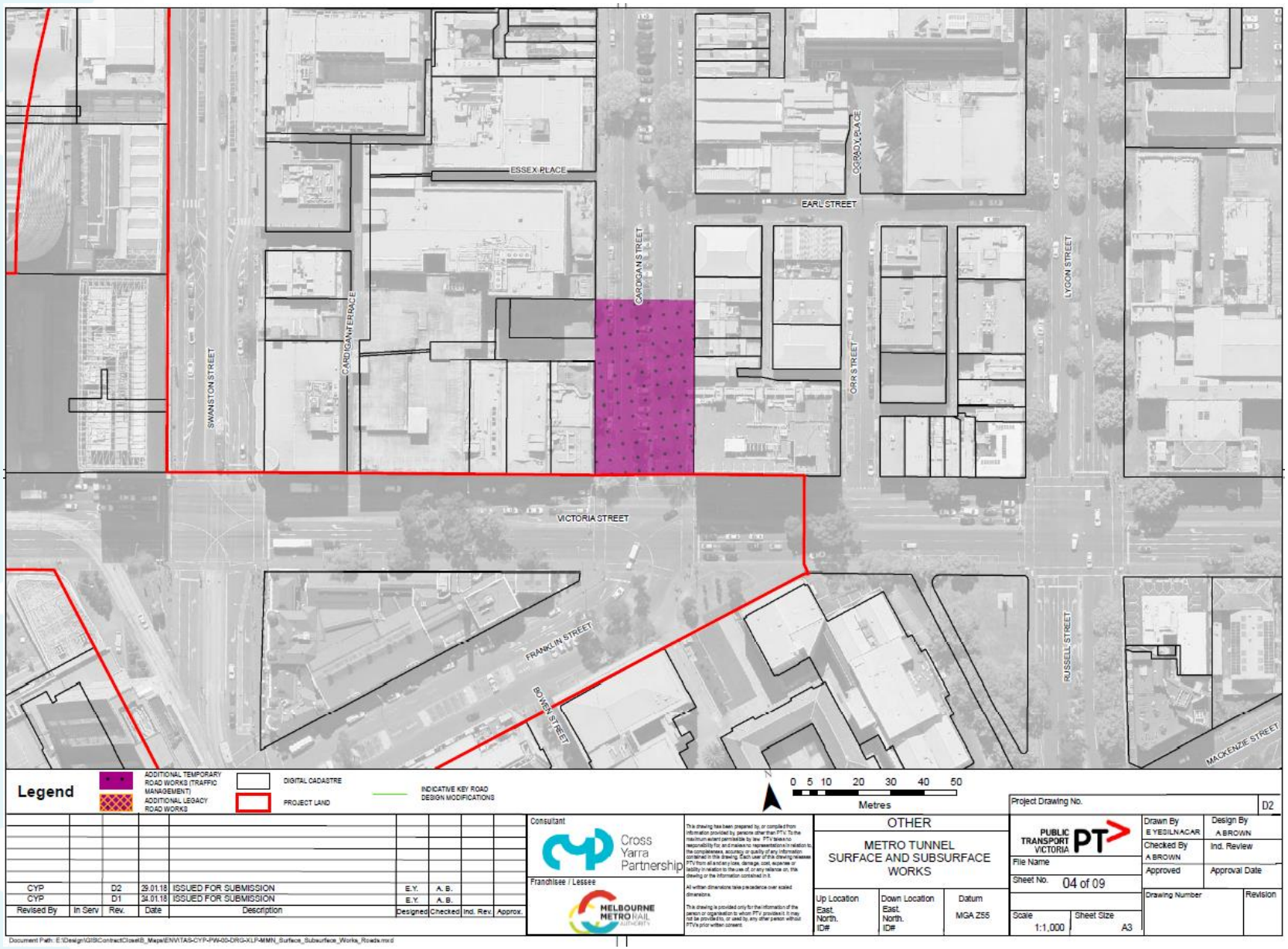

FIGURE 15: CARDIGAN STREET ADDITIONAL ROAD SURFACE WORKS

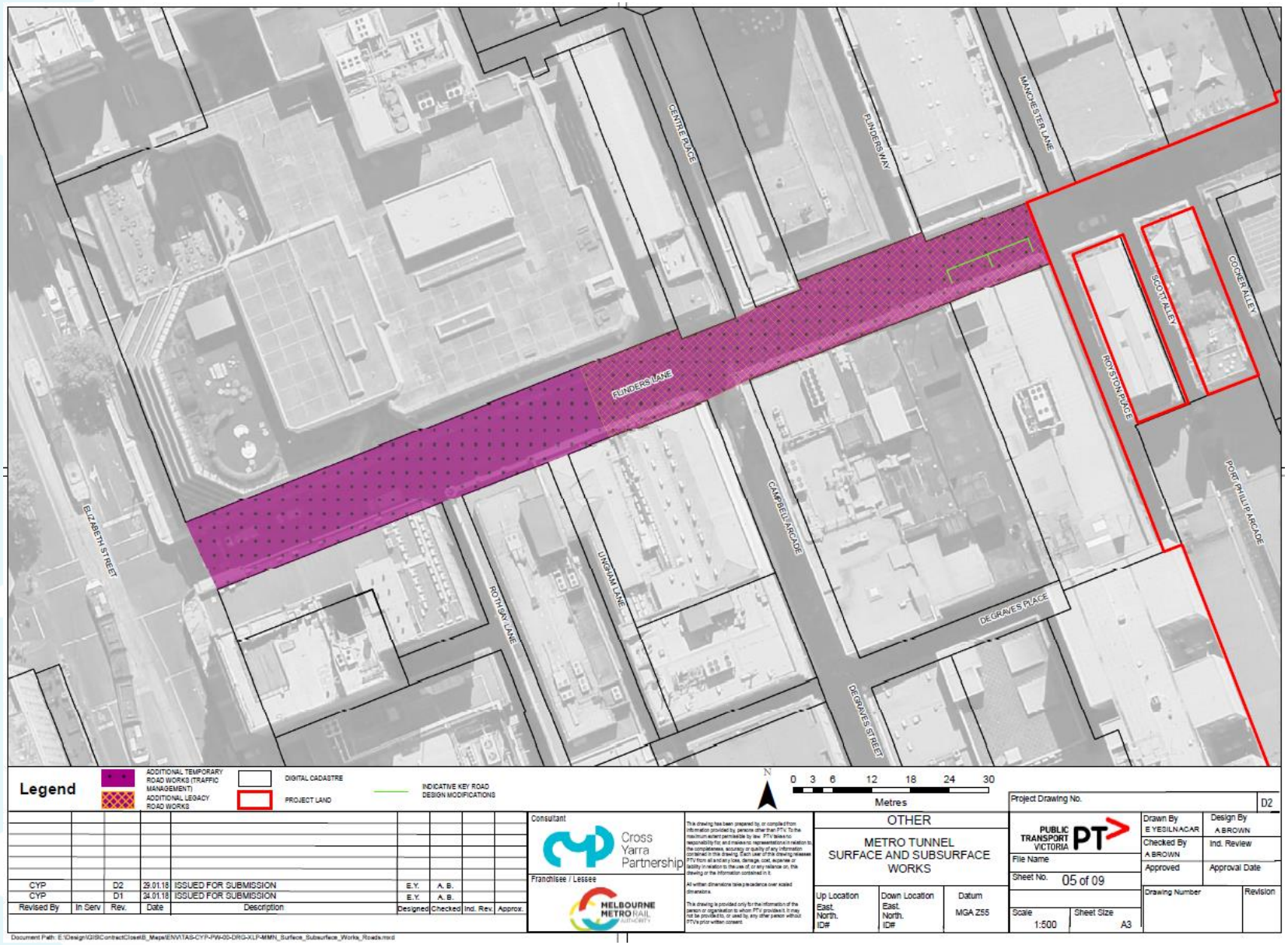

FIGURE 16: FLINDERS LANE ADDITIONAL ROAD SURFACE WORKS

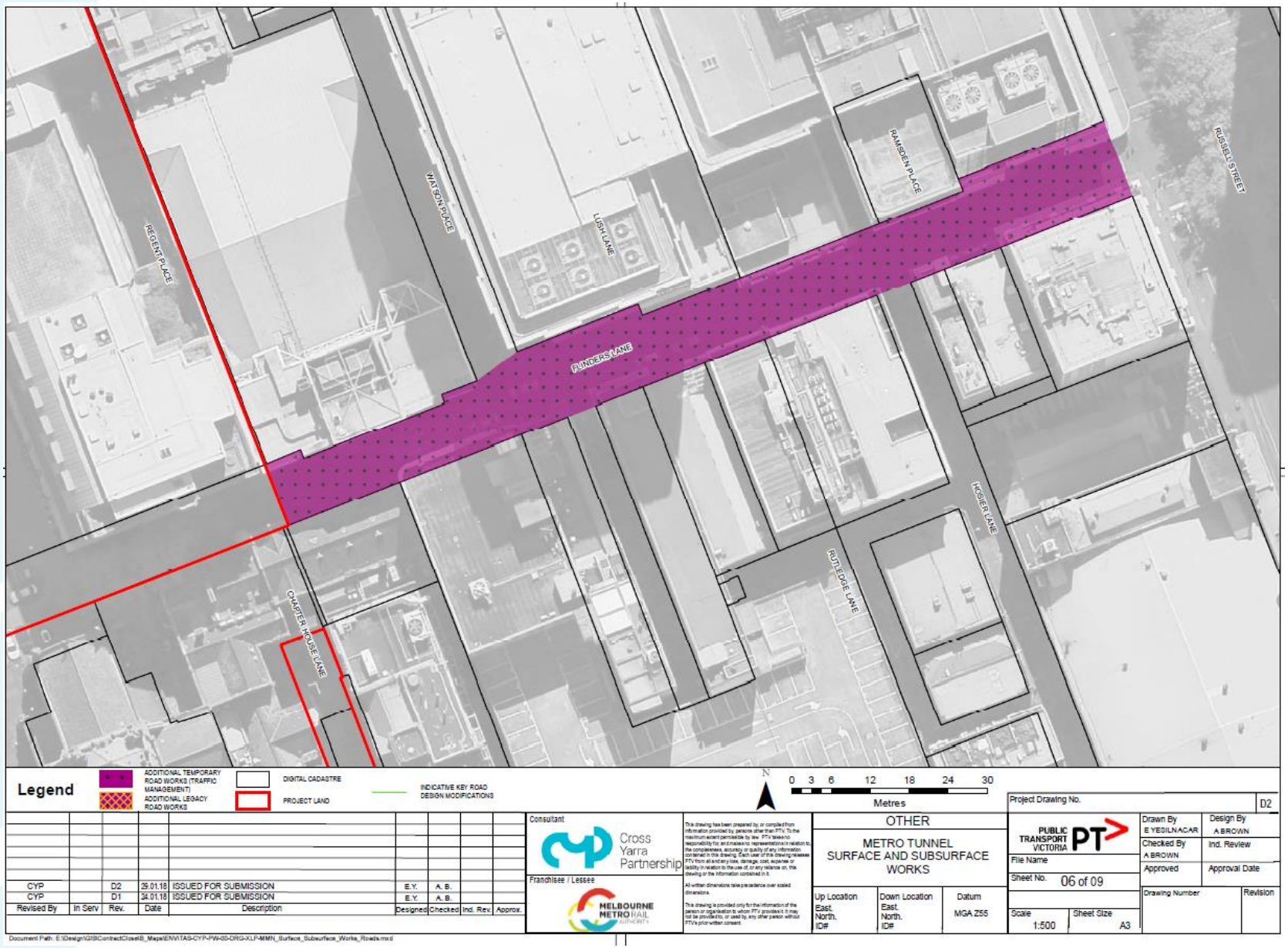

FIGURE 17: FLINDERS LANE ADDITIONAL ROAD SURFACE WORKS

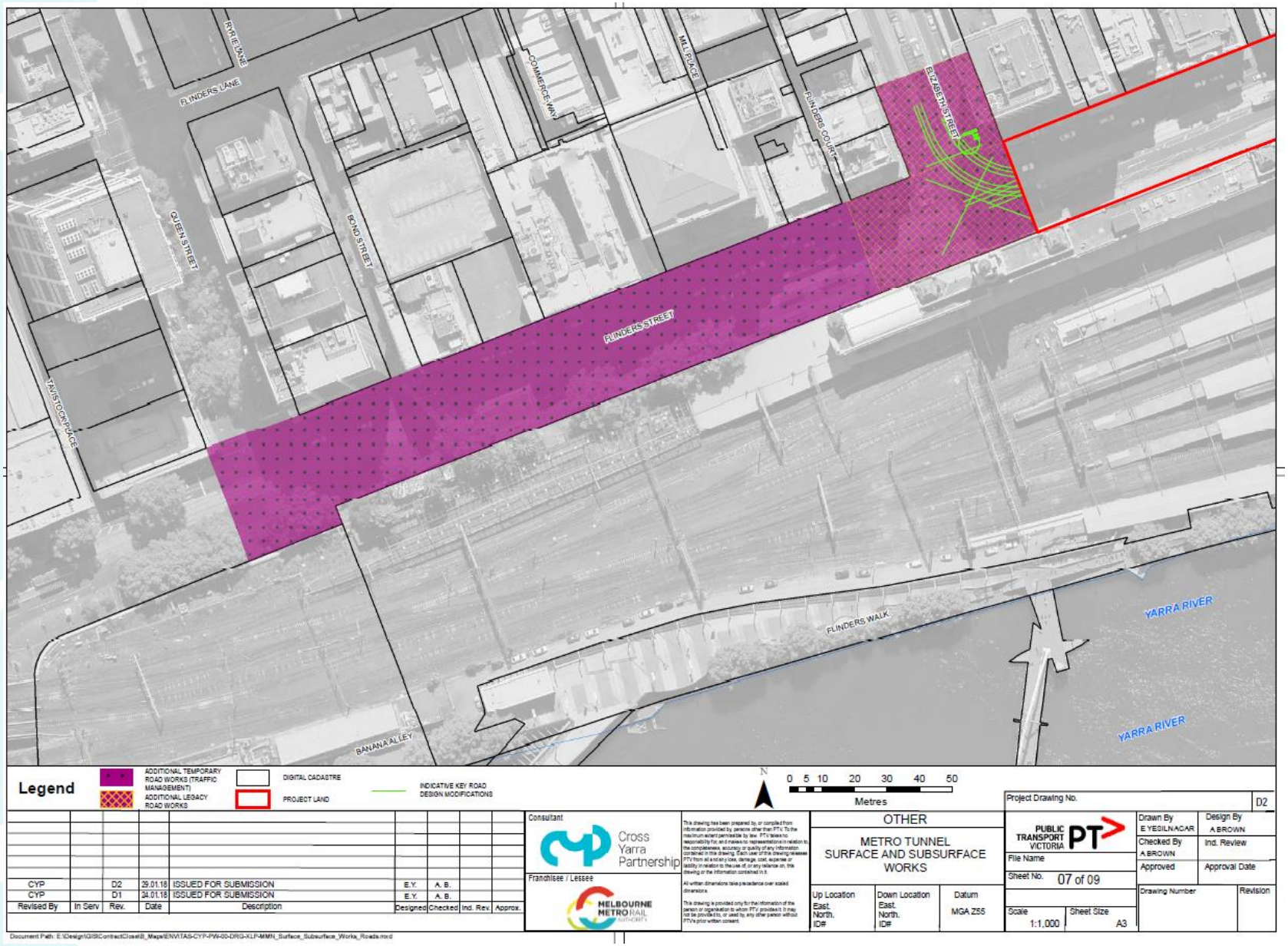

FIGURE 18: FLINDERS LANE ADDITIONAL ROAD SURFACE WORKS

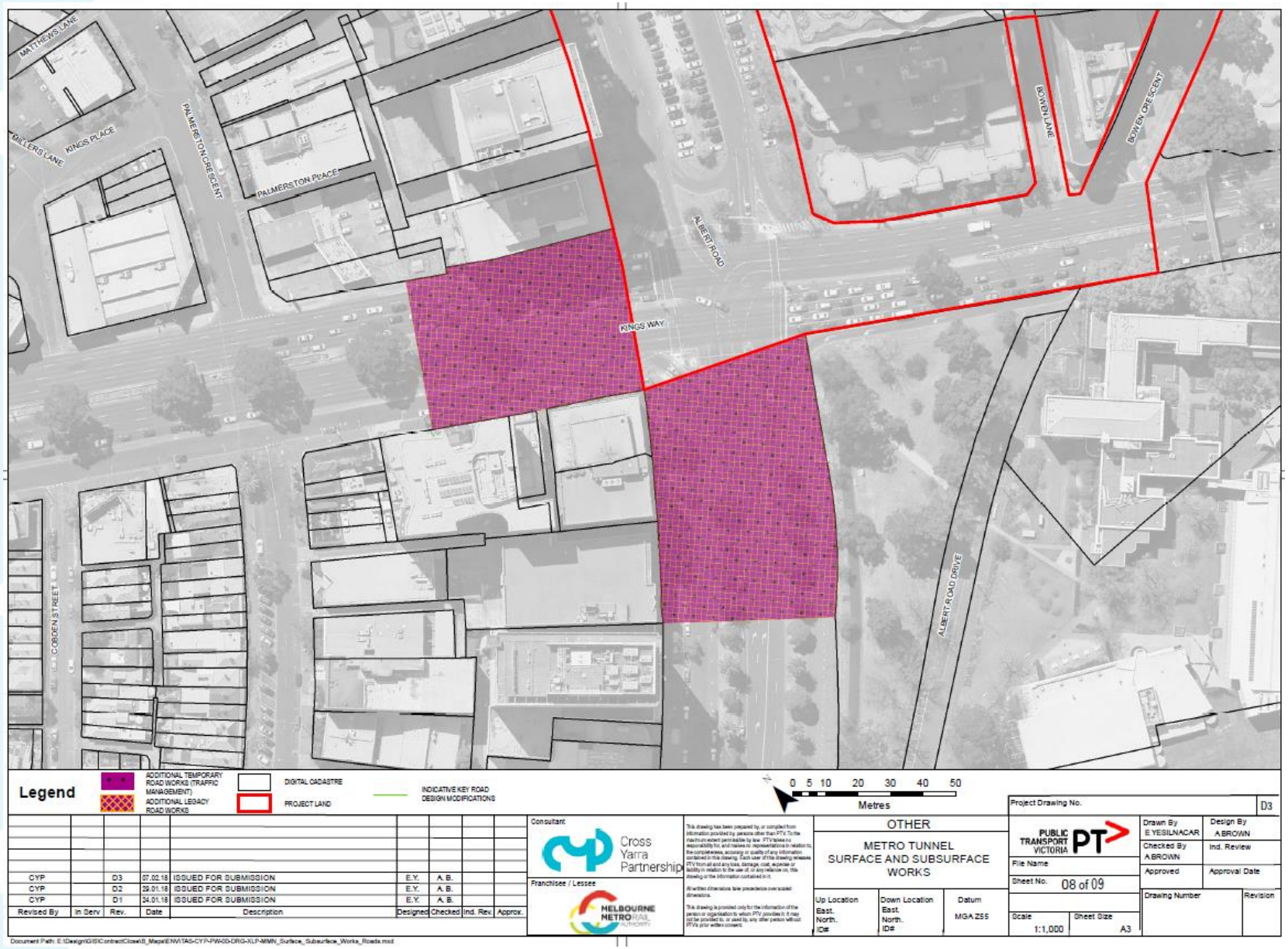

FIGURE 19: KINGS WAY AND ALBERT STREET ADDITIONAL ROAD SURFACE WORKS

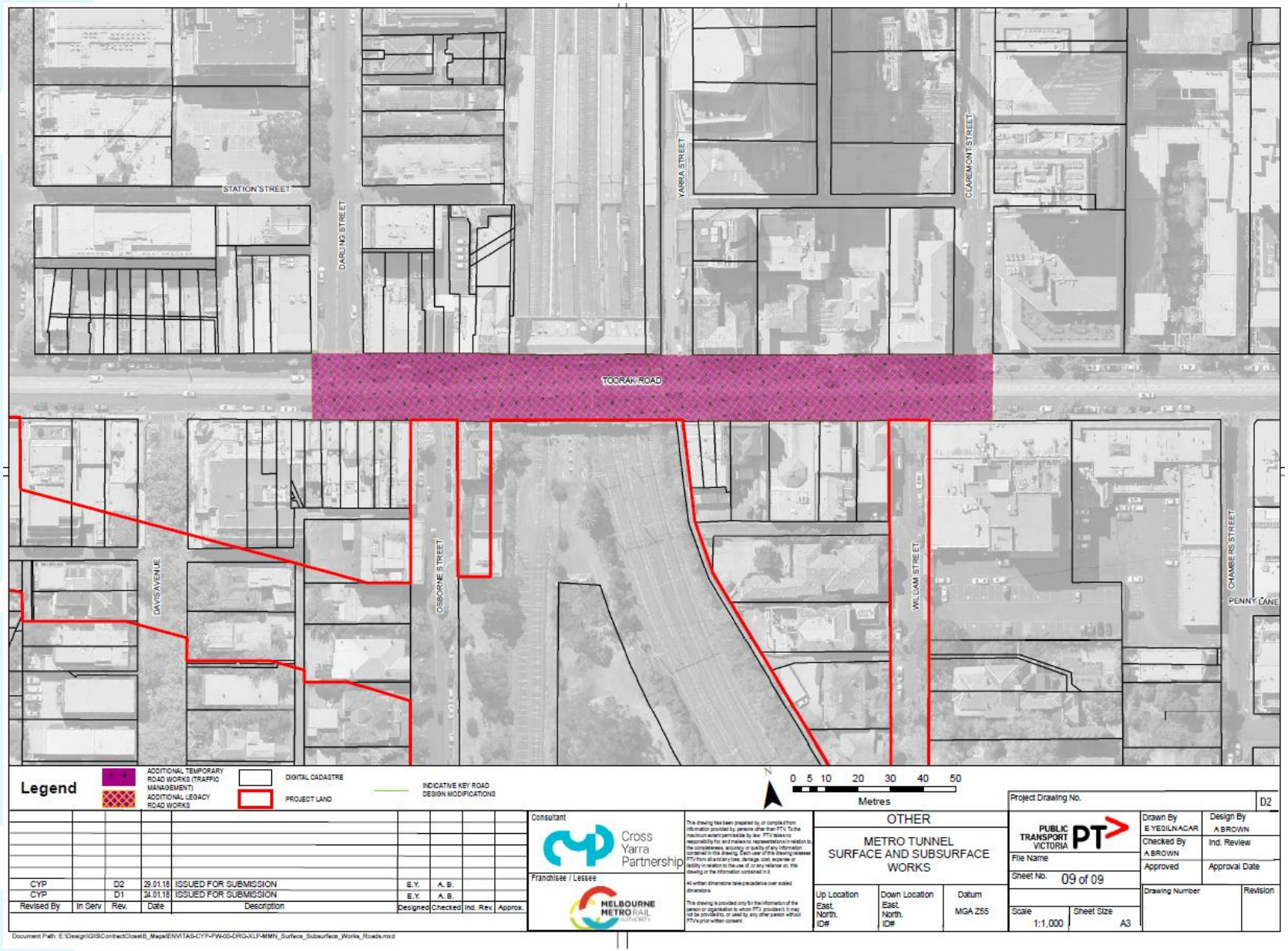

FIGURE 20: TOORAK ROAD ADDITIONAL ROAD SURFACE WOR