



# ARDEN AND PARKVILLE COMMUNITY REFERENCE GROUP

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MEETING 17

21 May 2021



Construction partner:



# AGENDA

1. Introductions and welcome
2. Project wide construction update
3. Parkville construction update
4. North Melbourne construction update
5. Tunnelling update
6. Stakeholder and communications update
7. Metro Tunnel Creative Program update
8. General feedback and items for future discussion
9. Meeting close

# CONSTRUCTION UPDATE – PROJECT WIDE



*Presenter: Kim Norton*

# ANZAC STATION

- Tunnelling is complete. TBM retrieval and decommissioning is underway
- Anzac Station is moving closer to completing excavation of the entire station box underneath St Kilda Road
- Stage 1 of the station entrance at the Shrine of Remembrance is now complete
- The first section of the base slab for the Tram/Train interchange was poured earlier this month.



*Anzac Station site*



Construction partner:



*Presenter: Kim Norton*

# STATE LIBRARY STATION

- Breakthrough from the Little La Trobe Street southern adit into the La Trobe Street site has occurred
- Top-down construction works are progressing at the La Trobe Street site
- Within the central cavern, permanent concrete elements are being installed along the cavern ceiling
- Within the Franklin Street sites works continue to install waterproofing material, formwork, steel, tension anchors and concrete.



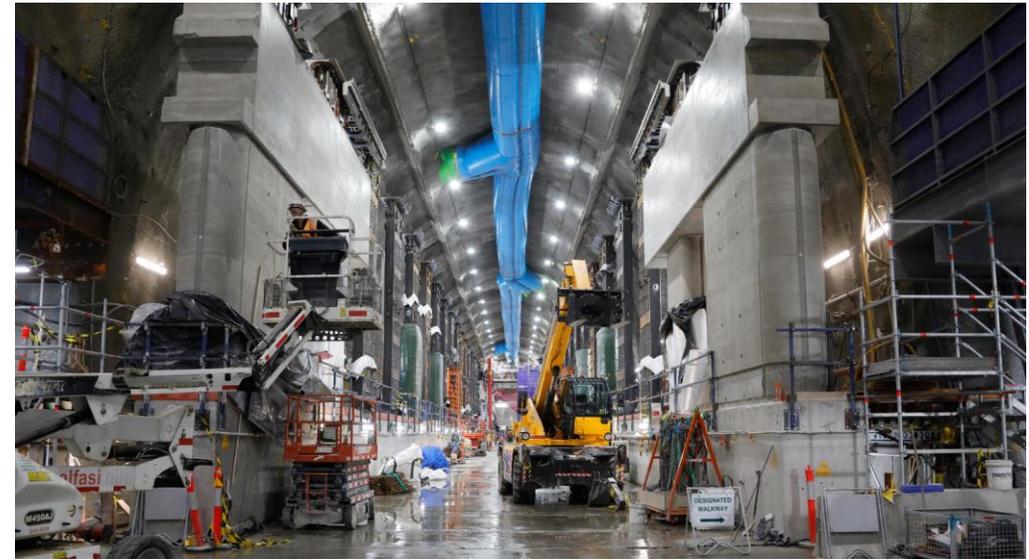
*Central cavern*



*Eastbound tunnel*

# TOWN HALL STATION

- TBM 3 (Millie) completed her drive to Town Hall Station in late March
- TBM 4 (Alice) completed her drive to Town Hall Station last week
- TBM 2 (Meg) completed her drive to Town Hall Station last week
- Excavation of the platform rail tunnels top-heading is ongoing
- Roadheader Melinda broke through into the Collins Street passenger adit from the eastern platform rail tunnel this week
- Permanent structure and lining works are continuing underground
- Station build out works continue at the City Square site.



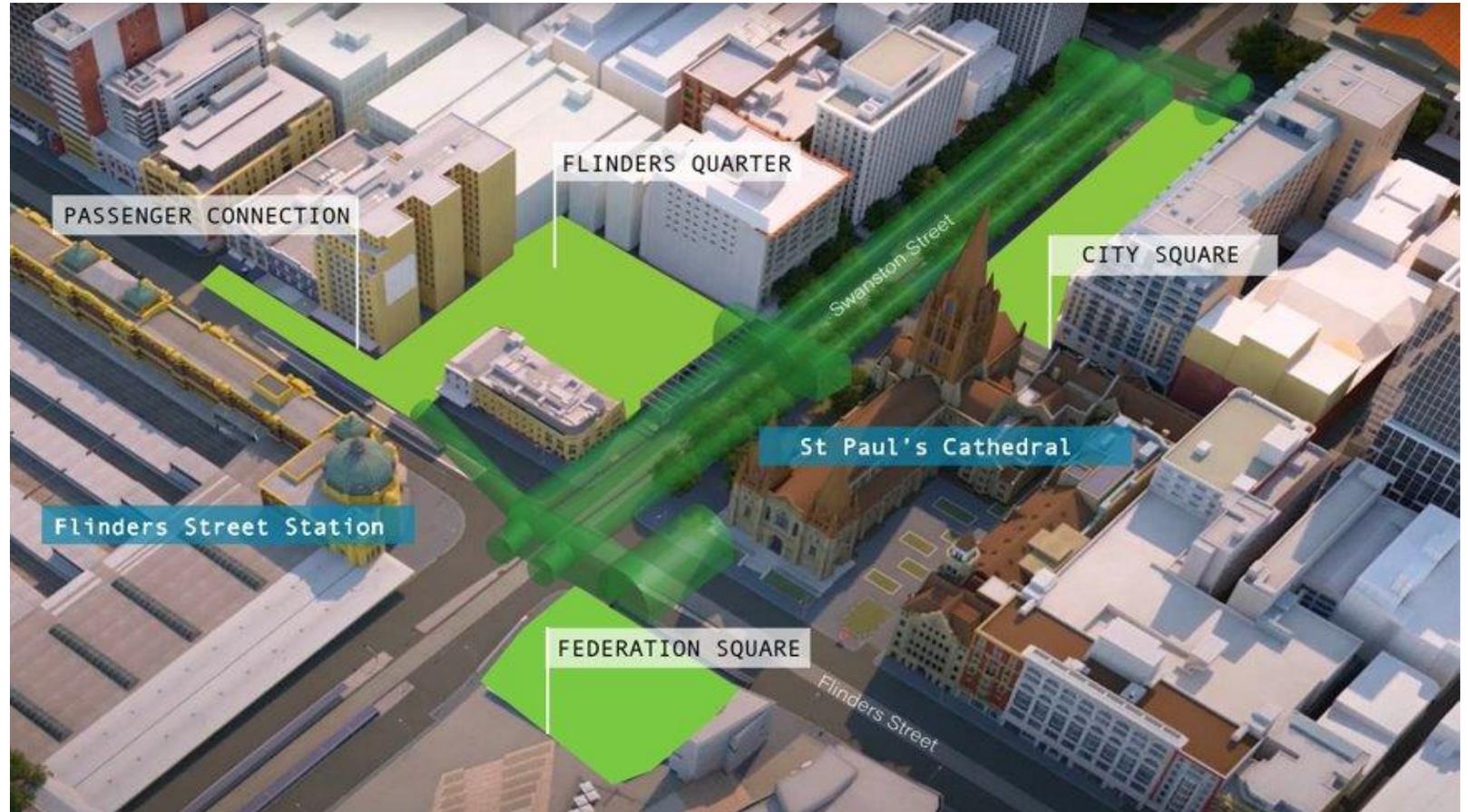
*Central cavern*



*Platform rail tunnel excavation (Fed Square site)*

# TOWN HALL STATION

- Town Hall Station sits amongst the foundations of a number of historic Melbourne buildings.



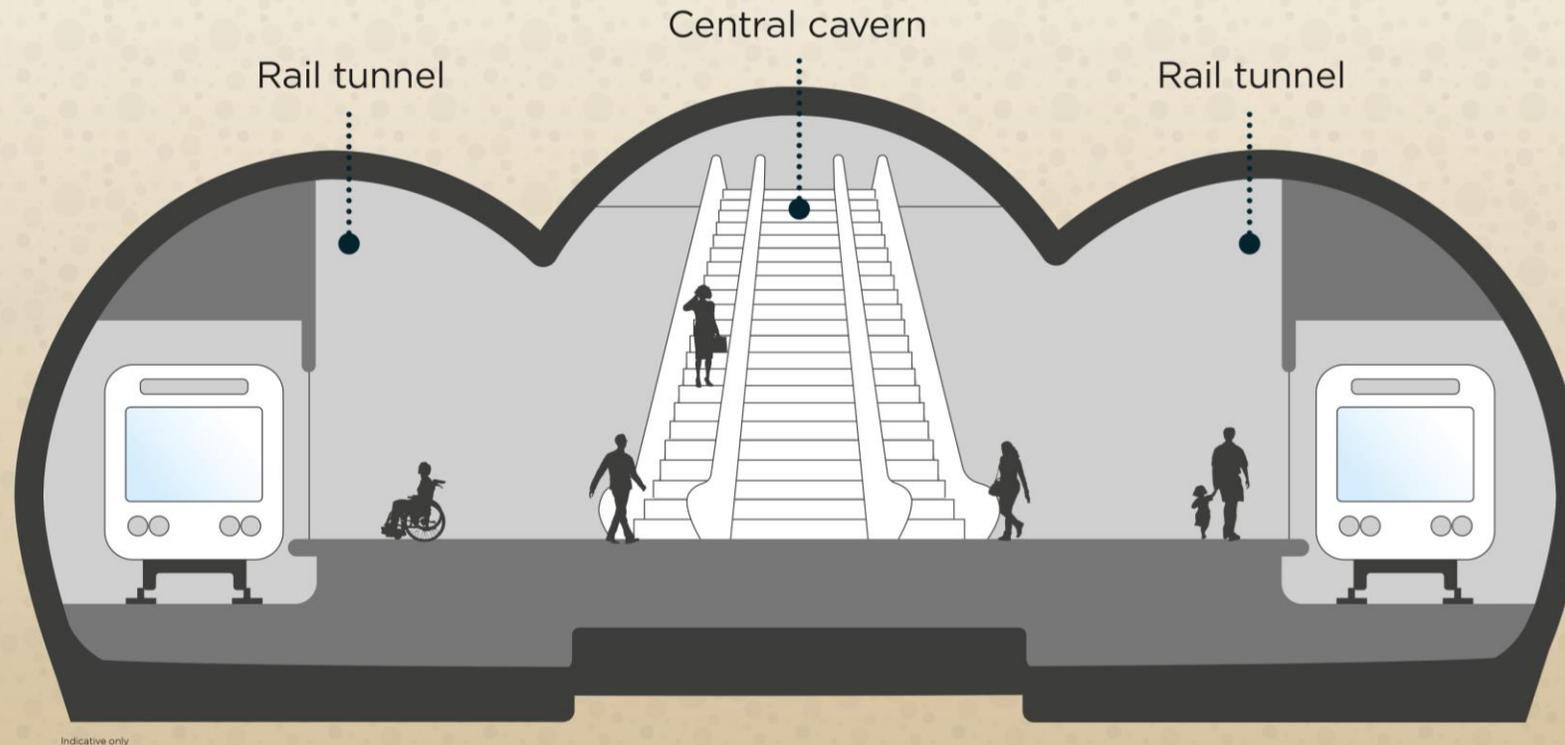
# TRINOCULAR CAVERN DESIGN

- To better respond to the unique ground conditions in the CBD, and to provide more spacious and accessible station platforms the State Library and Town Hall Stations are being built to an innovative trinocular design
- A trinocular design combines three overlapping tunnels that integrate the concourse and platforms on a single level to create a wide, central tunnel space, improved passenger circulation and vertical transportation.

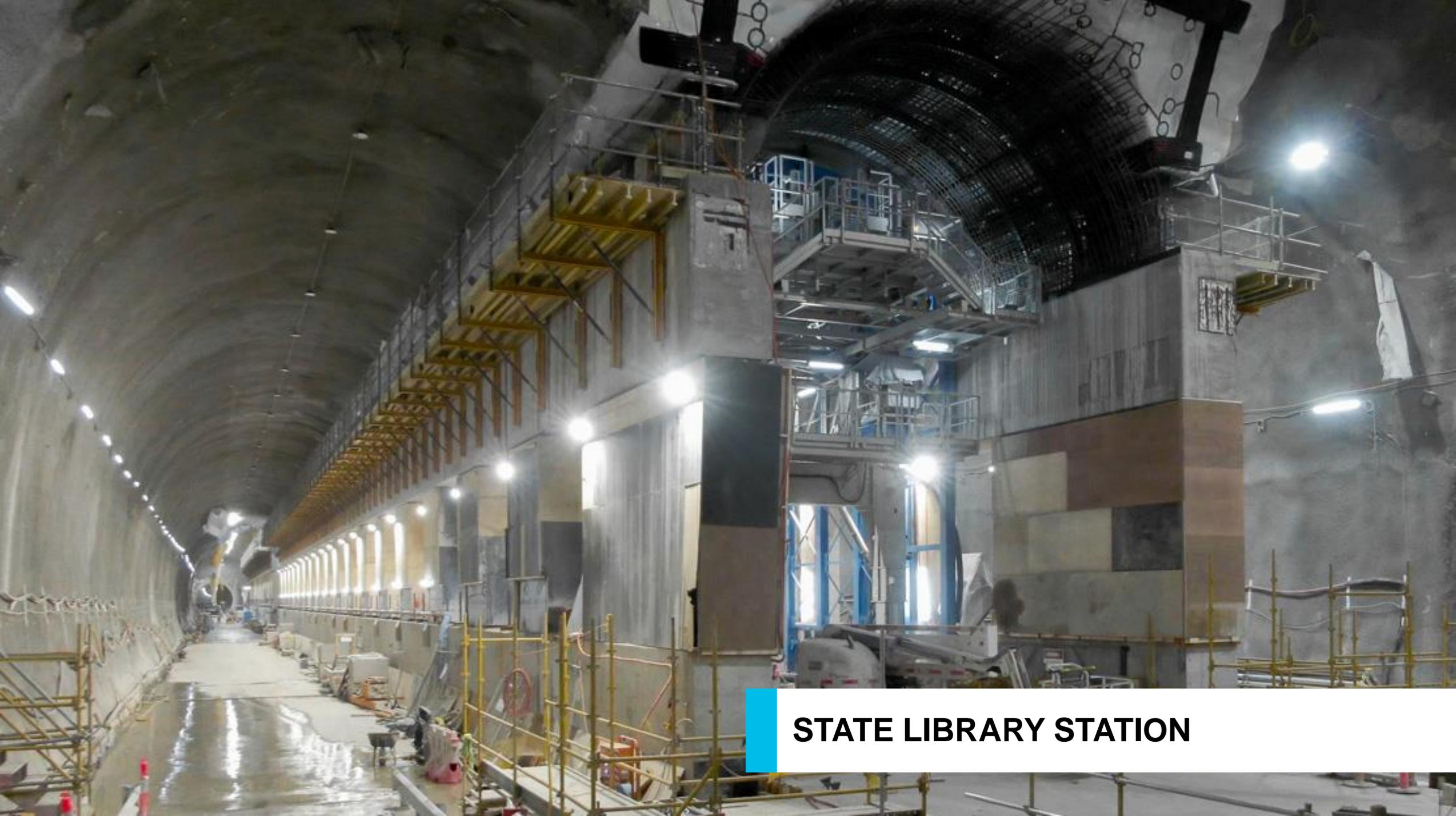


*Presenter: Danielle Smits*

# Trinocular cavern design



The State Library and Town Hall stations in the CBD are being built as 'trinocular' caverns. The result is a spacious station cavern with vaulted ceilings, rather than two separate tunnels separated by a cross passage. The total platform width at the CBD stations will be around 19 metres – some of the widest underground metro platforms in the world.



**STATE LIBRARY STATION**



## TOWN HALL STATION

CONCEPT IMAGE



**TOWN HALL STATION – PLATFORM**

# CONSTRUCTION UPDATE – PARKVILLE

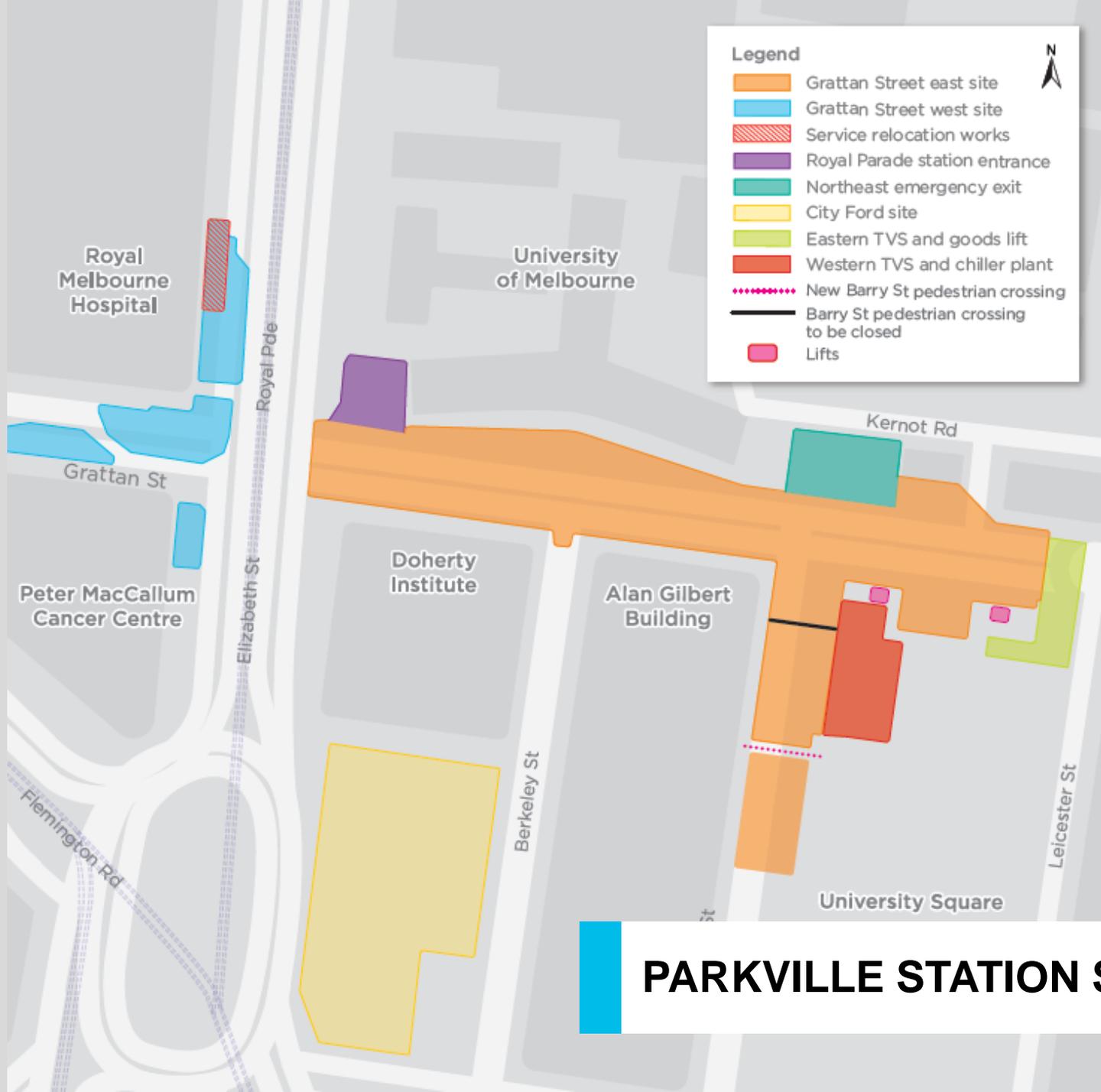


*Presenter: Danielle Smits*

# GRATTAN STREET EAST



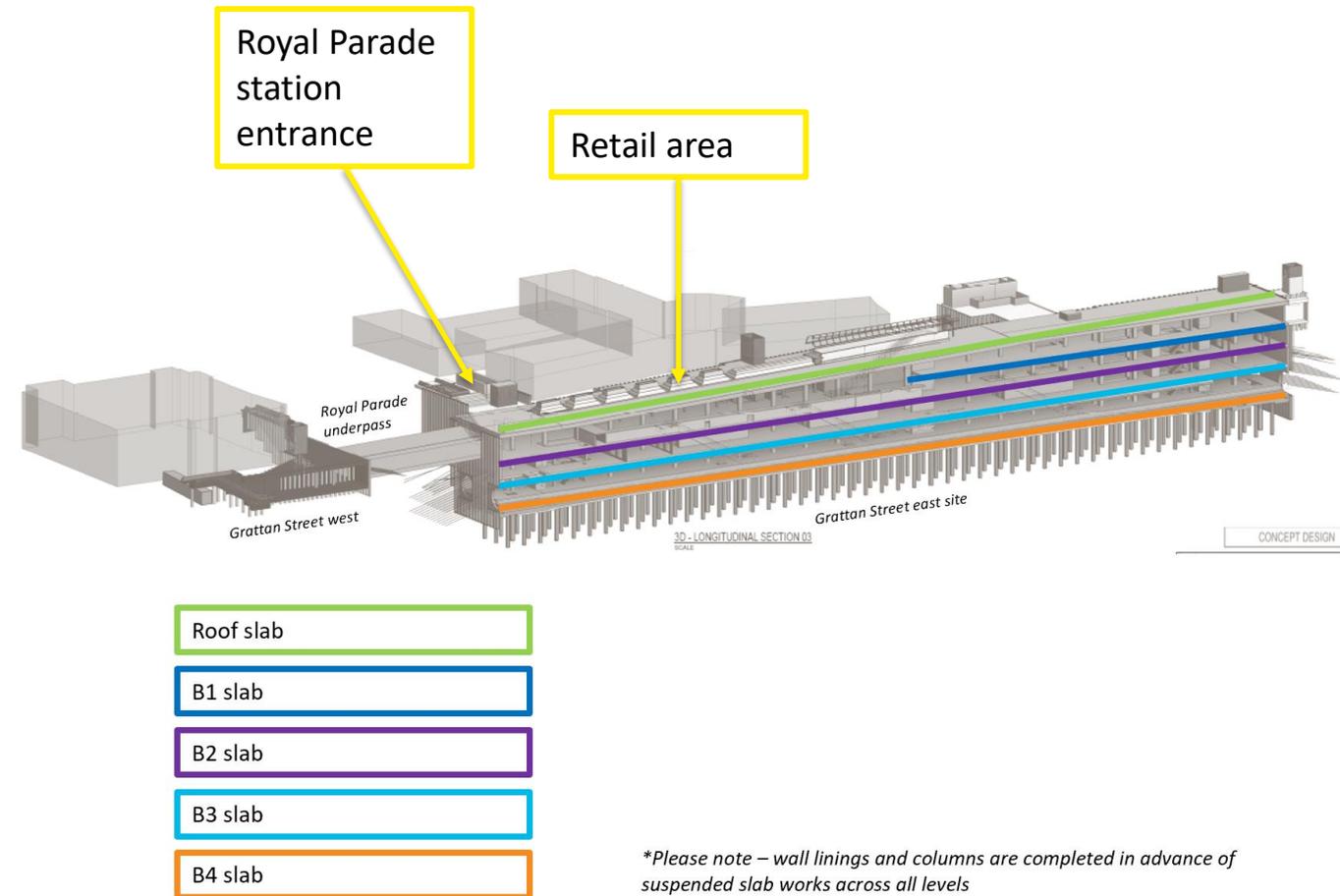
*Presenter: Danielle Smits*



## PARKVILLE STATION SITES

# PERMANENT STRUCTURE WORKS

- B2 suspended slab completed 1 May
- B1 suspended slab expected to be complete late June
- Second roof slab bay was poured in late April. Third pour expected by end of May
- Construction of lining walls and columns are ongoing
- Staged pile removal between the main station box and Royal Parade entrance/retail area.



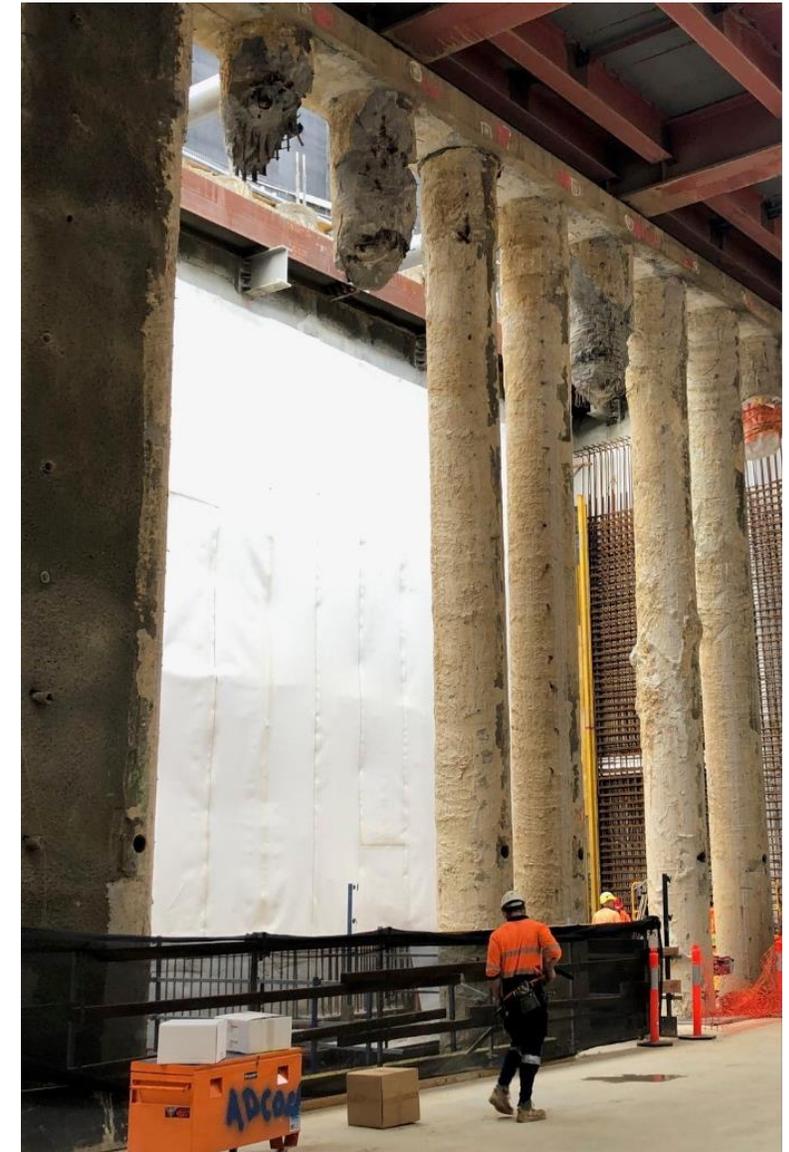
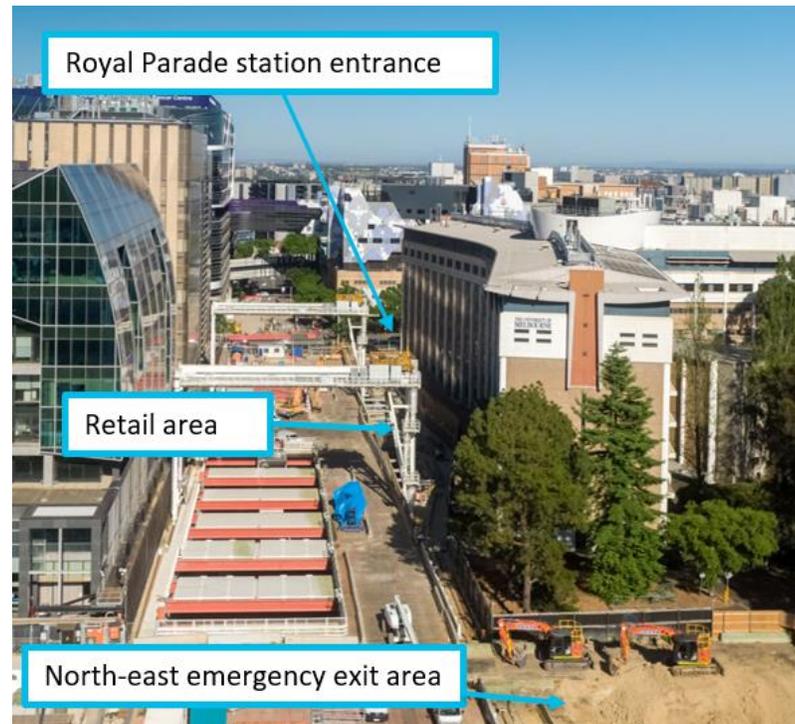
# STATION FIT-OUT WORKS

- Works on internal walls are ongoing on the B3 suspended slab, Royal Parade entrance and retail area
- Station platform works have commenced on B4
- Back of house blockwork installation is ongoing on B3 and B2 level (fan rooms, staff facilities, etc.)
- Mechanical, electrical, plumbing (MEP) services installation has commenced.



# SECONDARY BOXES

- Royal Parade station entrance – structure works are ongoing
- Retail area – structure works are ongoing
- North-east emergency exit area – excavation will resume in late May, once strut removal, backfill of adjacent roof slabs sections and gantry crane rail removal are complete.



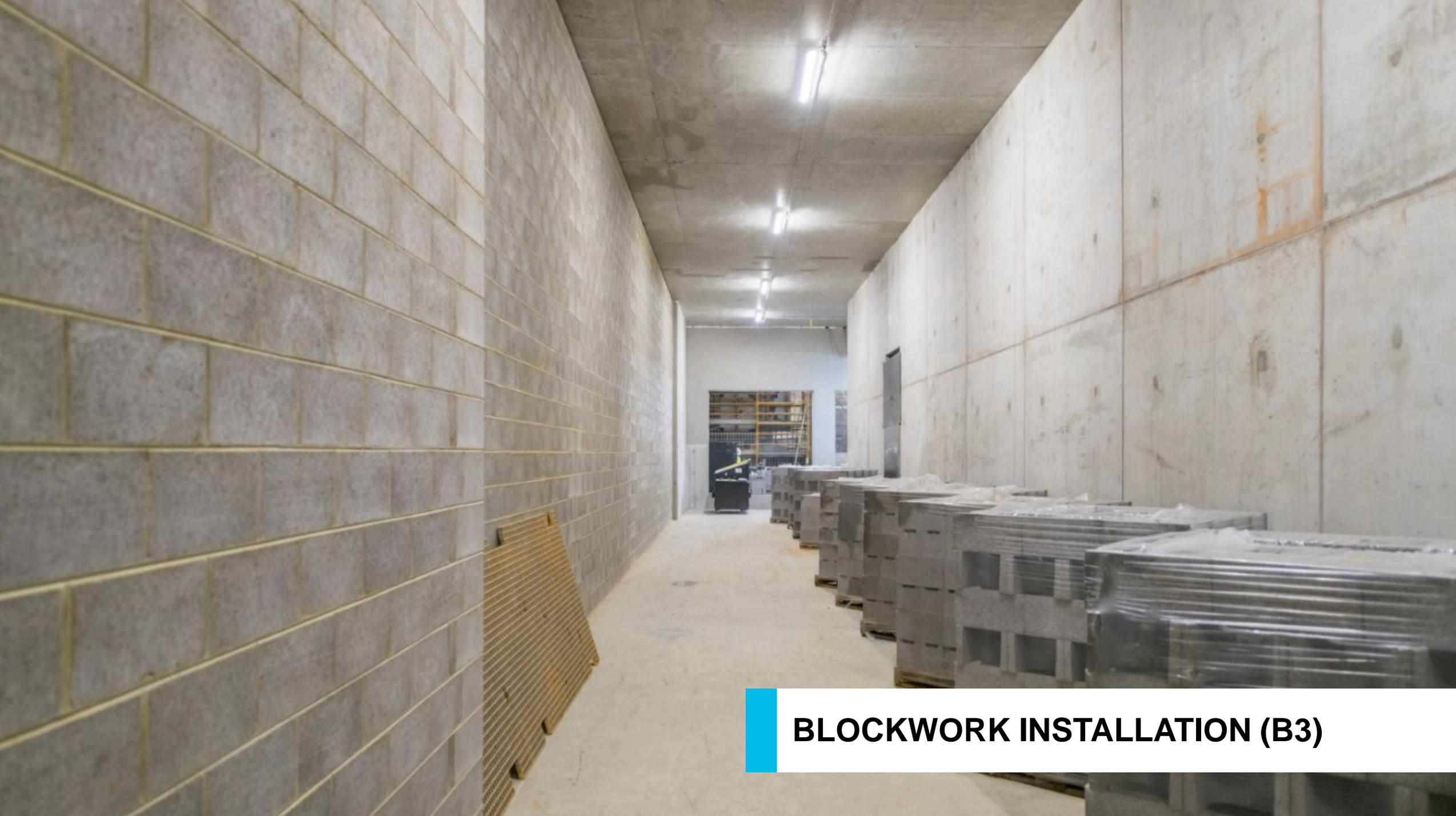
*Pile removal between retail area and main box*



## ROOF SLAB CONSTRUCTION



**RETAIL AREA**



**BLOCKWORK INSTALLATION (B3)**

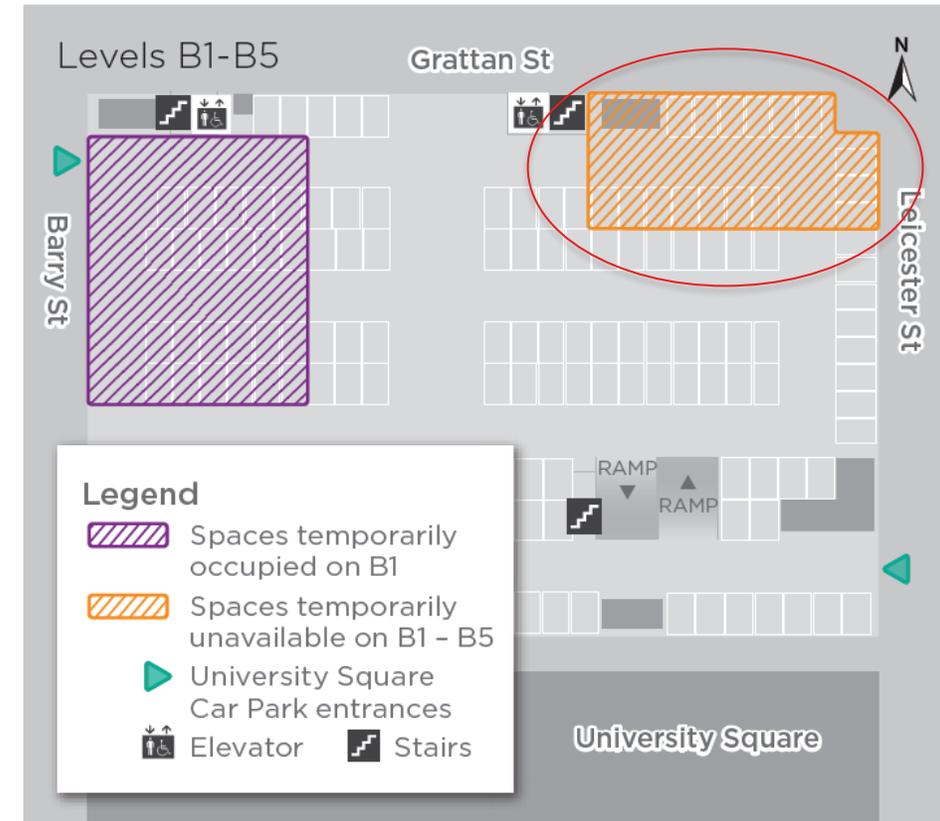
# EAST TUNNEL VENTILATION SHAFT (TVS) & GOODS LIFT – SURFACE WORKS

- Excavation and associated works for the east TVS will commence in late May/early June (approx. one month of works)
- Excavation of the goods lift will commence in late 2021 following legacy service works
- Following excavation, permanent structure works will take place
- Works are expected to continue until late 2022.



# EAST TVS WORKS – UNIVERSITY SQUARE CAR PARK

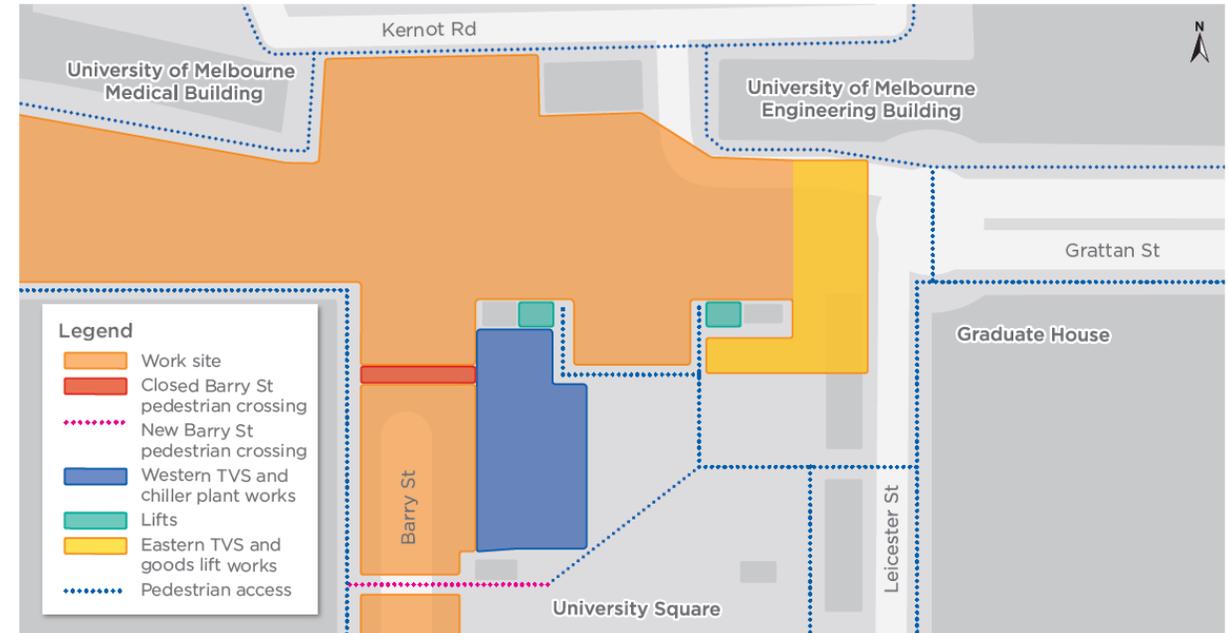
- Works for east TVS will be staged across levels B5-B1. Site establishment commenced in early May, with hoarding now installed on B5, B4 and B3
- Hoarding installation is expected to take around two days per floor (two weeks work total)
- East TVS works will involve demolition of part of the car park structure and construction of the TVS within the car park
- Works in the car park are expected to take approximately four months, and include demolition of part of the car park structure and construction of the TVS within the car park
- Access to University Square Car Park lifts, entrances and emergency exits will be maintained at all times.



*Indicative only*

# WEST TVS & CHILLER PLANT – SURFACE WORKS

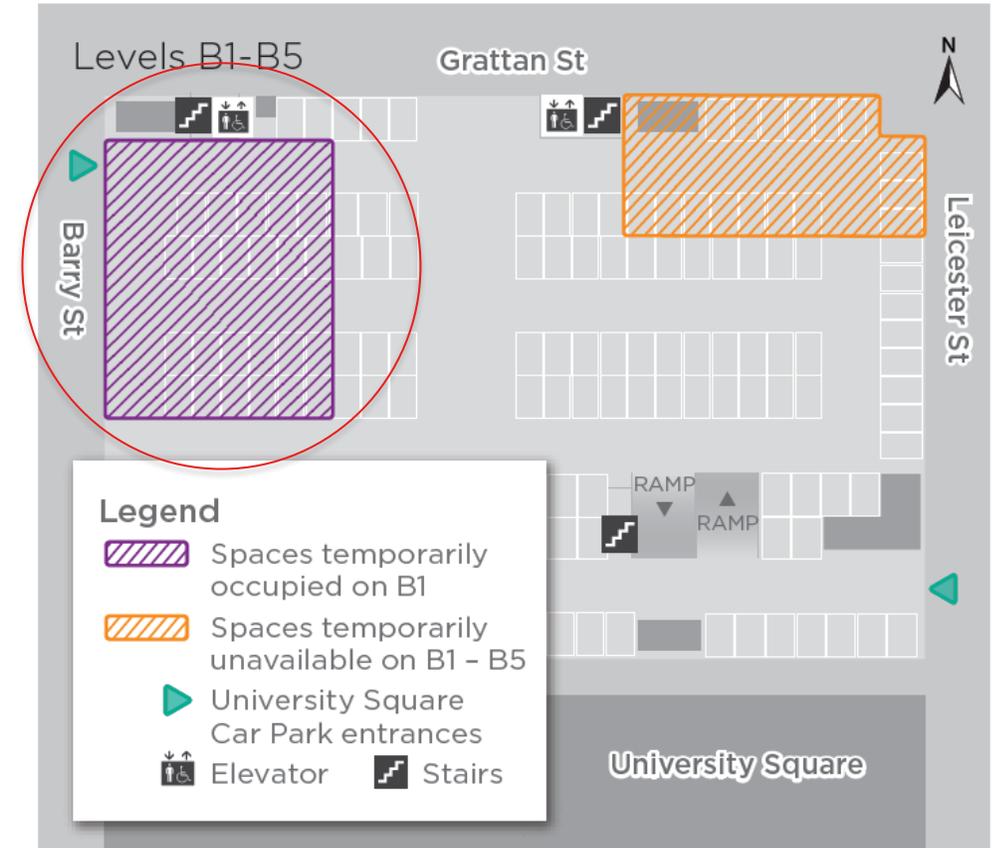
- Site establishment works are ongoing, including site boundary changes and relocation of amenities within the Barry Street site
- The Barry Street pedestrian crossing will be relocated around 50 metres south from the week commencing 24 May
- Preparatory works will involve piling pad construction, saw cutting and non-destructive digging
- Construction will involve piling, excavation and associated works, permanent structure works, installation of services and reinstatement
- Works will continue until early 2022.



*Indicative only*

# CHILLER PLANT WORKS – UNIVERSITY SQUARE CAR PARK

- The University Square Car Park roof structure must be strengthened before the chiller plant can be constructed above
- Some strengthening works will be completed from within the car park, on level B1 (timing TBC)
- Access to University Square Car Park lifts, entrances and emergency exits will be maintained at all times.



*Indicative only*

# 6 MONTH PROGRAM

Works	May	Jun	Jul	Aug	Sep	Oct
Permanent structure works						
Station box fit out						
Royal Parade station entrance (structure)						
Retail area (structure)						
North-east emergency exit area (excavation)						
Staged pile removal (retail/Royal Pde entrance/main box)						
TVS east / goods lift (service relocations/excavation)						
Chiller plant (strengthening works)						
TVS west (piling and excavation)						
Royal Parade pedestrian underpass construction						

*Indicative only*



Presenter: Danielle Smits

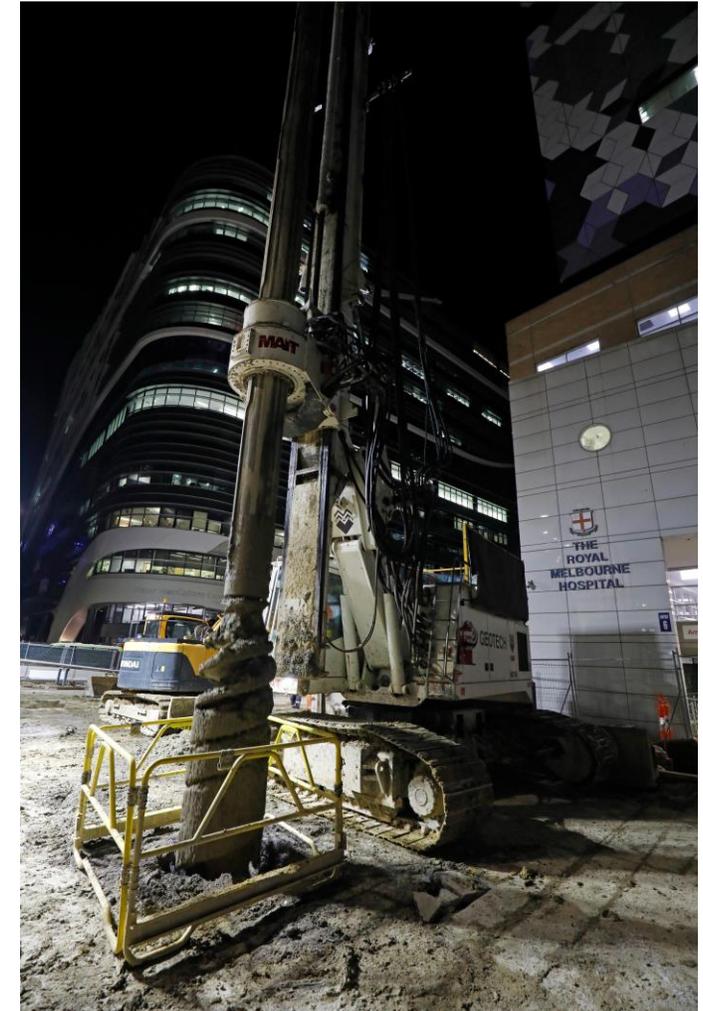
# GRATTAN STREET WEST



*Presenter: Danielle Smits*

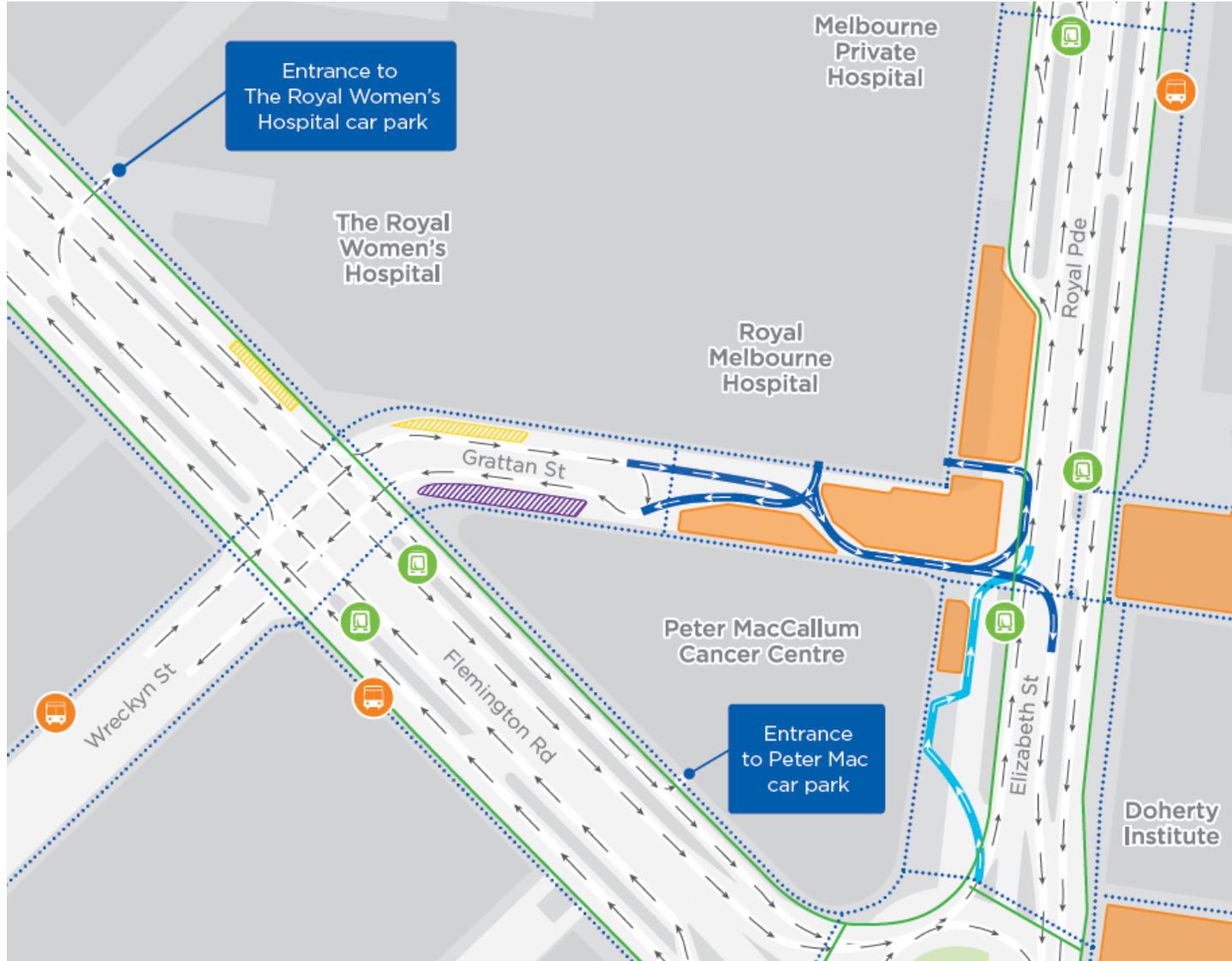
# STAGE 2 NORTH ENTRANCE WORKS

- Pedestrian arrangements
  - Grattan Street mid-block crossing constructed late March
  - Footpath around northwest corner of The Royal Melbourne Hospital has been reopened
- Piling works were completed from early April to early May 2021
  - 66 piles and 7 king posts were installed in total
  - Piling rig demobilised from site on 8 May
- Construction of a future site access point (vehicle cut through) on Royal Parade – expecting to be operational from 24 May
- Excavation underway – commenced 11 May until late 2021.



*Piling at Grattan Street west, April 2021*

# SITE BOUNDARIES AND TRAFFIC ARRANGEMENTS



## Legend

- Work sites
- Taxi zones
- Pick up/drop-off zone
- Bus stop
- Tram stop
- Traffic access
- Ambulance access
- Peter Mac pick up/drop-off access
- Pedestrian access
- Cyclist access



# 6 MONTH PROGRAM

Works	May	Jun	Jul	Aug	Sept	Oct
Site establishment						
Piling (completed early May)						
Excavation						
Structure works						

*Indicative only*





**PILING, APRIL 2021**

# CONSTRUCTION UPDATE – NORTH MELBOURNE



# SERVICES BUILDING CONSTRUCTION

- West building ground level entrance slab completed
- Core structure with fire egress stairs ongoing
- Ventilation shaft works are ongoing
- Façade panel installation ongoing (35 out of 46 now installed)
- Structural steel installation commenced.



*Installation of services building pre-cast panels*

# STATION ENTRANCE CONSTRUCTION

- Upright beam construction ongoing
- D-wall trimming ongoing. This will allow for service relocation around the southern end of the station entrance
- 21 brick arch segments have now been cast with the first units transported to the storage facility in Deer Park
- First columns to arrive at Arden early June (subject to program)
- First arch segments to be installed in the ground early – mid August (subject to program).

# BASEMENT INTERNAL STRUCTURE CONSTRUCTION

- First platform concrete pour completed on 18 March
- First deflection wall complete
- Rail, tunnel, fitout (RTF) conduit tunnel transition mass fill complete
- First stage concrete poured (entrance of WB tunnel). This provides the surface the rail track will be installed on.



**STATION PLATFORM CONSTRUCTION**

# LAURENS STREET REALIGNMENT

- Timing of the Laurens Street realignment is under review in light of upcoming CitiPower zone substation decommissioning works and TBM retrieval traffic movements
- Realignment not likely to occur before July 2021.



*Presenter: Stef Calati*

# INTAKE SUBSTATION – 2021 PROGRAM

- Building construction – ongoing until August 2021
- Transformer deliveries – April 2021
- Electrical fit out – late May to September 2021
- Under-creek bore and west bank cable route works – June 2021
- Under-track pipe jacking and associated works – September 2021
- Testing and commissioning – Q3 and Q4 2021
- External works and landscaping – Q4 2021
- Energisation – December 2021.





**TRANSFORMER DELIVERIES, APRIL 2021**



**STRUCTURE WORKS , MARCH 2021**



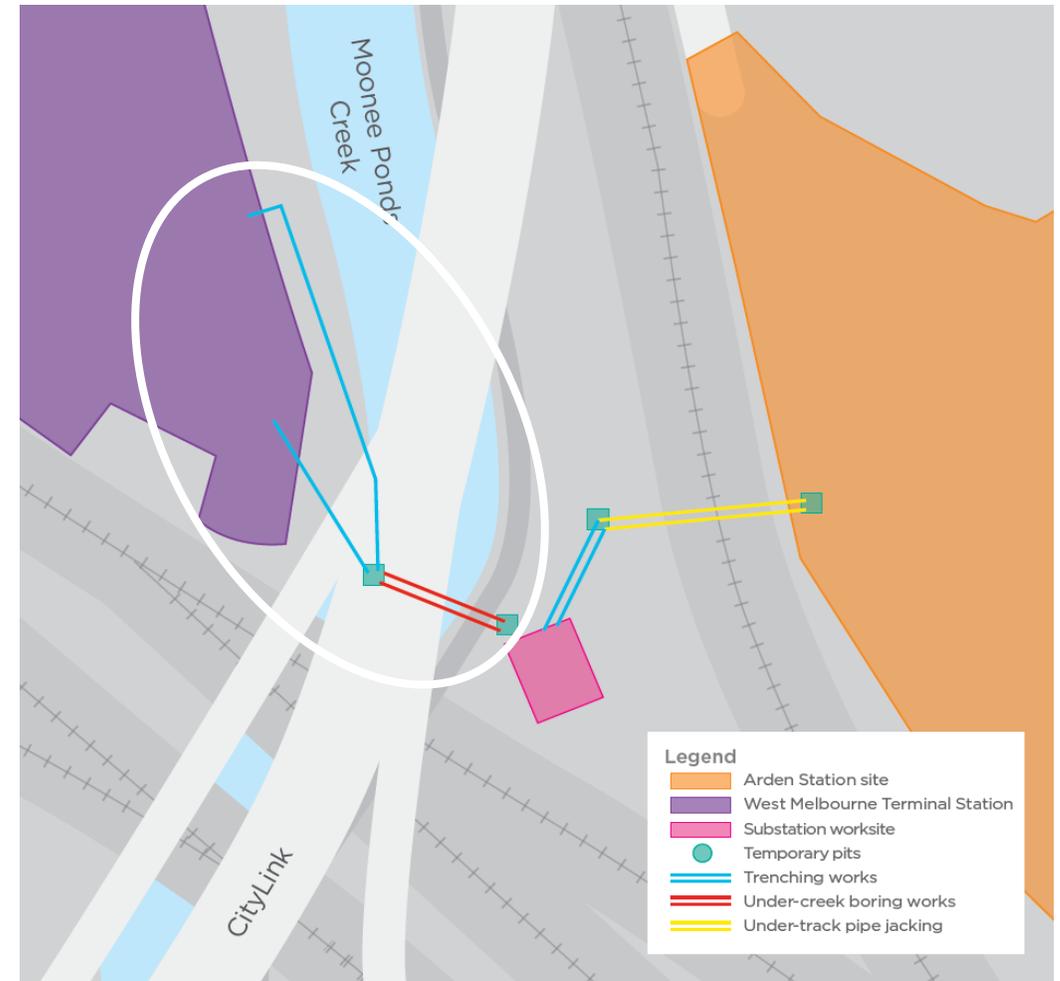
**PRECAST INSTALLATION, APRIL 2021**



**BUILDING PROGRESS, MAY 2021**

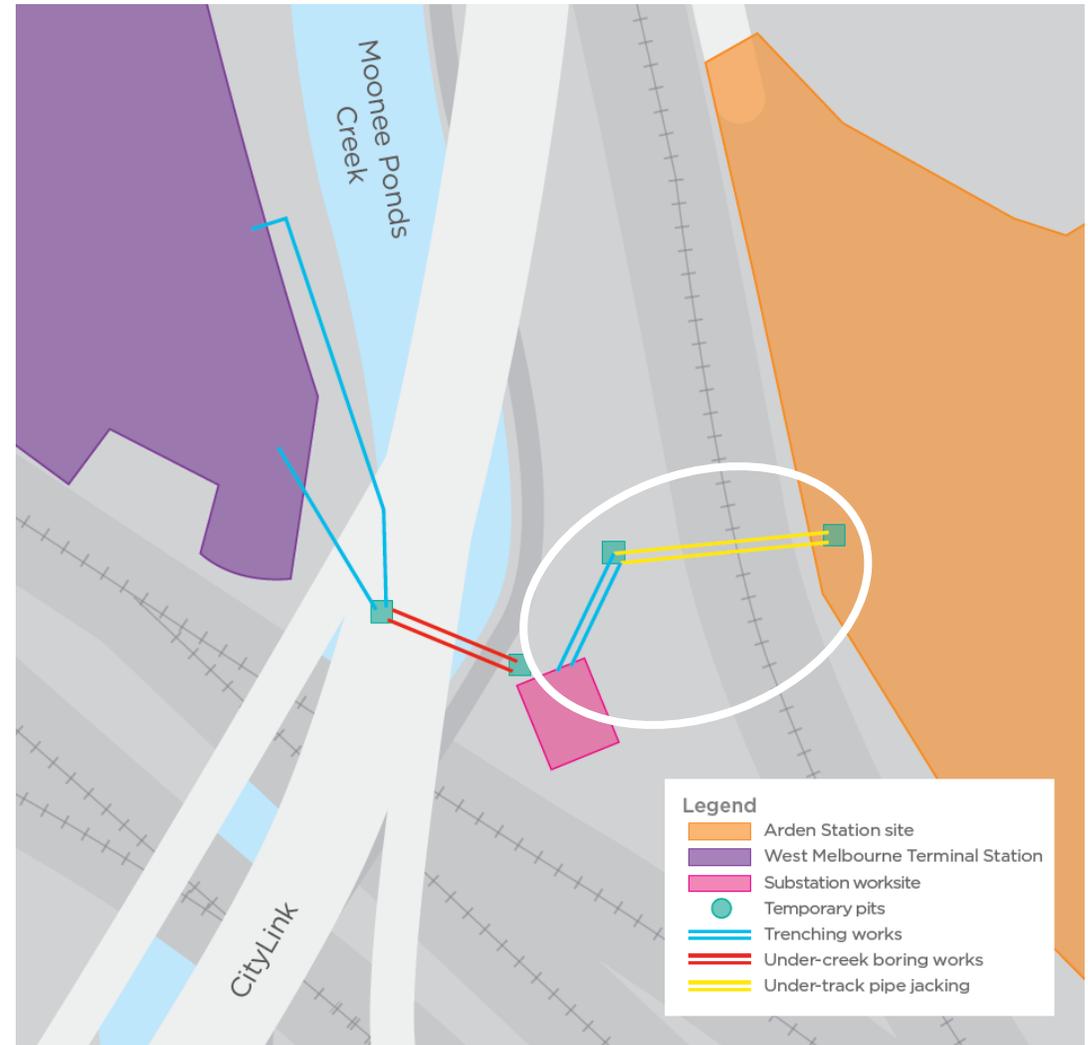
# UNDER-CREEK BORE AND WEST BANK CABLE ROUTE ALIGNMENT

- Under-creek bore alignment removes need for permanent pits on east and west banks of Moonee Ponds Creek
- Use of CitiPower aerial conductor poles for second supply reduces impacts on west bank
- Single trench on west bank can be completed within existing access track, reducing impact to trees and vegetation
- Construct temporary launch and retrieval pits/shafts on either side of the creek
- Undertake boring process (two bores, one per supply). Each bore will take approx. 10 hours/1 day to complete
- Install internal conduits
- No permanent pit works – all pits and trenches will be reinstated.



# UNDER-TRACK PIPE-JACKING

- Construct temporary launch and retrieval pits/shafts on either side of the rail corridor
- Mobilise pipe-jacking equipment (900mm diameter micro-tunnelling machine) to site
- Undertake pipe-jacking process (two bores, one per supply)
  - Single bore per alignment (from west to east)
  - Insert 900mm diameter pipe 'jacked' behind machine (from west to east)
  - Each bore will take approx. 10-12 days each to complete
- Install internal conduits
- Trenching will also be required within the Arden Station site for the connection to the services building.



# COMMUNICATIONS AND ENGAGEMENT

Upcoming communications and engagement:

- Bi-monthly North Melbourne construction update – ongoing until end 2021
- Cable route works notification – mid-late May 2021
- Email updates to key stakeholders (City of Melbourne, Melbourne Water, Friends of Moonee Ponds Creek, Kensington Association, Bicycle Network) – ongoing, as required
- Upcoming engagement with Melbourne Water and Friends of Moonee Ponds Creek regarding under-creek bore and west bank works; replanting during reinstatement - timing TBC.



*Presenter: Lucy Mackenzie Worters*

# TUNNELLING



# TBM PROGRESS

## TBM Joan

- Broke through at Town Hall Station 5 April 2021

## TBM Meg

- Broke through at Town Hall Station 14 May 2021

Tunnelling in the west is now complete. Each TBM has constructed 4.2kms of tunnels from South Kensington to Town Hall Station.



*Presenter: Kim Norton*



**TOWN HALL STATION BREAKTHROUGH**

# CROSS PASSAGE CONSTRUCTION

- Cross passage 5 (Lothian Street) – finishing works in progress
- Cross passage 6 (Hotham Gardens) – finishing works in progress
- Cross passage 7 (corner of Errol and O’Shanassy streets) – finishing works in progress
- Cross passage 8 (Villiers Street) – finishing works in progress
- Cross passage 9 (Flemington Road) – finishing works in progress
- Cross passage 10 (Church Street) – finishing works in progress
- Cross passage 11 (Canada Lane) – FRP lining completed, under demobilisation prior to finishing works occurring following TBM retrieval
- Cross passage 12 (south of Queensberry Street) - FRP lining completed under demobilisation prior to finishing works occurring following TBM retrieval.

# TUNNEL INTERNAL STRUCTURES

- Pouring of the westbound tunnel invert was completed early April
- Pouring of the eastbound tunnel invert was completed mid-May
- Pouring of the tunnel invert between Arden and Parkville will commence in July



Completed tunnel invert

# NORTH MELBOURNE PROGRAM

Activity	May	Jun	Jul	Aug	Sep	Oct
Roof slab construction						
Service works (Laurens Street)						
West (services building) construction – structure only						
East (station entrance) construction						
Brick arch installation						
Over Track Exhaust (OTE) and platform construction						
Intake substation construction						
Cross passage construction						
Mechanical, electrical, plumbing (MEP) installation						

*Program is indicative and subject to change*



*Presenter: Stef Calati*

# STAKEHOLDER AND COMMUNICATIONS UPDATE



# ENGAGEMENT AND COMMUNICATIONS UPDATE

## Notifications and communications

- North Melbourne – April/May Construction Update (14 April)
- Parkville – April/May Construction Update (12 April)
- Parkville – weekly update to key stakeholders (ongoing).

## Door knocks, meetings, briefings and events

- North Melbourne – fortnightly meetings with City of Melbourne (31 March, 14 April, 28 April, 12 May)
- North Melbourne – meeting with CHEP to discuss site flooding issue (14 April)
- North Melbourne – Arden/Parkville CRG tour of Arden Station (10 May)
- North Melbourne – Mauri ANZ (George Weston Foods) monthly briefings (15 April, 13 May)
- North Melbourne – progress meeting with North and West Melbourne Association to discuss the Arden Station hoarding update (3 May, 14 May)
- North Melbourne – meeting with CitiPower to discuss planned Laurens Street substation decommissioning works (22 April, 20 May)
- North Melbourne – meeting with Accord Property Group RE 88 Laurens Street development (19 May)
- Parkville – fortnightly meetings with Peter MacCallum Cancer Centre, Melbourne Health, University of Melbourne, City of Melbourne; monthly meetings with Graduate House
- Parkville – business engagement (monthly check-ins).



# ENGAGEMENT AND COMMUNICATIONS UPDATE

## NORTH MELBOURNE AND PARKVILLE

### Community issues and enquiries or key stakeholder engagement

- Parkville – Grattan Street west station entrance construction
- Parkville – Grattan Street east – goods lift, tunnel ventilation shaft and chiller plant works.

### Upcoming engagement

- North Melbourne – Laurens Street realignment
- Cross passage construction updates (ongoing).



*Presenters: Kim Norton & Danielle Smits*

# METRO TUNNEL CREATIVE PROGRAM UPDATE



# ARDEN STATION HOARDING UPDATE

- May 2021- NWMA provides historic copy and imagery to CYP
- June 2021 – CYP appointed writer works on copy
- July/August 2021 – CYP appointed designer and illustrator works on images for 4 - 6 week period
- September 2021– all parties review and tweak as needed, final approval from CYP
- October 2021 – timeline is printed and installed
- October 2021 – launch event hosted by CYP to celebrate the installation of the timeline.



*Presenter: Mary Parker*

# QUESTIONS?



*Presenter: Chris Lovell*

# OTHER BUSINESS

- Next meeting: Friday 9 July 2021
- Survey sent to members this week to determine whether future meetings will be face to face or continue on Zoom.



*Presenter: Chris Lovell*



Western Portal

South Kensington

Arden

Parkville

North Melbourne

Melbourne Central

State Library

Flagstaff

Parliament

Town Hall

Southern Cross

Flinders Street

Richmond

Anzac

South Yarra

Eastern Portal

Sunbury Line

Cranbourne / Pakenham Line