

LAND REDEVELOPMENT COMMITTEE

Date: 15 May 2023
Item 2.1: Midland Train Station
Submitted by: Matt Ryan, Executive General Manager Planning and Transition

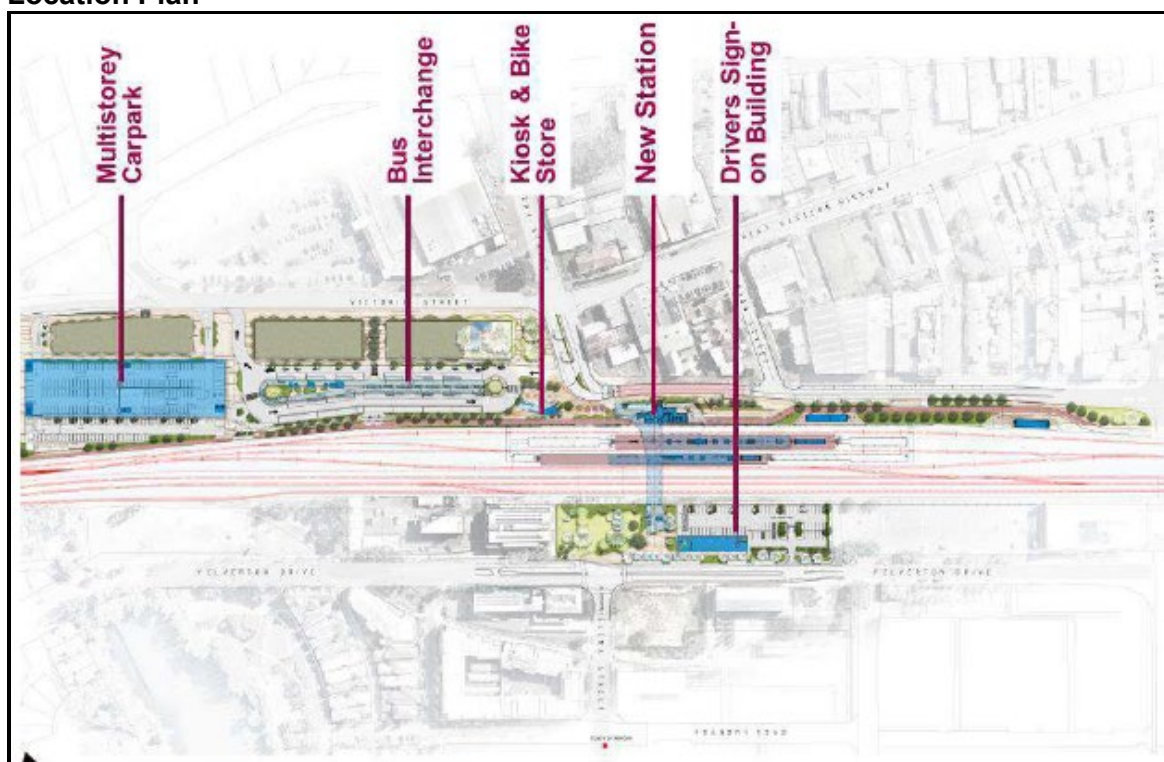
Information

Project Area: Midland Project, METRONET East Redevelopment Area
Location: Multiple Lots, including railway reserve
Owner: Public Transport Authority, City of Swan, Department of Health
Applicant: Element on behalf of Midland Junction Alliance Consortium
Proposal: New Midland (Mandjanup) Train Station, Bus Interchange, Multi-storey Carpark, ancillary structures and associated transport network upgrades

Purpose

For the METRONET East (Midland) Land Redevelopment Committee to consider two development applications submitted for the new Midland Station and associated works.

Location Plan



Recommendation

That the METRONET East (Midland) Land Redevelopment Committee resolves to recommend to the Metropolitan Redevelopment Authority Board that it approves the development applications for a new Train Station, Bus Interchange, Multi-storey Carpark, ancillary structures and associated transport network upgrades within the METRONET East Redevelopment Area, subject to the recommended conditions and advice notes.

PLANNING ASSESSMENT

Proposal

On 19 December 2022 and 2 February 2023, development applications were received for forward works and buildings/public realm works for the new Midland Station (Mandjanup). The site is located in the Midland precinct of the METRONET East Redevelopment Area, within the existing rail corridor and across both the Victoria Precinct (components north of the rail reserve) and Helena Precinct (components south of the rail reserve).

The new 'Mandjanup' ('Meeting Place') Station facility will relocate and replace Midland's existing train station, bus interchange and associated parking areas. The development applications comprise of the following works:

DA 1 – Forward Works:

- civil works including utility relocations, site fencing, site clearing and earthworks, stormwater drainage, foundation and piling works;
- modifications to rail infrastructure including overhead line head masts and attachments;
- demolition and removal of the existing Midland Station platform; and
- roadworks to Yelverton Drive, Helena Street (level crossing removal) and Cale Street (new level crossing).

DA 2 – Buildings and Public Realm Treatments:

- New Train station building and platform with entrances provided from Railway Parade and Yelverton Drive linked by a pedestrian overpass. The Train station also includes the public toilet/changeroom facilities, security office, crib rooms, transit guard booth, booking office and infrastructure rooms;
- bus interchange facility to the north west of the Train station building, comprising 12 bus stands. The Bus Interchange includes public and driver toilet facilities, communications room and bus driver crib room;
- a five storey multi-storey car park building with 840 car parking bays, including 20 all access bays, with access and egress from Victoria Street;
- a two-storey Driver Sign-on Building with office and bus/train driver staff amenities on the first level with a commercial tenancy on the ground floor fronting onto Yelverton Drive. A total of 74 car at grade car parking bays (including 3 all access bays) are provided;
- ancillary buildings including a kiosk adjacent to the northern train station entrance, secure bicycle storage/parking facilities located at each train station entrance, equipment rooms and bin stores; and
- landscaping and public realm improvements including, pedestrian/cyclist network, landscaping treatments, public art and a network of 'pocket parks' and public spaces.

Refer to Appendix 2 – Development Plans -DA1 Forward Works

Refer to Appendix 3 – Development Plans – DA2 Buildings and Public Realm

Previous Midland Land Redevelopment Committee Consideration

The LRC received a briefing from the proponent at its March 2023 meeting where the following aspects of the development were discussed:

- the massing of the multi-storey car park;
- Crime Prevention Through Environmental Design (CPTED) considerations;
- passenger circulation within the Train Station;
- possibility of relocating the Principle Shared Path (PSP);
- balancing the function of fencing for security purposes with amenity impacts;
- pedestrian links to the Midland Public Hospital; and
- landscaping consideration across the development site.

These matters have been responded to in the final development application, which includes details not available to LRC at the earlier briefing, including:

- landscaping concept plans and arborist report;
- a CPTED Report prepared by an appropriately qualified professional;
- detailed plans of the station buildings;
- detailed design of the pedestrian and cyclist network; and
- a Public Art Strategy.

The applicant has also provided a detailed response to each of the items raised by LRC at the briefing, included in *Appendix 4 - Applicant response to LRC Briefing*

Assessment

The proposed development is generally consistent with the METRONET East Redevelopment Scheme, Midland Design Guidelines and applicable Development Policies. A large component of the Mandjanup Station facility sits within the 'Rail Reserve' zone identified on the relevant Scheme Map and is consistent with the intended purpose of the Rail Reserve.

Components of the facility to the north of the Rail Reserve fall within the Victoria Precinct and those to the south fall within the Helena Precinct. The development proposes the following land uses, which are preferred land uses for the two precincts under the Scheme:

- Commercial Carpark (multi storey carpark)
- Office (Drivers sign on building – 1st floor)
- Shop (kiosk and Drivers Sign-On building ground floor)
- Community (Bus Interchange and Train Station Facility)

The 'Bus Interchange' and 'Train Station' do not fit within the specific land use definitions under the Scheme. However, in accordance with Section 6.9 (2) of the Scheme, the land uses are considered consistent with the 'Community' land use Category Description and therefore can be considered to be 'Preferred'.

The proposed development also meets the requirements of the Midland Design Guidelines, with variations sought highlighted below.

Consistent with the Midland Master Plan, the Design Guidelines anticipated relocation of the train station to the east of the existing platform between Helena and Cale Streets. However, as the exact location and design requirements for the new station were not confirmed at the time, indicative areas of government land alongside the rail corridor were identified as 'Subject to Future Planning'. The subject site falls within this area, with the exception of approximately 5% of the overall footprint, which encroaches further south into Lot 500 Yelverton Drive.

As the land subject to future planning does not include site specific built form controls, the proposal has been assessed against the core provisions under Chapter 2 of the Design Guidelines and the objectives of the precincts. Discretion is required to consider the proposed station built form (including Drivers Sign-on Building) and public realm features on Lot 500 in lieu of the anticipated traditional 'building' outcome.

In accordance with Section 1.6 'Discretionary Clause' of the Design Guidelines, the proposed alternative solution meets the Victoria and Helena precinct objectives (sections 3.1.2 and section 4.1.2) as follows:

- the proposal will strengthen Midland's success as a vibrant mixed-use Transit Oriented Development precinct, and reduce reliance on private cars, through improved access to public transport and new cycle and pedestrian connections;
- the facility includes supporting retail and community infrastructure that provides

opportunities for interaction between people and places, facilitates investment and provides opportunities for local businesses;

- new buildings and structures proposed are in keeping with the existing and future desired building height envisaged through the planning framework for the area;
- it demonstrates high quality and sustainable design principles that build a sense of place – the design, materiality and artwork strategy reference the Aboriginal heritage and cultural context as well as the heritage industrial character of the area;
- an efficient parking layout is achieved through the multi-storey car park, which replaces current at-grade bays and frees up land for future residential/mixed use development to support a critical mass of residents close to the station;
- the facility is designed in accordance with Crime Prevention Through Environmental Design principles to promote security, passive surveillance and safety within the precinct; and
- appropriate landscape treatments for shade, comfort and enjoyment are provided throughout, including a network of 'pocket parks' with local endemic and waterwise species.

The Drivers Sign-on Building meets the Design Intent for Lot 500 (section 4.2.2.3) in that it:

- is a contemporary building which responds to the precinct heritage character, including through the use of red brickwork;
- protects views from the rail reserve, through to Railway Square and the gardens of the Peace Memorial, through appropriate scale and massing of the building;
- includes weather protection awnings to enhance the pedestrian environment; and
- promotes interest, security and safety through active ground floor uses.

The proposed development is considered to be generally consistent with the Common/Core Design Guidelines, except where discussed below:

	Design Guideline Requirement	Proposed	Variation
Crossovers	1 vehicle crossover per lot with a max crossover width of 6m	Multi storey Car Park – 2 crossovers. Bus interchange – 2 crossovers	2 components of the development proposing an extra crossover
Car parking – Shade Trees	1 shade tree per 4 car bays	Drivers Sign-On Building – no provision of shade trees	Shortfall of 15 shade trees

Landscaping Design

The Landscape Concept Plan, combined with the Arborist Report submitted with the application demonstrates a well thought out approach to tree retention and landscaping design of the public realm areas that is in clear alignment with objective 2.3.12 of the Design Guidelines. The plans submitted with the application identify the following:

- 286 existing trees being retained;
- 78 trees proposed to be removed;
- 8 mature trees proposed to be relocated within the site; and
- approximately 450 new trees to be planted.

However, there is an opportunity to strengthen the ultimate outcome, ensuring it is befitting for this major public project, through the provision of additional landscaping detail that builds upon the vision and quality demonstrated on the Landscaping Concept Plan.

A Condition requiring the submission of a detailed Landscaping Plan is recommended in the attached Recommended Conditions, including the requirement to demonstrate the provision of 15 shade trees within parking area of the Drivers Sign on Building. The applicant has agreed to consider the inclusion of shade trees where required as a component of a Landscaping Plan.

The 840 public bays provided within the multi-storey carpark are not subject to the requirement for shade trees which is applicable to at-grade parking areas only. The multi-storey bays are predominantly shaded by structure so achieve the intent of the Design Guidelines.

Crossovers

The Design Guidelines permit one vehicle crossover for each lot with a maximum width of six metres. The bus interchange component of the development has two crossovers, an ingress point from Helena Street and an egress point to Victoria Street with a circular one way traffic flow proposed to cater for the exclusive frequent through traffic movements of buses. The development also proposes separate entry and exit points for the Multi-Storey Carpark onto Victoria Street.

Notwithstanding that the crossover restriction under the Design Guidelines is intended to apply to a typical private lot development rather than a transport facility, the proposal seeks discretion for two additional crossovers. The additional crossovers are supported in both cases as they are consistent with the Objective for section 2.4.1 – Site Access, of the Design Guidelines as:

- the design appropriately balances the functional requirements of the bus interchange and carparking areas, achieving efficient ingress and egress for frequent vehicle movements, while also incorporating pedestrian safety design features such as zebra crossings, as detailed in the supporting Transport Impact Assessment;
- the proposal reduces the number of potential conflict points between pedestrians and motor vehicles when compared to the current bus interchange and carparking area, reducing from 5 crossovers (existing) to 4 (proposed), achieved through a more compact pedestrian friendly layout; and
- the proposed crossovers function in a single direction, so do not exceed the maximum dimensions.

Design Review Panel

The proposal underwent a collaborative State Design Review Panel (SDRP) pre-lodgment process with the development being presented to SDRP on three occasions. In the Final Report, November 2022, the SDRP resolved that the project did not require further consideration by the SDRP, however did recommend aspects to be resolved prior to the lodgment of a development application. The development application addresses matters requested by SDRP including:

- the inclusion of 'drop-n-ride' facilities at the station entrances;
- the kiosk entrance being relocated to face North to encourage activation;
- CPTED considerations for the public realm and pocket parks;
- the architectural language of the multi-storey carpark evolving through the design review process;
- the provision of a Public Art Strategy;
- preparation of a comprehensive tree assessment of feasibility, retention and removal for all trees through an arborist report;
- increased planting density throughout the development site;
- review of the layout and design treatments at the termination of Helena Street north of the station to provide clear and safe pedestrian prioritisation between there and the station;
- the creation of a 'yarning' circle at the southern entrance to the Train Station; and
- the inclusion of heritage interpretation elements in the public realm design to celebrate historic elements of the area, including the Foundry Chimney landmark.

An element of the SDRP Final Report recommendation that was not addressed prior to the lodging of the development application was the reconsideration of the architectural design of the Driver's Sign-on Building, as discussed below.

Drivers Sign-On Building

The SDRP recommended that the architectural treatment of the Drivers Sign-On Building be 'simplified', through revision of the scale and pattern of façade elements and external fenestration. It was suggested that historic architecture in the precinct might form a basis of reference.

While further development of the façade has not occurred at development application stage, the applicant has agreed to undertake meaningful review of this component at the detailed design phase and a condition has been included on the attached recommended conditions requiring the architectural detail be reconsidered and 'simplified' consistent with the SDRP's advice.

The condition is proposed to the satisfaction of DevelopmentWA in consultation with the Government Architect team, thereby ensuring continued involvement of the SDRP Chair in ensuring an appropriate design outcome is achieved. The Chair of the SDRP supports the proposed condition and ongoing involvement of the Government Architect in resolving the architectural design.

Consultation

Stakeholder Consultation

- in accordance with Section 64 of the *Metropolitan Redevelopment Authority Act 2011* the application was referred to the Dept of Biodiversity, Conservation and Attractions, ATCO gas, Dept of Transport, Heritage Council of WA, Dept of Water and Environmental Regulation, Dept of Health, Main Roads WA (MRWA), Optus, Telstra, Water Corp, Dept of Planning Land and Heritage and the City of Swan (the City);
- the stakeholders predominantly provided comment of support for the development applications. Any comments, advice or concerns raised by the referral agencies have been addressed through subsequent revisions to the plans and recommended conditions and advice notes, as considered appropriate; and
- the key comments from the City's submissions are considered below.

Refer to Appendix 6 – Summary of Stakeholder Submissions

City of Swan

The City's submissions made the following recommendations in relation to the proposal:

- preference for the station facility to be located adjacent to Cale Street, in closer proximity to the Midland Public Hospital;
- preference that parking for the station be accommodated through a multi deck carpark built over the top of the bus interchange facility; and
- provision of an updated Transport Impact Assessment (TIA) to consider broader impacts of the proposal on the local road network, including modelling of additional nearby intersections and implementation of any associated transport infrastructure upgrades.

Station Location

The alternative location preferred by the City is acknowledged, however:

- it is considered that the proposed Mandjanup Station location appropriately balances the technical and operational considerations of the transport agencies with achieving a successful Transit Oriented Development precinct that better connects the Midland Town Centre with the station;

- the new location capitalises on the existing principle pedestrian and cycle network and as such, achieves logical linkages with the greater Midland Town Centre, through the heritage precinct that includes the Town Hall, to the Midland Oval; and
- the applicant has advised that locating the station further east towards Cale Street adjacent to the Midland Hospital cannot be achieved due to technical and operational constraints, including the need to provide meaningful separation between the train station and a level crossing.

Integrated Car Park and Bus Facility

With regard to the City's recommendation to consolidate the two facilities:

- the multi-storey carpark and bus interchange land uses have different floorplate requirements, such that it would be complex to efficiently, effectively and safely accommodate both land uses in the same location;
- having a mixture of large vehicles (buses) and small vehicles (cars) accessing the one facility would result in potential safety issues for vehicles, pedestrians and cyclists; and
- the multi-storey car park proposed in the current application achieves a more efficient parking layout than the existing Midland Station parking, and both new facilities are within a reasonable walking distance from the new station.

Transport Impact Assessment

A TIA is submitted with the application, which demonstrates the following:

- provides a detailed analysis of the impact the development will have on the roads and transport infrastructure immediately surrounding the site;
- confirms that the new station facility has been designed to effectively integrate with the surrounding networks with minimal change to overall efficiency, despite adjustments to Helena and Cale Streets; and
- meets the requirements of MRWA, who holds care and control of the relevant major intersections.

Consistent with the TIA, the proposed development plans detail the road, footpath and transport infrastructure upgrades within the project boundary necessary to achieve successful integration with existing networks.

Further, MRWA has advised that the broader intersection modelling requested by the City was recently completed as part of separate MRWA investigations for the Midland area (related to future planning for Great Eastern Highway), which took into consideration the station relocation and did not identify the need for any associated changes to the road configuration.

As the current TIA notes that some adjustments to intersections may occur through the detailed design phase of the project, a condition is recommended requesting a final TIA be submitted to the satisfaction of DevelopmentWA, the City and MRWA at the conditions clearance stage. Advice has been included with the recommended conditions to encourage further collaboration between the applicant, MRWA and the City, taking into consideration the City's requested updates to the TIA at that point in time.

The City also requested a number of standard conditions that have been incorporated into the recommended conditions where relevant, as detailed in *Appendix 6 – Summary of Stakeholder Submissions*.

Public Consultation

- in accordance with Clause 5.15 of the Scheme the application was advertised for public comment for a minimum of 21 days, from 11 February 2023 to 10 March 2023;
- Consultation included:
 - letters to all landowners with properties within 200m of the subject site;
 - notice of the proposed development being published in a local newspaper; and
 - notice of the proposed development being published on the DevelopmentWA website; and
- a total of 14 submissions were received, including 2 supportive, 8 objections and 4 that were neutral or asked questions in relation to the development. The comments raised are discussed in *Appendix 7– Summary of Public Submissions*

Additional Conditions

Where high level information has been provided in the development application, or the information provided requires additional detail, conditions of approval have been recommended to ensure the high quality intent of the development application is delivered through to the detailed design phase of the development process.

The following recommended conditions and advice notes have been proposed to ensure that the indicated level of design quality, functionality and amenity in the Development Application is maintained through to construction:

- Updated Transport Impact Assessment (as discussed previously);
- Waste Management Plan;
- Lighting Strategy;
- Building Materials and Finishes;
- Acoustic / Vibration Reports;
- Drainage and Stormwater Management Plans; and
- Detailed Parking Plan.

Delegation

Under Clause 11.2.5 of DevelopmentWA's Delegation Schedule, the DevelopmentWA Board is delegated to approve development applications with a development value over \$50 million within the METRONET East Redevelopment Area. The combined value of the proposal is \$200 million.

Conclusion

The proposed development is generally consistent with the planning framework for the subject site.

The Mandjanup Station facility is a key METRONET project, which will strengthen and activate Midland as a mixed-use Transit Oriented Development destination. The proposed development demonstrates high quality 'iconic' building designs, enhanced bus and rail transport connections, substantial public realm improvements and active supporting uses which facilitate investment and provide opportunities for local businesses.

It is recommended that the METRONET East (Midland) Land Redevelopment Committee resolves to recommend to the DevelopmentWA Board that it approves the development applications for the Mandjanup Station facility, subject to the recommended conditions and advice notes on the attached Recommended Conditions documents.

Attachments

- Appendix 1 – Regulatory Assessment
- Appendix 2 – Development Plans – DA1 – Forward Works
- Appendix 3 – Development Plans – DA2 – Buildings and Public Realm
- Appendix 4 – Applicant response to LRC Briefing
- Appendix 5 – Recommended Conditions and Advice Notes
- Appendix 6 – Summary of Stakeholder Submissions
- Appendix 7 – Summary of Public Submissions

REGULATORY ASSESSMENT

Redevelopment Area Objectives

The proposal is considered to satisfy the Redevelopment Area Objectives as it:

<u>Sense of Place</u>	is a high quality development that responds to the surrounding development and context of the site. The development proposes a series of iconic building designs that will act as a focal point for activity in the area combined with quality landscaped public spaces
<u>Economic Wellbeing</u>	represents a \$200 million investment into the Midland Town Centre, enhancing public transport opportunities for people to access the businesses located within the Midland Redevelopment Area and the wider Midland Town Centre, contributing to the economic wellbeing of the area.
<u>Urban Efficiency</u>	redevelops underutilised land resulting in a more efficient use of land by removing the existing at-grade carparking and consolidating carparking into a Multi-storey building, freeing up land for future mixed use development.
<u>Social Inclusion</u>	provides for improved public transport infrastructure and access to the Midland Redevelopment Area and Midland Town Centre for those who are reliant on public transport. It further supports social inclusion by supporting community infrastructure that provides opportunities for interaction between people and places.
<u>Connectivity</u>	offers major improvements to the public transport infrastructure servicing the Midland Redevelopment Area and the wider the Midland Town Centre, with high-quality pedestrian access and end-of-trip facilities, which promote reduced reliance on private vehicle travel.
<u>Environmental Integrity</u>	proposes a commitment to achieving a 5 Star Green Star rating and incorporates sustainability infrastructure in the design, exceeding the requirements of the Midland Design Guidelines and Development Policy 1 – Green Building.

Appendix 2

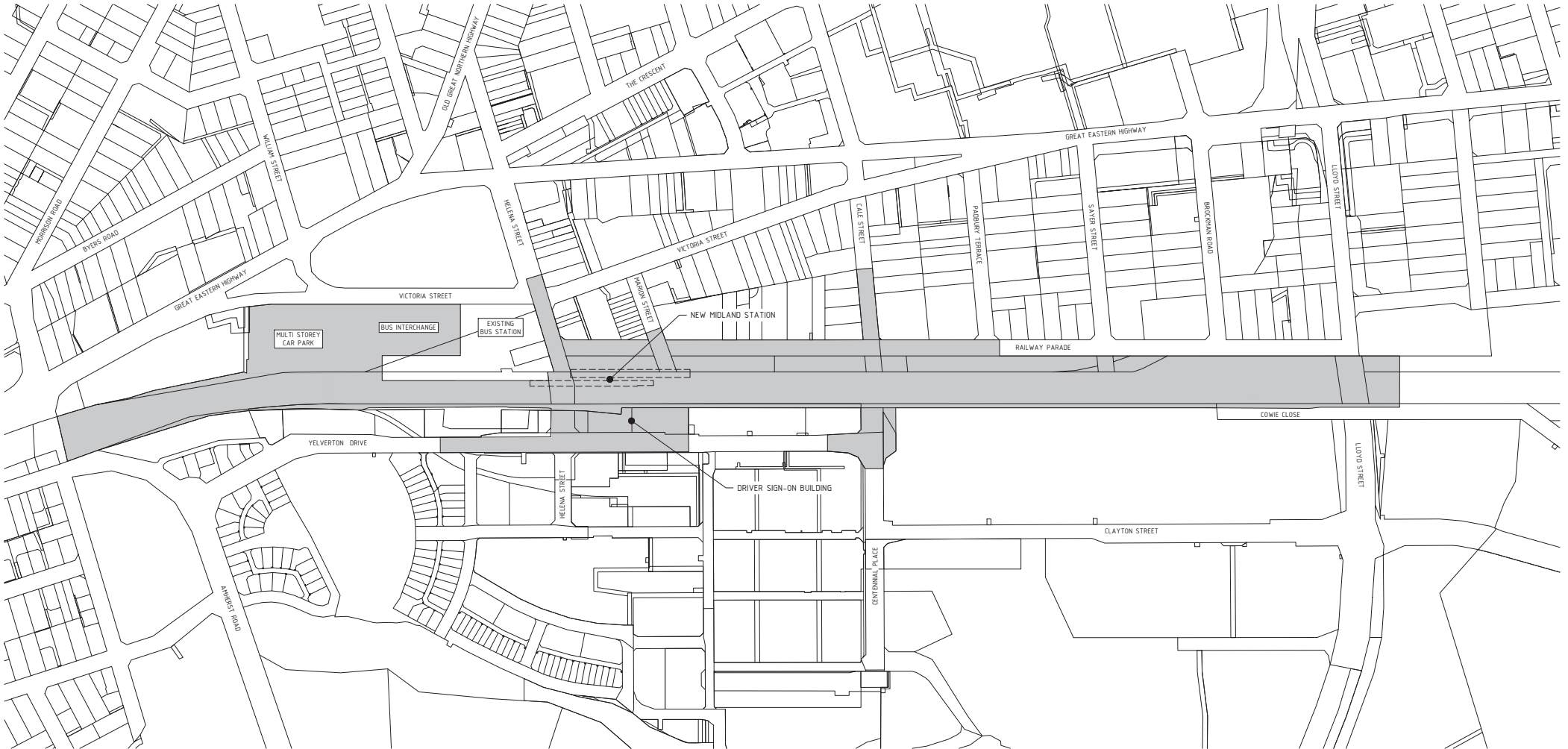
Appendix A

METROPOLITAN REDEVELOPMENT
AUTHORITY

16 December 2022

RECEIVED

Development Plans



LEGEND

CADASTRAL
DA1

ISSUED FOR INFORMATION

	MIDLAND STATION (CALE STREET)
MIDLAND STATION PRECINCT	
DA1 - OVERALL PLAN	
PTA Drawing No: MSCS-MJA-CI-SKT-024	Rev: A

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REFERENCES

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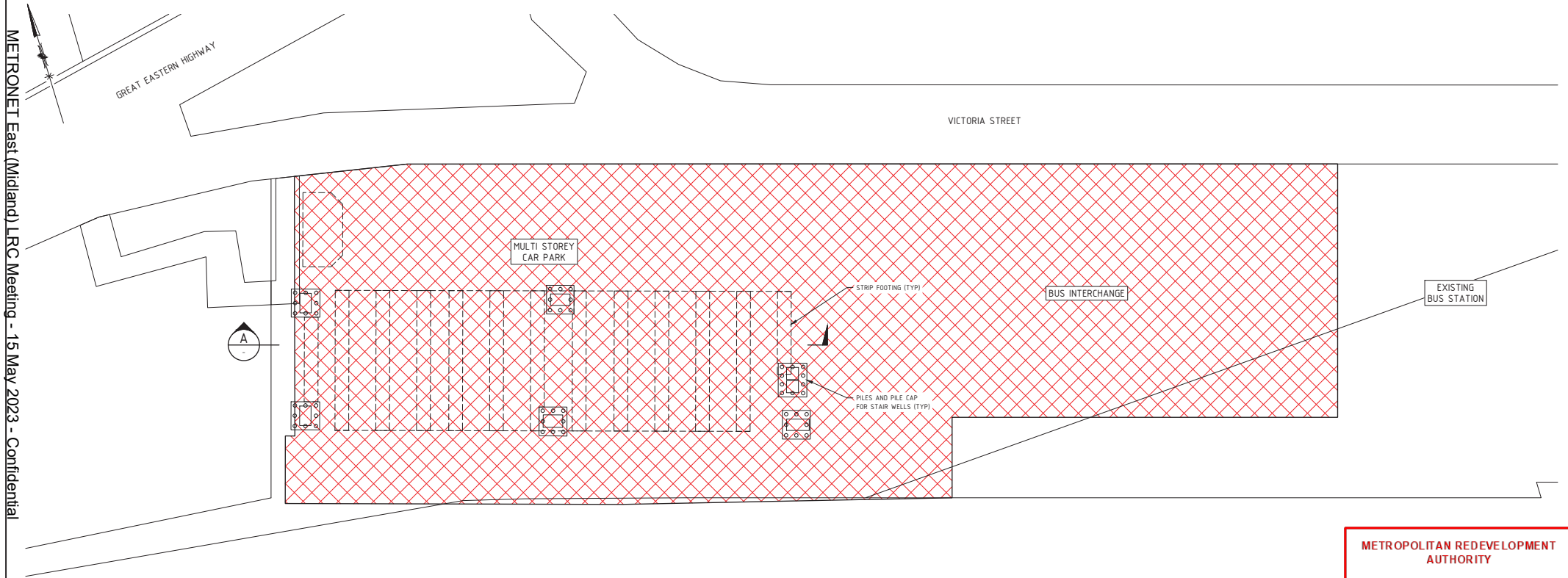
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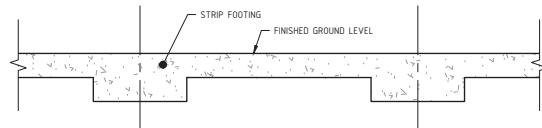
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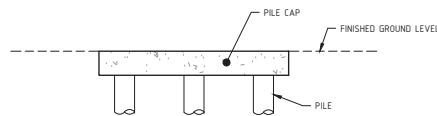
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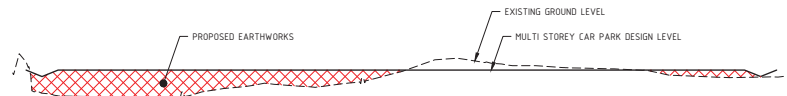
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- NOTES
- SCOPE OF EARTHWORKS INCLUDES:
 - REMOVAL OF EXISTING PAVEMENT LAYERS
 - DETAILED EARTHWORKS TO BOTTOM OF FOUNDATION LEVEL
 - COMPACTION OF FOUNDATION LEVEL
 - WHERE REQUIRED, UNDERTAKE MINOR FILL AND COMPACTION WORKS

LEGEND

— CADASTRAL

— DA1 EARTHWORKS

REFERENCE DESIGN

	MIDLAND STATION (CALE STREET)
MIDLAND STATION PRECINCT	
DA1 - MULTI STOREY CAR PARK & BUS INTERCHANGE	
EARTHWORKS PLAN AND SECTION	
PTA Drawing No: MSCS-MJA-CI-SKT-025	Rev: A

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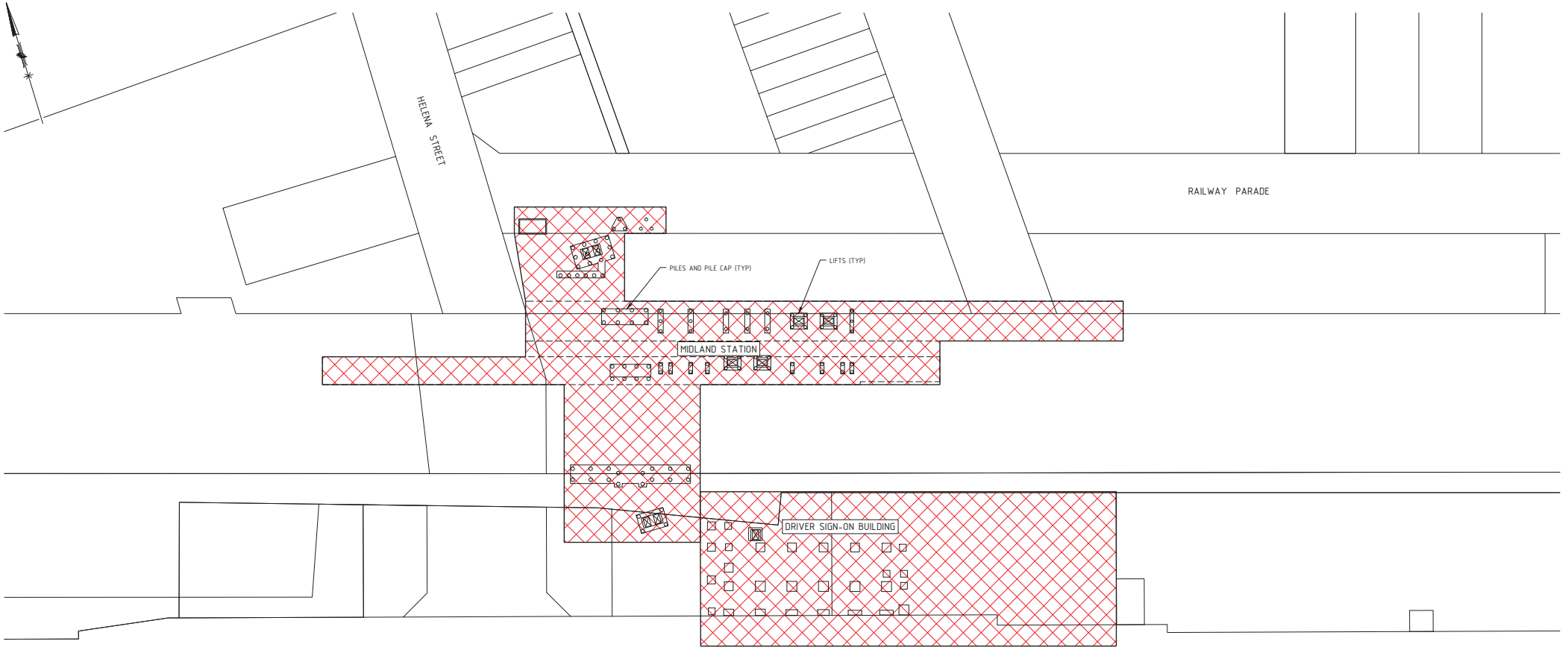
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16 December 2022

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- NOTES
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- REMOVAL OF EXISTING PAVEMENT LAYERS
 - DETAILED EARTHWORKS TO BOTTOM OF FOUNDATION LEVEL
 - COMPACTION OF FOUNDATION LEVEL
 - WHERE REQUIRED, UNDERTAKE MINOR FILL AND COMPACTION WORKS

LEGEND

— CADASTRAL

DA1 EARTHWORKS

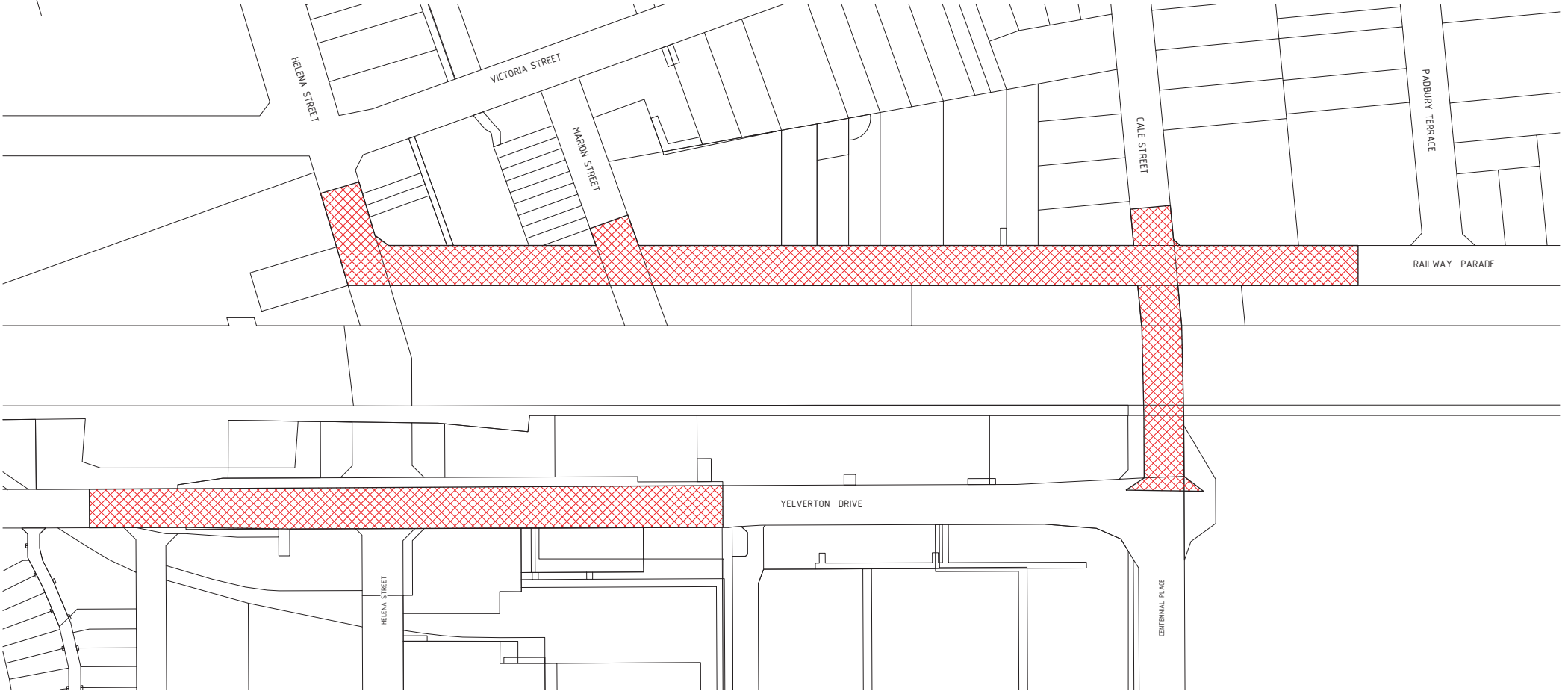
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MIDLAND STATION PRECINCT	
DA1 - MIDLAND STATION & DRIVER SIGN-ON BUILDING	
EARTHWORKS PLAN AND SECTION	
PTA Drawing No: MSCS-MJA-CI-SKT-026	Rev: A

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NOTES

- SCOPE OF CIVIL ROADWORKS INCLUDES:
 - REMOVAL AND REPLACING OF EXISTING WEARING COURSE
 - WIDENING EXISTING PAVEMENT BY EXCAVATING DOWN TO THE SUBGRADE LEVEL AND CONSTRUCTING ADDITIONAL PAVEMENT LAYERS
 - KERBING, FOOTPATH CONSTRUCTION, LINE MARKING AND SIGNAGE

LEGEND

- CADASTRAL
- EXTENT OF ROADWORKS FOR DA1

ISSUED FOR INFORMATION

	MIDLAND STATION (CALE STREET)
MIDLAND STATION PRECINCT	
DA1 - CIVIL ROADS	
PLAN	
PTA Drawing No: MSCS-MJA-CI-SKT-027	Rev: A

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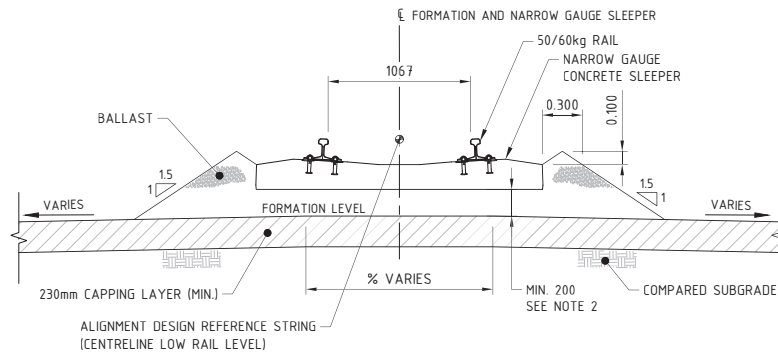
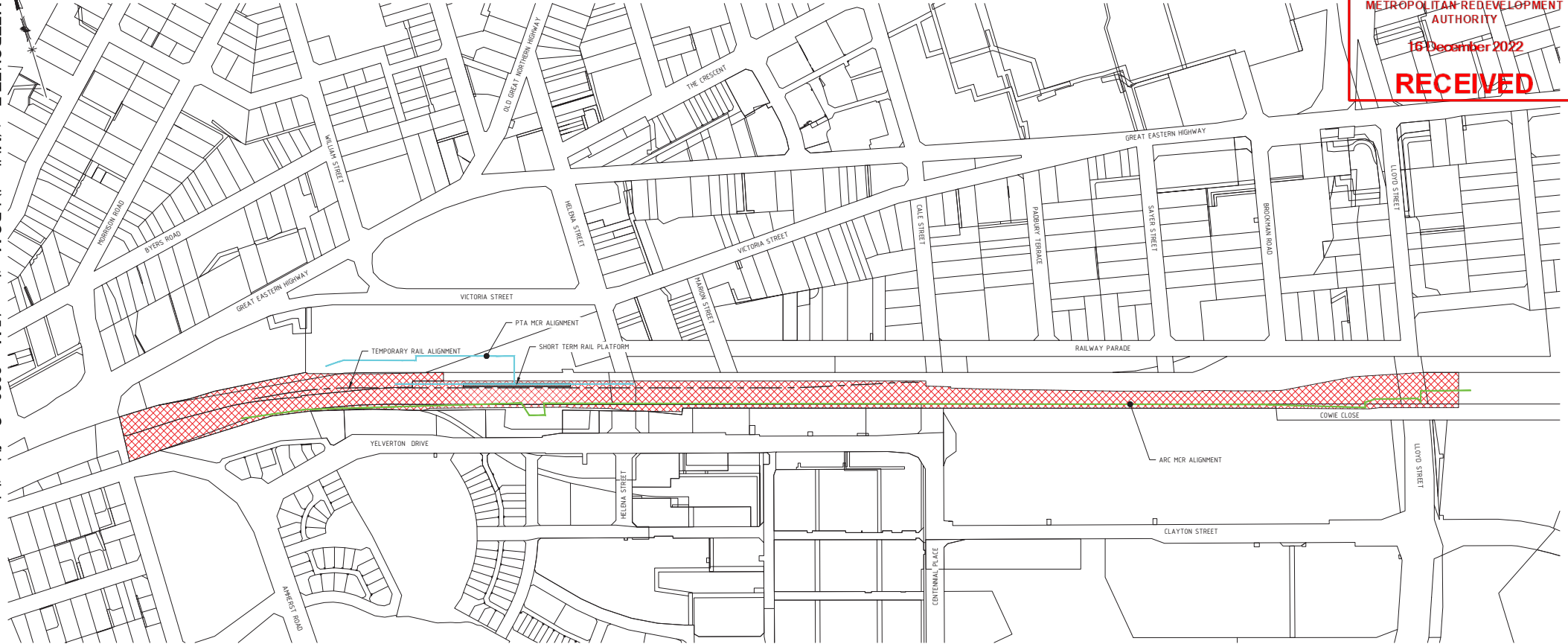
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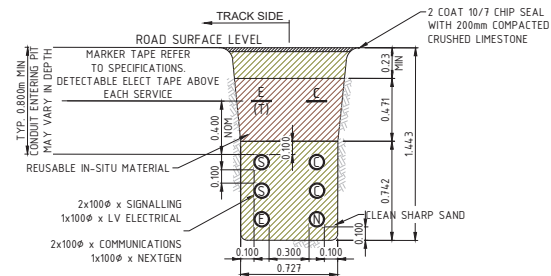
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TYPICAL RAIL FORMATION
NTS



TYPICAL MCR - ARC TRENCH
(SHOWN IN GREEN)



TYPICAL MCR - PTA ABOVE GROUND CONDUITS
(SHOWN IN BLUE)

- NOTES**
- SCOPE OF EARTHWORKS INCLUDES:
 - COMPACTING OF FOUNDATION LEVEL
 - REPLACE WITH CLEAN FILL AND COMPACT
 - INSTALL SLEEPERS AND RAIL BALLAST
 - CONSTRUCT MAIN CABLE ROUTE FOR RAIL SERVICES ADJACENT TO THE RAILWAY
 - FOUNDATIONS FOR OVERHEAD LINE EQUIPMENT

LEGEND

- CADASTRAL
- DA1 EARTHWORKS
- TEMPORARY RAIL PLATFORM

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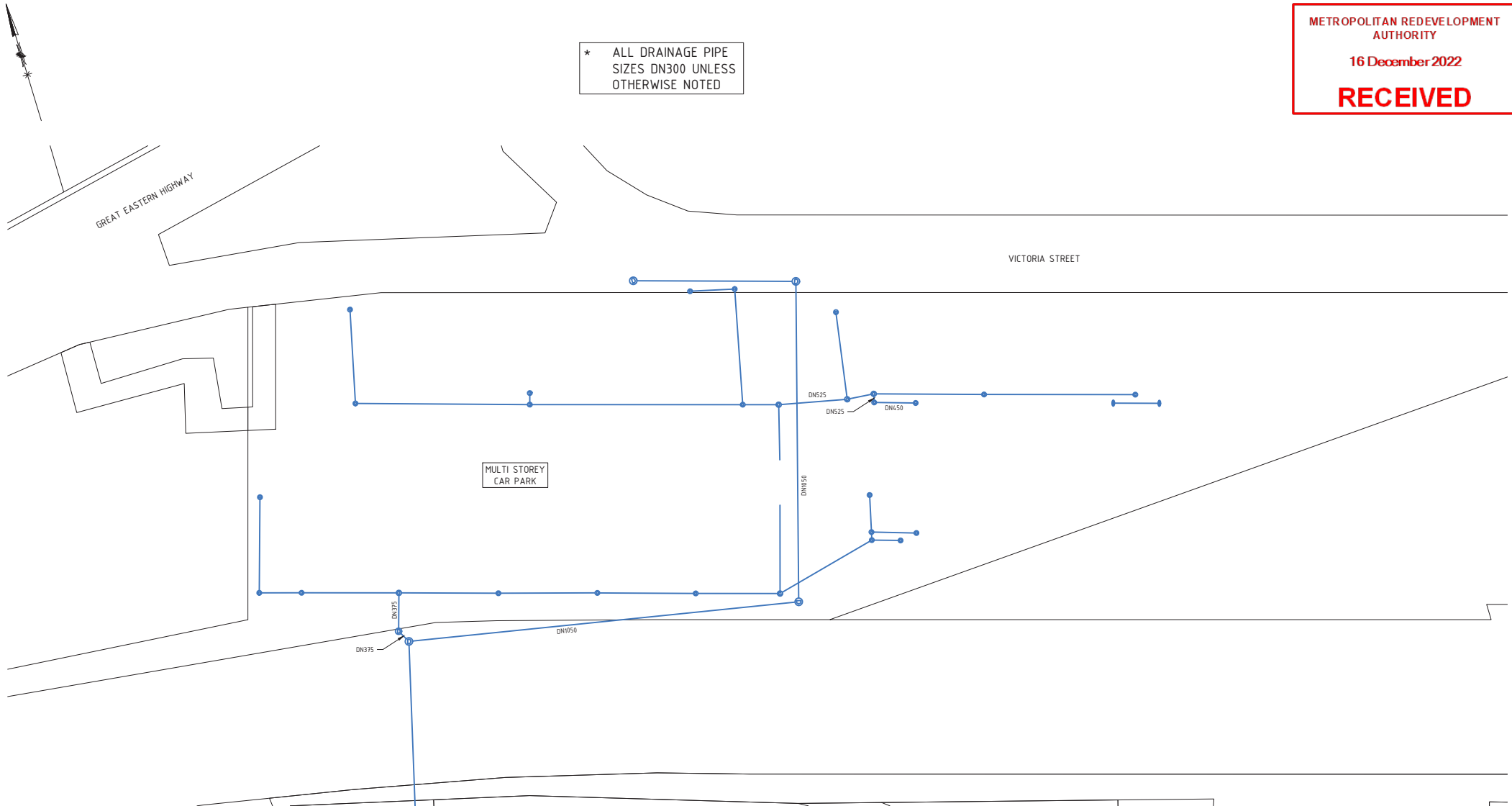
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ISSUED FOR INFORMATION

Government of Western Australia Public Transport Authority	MIDLAND STATION (CALE STREET)
MIDLAND STATION PRECINCT	
DA1 - RAILWAY	
EARTHWORKS PLAN AND SECTION	
PTA Drawing No: MSCS-MJA-CI-SKT-028	Rev: A

* ALL DRAINAGE PIPE
SIZES DN300 UNLESS
OTHERWISE NOTED



LEGEND

— CADASTRAL
— PROPOSED DRAINAGE PIPEWORK

ISSUED FOR INFORMATION

REV	DATE	ISSUED FOR INFORMATION	AMENDMENT	DSN	DRN	CHK	APP
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REFERENCES

SCALE

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DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED	AH
DRAWN	SP
CHECKED	
APPROVED	
DATE	

Government of Western Australia Public Transport Authority	MIDLAND STATION (CALE STREET)
MIDLAND STATION PRECINCT	
DA1 - MULTI STOREY CAR PARK & BUS INTERCHANGE	
DRAINAGE PIPEWORK	
PTA Drawing No:	MSCS-MJA-CI-SKT-029
Rev:	A



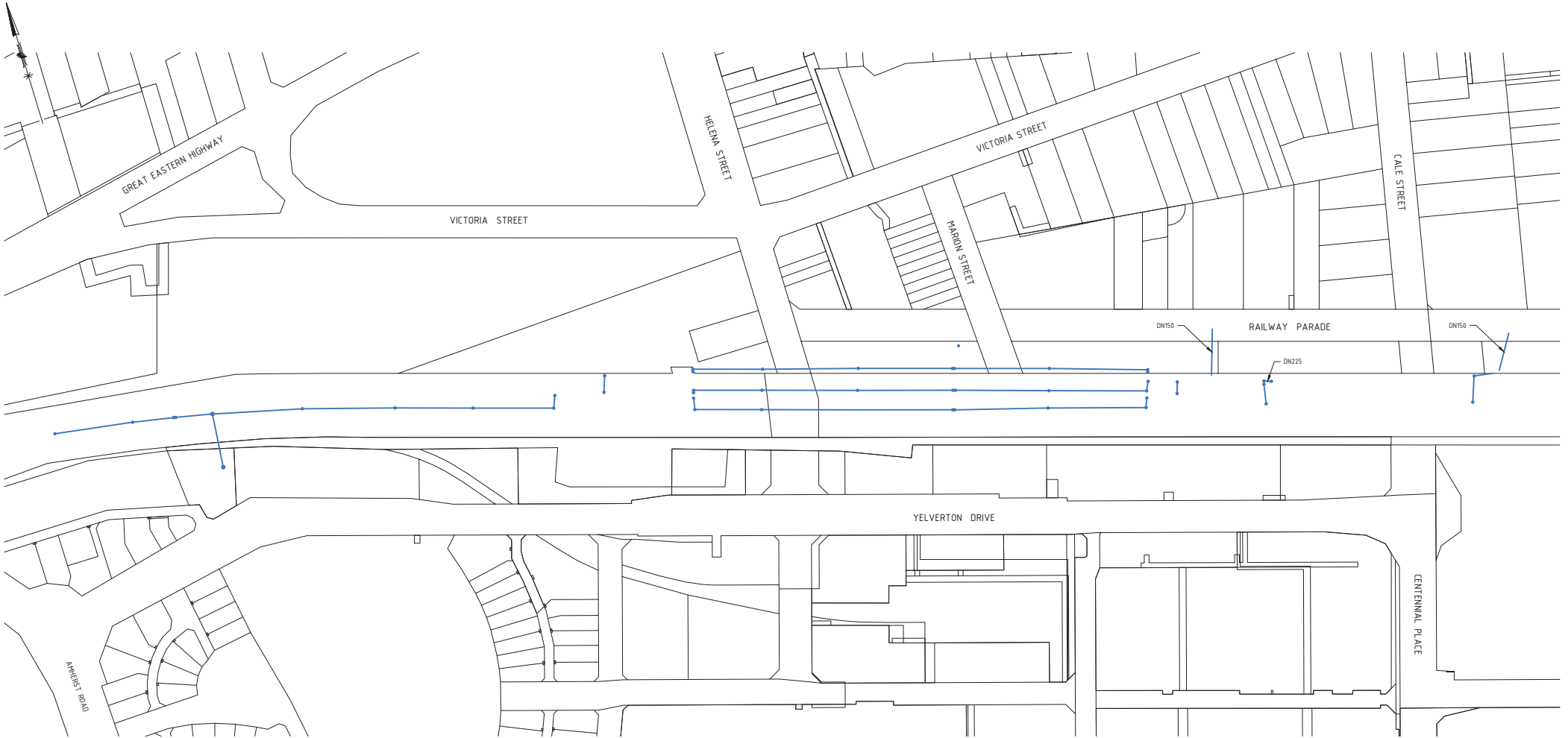
RECEIVED



PTA Drawing No:	MSCS-MJA-CI-SKT-030	Rev:	A
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		CHECKED			
	DATUM	APPROVED			
	HORIZONTAL: PCG20 VERTICAL: AHD71	DATE			



* ALL DRAINAGE PIPE
SIZES DN300 UNLESS
OTHERWISE NOTED

METROPOLITAN REDEVELOPMENT
AUTHORITY

16 December 2022

RECEIVED

NOTES

- SCOPE OF OTHER SERVICE RELOCATION WORKS INCLUDES:
 - COMMUNICATIONS CONDUITS (NEXTGEN, VOCUS, OPTUS AND TELSTRA SERVICES) WILL BE RELOCATED AND INSTALLED DEEPER WHERE CROSSING THE RAIL CORRIDOR
 - WESTERN POWER ELECTRICAL SERVICES WILL BE INSTALLED UNDERGROUND
 - ATCO GAS AND WESTERN POWER HV WILL BE INSTALLED AT A GREATER DEPTH UNDER NEW CALE ST LEVEL CROSSING

LEGEND

- CADASTRAL
- PROPOSED DRAINAGE PIPEWORK

ISSUED FOR INFORMATION

3D	05.10.22	ISSUED FOR INFORMATION	AH	SP	AH	NR
REV	DATE	AMENDMENT	DSN	DRN	CHK	APP
A1						



REFERENCES

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HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED	AH
DRAWN	SP
CHECKED	
APPROVED	
DATE	

MIDLAND STATION (CALE STREET)
MIDLAND STATION PRECINCT
DA1 - RAILWAY
UTILITY SERVICES
PTA Drawing No: MSCS-MJA-CI-SKT-031
Rev: A

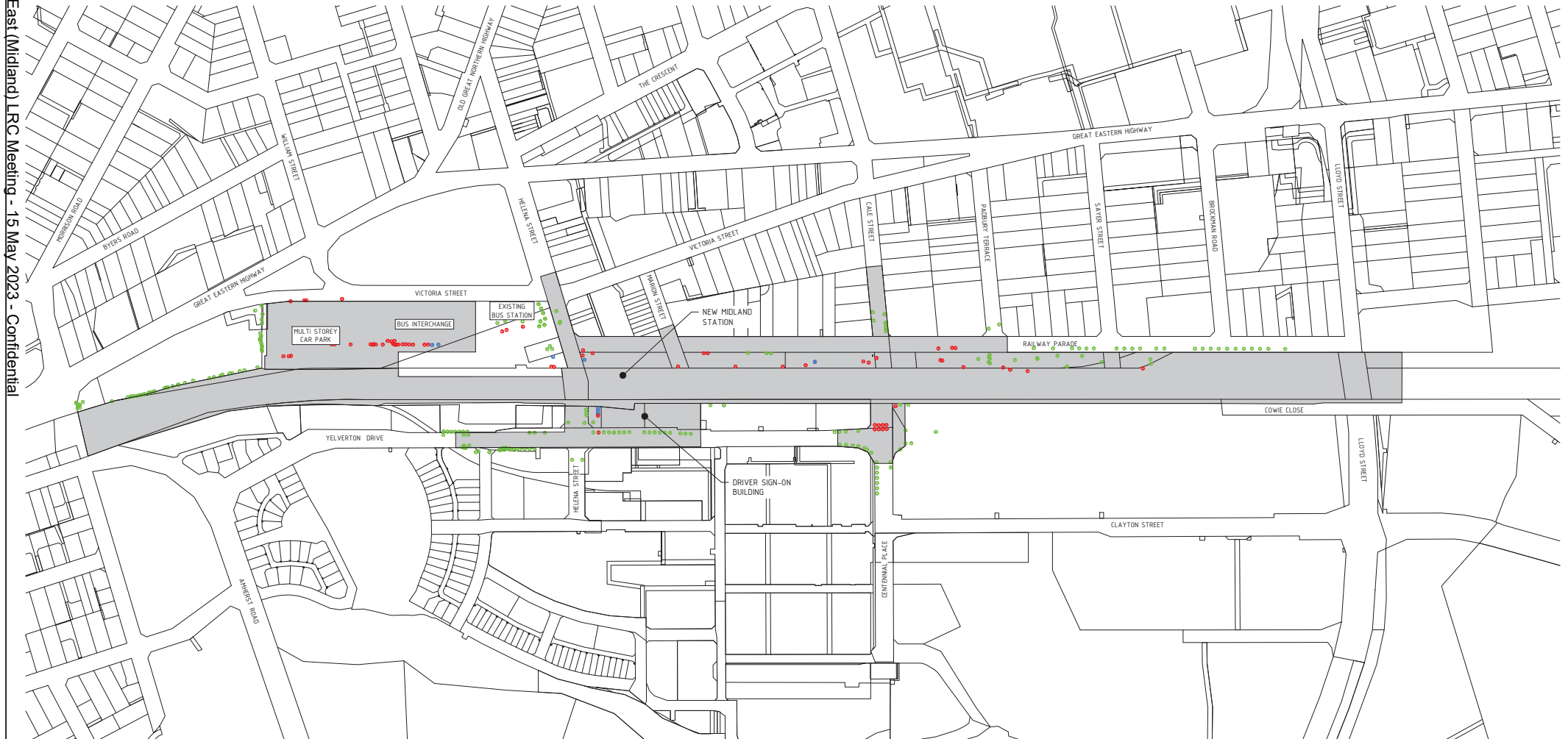


— CADASTRAL
— PROPOSED WATER CORPORATION
ASSET RELOCATIONS



**MIDLAND
JUNCTION**
ALLIANCE

ISSUED FOR INFORMATION		
 Government of Western Australia Public Transport Authority	MIDLAND STATION (CALE STREET)	
MIDLAND STATION PRECINCT DA1 WATER CORPORATION NETWORK		
PTA Drawing No:	MSCS-MJA-CI-SKT-033	Rev: A



NOTES

- ALL TREES NOTED TO BE REMOVED
WILL BE UNDERTAKEN AT DA1 STAGE

LEGEND

- CADASTRAL
- DA1
- EXISTING TREE TO BE RELOCATED
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE RETAINED

ISSUED FOR INFORMATION

REV	DATE	ISSUED FOR INFORMATION	AMENDMENT	AH	SP	AH	NR
32	05.10.22	ISSUED FOR INFORMATION		DSN	DRN	CHK	APP
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HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED

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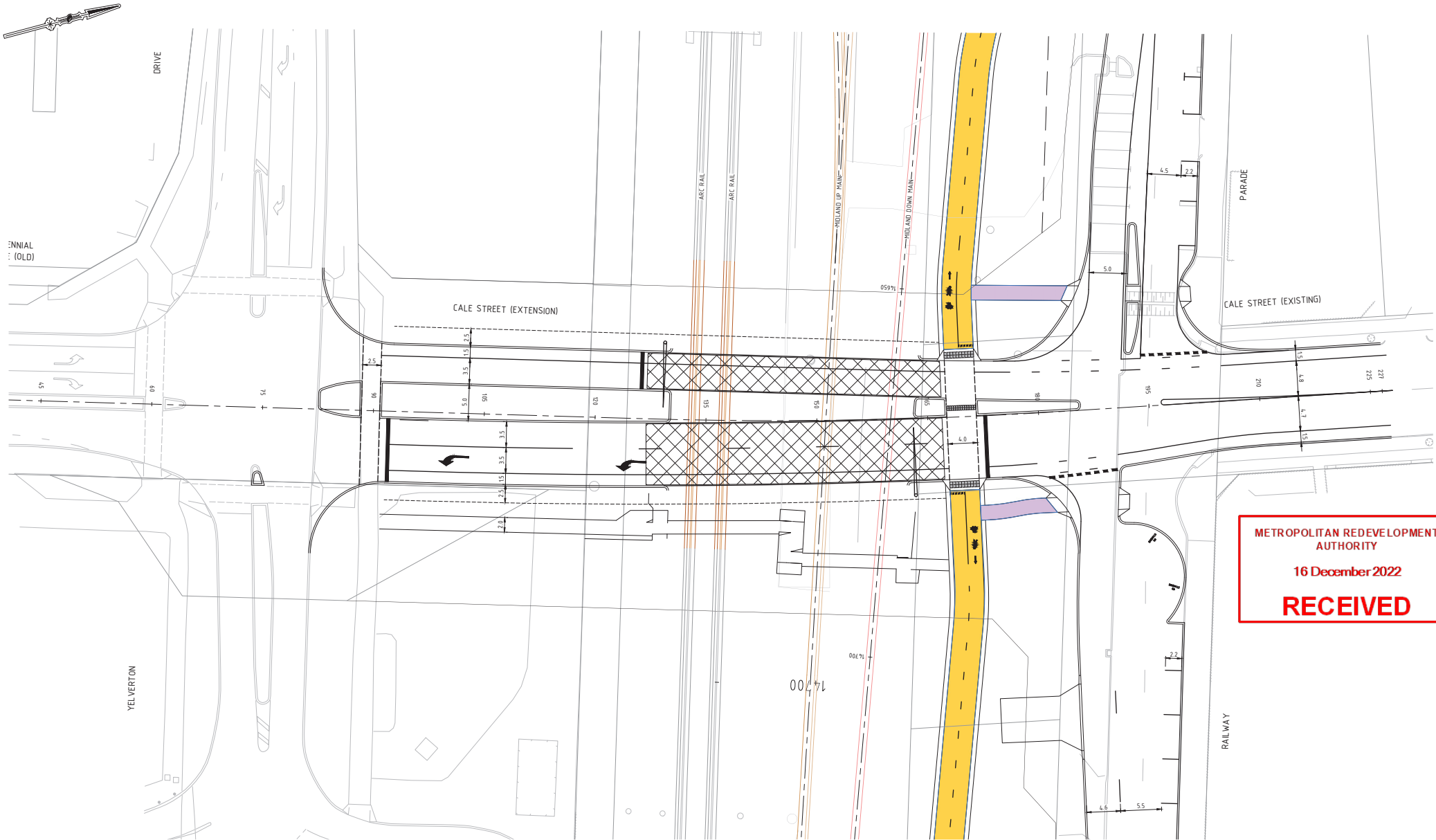
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CHECKED

APPROVED

DATE

Government of Western Australia Public Transport Authority	MIDLAND STATION (CALE STREET)
MIDLAND STATION PRECINCT	
DA1 - OVERALL PLAN	
EXISTING TREES	
PTA Drawing No: MSCS-MJA-CI-SKT-034	Rev: A



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16 December 2022
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INDICATIVE DESIGN ONLY

38	05/10/22	ISSUED FOR INFORMATION	AH	SP	AH	NR
REV	DATE	AMENDMENT	DSN	DRN	CHK	APP
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AT ORIGINAL PLOT SIZE

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REFERENCES

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DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED

AH

DRAWN

SP

CHECKED

APPROVED

DATE

REFERENCE DESIGN

	MIDLAND STATION (CALE STREET)
MIDLAND STATION PRECINCT	
DA1 - CALE STREET CROSSING	
PTA Drawing No:	MSCS-MJA-CI-SKT-037
Rev:	A

Appendix 3

Appendix A

Development Plans



MIDLAND STATION (CALE STREET)

DRAWING REGISTER	
DRAWING NUMBER	DRAWING NAME
AR0001	COVER PAGE & PROJECT DRAWING LIST
AR0002	LOCALITY & SITE PLAN
AR0003	PART SITE PLAN NORTH
AR0004	PART SITE PLAN CENTRAL
AR0005	PART SITE PLAN SOUTH
AR0006	PART SITE PLAN EAST
AR0007	CONCOURSE PLAN OVERALL
AR0008	CONCOURSE PLAN (NORTHERN)
AR0009	CONCOURSE PLAN (SOUTHERN)
AR0010	PART PLATFORM PLAN
AR0011	PART PLATFORM PLAN
AR0012	PART PLATFORM PLAN
AR0013	PART PLATFORM PLAN
AR0018	NORTHERN ENTRY BUILDING - GROUND FLOOR PLAN
AR0019	SOUTHERN ENTRY BUILDING - GROUND FLOOR PLAN

DRAWING REGISTER	
DRAWING NUMBER	DRAWING NAME
AR0023	NORTHERN ENTRY BUILDING - TERRACE PLAN
AR0040	ROOF PLAN - LOWER OVERALL
AR0041	ROOF PLAN - UPPER OVERALL
AR0050	ELEVATIONS - STATION OVERALL - NORTH SOUTH
AR0051	ELEVATIONS - STATION OVERALL - EAST WEST
AR0052	ELEVATIONS - NORTHERN ENTRY BUILDING - NORTH & SOUTH ELEVATION
AR0220	KIOSK AND NORTHERN BIKE STORE - GENERAL ARRANGEMENT PLAN
AR0221	KIOSK AND NORTHERN BIKE STORE - ROOF PLAN
AR0223	KIOSK AND NORTHERN BIKE STORE - EXTERNAL ELEVATIONS
AR0240	SER BUILDING - GENERAL ARRANGEMENT PLAN
AR0241	SER BUILDING - ROOF PLAN
AR0250	MAIN ELECTRICAL ROOM BUILDING - GA PLAN
AR0251	MAIN ELECTRICAL ROOM BUILDING - ROOF PLAN
AR0280	DROP AND RIDE BAYS SHELTER - GA PLAN, CEILING PLAN, ROOF PLAN AND ELEVATIONS
AR0290	BIN STORE - GA PLAN, ELEVATIONS AND SECTIONS

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED



DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	DA APPLICATION	JS	QL	AA
ORIG SIZE	A1					



REFERENCES

SCALE

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

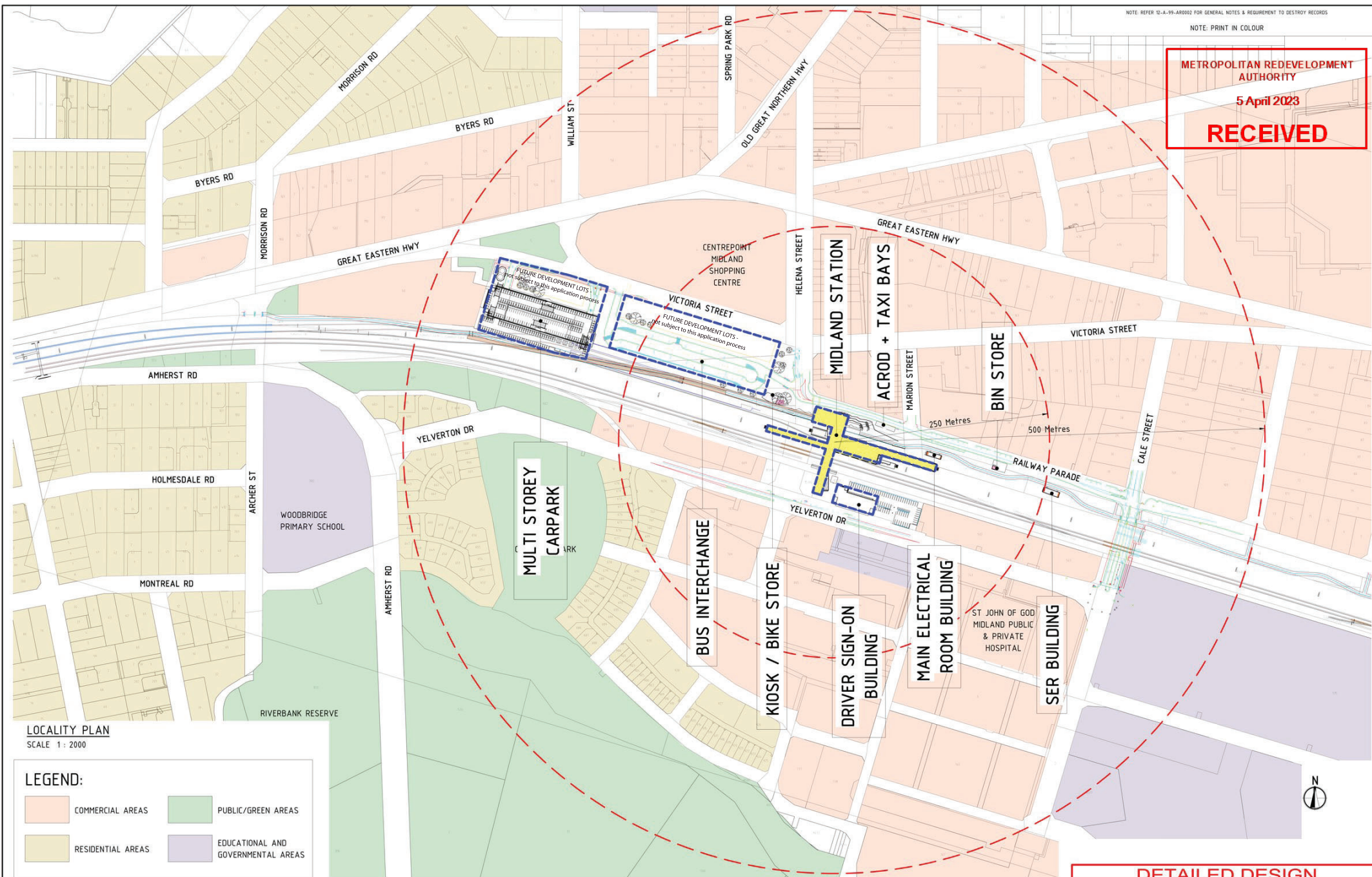
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HORIZONTAL:
VERTICAL:

Government of Western Australia Public Transport Authority	MIDLAND STATION (CALE STREET)
MIDLAND STATION COVER PAGE & PROJECT DRAWING LIST	35
PTA Drawing No: 12-A-99-AR0001	Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY

5 April 2023

RECEIVED



LOCALITY PLAN

SCALE 1 : 2000

LEGEND:

COMMERCIAL AREAS	PUBLIC/GREEN AREAS
RESIDENTIAL AREAS	EDUCATIONAL AND GOVERNMENTAL AREAS

DETAILED DESIGN

AA	16/12/22	DA APPLICATION	IS	GL	AA	NP
REV	1	16/12/22	IS	GL	AA	NP
ORIG SIZE	A1					

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REFERENCES

SCALE

1 : 2000

DATUM

HORIZONTAL: PCG20

VERTICAL: AH071

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED Approver

DATE

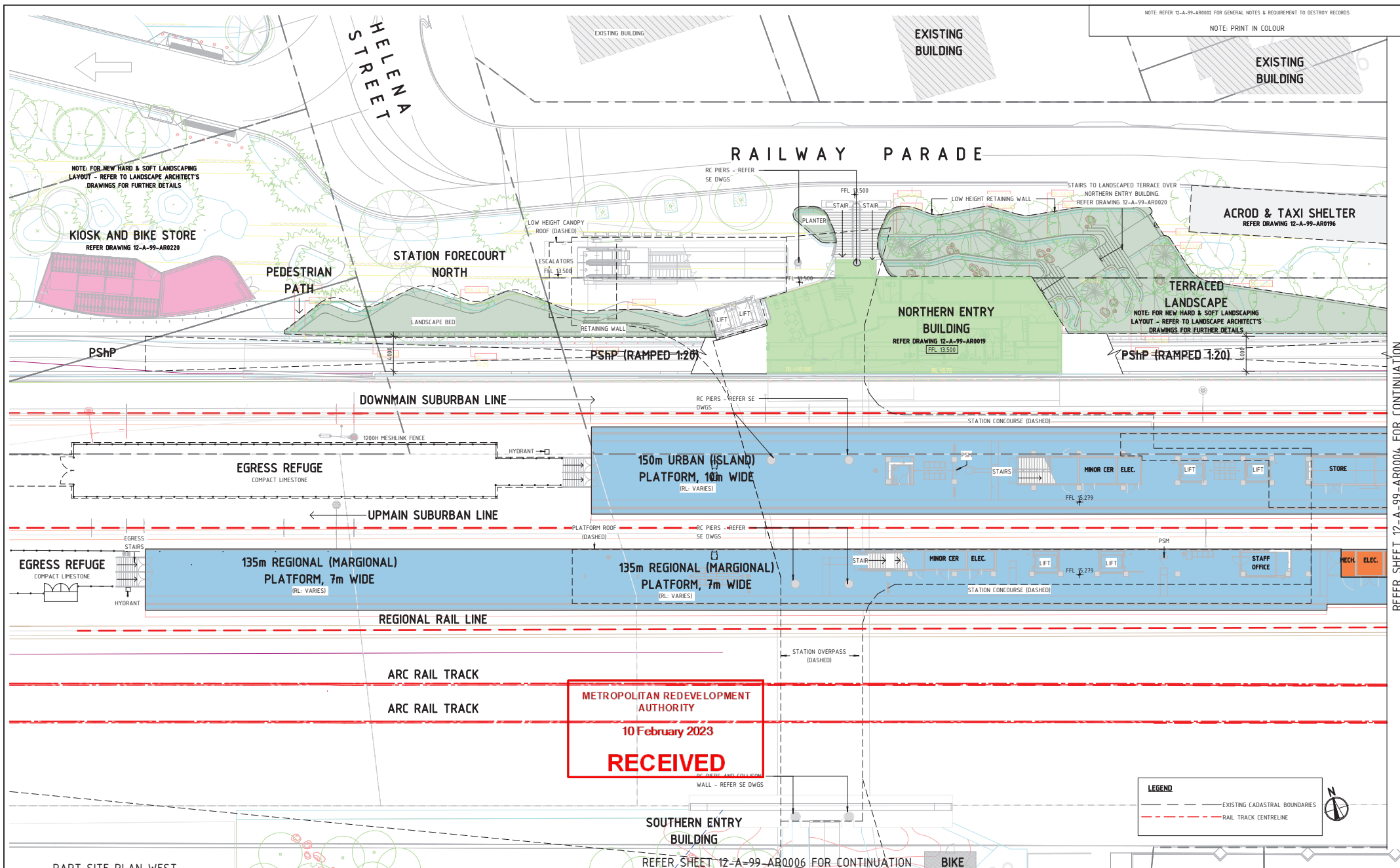
Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
LOCALITY & SITE PLAN

36

PTA Drawing No: 12-A-99-AR0002 Rev: AA



PART SITE PLAN WEST
SCALE 1 : 200

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	DA APPLICATION	JS	QL	AA
ORIG SIZE	A1					



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CAD DRAWING PATHNAME Autodesk Docs//AAU-30103874-Midland Station/12-B-99-AR1000.rvt

REFERENCES

SCALE

1 : 200

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

DETAILED DESIGN

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

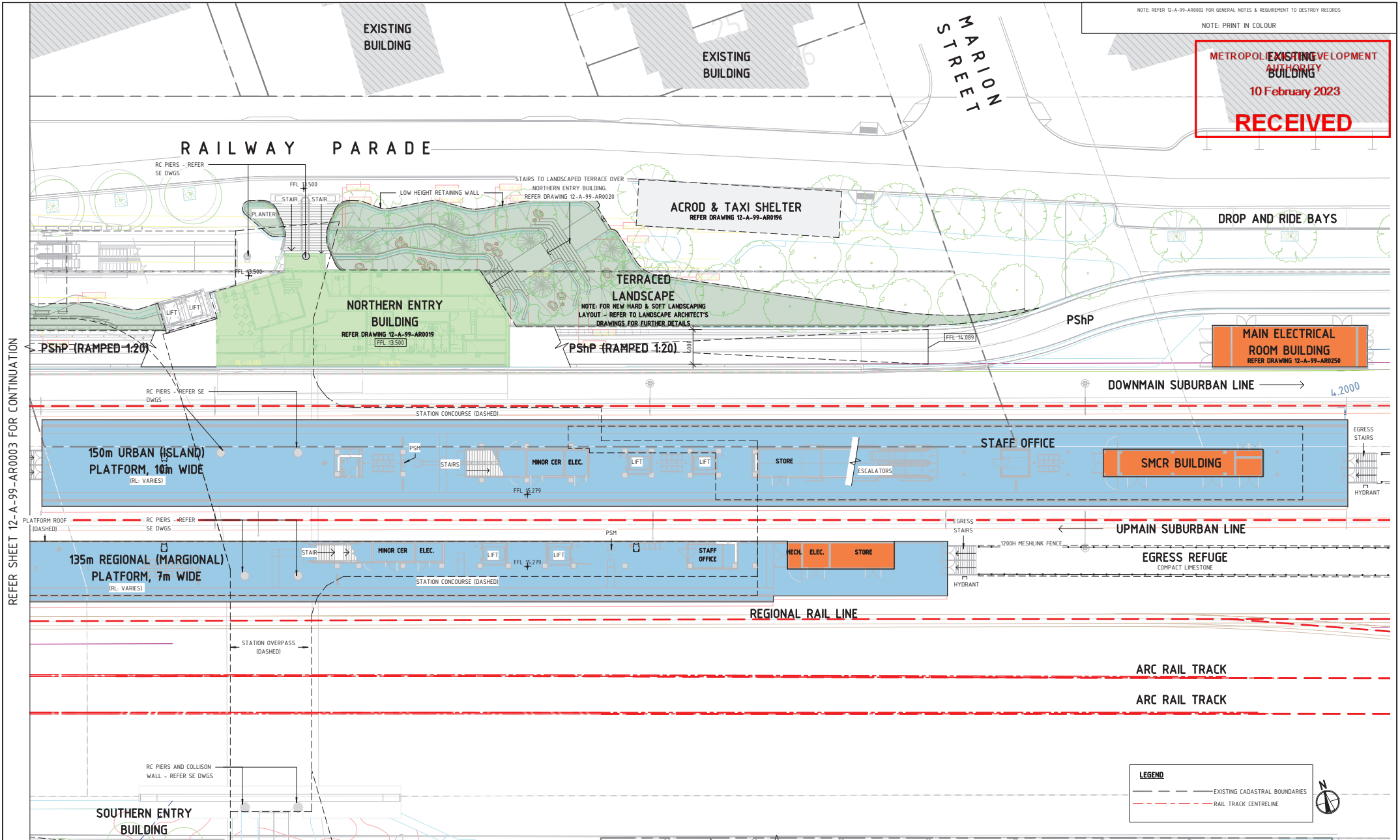
MIDLAND STATION
PART SITE PLAN NORTH

37

PTA Drawing No: 12-A-99-AR0003

Rev: AA

REFER SHEET 12-A-99-AR0004 FOR CONTINUATION



REFER SHEET 12-A-99-AR0003 FOR CONTINUATION

REFER SHEET 12-A-99-AR0006 FOR CONTINUATION

PART SITE PLAN - CENTRAL
SCALE 1 : 200

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	ORIG SIZE	AT ORIGINAL PLOT SIZE	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
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REFERENCES

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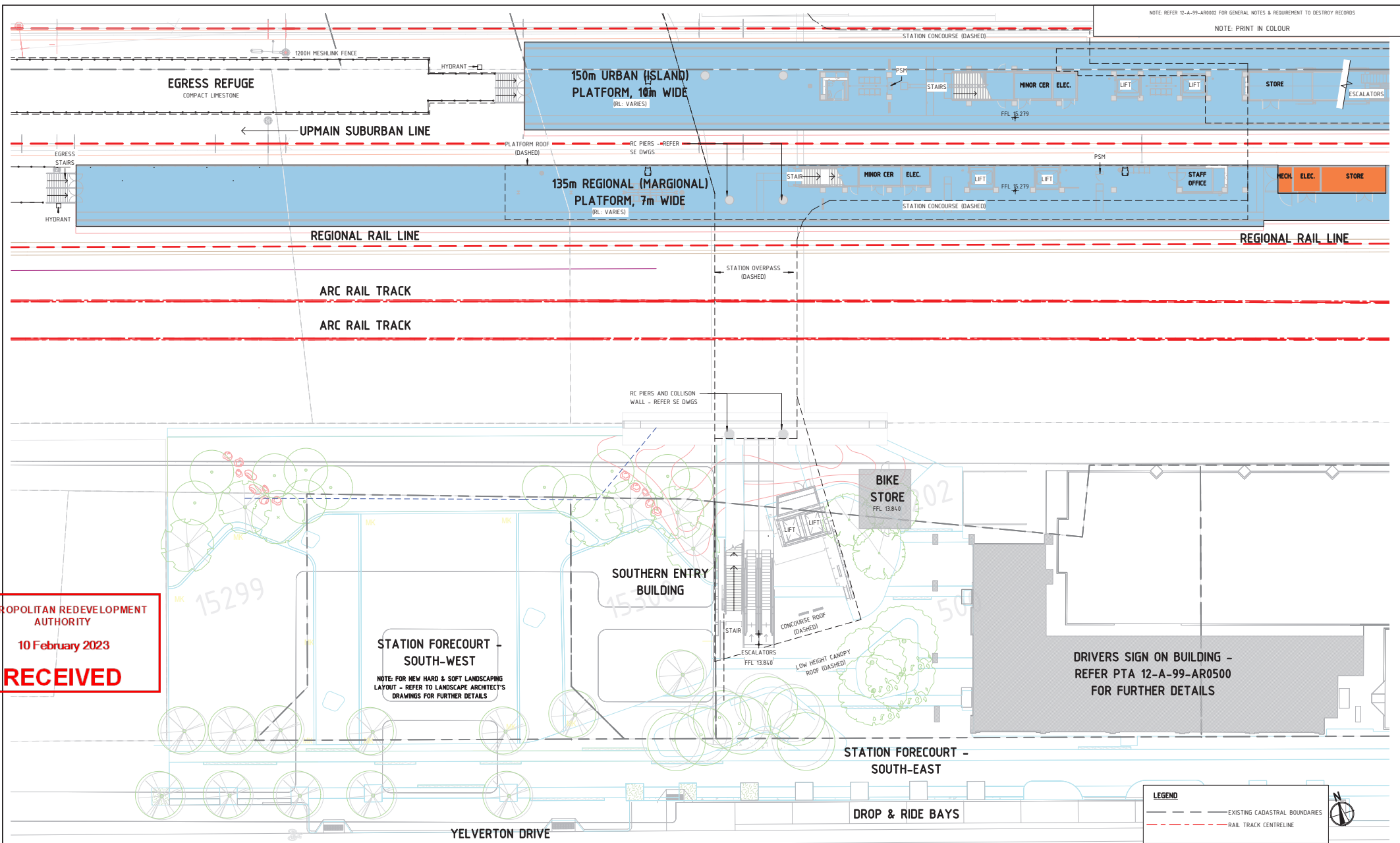
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CHECKED A.AINSWORTH

APPROVED

DATE

	MIDLAND STATION (CALE STREET)
MIDLAND STATION PART SITE PLAN CENTRAL	38
PTA Drawing No: 12-A-99-AR0004	Rev: AA



PART SITE PLAN SOUTH-WEST
SCALE 1 : 200

1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

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REV	ORIG SIZE	AT ORIGINAL PLOT SIZE	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
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REFERENCES

SCALE

1 : 200

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED J.SCULL

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DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
PART SITE PLAN SOUTH

39

PTA Drawing No: 12-A-99-AR0005

Rev: AA

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AUTHORITY

10 February 2023

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EXISTING BUILDING

RAILWAY PARADE

DROP AND RIDE BAYS

PTA EXTERNAL
BIN STORE
REFER DRAWING 12-A-99-AR0200

MAIN ELECTRICAL ROOM

SER BUILDING
REFER DRAWING 12-A-99-AR0240

DOWNMAIN SUBURBAN LINE →

EGRESS
STAIRS
HYDRANTEGRESS REFUGE
COMPACT LIMESTONE

← UPMAN SUBURBAN LINE

EGRESS REFUGE
COMPACT LIMESTONE

REGIONAL RAIL LINE

ARC RAIL TRACK

LEGEND

— EXISTING CADASTRAL BOUNDARIES
- - - RAIL TRACK CENTRELINE

PART SITE PLAN

SCALE 1 : 200

1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

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REFERENCES

SCALE

1 : 200

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A. AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
PART SITE PLAN EAST

40

PTA Drawing No: 12-A-99-AR0006

Rev: AA

NOTE: PRINT IN COLOUR

FLOOR FINISHES

	CONCRETE
	CONCOURSE TILES
	WET AREA TILES
	VINYL TYPE 1 - ANTI-STATIC
	VINYL TYPE 2
	TACTILES

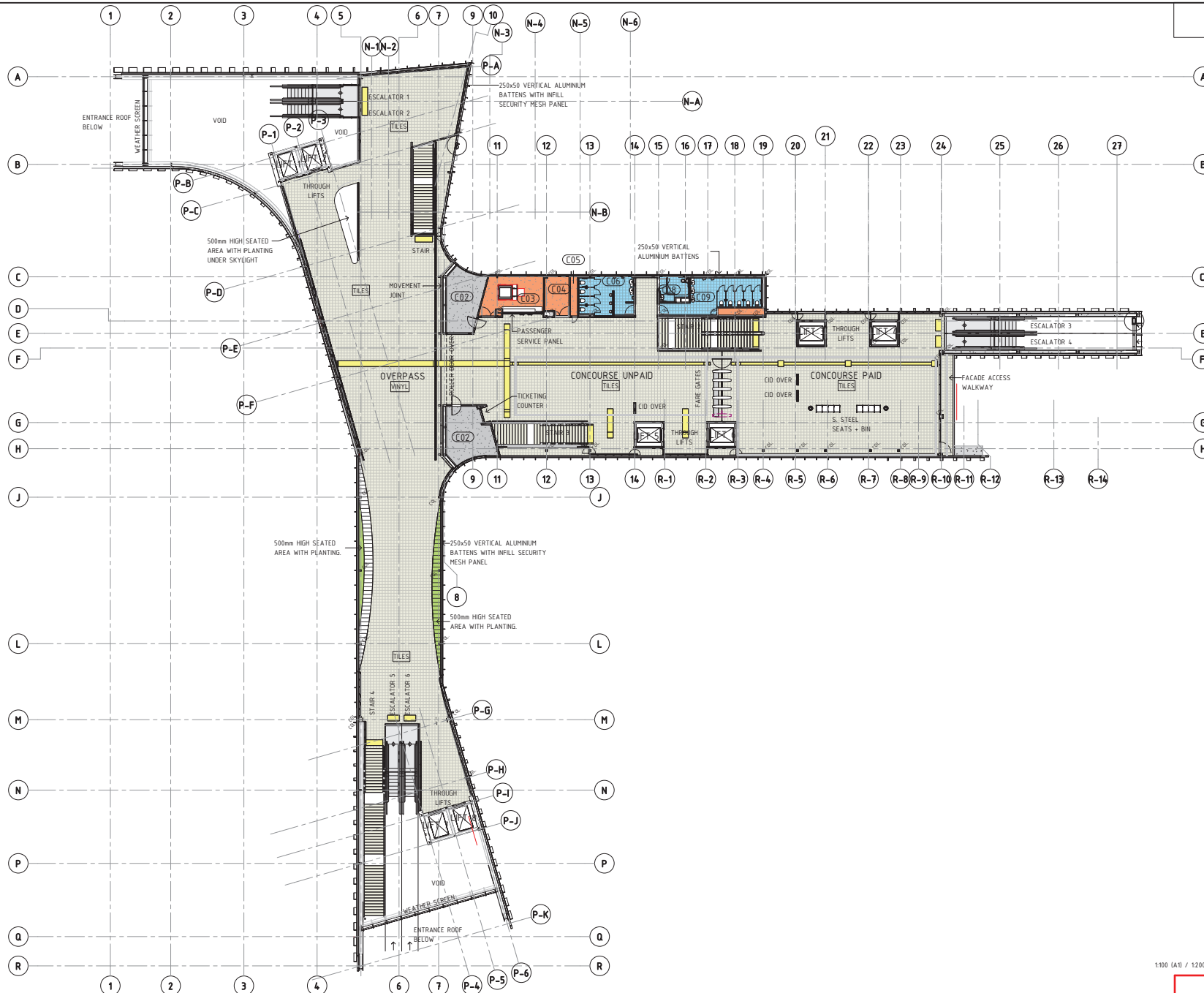
CONCOURSE ROOM SCHEDULE

NUMBER	NAME	AREA
C01	OVERPASS	Not Enclosed
C02	TRANSIT GUARD BOOTH	Redundant Room
C03	TRANSIT GUARD BOOTH	21.57 m ²
C04	LOBBY COMMS ROOM	22.46 m ²
C05	LV ELECT.	9.31 m ²
C06	DUCT	2.97 m ²
C07	PUBLIC MALE TOILETS	22.97 m ²
C08	CONCOURSE UNPAID	301.32 m ²
C09	PUBLIC UAT	8.49 m ²
C10	PUBLIC FEMALE TOILETS	29.03 m ²
C11	DUCT	4.47 m ²
C12	CONCOURSE PAID	238.53 m ²
C13	CONCOURSE BALCONY	16.06 m ²
C14	TRANSWA BOOKING OFFICE	23.83 m ²

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED



1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

AA	14/12/22	DA APPLICATION	JS	QL	AA	NR
REV						
ORIG SIZE						
A1						

METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

0 10 20 30 40 50 100mm

AT ORIGINAL PLOT SIZE

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CAD DRAWING PATHNAME: Autodesks Docs//AAU-30103874-Midland Station/12-B-99-AR1000.rvt

**MIDLAND
JUNCTION**

ALLIANCE

REFERENCES

SCALE

As indicated

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

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CHECKED A. AINSWORTH

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DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
CONCOURSE PLAN OVERALL

41

PTA Drawing No: 12-A-99-AR0007

Rev: AA

NOTE: PRINT IN COLOUR

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

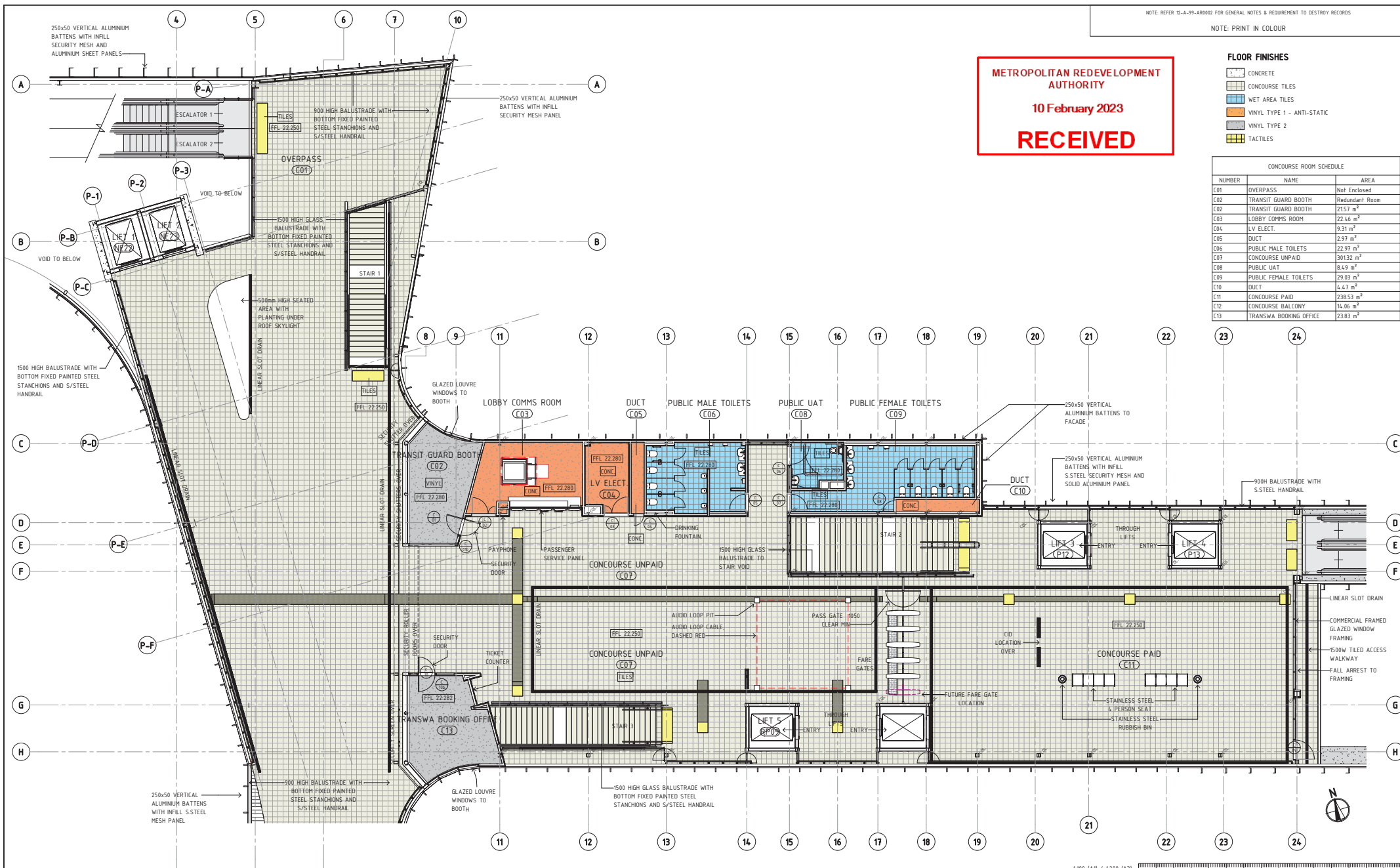
RECEIVED

FLOOR FINISHES

- CONCRETE
- CONCRESE TILES
- WET AREA TILES
- VINYL TYPE 1 - ANTI-STATIC
- VINYL TYPE 2
- TACTILES

CONCOURSE ROOM SCHEDULE

NUMBER	NAME	AREA
C01	OVERPASS	Not Enclosed
C02	TRANSIT GUARD BOOTH	Redundant Room
C02	TRANSIT GUARD BOOTH	2157 m ²
C03	LOBBY COMMS ROOM	22.46 m ²
C04	LV ELECT.	931 m ²
C05	DUCT	2.97 m ²
C06	PUBLIC MALE TOILETS	22.97 m ²
C07	CONCOURSE UNPAID	30132 m ²
C08	PUBLIC UAT	8.49 m ²
C09	PUBLIC FEMALE TOILETS	29.03 m ²
C10	DUCT	4.47 m ²
C11	CONCOURSE PAID	238.53 m ²
C12	CONCOURSE BALCONY	14.06 m ²
C13	TRANSWA BOOKING OFFICE	23.83 m ²



CONCOURSE PLAN - NORTHERN

SCALE 1 : 100

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REV	2	15/05/23	LRC Meeting - 15 May 2023	JS	QL	AA
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**MIDLAND
JUNCTION**
ALLIANCE

REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

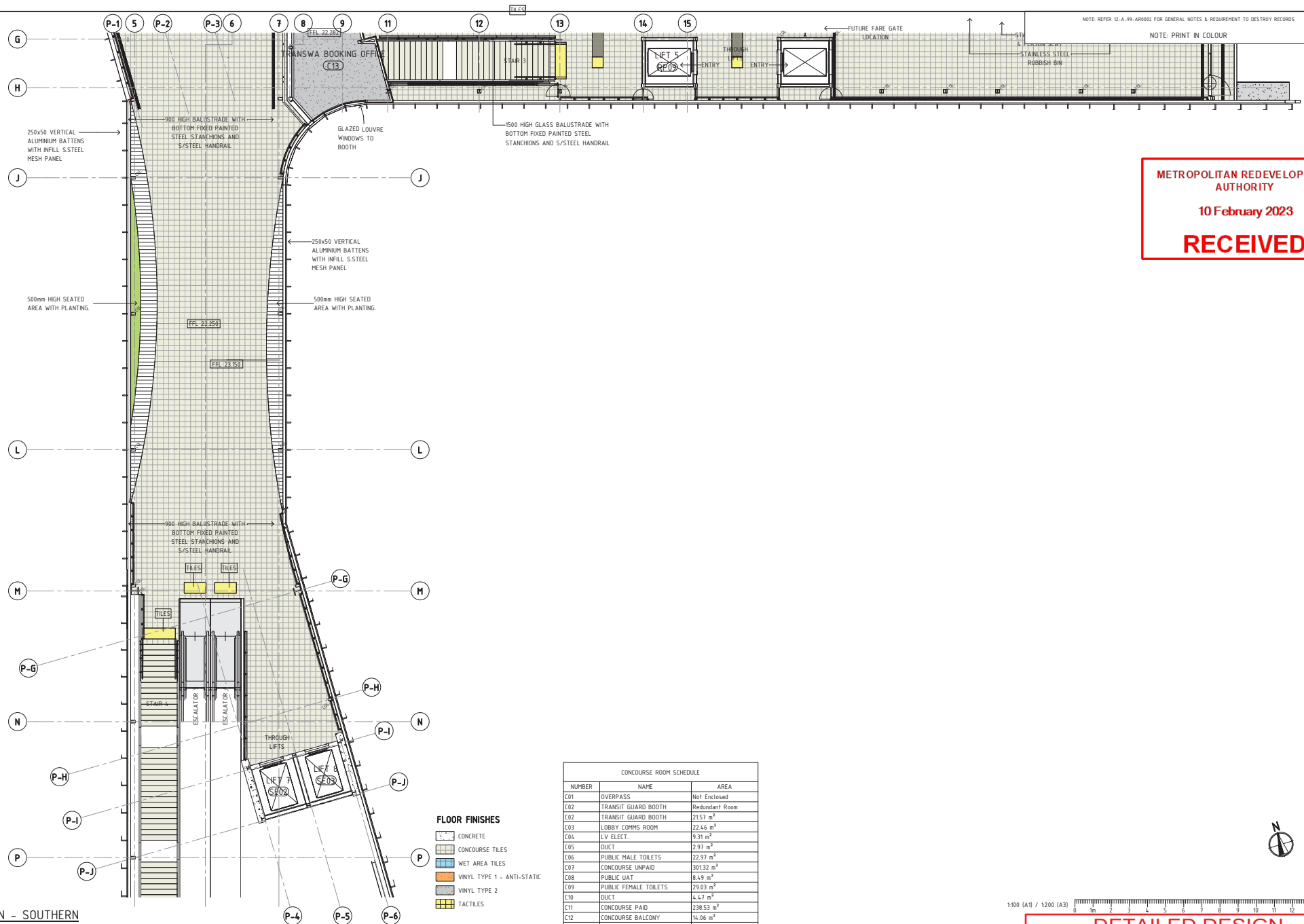
MIDLAND STATION (CALE STREET)

MIDLAND STATION
CONCOURSE PLAN (NORTHERN)

42

PTA Drawing No: 12-A-99-AR0008

Rev: AA



**METROPOLITAN REDEVELOPMENT
AUTHORITY**

10 February 2023

RECEIVED

CONCOURSE PLAN - SOUTHERN
SCALE 1 : 100

CONCOURSE ROOM SCHEDULE		
NUMBER	NAME	AREA
C01	OVERPASS	Not Enclosed
C02	TRANSIT GUARD BOOTH	Redundant Room
C03	TRANSIT GUARD BOOTH	2157 m ²
C03	LOBBY COMMS ROOM	22.46 m ²
C04	LV. ELECT.	9.31 m ²
C05	DUCT	2.97 m ²
C06	PUBLIC MALE TOILETS	22.97 m ²
C07	CONCOURSE UNPAID	86132 m ²
C08	PUBLIC LVA	21.93 m ²
C09	PUBLIC FEMALE TOILETS	29.03 m ²
C10	DUCT	4.47 m ²
C11	CONCOURSE PAID	39853 m ²
C12	CONCOURSE BALCONY	14.06 m ²
C13	TRANSWA BOOKING OFFICE	2383 m ²

FLOOR FINISHES

-  CONCRETE
-  CONCOURSE TILES
-  WET AREA TILES
-  VINYL TYPE 1 - ANTI-STATIC
-  VINYL TYPE 2
-  TACTILES

AA	14.12.22	DA APPLICATION	JS	OL	AA	NR
REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION	REV

MEERONET East (Midland) LRC Meeting - 15 May 2023

Confidential

ORIG SIZE
A1

0 10 20 30 40 50 100mm

AT ORIGINAL PLOT SIZE

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CAD DRAWING PATHNAME Autodesk Docs://AAU-30103874-Midland Station/12-B-99-AR1000.rvt

REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

DESIGNED	J.SCULL
----------	---------

DRAWN	QL
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CHECKED A. AINSWORTH

APPROVED

DATE _____

DETAILED DESIGN



Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
CONCOURSE PLAN (SOUTHERN)

43

PTA Drawing No:	12-A-99-AR0009	Rev:	AA
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PLATFORM ROOM SCHEDULE		
NUMBER	NAME	AREA
REGIONAL PLATFORM LEVEL		
RP01	REGIONAL PLATFORM	961.08 m ²
RP03	MINOR CER	9.30 m ²
RP04	SOUTHERN ELECTRICAL ROOM	7.55 m ²
RP05	STAFF OFFICE	11.95 m ²
RP06	MECH	4.94 m ²
RP07	SOUTHERN ELECTRICAL ROOM	9.46 m ²
RP08	STORE	22.64 m ²
RP09	LIFT 5	7.66 m ²

FLOOR FINISHES

	CONCRETE
	CONCOURSE TILES
	WET AREA TILES
	VINYL TYPE 1 - ANTI-STATIC
	VINYL TYPE 2
	TACTILES

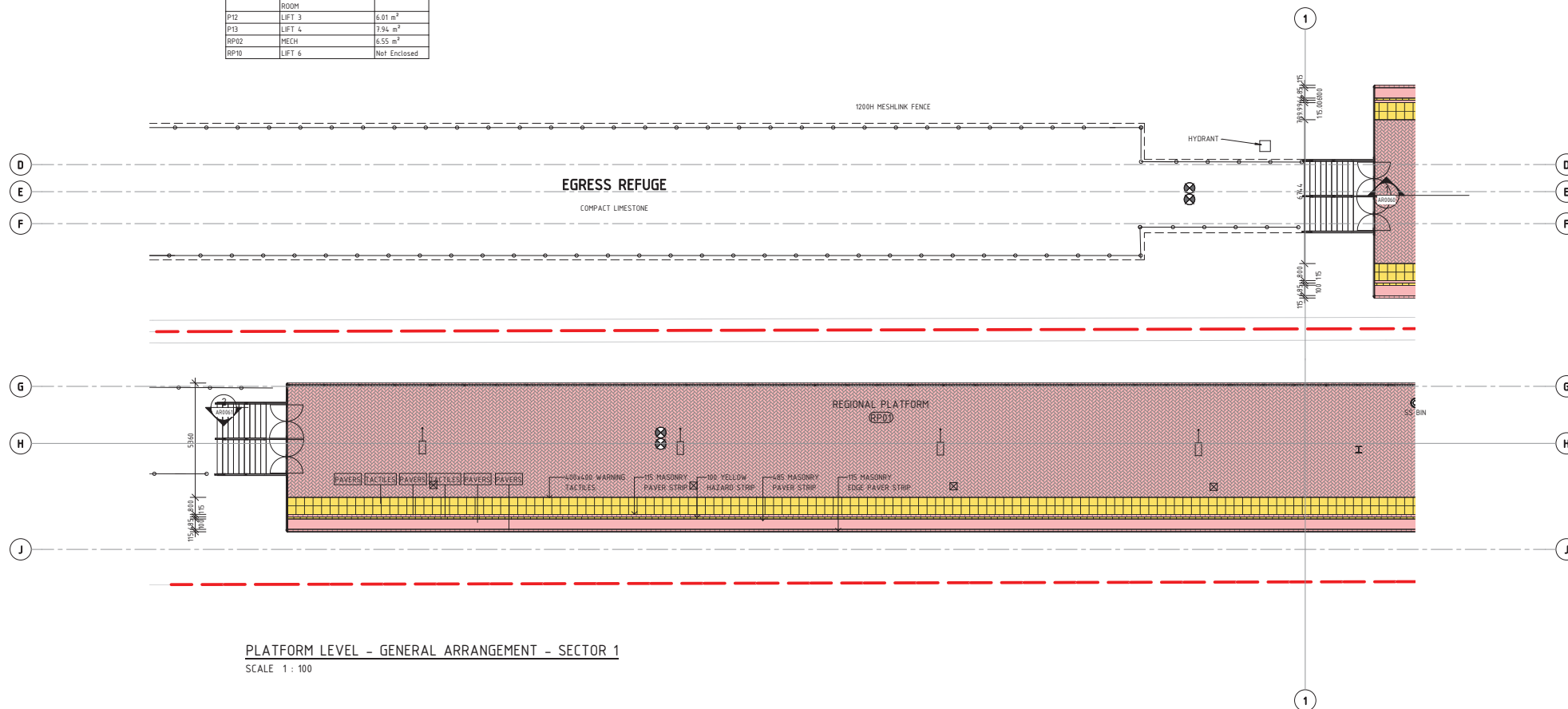
NOTE: REFER 12-A-99-AR0002 FOR GENERAL NOTES & REQUIREMENT TO DESTROY RECORDS

NOTE: PRINT IN COLOUR

**METROPOLITAN REDEVELOPMENT
AUTHORITY**

10 February 2023

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REFER 12-A-99-AR0011 FOR CONTINUATION



1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

A.A. 16.02.2012 IDA APPLICATION
 RE: **METRONET East (Midland) LRC Meeting - 15 May 2023 Conf**
 ORIG SIZE 1 10 20 30 40 50 100mm
 A1 AT ORIGINAL PLOT SIZE

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REFERENCES	SCALE	DESIGNED J.SCULL	 Government of Western Australia Public Transport Authority MIDLAND STATION (CALE STREET)
	1 : 100	DRAWN QL	
	DATUM	CHECKED A.AINSWORTH	
	HORIZONTAL: PCG20 VERTICAL: AHD71	APPROVED	
	DATE		
		MIDLAND STATION PART PLATFORM PLAN 44	
		PTA Drawing No: 12-A-99-AR0010 Rev: AA	

CAD DRAWING PATHNAME Autodesk Docs://AAU-30103874-Midland Station/12-B-99-AR1000.rvt

10 February 2023

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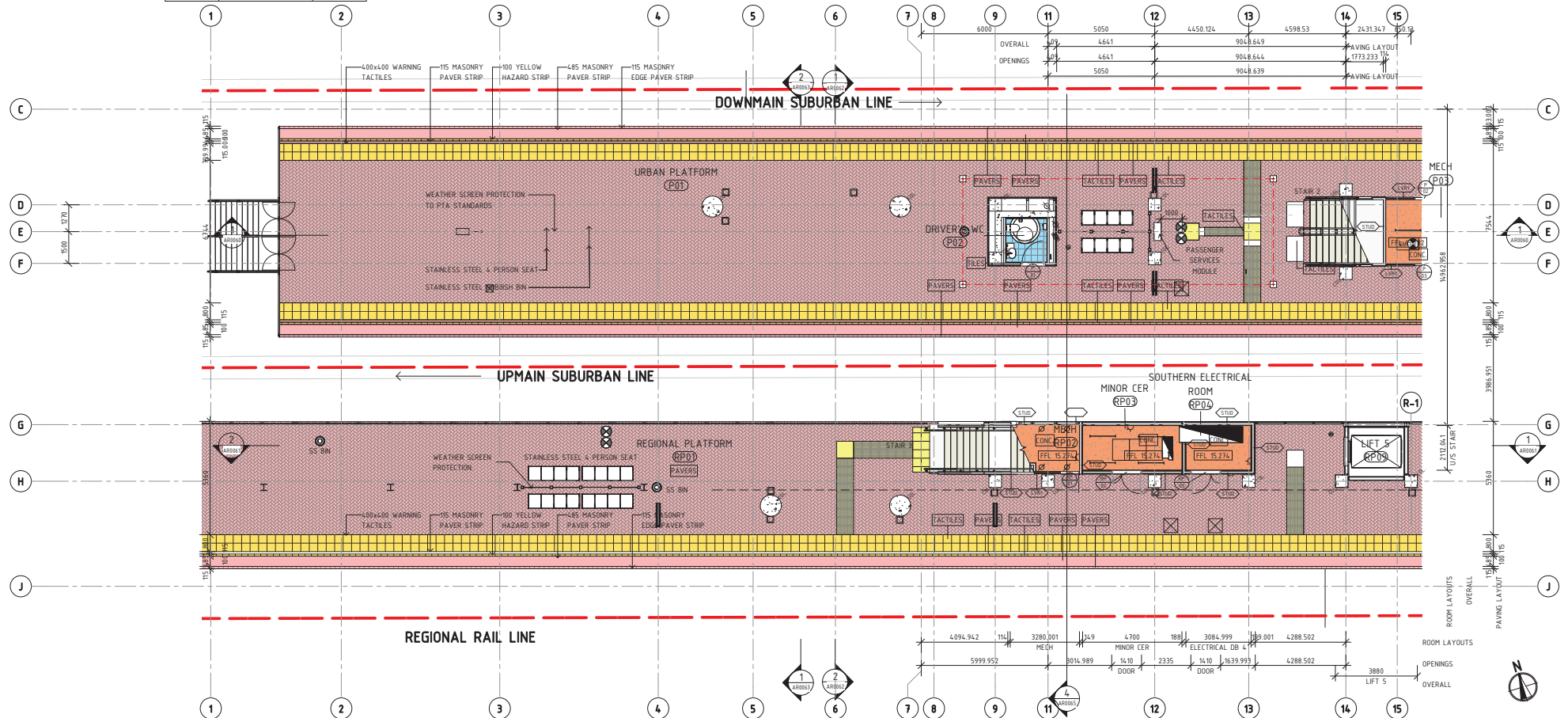
PLATFORM ROOM SCHEDULE		
NUMBER	NAME	AREA
REGIONAL PLATFORM LEVEL		
RP01	REGIONAL PLATFORM	961.08 m ²
RP03	MINOR CER	9.30 m ²
RP04	SOUTHERN ELECTRICAL ROOM	7.55 m ²
RP05	STAFF OFFICE	11.95 m ²
RP06	MECH	4.94 m ²
RP07	SOUTHERN ELECTRICAL ROOM	9.46 m ²
RP08	STORE	22.64 m ²
RP09	LIFT 5	7.66 m ²

PLATFORM ROOM SCHEDULE		
NUMBER	NAME	AREA
PLATFORM LEVEL		
B01	BIN STORE	18.84 m ²
P01	URBAN PLATFORM	14.28 m ²
P02	DRIVER'S WC	1306.98 m ²
P03	MECH	3.98 m ²
P04	MINOR CER	9.85 m ²
P05	NORTHERN ELECTRICAL ROOM	12.18 m ²
P06	STORE	7.57 m ²
P07	STAFF OFFICE	21.86 m ²
P08	MECH	8.50 m ²
P09	SMCR	4.95 m ²
P10	GSS	36.54 m ²
P11	GSS	2.07 m ²
P12	NORTHERN ELECTRICAL ROOM	5.98 m ²
P13	LIFT 3	6.01 m ²
P14	LIFT 4	7.94 m ²
P15	MECH	6.55 m ²
RP10	LIFT 6	Not Enclosed

FLOOR FINISHES

- CONCRETE
- CONCOURSE TILES
- WET AREA TILES
- VINYL TYPE 1 - ANTI-STATIC
- VINYL TYPE 2
- TACTILES

REFER 12-A-99-AR001 FOR CONTINUATION



PLATFORM LEVEL - GENERAL ARRANGEMENT - SECTOR 2

SCALE 1 : 100

1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NP
REV	1	14.12.22	1	14.12.22	1	14.12.22
METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential						
A1	0	10	20	30	40	50
AT ORIGINAL PLOT SIZE						



REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
PART PLATFORM PLAN

45

PTA Drawing No: 12-A-99-AR0011 Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

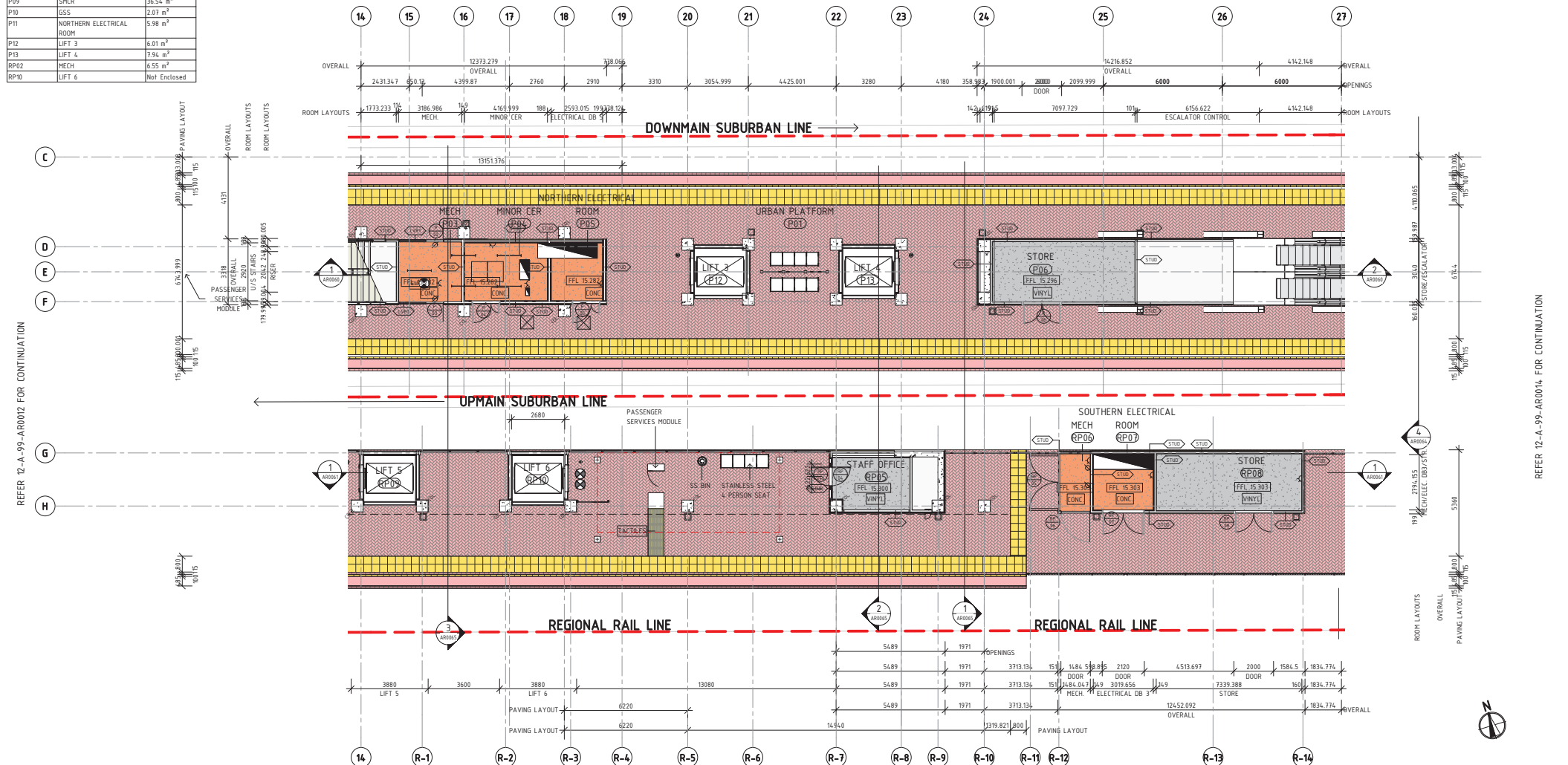
RECEIVED

PLATFORM ROOM SCHEDULE		
NUMBER	NAME	AREA
PLATFORM LEVEL		
B01	BIN STORE	18.84 m ²
P01	URBAN PLATFORM	1306.98 m ²
P02	DRIVER'S WC	3.98 m ²
P03	MECH	9.85 m ²
P04	MINOR CER	12.18 m ²
P05	NORTHERN ELECTRICAL ROOM	7.57 m ²
P06	STORE	21.86 m ²
P07	STAFF OFFICE	8.50 m ²
P08	MECH	4.95 m ²
P09	SMCR	36.54 m ²
P10	GSS	2.07 m ²
P11	NORTHERN ELECTRICAL ROOM	5.98 m ²
P12	LIFT 3	6.01 m ²
P13	LIFT 4	7.94 m ²
RP02	MECH	6.55 m ²
RP10	LIFT 6	Not Enclosed

PLATFORM ROOM SCHEDULE		
NUMBER	NAME	AREA
REGIONAL PLATFORM LEVEL		
RP01	REGIONAL PLATFORM	961.08 m ²
RP03	MINOR CER	9.30 m ²
RP04	SOUTHERN ELECTRICAL ROOM	7.55 m ²
RP05	STAFF OFFICE	11.95 m ²
RP06	MECH	4.94 m ²
RP07	SOUTHERN ELECTRICAL ROOM	9.46 m ²
RP08	STORE	22.64 m ²
RP09	LIFT 5	7.66 m ²

FLOOR FINISHES

- CONCRETE
- CONCOURSE TILES
- WET AREA TILES
- VINYL TYPE 1 - ANTI-STATIC
- VINYL TYPE 2
- TACTILES



PLATFORM LEVEL - GENERAL ARRANGEMENT - SECTOR 3
SCALE 1 : 100

1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	DA APPLICATION	JS	QL	NR
AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
AA	14.12.22	DA APPLICATION	JS	QL	AA	NR

METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	DA APPLICATION	JS	QL	NR
AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
AA	14.12.22	DA APPLICATION	JS	QL	AA	NR

CAD DRAWING PATHNAME: Autodesk Docs//AAU-30103874-Midland Station/12-B-99-AR1000.rvt

MIDLAND JUNCTION
ALLIANCE

REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
PART PLATFORM PLAN

46

PTA Drawing No: 12-A-99-AR0012

Rev: AA

REFER 12-A-99-AR0014 FOR CONTINUATION

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

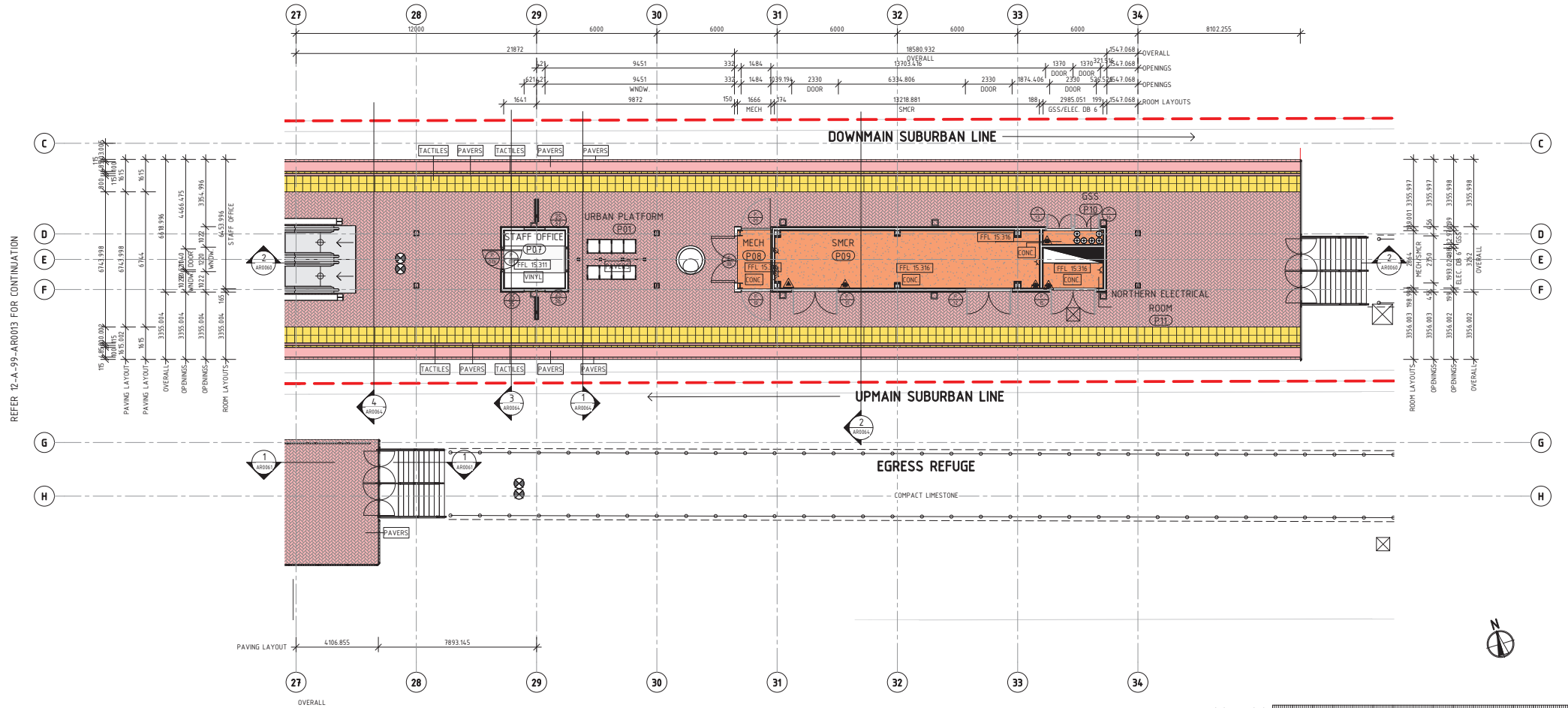
RECEIVED

PLATFORM ROOM SCHEDULE		
NUMBER	NAME	AREA
REGIONAL PLATFORM LEVEL		
RP01	REGIONAL PLATFORM	961.08 m ²
RP03	MINOR CER	9.30 m ²
RP04	SOUTHERN ELECTRICAL ROOM	7.55 m ²
RP05	STAFF OFFICE	11.95 m ²
RP06	MECH	4.94 m ²
RP07	SOUTHERN ELECTRICAL ROOM	9.46 m ²
RP08	STORE	22.64 m ²
RP09	LIFT 5	7.66 m ²

PLATFORM ROOM SCHEDULE		
NUMBER	NAME	AREA
PLATFORM LEVEL		
B01	BIN STORE	18.84 m ²
P01	URBAN PLATFORM	14.28 m ²
P02	DRIVER'S WC	1306.98 m ²
P03	MECH	3.98 m ²
P04	MINOR CER	9.85 m ²
P05	NORTHERN ELECTRICAL ROOM	12.18 m ²
P06	STORE	7.57 m ²
P07	STAFF OFFICE	21.86 m ²
P08	MECH	8.50 m ²
P09	SMCR	4.95 m ²
P10	GSS	36.54 m ²
P11	NORTHERN ELECTRICAL ROOM	2.07 m ²
P12	LIFT 3	5.98 m ²
P13	LIFT 4	6.01 m ²
P13	LIFT 4	7.94 m ²
RP02	MECH	6.55 m ²
RP10	LIFT 6	Not Enclosed

FLOOR FINISHES

- CONCRETE
- CONCOURSE TILES
- WET AREA TILES
- VINYL TYPE 1 - ANTI-STATIC
- VINYL TYPE 2
- TACTILES



PLATFORM LEVEL - GENERAL ARRANGEMENT - SECTOR 4

SCALE 1: 100

1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	1	1	1	1
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			

MIDLAND
JUNCTION
ALLIANCE

REFERENCES

SCALE

1: 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
PART PLATFORM PLAN

47

PTA Drawing No: 12-A-99-AR0013

Rev: AA

NUMBER	NAME	AREA
NE14	MALE CHANGEROOM	13.76 m ²
NE15	TRANSIT OFFICE / SUPERVISOR / SIGN-ON / MUSTER	29.04 m ²
NE16	SAFE AND RADIO CHARGING	3.33 m ²
NE17	MAINTENANCE ACCESS WALKWAY	47.46 m ²
NE18	CRIB ROOM	35.46 m ²
NE19	PSN	14.91 m ²
NE20	SAC	16.91 m ²
NE21	STAFF CORRIDOR	17.38 m ²
NE22	LIFT 1	5.33 m ²
NE23	LIFT 2	5.83 m ²
NE24	KIDSK	45.97 m ²
NE25	BIKE SHELTER	90.50 m ²

FLOOR FINISHES

	CONCRETE
	CONCOURSE TILES
	WET AREA TILES
	VINYL TYPE 1 - ANTI-STATIC
	VINYL TYPE 2
	TACTILES

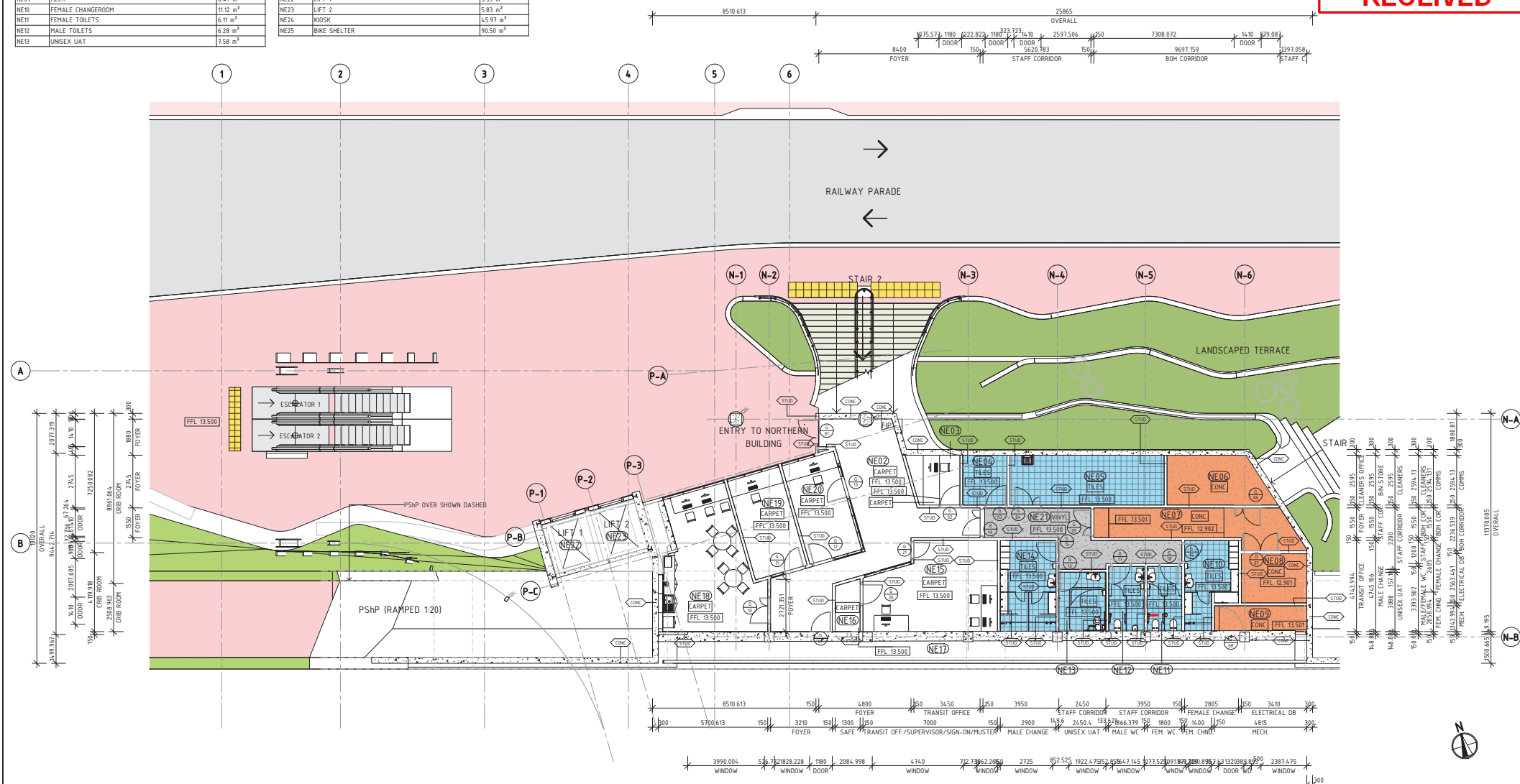
NOTE: REFER 12-A-99-AR0002 FOR GENERAL NOTES & REQUIREMENT TO DESTROY RECORDS

NOTE: PRINT IN COLOUR

**METROPOLITAN REDEVELOPMENT
AUTHORITY**

10 February 2023

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NORTHERN ENTRY BUILDING - GROUND FLOOR PLAN
SCALE 1 : 100

1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

AA 16-12-21 IDA APPLICATION

RE METRONE East (Midland) LRC Meeting - 15 May 2023 Conf

ORIG SIZE 0 10 20 30 40 50 100mm

A1 AT ORIGINAL PLOT SIZE

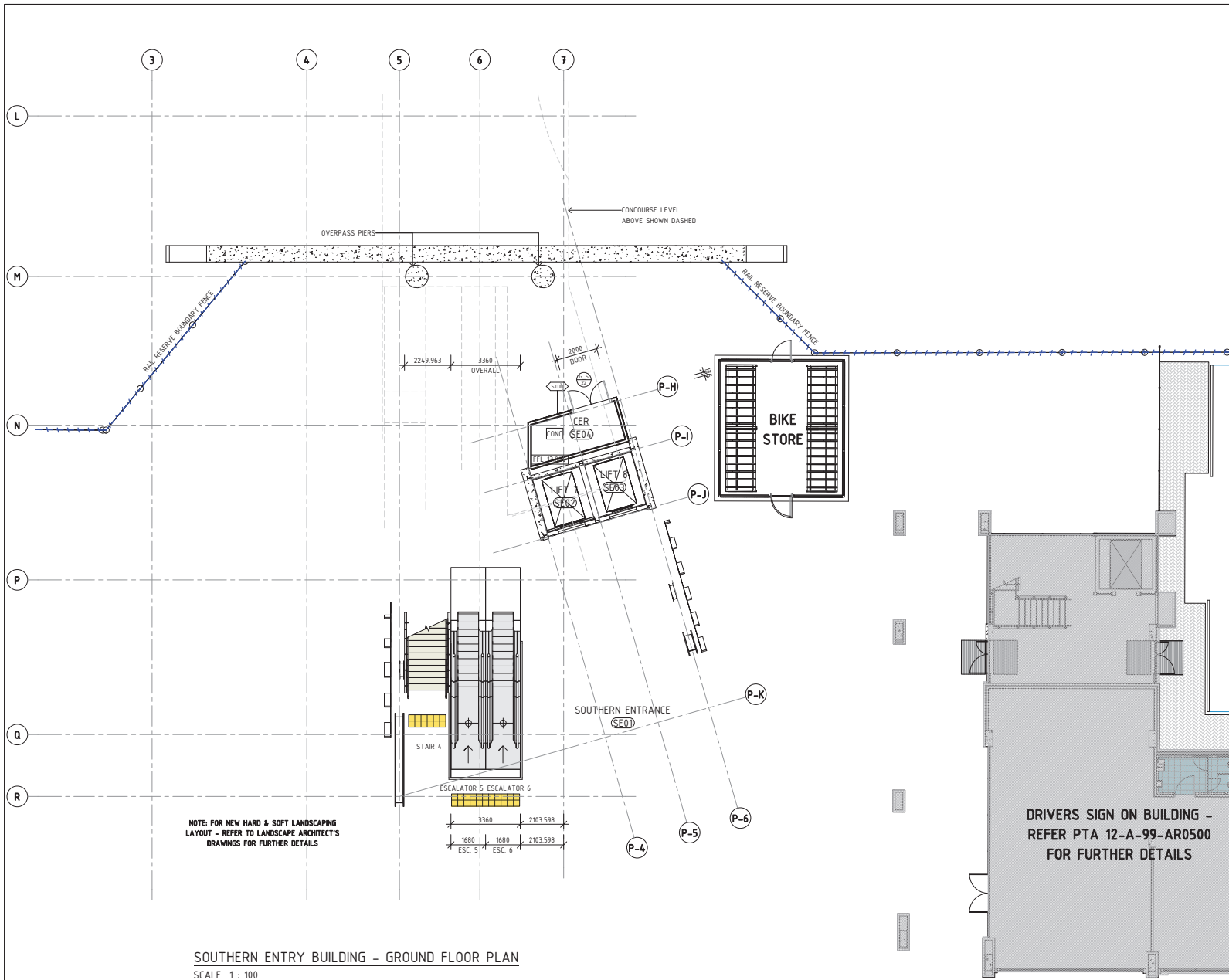
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**MIDLAND
JUNCTION**
ALLIANCE

REFERENCES	SCALE	DESIGNED J.SCULL	 Government of Western Australia Public Transport Authority		MIDLAND STATION (CALE STREET)
	1 : 100	DRAWN QL	MIDLAND STATION		
		CHECKED A.AINSWORTH	NORTHERN ENTRY BUILDING - GROUND FLOOR PLAN		
	DATUM	APPROVED	48		
	HORIZONTAL: PCG20	DATE	PTA Drawing No: 12-A-99-AR0018		Rev: AA
	VERTICAL: AHD71				

CAD DRAWING PATHNAME Autodesk Docs://AAU-30103874-Midland Station/12-B-99-AR1000.rvt



SOUTHERN ENTRY BUILDING - GROUND FLOOR PLAN
SCALE 1 : 100

NOTE: REFER 12-A-99-AR0002 FOR GENERAL NOTES & REQUIREMENT TO DESTROY RECORDS

NOTE: PRINT IN COLOUR

SOUTHERN ENTRY ROOM SCHEDULE

NUMBER	NAME	AREA
SE01	SOUTHERN ENTRANCE	Not Enclosed
SE02	LIFT 7	6.78 m ²
SE03	LIFT 8	6.70 m ²
SE04	CER	8.53 m ²

- FLOOR FINISHES
- CONCRETE
 - CONCOURSE TILES
 - WET AREA TILES
 - VINYL TYPE 1 - ANTI-STATIC
 - VINYL TYPE 2
 - TACTILES

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED

1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

AA	14/12/22	DA APPLICATION	JS	QL	AA	NR
REV	1	14/12/22	1	14/12/22	1	14/12/22
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential



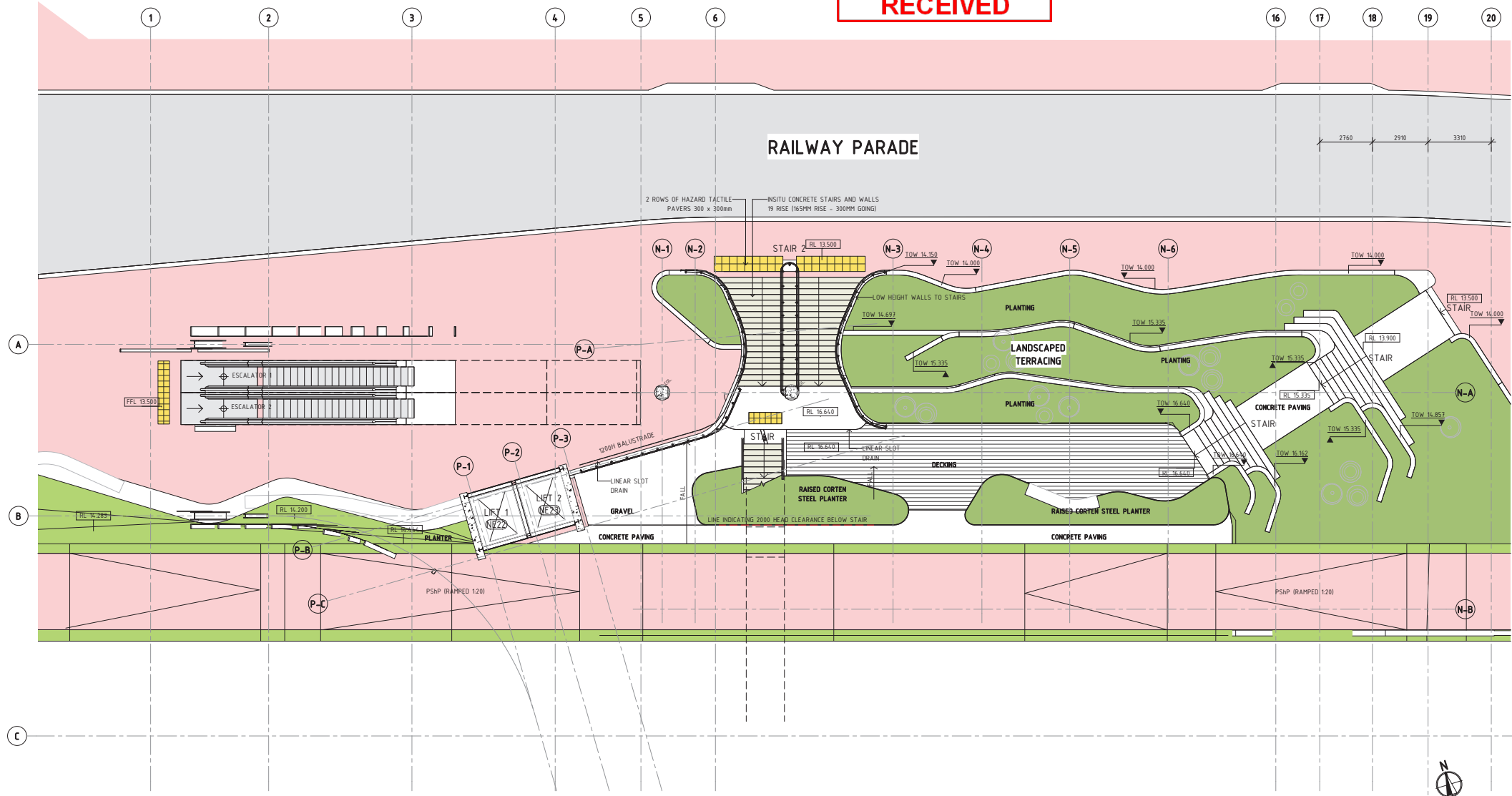
REFERENCES	SCALE	DESIGNED	J.SCULL
	1 : 100	DRAWN	QL
	DATUM	CHECKED	A.INSWORTH
	HORIZONTAL: PCG20	APPROVED	
	VERTICAL: AHD71	DATE	

Government of Western Australia Public Transport Authority	MIDLAND STATION (CALE STREET)
MIDLAND STATION	
SOUTHERN ENTRY BUILDING - GROUND FLOOR PLAN	49
PTA Drawing No: 12-A-99-AR0019	Rev: AA

10 February 2023

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NORTHERN ENTRY BUILDING - TERRACE PLAN
SCALE 1 : 100

1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	1	14.12.22	1	14.12.22
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			



REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

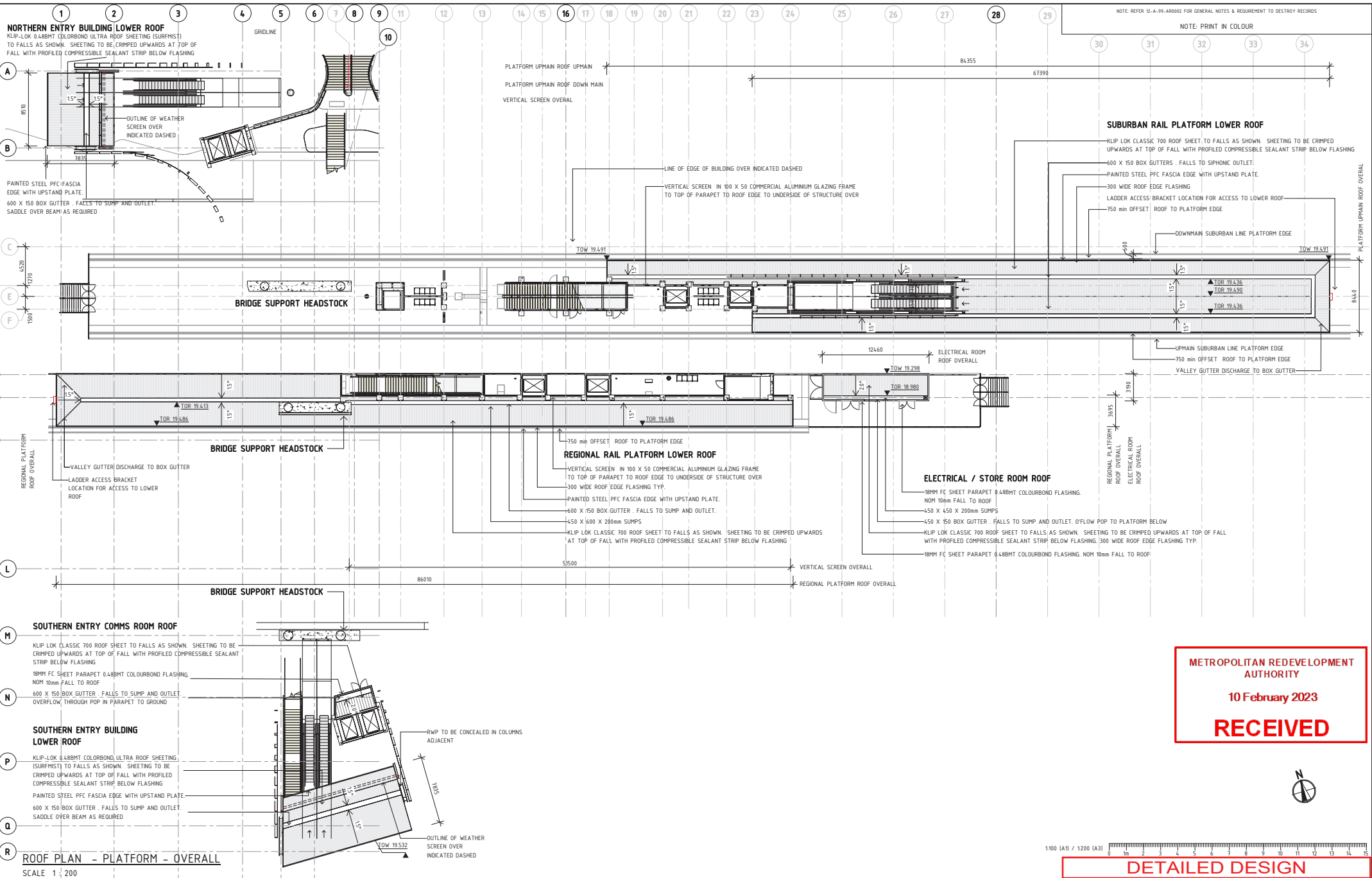
DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia Public Transport Authority	MIDLAND STATION (CALE STREET)
MIDLAND STATION	
NORTHERN ENTRY BUILDING - TERRACE PLAN	50
PTA Drawing No: 12-A-99-AR0023	Rev: AA



METROPOLITAN REDEVELOPMENT
AUTHORITY
10 February 2023
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AA	14.12.22	DA APPLICATION	JS	QL	AA	NP
REV						
ORIG SIZE	0	10	20	30	40	50
A1						
AT ORIGINAL PLOT SIZE						



REFERENCES		SCALE
		1 : 200
DATUM		
HORIZONTAL:	PCG20	
VERTICAL:	AHD71	

DESIGNED J.SCULL		MIDLAND STATION (CALE STREET)	
DRAWN QL		MIDLAND STATION	
CHECKED A.AINSWORTH		ROOF PLAN - LOWER OVERALL	
APPROVED		51	
DATE		PTA Drawing No: 12-A-99-AR0040 Rev: AA	

OVERPASS ROOF (NORTHERN ENTRY)

18MM FC SHEET PARAPET 0.48BMT
COLOURBOND FLASHING. NOM 10mm
FALL TO ROOF

KLIP-LOK 0.48BMT COLOURBOND ULTRA ROOF
SHEETING (SURFMST) TO FALLS AS SHOWN

600 X 150 BOX GUTTER . FALLS TO SUMP AND OUTLET.
SADDLE OVER STRUCTURAL BEAMS AS REQUIRED

SIPHONIC DRAINAGE SYSTEM TO ROOF GUTTERS

REFER DRAWING AR0041 FOR PLATFORM AND LOW LEVEL ENTRY CANOPY ROOF

300 WIDE FLASHING TO ROOF SHEETING AT PARAPET EDGE TYP. ROOF
SHEETING TO BE CRIMPED UPWARDS AT TOP OF FALL AND PROFILED
COMPRESSIBLE SEALANT STRIP BELOW FLASHING. TYP

18MM FC SHEET PARAPET 0.48BMT COLOURBOND
FLASHING. NOM 10mm FALL TO ROOF

ALUMINIUM FRAMED , TRAFICABLE GLAZED ROOF
SKYLIGHT TO TOP OF PARAPET. 15 DEGREE FALL TO
ADJACENT ROOF BELOW

450 X 150 BOX GUTTER TO EDGE OF ROOF
ADJACENT SKYLIGHT

FLASHING OVER MOVEMENT JOINT
LOCATION BETWEEN OVERPASS
AND CONCOURSE BUILDINGS

ROOF ACCESS : FIXED LADDER TO UPPER ROOF

600 X 150 BOX GUTTER : 300w OVERFLASHING TO EDGE
OF GUTTER TO FORM RIDGE OF ADJACENT FALL

OVERPASS ROOF (CENTRAL)

600 X 150 BOX GUTTER . FALLS TO SADDLE
OVER STRUCTURAL BEAMS AS REQUIRED

250 X 50 ALUMINIUM FINS FIXED TO FACADE
BELOW . REFER TO ELEVATIONS FOR LOCATIONS
AND HEIGHTS OF TOP OF FINS ABOVE PARAPET
LEVEL

250 X 50 HORIZONTAL ALUMINIUM FINS BETWEEN
FACADE AND ROOF STRUCTURE. OPEN TO
OVERPASS BELOW

300 WIDE FLASHING TO ROOF SHEETING AT PARAPET EDGE TYP. ROOF
SHEETING TO BE CRIMPED UPWARDS AT TOP OF FALL AND PROFILED
COMPRESSIBLE SEALANT STRIP BELOW FLASHING

FLASHING OVER JOINTS BETWEEN SEPARATE
PRE-FABRICATED OVERPASS FACADE UNITS

OVERPASS ROOF (SOUTHERN ENTRY)

600 X 150 BOX GUTTER . FALLS TO SUMP AND
OUTLET. SADDLE OVER STRUCTURAL BEAMS

250 X 50 ALUMINIUM FINS FIXED TO FACADE
BELOW . REFER TO ELEVATIONS FOR LOCATIONS
AND HEIGHTS OF TOP OF FINS ABOVE PARAPET
LEVEL

150 WIDE SECRET GUTTER TO PARAPET EDGE.
DISCHARGE TO ADJACENT BOX GUTTER

ROOF PLAN - CONCOURSE - OVERALL
SCALE 1 : 200

CONCOURSE LOWER ROOF (NORTH)

MECH SERVICES EXTRACT VENT COWL TO LOWER ROOF

KLIP-LOK 0.48BMT COLOURBOND ULTRA ROOF
SHEETING (SURFMST) TO FALLS AS SHOWN

600 X 150 BOX GUTTER . FALLS TO SUMP AND OUTLET.
18MM FC SHEET PARAPET 0.48BMT COLOURBOND FLASHING.
NOM 10mm FALL TO ROOF

250 X 50 ALUMINIUM FINS FIXED TO FACADE BELOW . REFER
TO ELEVATIONS FOR LOCATIONS AND HEIGHTS OF TOP OF
FINS ABOVE PARAPET LEVEL

KLIP-LOK 0.48BMT COLOURBOND ULTRA ROOF
SHEETING (SURFMST) TO FALLS AS SHOWN

REFER DRAWING AR0040 FOR PLATFORM AND LOW LEVEL ENTRY CANOPY ROOF

300 WIDE FLASHING TO ROOF SHEETING AT
PARAPET EDGE TYP. ROOF SHEETING TO BE
CRIMPED UPWARDS AT TOP OF FALL AND
PROFILED COMPRESSIBLE SEALANT STRIP
BELOW FLASHING

CONCOURSE UPPER ROOF

600 X 150 BOX GUTTER . FALLS TO SIPHONIC
OUTLET.

300 WIDE FLASHING TO ROOF SHEETING AT
PARAPET EDGE TYP. ROOF SHEETING TO BE
CRIMPED UPWARDS AT TOP OF FALL AND
PROFILED COMPRESSIBLE SEALANT STRIP
BELOW FLASHING

CONCOURSE LOWER ROOF (SOUTH)

600 X 150 BOX GUTTER . FALLS TO SIPHONIC
OUTLET.

18MM FC SHEET PARAPET 0.48BMT COLOURBOND FLASHING.
NOM 10mm FALL TO ROOF

SIPHONIC OVERFLOW DRAINAGE SYSTEM

250 X 50 ALUMINIUM FINS FIXED TO FACADE BELOW .
REFER TO ELEVATIONS FOR LOCATIONS AND HEIGHTS OF
TOP OF FINS ABOVE PARAPET LEVEL

REFER DRAWING AR0041 FOR
PLATFORM AND LOW LEVEL
ENTRY CANOPY ROOF

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED



1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV						
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

CAD DRAWING PATHNAME Autodesk Docs//AAU-30103874-Midland Station/12-B-99-AR1000.rvt



REFERENCES

SCALE

1 : 200

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

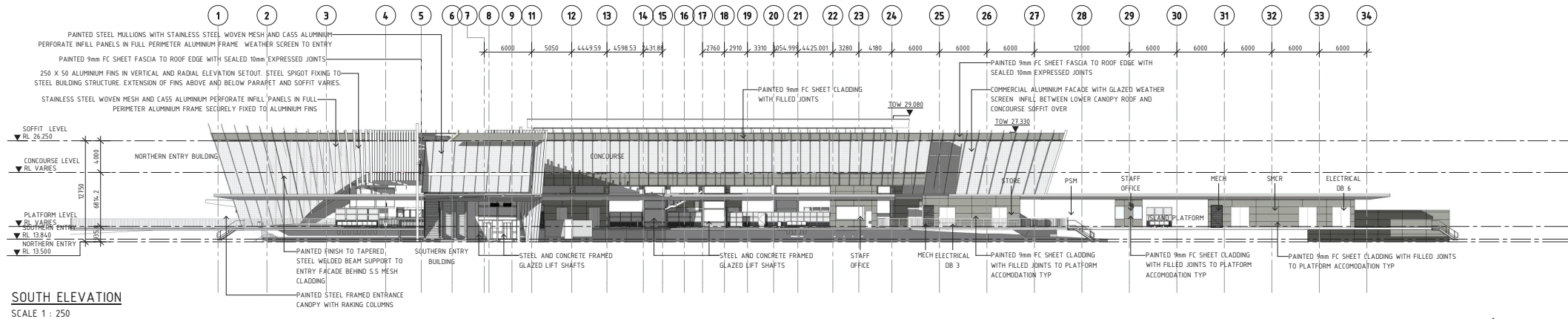
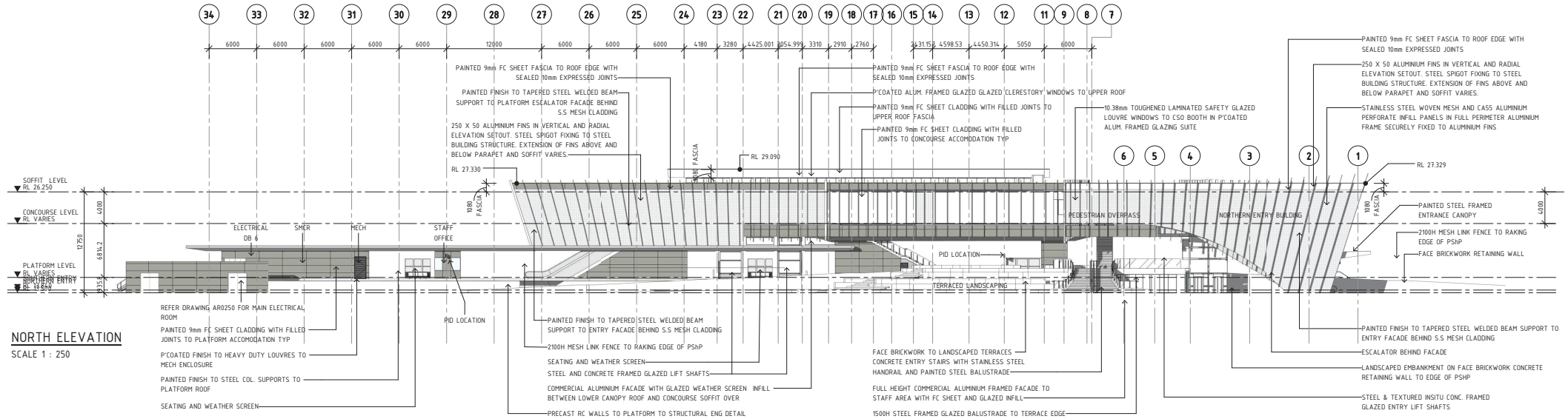
MIDLAND STATION
ROOF PLAN - UPPER OVERALL

52

PTA Drawing No: 12-A-99-AR0041 Rev: AA

10 February 2023

RECEIVED



1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	DA APPLICATION	JS	QL	AA
ORIG SIZE	0	10	20	30	40	50
A1	0	10	20	30	40	50
AT ORIGINAL PLOT SIZE	0	10	20	30	40	50

**MIDLAND
JUNCTION**
ALLIANCE

REFERENCES

SCALE

1 : 250

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
ELEVATIONS - STATION OVERALL - NORTH SOUTH

53

PTA Drawing No: 12-A-99-AR0050 | Rev: AA

RECEIVED



1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

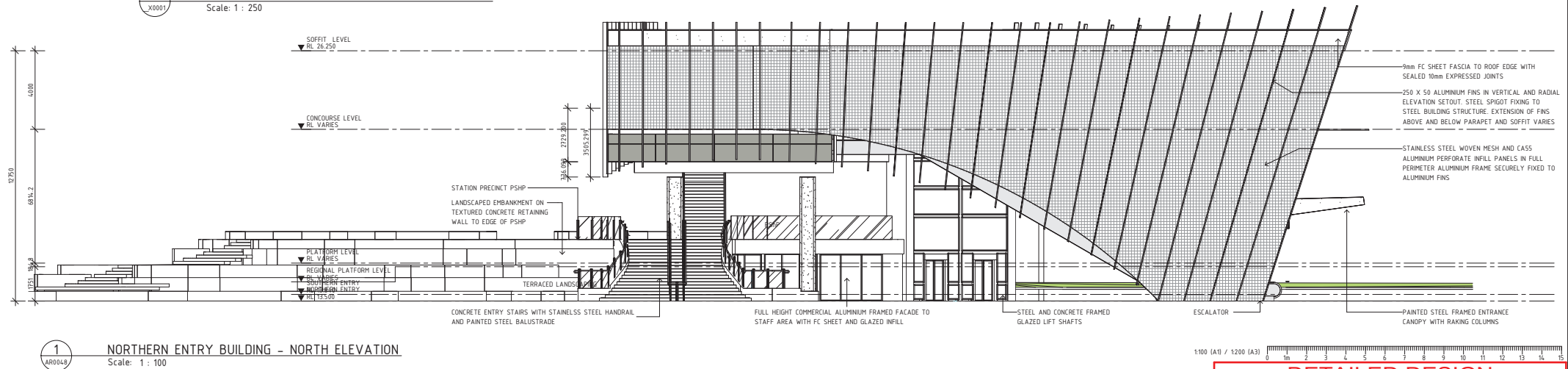
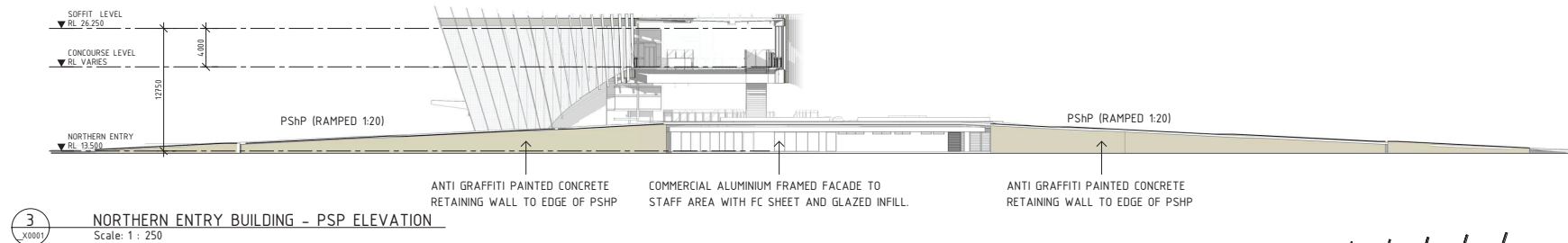
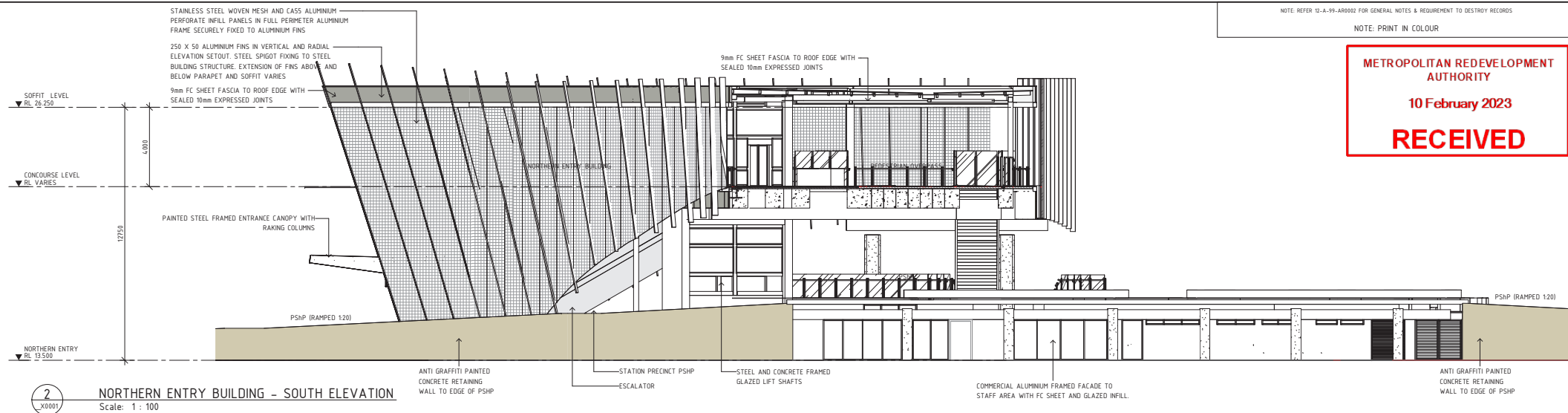


**MIDLAND
JUNCTION**
ALLIANCE

REFERENCES	SCALE	DESIGNED J SCULL	 Government of Western Australia Public Transport Authority MIDLAND STATION (CALE STREET)
	1 : 250	DRAWN QL	
	DATUM	CHECKED A. AINSWORTH	
	HORIZONTAL: PCG20 VERTICAL: AHD71	APPROVED DATE	
			MIDLAND STATION ELEVATIONS - STATION OVERALL - EAST WEST 54
			PTA Drawing No: 12-A-99-AR0051 Rev: AA

10 February 2023

RECEIVED



DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NP
REV	METRONEET East (Midland) LRC Meeting - 15 May 2023 Conf					
ORIG SIZE	0 10 20 30 40 50 100mm					This document must not be copied without PTAC's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorized purpose.
A1	AT ORIGINAL PLOT SIZE					

**MIDLAND
JUNCTION**
ALLIANCE

METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

REFERENCES

SCALE

As indicated

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
ELEVATIONS - NORTHERN ENTRY BUILDING - NORTH &
SOUTH ELEVATION

55

PTA Drawing No: 12-A-99-AR0052

Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

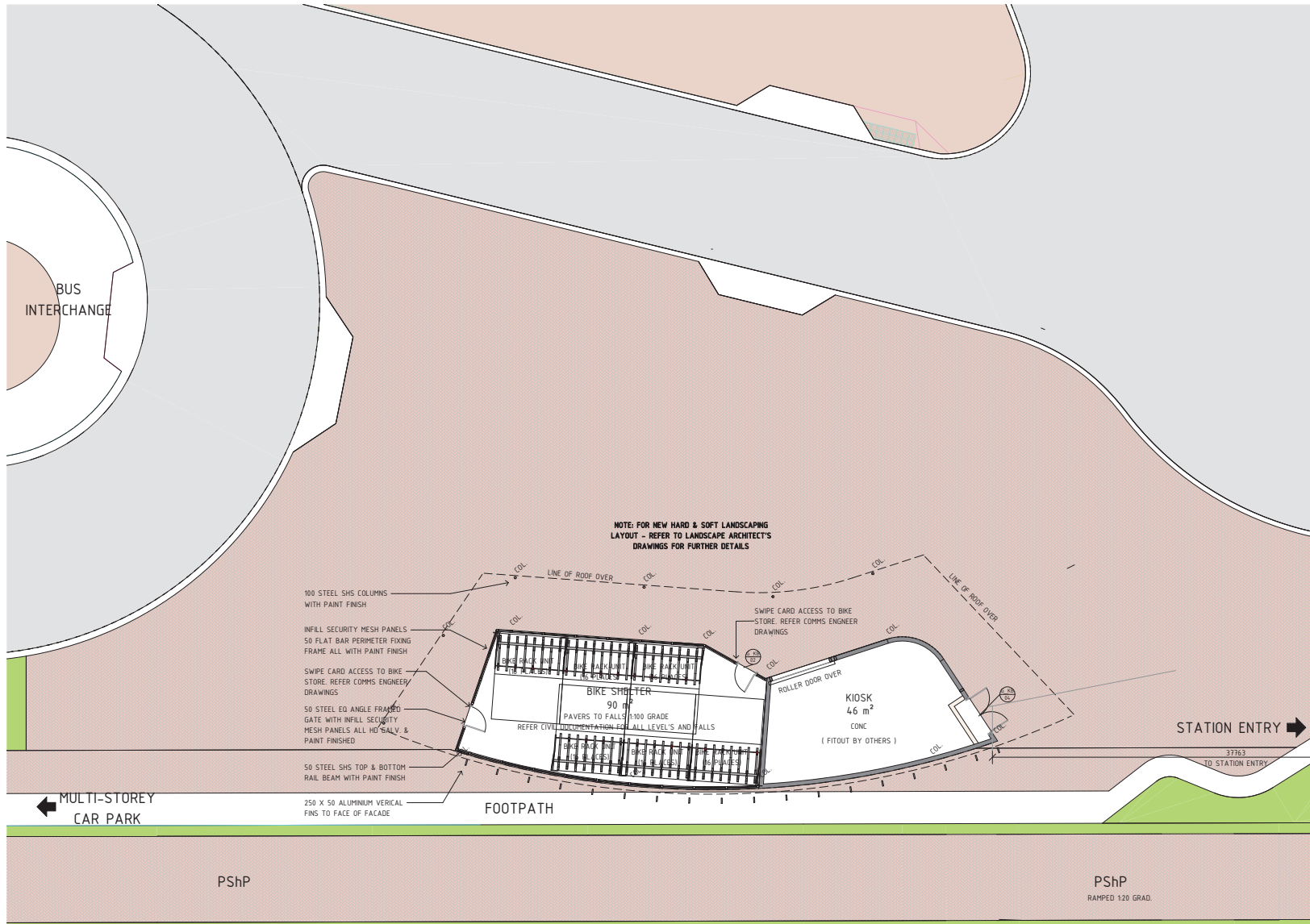
RECEIVED

ABBREVIATIONS

COL. COLUMN

BIKE SHELTER NOTES

1. REFER ARCHITECTURAL SITE PLAN DRAWINGS FOR LOCATION OF BIKE SHELTER.
2. REFER CIVIL DRAWINGS FOR ALL BIKE SHELTER FLOOR LEVELS & GRADES INCLUDING ADJACENT SURFACE LEVELS.
3. REFER PTA STANDARD 8880-000-006 'DESIGN OF BICYCLE FACILITIES AND ACCESS' INCLUDING REFERENCED DRAWINGS FOR 'SECURE BICYCLE PARKING SHELTER' FOR DETAILED BIKE HUB SPECIFICATIONS.
4. BIKE RACKS TO BE 'ENVIRO' HIGH DENSITY BIKE RACKS.
5. RACK MODEL TO BE CONFIRMED WITH PTA. ALL RACKS TO BE INSTALLED AS PER MANUFACTURE'S REQUIREMENTS.

KIOSK AND NORTHERN BIKE STORE- GENERAL ARRANGEMENT PLAN
SCALE 1 : 100

DETAILED DESIGN

AA	14/12/22	DA APPLICATION	JS	QL	AA	NR
REV	1	14/12/22	DA APPLICATION	JS	QL	AA
ORIG SIZE	A1					



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CAD DRAWING PATHNAME AutodesK Docs//AAU-30103874-Midland Station/12-B-99-AR1000.rvt

REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
KIOSK AND NORTHERN BIKE STORE- GENERAL
ARRANGEMENT PLAN

56

PTA Drawing No: 12-A-99-AR0220 Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY

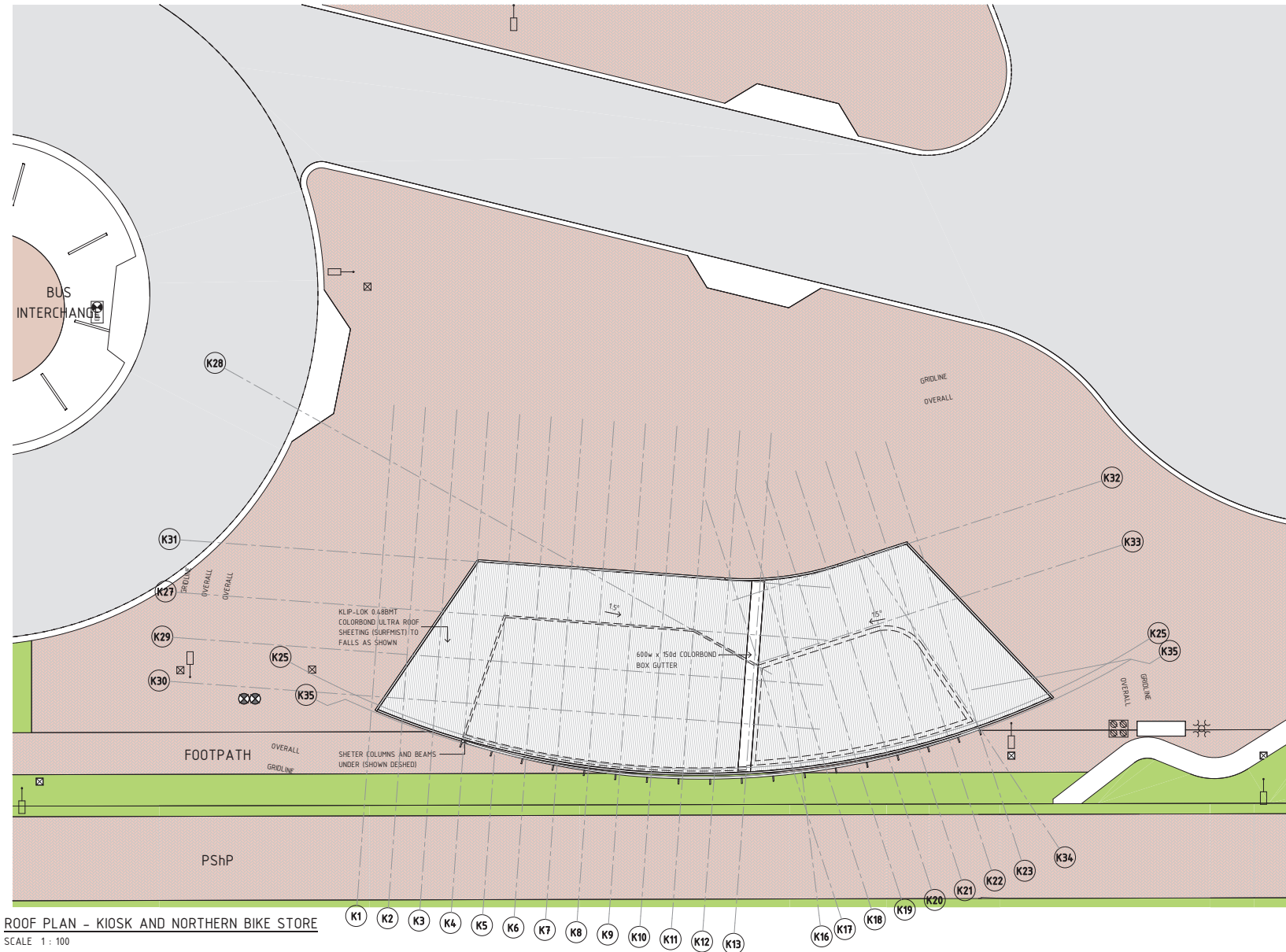
10 February 2023

RECEIVED**ABBREVIATIONS**

COL. COLUMN

BIKE SHELTER NOTES

1. REFER ARCHITECTURAL SITE PLAN DRAWINGS FOR LOCATION OF BIKE SHELTER.
2. REFER CIVIL DRAWINGS FOR ALL BIKE SHELTER FLOOR LEVELS & GRADES INCLUDING ADJACENT SURFACE LEVELS.
3. REFER PTA STANDARD 8880-000-006 'DESIGN OF BICYCLE FACILITIES AND ACCESS' INCLUDING REFERENCED DRAWINGS FOR 'SECURE BICYCLE PARKING SHELTER' FOR DETAILED BIKE HUB SPECIFICATIONS.
4. BIKE RACKS TO BE 'ENVIRO' HIGH DENSITY BIKE RACKS.
5. RACK MODEL TO BE CONFIRMED WITH PTA. ALL RACKS TO BE INSTALLED AS PER MANUFACTURE'S REQUIREMENTS.

**ROOF PLAN – KIOSK AND NORTHERN BIKE STORE**

SCALE 1 : 100

DETAILED DESIGN

AA	14/12/22	DA APPLICATION	JS	QL	AA	NR
REV	1	14/12/22	DA APPLICATION	JS	QL	AA
ORIG SIZE	A1					

**REFERENCES****SCALE**

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

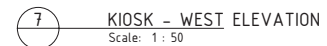
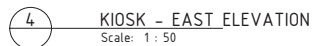
Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
KIOSK AND NORTHERN BIKE STORE-ROOF PLAN

57

PTA Drawing No: 12-A-99-AR0221 Rev: AA



A.A. N. 12 23 O.A. APPLICATION A.A. O.A. A.A. H.D.
 REV. METRONET East (Midland) LRC Meeting - 15 May 2023 Conf. A.A. H.D.
 ORIGIN SIZE 0 10 20 30 40 50 60 70 80 90 100mm
 A1 AT ORIGINAL PLOT SIZE

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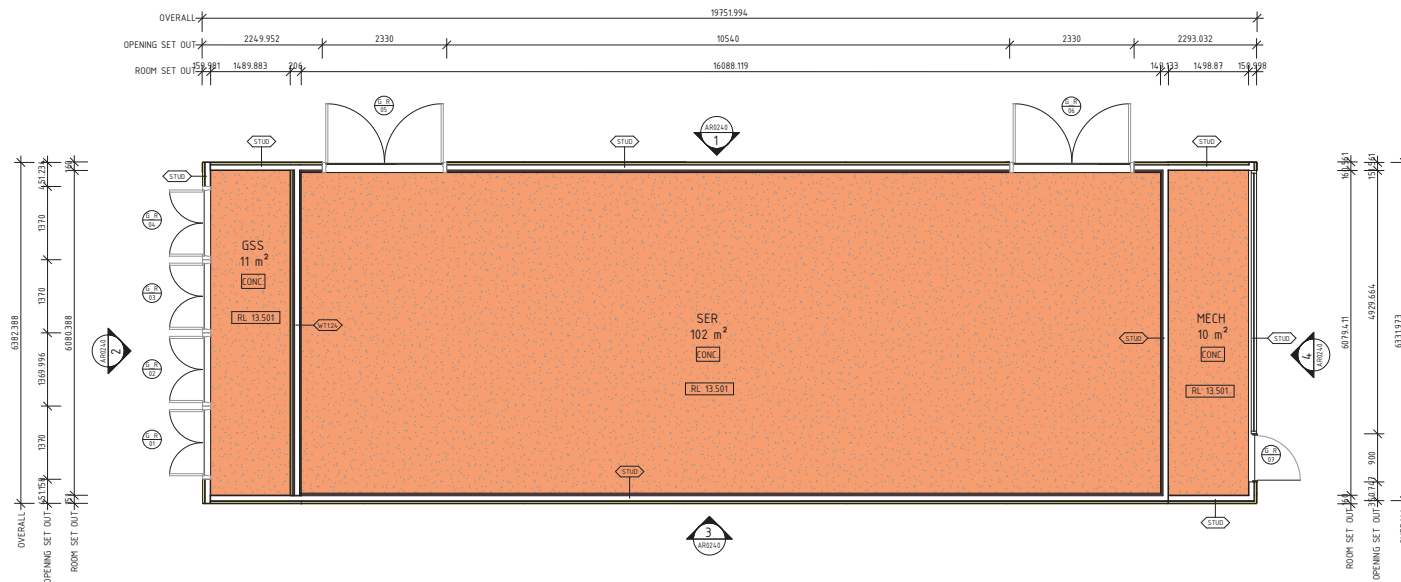
**MIDLAND
JUNCTION**
ALLIANCE

 Government of Western Australia Public Transport Authority		MIDLAND STATION (CALE STREET)
MIDLAND STATION KIOSK AND NORTHERN BIKE STORE-EXTERNAL ELEVATIONS		
PTA Drawing No: 12-A-99-AR0223		58 Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY

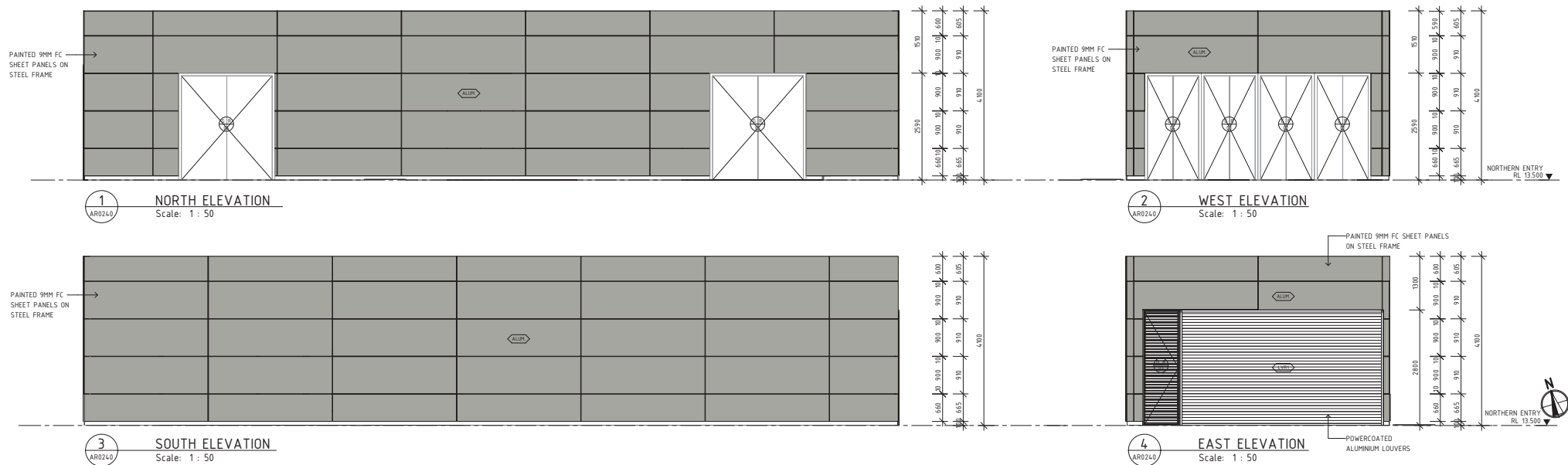
10 February 2023

RECEIVED



SER BUILDING - GENERAL ARRANGEMENT PLAN

SCALE 1 : 50



DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	DA APPLICATION	JS	QL	AA
ORIG SIZE	A1					



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REFERENCES

SCALE

1 : 50

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE



MIDLAND STATION (CALE STREET)

MIDLAND STATION

SER BUILDING - GENERAL ARRANGEMENT PLAN

59

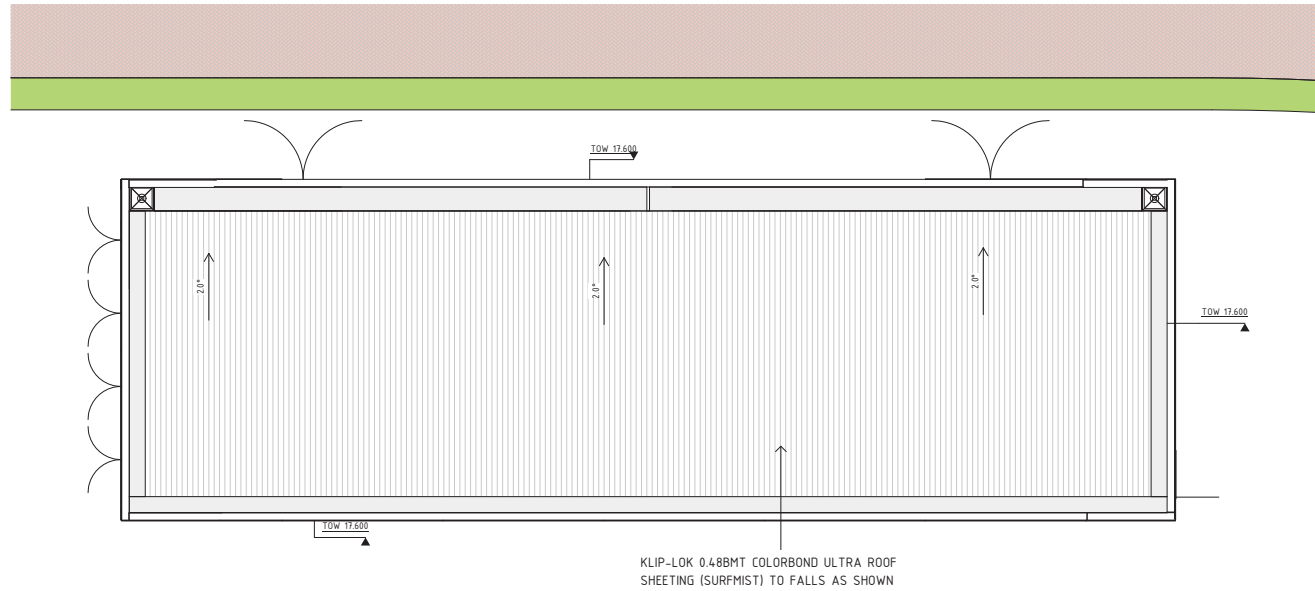
PTA Drawing No: 12-A-99-AR0240

Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED



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DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	DA APPLICATION	JS	QL	AA
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			



REFERENCES

SCALE

1 : 50

DATUM

HORIZONTAL:

VERTICAL:

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
SER BUILDING - ROOF PLAN

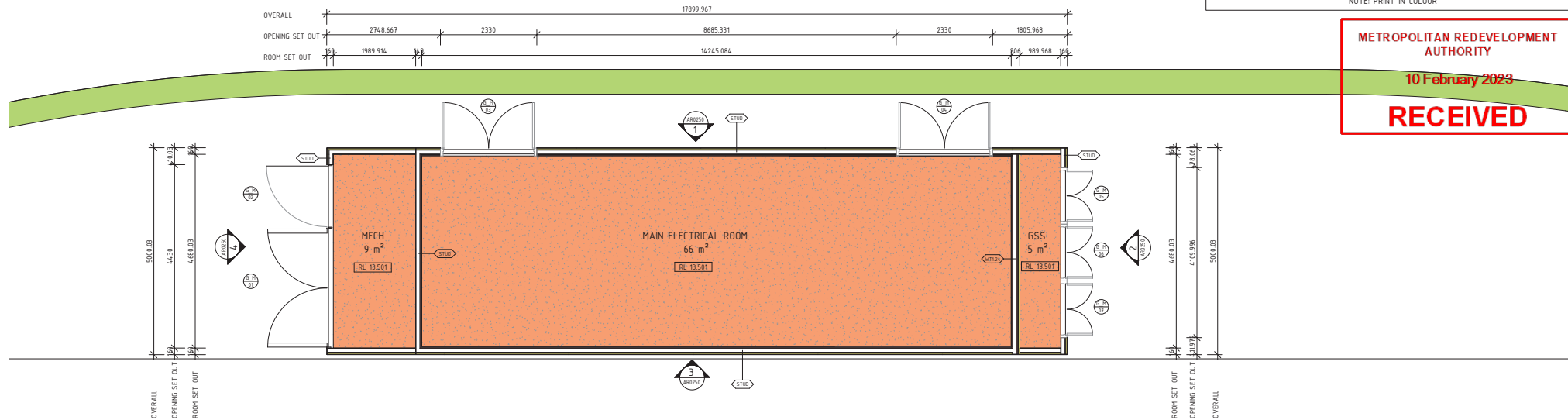
60

PTA Drawing No: 12-A-99-AR0241 Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY

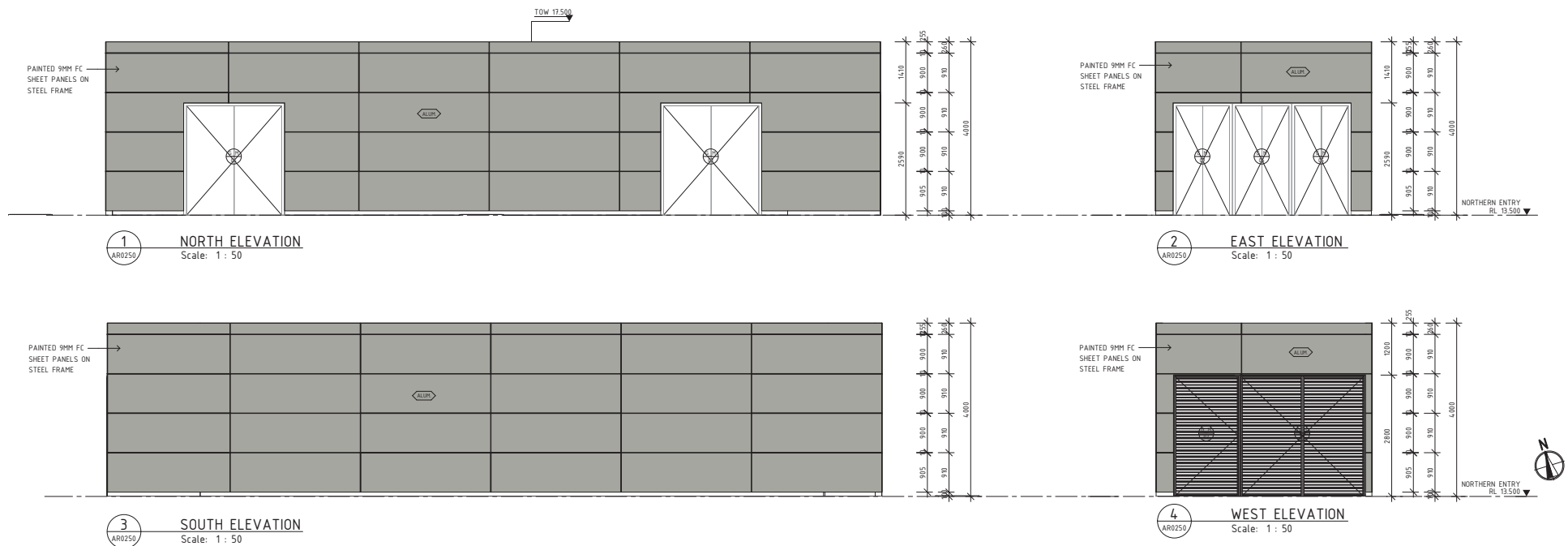
10 February 2023

RECEIVED



MAIN ELECTRICAL ROOM BUILDING - GENERAL ARRANGEMENT PLAN

SCALE 1 : 50



DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	DA APPLICATION	JS	QL	AA
ORIG SIZE	A1					

MIDLAND JUNCTION
ALLIANCE

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REFERENCES

SCALE

1 : 50

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION (CALE STREET)

MIDLAND STATION
MAIN ELECTRICAL ROOM BUILDING - GA PLAN

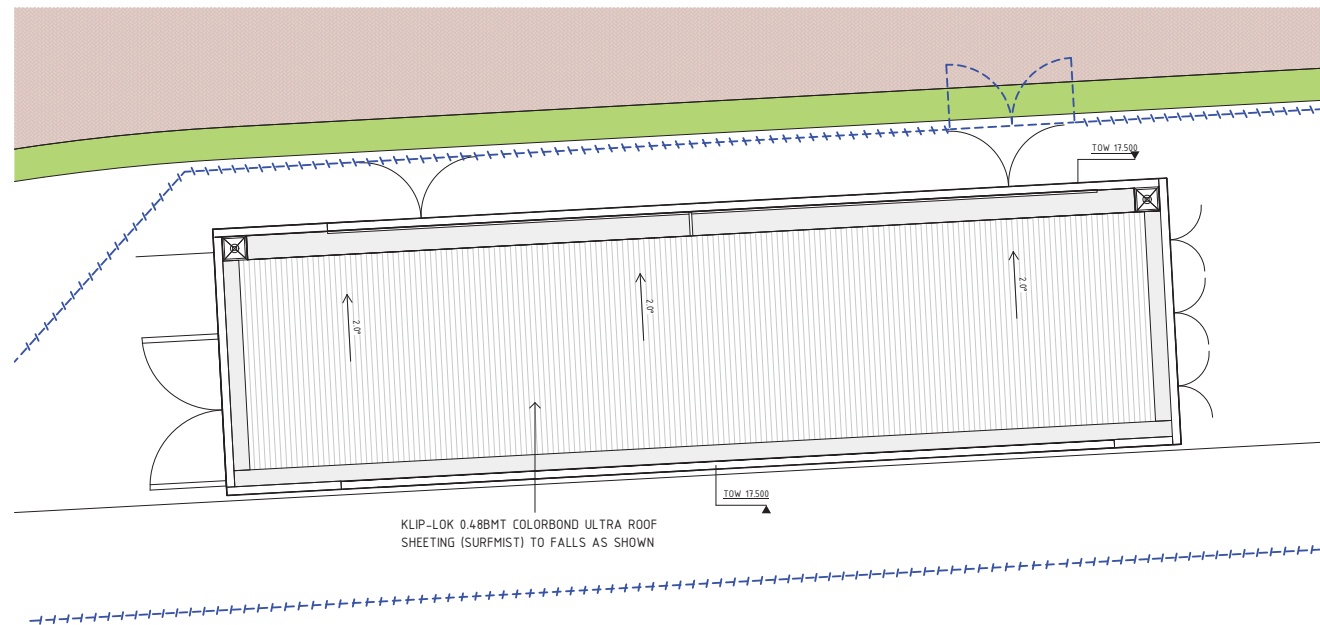
61

PTA Drawing No: 12-A-99-AR0250 Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED

KLIP-LOK 0.48BMT COLORBOND ULTRA ROOF
SHEETING (SURFMIST) TO FALLS AS SHOWN

TOW 17.500

TOW 17.540



DETAILED DESIGN

AA	14.12.22	DA APPLICATION	JS	QL	AA	NR
REV	1	14.12.22	1	1	1	1
ORIG SIZE	A1					



REFERENCES

SCALE

1 : 50

DATUM

HORIZONTAL:

VERTICAL:

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia
Public Transport Authority

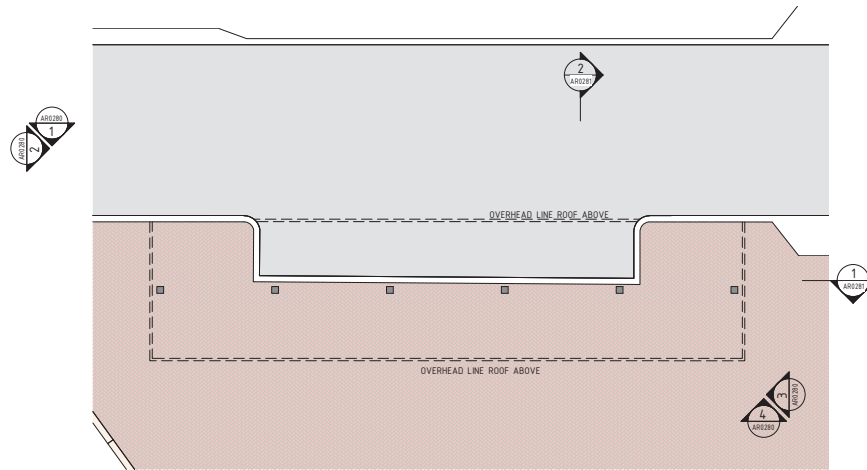
MIDLAND STATION (CALE STREET)

MIDLAND STATION

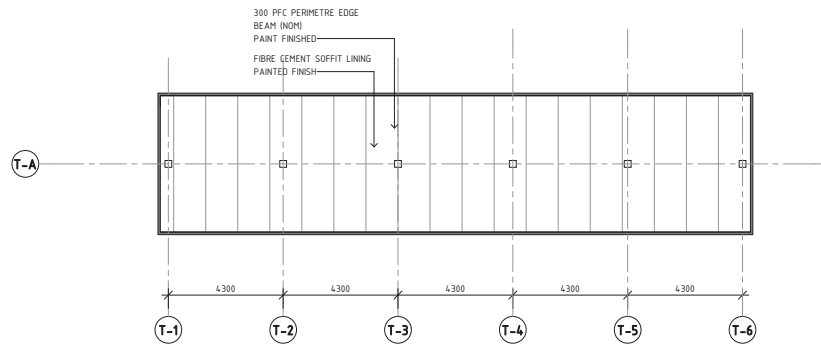
MAIN ELECTRICAL ROOM BUILDING - ROOF PLAN

62

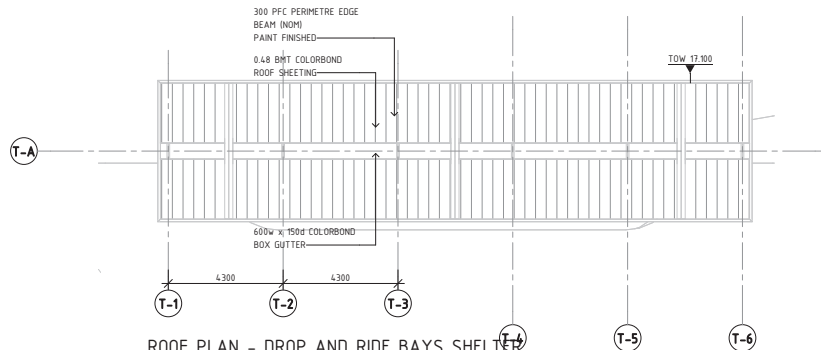
PTA Drawing No: 12-A-99-AR0251 Rev: AA



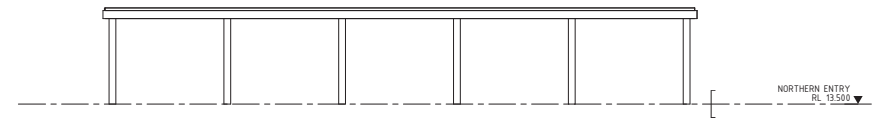
DROP AND RIDE BAYS SHELTER - GENERAL ARRANGEMENT PLAN
SCALE 1 : 100



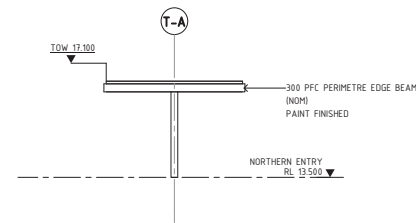
DROP AND RIDE BAYS SHELTER - CEILING PLAN
SCALE 1 : 100



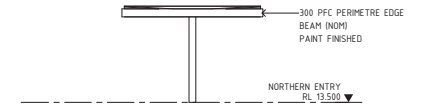
ROOF PLAN - DROP AND RIDE BAYS SHELTER
SCALE 1 : 100



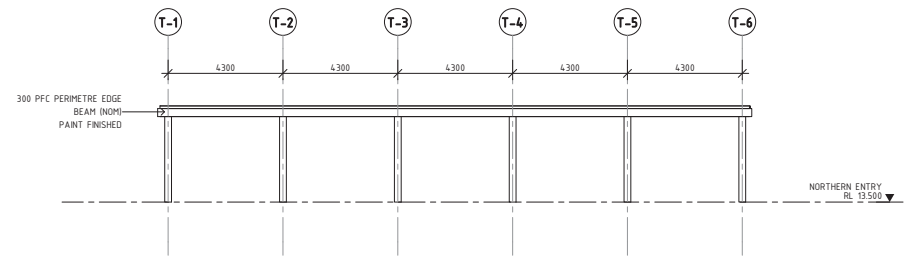
1 NORTH ELEVATION
Scale: 1 : 100



2 WEST ELEVATION
Scale: 1 : 100



3 EAST ELEVATION
Scale: 1 : 100



4 SOUTH ELEVATION
Scale: 1 : 100

1:100 (A1) / 1:200 (A3)

DETAILED DESIGN

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REV	1	14.12.22	1	1	1	1
ORIG SIZE	A1	0 10 20 30 40 50 100mm				
AT ORIGINAL PLOT SIZE						



METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED J.SCULL

DRAWN QL

CHECKED A.AINSWORTH

APPROVED

DATE

Government of Western Australia Public Transport Authority	MIDLAND STATION (CALE STREET)
MIDLAND STATION DROP AND RIDE BAYS SHELTER GA PLAN, CEILING PLAN, ROOF PLAN AND ELEVATIONS	63
PTA Drawing No: 12-A-99-AR0280	Rev: AA

RECEIVED





MIDLAND STATION (CALE STREET)

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

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SHEET LIST	
SHEET NUMBER	SHEET NAME
12-A-99-AR0300	COVER SHEET
12-A-99-AR0301	LOCALITY PLAN GENERAL ARRANGEMENT PLAN
12-A-99-AR0302	SITE PLAN
12-A-99-AR0303	BUS INTERCHANGE - GENERAL ARRANGEMENT PLAN
12-A-99-AR0304	BUS INTERCHANGE - ROOF PLAN
12-A-99-AR0313	ELEVATIONS EAST AND WEST
12-A-99-AR0314	ELEVATION NORTH (EAST)
12-A-99-AR0315	ELEVATION NORTH (WEST)
12-A-99-AR0316	ELEVATION SOUTH (EAST)
12-A-99-AR0317	ELEVATION SOUTH (WEST)
12-A-99-AR0327	PUBLIC & PTA AMENITIES PLAN LAYOUT WEST
12-A-99-AR0328	PUBLIC & PTA AMENITIES PLAN LAYOUT EAST

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	KD	AW	NR
REV	13.12.22	DA APPLICATION	BP	KD	AW	NR
ORIG SIZE	A1					



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REFERENCES

SCALE

DESIGNED B.PRIEST

DRAWN K.DOAN

CHECKED A.WHEELER

APPROVED

DATE

DATUM
HORIZONTAL: PCG20
VERTICAL: AHD71

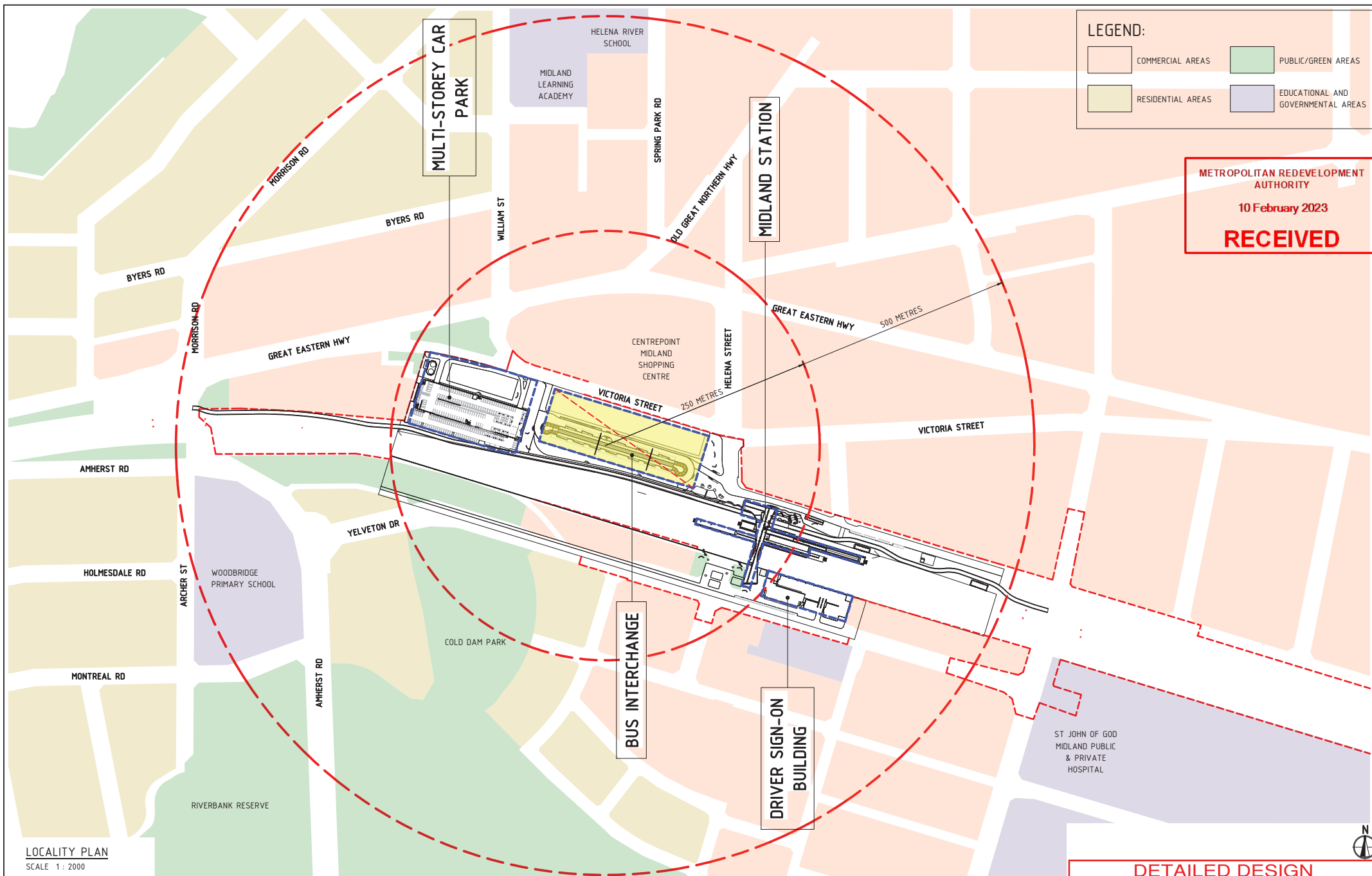
Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

BUS INTERCHANGE
COVER SHEET

65

PTA Drawing No: 12-A-99-AR0300 Rev: AA



LOCALITY PLAN
SCALE 1 : 2000

DETAILED DESIGN

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SCALE

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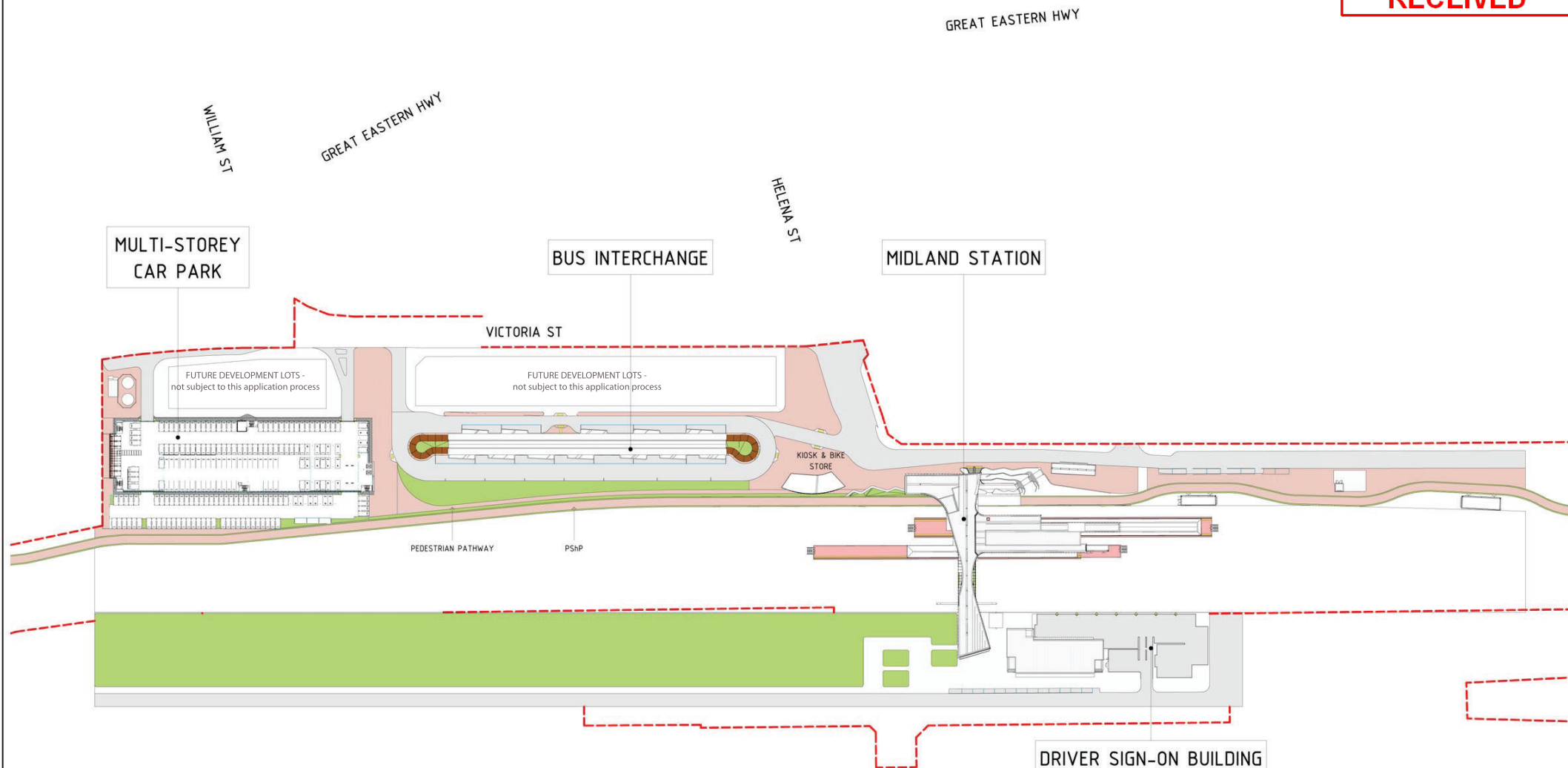
HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED	B.PRIEST
DRAWN	K.DOAN
CHECKED	A.WHEELER
APPROVED	
DATE	

Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
BUS INTERCHANGE LOCALITY PLAN GENERAL ARRANGEMENT PLAN	
66	
PTA Drawing No:	12-A-99-AR0301
Rev:	AA

5 April 2023

RECEIVED



GENERAL ARRANGEMENT PLAN

SCALE 1 : 1000

AA	13.12.22	DA APPLICATION	BP	KD	AW	NP
REV						
ORIG SIZE	A1					
0 10 20 30 40 50 100m AT ORIGINAL PLOT SIZE						

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

CAD DRAWING PATHNAME Autodesk Docs://AAU-30103874-Midland Station/12-B-99-AR2000.rvt



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SCALE

1 : 1000

DATUM

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APPROVED

DATE

DETAILED DESIGN



MIDLAND STATION CALE STREET

BUS INTERCHANGE
SITE PLAN

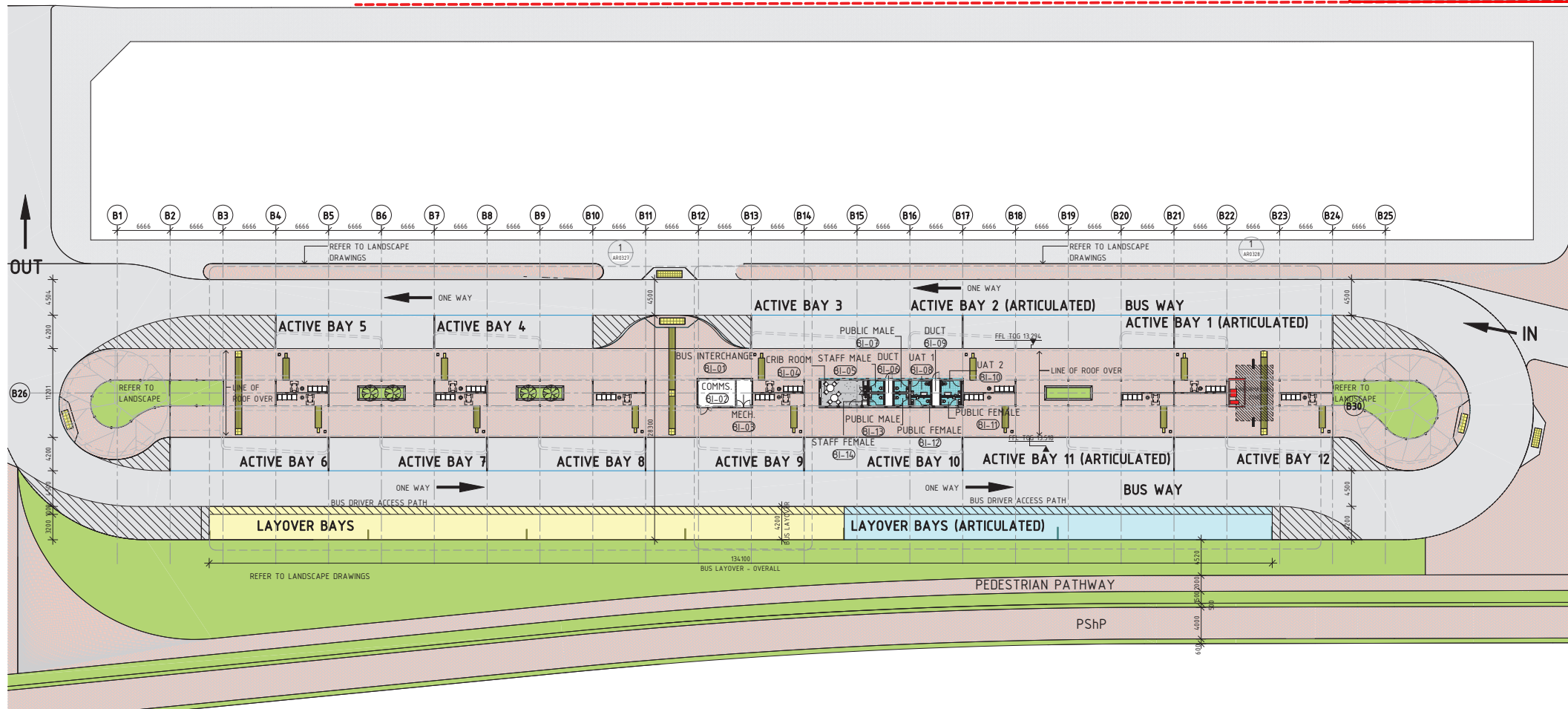
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PTA Drawing No: 12-A-99-AR0302

Rev: AA

10 February 2023

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BUS STATION PLAN (OVERALL)

SCALE 1 : 250

ROOM SCHEDULE		
ROOM NAME	ROOM NUMBER	ROOM AREA
BUS INTERCHANGE	BI-01	1978.84 m ²
COMMS	BI-02	17.83 m ²
MECH	BI-03	7.61 m ²
CRIB ROOM	BI-04	20.52 m ²
STAFF MALE	BI-05	3.88 m ²
DUCT	BI-06	3.71 m ²
PUBLIC MALE	BI-07	3.88 m ²

ROOM SCHEDULE		
ROOM NAME	ROOM NUMBER	ROOM AREA
UAT 1	BI-08	5.15 m ²
DUCT	BI-09	3.46 m ²
UAT 2	BI-10	5.17 m ²
PUBLIC FEMALE	BI-11	3.21 m ²
PUBLIC FEMALE	BI-12	3.27 m ²
PUBLIC MALE	BI-13	3.40 m ²
STAFF FEMALE	BI-14	3.40 m ²
BUS INTERCHANGE	BI-15	Not Placed

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	KD	AW	NR	
REV	1	13.12.22	DA APPLICATION	BP	KD	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			



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SCALE

1 : 250

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN K.DOAN

CHECKED A.WHEELER

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

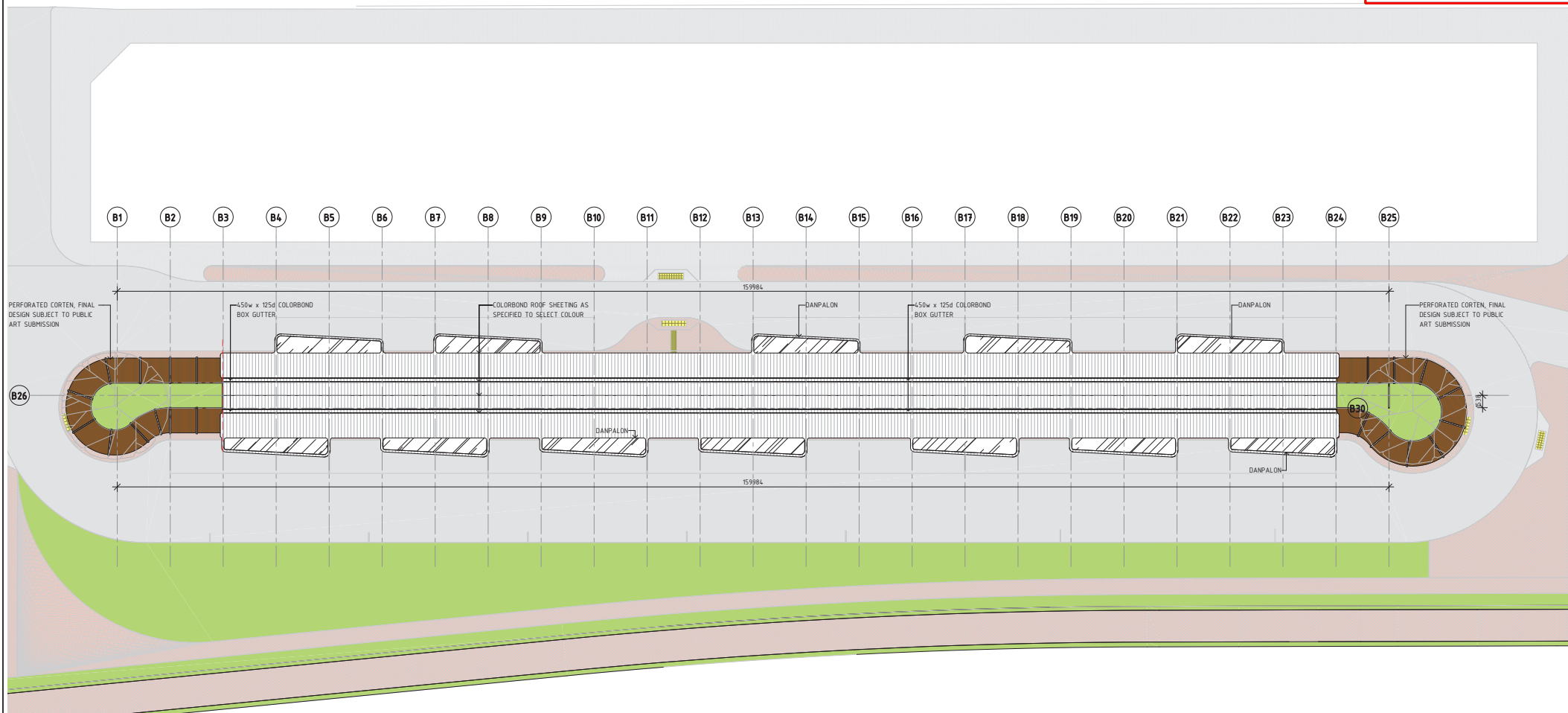
BUS INTERCHANGE
BUS INTERCHANGE - GENERAL ARRANGEMENT PLAN
68

PTA Drawing No: 12-A-99-AR0303

Rev: AA

10 February 2023

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BUS INTERCHANGE - ROOF PLAN

SCALE 1 : 250

AA	13.12.22	DA APPLICATION	BP	KD	AW	NR
REV	ORIG SIZE	AT ORIGINAL PLOT SIZE	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
A1	0 10 20 30 40 50 100mm					

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

CAD DRAWING PATHNAME: Autodesk Docs//AAU-30103874-Midland Station/12-B-99-AR2000.rvt



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SCALE

1 : 250

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN K.DOAN

CHECKED A.WHEELER

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DATE

DETAILED DESIGN



MIDLAND STATION CALE STREET

BUS INTERCHANGE
BUS INTERCHANGE - ROOF PLAN

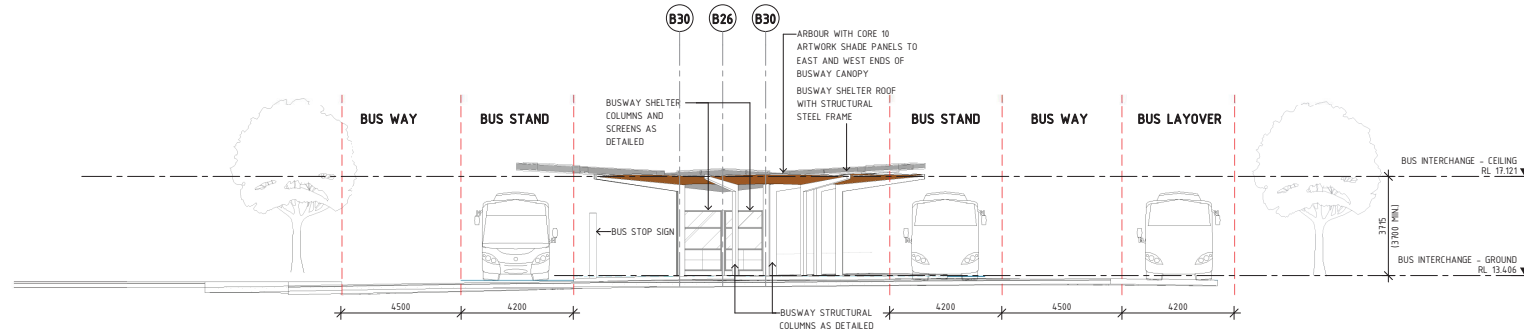
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PTA Drawing No: 12-A-99-AR0304

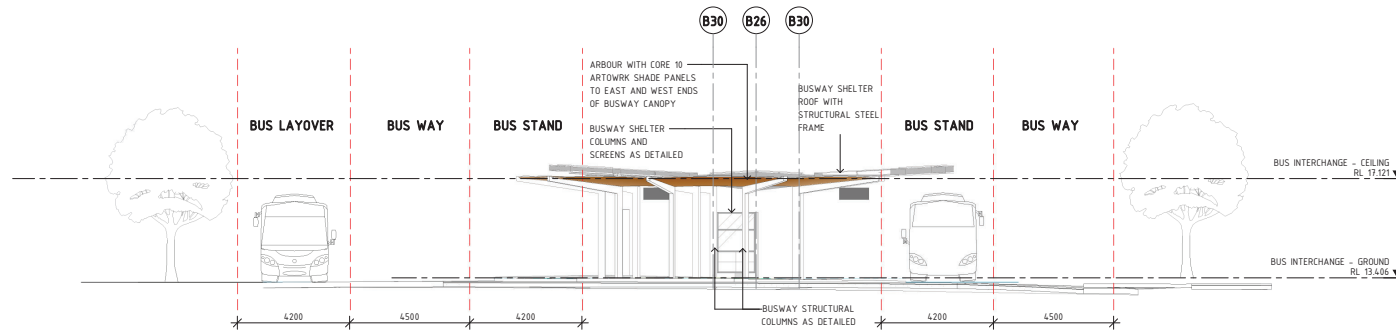
Rev: AA

10 February 2023

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1 BUS INTERCHANGE - WEST ELEVATION
Scale: 1 : 100



2 BUS INTERCHANGE - EAST ELEVATION
Scale: 1 : 100

DETAILED DESIGN

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SCALE

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DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED B.PRIEST

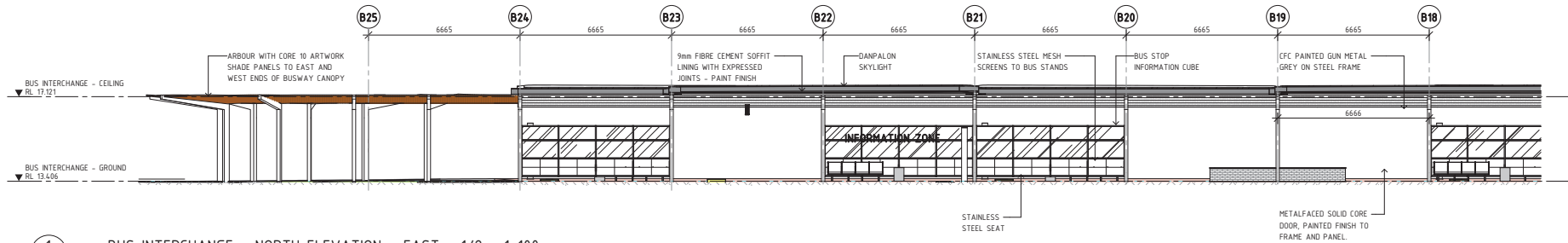
DRAWN K.DOAN

CHECKED A.WHEELER

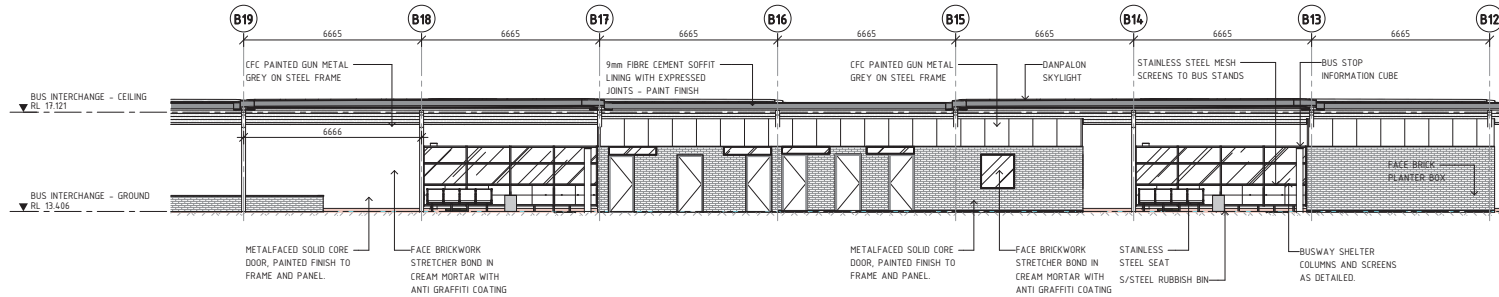
APPROVED

DATE

Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
BUS INTERCHANGE ELEVATIONS EAST AND WEST	70
PTA Drawing No: 12-A-99-AR0313	Rev: AA



1 BUS INTERCHANGE - NORTH ELEVATION - EAST - 1/2 - 1-100
Scale: 1 : 100
AR0328



2 BUS INTERCHANGE - NORTH ELEVATION - EAST - 2/2 - 1-100
Scale: 1 : 100
AR0327

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	KD	AW	NR
REV	1	13.12.22	1	1	1	1
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			



REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

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Government of Western Australia
Public Transport Authority

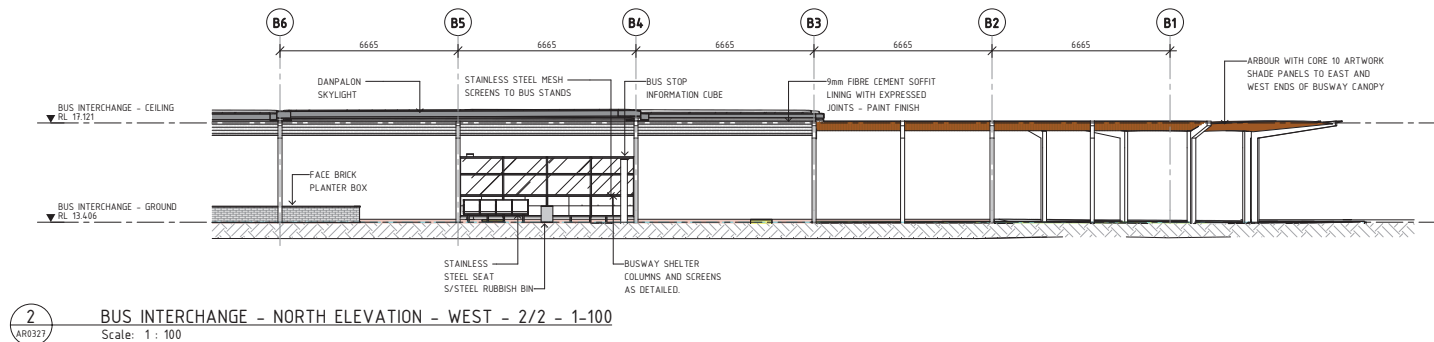
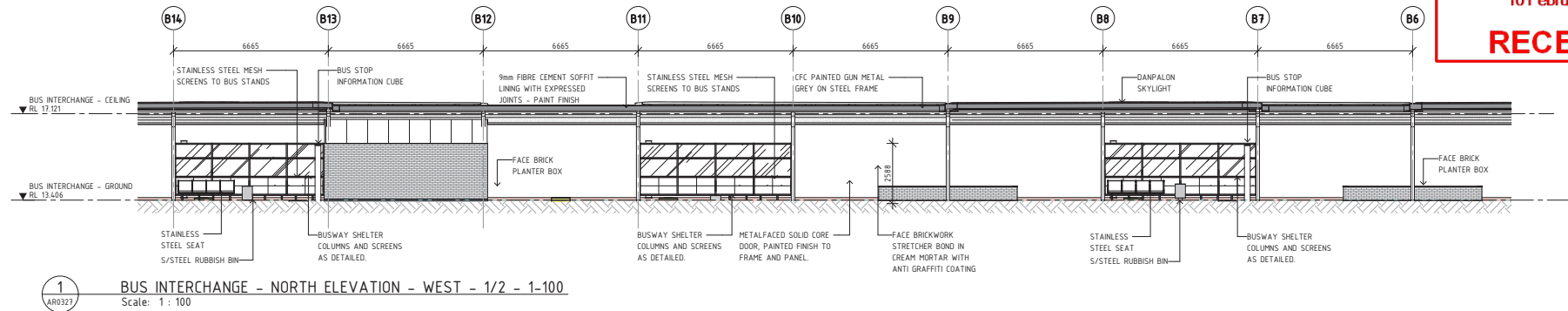
MIDLAND STATION CALE STREET

BUS INTERCHANGE
ELEVATION NORTH (EAST)

71

PTA Drawing No: 12-A-99-AR0314

Rev: AA



DETAILED DESIGN

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REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN K.DOAN

CHECKED A.WHEELER

APPROVED

DATE

Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
BUS INTERCHANGE ELEVATION NORTH (WEST)	72
PTA Drawing No: 12-A-99-AR0315	Rev: AA



Government of Western Australia Public Transport Authority		MIDLAND STATION CALE STREET
BUS INTERCHANGE ELEVATION SOUTH (EAST)		
		73
PTA Drawing No:	12-A-99-AR0316	Rev: AA

AA 10-10-20 DA APPLICATION BP 000 ANW 000 NR

METRONE East (Midland) LRC Meeting - 15 May 2023 Conf

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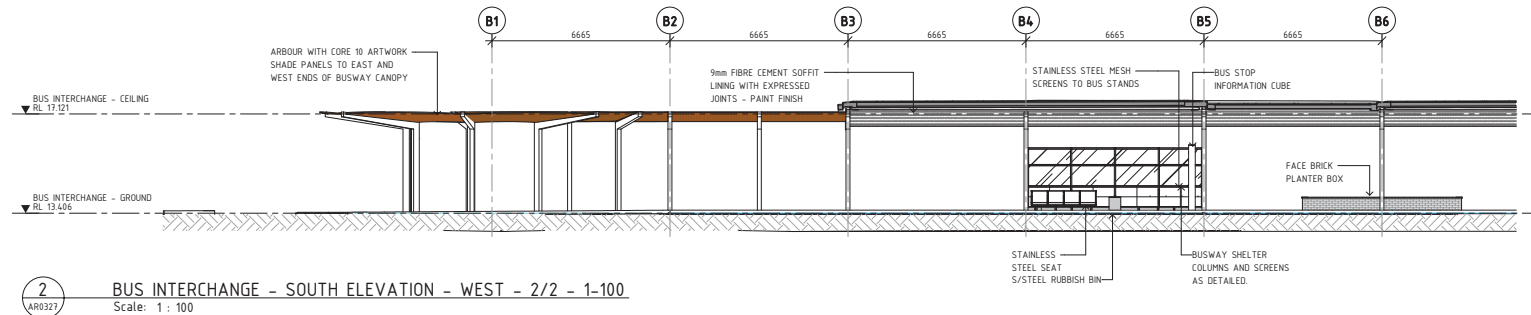
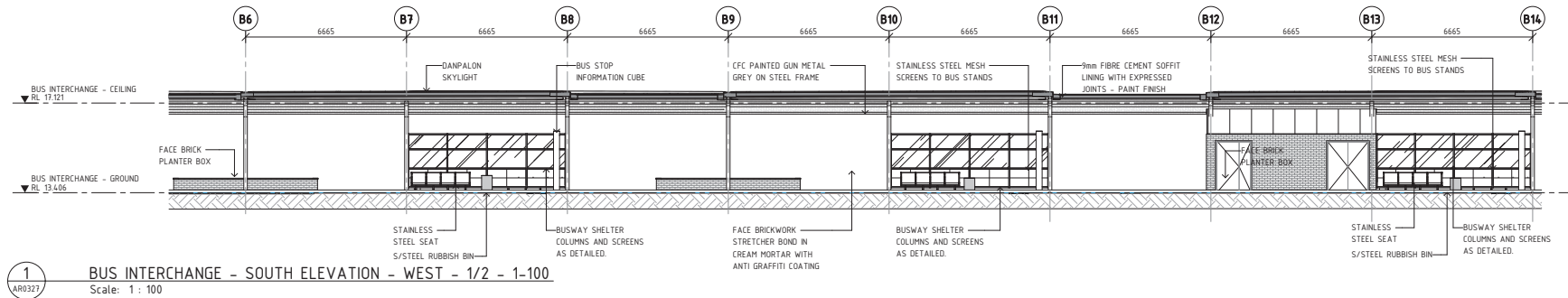
A1 AT ORIGINAL PLOT SIZE

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ALLIANCE

CAD DRAWING PATHNAME Autodesk Docs://AAU-30103874-Midland Station/12-B-99-AR2000.rvt



DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	KD	AW	NR
REV	13.12.22	DA APPLICATION	BP	KD	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			



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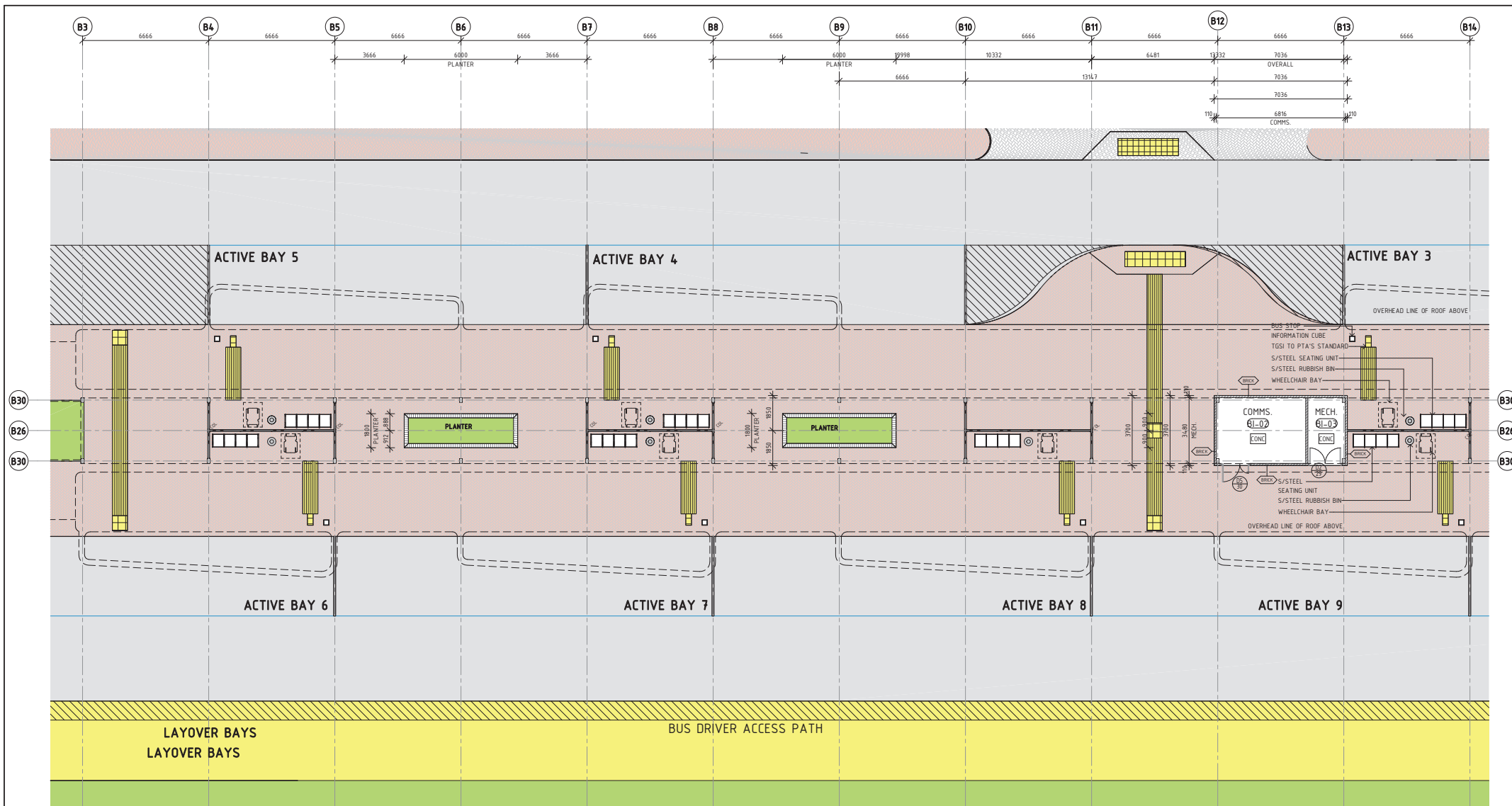
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Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
BUS INTERCHANGE ELEVATION SOUTH (WEST)	
PTA Drawing No: 12-A-99-AR0317	Rev: AA



1
0000

PUBLIC & PTA AMENITIES PLAN LAYOUT - WEST

Scale: 1 : 100

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED

ROOM SCHEDULE		
ROOM NAME	ROOM NUMBER	ROOM AREA
BUS INTERCHANGE	BI-01	1978.84 m ²
COMMS.	BI-02	17.83 m ²
MECH.	BI-03	7.61 m ²
CRIB ROOM	BI-04	20.52 m ²
STAFF MALE	BI-05	3.88 m ²
DUCT	BI-06	3.71 m ²
PUBLIC MALE	BI-07	3.88 m ²

ROOM SCHEDULE		
ROOM NAME	ROOM NUMBER	ROOM AREA
UAT 1	BI-08	5.15 m ²
DUCT	BI-09	3.46 m ²
UAT 2	BI-10	5.17 m ²
PUBLIC FEMALE	BI-11	3.21 m ²
PUBLIC FEMALE	BI-12	3.21 m ²
PUBLIC MALE	BI-13	3.40 m ²
STAFF FEMALE	BI-14	3.40 m ²
BUS INTERCHANGE	BI-15	Not Placed

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	KD	AW	NR	
REV	1	13.12.22	DA APPLICATION	BP	KD	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			



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DATE

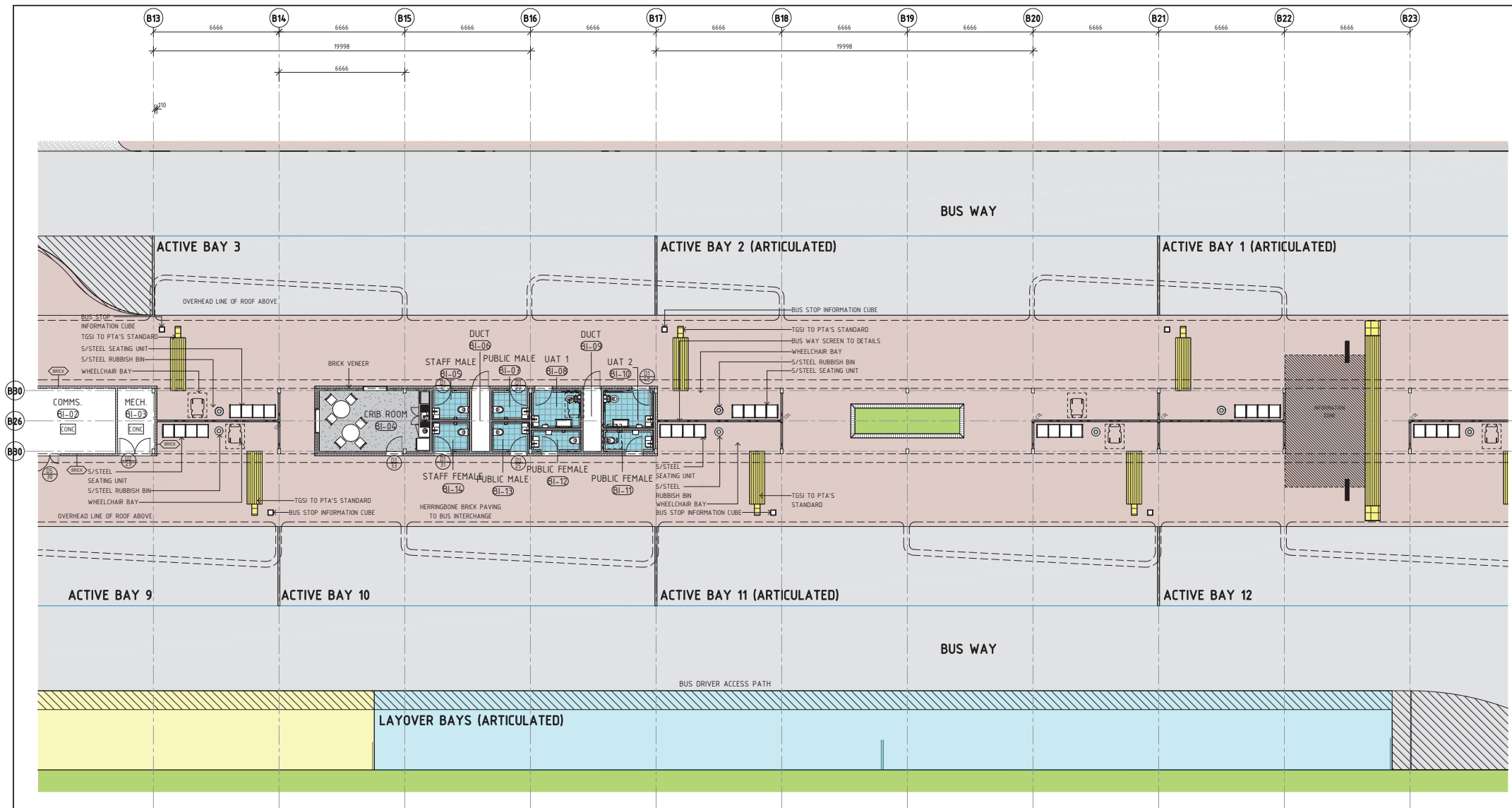
Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

BUS INTERCHANGE
PUBLIC & PTA AMENITIES PLAN LAYOUT WEST

75

PTA Drawing No: 12-A-99-AR0327 Rev: AA



1
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PUBLIC & PTA AMENITIES PLAN LAYOUT - EAST

Scale: 1 : 100

**METROPOLITAN REDEVELOPMENT
AUTHORITY**

10 February 2023

RECEIVED

ROOM SCHEDULE		
ROOM NAME	ROOM NUMBER	ROOM AREA
BUS INTERCHANGE	BI-01	1978.84 m ²
COMMS.	BI-02	17.83 m ²
MECH.	BI-03	7.61 m ²
CRIB ROOM	BI-04	20.52 m ²
STAFF MALE	BI-05	3.88 m ²
DUCT	BI-06	3.71 m ²
PUBLIC MALE	BI-07	3.88 m ²

ROOM SCHEDULE		
ROOM NAME	ROOM NUMBER	ROOM AREA
UAT 1	BI-08	5.15 m ²
DUCT	BI-09	3.46 m ²
UAT 2	BI-10	5.17 m ²
PUBLIC FEMALE	BI-11	3.21 m ²
PUBLIC FEMALE	BI-12	3.27 m ²
PUBLIC MALE	BI-13	3.49 m ²
STAFF FEMALE	BI-14	3.49 m ²
BUS INTERCHANGE	BI-15	Not Placed

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	KD	AW	NR	
REV	1	13.12.22	DA APPLICATION	BP	KD	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			

**MIDLAND
JUNCTION**
ALLIANCE

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DATUM

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VERTICAL: AHD71

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Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

BUS INTERCHANGE
PUBLIC & PTA AMENITIES PLAN LAYOUT EAST

76

PTA Drawing No: 12-A-99-AR0328

Rev: AA



MIDLAND STATION (CALE STREET)



MULTI-STOREY CAR PARK - SHEET LIST	
SHEET NUMBER	SHEET NAME
12-A-99-AR0400	COVER SHEET
12-A-99-AR0401	EXISTING EASEMENT PLAN
12-A-99-AR0402	LOCALITY PLAN GENERAL ARRANGEMENT PLAN
12-A-99-AR0403	SITE PLAN
12-A-99-AR0404	GROUND FLOOR PLAN
12-A-99-AR0405	FIRST FLOOR PLAN
12-A-99-AR0406	SECOND FLOOR PLAN
12-A-99-AR0407	THIRD FLOOR PLAN
12-A-99-AR0408	FOURTH FLOOR PLAN
12-A-99-AR0409	ROOF PLAN
12-A-99-AR0439	ELEVATIONS - OVERALL
12-A-99-AR0440	ELEVATIONS - SHEET 1 OF 4
12-A-99-AR0441	ELEVATIONS - SHEET 2 OF 4
12-A-99-AR0442	ELEVATIONS - SHEET 3 OF 4
12-A-99-AR0443	ELEVATIONS - SHEET 4 OF 4
12-A-99-AR0454	FACADE SCHEDULE
12-A-99-AR0455	FACADE ELEVATIONS - SHEET 1 OF 3

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED

DETAILED DESIGN

AA	310122	DA APPLICATION	BP	JLS	A.W	NR
REV	1	DATE	DESCRIPTION	BY	CHK	APP
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.		



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APPROVED
DATE

DATUM
HORIZONTAL: PCG20
VERTICAL: AHD71

Government of Western Australia
Public Transport Authority

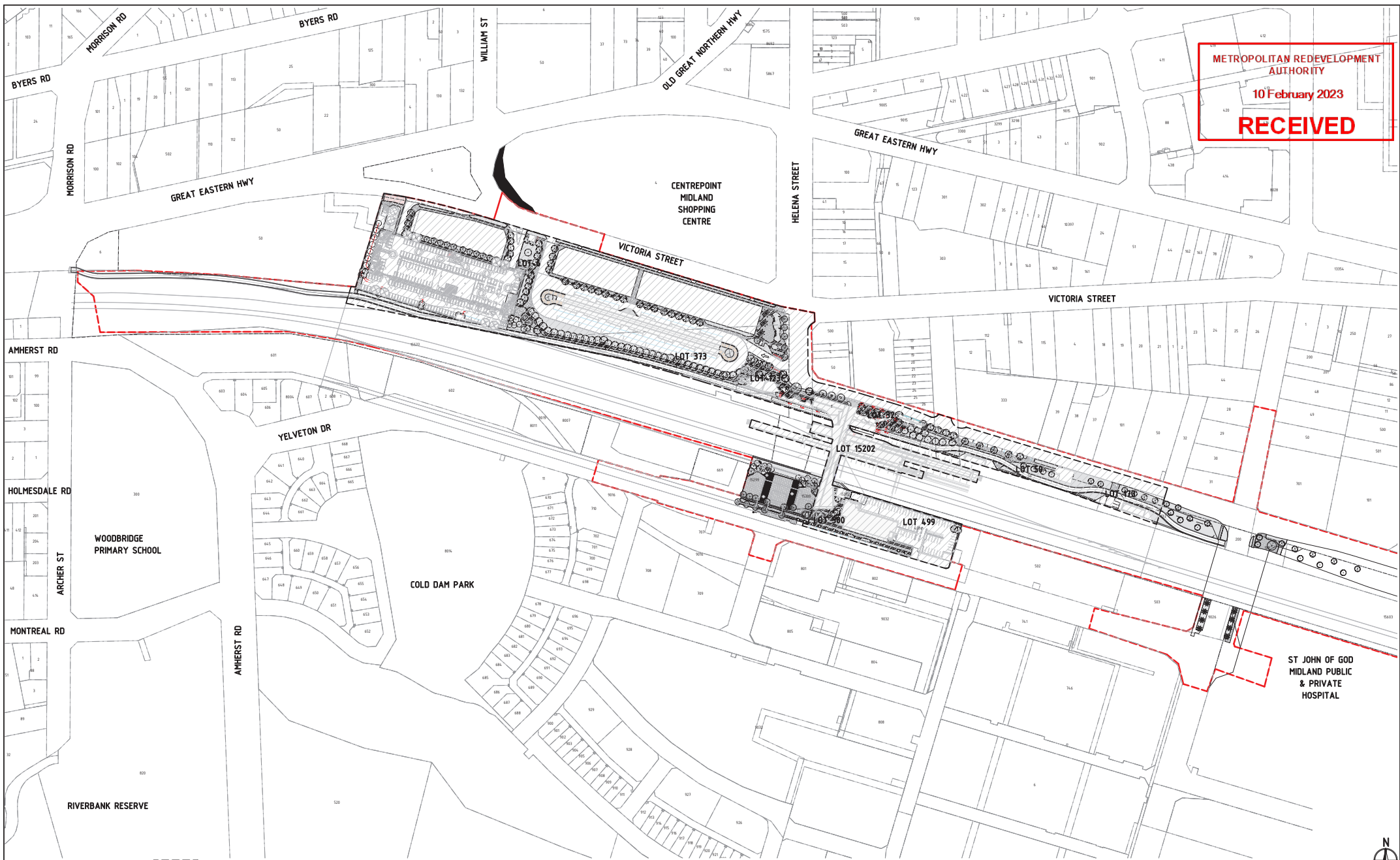
MIDLAND STATION CALE STREET

MIDLAND MSCP
COVER SHEET

77

PTA Drawing No: 12-A-99-AR0400

Rev: AA



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AUTHORITY
10 February 2023
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MSCP - EASEMENT PLAN
SCALE 1 : 1500



LIMIT OF MIDLAND STATION SITE WORKS

--- EXTENT OF STATION WORKS SITE BOUNDARY

— EXISTING LOT BOUNDARIES

AA 13.12.22 DA APPLICATION
REV 1 METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential
ORIG SIZE 0 10 20 30 40 50 100mm
A1 AT ORIGINAL PLOT SIZE



REFERENCES

SCALE

1 : 1500

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

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DATE

DETAILED DESIGN

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

MIDLAND MSCP
EXISTING EASEMENT PLAN

78

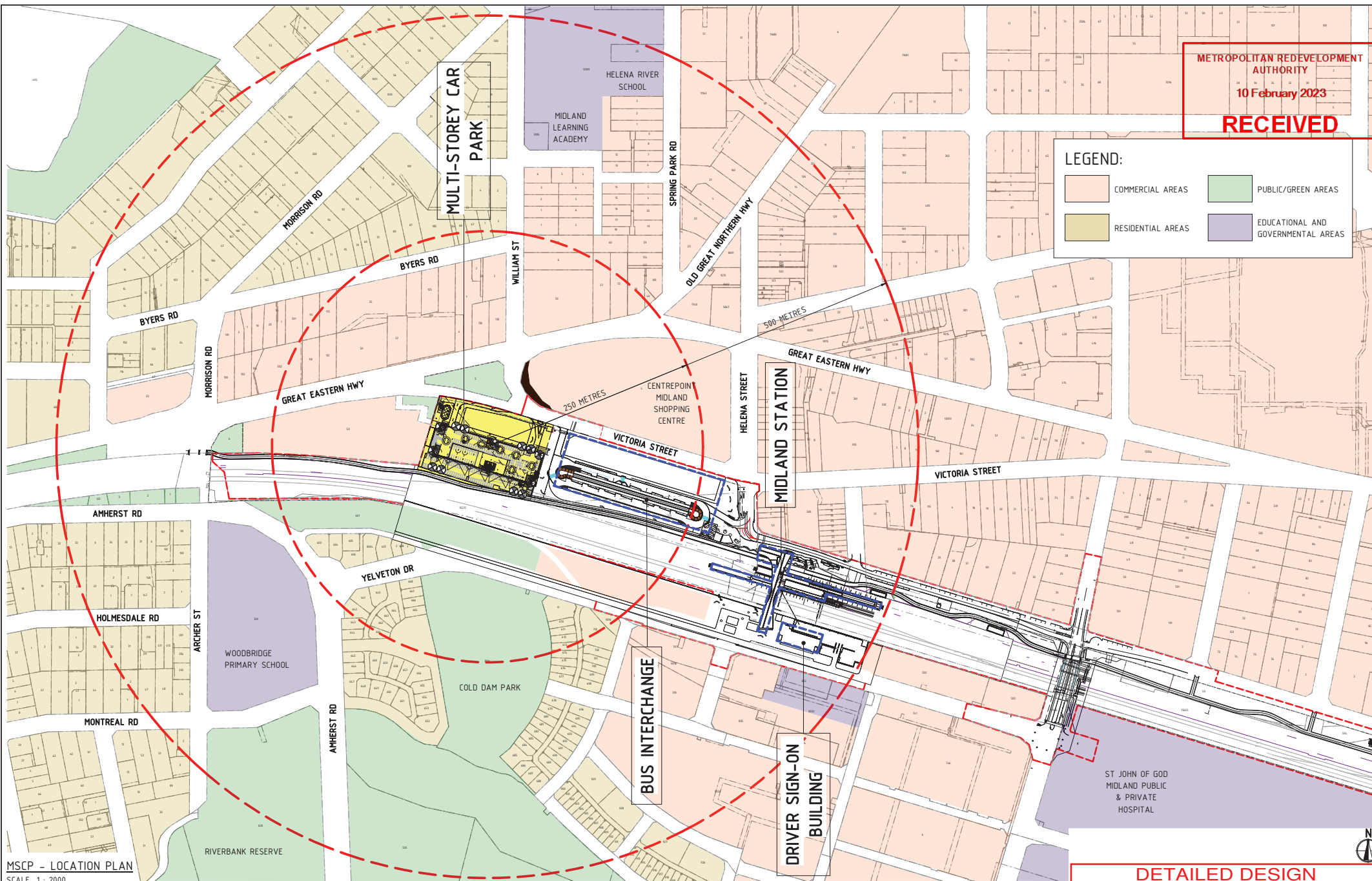
PTA Drawing No: 12-A-99-AR0401

Rev: AA

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AUTHORITY
10 February 2023
RECEIVED

LEGEND:

- | | |
|---|--|
|  COMMERCIAL AREAS |  PUBLIC/GREEN AREAS |
|  RESIDENTIAL AREAS |  EDUCATIONAL AND GOVERNMENTAL AREAS |



MSCP - LOCATION PLAN
SCALE 1 : 2000

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	6.5	AW	NR	
REV	1	13.12.22	DA APPLICATION	BP	6.5	AW	NR
METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential							
ORIG SIZE	0 10 20 30 40 50 100m						
A1	AT ORIGINAL PLOT SIZE						
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SCALE

1 : 2000

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

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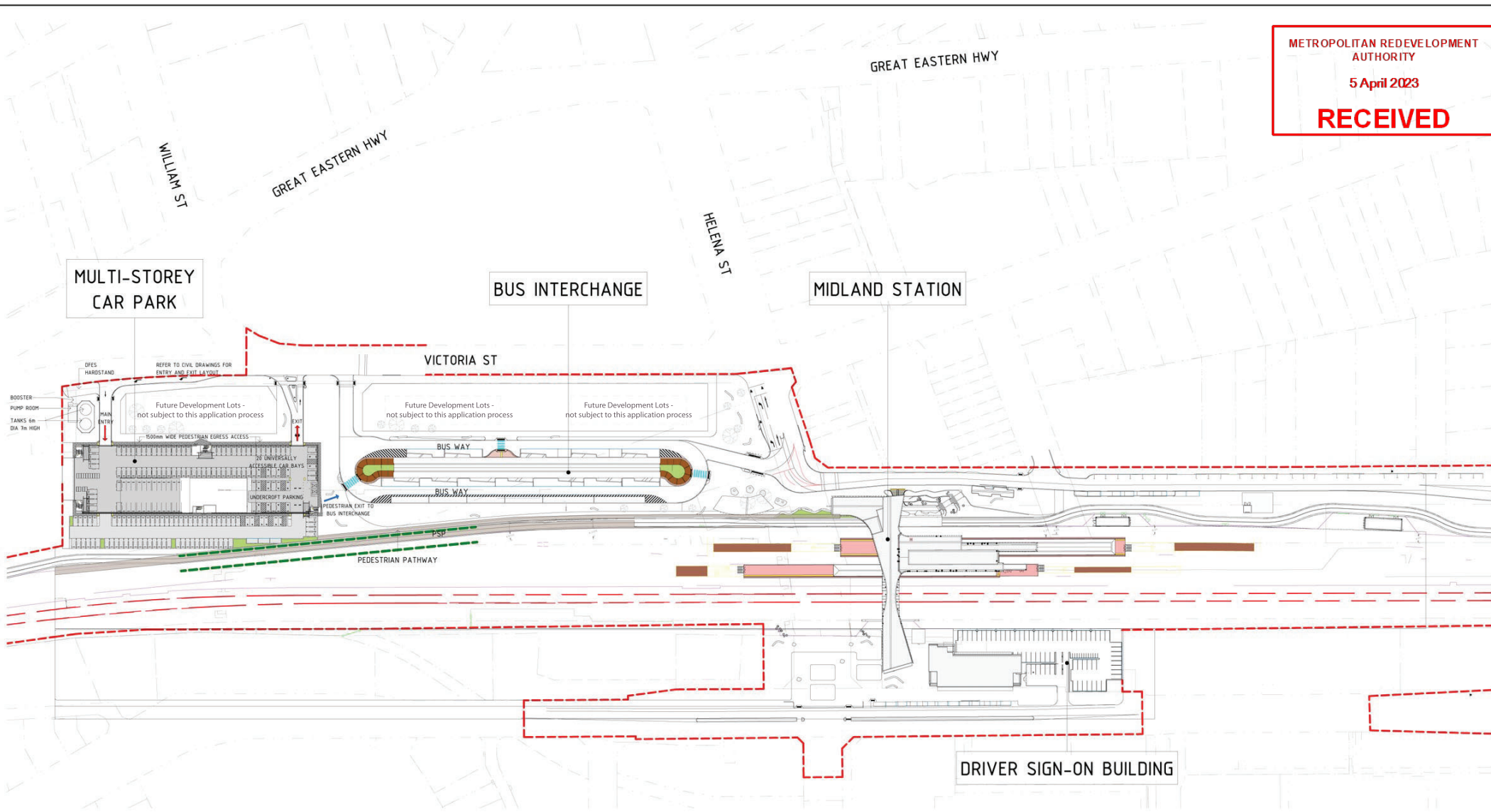
MIDLAND STATION CALE STREET

MIDLAND MSCP
LOCALITY PLAN GENERAL ARRANGEMENT PLAN

79

PTA Drawing No: 12-A-99-AR0402

Rev: AA



MSCP - SITE PLAN
SCALE 1 : 1000

PARKING SCHEDULE - MSCP			
PARKING BAYS	COUNT	LEVEL	
CAP_PARKING SPACE_CAR 5400 x 2500mm - 90 deg	196	Ground	
CAP_PARKING SPACE_CAR 5400 x 2500mm - 90 deg - Accessible	20	Ground	
CAP_PARKING SPACE_PC 2500 x 1200mm - 90 deg	14	Ground	
CAP_PARKING SPACE_PARALLEL 2500 x 6100mm - 90 DEG	3	Ground	
Ground: 233			
CAP_PARKING SPACE_CAR 5400 x 2500mm - 90 deg	168	MSCP - L01	
MSCP - L01: 168			

PARKING SCHEDULE - MSCP			
PARKING BAYS	COUNT	LEVEL	
CAP_PARKING SPACE_CAR 5400 x 2500mm - 90 deg	170	MSCP - L02	
MSCP - L02: 170			
CAP_PARKING SPACE_CAR 5400 x 2500mm - 90 deg	169	MSCP - L03	
MSCP - L03: 169			
CAP_PARKING SPACE_CAR 5400 x 2500mm - 90 deg	116	MSCP - RF	
MSCP - RF: 116			
TOTAL AMOUNT OF PARKING BAYS: 856			

AA	13.12.22	DA APPLICATION	BP	B.S.	AW	NP			
REV	1	13.12.22	DA APPLICATION	BP	B.S.	AW	NP		
ORIG SIZE	A1	0	10	20	30	40	50	100mm	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.
AT ORIGINAL PLOT SIZE									

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential



REFERENCES

SCALE

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Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

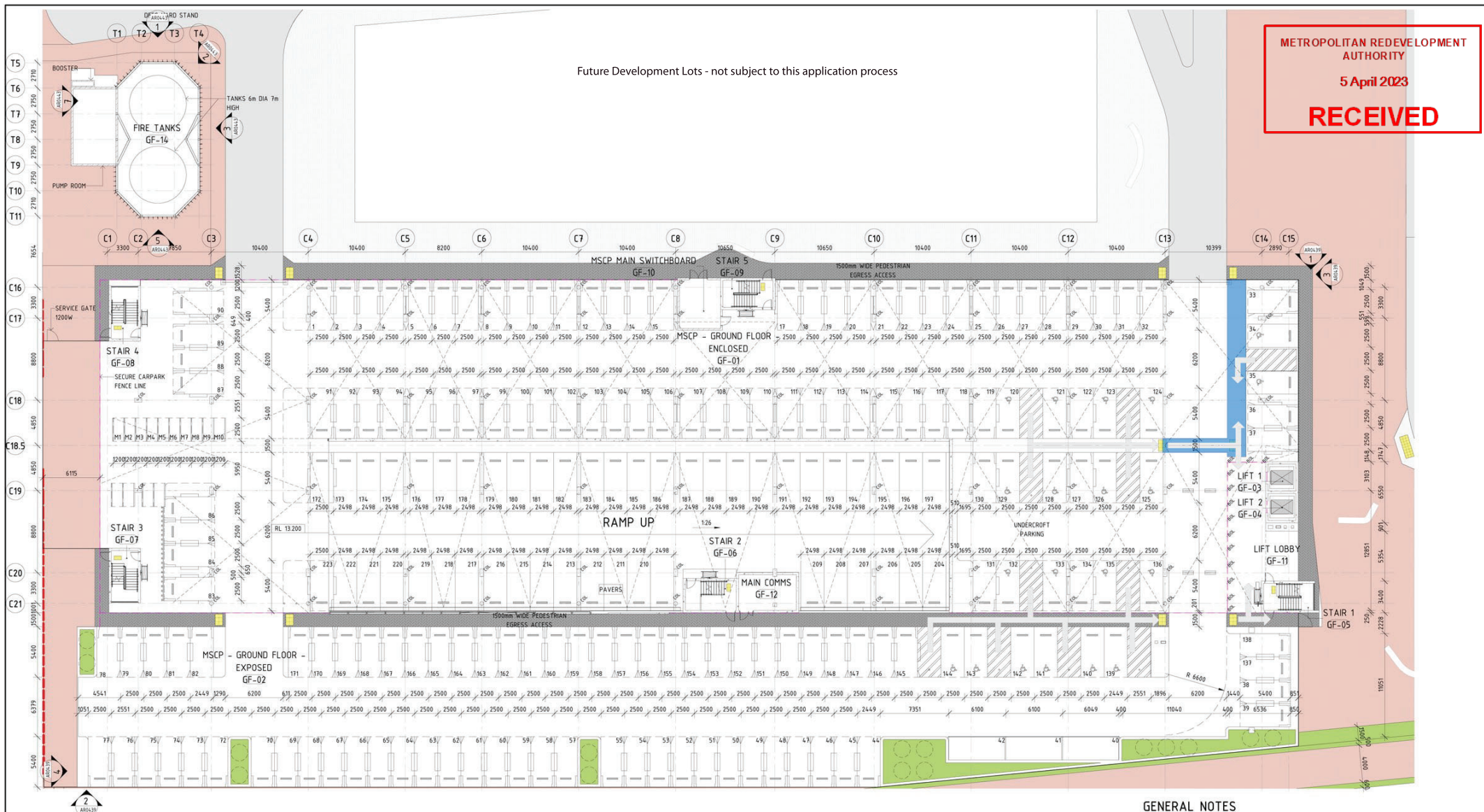
MIDLAND MSCP
SITE PLAN

80

PTA Drawing No: 12-A-99-AR0403

Rev: AA

Future Development Lots - not subject to this application process



MSCP - GROUND

SCALE 1 : 200

ROOM NAME	ROOM NUMBER	ROOM AREA	ASSET TAG
MSCP - GROUND FLOOR - ENCLOSED	GF-01	4,773 m ²	MDC-GN-CPN01
MSCP - GROUND FLOOR - EXPOSED	GF-02	2346 m ²	MDC-GN-CPN02
LIFT 1	GF-03	9 m ²	MDC-LIFT-01
LIFT 2	GF-04	9 m ²	MDC-LIFT-02
STAIR 1	GF-05	16 m ²	MDC-GN-SPN01
STAIR 2	GF-06	17 m ²	MDC-GN-SPN02
STAIR 3	GF-07	16 m ²	MDC-GN-SPN03

ROOM NAME	ROOM NUMBER	ROOM AREA	ASSET TAG
STAIR 4	GF-08	16 m ²	MOD-GN-SPN04
STAIR 5	GF-09	16 m ²	MOD-GN-SPN05
MSCP MAIN SWITCHBOARD	GF-10	23 m ²	MOD-GN-LVR
LIFT LOBBY	GF-11	86 m ²	MOD-GN-LBY
MAIN COMMS	GF-12	24 m ²	MOD-GN-CER
FIRE TANKS	GF-14	134 m ²	MOD-GN-FPR

PARKING SCHEDULE - MSCP			
PARKING BAYS			
		COUNT	LEVEL
CAP_PARKING_SPACE_CAR_5400 x 2500mm - 90 deg		196	Ground
CAP_PARKING_SPACE_CAR_5400 x 2500mm - 90 deg - Accessible		20	Ground
CAP_PARKING_SPACE_MC_2500 x 1200mm - 90 deg		14	Ground
CAP_PARKING_SPACE_PARALLEL_2500 x 6100mm - 90 DEG		3	Ground
Ground: 233			
CAP_PARKING_SPACE_CAR_5400 x 2500mm - 90 deg		168	MSCP - L01
MSCP - L01: 168			

PARKING SCHEDULE - MSCP			
PARKING BAYS		COUNT	LEVEL
CAP_PARKING_SPACE_CAR: 5400 x 2500mm - 90 deg		170	MSCP - L0
MSCP - L02: 170			
CAP_PARKING_SPACE_CAR: 5400 x 2500mm - 90 deg		169	MSCP - L0
MSCP - L03: 169			
CAP_PARKING_SPACE_CAR: 5400 x 2500mm - 90 deg		116	MSCP - RF
MSCP - RF: 116			
TOTAL AMOUNT OF PARKING BAYS: 856			

GENERAL NOTES

- 1 REFER TO DRAWING AN-DRG-XXXX FOR ABBREVIATIONS, LEGENDS, SYMBOLS AND NOTES
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5 ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATA (AHD)
6 ALL WORKMANSHIP & MATERIALS TO BE IN ACCORDANCE WITH THE LATEST BUILDING REGULATIONS, RELEVANT AUSTRALIAN STANDARDS AND PTA STANDARDS INCLUDING ALL AMENDMENTS
7 CHECK DIMENSIONS AND LEVELS ON-SITE PRIOR TO THE COMMENCEMENT OF WORK ON-SITE, ANY DISCREPANCIES ARE TO BE REPORTED TO THE SUPERINTENDENT AND INSTRUCTED
8 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO TRACK LIDE, BRIDGE, CIVIL, STRUCTURAL, ELECTRICAL, COMMUNICATIONS, HYDRAULIC, MECHANICAL, GEOTECHNICAL SURVEY, ROAD, LANDSCAPE, ENVIRONMENTAL AND DESIGN DOCUMENTS
9 ALL INFORMATION IS TO BE REPORTED TO THE SUPERINTENDENT AND INSTRUCTORS SURV
10 ROAD MARKINGS, TRAFFIC SIGNALS, SPEED PUMPS AND BOLLARDS BY CIV

DETAILED DESIGN

AA 10-12-21 DA APPLICATION

REV METRONET East (Midland) LRC Meeting - 15 May 2023 Conf

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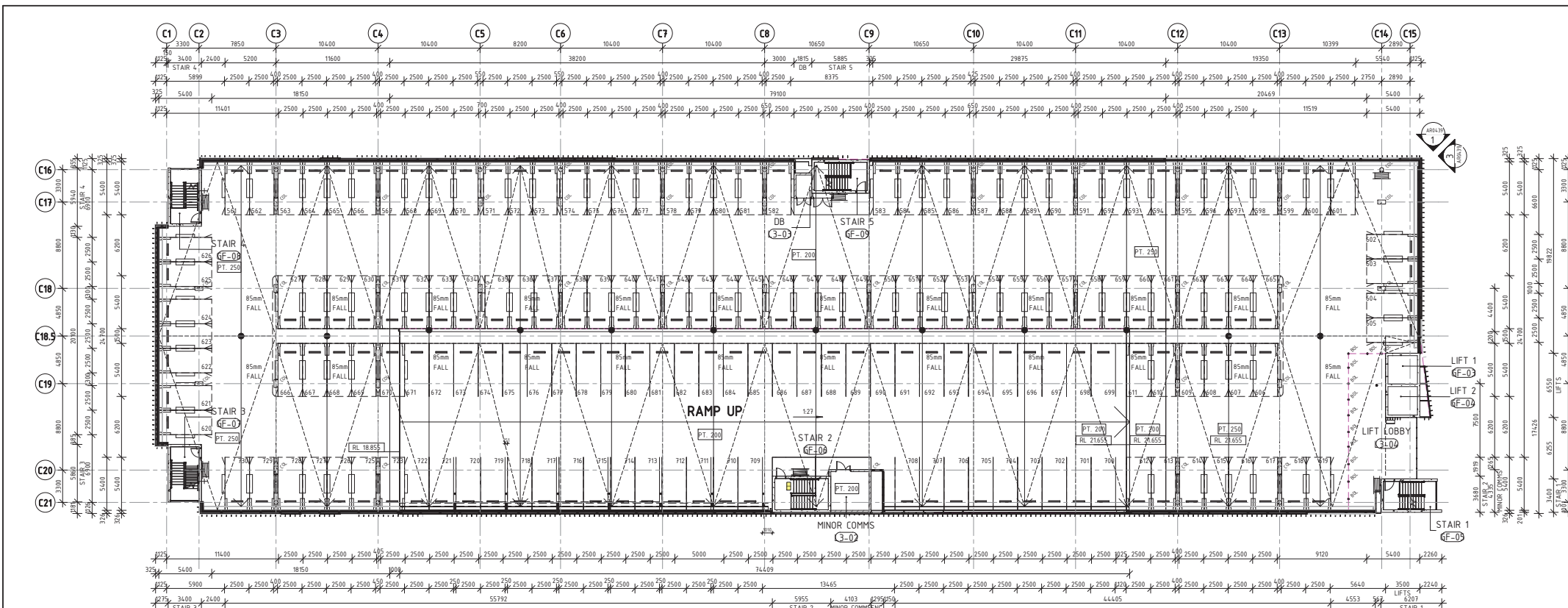
A1 A1 ORIGINAL NOT SIZE

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REFERENCES	SCALE	DESIGNED B.PRIEST	 Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
	As indicated	DRAWN J.SOLDATIC		
	DATUM	CHECKED A.WHEELER		
	HORIZONTAL: PCG20	APPROVED		
	VERTICAL: AHD71	DATE		
			MIDLAND MSCP	81
			GROUND FLOOR PLAN	
			PTA Drawing No: 12-A-99-AR0404	Rev: A



MSCP - L03
SCALE 1 : 200

METROPOLITAN REDEVELOPMENT
AUTHORITY
10 February 2023
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ROOM SCHEDULE - THIRD FLOOR			
ROOM NAME	ROOM NUMBER	ROOM AREA	ASSET TAG
MSCP - LEVEL 3	L3-01	4363 m ²	MDC-L3-CPH
MINOR COMMS	L3-02	15 m ²	MDC-L3-CER
DB	L3-03	4 m ²	MDC-L3-ECN
LIFT LOBBY	L3-04	78 m ²	MDC-L3-LBY

PARKING SCHEDULE - MSCP			
PARKING BAYS		COUNT	LEVEL
CAP. PARKING SPACE_CAR: 5400 x 2500mm - 90 deg		196	Ground
CAP. PARKING SPACE_CAR: 5400 x 2500mm - Accessible		20	Ground
CAP. PARKING SPACE_MC: 2500 x 1200mm - 90 deg		14	Ground
CAP. PARKING SPACE_PARALLEL: 2500 x 6100mm - 90 DEG		3	Ground
Ground: 233			
CAP. PARKING SPACE_CAR: 5400 x 2500mm - 90 deg		168	MSCP - L01
MSCP - L01: 168			
CAP. PARKING SPACE_CAR: 5400 x 2500mm - 90 deg		170	MSCP - L02
MSCP - L02: 170			
CAP. PARKING SPACE_CAR: 5400 x 2500mm - 90 deg		169	MSCP - L03
MSCP - L03: 169			
CAP. PARKING SPACE_CAR: 5400 x 2500mm - 90 deg		116	MSCP - RF
MSCP - RF: 116			
TOTAL AMOUNT OF PARKING BAYS: 856			

- GENERAL NOTES**
- REFER TO DRAWING AN-99C-XXXX FOR ABBREVIATIONS, LEGENDS, SYMBOLS AND NOTES.
 - THIS DRAWING IS TO BE PRINTED IN COLOUR.
 - DO NOT SCALE FROM THIS DRAWING.
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 - ROAD MARKINGS, TRAFFIC SIGNAGE, SPEED BUMPS AND BOLLARDS BY CIVIL.

DETAILED DESIGN

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

MIDLAND MSCP
THIRD FLOOR PLAN

84

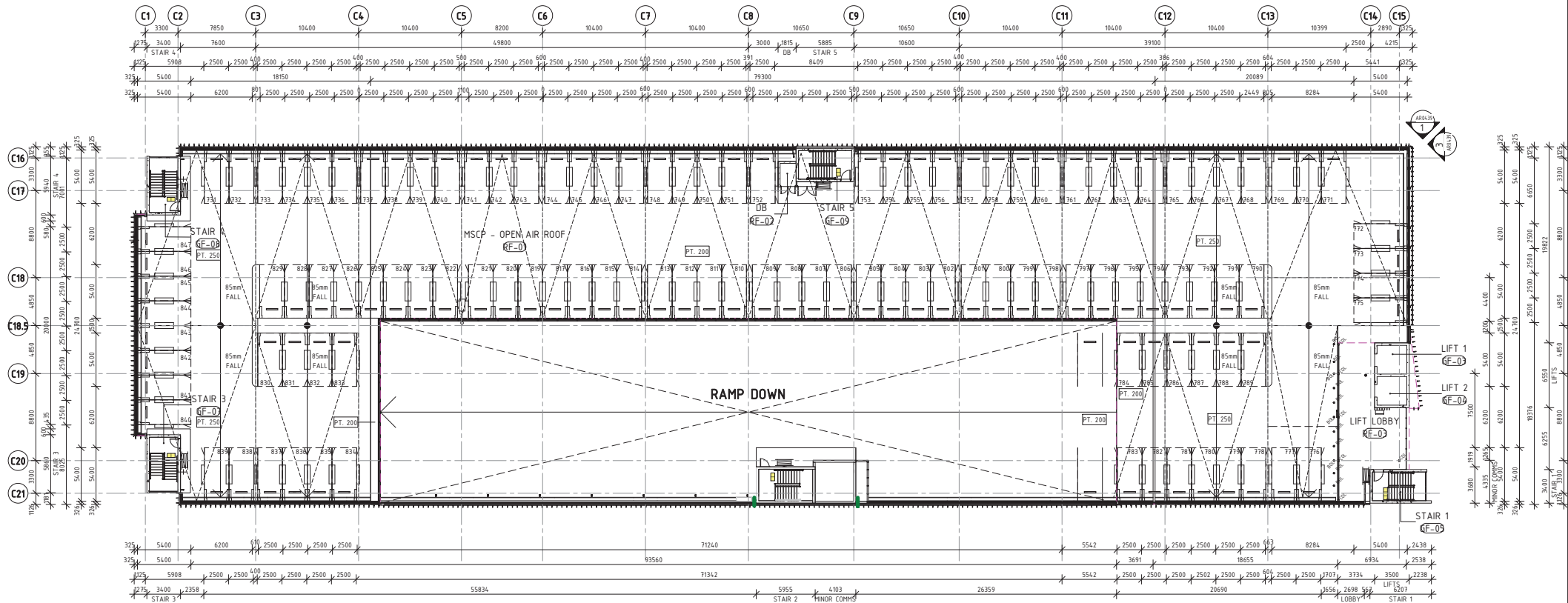
PTA Drawing No: 12-A-99-AR0407 Rev: AA

AA 13.12.22 DA APPLICATION
REV 1 METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential
A1

0 10 20 30 40 50 100mm
AT ORIGINAL PLOT SIZE

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CAD DRAWING PATHNAME C:\Users\jean.luc\Documents\12-B-99-AR3000_DA_jean-luc.rvt



MSCP - OPEN AIR ROOF
Scale: 1 : 200

ROOM SCHEDULE - OPEN AIR ROOF			
ROOM NAME	ROOM NUMBER	ROOM AREA	ASSET TAG
MSCP - OPEN AIR ROOF	RF-01	3036 m ²	MDC-LL-CPM
DB	RF-02	4 m ²	MDC-LL-ECH
LIFT LOBBY	RF-03	76 m ²	MDC-LL-LBY

PARKING SCHEDULE - MSCP		
PARKING BAYS	COUNT	LEVEL
CAP_PARKING SPACE_CAR: 5400 x 2500mm - 90 deg	196	Ground
CAP_PARKING SPACE_CAR: 5400 x 2500mm - 90 deg - Accessible	20	Ground
CAP_PARKING SPACE_MC: 2500 x 1200mm - 90 deg	14	Ground
CAP_PARKING SPACE_PARALLEL: 2500 x 6100mm - 90 DEG	3	Ground
Ground: 233		
CAP_PARKING SPACE_CAR: 5400 x 2500mm - 90 deg	168	MSCP - L01
MSCP - L01: 168		
CAP_PARKING SPACE_CAR: 5400 x 2500mm - 90 deg	170	MSCP - L02
MSCP - L02: 170		
CAP_PARKING SPACE_CAR: 5400 x 2500mm - 90 deg	169	MSCP - L03
MSCP - L03: 169		
CAP_PARKING SPACE_CAR: 5400 x 2500mm - 90 deg	116	MSCP - RF
MSCP - RF: 116		
TOTAL AMOUNT OF PARKING BAYS: 856		

GENERAL NOTES

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- ROAD MARKINGS, TRAFFIC SIGNAGE, SPEED BUMPS AND BOLLARDS BY CIVIL.

DETAILED DESIGN

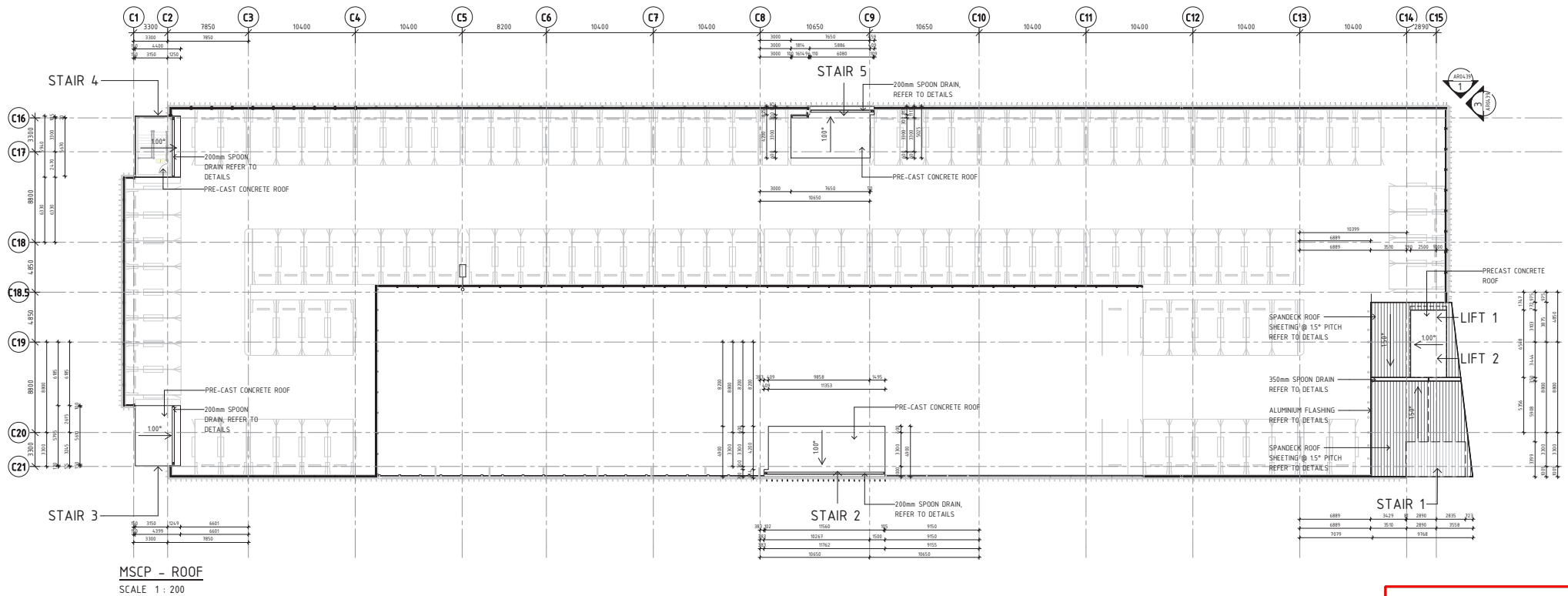
	MIDLAND STATION CALE STREET
MIDLAND MSCP FOURTH FLOOR PLAN	
PTA Drawing No: 12-A-99-AR0408	
Rev: AA	

AA	13.12.22	DA APPLICATION	BP	JLS	AW	NR
REV	1	METRONET East (Midland) LRC Meeting - 15 May 2023	CONFIDENTIAL			
ORIG SIZE	A1	0 10 20 30 40 50 100mm				
AT ORIGINAL PLOT SIZE						



REFERENCES

SCALE	As indicated
DATUM	HORIZONTAL: PCG20 VERTICAL: AHD71
DESIGNED	B.PRIEST
DRAWN	J.SOLDATIC
CHECKED	A.WHEELER
APPROVED	
DATE	



MSCP - ROOF
SCALE 1 : 200

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AUTHORITY
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9. ROAD MARKINGS, TRAFFIC SIGNAGE, SPEED BUMPS AND BOLLARDS BY CIVIL.

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	JLS	AW	NR	
REV	01	13.12.22	DA APPLICATION	BP	JLS	AW	NR
ORIG SIZE	A1	13.12.22	DA APPLICATION	BP	JLS	AW	NR
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10

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100mm

ME TRONET East (Midland) LRC Meeting - 15 May 2023 Conf

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DESIGNED B.PRIEST

DRAWN J.SOLDATIC

CHECKED A.WHEELER

APPROVED

DATE

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Public Transport Authority

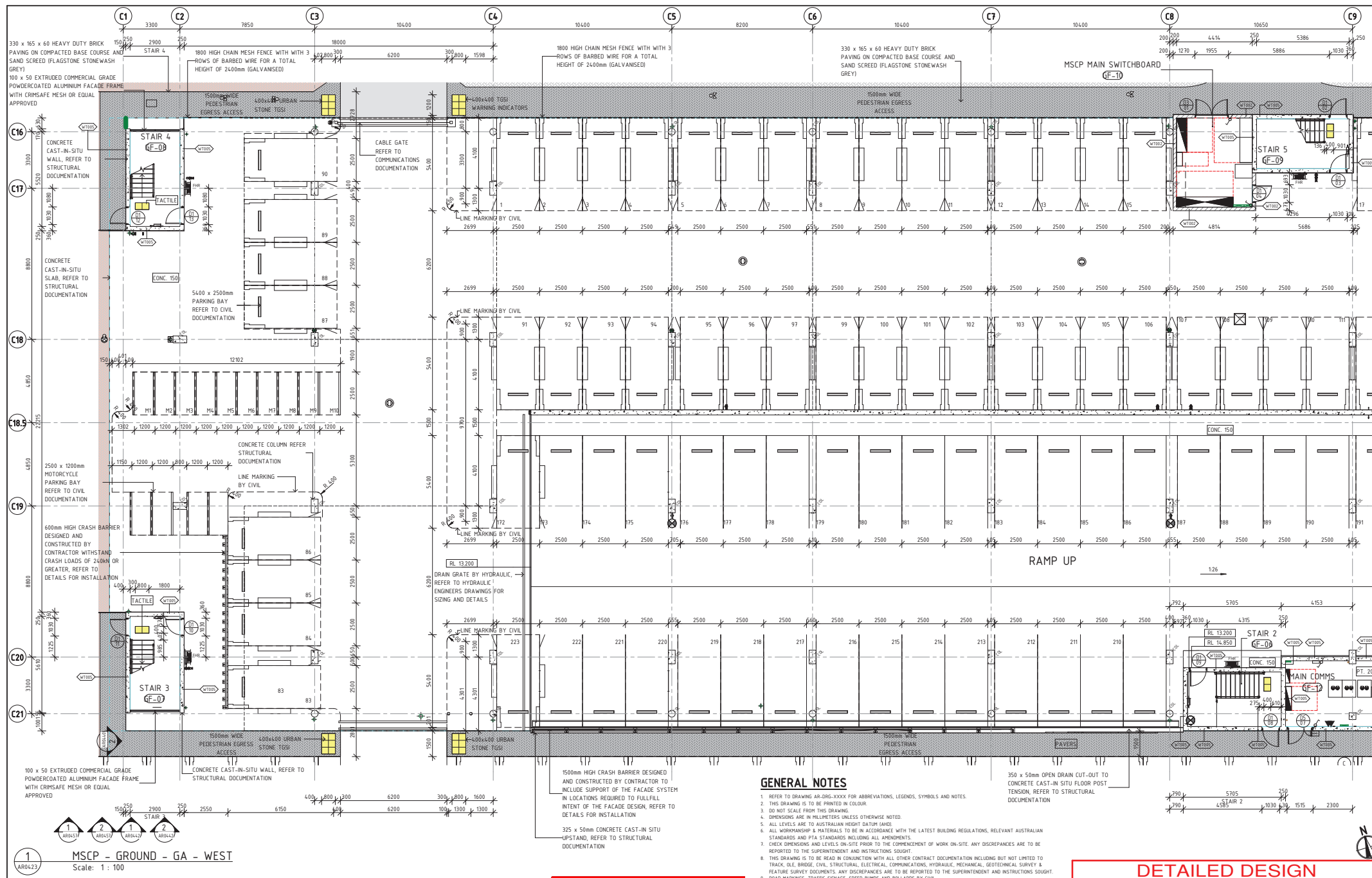
MIDLAND MSCP
ROOF PLAN

MIDLAND STATION CALE STREET

86

PTA Drawing No: 12-A-99-AR0409

Rev: AA



GENERAL NOTES

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- TENSION, REFER TO DOCUMENTATION
2. THIS DRAWING IS TO BE PRINTED IN COLOUR
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Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

MIDLAND MSCP
GROUND FLOOR PLAN - GENERAL ARRANGEMENT -
SHEET 1 OF 4 87

PTA Drawing No:	12-A-99-AR0410	Rev:	AA
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VERTICAL:	AHD71

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CHECKED	A.WHEELER
APPROVED	
DATE	

**MIDLAND
JUNCTION**
ALLIANCE

AA	13.12.22	DA APPLICATION	BP	JLS	AW	NR
REV	15.05.2023	METRONET East (Midland) LRC Meeting - 15 May 2023				
DATE	15.05.2023	CONFIDENTIAL				

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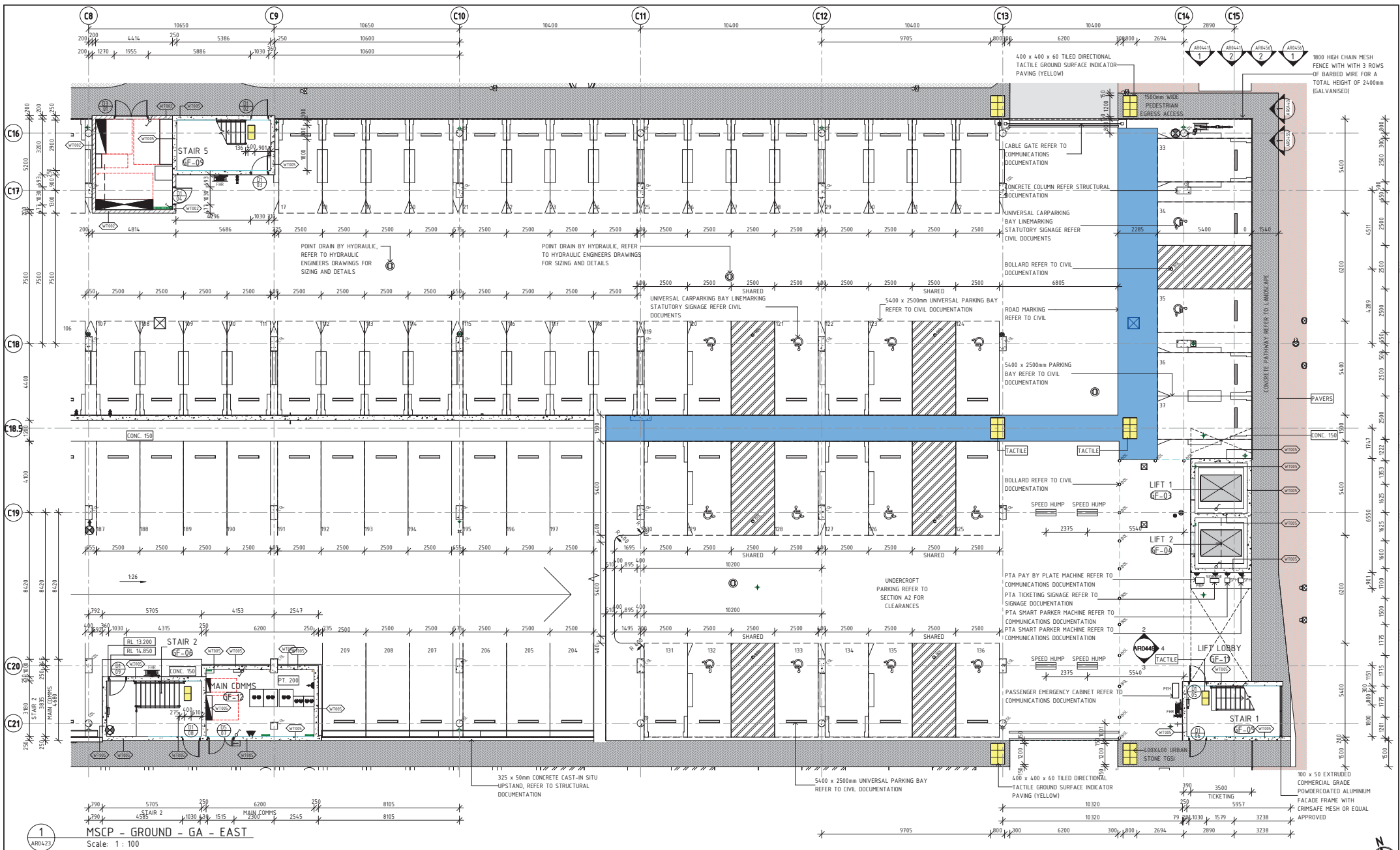
A1

0 10 20 30 40 50 100mm

AT ORIGINAL PLOT SIZE

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DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN J.SOLDATIC

CHECKED A.WHEELER

APPROVED

DATE



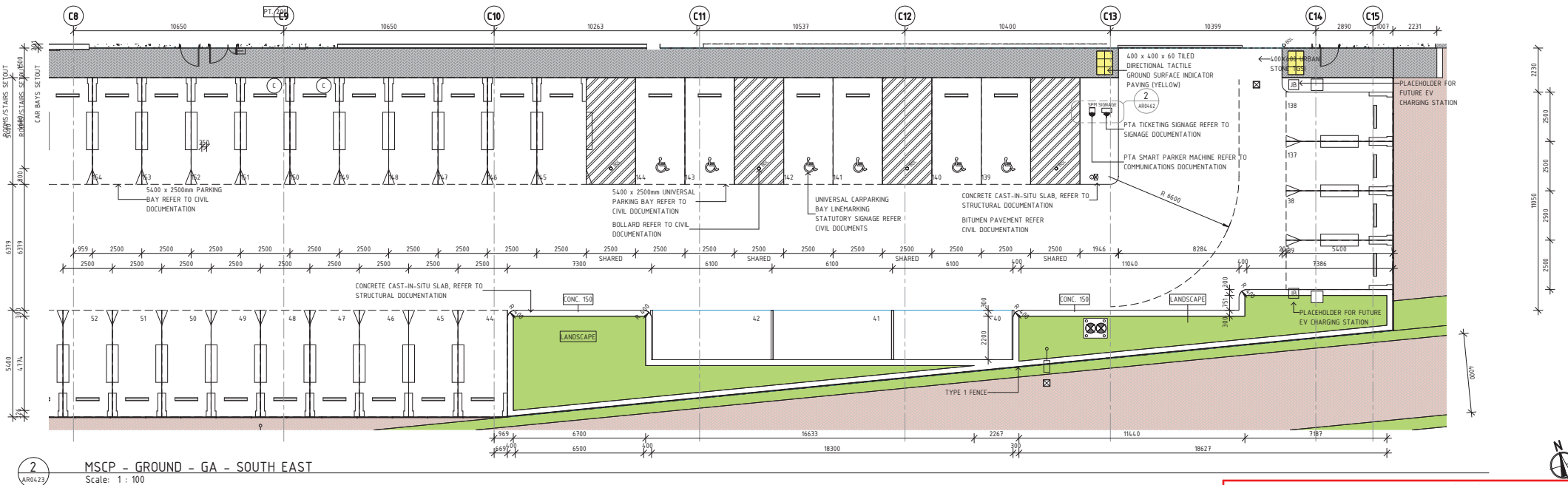
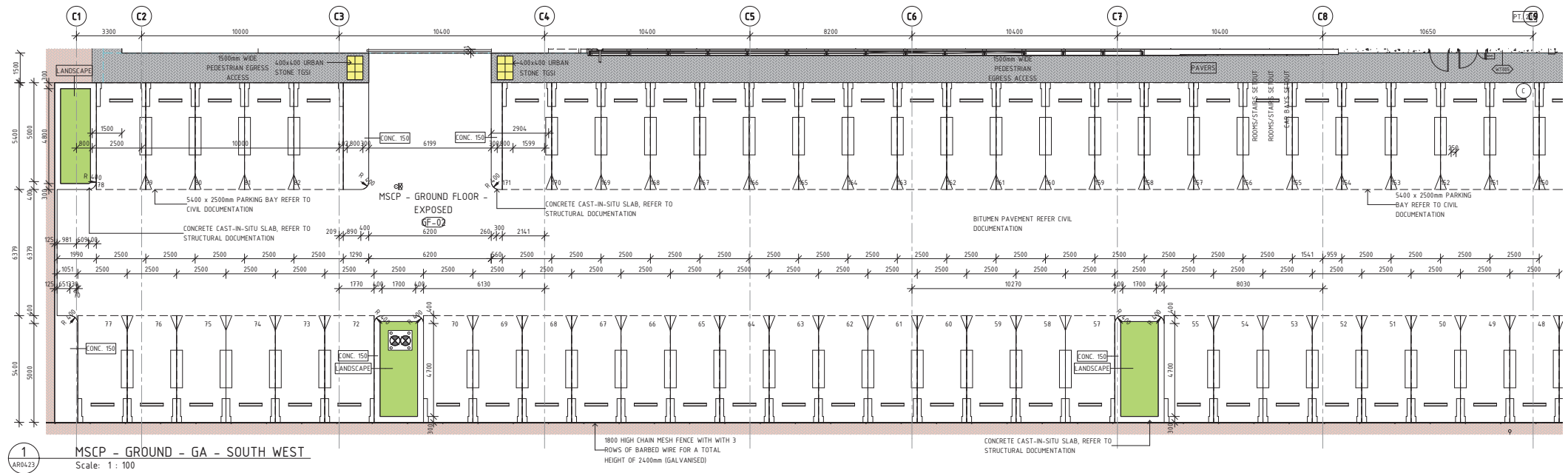
MIDLAND STATION CALE STREET

MIDLAND MSCP

**GROUND FLOOR PLAN - GENERAL ARRANGEMENT -
SHEET 2 OF 4**

88

PTA Drawing No: 12-A-99-AR0411 Rev: AA



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ORIG SIZE	A1			This document must not be copied without PTA's written permission, and the contents thereof must not be republished to a third party nor be used for any unauthorized purposes.			
	A1	AT ORIGINAL PLOT SIZE					



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1 : 100

DATUM
HORIZONTAL:
VERTICAL:

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DRAWN J.SOLDATIC
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APPROVED
DATE

DETAILED DESIGN

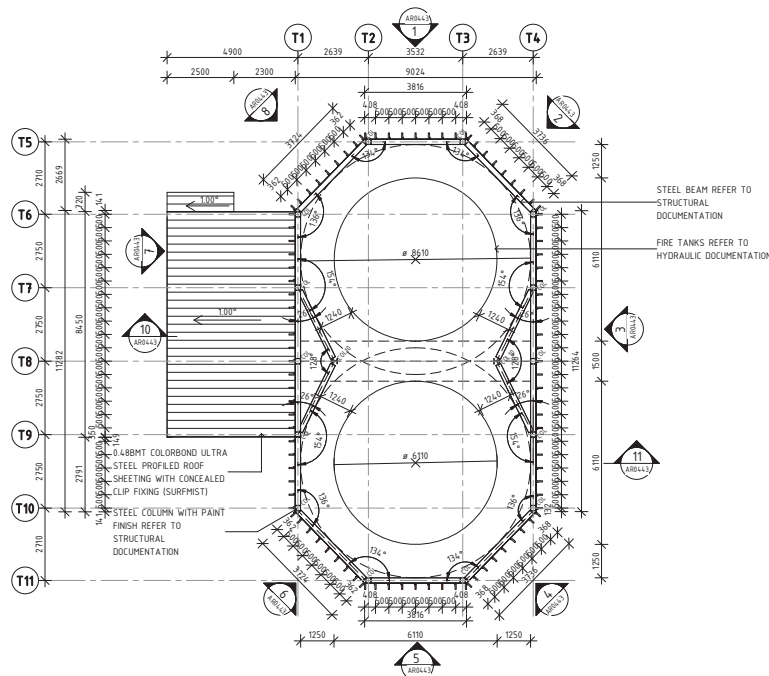
Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

MIDLAND MSCP
GROUND FLOOR PLAN - GENERAL ARRANGEMENT -
SHEET 3 OF 4
PTA Drawing No: 12-A-99-AR0412
Rev: AA

10 February 2023

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2 FIRE TANKS AND PUMPS - FLOOR PLAN
Scale: 1 : 100

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	8.5	AW	NR
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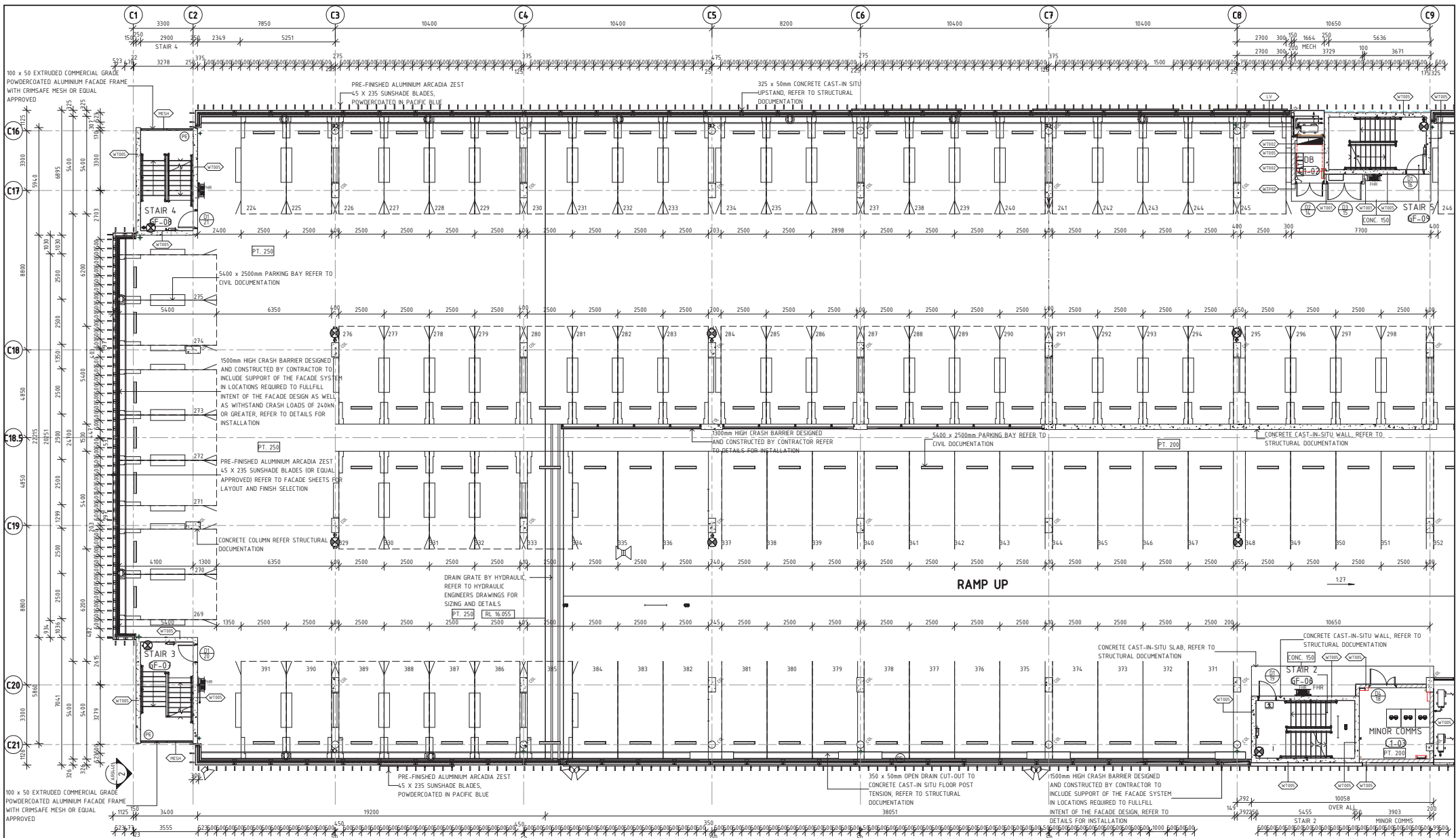
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REFERENCES	SCALE	DESIGNED	B.PRIEST	MIDLAND STATION CALE STREET
	1 : 100	DRAWN	J.SOLDATIC	MIDLAND MSCP
		CHECKED	A.WHEELER	GROUND FLOOR PLAN - GENERAL ARRANGEMENT -
		APPROVED		SHEET 4 OF 4
		DATE		PTA Drawing No: 12-A-99-AR0413

90

Rev: AA



1 MSCP - L01 - GA - WEST
Scale: 1: 100

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A1	AT ORIGINAL PLOT SIZE						

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1: 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN J.SOLDATIC

CHECKED A.WHEELER

APPROVED

DATE

DETAILED DESIGN



MIDLAND STATION CALE STREET

MIDLAND MSCP

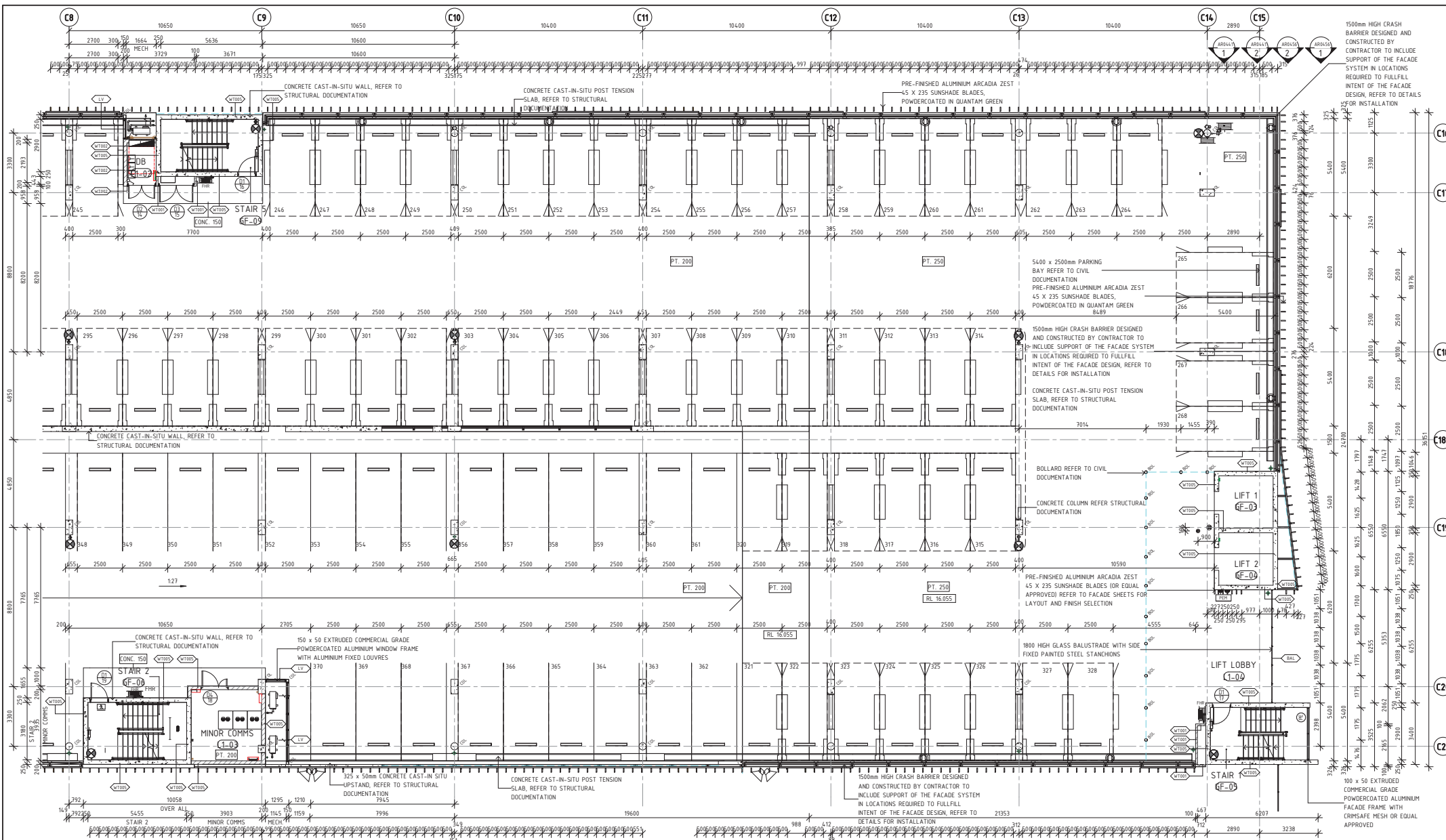
FIRST FLOOR PLAN - GENERAL ARRANGEMENT - SHEET

1 OF 2

91

PTA Drawing No: 12-A-99-AR0414

Rev: AA



1 MSCP - L01 - GA - EAST
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METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

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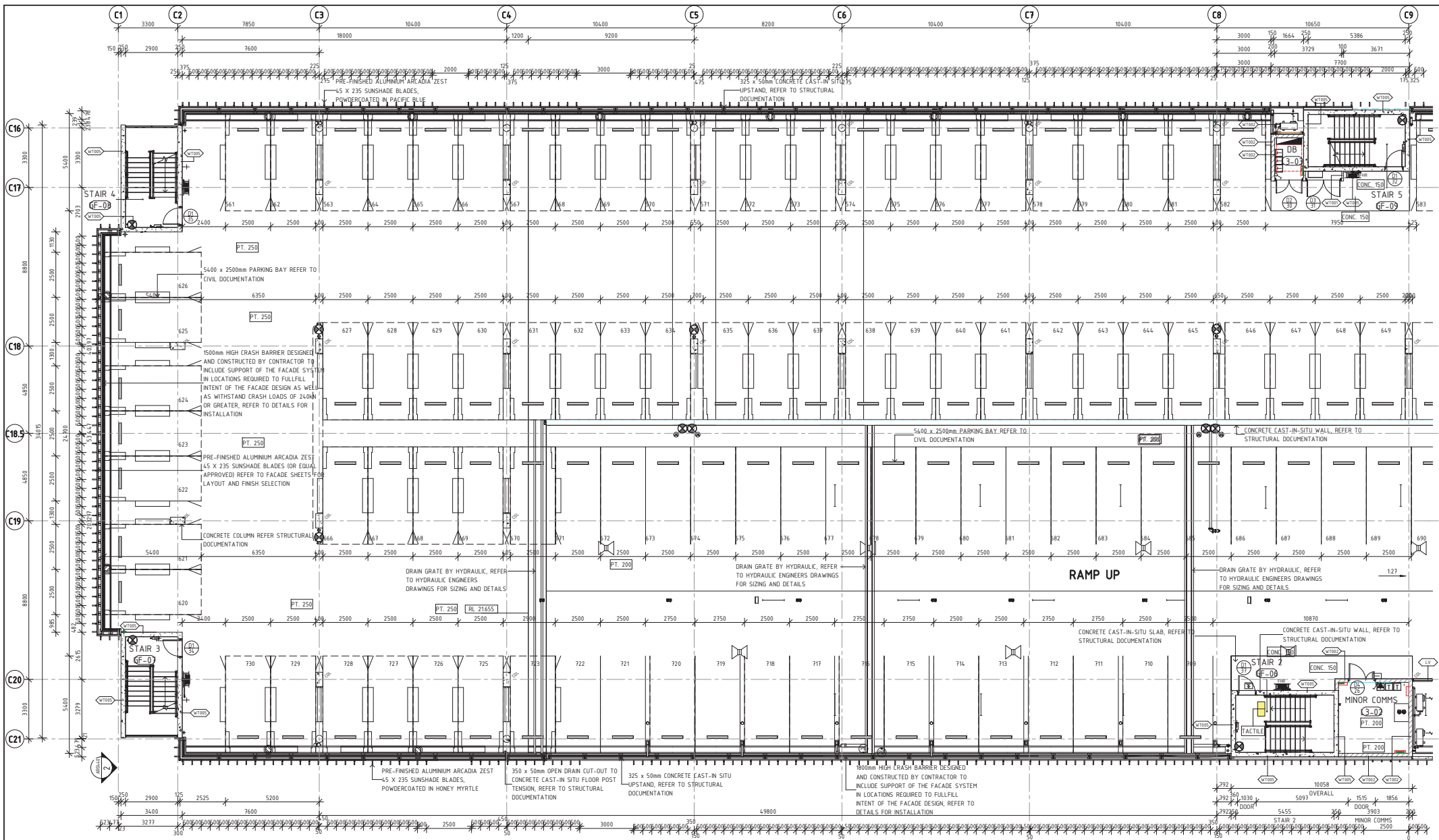


METROPOLITAN REDEVELOPMENT
AUTHORITY
10 February 2023
RECEIVED

REFERENCES		SCALE		DESIGNED B.PRIEST		MIDLAND STATION CALE STREET	
		1 : 100		DRAWN J.SOLDATIC		Government of Western Australia Public Transport Authority	
		DATUM		CHECKED A.WHEELER		MIDLAND MSCP	
		HORIZONTAL: PCG20		APPROVED		FIRST FLOOR PLAN - GENERAL ARRANGEMENT - SHEET	
		VERTICAL: AHD71		DATE		2 OF 2	
						PTA Drawing No: 12-A-99-AR0415	
						Rev: AA	



93



1 MSCP - L03 - GA - WEST
Scale: 1 : 100

AA	13.12.22	DA APPLICATION	BP	JLS	AW	NR	
REV	1	13.12.22	DA APPLICATION	BP	JLS	AW	NR
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10

20

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AT ORIGINAL PLOT SIZE

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MIDLAND
JUNCTION
ALLIANCE

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED

REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN J.SOLDATIC

CHECKED A.WHEELER

APPROVED

DATE

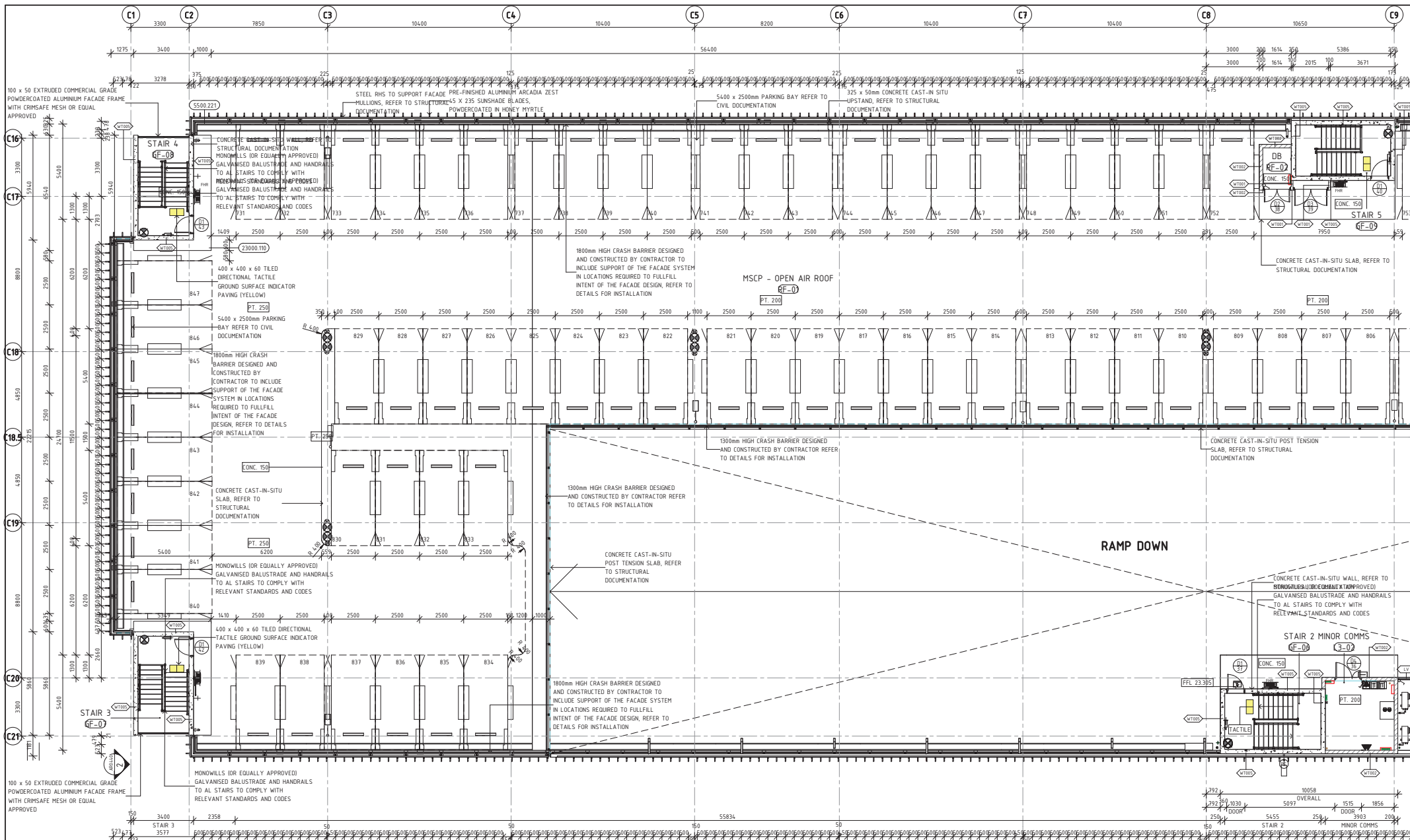
DETAILED DESIGN

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

MIDLAND MSCP
THIRD FLOOR PLAN - GENERAL ARRANGEMENT - SHEET
1 OF 2
95

PTA Drawing No: 12-A-99-AR0418 Rev: AA



1 MSCP - OPEN AIR ROOF - GA - WEST
AR0423 Scale: 1 : 100

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METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED

REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN J.SOLDATIC

CHECKED A.WHEELER

APPROVED

DATE

DETAILED DESIGN



MIDLAND STATION CALE STREET

MIDLAND MSCP

FOURTH FLOOR PLAN - GENERAL ARRANGEMENT -
SHEET 1 OF 2 97

PTA Drawing No: 12-A-99-AR0420 Rev: AA

CONFIDENTIAL - METRONEET East (Midland) LRC Meeting - 15 May 2023



Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET	
	MIDLAND MSCP	
	ROOF PLAN - GENERAL ARRANGEMENT - PART PLAN	
	99	
PTA Drawing No: 12-A-99-AR0422		Rev: AA

AA 19.02.22 ISA APPLICATION

REV MET TRONET East (Midland) LRC Meeting - 15 May 2023 Conf

ORIG SIZE 0 10 20 30 40 50 100mm

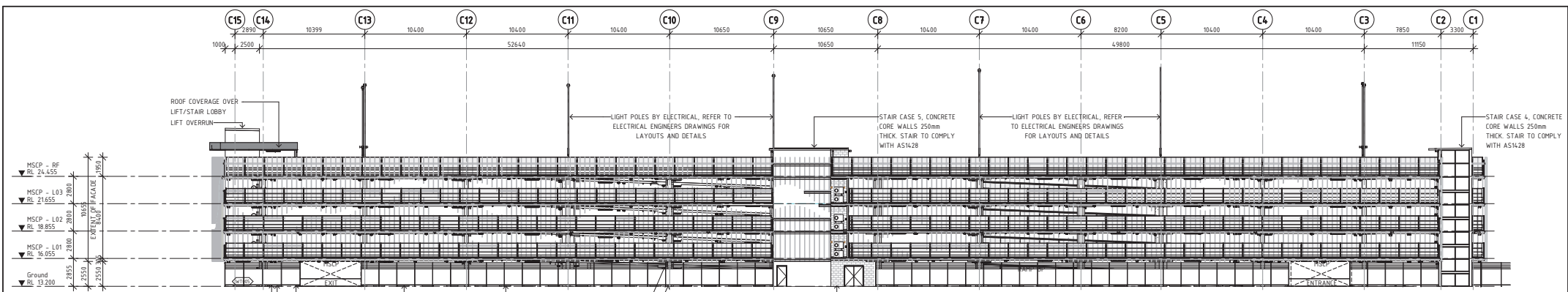
A1 AT ORIGINAL PLOT SIZE

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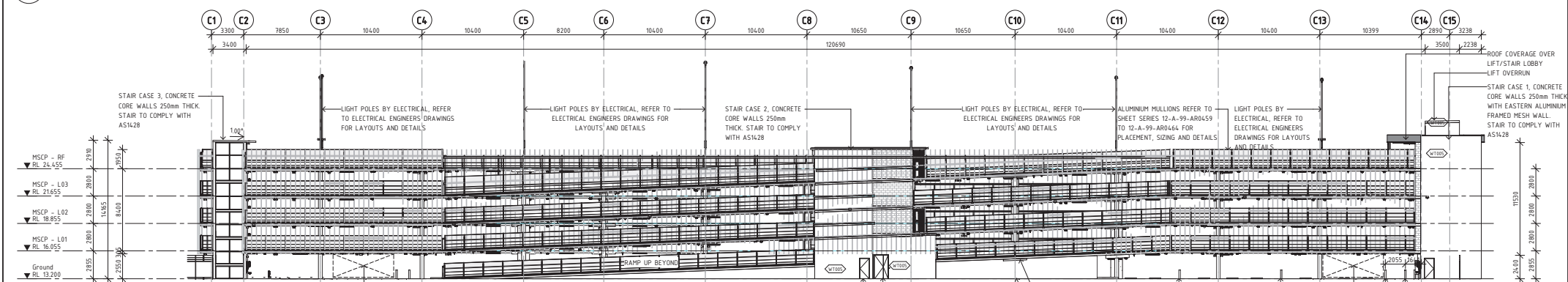


**MIDLAND
JUNCTION**
ALLIANCE

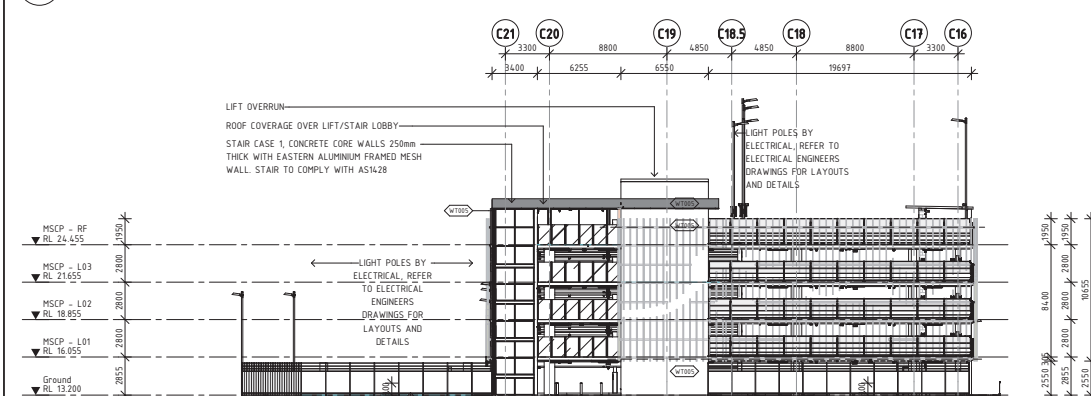
REFERENCES	SCALE	DESIGNED B.PRIEST	 Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET	
	1 : 100	DRAWN J.SOLDATIC		MIDLAND MSCP	
	DATUM	CHECKED A.WHEELER		ROOF PLAN - GENERAL ARRANGEMENT - PART PLAN	
	HORIZONTAL: PCG20	APPROVED		99	
	VERTICAL: AHD71	DATE		PTA Drawing No: 12-A-99-AR0422	Rev: AA



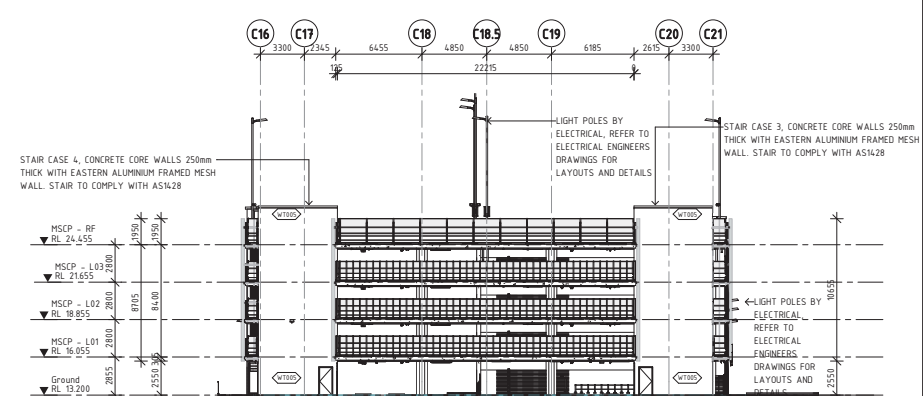
1 NORTH ELEVATION - 1-200
Scale: 1 : 200



2 SOUTH ELEVATION - 1-200
Scale: 1 : 200



3 EAST ELEVATION - 1-200
Scale: 1 : 200



4 WEST ELEVATION - 1-200
Scale: 1 : 200

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	JLS	AW	NR
REV	1	13.12.22	DA APPLICATION	BP	JLS	AW
ORIG SIZE	A1	100mm	AT ORIGINAL PLOT SIZE			

0 10 20 30 40 50 100mm

METTRONET East (Midland) LRC Meeting - 15 May 2023 Conf

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METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

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METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED

REFERENCES

SCALE

1 : 200

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED B.PRIEST

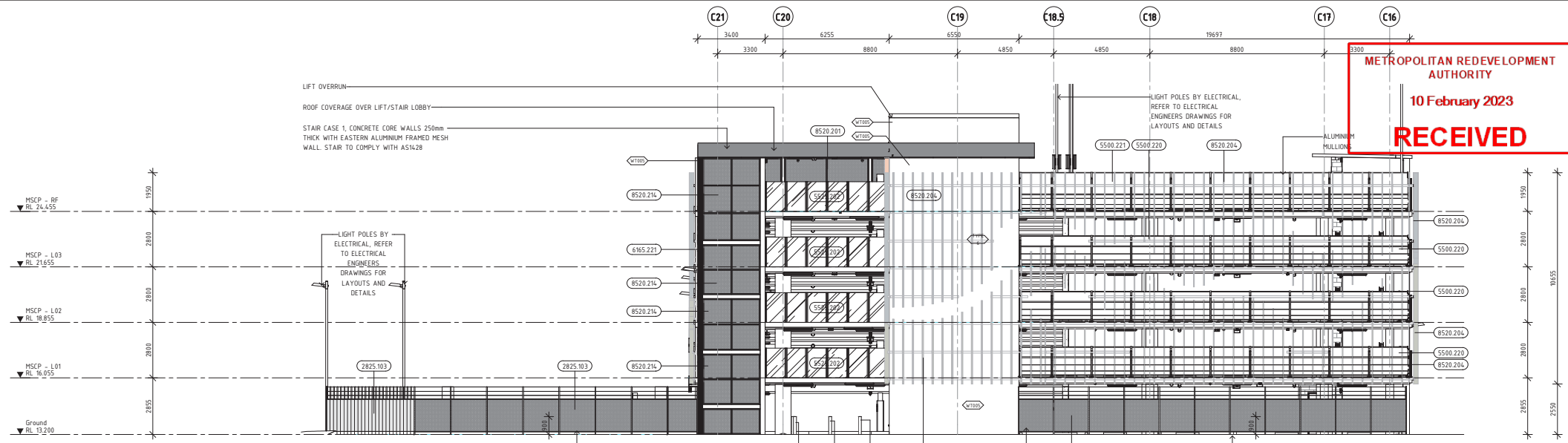
DRAWN J.SOLDATIC

CHECKED A.WHEELER

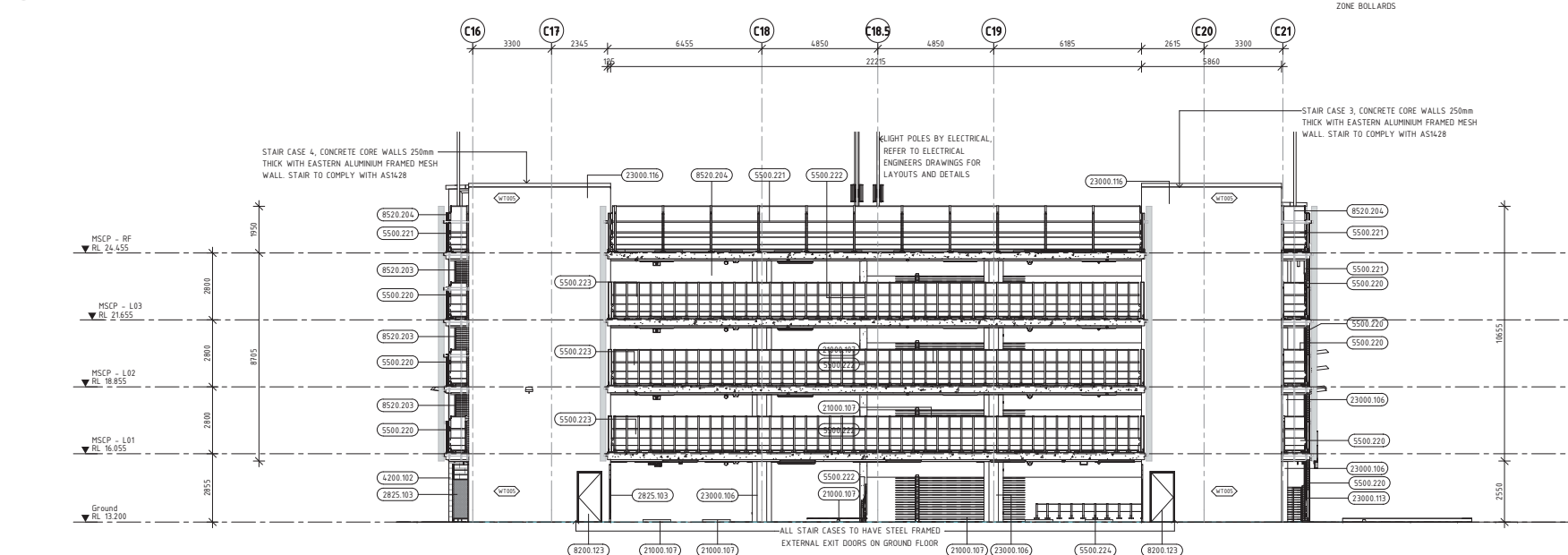
APPROVED

DATE

Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
MIDLAND MSCP ELEVATIONS - OVERALL	100
PTA Drawing No: 12-A-99-AR0439	Rev: AA



1 EAST ELEVATION - 1-100
Scale: 1 : 100



2 WEST ELEVATION - 1-100
Scale: 1 : 100

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
2825.103	1800 HIGH CHAIN MESH FENCE WITH 3 ROWS OF BARBED WIRE FOR A TOTAL HEIGHT OF 2400mm (GALVANISED)
4200.102	390 X 190 X 190 SMOOTH FACED CONCRETE BLOCKWORK (NATURAL GREY)
5500.220	1500mm HIGH CRASH BARRIER DESIGNED AND CONSTRUCTED BY CONTRACTOR TO INCLUDE SUPPORT OF THE FACADE SYSTEM IN LOCATIONS REQUIRED TO FULLFILL INTENT OF THE FACADE DESIGN, REFER TO DETAILS FOR INSTALLATION
5500.221	1800mm HIGH CRASH BARRIER DESIGNED AND CONSTRUCTED BY CONTRACTOR TO INCLUDE SUPPORT OF THE FACADE SYSTEM IN LOCATIONS REQUIRED TO FULLFILL INTENT OF THE FACADE DESIGN, REFER TO DETAILS FOR INSTALLATION
5500.222	1300mm HIGH CRASH BARRIER DESIGNED AND CONSTRUCTED BY CONTRACTOR REFER TO DETAILS FOR INSTALLATION
5500.223	1500mm HIGH CRASH BARRIER DESIGNED AND CONSTRUCTED BY CONTRACTOR TO INCLUDE SUPPORT OF THE FACADE SYSTEM IN LOCATIONS REQUIRED TO FULLFILL INTENT OF THE FACADE DESIGN AS WELL AS WITHSTAND CRASH LOADS OF 240kN OR GREATER, REFER TO DETAILS FOR INSTALLATION
5500.224	600mm HIGH CRASH BARRIER DESIGNED AND CONSTRUCTED BY CONTRACTOR WITHSTAND CRASH LOADS OF 240kN OR GREATER, REFER TO DETAILS FOR INSTALLATION
5525.202	1800 HIGH GLASS BALUSTRADE WITH SIDE FIXED PAINTED STEEL STANCHIONS
6165.221	100 x 50mm ALUMINIUM MULLION POWDERCOATED FINISH, COLOUR TBC
8200.123	920 x 2100mm SINGLE STEEL WINDOW FRAME
8520.201	100 x 50 EXTRUDED COMMERCIAL GRADE POWDERCOATED ALUMINIUM WINDOW FRAME WITH PERFORATED MESH
8520.203	150 x 50 EXTRUDED COMMERCIAL GRADE POWDERCOATED ALUMINIUM WINDOW FRAME WITH ALUMINIUM FIXED LOUVRES
8520.204	PRE-FINISHED ALUMINIUM ARCADIA ZEST 45 X 235 SUNSHADE BLADES (OR EQUAL APPROVED) REFER TO FACADE SHEETS FOR LAYOUT AND FINISH SELECTION
8520.214	100 x 50 EXTRUDED COMMERCIAL GRADE POWDERCOATED ALUMINIUM FACADE FRAME WITH CRMSAFE MESH OR EQUAL APPROVED
21000.104	BOLLARD REFER TO CIVIL DOCUMENTATION
21000.107	5000 x 2500mm PARKING BAY REFER TO CIVIL DOCUMENTATION
23000.106	CONCRETE COLUMN REFER TO STRUCTURAL DOCUMENTATION
23000.113	325 x 500mm CONCRETE CAST-IN-SITU UPSTAND, REFER TO STRUCTURAL DOCUMENTATION
23000.116	CONCRETE CAST-IN-SITU WALL, REFER TO STRUCTURAL DOCUMENTATION

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REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN J.SOLDATIC

CHECKED A.WHEELER

APPROVED

DATE

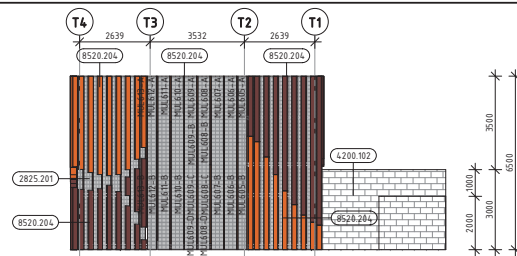
MIDLAND STATION CALE STREET

MIDLAND MSCP

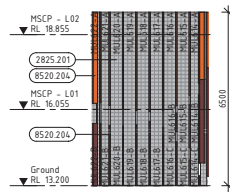
ELEVATIONS - SHEET 1 OF 4

PTA Drawing No: 12-A-99-AR0440

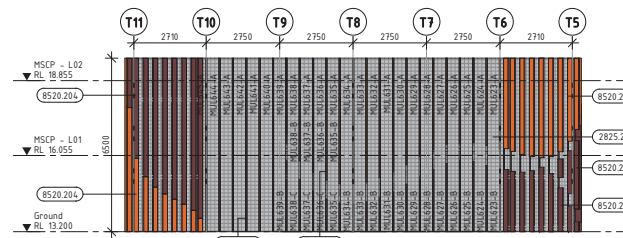
Rev: AA



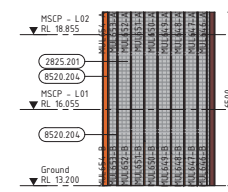
1 FIRE TANKS AND PUMPS - NORTH
Scale: 1 : 100



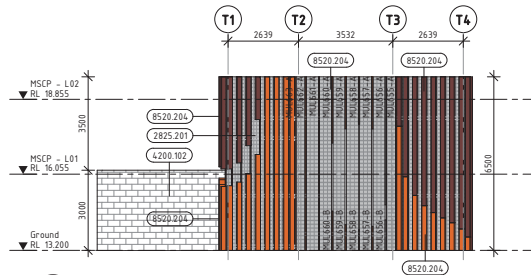
2 FIRE TANKS AND PUMPS - NORTH EAST
Scale: 1 : 100



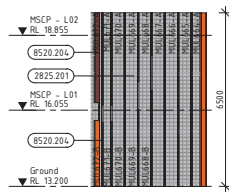
3 FIRE TANKS AND PUMPS - EAST
Scale: 1 : 100



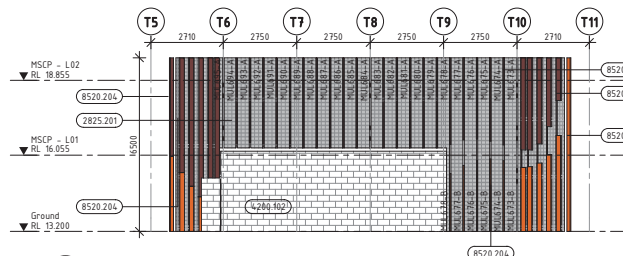
4 FIRE TANKS AND PUMPS - SOUTH EAST
Scale: 1 : 100



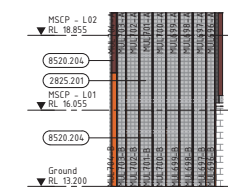
5 FIRE TANKS AND PUMPS - SOUTH
Scale: 1 : 100



6 FIRE TANKS AND PUMPS - SOUTH WEST
Scale: 1 : 100



7 FIRE TANKS AND PUMPS - WEST
Scale: 1 : 100



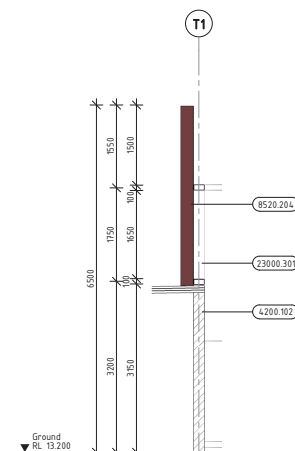
8 FIRE TANKS AND PUMPS - NORTH WEST
Scale: 1 : 100

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
2825.201	MESH PROTECTION SCREENING
4200.102	390 X 190 X 190 SMOOTH FACED CONCRETE BLOCKWORK (NATURAL GREY)
8520.204	PRE-FINISHED ALUMINIUM ARCADIA ZEST 45 X 235 SUNSHADE BLADES (OR EQUAL APPROVED) REFER TO FACADE SHEETS FOR LAYOUT AND FINISH SELECTION
23000.301	STEEL COLUMN WITH PAINT FINISH REFER TO STRUCTURAL DOCUMENTATION

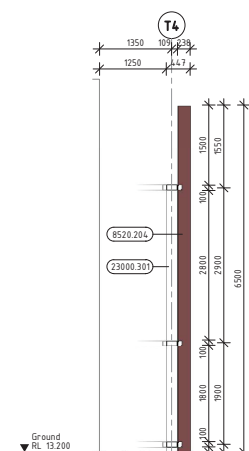
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AUTHORITY

10 February 2023

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10 FIRE TANKS & PUMPS - CROSS SECTION - WEST
Scale: 1 : 50



11 FIRE TANKS & PUMPS - CROSS SECTION - EAST
Scale: 1 : 50

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	JLS	AW	NR	
REV	1	13.12.22	DA APPLICATION	BP	JLS	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE				

0

10

20

30

40

50

100mm

AT ORIGINAL PLOT SIZE

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As indicated

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VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN J.SOLDATIC

CHECKED A.WHEELER

APPROVED

DATE

Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
MIDLAND MSCP ELEVATIONS - SHEET 4 OF 4	103
PTA Drawing No: 12-A-99-AR0443	Rev: AA

[illegible]

DETAILED DESIGN

DESIGNED B.PRIEST	 Government of Western Australia Public Transport Authority
DRAWN J.SOLDATIC	
CHECKED A.WHEELER	
APPROVED	
DATE	
MIDLAND MSCP FAÇADE SCHEDULE PTA Drawing No: 12-	

MIDLAND STATION CALE STREET

104

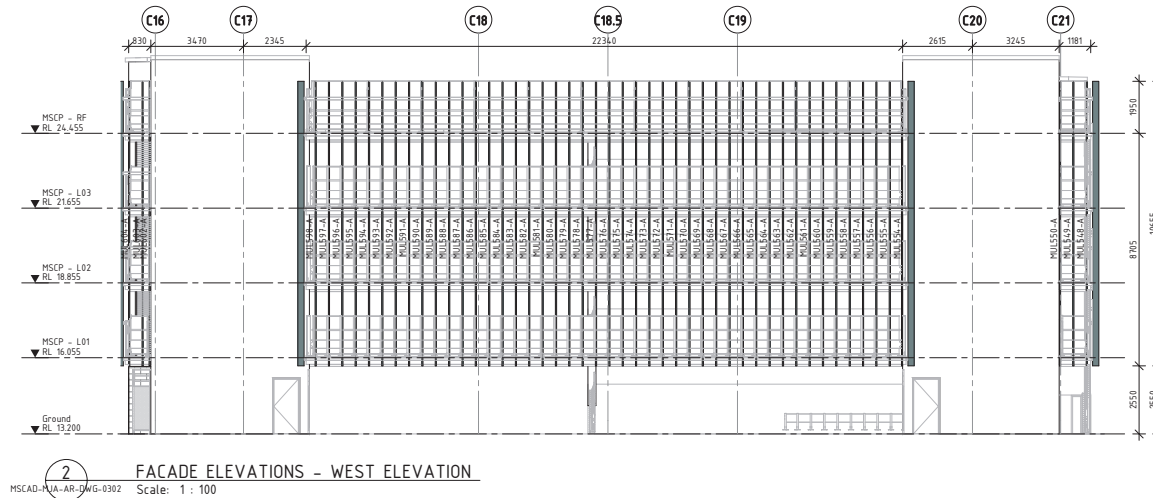
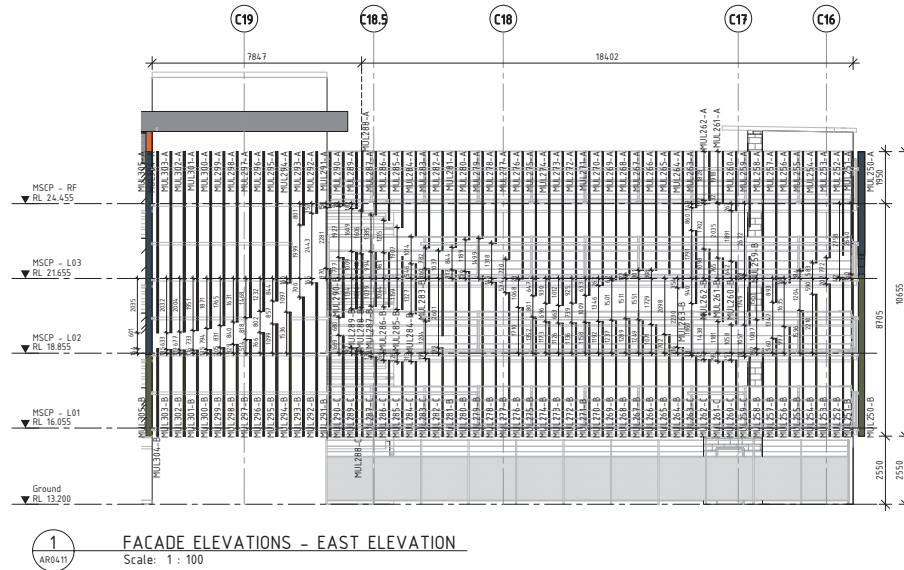
Rev.

REV.

10 February 2023

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MULLION TYPE FINISHES	
	TYPE 1 PACIFIC BLUE
	TYPE 2 HONEY MYRTLE
	TYPE 3 RIO
	TYPE 4 GONDAR
	TYPE 5 QUANTAM GREEN
	TYPE 6 BLEU SABLE
	TYPE 7 SENSATION



DETAILED DESIGN

AA	13.12.22	DA APPLICATION	BP	JLS	AW	NR
REV						
ORIG SIZE						
A1						

0 10 20 30 40 50 100mm

AT ORIGINAL PLOT SIZE



REFERENCES

SCALE

As indicated

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

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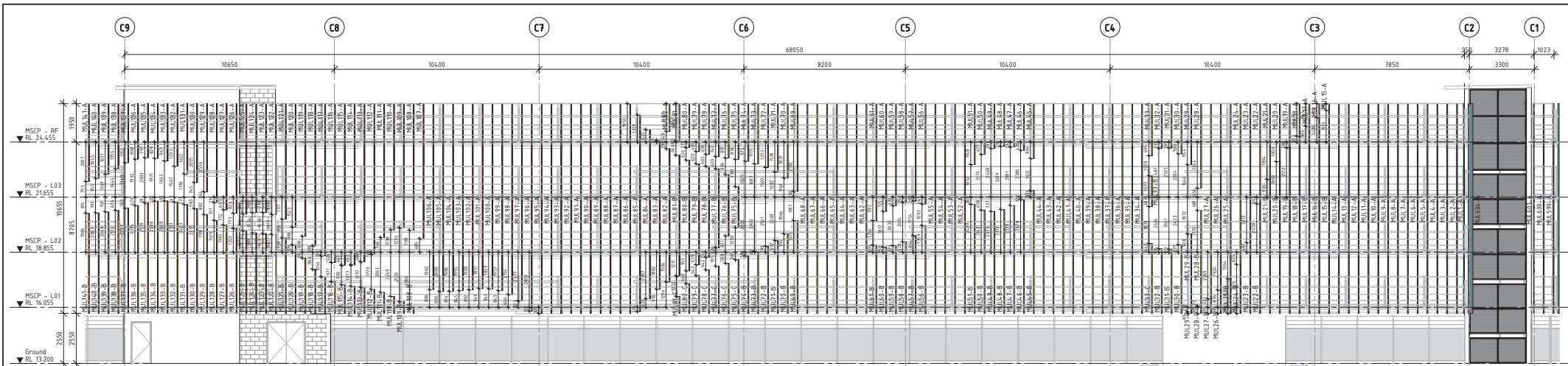
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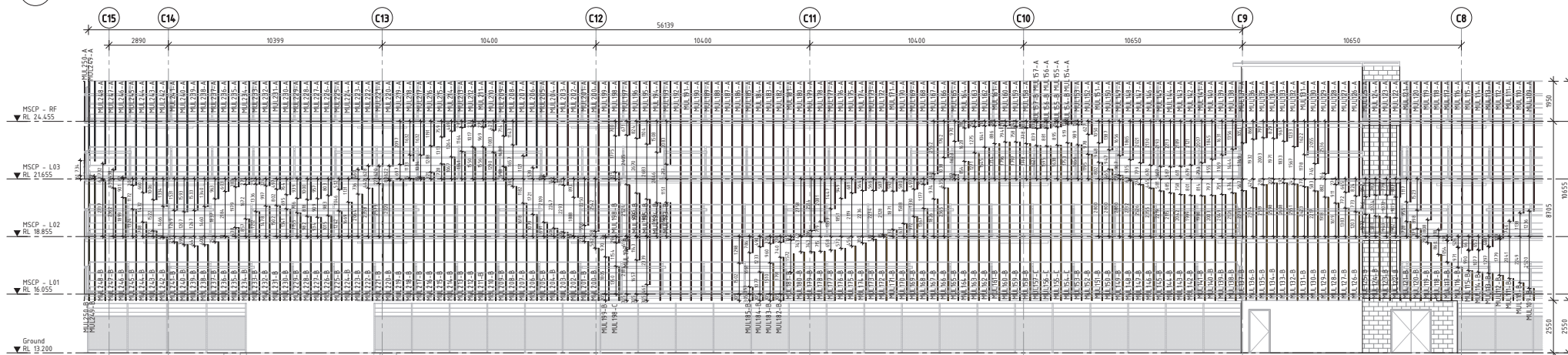
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DATE

	MIDLAND STATION CALE STREET
MIDLAND MSCP	
FACADE ELEVATIONS - SHEET 1 OF 3	105
PTA Drawing No: 12-A-99-AR0455	Rev: AA



1
AR0410
FACADE ELEVATIONS - NORTH ELEVATION - WEST
Scale: 1 : 100



2
AR0410
FACADE ELEVATIONS - NORTH ELEVATION - EAST
Scale: 1 : 100

AA	13.12.22	DA APPLICATION	BP	JLS	AW	NR	
REV	01	13.12.22	DA APPLICATION	BP	JLS	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm		AT ORIGINAL PLOT SIZE			

MEITRONET East (Midland) LRC Meeting - 15 May 2023 Conf

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Metronet East (Midland) LRC Meeting - 15 May 2023 Confidential

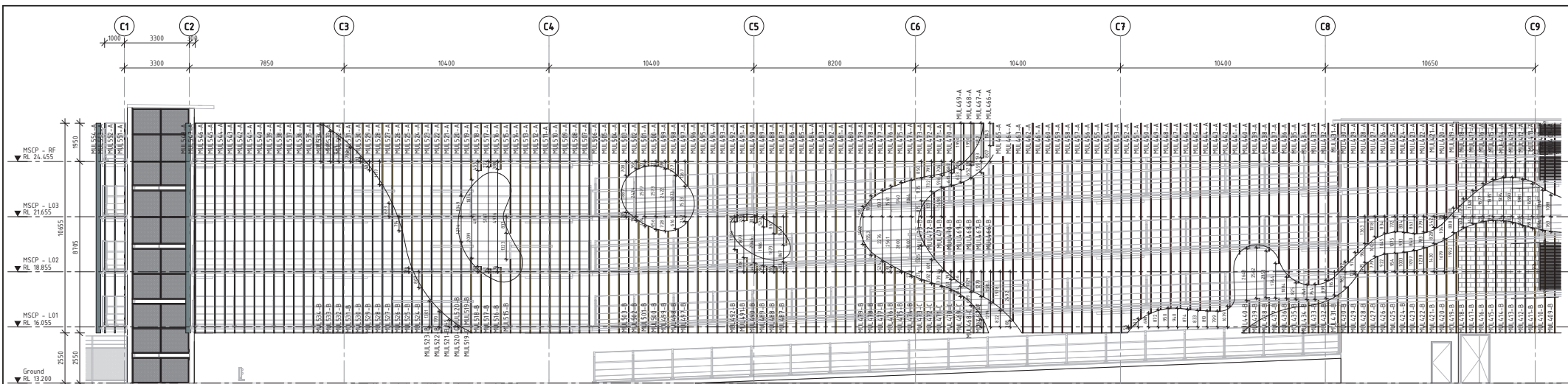
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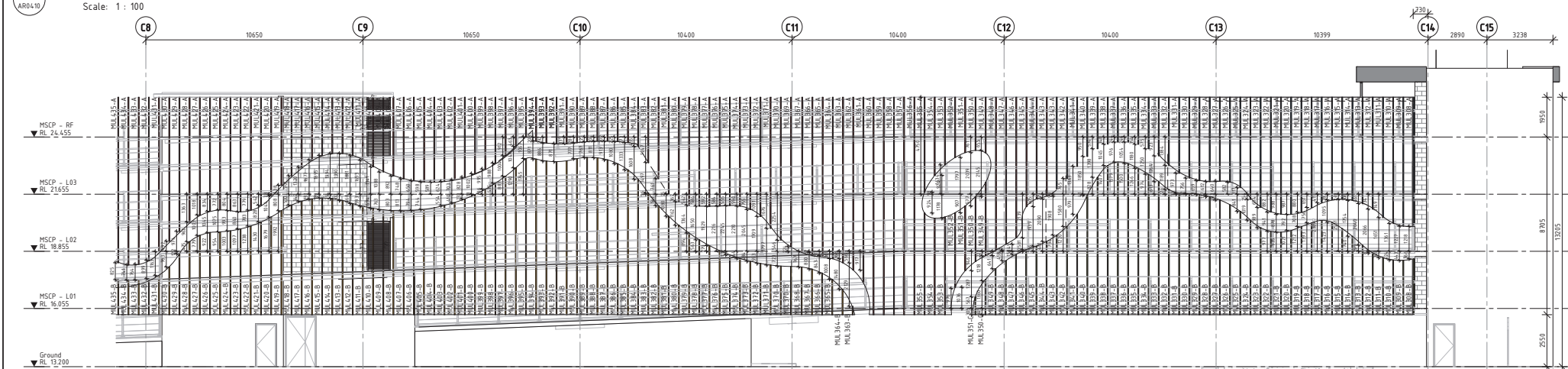
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AUTHORITY
10 February 2023
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REFERENCES	SCALE 1 : 100	DESIGNED B.PRIEST
DATUM HORIZONTAL: PCG20 VERTICAL: AHD71	DRAWN J.SOLDATIC	CHECKED A.WHEELER
	APPROVED	DATE

DETAILED DESIGN	
Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
MIDLAND MSCP FACADE ELEVATIONS - SHEET 2 OF 3	
PTA Drawing No: 12-A-99-AR0456	Rev: AA



1
AR0410
FACADE ELEVATIONS - SOUTH ELEVATION - WEST
Scale: 1 : 100



2
AR0410
FACADE ELEVATIONS - SOUTH ELEVATION - EAST
Scale: 1 : 100

AA	13.12.22	DA APPLICATION	BP	JLS	AW	NR
REV	13.12.22	DA APPLICATION	BP	JLS	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			

METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

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AUTHORITY

10 February 2023

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REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN J.SOLDATIC

CHECKED A.WHEELER

APPROVED

DATE

DETAILED DESIGN

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

MIDLAND MSCP
FACADE ELEVATIONS - SHEET 3 OF 3

107

PTA Drawing No: 12-A-99-AR0457

Rev: AA



MIDLAND STATION (CALE STREET)



SHEET LIST	
SHEET NUMBER	SHEET NAME
12-A-99-AR0500	COVER SHEET
12-A-99-AR0501	LOCALITY PLAN GENERAL ARRANGEMENT PLAN
12-A-99-AR0502	SITE PLAN
12-A-99-AR0503	CARPARK PLAN
12-A-99-AR0504	GROUND FLOOR PLAN - OVERALL
12-A-99-AR0505	GROUND FLOOR PLAN - SET OUT PLAN
12-A-99-AR0506	GROUND FLOOR PLAN EAST
12-A-99-AR0507	GROUND FLOOR PLAN WEST
12-A-99-AR0508	FIRST FLOOR PLAN - OVERALL
12-A-99-AR0509	FIRST FLOOR PLAN - SET OUT PLAN
12-A-99-AR0510	FIRST FLOOR PLAN EAST
12-A-99-AR0511	FIRST FLOOR PLAN WEST
12-A-99-AR0518	ROOF PLAN
12-A-99-AR0519	ELEVATIONS EAST AND WEST
12-A-99-AR0520	ELEVATIONS NORTH AND SOUTH
12-A-99-AR0523	CROSS SECTIONS

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED

DETAILED DESIGN

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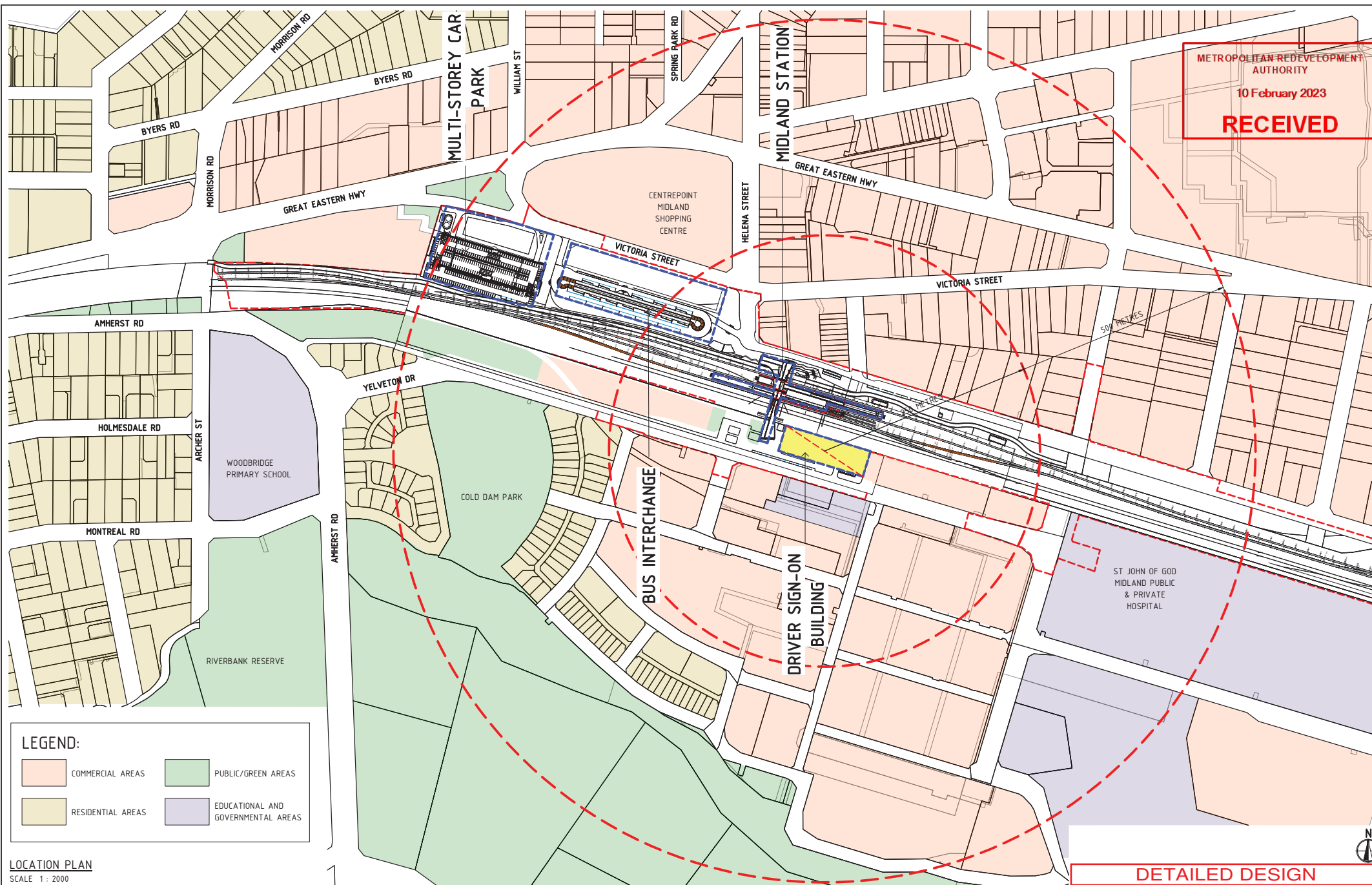
SCALE

DESIGNED	B.PRIEST
DRAWN	K.DOAN
CHECKED	A.WHEELER
APPROVED	
DATE	

DATUM	
HORIZONTAL:	PCG20
VERTICAL:	AHD71

Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
DRIVER SIGN-ON BUILDING COVER SHEET	108
PTA Drawing No: 12-A-99-AR0500	Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY
10 February 2023
RECEIVED



LEGEND:

 COMMERCIAL AREAS	 PUBLIC/GREEN AREAS
 RESIDENTIAL AREAS	 EDUCATIONAL AND GOVERNMENTAL AREAS

LOCATION PLAN
SCALE 1 : 2000

AA	13/12/22	DA APPLICATION	JS	BP	AW	NR
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METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

AA 13/12/22 DA APPLICATION JS BP AW NR
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REFERENCES

SCALE

1 : 2000

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

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DRAWN K.DOAN

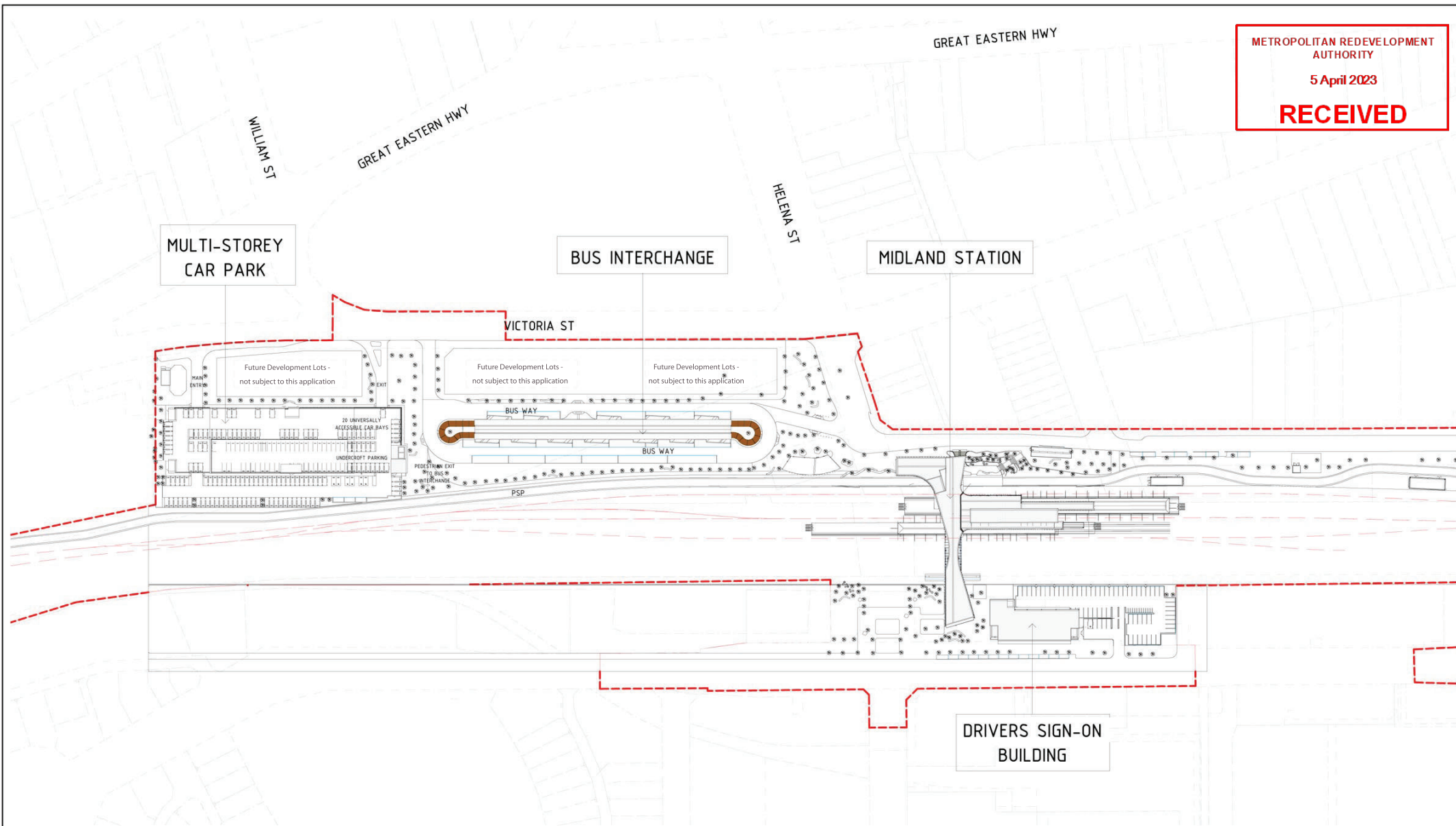
CHECKED A.WHEELER

APPROVED

DATE

	MIDLAND STATION CALE STREET
DRIVER SIGN-ON BUILDING	
LOCALITY PLAN GENERAL ARRANGEMENT PLAN	
109	
PTA Drawing No: 12-A-99-AR0501	Rev: AA

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AUTHORITY
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OVERALL SITE PLAN
SCALE 1 : 1000

- LEGEND**
- PTA LIMIT OF WORKS BOUNDARY
 - CADASTRAL BOUNDARY
 - DRIVER SIGN-ON BUILDING FIRST FLOOR OVER
 - DRIVER SIGN-ON BUILDING GROUND FLOOR



DETAILED DESIGN

AA	13.12.22	DA APPLICATION	JS	BP	AW	NP
REV						
ORIG SIZE	A1					
AT ORIGINAL PLOT SIZE						

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

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REFERENCES

SCALE

As indicated

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

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DRAWN K.DOAN

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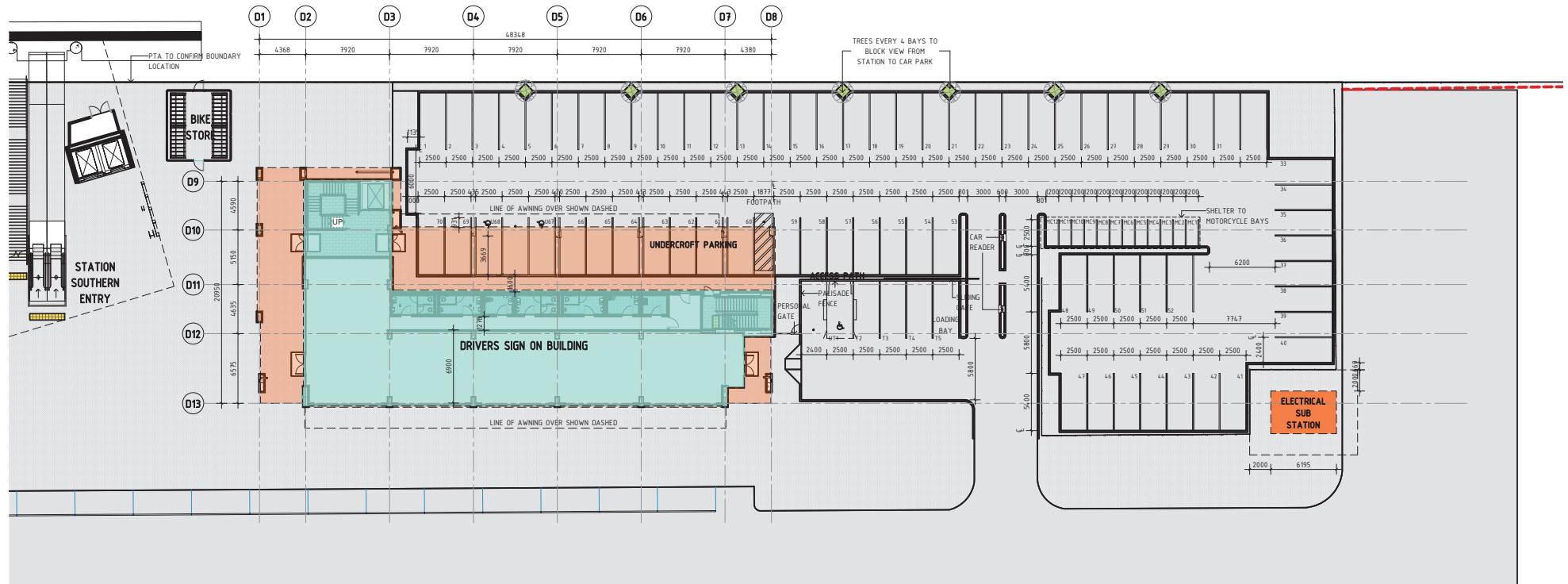
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DATE

	MIDLAND STATION CALE STREET
DRIVER SIGN-ON BUILDING SITE PLAN	110
PTA Drawing No: 12-A-99-AR0502	Rev: AA

10 February 2023

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DRIVERS SIGN-ON BUILDING - CARPARK PLAN
SCALE 1 : 200

PARKING SCHEDULE		
PARKING BAY TYPE	COUNT	SIZING
PTA Motorcycle Bay	12	5400 x 2500mm - 90 deg - Tenancy Accessible
PTA Parking Bay	58	2500 x 1200mm - 90 deg - Motorcycle
PTA Parking Bay - Accessible	12	5400 x 2500mm - 90 deg - PTA
Tenancy Parking Bay	4	5400 x 2500mm - 90 deg - Tenancy
Grand total: 87		

LEGEND

- PTA LIMIT OF WORKS BOUNDARY
- CADASTRAL BOUNDARY
- DRIVER SIGN-ON BUILDING FIRST FLOOR OVER
- DRIVER SIGN-ON BUILDING GROUND FLOOR

AA		13.12.22	DA APPLICATION		JS	BP	AW	NR	
REV		1	13.12.22		DA APPLICATION	JS	BP	AW	NR
ORIG SIZE		A1		0 10 20 30 40 50 100mm		This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			
A1				AT ORIGINAL PLOT SIZE					



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DATUM

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DATE

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Government of Western Australia
Public Transport Authority

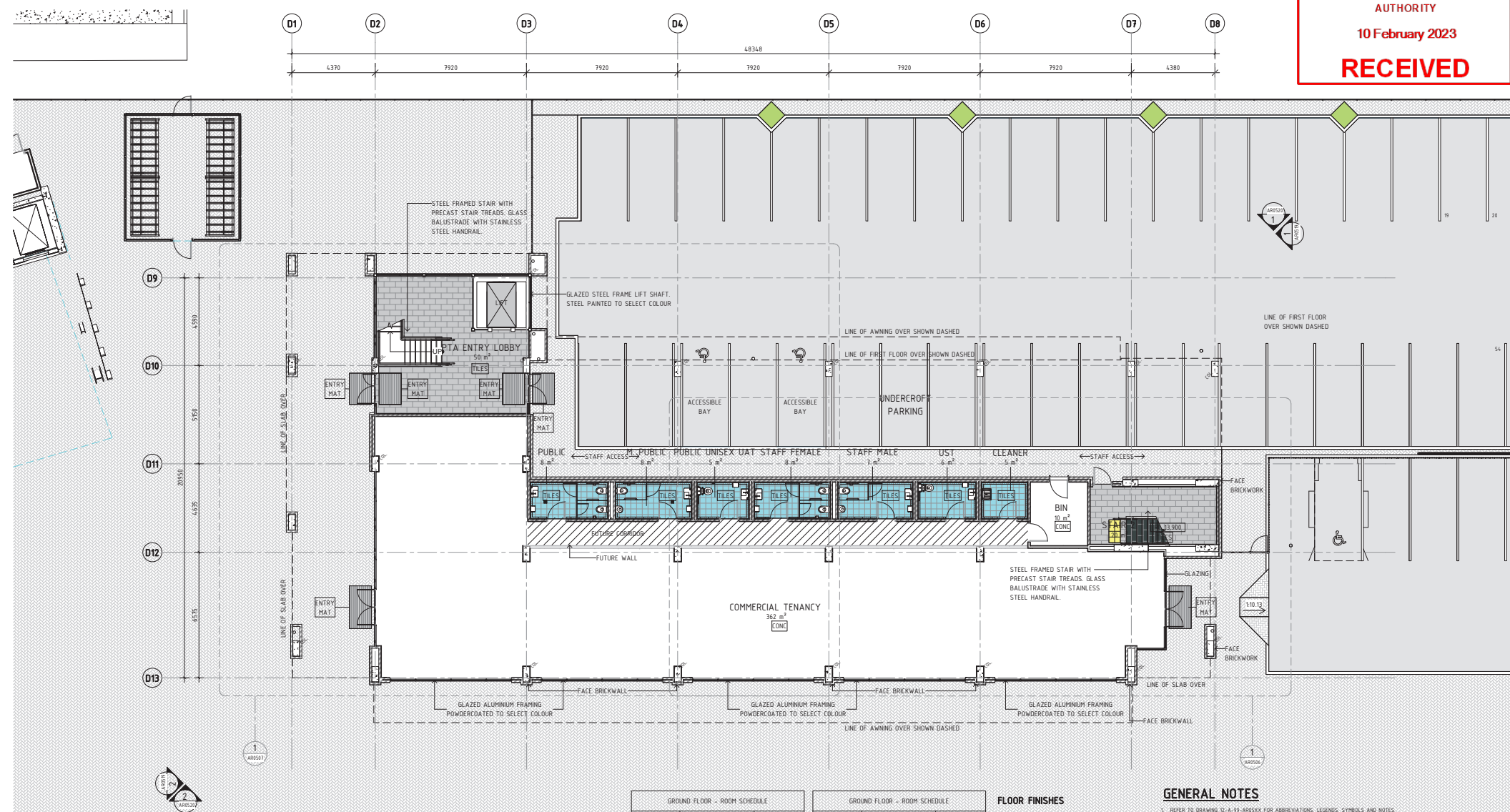
MIDLAND STATION CALE STREET

DRIVER SIGN-ON BUILDING
CARPARK PLAN

111

PTA Drawing No: 12-A-99-AR0503

Rev: AA



DRIVERS SIGN-ON BUILDING - GROUND FLOOR PLAN - OVERALL
SCALE 1 : 100

GROUND FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
GF-01	PTA ENTRY LOBBY	49.62 m ²
GF-02	F. PUBLIC	7.66 m ²
GF-03	M. PUBLIC	7.51 m ²
GF-04	PUBLIC UNISEX UAT	5.11 m ²
GF-05	STAFF FEMALE	7.52 m ²
GF-06	STAFF MALE	7.37 m ²

GROUND FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
GF-07	UST	5.71 m ²
GF-08	CLEANER	4.54 m ²
GF-10	STAIR 2	19.82 m ²
GF-15	COMMERCIAL TENANCY	362.21 m ²
GF-16	BIN	9.89 m ²

FLOOR FINISHES	
	FLOATING CONCRETE
	CARPET
	LOBBY TILES
	WET AREA TILES
	VINYL TYPE 1 - ANTI-STATIC
	VINYL TYPE 2 - ACOUSTIC
	VINYL TYPE 3

- GENERAL NOTES**
- REFER TO DRAWING 12-A-99-AR0504 FOR ABBREVIATIONS, LEGENDS, SYMBOLS AND NOTES.
 - THIS DRAWING IS TO BE PRINTED IN COLOUR.
 - DO NOT SCALE FROM THIS DRAWING.
 - DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
 - ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
 - ALL WORKMANSHIP & MATERIALS TO BE IN ACCORDANCE WITH THE LATEST BUILDING REGULATIONS, RELEVANT AUSTRALIAN STANDARDS AND PTA STANDARDS INCLUDING ALL AMENDMENTS.
 - CHECK DIMENSIONS AND LEVELS ON-SITE PRIOR TO THE COMMENCEMENT OF WORK ON-SITE. ANY DISCREPANCIES ARE TO BE REPORTED TO THE SUPERINTENDENT AND INSTRUCTIONS SOUGHT.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTATION INCLUDING BUT NOT LIMITED TO TRACK, OLE, BRIDGE, CIVIL, STRUCTURAL, ELECTRICAL, COMMUNICATIONS, HYDRAULIC, MECHANICAL, GEOTECHNICAL SURVEY & FEATURE SURVEY DOCUMENTS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE SUPERINTENDENT AND INSTRUCTIONS SOUGHT.
 - ROAD MARKINGS, TRAFFIC SIGNAGE, SPEED BUMPS AND BOLLARDS BY CIVIL.

AA	13.12.22	DA APPLICATION	JS	BP	AW	NR
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MEITRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

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AT ORIGINAL PLOT SIZE

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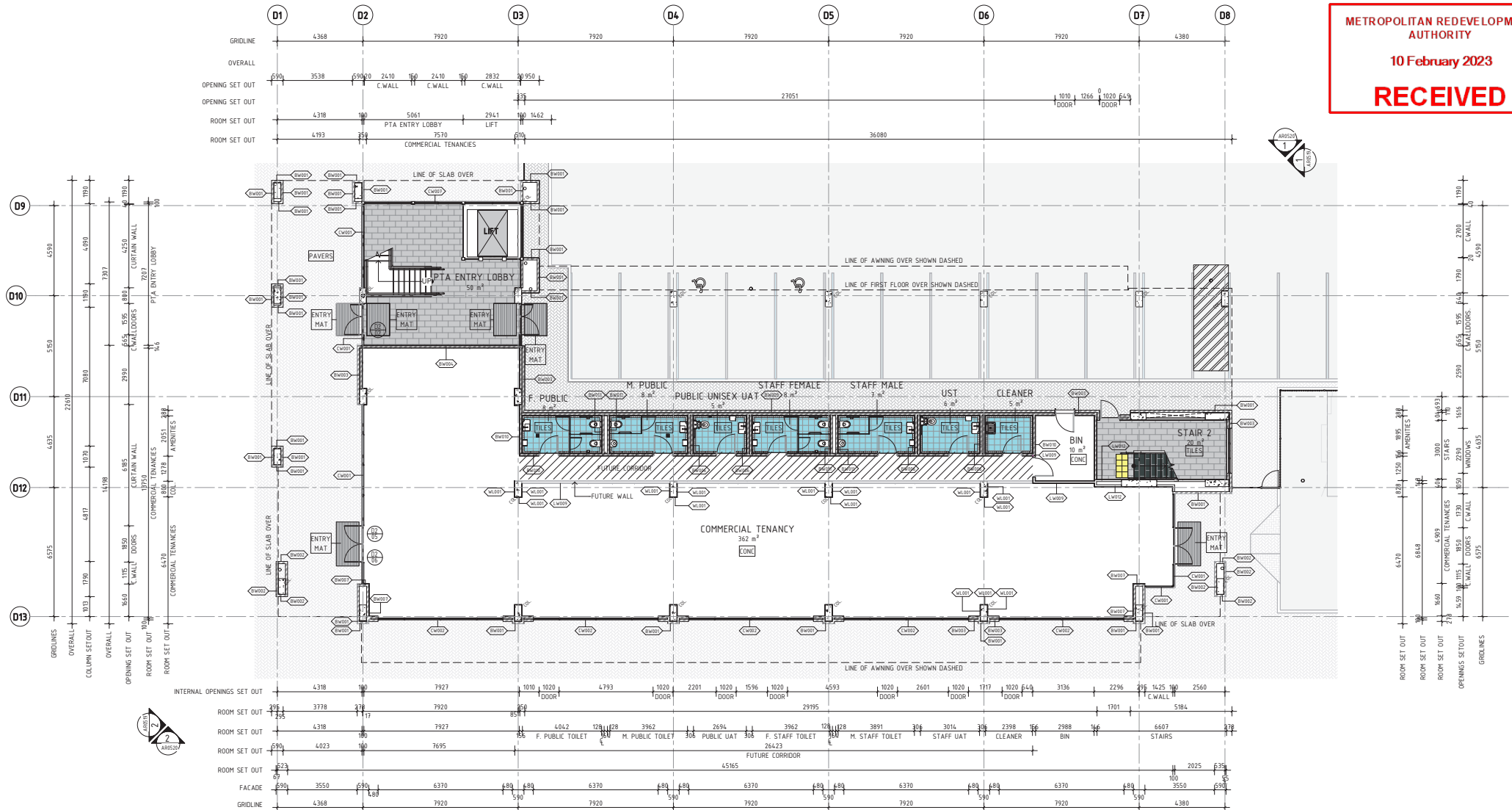


REFERENCES		SCALE	DESIGNED B.PRIEST	 Government of Western Australia Public Transport Authority MIDLAND STATION CALE STREET
		1 : 100	DRAWN J.SOLDATIC	
		DATUM	CHECKED A.WHEELER	
		HORIZONTAL: PCG20 VERTICAL: AHD71	APPROVED	
			DATE	

DRIVER SIGN-ON BUILDING		112
GROUND FLOOR PLAN - OVERALL		
PTA Drawing No: 12-A-99-AR0504		Rev: AA

10 February 2023

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DRIVERS SIGN-ON BUILDING - GROUND FLOOR PLAN - SET OUT PLAN

SCALE 1 : 100

GROUND FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
GF-01	PTA ENTRY LOBBY	4.92 m ²
GF-02	F. PUBLIC	7.66 m ²
GF-03	M. PUBLIC	7.51 m ²
GF-04	PUBLIC UNISEX UAT	5.11 m ²
GF-05	STAFF FEMALE	7.52 m ²
GF-06	STAFF MALE	7.37 m ²

GROUND FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
GF-07	UST	5.71 m ²
GF-08	CLEANER	4.54 m ²
GF-10	STAIR 2	19.82 m ²
GF-15	COMMERCIAL TENANCY	362.21 m ²
GF-16	BIN	9.89 m ²

GENERAL NOTES

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- ROAD MARKINGS, TRAFFIC SIGNAGE, SPEED BUMPS AND BOLLARDS BY CIVIL.

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	JS	BP	AW	NR	
REV	1	13.12.22	DA APPLICATION	JS	BP	AW	NR
METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential							
ORIG SIZE	AT ORIGINAL PLOT SIZE						
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DATUM

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Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

DRIVER SIGN-ON BUILDING
GROUND FLOOR PLAN - SET OUT PLAN

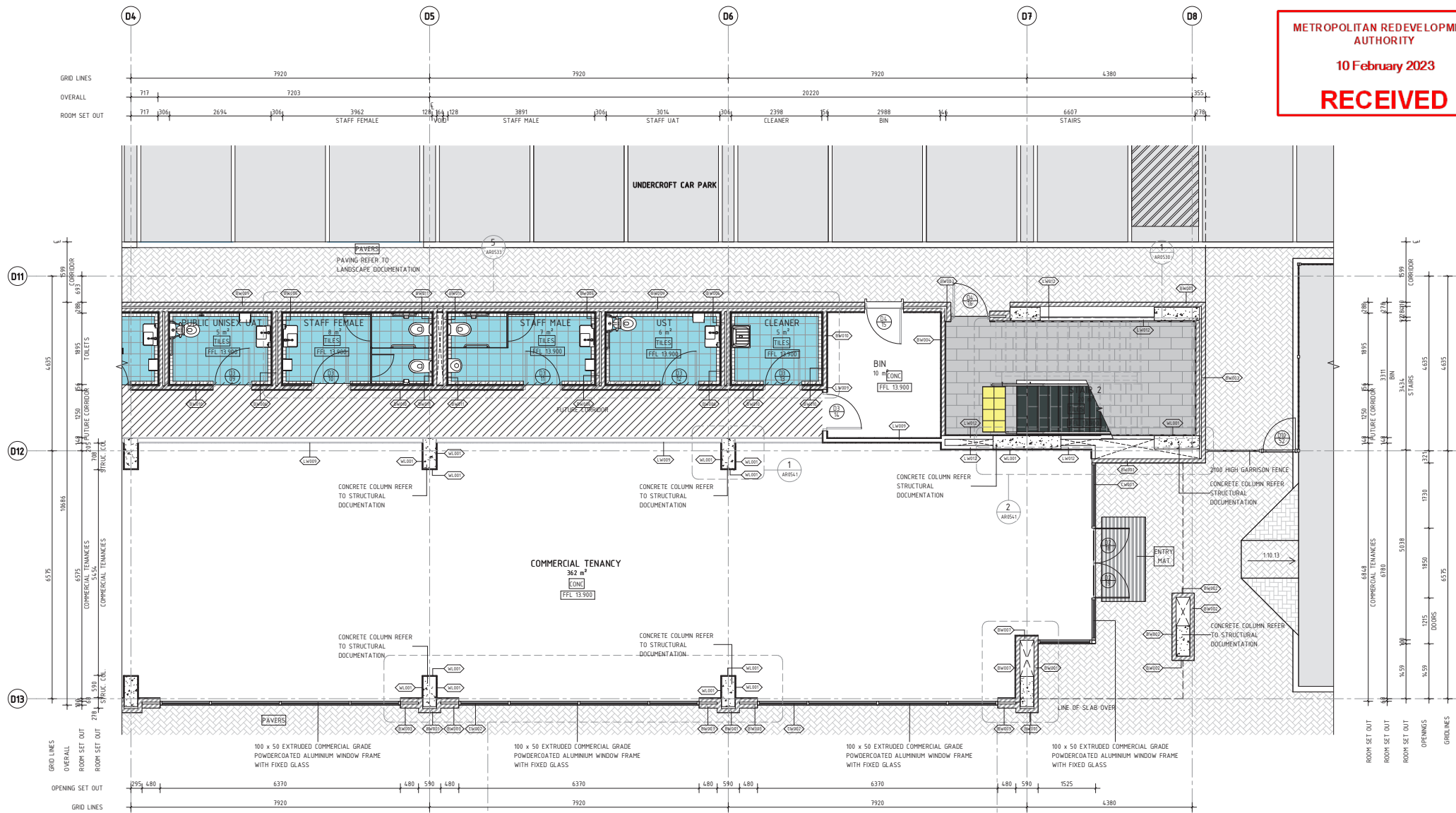
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Rev: AA

10 February 2023

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1 AR0504 GROUND FLOOR PLAN - EAST
Scale: 1 : 50

DETAILED DESIGN

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REFERENCES

SCALE

1 : 50

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED B.PRIEST

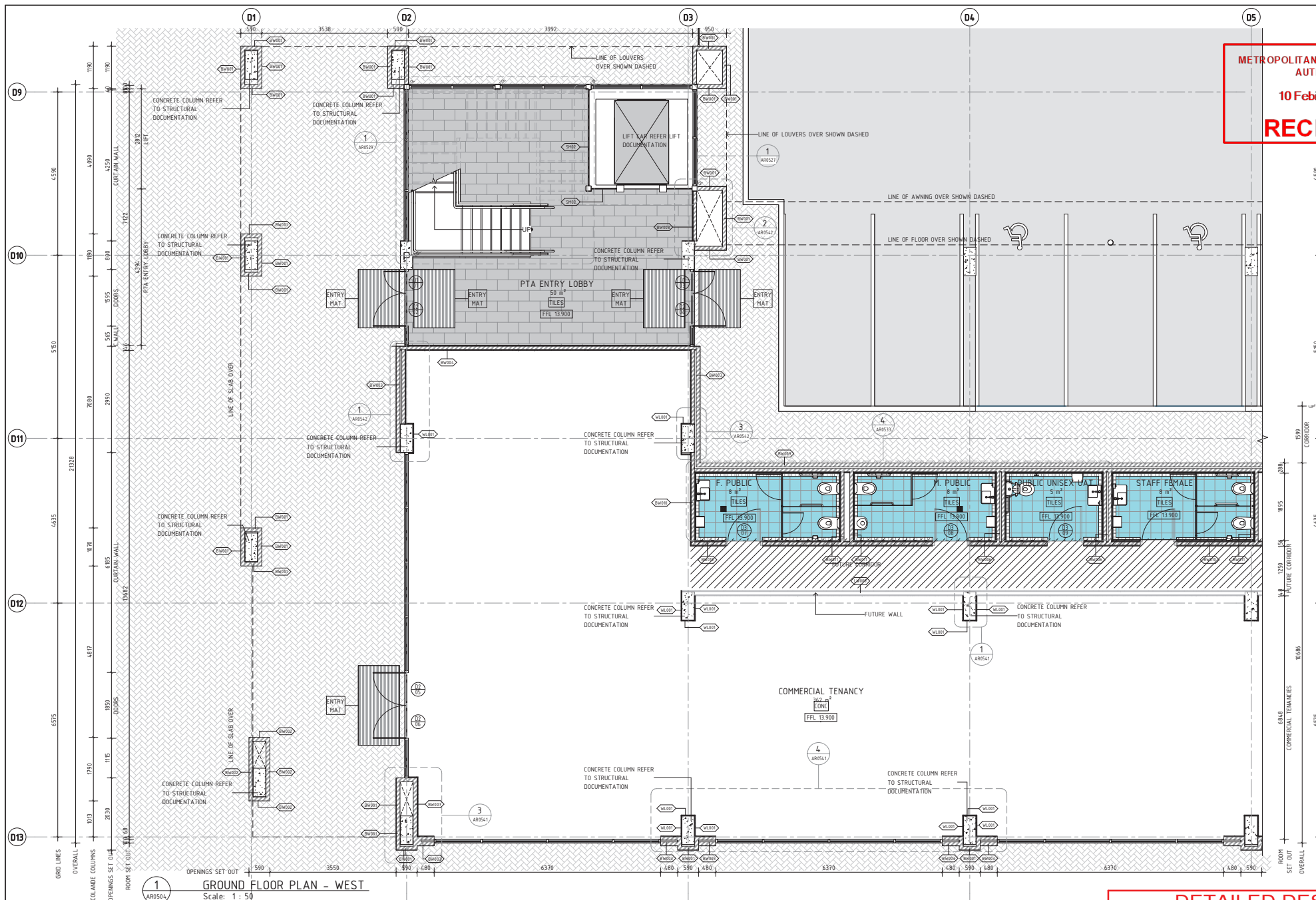
DRAWN K.DOAN

CHECKED A.WHEELER

APPROVED

DATE

Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
DRIVER SIGN-ON BUILDING GROUND FLOOR PLAN EAST	
PTA Drawing No: 12-A-99-AR0506	Rev: AA



Scale: 1 : 50

DETAILED DESIGN

METRONET East (Midland) LRC Meeting - 15 May 2023 Conf

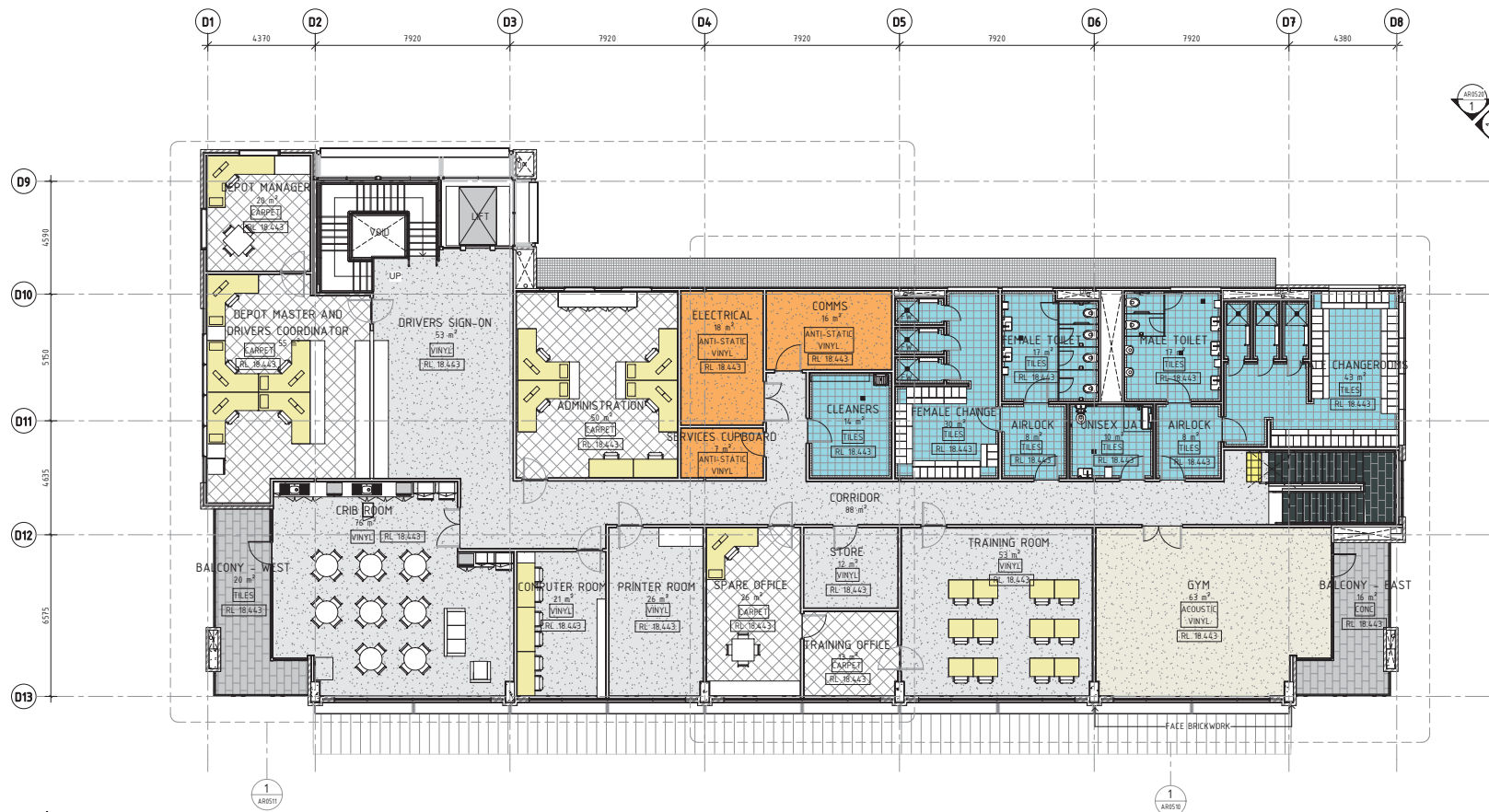
AA 03 03 23 DA APPLICATION JC BP A/W HR
REV METRONET EAST (MIDLAND) LRC MEETING - 15 MAY 2023 CONF
ORIG SIZE 0 10 20 30 40 50 100mm
A1 AT ORIGINAL PLOT SIZE

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REFERENCES	SCALE	DESIGNED B.PRIEST	 Government of Western Australia Public Transport Authority MIDLAND STATION CALE STREET
	1 : 50	DRAWN K.DOAN	
	DATUM	CHECKED A.WHEELER	
	HORIZONTAL: PCG20	APPROVED	
	VERTICAL: AHD71	DATE	
		DRIVER SIGN-ON BUILDING GROUND FLOOR PLAN WEST 115 PTA Drawing No: 12-A-99-AR0507 Rev: AA	

10 February 2023

RECEIVED

DRIVERS SIGN-ON BUILDING - FIRST FLOOR PLAN - OVERALL
SCALE 1 : 100

FIRST FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
L1-01	DEPOT MANAGER	19.73 m ²
L1-02	DRIVERS SIGN-ON	53.45 m ²
L1-03	ADMINISTRATION	49.66 m ²
L1-08	FEMALE CHANGE	30.47 m ²
L1-09	FEMALE TOILET	16.71 m ²
L1-10	AIRLOCK	7.80 m ²
L1-11	UNISEX UAT	10.08 m ²
L1-12	MALE TOILET	17.39 m ²
L1-13	AIRLOCK	7.80 m ²

FIRST FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
L1-14	MALE CHANGEROOMS	42.58 m ²
L1-16	GYM	62.76 m ²
L1-17	TRAINING ROOM	52.64 m ²
L1-18	STORE	12.40 m ²
L1-19	TRAINING OFFICE	12.86 m ²
L1-20	PRINTER ROOM	25.95 m ²
L1-21	SPARE OFFICE	25.95 m ²
L1-22	COMPUTER ROOM	20.99 m ²
L1-23	CRIB ROOM	75.94 m ²

FIRST FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
L1-24	BALCONY - WEST	19.76 m ²
L1-25	DEPOT MASTER AND DRIVERS COORDINATOR	55.29 m ²
L1-28	ELECTRICAL	18.04 m ²
L1-29	SERVICES CUPBOARD	6.65 m ²
L1-30	COMMS	16.18 m ²
L1-31	CLEANERS	14.11 m ²
L1-32	BALCONY - EAST	16.50 m ²
L1-33	CORRIDOR	87.93 m ²
L1-34	TOILET DUCT	3.91 m ²

FLOOR FINISHES

- FLOATING CONCRETE
- CARPET
- LOBBY TILES
- WET AREA TILES
- VINYL TYPE 1 - ANTI-STATIC
- VINYL TYPE 2 - ACOUSTIC
- VINYL TYPE 3

GENERAL NOTES

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- CHECK DIMENSIONS AND LEVELS ON-SITE PRIOR TO THE COMMENCEMENT OF WORK ON-SITE. ANY DISCREPANCIES ARE TO BE REPORTED TO THE SUPERINTENDENT AND INSTRUCTIONS SOUGHT.
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- ROAD MARKINGS, TRAFFIC SIGNS, SPEED BUMPS AND BOLLARDS BY CIVIL.

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	JS	BP	AW	NR		
REV	1	13.12.22	DA APPLICATION	JS	BP	AW	NR	
ORIG SIZE	A1	0	10	20	30	40	50	100mm
AT ORIGINAL PLOT SIZE	A1	0	10	20	30	40	50	100mm

METTRONET East (Midland) LRC Meeting - 15 May 2023 Conf

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METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

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REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN K.DOAN

CHECKED A.WHEELER

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

DRIVER SIGN-ON BUILDING
FIRST FLOOR PLAN - OVERALL

116

PTA Drawing No: 12-A-99-AR0508

Rev: AA

10 February 2023

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DRIVERS SIGN-ON BUILDING - FIRST FLOOR PLAN - SET OUT PLAN
SCALE 1 : 100

GENERAL NOTES

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- CHECK DIMENSIONS AND LEVELS ON-SITE PRIOR TO THE COMMENCEMENT OF WORK ON-SITE. ANY DISCREPANCIES ARE TO BE REPORTED TO THE SUPERINTENDENT AND INSTRUCTIONS SOUGHT.
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- ROAD MARKINGS, TRAFFIC SIGNAGE, SPEED BUMPS AND BOLLARDS BY CIVIL.

DETAILED DESIGN

FIRST FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
L1-01	DEPOT MANAGER	19.73 m ²
L1-02	DRIVERS SIGN-ON	53.45 m ²
L1-03	ADMINISTRATION	49.66 m ²
L1-08	FEMALE CHANGE	30.47 m ²
L1-09	FEMALE TOILET	16.71 m ²
L1-10	AIRLOCK	7.80 m ²
L1-11	UNISEX UAT	10.08 m ²
L1-12	MALE TOILET	17.39 m ²
L1-13	AIRLOCK	7.80 m ²

FIRST FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
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L1-16	GYM	62.76 m ²
L1-17	TRAINING ROOM	52.64 m ²
L1-18	STORE	12.40 m ²
L1-19	TRAINING OFFICE	12.86 m ²
L1-20	PRINTER ROOM	25.95 m ²
L1-21	SPARE OFFICE	25.95 m ²
L1-22	COMPUTER ROOM	20.99 m ²
L1-23	CRIB ROOM	75.94 m ²

FIRST FLOOR - ROOM SCHEDULE		
NUMBER	NAME	AREA
L1-24	BALCONY - WEST	19.76 m ²
L1-25	DEPOT MASTER AND DRIVERS COORDINATOR	55.29 m ²
L1-28	ELECTRICAL	18.04 m ²
L1-29	SERVICES CUPBOARD	6.65 m ²
L1-30	COMMS	16.18 m ²
L1-31	CLEANERS	14.11 m ²
L1-32	BALCONY - EAST	16.50 m ²
L1-33	CORRIDOR	87.93 m ²
L1-34	TOILET DUCT	3.91 m ²

REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN K.DOAN

CHECKED A.WHEELER

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

DRIVER SIGN-ON BUILDING
FIRST FLOOR PLAN - SET OUT PLAN

117

PTA Drawing No: 12-A-99-AR0509

Rev: AA

METROPOLITAN REDEVELOPMENT
AUTHORITY
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1 FIRST FLOOR PLAN - EAST
Scale: 1 : 50

AA	13.12.22	DA APPLICATION	JS	BP	AW	NR
REV	ORIG SIZE	AT ORIGINAL PLOT SIZE	METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential			
A1	0 10 20 30 40 50 100m					



REFERENCES		SCALE
		1 : 50
DATUM		
HORIZONTAL:	PCG20	
VERTICAL:	AHD71	

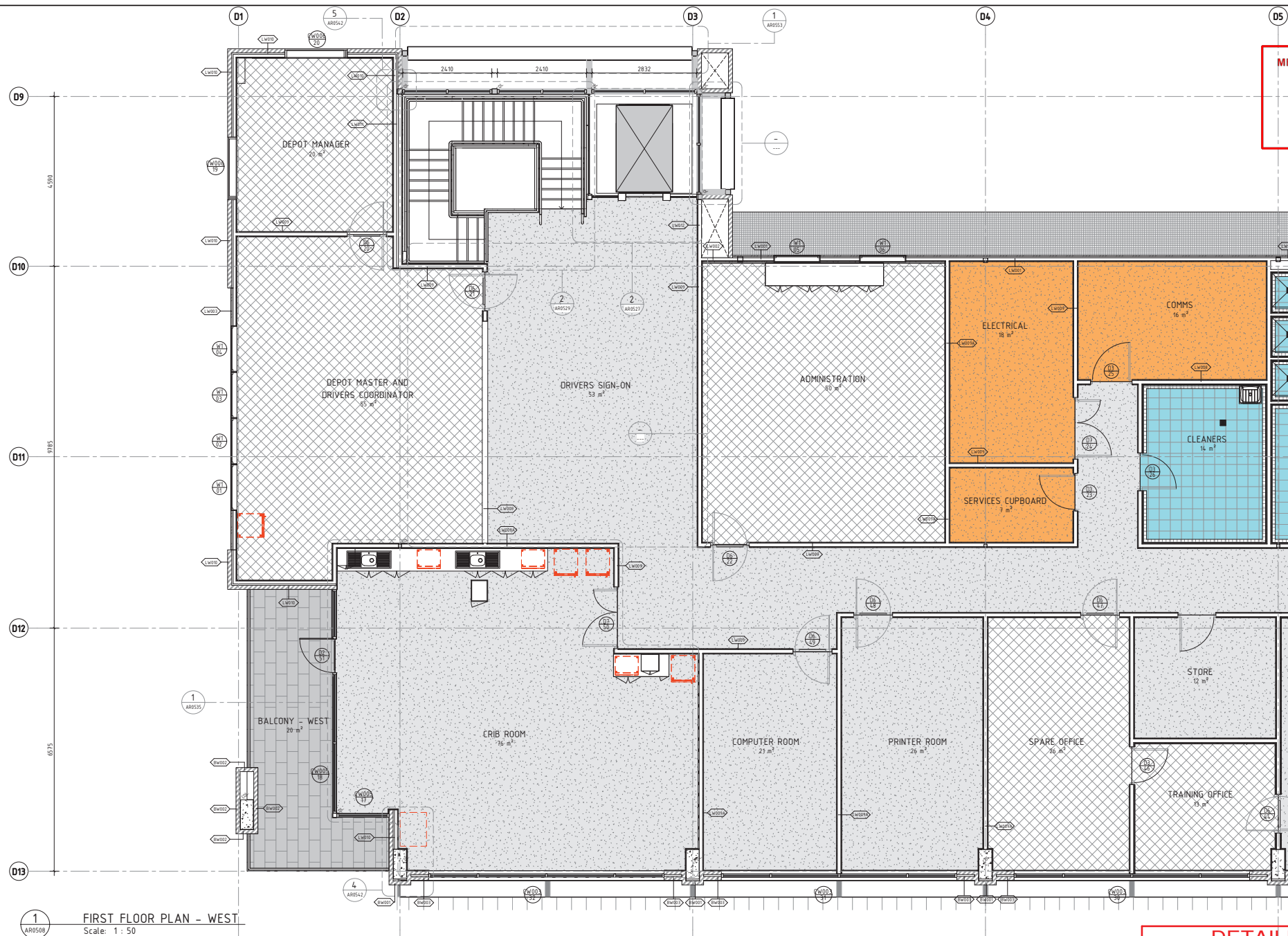
DESIGNED	B.PRIEST
DRAWN	K.DOAN
CHECKED	A.WHEELER
APPROVED	
DATE	

DETAILED DESIGN	
Government of Western Australia Public Transport Authority	
MIDLAND STATION CALE STREET	
DRIVER SIGN-ON BUILDING FIRST FLOOR PLAN EAST	
PTA Drawing No: 12-A-99-AR0510	
118	
Rev: AA	

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

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DETAILED DESIGN

AA	13.12.22	DA APPLICATION	JS	BP	AW	NR	
REV	1	13.12.22	DA APPLICATION	JS	BP	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			



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DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

DRIVER SIGN-ON BUILDING
FIRST FLOOR PLAN WEST

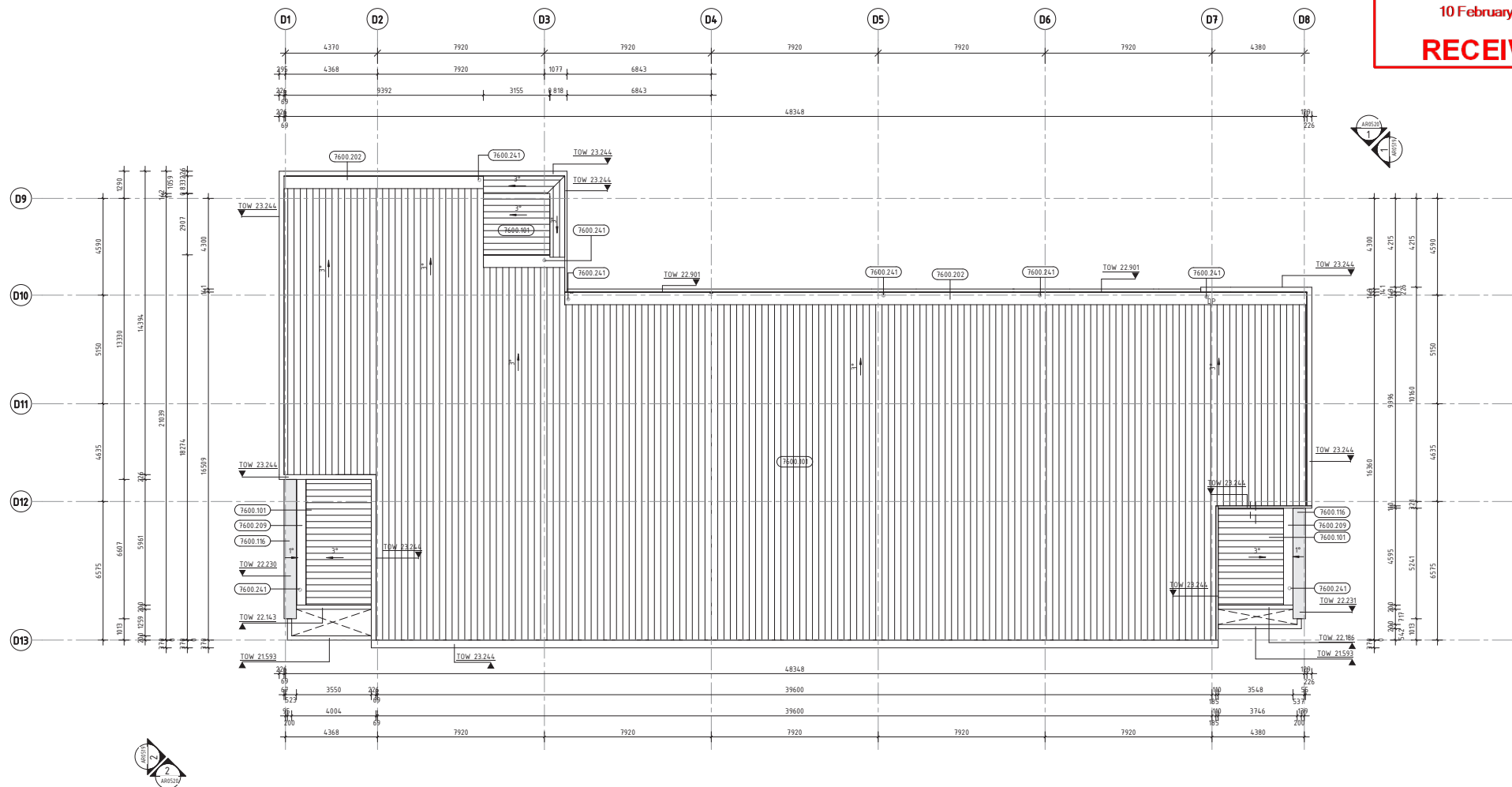
119

PTA Drawing No: 12-A-99-AR0511

Rev: AA

KEYNOTE LEGEND	
KEY VALUE	DESCRIPTION
7600.101	0.48BMT COLORBOND ULTRA STEEL PROFILED ROOF SHEETING WITH CONCEALED CLIP FIXING (SURFMST)
7600.116	0.50BMT COLORBOND ULTRA STEEL PRE-FORMED FLASHING/CAPPING (BLACK)
7600.202	0.50BMT COLORBOND ULTRA STEEL BOX GUTTER 400 WIDE x 150 DEEP (SURFMST)
7600.209	0.50BMT COLORBOND ULTRA STEEL BOX GUTTER 450 WIDE x 150 DEEP (SURFMST)
7600.241	150 DIAMETER CIRCULAR GRADE 316 STAINLESS STEEL DOWNPIPE CLEAT FIXED TO STRUCTURE

METROPOLITAN REDEVELOPMENT
AUTHORITY
10 February 2023
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DRIVERS SIGN-ON BUILDING - ROOF PLAN
SCALE 1 : 100

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	JS	BP	AW	NR	
REV	1	13.12.22	DA APPLICATION	JS	BP	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE				

0

10

20

30

40

50

100mm

AT ORIGINAL PLOT SIZE

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HORIZONTAL: PCG20
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DESIGNED B.PRIEST

DRAWN K.DOAN

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APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

DRIVER SIGN-ON BUILDING
ROOF PLAN

120

PTA Drawing No: 12-A-99-AR0518

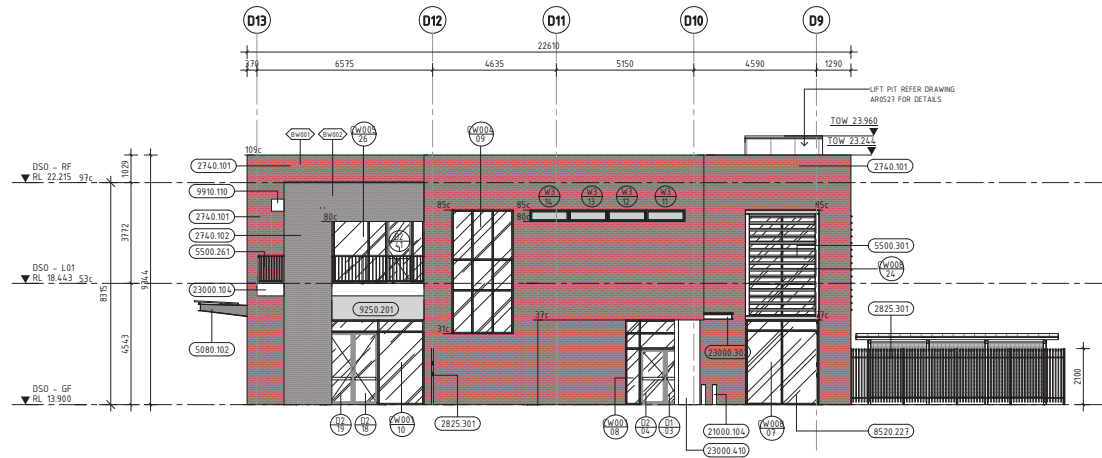
Rev: AA

KEYNOTE LEGEND	
KEY VALUE	DESCRIPTION
274.0.101	230 x 110 x 76 STANDARD BRICK (RED)
274.0.102	230 x 110 x 76 STANDARD BRICK (GREY)
2825.301	2100 HIGH GARRISON FENCE
5080.102	STEEL FRAMING WITH PAINT FINISH REFER TO STRUCTURAL DOCUMENTATION
5500.261	MONOWILLS (OR EQUALLY APPROVED) GALVANISED BALUSTRADE AND HANDRAILS TO AL STAIRS TO COMPLY WITH RELEVANT STANDARDS AND CODES
5500.301	ALUMINIUM LOUVERS IN STEEL FRAME
6165.000	ALUMINIUM PANEL CLADDING WITH NOMINATED FINISH
8520.227	100 x 50 EXTRUDED COMMERCIAL GRADE POWDERCOATED ALUMINIUM WINDOW FRAME WITH FIXED GLASS
9250.201	12mm FIBRE CEMENT SHEET BULKHEAD LINING FLUSH JOINTED (GREY)
9910.110	PAINT FINISH ON CONCRETE
21000.104	BOLLARD REFER TO CIVIL DOCUMENTATION
23000.104	CONCRETE CAST-IN-SITU BEAM, REFER STRUCTURAL DOCUMENTATION
23000.302	STEEL BEAM REFER TO STRUCTURAL DOCUMENTATION
23000.410	CONCRETE COLUMN REFER TO STRUCTURAL DOCUMENTATION

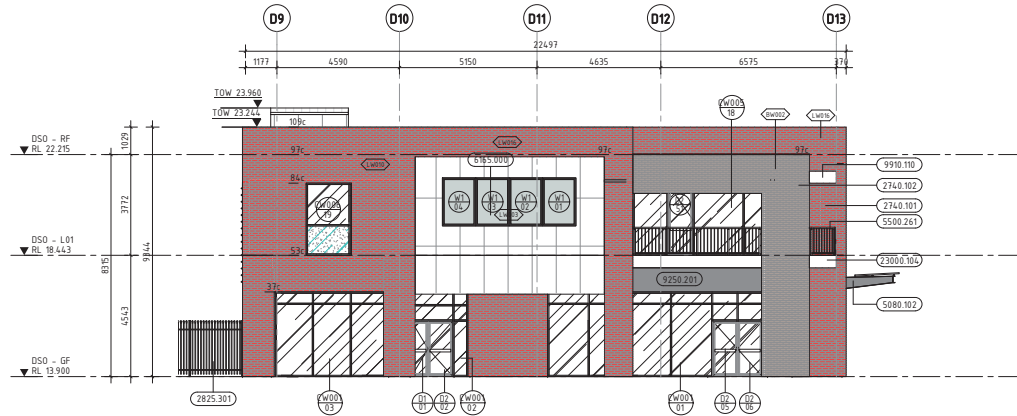
METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

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1 DRIVERS SIGN-ON BUILDING - EAST ELEVATION
Scale: 1 : 100



2 DRIVERS SIGN-ON BUILDING - WEST ELEVATION
Scale: 1 : 100

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	JS	BP	AW	NR	
REV	1	13.12.22	DA APPLICATION	JS	BP	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE				

01020304050100mm

AT ORIGINAL PLOT SIZE

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DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED B.PRIEST

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CHECKED A.WHEELER

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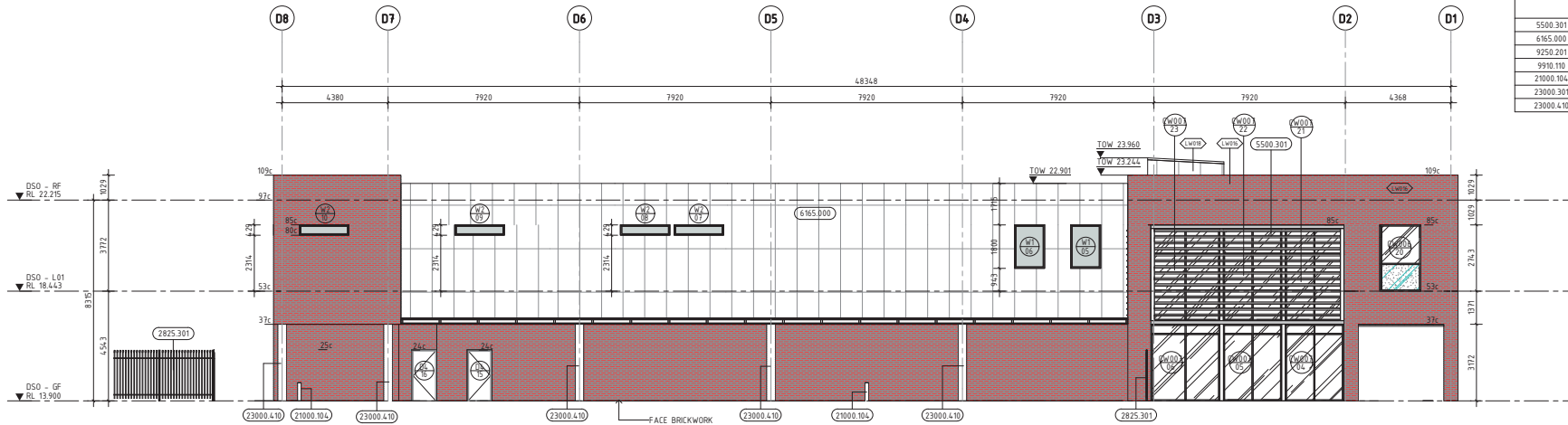
Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
DRIVER SIGN-ON BUILDING ELEVATIONS EAST AND WEST	121
PTA Drawing No: 12-A-99-AR0519	Rev: AA

KEYNOTE LEGEND	
KEY VALUE	DESCRIPTION
2740.101	230 x 110 x 76 STANDARD BRICK (RED)
2740.102	230 x 110 x 76 STANDARD BRICK (GREY)
2825.301	2100 HIGH GARRISON FENCE
5500.261	MONOWILLS (OR EQUALLY APPROVED) GALVANISED BALUSTRADE AND HANDRAILS TO AL STAIRS TO COMPLY WITH RELEVANT STANDARDS AND CODES
5500.301	ALUMINIUM LOUVERS IN STEEL FRAME
6165.000	ALUMINIUM PANEL CLADDING WITH NOMINATED FINISH
9250.201	12mm FIBRE CEMENT SHEET BULKHEAD LINING FLUSH JOINTED (GREY)
9910.110	PAINT FINISH ON CONCRETE
21000.104	BOLLARD REFER TO CIVIL DOCUMENTATION
23000.301	STEEL COLUMN WITH PAINT FINISH REFER TO STRUCTURAL DOCUMENTATION
23000.410	CONCRETE COLUMN REFER TO STRUCTURAL DOCUMENTATION

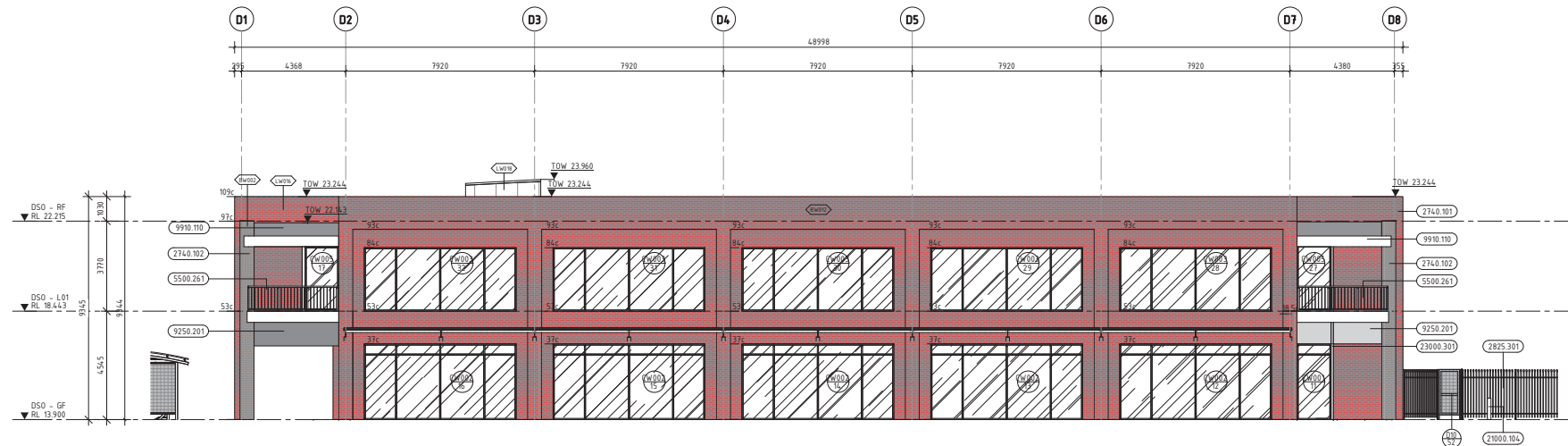
METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

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1 DRIVERS SIGN-ON BUILDING - NORTH ELEVATION
Scale: 1 : 100



2 DRIVERS SIGN-ON BUILDING - SOUTH ELEVATION
Scale: 1 : 100

DETAILED DESIGN

AA	13.12.22	DA APPLICATION	JS	BP	AW	NR	
REV	1	13.12.22	DA APPLICATION	JS	BP	AW	NR
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE	This document must not be copied without PTA's written permission, and the contents thereof must not be imparted to a third party nor be used for any unauthorised purpose.			



REFERENCES

SCALE

1 : 100

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED B.PRIEST

DRAWN J.SOLDATIC

CHECKED A.WHEELER

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION CALE STREET

DRIVER SIGN-ON BUILDING
ELEVATIONS NORTH AND SOUTH

122

PTA Drawing No: 12-A-99-AR0520 Rev: AA

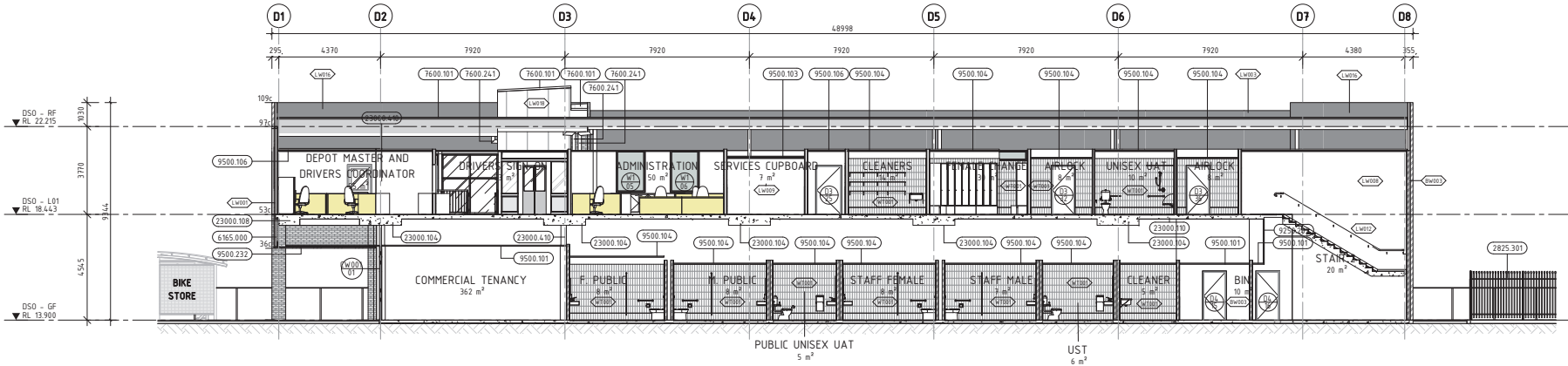
KEYNOTE LEGEND	
KEY VALUE	DESCRIPTION
2825.301	2100 HIGH GARRISON FENCE
5500.261	MONOWILLS (OR EQUALLY APPROVED) GALVANISED BALUSTRADE AND HANDRAILS TO AL STAIRS TO COMPLY WITH RELEVANT STANDARDS AND CODES
5500.301	ALUMINIUM LOUVERS IN STEEL FRAME
6165.000	ALUMINIUM PANEL CLADDING WITH NOMINATED FINISH
7600.101	0.48MT COLORBOND ULTRA STEEL PROFILED ROOF SHEETING WITH CONCEALED CLIP FIXING (SURFMST)
7600.202	0.58MT COLORBOND ULTRA STEEL BOX GUTTER 600 WIDE x 150 DEEP (SURFMST)
7600.241	150 DIAMETER CIRCULAR GRADE 316 STAINLESS STEEL DOWNPIPE CLEAT FIXED TO STRUCTURE
9250.202	12mm FIBRE CEMENT SHEET BULKHEAD LINING FLUSH JOINED (WHITE)
9500.101	13mm IMPACT RESISTANT PLASTERBOARD SHEET CEILING LINING FLUSH JOINED WITH PAINT FINISH

KEYNOTE LEGEND	
KEY VALUE	DESCRIPTION
9500.103	16mm FIRE RESISTANT PLASTERBOARD SHEET CEILING LINING FLUSH JOINED WITH PAINT FINISH
9500.104	16mm FIRE RESISTANT & MOISTURE RESISTANT PLASTERBOARD SHEET CEILING LINING FLUSH JOINED WITH PAINT FINISH
9500.106	19mm MINERAL FIBRE CEILING TILE 1200 x 600
9500.232	LASER - CUT ALUMINIUM PANEL LINING CONCEALED SUSPENSION SYSTEM
9910.110	PAINT FINISH ON CONCRETE
20000.107	LOCKER TWO-TIER (INC)
23000.104	CONCRETE CAST-IN-SITU BEAM, REFER STRUCTURAL DOCUMENTATION
23000.108	CONCRETE CAST-IN-SITU BEAM, REFER STRUCTURAL DOCUMENTATION
23000.110	CONCRETE CAST-IN-SITU SLAB, REFER TO STRUCTURAL DOCUMENTATION
23000.302	STEEL BEAM REFER TO STRUCTURAL DOCUMENTATION
23000.410	CONCRETE COLUMN REFER TO STRUCTURAL DOCUMENTATION

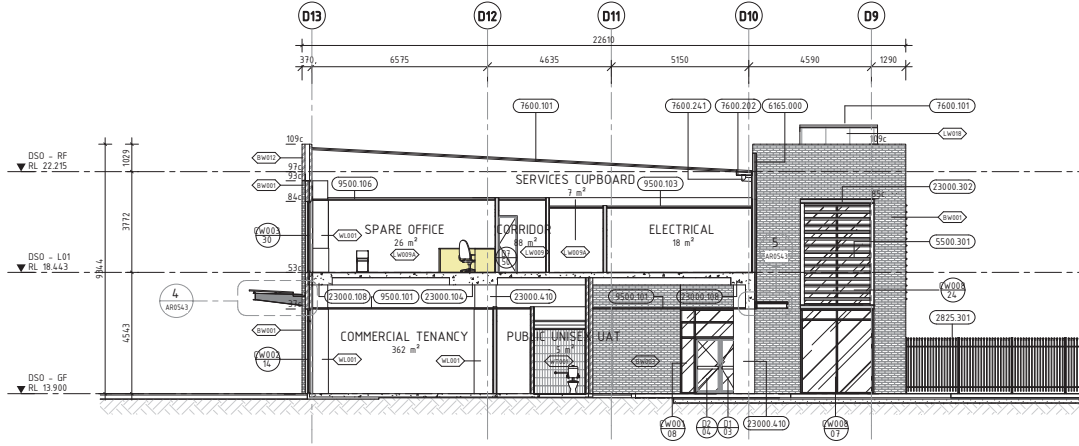
METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

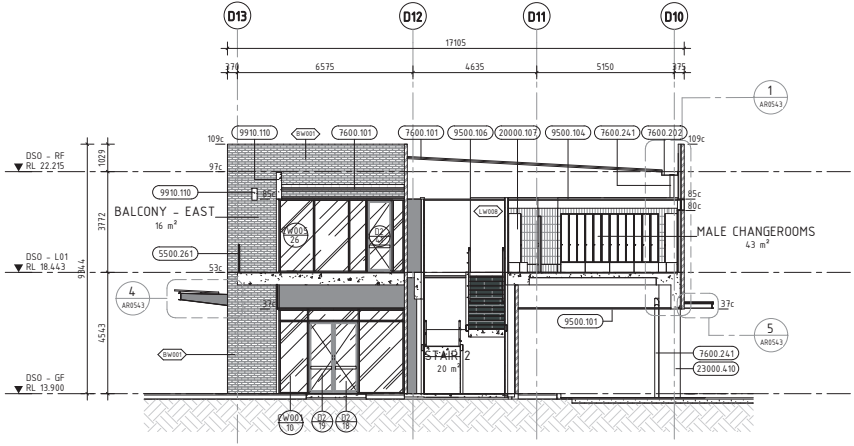
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1 DRIVERS SIGN-ON BUILDING - LONG SECTION
Scale: 1 : 100



2 DRIVERS SIGN-ON BUILDING - CROSS SECTION 1
Scale: 1 : 100



3 DRIVERS SIGN-ON BUILDING - CROSS SECTION 2
Scale: 1 : 100

DETAILED DESIGN

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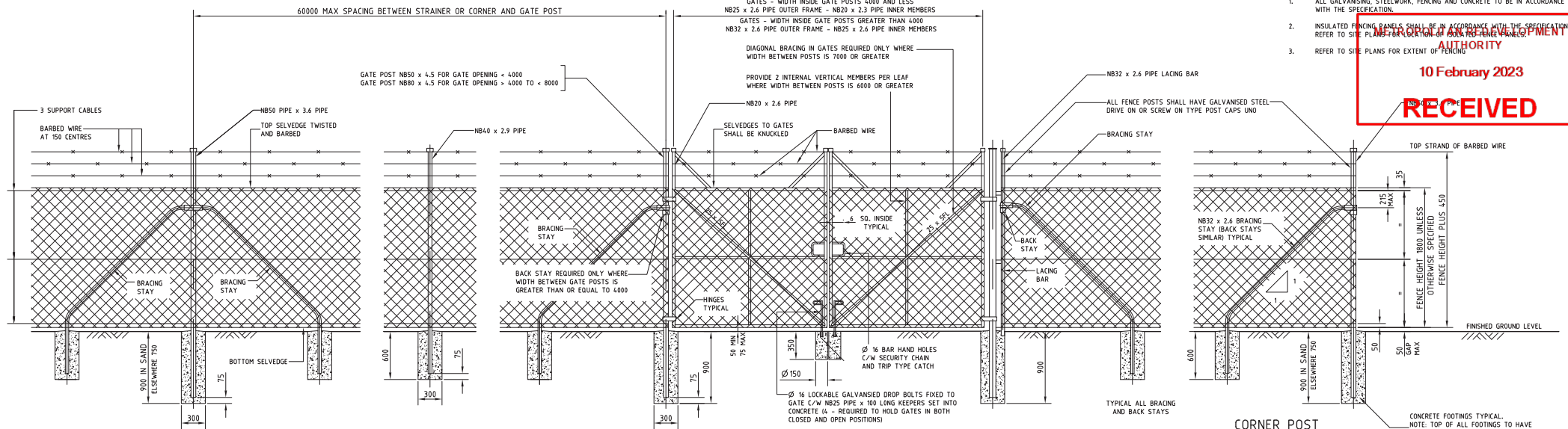
REFERENCES	
SCALE	DESIGNED B.PRIEST
1 : 100	DRAWN K.DOAN
DATUM	CHECKED A.WHEELER
HORIZONTAL: PCG20	APPROVED
VERTICAL: AHD71	DATE

Government of Western Australia Public Transport Authority	MIDLAND STATION CALE STREET
DRIVER SIGN-ON BUILDING CROSS SECTIONS	123
PTA Drawing No: 12-A-99-AR0523	Rev: AA

NOTES

- ALL GALVANISING, STEELWORK, FENCING AND CONCRETE TO BE IN ACCORDANCE WITH THE SPECIFICATION.
- INSULATED FENCING PANELS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION. REFER TO SITE PLANS FOR EXTENT OF FENCING.
- REFER TO SITE PLANS FOR EXTENT OF FENCING.

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 METRO RAIL AUTHORITY



STRAINER POST

REQUIRED AT EACH CHANGE OF DIRECTION OR GRADE GREATER THAN 10° OR 60000 MAX SPACING

INTERMEDIATE POST

4000 MAX SPACING BETWEEN POSTS EVENLY SPACED

GATE POST

TYPICAL ARRANGEMENT FOR DN80 GATE POST

DOUBLE GATES

GATE POST

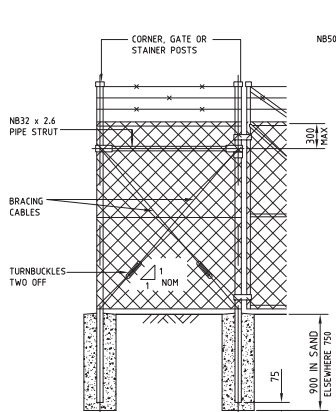
TYPICAL ARRANGEMENT FOR DN80 GATE POST

CORNER POST

CONCRETE FOOTINGS TYPICAL. NOTE: TOP OF ALL FOOTINGS TO HAVE A FALL AWAY FROM PIPE OF 10mm

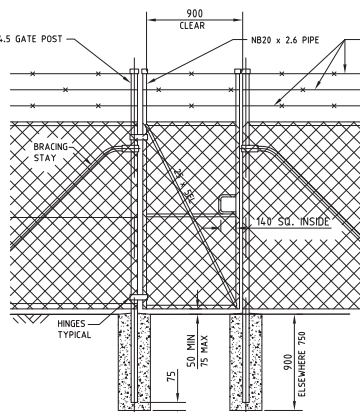
FENCING SPECIFICATION

CHAIN MESH SHALL BE 1800 HIGH WITH 50mm APERTURE EX 2.5 DIA GALVANISED WIRE
 ALL CHAIN MESH IN THE VICINITY OF STATIONS SHALL BE AS ABOVE WITH BLACK PVC COATED WIRE
 CABLE WIRES
 DOUBLE TWISTED 3.15 DIA WIRES OR SINGLE STRAND 4mm DIA, HELICOL
 WIRE POSITIONS
 TOP WIRE ONE HALF DIAMOND BELOW SELVEDGE
 CENTRE WIRE CENTRE OF MESH
 BOTTOM WIRE ONE DIAMOND ABOVE BOTTOM SELVEDGE
 BARBED WIRE
 3 ROWS OF TWO 3.15 DIA. WIRES TWISTED TOGETHER WITH FOUR POINT BARBS AT 90mm NOMINAL CENTRES
 ALL BARBED WIRE SHALL BE HEAVY GALVANISED



BRACED PANEL / STRAINER ASSEMBLY

REQUIRED ONLY WHERE THERE IS INSUFFICIENT SPACE FOR BRACING STAYS OR WHERE SANDY SOIL PREVAILS. SHALL NOT BE USED IMMEDIATELY ADJACENT TO ROADS DUE TO HORIZONTAL MEMBERS



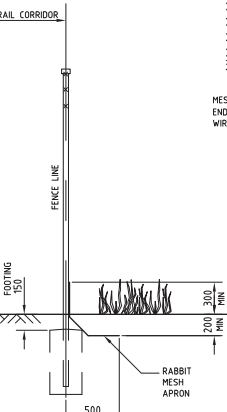
PERSONNEL ACCESS GATE



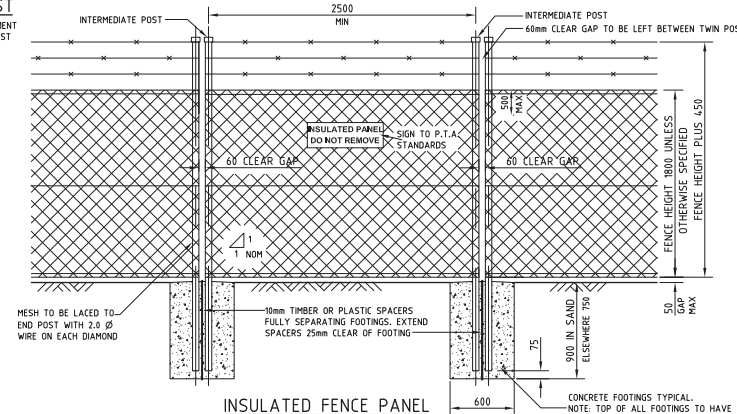
TYPICAL FENCE



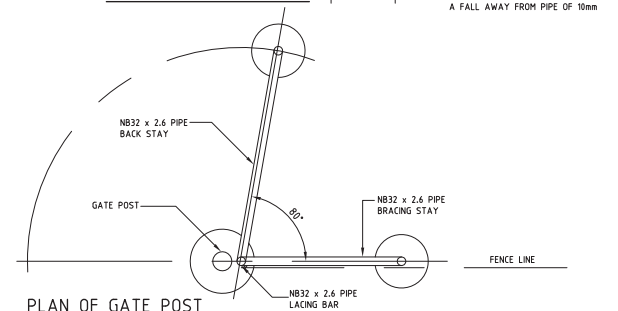
FAUNA FENCE BURIED



FAUNA FENCE SKIRT



INSULATED FENCE PANEL



PLAN OF GATE POST

GENERAL NOTES :

1. ALL ELECTRONIC COPIES OF THIS DRAWING SHOULD BE SUPPLIED WITH ELECTRONIC COPIES OF XREFERENCED DRAWINGS.

XREF's

ACCEPTED BY PTA

General Manager
 Network & Infrastructure
 Signature: *H. Smith* Date: 24/02/05
 General Manager Transport
 Train Operations
 Signature: _____ Date: _____

SCALE :

1:25 (© A1)
 DATUM :
 HORIZONTAL:
 VERTICAL:

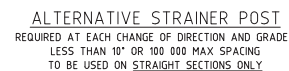
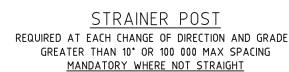
DESIGNED

A. Paul
 DRAWN
 CHECKED
 FILE No.

APPROVED FOR ISSUE

Signature: *P. Martinovich* Date: 23/03/05
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Public Transport Authority
 Government of Western Australia
 New MetroRail
 Making the Connection
 STANDARD TRACK WORK DETAILS
 STOWAGE YARDS AND PASSENGER MAINS
 SECURITY FENCING - TYPICAL DETAILS
 DRG No : 00-C-04-0042 REV 0



1. ALL GALVANISING, STEELWORK, PLASTIC COATING, FENCING AND CONCRETE TO BE IN ACCORDANCE WITH THE SPECIFICATION.
2. 50mm APERTURE x 2.5mm DIAMETER GALVANISED BLACK PVC COATED CHAIN MESH FASTENED TO CABLES WITH 2.0mm TIES.
3. THE BASE OF FOOTING HOLES SHALL BE ADEQUATELY COMPACTED BY RAMMING.
4. ALL CONCRETE FOOTINGS TO HAVE A FALL AWAY FROM PIPE OF 10mm
5. ALL TURNBUCKLES TO BE STAINLESS STEEL MARINE GRADE

STANDARD TRACKWORK DETAILS
FENCING DETAIL PLAN 2
WITH INSULATED PANELS

126

PTA Drawing No:	00-C-04-0112	REV : A
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RECEIVED

[illegible]

VERIFICATION		ACCEPTED BY PTA
Signature		GENERAL MANAGER Network & Infrastructure
Date		PTA'S FUNCTIONS SATISFIED
DATE APPROVED		MANAGER Track & Structures
		Date

MAJOR PROJECTS UNIT

SCALE IN T.S. (@ A1)	APPROVED FOR IMPLEMENTATION
----------------------	-----------------------------

DATUM

DATUM :	HORIZONTAL	DEFORM
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HORIZONTAL: PCG94

VERTICAL:	AHD71			
0	10	20	30	40

APPROVED FOR IMPLEMENTATION

[illegible]

DIRECTOR

Major Projects

Date	
50	100

INFRASTRUCTURE PLANNING & LAND SERVICES

ON	DESIGNED	APPROVED FOR ISSUE
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DESIGNED	

DRAWN	EXECUTIVE DIRECTOR
-------	--------------------

CHECKED	Infrastructure Planning & Land Services
---------	---

CHECKED	Date
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Government of Western Australia
Public Transport Authority

STANDARD TRACKWORK DETAILS
FENCING DETAIL PLAN 2
WITH INSULATED PANELS

PTA Drawing No:	00-C-04-0112	REV : A
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01/07/04	ISSUED FOR CONSTRUCTION	APP	REV D	REV C	REV B	REV A	REV	DATE	CAD DRG PATHNAME	01
	AMENDMENT	APP	REV D	REV C	REV B	REV A	REV	DATE	I:\MSK\Mcadwork\DWG\Civil\	01

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GENERAL NOTES :

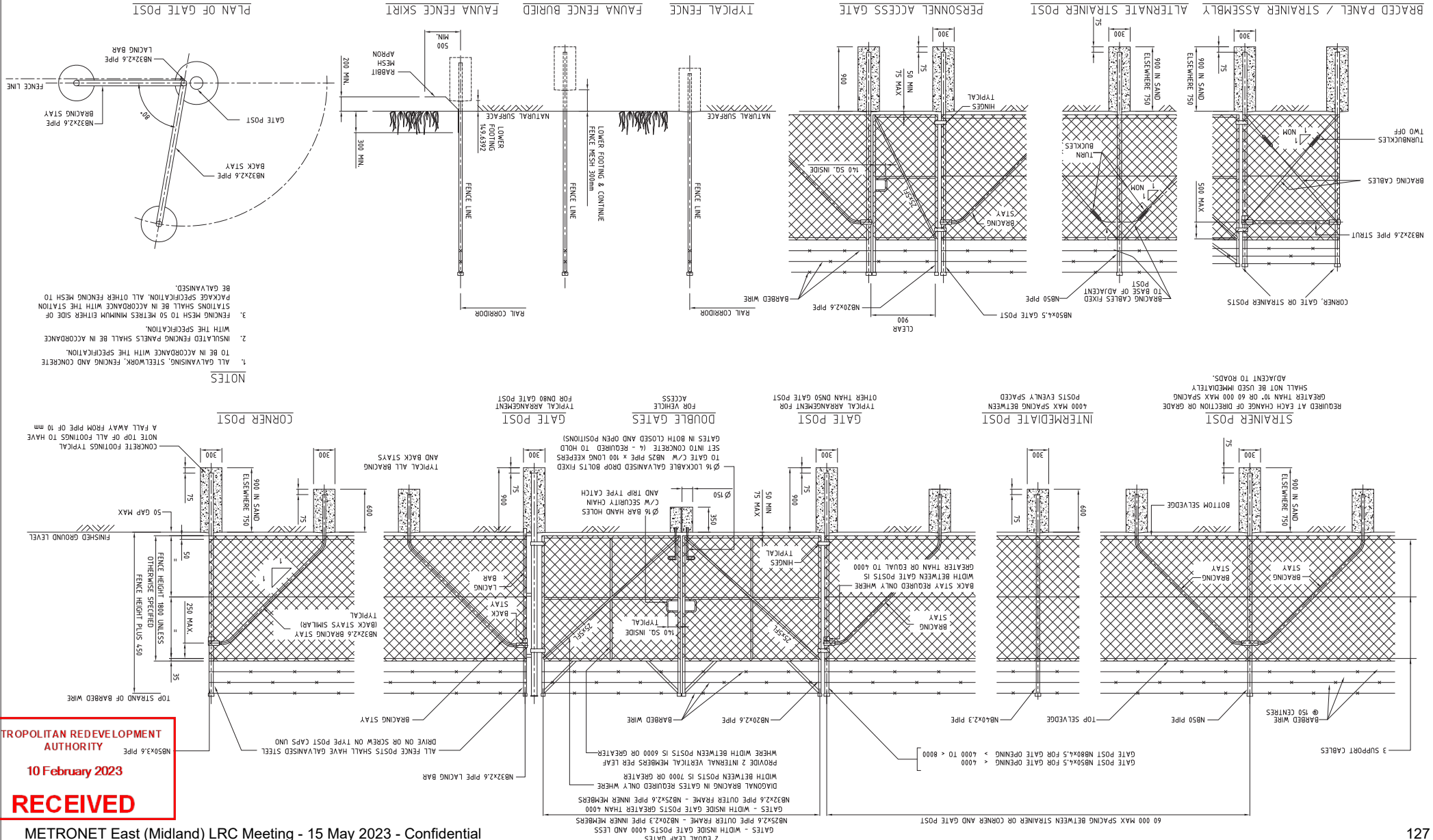
WARNING  **CAUTION**  **DO NOT TOUCH**

Mountwell Sinclair Knight Merz
S.A.S.
4th Floor, Durack Centre,
263 Adelaide Terrace
Perth, Western Australia, 6000
Telephone (08) 9260 4500
Facsimile (08) 9268 4493

XREF'S	ACCEPTED BY PTA	Signature	DATE	0 10 20 30 40 50 60 70 80 90 100 mm FILE NO. 00C04.001.0.dwg
	Network & Infrastructure Manager	Signature	DATE	
	125 SCALE :	DATUM : 125 (@ A1)	HORIZONTAL: VERTICAL:	
	DESIGNED	CHECKED	DATE	
	DRAWN	DATE		
	WMM	DATE		
	5HT	DATE		
	B.R.KEAY	DATE		

 New MetroRail Making the Difference		 Public Transport Authority Government of Western Australia	
SOUTH WEST METROPOLITAN RAILWAY STANDARD DETAILS FENCING TYPICAL DETAILS		DRG No. : 00-C-04-1001 REV 0	

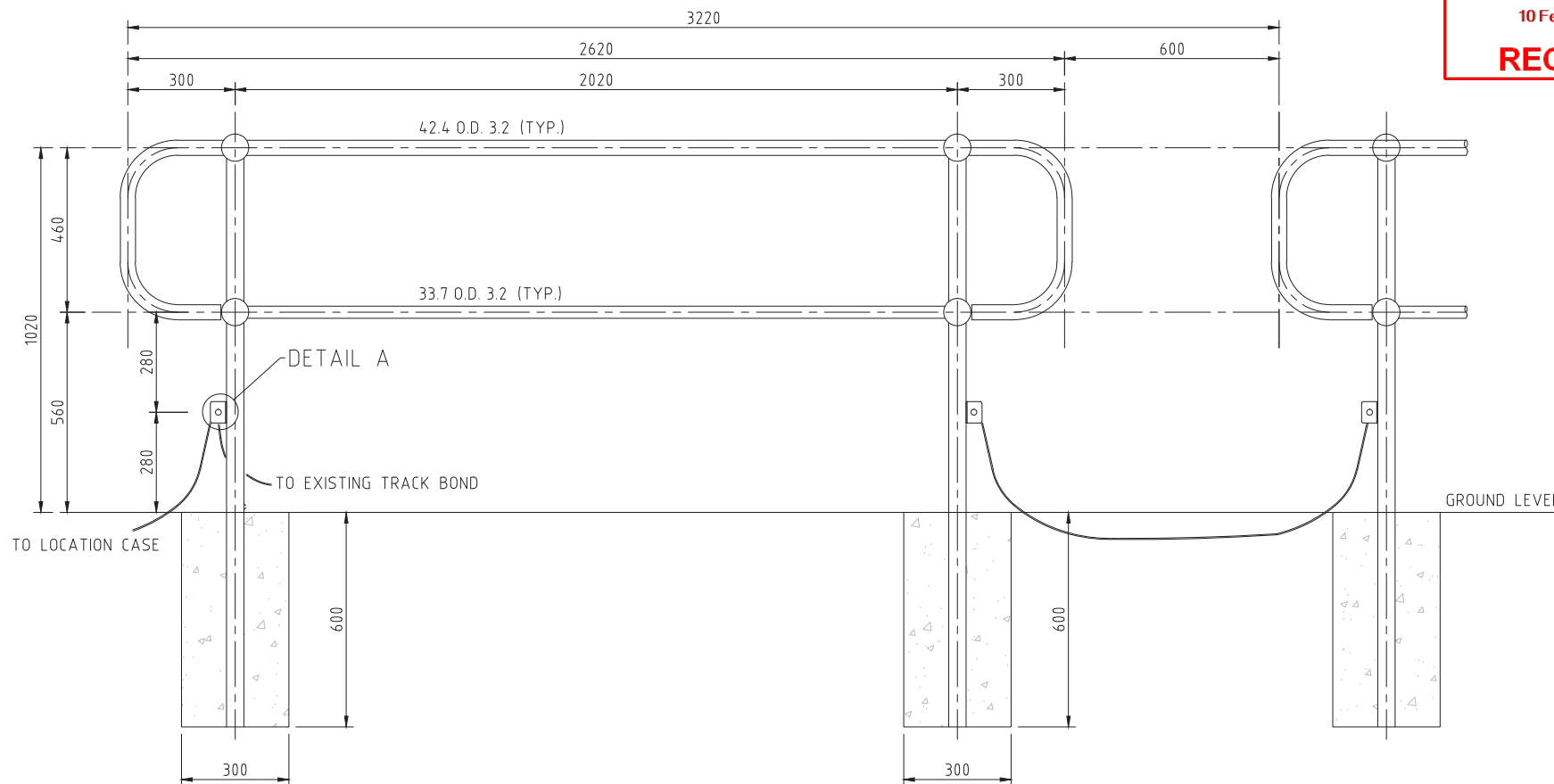
ISSUED FOR
CONSTRUCTION



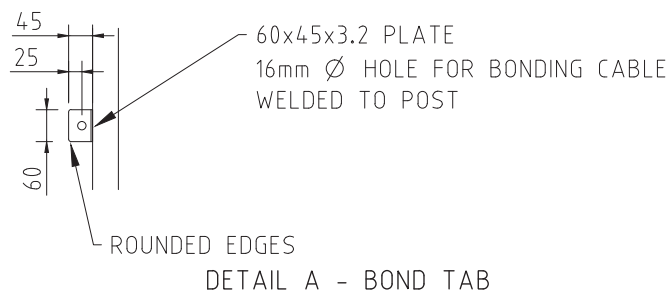
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10 February 2023

RECEIVED



HANDRAIL BARRIER ELEVATION



NOTE:

- 1.MILD STEEL HANDRAIL TO BE HOT DIP GALVANISED AFTER WELDING OF JOINTS AND WELDING OF BOND TABS.
2. GALVANISING TO BE A MINIMUM 200g/m² AS4680.
- 3.RAPIDSET CONCRETE TO BE USED FOR FOOTINGS, AS PER INSTRUCTIONS ON BAG.
- 4.FOOTINGS MUST BE HAND DUG DUE TO UNDERGROUND SERVICES.
- 5.BOND TABS TO ALLOW FOR BONDING CABLE (16mm HOLE), ORIENTATION AS SHOWN.

A	89.09.15	ISSUED FOR INFORMATION	50
REV	0	METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential	50
DRG SIZE	A1		

REFERENCE DRGS

SCALE :

NTS (@ A1)

DATUM :

HORIZONTAL:

VERTICAL:

DRAWING STATUS

PRELIMINARY

DOC REVIEW NOTE No.

A1910037

DESIGNED

DRAWN

CHECKED

APPROVED

DATE

DIRECTOR

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NOTE:

1.HANDRAIL CLEARANCES AS FOLLOWS:

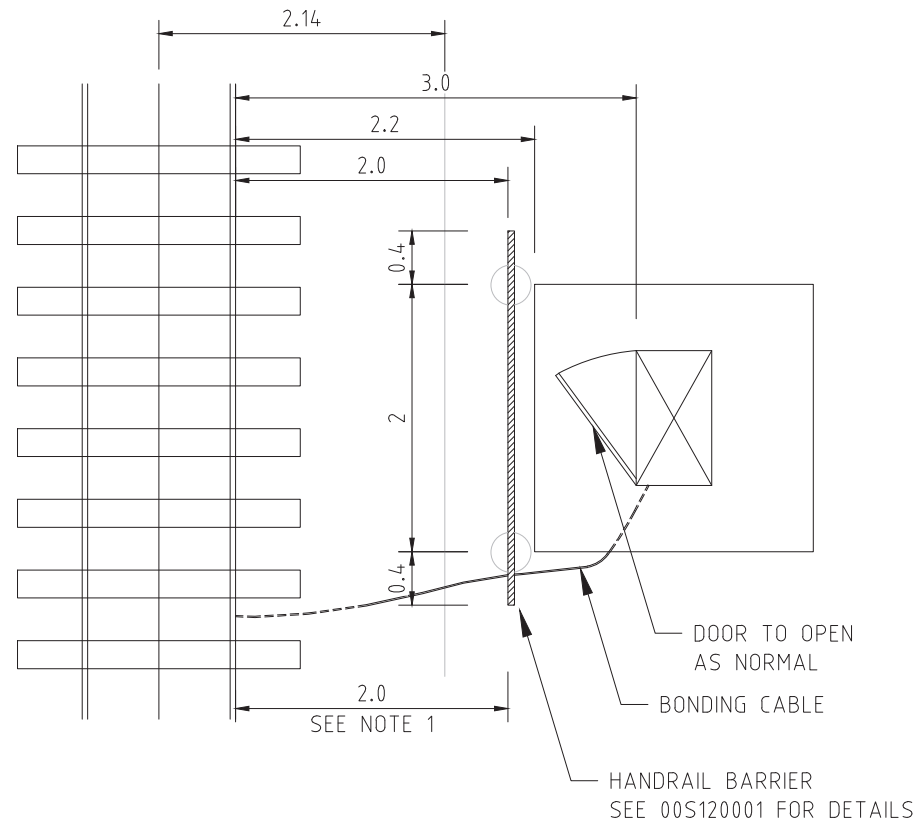
DESIRABLE DISTANCE TO NEAREST RAIL 2.0m

MINIMUM DISTANCE TO NEAREST RAIL 1.8m

METROPOLITAN REDEVELOPMENT
AUTHORITY

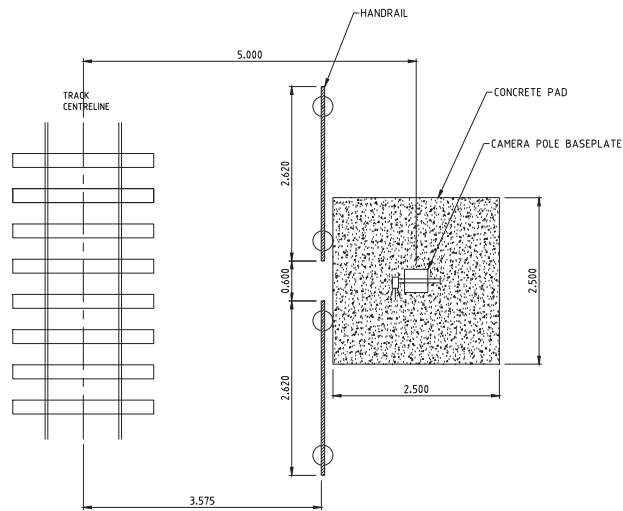
10 February 2023

RECEIVED

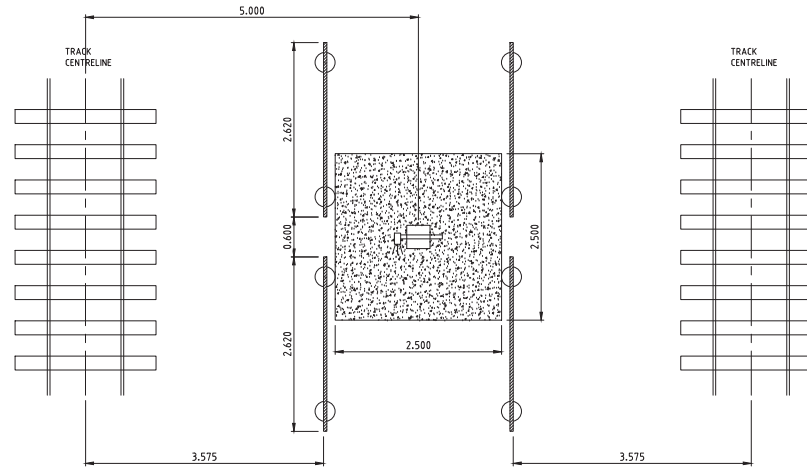


A	89.09.15	ISSUED FOR INFORMATION	50	140
REV	0	METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential		
DRG SIZE	A1	0 10 20 30 40 50 100mm AT ORIGINAL PLOT SIZE		

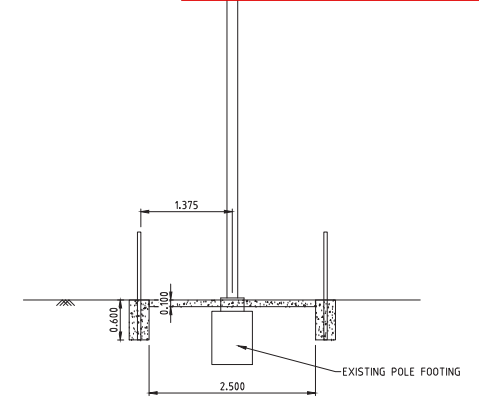
REFERENCE DRGS	SCALE :	DESIGNED	 STANDARD HANDRAIL BARRIER TYPICAL LAYOUT
	NTS (@ A1)	DRAWN	
	DATUM :	CHECKED	
	HORIZONTAL:	APPROVED	
	VERTICAL:	DATE	
	DRAWING STATUS	DIRECTOR	
	PRELIMINARY		
	DOC REVIEW NOTE No.		
	A1910037		
	This document must not be copied without PTA's written permission, and the contents thereof must not be reported to a third party nor be used for any unauthorised purpose.		
	PTA Drawing No:	00-S-12-0002	REV : A



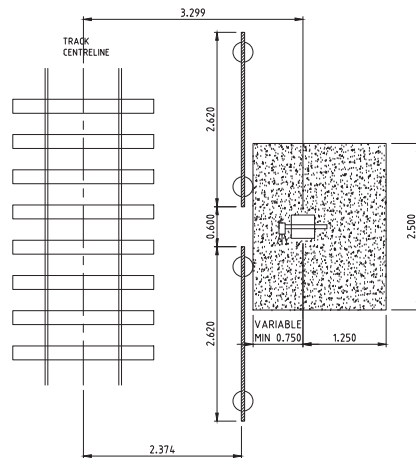
OPTION 1: SINGLE TRACK WITH CAMERA POLE
>5m FROM CENTRE OF TRACK



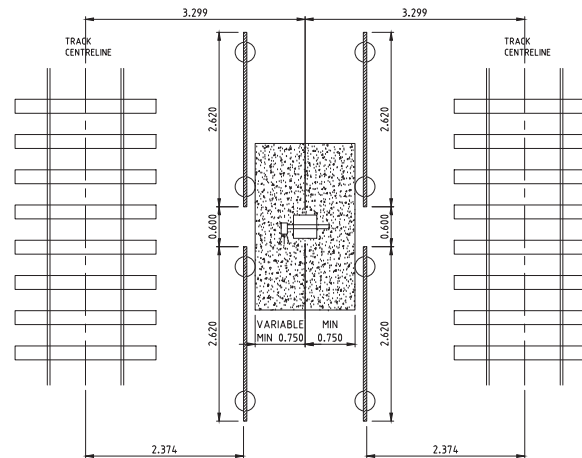
OPTION 2: DOUBLE TRACK WITH CAMERA POLE
>5m FROM CENTRE OF TRACKS



TYPICAL CROSS SECTION OF OPTION 2



OPTION 3: SINGLE TRACK WITH CAMERA POLE
BETWEEN 3.3m & 5m FROM CENTRE OF TRACK



OPTION 4: DOUBLE TRACK WITH CAMERA POLE
BETWEEN 3.3m & 5m FROM CENTRE OF TRACKS

NOTE:

- HANDRAIL CLEARANCES AS FOLLOWS:
DESIRABLE DISTANCE TO NEAREST RAIL 2.0m
MINIMUM DISTANCE TO NEAREST RAIL 1.8m
- 100mm THICK 20MPa UNREINFORCED CONCRETE PAD TO BE FINISHED FLUSH TO GROUND LEVEL
- FOR HANDRAIL DETAILS SEE PTA DRAWING 00-S-12-0001
- HANDRAIL LOCATIONS MUST BE CHECKED TO NOT INTERFERE WITH BREAKBACK POLE OPERATION

A	05.04.2016	ISSUED FOR COMMENT	AYYT	AYYT	JR	RD
RE	05.04.2016	ISSUED FOR COMMENT	AYYT	AYYT	JR	RD
ORIG SIZE	A1	100mm AT ORIGINAL PLOT SIZE				

CAD DRAWING PATHNAME

\\ptcrwpob\p02\renditiontemp\1mp-7294065675847628678\00-S-12-0003.dwg

REFERENCE DRGS

SCALE :
NTS
(@ A1)
DATUM :
HORIZONTAL:
VERTICAL: N/A
DRAWING STATUS
PRELIMINARY
DOC REVIEW NOTE No.
A2114747

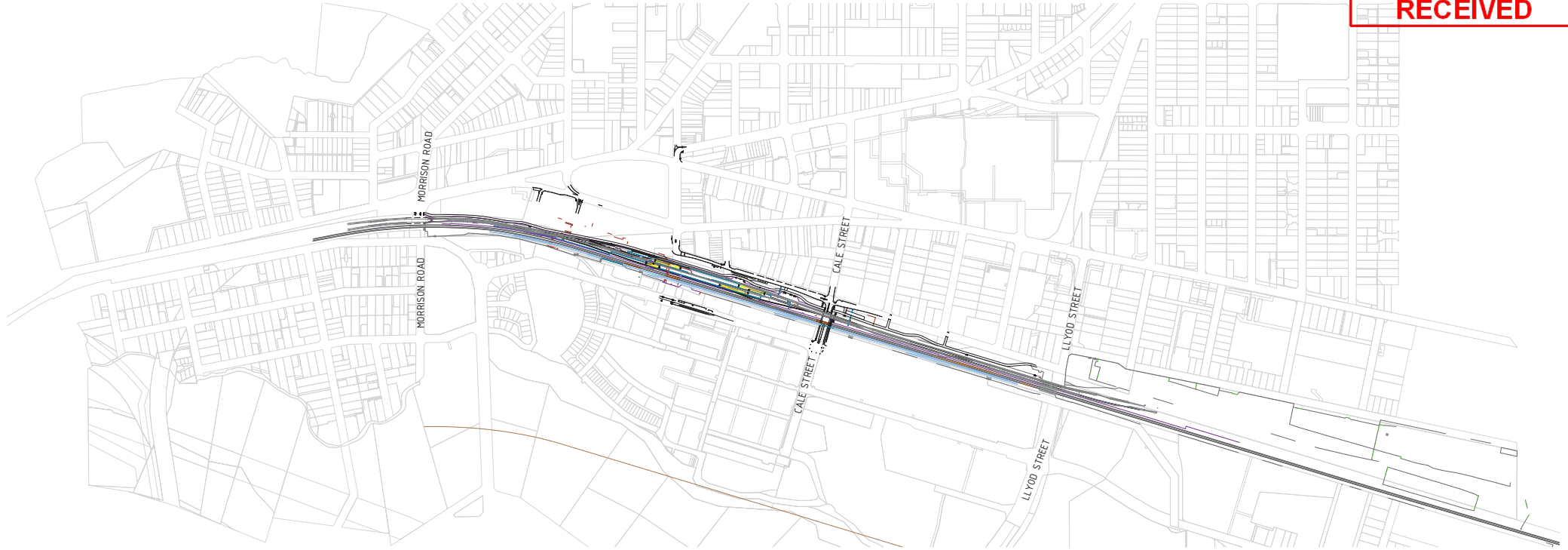
DESIGNED **A.Y.Y.T**
DRAWN **A.Y.Y.T**
CHECKED **J.R**
APPROVED
DIRECTOR
DATE

Government of Western Australia
Public Transport Authority

STANDARD DAVS & CCTV PAD & BARRIER
TYPICAL LAYOUT

PTA Drawing No: 00-S-12-0003

130
REV : A



NOTES:

1. REFER TO DRAWINGS 12-C-13-0336 - 0344 FOR FENCING LAYOUT.
2. REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
3. TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
4. TYPE 4 GARRISON FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GARRISON FENCING SHOWN ON THE LAYOUT PLANS.
5. TYPE 1 & 4 FENCES TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
6. ALL GATES TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GATES SHOWN ON THE LAYOUT PLANS.
7. ALL HANDRAILS SHALL BE INSTALLED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-S-12-0001, 00-S-12-0002 & 00-S-12-0003".
8. FENCING DETAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001".
9. LAYOUT PLAN IS REPRESENTATIVE ONLY AND FOOTING SPACINGS SHALL BE IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001".
10. EASTING AND NORTHINGS PROVIDED IS IN PCG2020 COORDINATE GRID SYSTEM. THE SET-OUT RELATIVE LEVEL (RL) SHALL BE BASED ON THE SURFACE LEVEL PRESENT AT THE TIME OF CONSTRUCTION. THIS WORK SHALL BE CARRIED OUT POST COMPLETION OF FORMATION AND ALL RAIL INFRASTRUCTURE.
11. DETECTION OF UNDERGROUND UTILITIES TO BE COMPLETED PRIOR TO FOOTING INSTALLATION. HAND TRENCHING TO BE DONE WHERE UNDERGROUND UTILITIES ARE PRESENT AND NEARBY.
12. WHERE A POSITION OF SAFETY IS NOT ACHIEVED, A REFUGE AREA IS TO BE PROVIDED AT A MAXIMUM SPACING OF 20m.

FENCE LAYOUT PLANS

12-C-13-0335	CH 13650 TO CH 13815 - SHEET 1 OF 11
12-C-13-0336	CH 13830 TO CH 14010 - SHEET 2 OF 11
12-C-13-0337	CH 14025 TO CH 14205 - SHEET 3 OF 11
12-C-13-0338	CH 14220 TO CH 14400 - SHEET 4 OF 11
12-C-13-0339	CH 14415 TO CH 14595 - SHEET 5 OF 11
12-C-13-0340	CH 14610 TO CH 14790 - SHEET 6 OF 11
12-C-13-0341	CH 14805 TO CH 14985 - SHEET 7 OF 11
12-C-13-0342	CH 15000 TO CH 15180 - SHEET 8 OF 11
12-C-13-0343	CH 15195 TO CH 15330 - SHEET 9 OF 11
12-C-13-0344	CH 00000 TO CH 00000 - SHEET 10 OF 11
12-C-13-0345	CH 00000 TO CH 00000 - SHEET 11 OF 11
12-C-13-0346	CH 00000 TO CH 00000 - SHEET 11 OF 11



1:100 (A1) / 1:200 (A3)

PRELIMINARY DESIGN

INTERNAL REVIEW			
A	15/12/22	ISSUED FOR DETAILED DESIGN	MS
REV	15/12/22	ISSUED FOR DETAILED DESIGN	MS
ORIG SIZE	A1	AT ORIGINAL PLOT SIZE	100mm



METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

REFERENCES

SCALE

DESIGNED	H. STOJEVSKI
DRAWN	D. THOTA
CHECKED	R. WAN
APPROVED	C. FEWTELL
DATE	15/12/2022

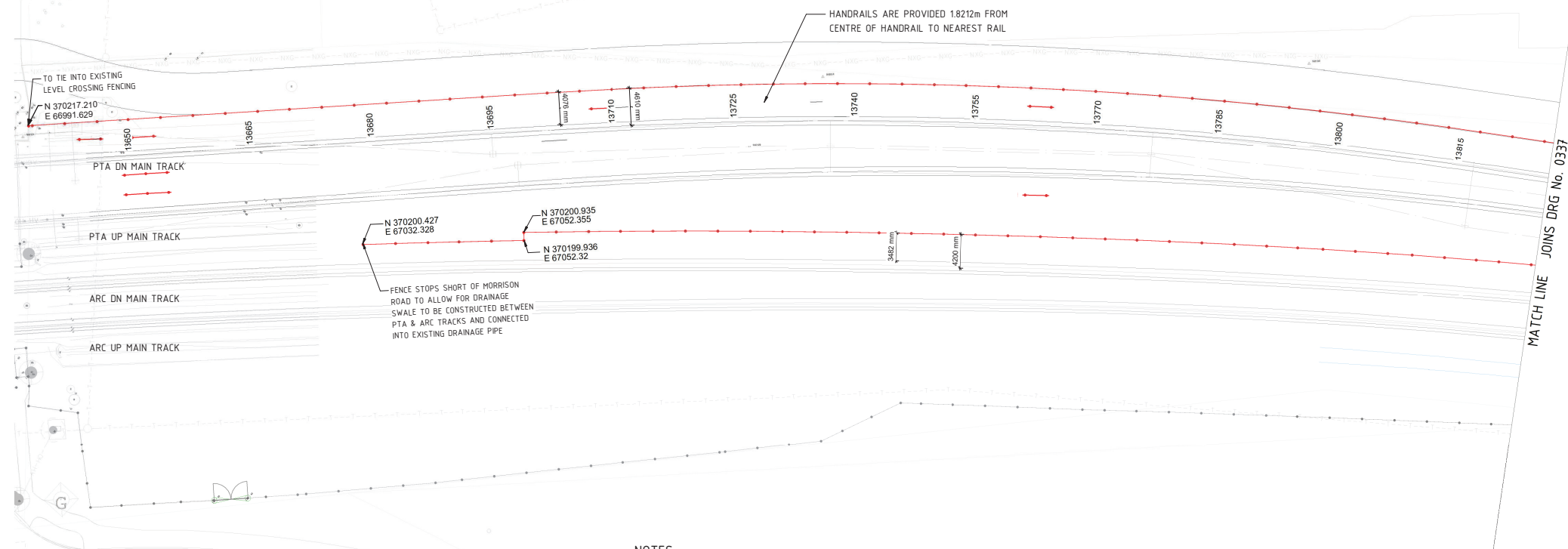
DATUM	
HORIZONTAL:	PCG20
VERTICAL:	AHD71

Government of Western Australia Public Transport Authority	MIDLAND STATION (CALE ST)
GENERAL ARRANGEMENT FENCING OVERALL PLAN	
PTA Drawing No:	12-C-13-0335
Rev:	A

131

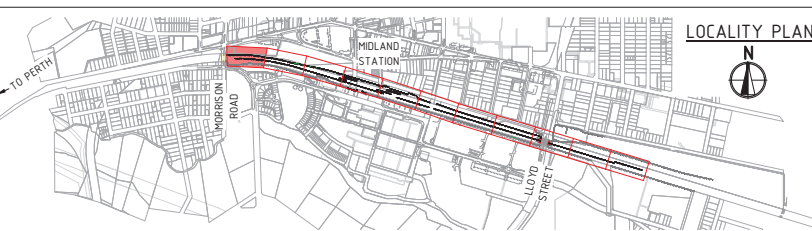
10 February 2023

RECEIVED



LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES



NOTES:

1. REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
2. REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
3. REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
4. TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
5. TYPE 4 GARRISON FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GARRISON FENCING SHOWN ON THE LAYOUT PLANS.
6. TYPE 1 & 4 FENCES TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
7. ALL GATES TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GATES SHOWN ON THE LAYOUT PLANS.
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9. FENCING DETAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
10. LAYOUT PLAN IS REPRESENTATIVE ONLY AND FOOTING SPACINGS SHALL BE IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
11. EASTING AND NORTHINGS PROVIDED IS IN PCG2020 COORDINATE GRID SYSTEM. THE SET-OUT RELATIVE LEVEL (RL) SHALL BE BASED ON THE SURFACE LEVEL PRESENT AT THE TIME OF CONSTRUCTION. THIS WORK SHALL BE CARRIED OUT POST COMPLETION OF FORMATION AND ALL RAIL INFRASTRUCTURE.
12. DETECTION OF UNDERGROUND UTILITIES TO BE COMPLETED PRIOR TO FOOTING INSTALLATION. HAND TRENCHING TO BE DONE WHERE UNDERGROUND UTILITIES ARE PRESENT AND NEARBY.
13. WHERE A POSITION OF SAFETY IS NOT ACHIEVED, A REFUGE AREA IS TO BE PROVIDED AT A MAXIMUM SPACING OF 20m.
14. FENCING AND HANDRAIL FOUNDATIONS TO BE PLACED IN ACCORDANCE WITH PTA SPECIFICATIONS 8880-450-069. WHERE EXISTING INFRASTRUCTURE IS PRESENT ON SITE, FOUNDATION SPACINGS TO BE ADJUSTED TO AVOID CLASHES.

1:250 (A1) / 1:500 (A3) 0 2.5m 5 7.5 10 12.5 15 17.5 20 22.5 25 27.5 30 32.5 35 37.5

PRELIMINARY DESIGN

INTERNAL REVIEW			
REV	15/12/22	ISSUED FOR DETAILED DESIGN	
ORIG SIZE	A1	AT ORIGINAL PLOT SIZE	

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential



REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED H. STOJEVSKI

DRAWN D. THOTA

CHECKED R. WAN

APPROVED C. FEWTELL

DATE 15/12/2022

Government of Western Australia
Public Transport Authority

MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 13650 TO CH 13815 - SHEET 1 OF 11

132

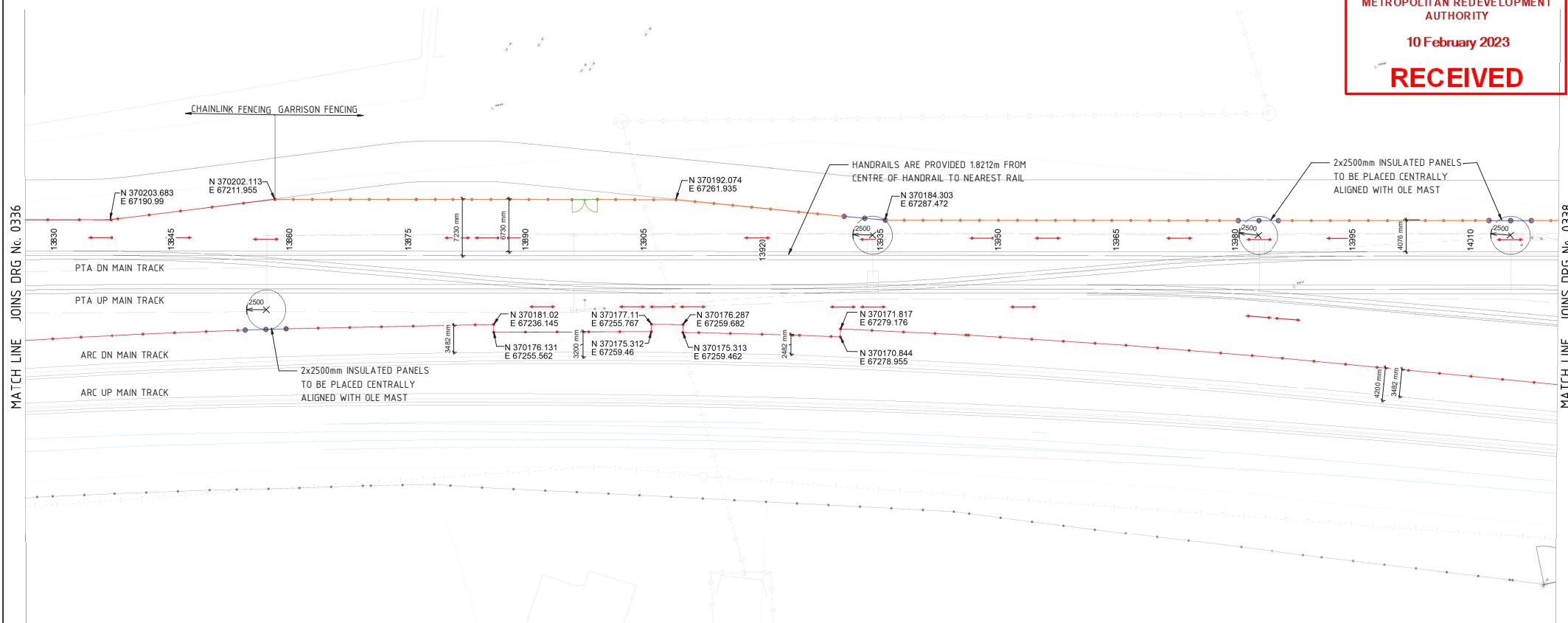
PTA Drawing No: 12-C-13-0336

Rev: A

10 February 2023

RECEIVED

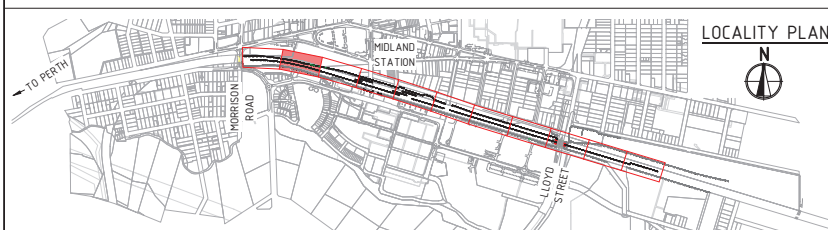
MATCH LINE JOINS DRG No. 0336



MATCH LINE JOINS DRG No. 0338

LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES



NOTES:

- REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
- REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
- REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
- TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
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1:250 (A1) / 1:500 (A3) 0 2.5m 5 7.5 10 12.5 15 17.5 20 22.5 25 27.5 30 32.5 35 37.5

PRELIMINARY DESIGN

INTERNAL REVIEW		MIDLAND JUNCTION ALLIANCE	
A	15/12/22	ISSUED FOR DETAILED DESIGN	MS D.T. R.W. C.F.
REV	1	15/12/22	15/12/22
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE

METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

CAD DRAWING PATHNAME: AutodesK Docs\AAU-30103874-Midland Station\12-B-99-C10006.rvt

REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED H. STOJEVSKI

DRAWN D. THOTA

CHECKED R. WAN

APPROVED C. FEWTELL

DATE 15/12/2022



MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

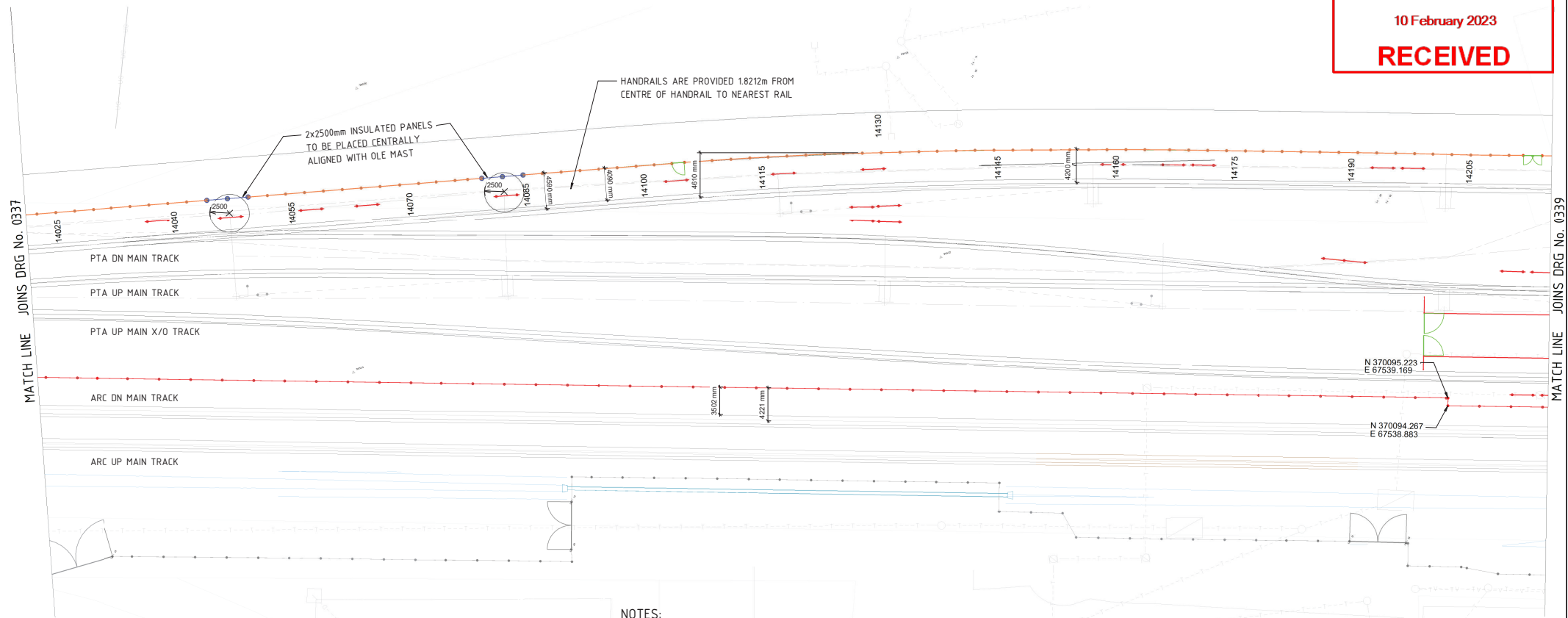
CH 13830 TO CH 14010 - SHEET 2 OF 11

PTA Drawing No: 12-C-13-0337 Rev: A

133

10 February 2023

RECEIVED

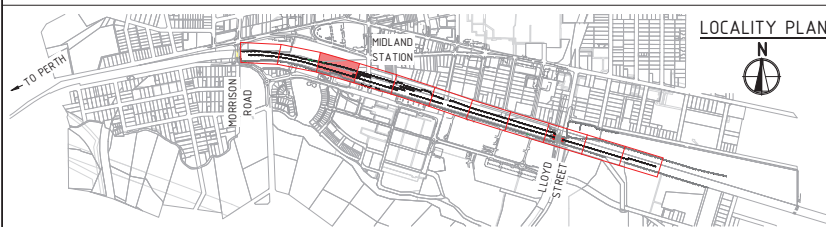


NOTES:

1. REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
2. REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
3. REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
4. TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
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LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES



LOCALITY PLAN



INTERNAL REVIEW

METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

A1 15.12.22 ISSUED FOR DETAILED DESIGN
REV: 01
ORIG SIZE: 0 10 20 30 40 50 100mm
AT ORIGINAL PLOT SIZE

CAD DRAWING PATHNAME: Autodesks Docs\AAU-30103874-Midland Station\12-B-99-C10006.rvt



REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED: H. STOJEVSKI

DRAWN: D. THOTA

CHECKED: R. WAN

APPROVED: C. FEWTELL

DATE: 15/12/2022



MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 14025 TO CH 14205 - SHEET 3 OF 11

PTA Drawing No:

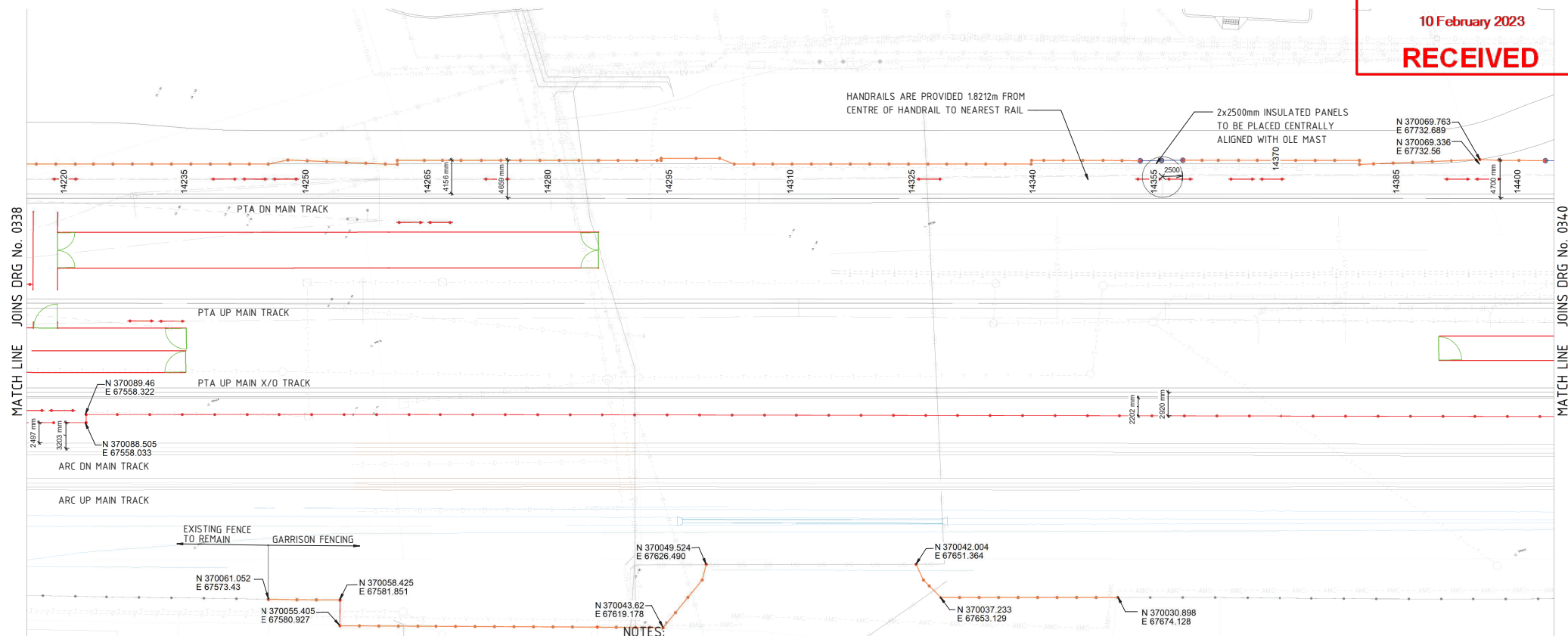
12-C-13-0338

134

Rev: A

10 February 2023

RECEIVED

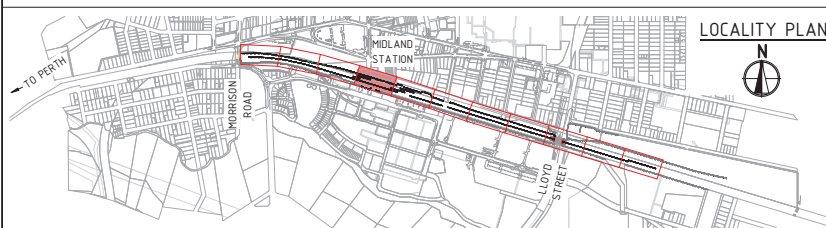


NOTES

1. REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
2. REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
3. REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
4. TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
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LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES



LOCALITY PLAN



INTERNAL REVIEW

METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

A1 0 10 20 30 40 50 100m AT ORIGINAL PLOT SIZE

CAD DRAWING PATHNAME Autodesk Docs//AAU-30103874-Midland Station/12-B-99-C10006.rvt

MIDLAND
JUNCTION
ALLIANCE

REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED H. STOJEVSKI

DRAWN D. THOTA

CHECKED R. WAN

APPROVED C. FEWTELL

DATE 15/12/2022

Government of Western Australia
Public Transport Authority

MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 14220 TO CH 14400 - SHEET 4 OF 11

PTA Drawing No:

12-C-13-0339

135

Rev: A

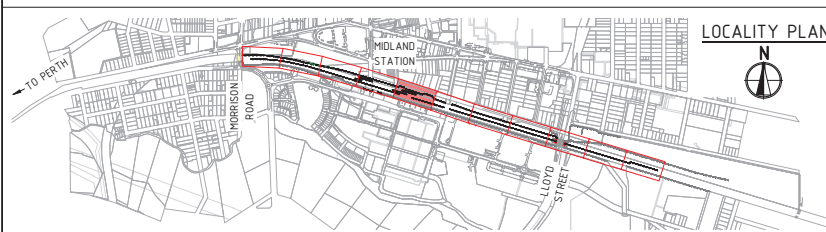
10 February 2023

RECEIVED

MATCH LINE JOINS DRG No. 0339

LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES



NOTES:

- REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
- REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
- REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
- TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
- TYPE 4 GARRISON FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GARRISON FENCING SHOWN ON THE LAYOUT PLANS.
- TYPE 1 & 4 FENCES TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
- ALL GATES TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GATES SHOWN ON THE LAYOUT PLANS.
- ALL HANDRAILS SHALL BE INSTALLED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-S-12-0001, 00-S-12-0002 & 00-S-12-0003"
- FENCING DETAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
- LAYOUT PLAN IS REPRESENTATIVE ONLY AND FOOTING SPACINGS SHALL BE IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
- EASTING AND NORTHINGS PROVIDED IS IN PCG2020 COORDINATE GRID SYSTEM. THE SET-OUT RELATIVE LEVEL (RL) SHALL BE BASED ON THE SURFACE LEVEL PRESENT AT THE TIME OF CONSTRUCTION. THIS WORK SHALL BE CARRIED OUT POST COMPLETION OF FORMATION AND ALL RAIL INFRASTRUCTURE.
- DETECTION OF UNDERGROUND UTILITIES TO BE COMPLETED PRIOR TO FOOTING INSTALLATION. HAND TRENCHING TO BE DONE WHERE UNDERGROUND UTILITIES ARE PRESENT AND NEARBY.
- WHERE A POSITION OF SAFETY IS NOT ACHIEVED, A REFUGE AREA IS TO BE PROVIDED AT A MAXIMUM SPACING OF 20m.
- FENCING AND HANDRAIL FOUNDATIONS TO BE PLACED IN ACCORDANCE WITH PTA SPECIFICATIONS 8880-450-069. WHERE EXISTING INFRASTRUCTURE IS PRESENT ON SITE, FOUNDATION SPACINGS TO BE ADJUSTED TO AVOID CLASHES.

1:250 (A1) / 1:500 (A3) 0 2.5m 5 7.5 10 12.5 15 17.5 20 22.5 25 27.5 30 32.5 35 37.5

PRELIMINARY DESIGN

INTERNAL REVIEW			
REV	15/12/22	ISSUED FOR DETAILED DESIGN	
ORIG SIZE	A1	AT ORIGINAL PLOT SIZE	
METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential			



REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED H. STOJEVSKI

DRAWN D. THOTA

CHECKED R. WAN

APPROVED C. FEWTELL

DATE 15/12/2022



MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 14415 TO CH 14595 - SHEET 5 OF 11

PTA Drawing No:

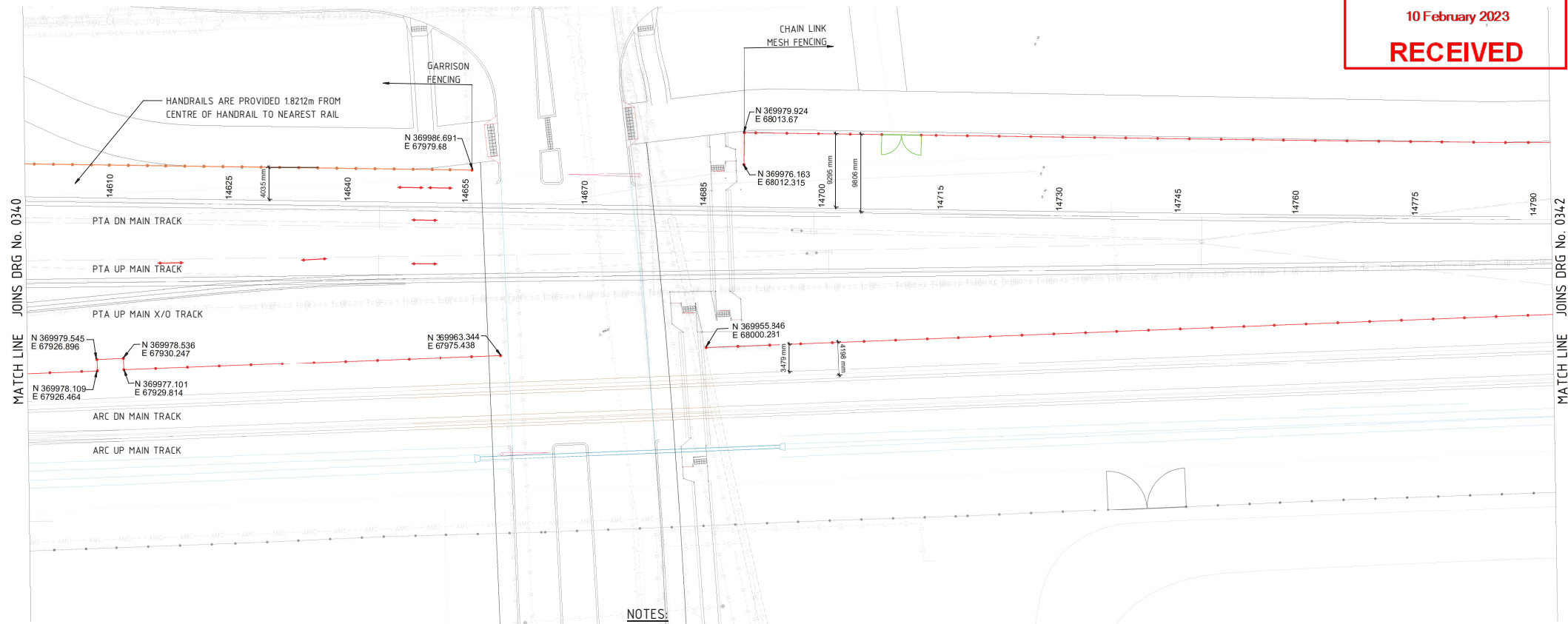
12-C-13-0340

136

Rev: A

10 February 2023

RECEIVED

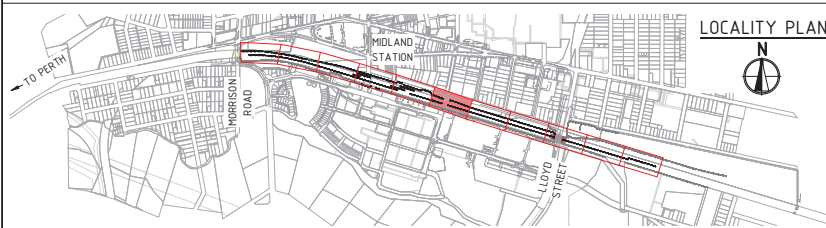
JOINS DRG No. 0340
MATCH LINEMATCH LINE
JOINS DRG No. 0342

LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES

NOTES:

1. REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
2. REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
3. REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
4. TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
5. TYPE 4 GARRISON FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GARRISON FENCING SHOWN ON THE LAYOUT PLANS.
6. TYPE 1 & 4 FENCES TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
7. ALL GATES TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GATES SHOWN ON THE LAYOUT PLANS.
8. ALL HANDRAILS SHALL BE INSTALLED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-S-12-0001, 00-S-12-0002 & 00-S-12-0003"
9. FENCING DETAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
10. LAYOUT PLAN IS REPRESENTATIVE ONLY AND FOOTING SPACINGS SHALL BE IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
11. EASTING AND NORTHINGS PROVIDED IS IN PCG2020 COORDINATE GRID SYSTEM. THE SET-OUT RELATIVE LEVEL (RL) SHALL BE BASED ON THE SURFACE LEVEL PRESENT AT THE TIME OF CONSTRUCTION. THIS WORK SHALL BE CARRIED OUT POST COMPLETION OF FORMATION AND ALL RAIL INFRASTRUCTURE.
12. DETECTION OF UNDERGROUND UTILITIES TO BE COMPLETED PRIOR TO FOOTING INSTALLATION. HAND TRENCHING TO BE DONE WHERE UNDERGROUND UTILITIES ARE PRESENT AND NEARBY.
13. WHERE A POSITION OF SAFETY IS NOT ACHIEVED, A REFUGE AREA IS TO BE PROVIDED AT A MAXIMUM SPACING OF 20m.
14. FENCING AND HANDRAIL FOUNDATIONS TO BE PLACED IN ACCORDANCE WITH PTA SPECIFICATIONS 8880-450-069. WHERE EXISTING INFRASTRUCTURE IS PRESENT ON SITE, FOUNDATION SPACINGS TO BE ADJUSTED TO AVOID CLASHES.



INTERNAL REVIEW		MIDLAND JUNCTION ALLIANCE	
REV	DATE	ISSUED FOR	BY
A	15/12/22	ISSUED FOR DETAILED DESIGN	MS
B	15/12/22	ISSUED FOR DETAILED DESIGN	DT
C	15/12/22	ISSUED FOR DETAILED DESIGN	RW
D	15/12/22	ISSUED FOR DETAILED DESIGN	CF
ORIG SIZE			
A1			
AT ORIGINAL PLOT SIZE			

CAD DRAWING PATHNAME: Autodesks Docs\AAU-30103874-Midland Station\12-B-99-C10006.rvt

REFERENCES

SCALE

As indicated @ A1

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED: H. STOJEVSKI

DRAWN: D. THOTA

CHECKED: R. WAN

APPROVED: C. FEWTELL

DATE: 15/12/2022

Government of Western Australia
Public Transport Authority

MIDLAND STATION (SCALE ST)

PRELIMINARY DESIGN

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 14610 TO CH 14790 - SHEET 6 OF 11

PTA Drawing No: 12-C-13-0341

137

Rev: A

10 February 2023

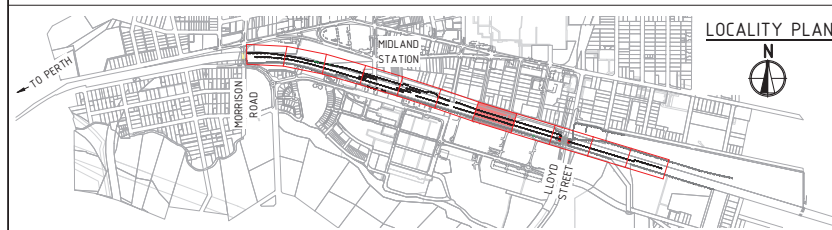
RECEIVED

MATCH LINE JOINS DRG No. 0341

MATCH LINE JOINS DRG No. 0343

LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES



NOTES:

- REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
- REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
- REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
- TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
- TYPE 4 GARRISON FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GARRISON FENCING SHOWN ON THE LAYOUT PLANS.
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1:250 (A1) / 1:500 (A3) 0 2.5m 5 7.5 10 12.5 15 17.5 20 22.5 25 27.5 30 32.5 35 37.5

PRELIMINARY DESIGN

INTERNAL REVIEW		MIDLAND JUNCTION ALLIANCE	
A	15/12/22	ISSUED FOR DETAILED DESIGN	MS D.T. R.W. C.F.
REV	1	15/12/22	15/12/22
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

CAD DRAWING PATHNAME: Autodesks Docs\AAU-30103874-Midland Station\12-B-99-010006.rvt

REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED H. STOJEVSKI

DRAWN D. THOTA

CHECKED R. WAN

APPROVED C. FEWTELL

DATE 15/12/2022

Government of Western Australia
Public Transport Authority

MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 14805 TO CH 14985 - SHEET 7 OF 11

PTA Drawing No:

12-C-13-0342

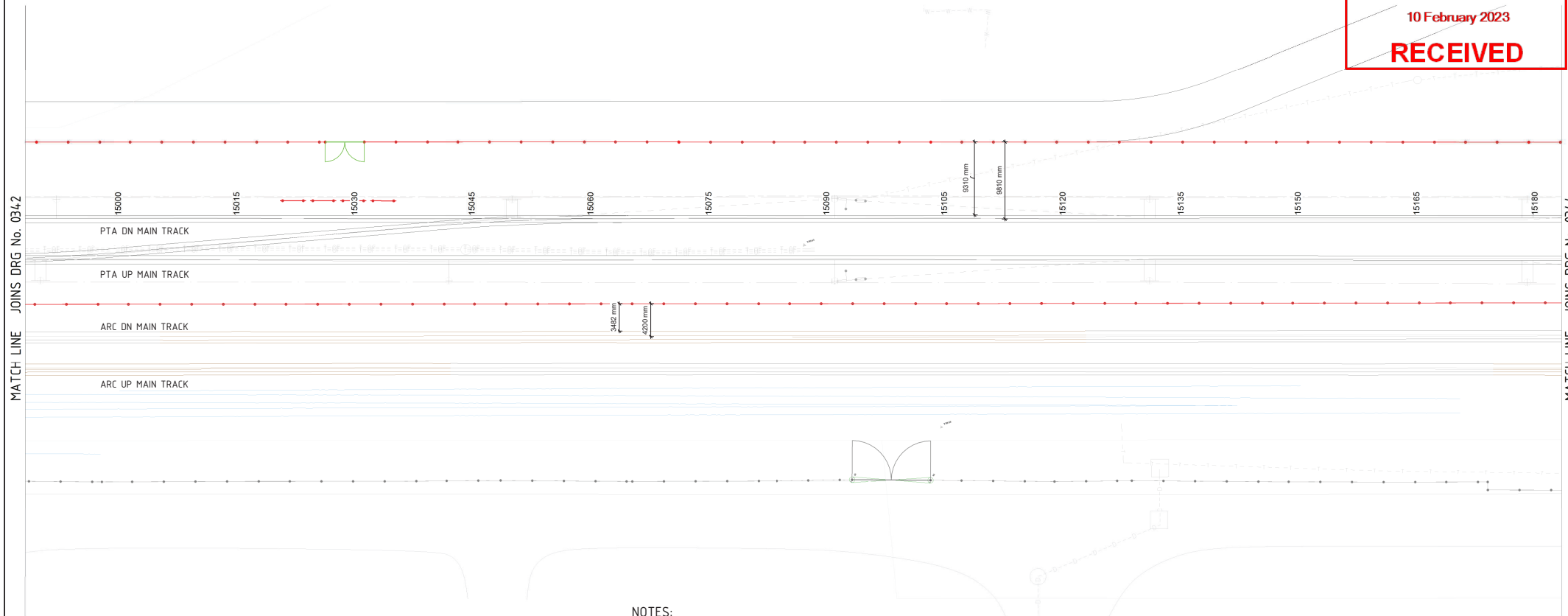
138

Rev: A

10 February 2023

RECEIVED

MATCH LINE JOINS DRG No. 0342



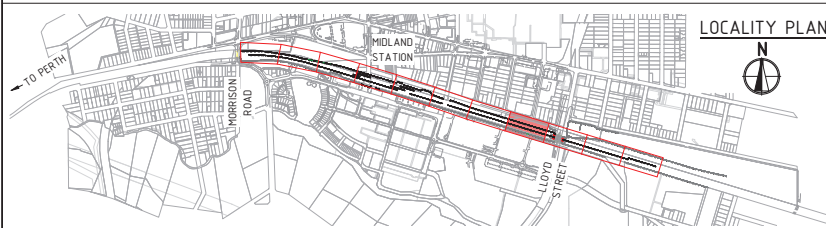
MATCH LINE JOINS DRG No. 0344

LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES

NOTES:

- REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
- REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
- REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
- TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
- TYPE 4 GARRISON FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GARRISON FENCING SHOWN ON THE LAYOUT PLANS.
- TYPE 1 & 4 FENCES TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
- ALL GATES TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GATES SHOWN ON THE LAYOUT PLANS.
- ALL HANDRAILS SHALL BE INSTALLED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-S-12-0001, 00-S-12-0002 & 00-S-12-0003"
- FENCING DETAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
- LAYOUT PLAN IS REPRESENTATIVE ONLY AND FOOTING SPACINGS SHALL BE IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
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- WHERE A POSITION OF SAFETY IS NOT ACHIEVED, A REFUGE AREA IS TO BE PROVIDED AT A MAXIMUM SPACING OF 20m.
- FENCING AND HANDRAIL FOUNDATIONS TO BE PLACED IN ACCORDANCE WITH PTA SPECIFICATIONS 8880-450-069. WHERE EXISTING INFRASTRUCTURE IS PRESENT ON SITE, FOUNDATION SPACINGS TO BE ADJUSTED TO AVOID CLASHES.



INTERNAL REVIEW	
REV	15.12.22 ISSUED FOR DETAILED DESIGN
ORIG SIZE	A1
AT ORIGINAL PLOT SIZE	0 10 20 30 40 50 100m

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

CAD DRAWING PATHNAME: Autodesks Docs//AAU-30103874-Midland Station/12-B-99-010006.rvt



REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED H. STOJEVSKI

DRAWN D. THOTA

CHECKED R. WAN

APPROVED C. FEWTELL

DATE 15/12/2022



MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 15000 TO CH 15180 - SHEET 8 OF 11

PTA Drawing No:

12-C-13-0343

139

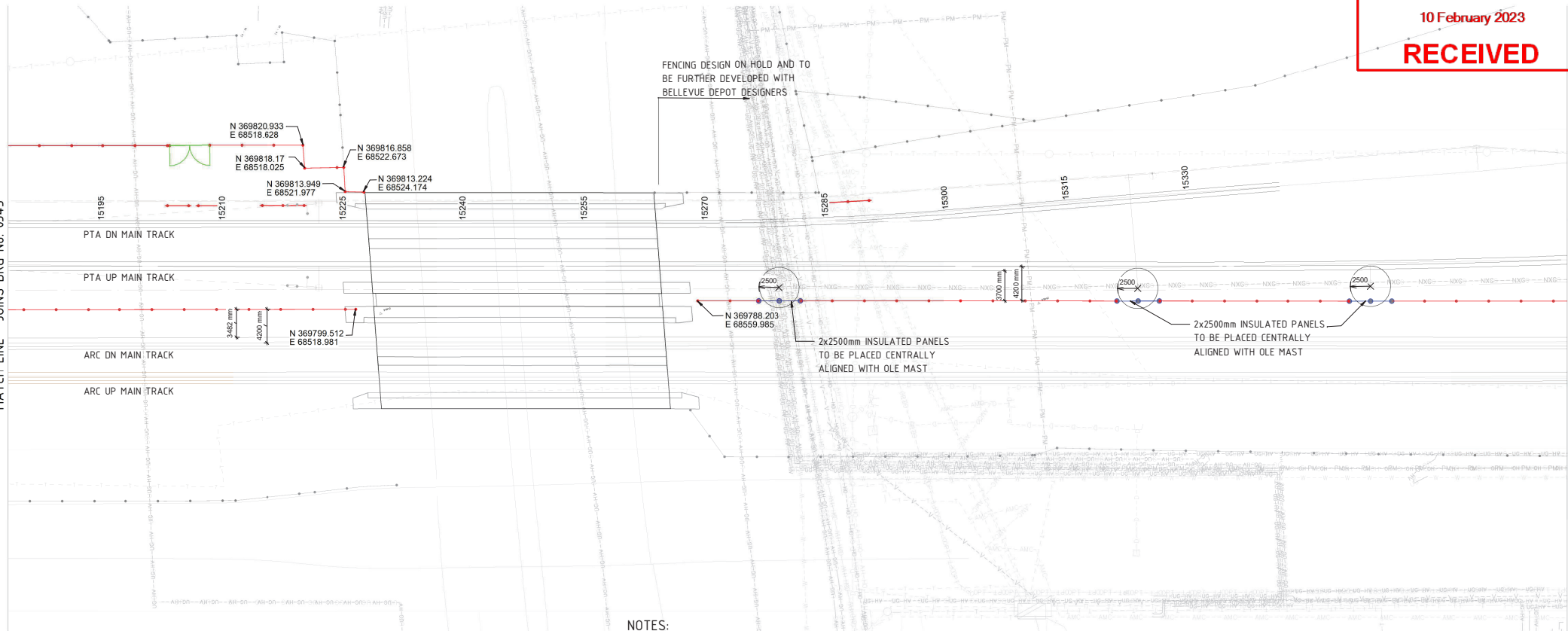
Rev: A

10 February 2023

RECEIVED

MATCH LINE JOINS DRG No. 034.3

MATCH LINE JOINS DRG No. 034.5

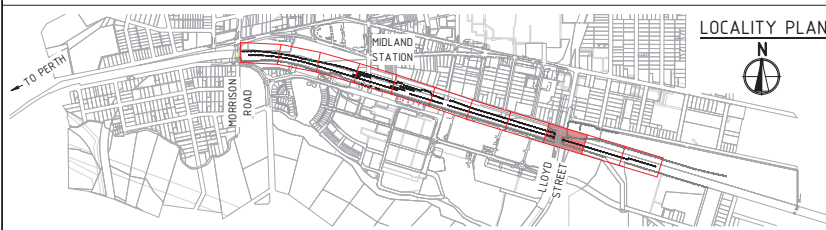
FENCING DESIGN ON HOLD AND TO
BE FURTHER DEVELOPED WITH
BELLEVUE DEPOT DESIGNERS

NOTES:

1. REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
2. REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
3. REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
4. TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
5. TYPE 4 GARRISON FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GARRISON FENCING SHOWN ON THE LAYOUT PLANS.
6. TYPE 1 & 4 FENCES TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
7. ALL GATES TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GATES SHOWN ON THE LAYOUT PLANS.
8. ALL HANDRAILS SHALL BE INSTALLED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-S-12-0001, 00-S-12-0002 & 00-S-12-0003"
9. FENCING DETAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
10. LAYOUT PLAN IS REPRESENTATIVE ONLY AND FOOTING SPACINGS SHALL BE IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
11. EASTING AND NORTHINGS PROVIDED IS IN PCG2020 COORDINATE GRID SYSTEM. THE SET-OUT RELATIVE LEVEL (RL) SHALL BE BASED ON THE SURFACE LEVEL PRESENT AT THE TIME OF CONSTRUCTION. THIS WORK SHALL BE CARRIED OUT POST COMPLETION OF FORMATION AND ALL RAIL INFRASTRUCTURE.
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14. FENCING AND HANDRAIL FOUNDATIONS TO BE PLACED IN ACCORDANCE WITH PTA SPECIFICATIONS 8880-450-069. WHERE EXISTING INFRASTRUCTURE IS PRESENT ON SITE, FOUNDATION SPACINGS TO BE ADJUSTED TO AVOID CLASHES.

LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES



1:250 (A1) / 1:500 (A3) 0 2.5m 5 7.5 10 12.5 15 17.5 20 22.5 25 27.5 30 32.5 35 37.5

PRELIMINARY DESIGN

INTERNAL REVIEW								
A	15.12.22	ISSUED FOR DETAILED DESIGN			MS	DT	RW	CF
REV	1	ISSUED FOR DETAILED DESIGN			MS	DT	RW	CF
ORIG SIZE	A1	0 10 20 30 40 50 100mm			AT ORIGINAL PLOT SIZE			

METRONET East (Midland) LRC Meeting - 15 May 2023 Confidential

CAD DRAWING PATHNAME: Autodesks Docs\AAU-30103874-Midland Station\12-B-99-C10006.rvt

REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED H. STOJEVSKI

DRAWN D. THOTA

CHECKED R. WAN

APPROVED C. FEWTELL

DATE 15/12/2022

Government of Western Australia
Public Transport Authority

MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 15195 TO CH 15330 - SHEET 9 OF 11

140

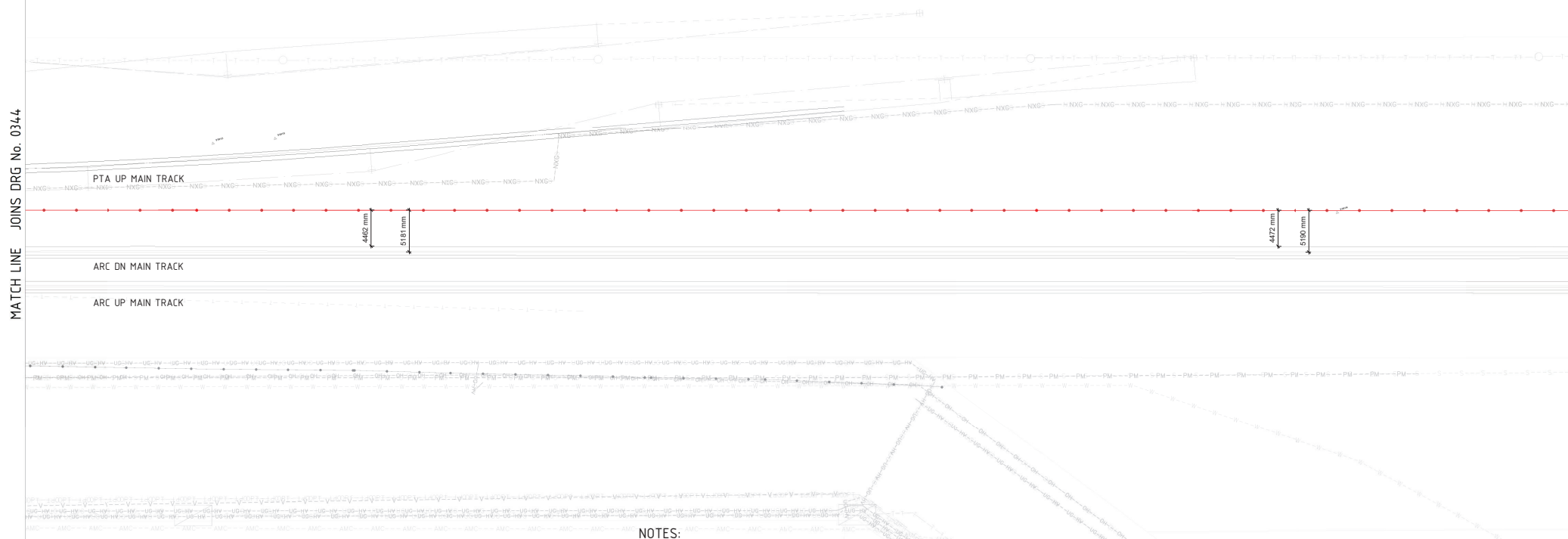
PTA Drawing No: 12-C-13-0344

Rev: A

10 February 2023

RECEIVED

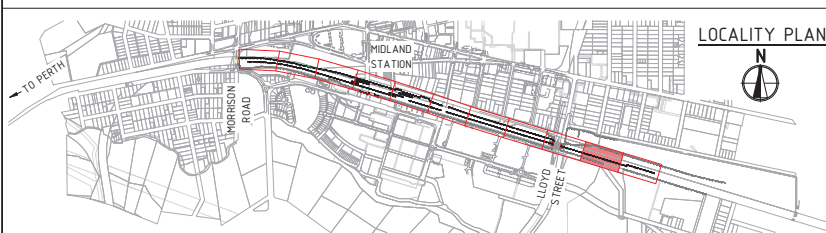
MATCH LINE JOINS DRG No. 0344



MATCH LINE JOINS DRG No. 0346

LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES



NOTES

- REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
- REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
- REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
- TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
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- ALL GATES TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GATES SHOWN ON THE LAYOUT PLANS.
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1:100 (A1) / 1:200 (A3) 0 1m 2 3 4 5 6 7 8 9 10 11 12 13 14 15

PRELIMINARY DESIGN

INTERNAL REVIEW					
REV	15.12.22	ISSUED FOR DETAILED DESIGN	MS	DT	RW
ORIG SIZE	A1	15.12.22	10	20	30
AT ORIGINAL PLOT SIZE					



REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20
VERTICAL: AHD71

DESIGNED H. STOJEVSKI

DRAWN D. THOTA

CHECKED R. WAN

APPROVED C. FEWRELL

DATE 15/12/2022



MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 00000 TO CH 00000 - SHEET 10 OF 11

PTA Drawing No: 12-C-13-0345

141

Rev: A

10 February 2023

RECEIVED

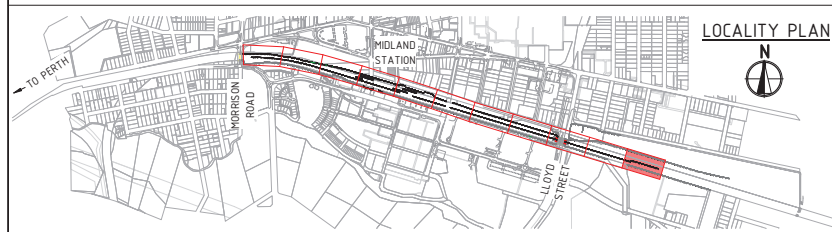
MATCH LINE JOINS DRG No. 0345



MATCH LINE JOINS DRG No. N/A

LEGEND

- CHAINLINK FENCE
- HANDRAILS
- EXISTING FENCE
- GARRISON FENCE
- INSULATED PANELS
- GATES



NOTES:

- REFER TO DRAWING 12-C-13-0335 FOR OVERALL FENCING LAYOUT.
- REFER TO DRAWINGS 12-C-13-0336 - 0346 FOR FENCING LAYOUT.
- REFER TO DRAWING 12-C-24-0051 FOR GENERAL LEGEND.
- TYPE 1 MESH FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF MESH FENCING SHOWN ON THE LAYOUT PLANS.
- TYPE 4 GARRISON FENCING TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GARRISON FENCING SHOWN ON THE LAYOUT PLANS.
- TYPE 1 & 4 FENCES TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
- ALL GATES TO BE INSTALLED IN ACCORDANCE WITH PTA SPECIFICATIONS "8880-450-069 - FENCES & NOISE WALLS". POSITION OF GATES SHOWN ON THE LAYOUT PLANS.
- ALL HANDRAILS SHALL BE INSTALLED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-S-12-0001, 00-S-12-0002 & 00-S-12-0003"
- FENCING DETAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
- LAYOUT PLAN IS REPRESENTATIVE ONLY AND FOOTING SPACINGS SHALL BE IN ACCORDANCE WITH PTA STANDARD DRAWINGS "00-C-04-0042, 00-C-04-0111, 00-C-04-0112 & 00-C-04-1001"
- EASTING AND NORTHINGS PROVIDED IS IN PCG2020 COORDINATE GRID SYSTEM. THE SET-OUT RELATIVE LEVEL (RL) SHALL BE BASED ON THE SURFACE LEVEL PRESENT AT THE TIME OF CONSTRUCTION. THIS WORK SHALL BE CARRIED OUT POST COMPLETION OF FORMATION AND ALL RAIL INFRASTRUCTURE.
- DETECTION OF UNDERGROUND UTILITIES TO BE COMPLETED PRIOR TO FOOTING INSTALLATION. HAND TRENCHING TO BE DONE WHERE UNDERGROUND UTILITIES ARE PRESENT AND NEARBY.
- WHERE A POSITION OF SAFETY IS NOT ACHIEVED, A REFUGE AREA IS TO BE PROVIDED AT A MAXIMUM SPACING OF 20m.
- FENCING AND HANDRAIL FOUNDATIONS TO BE PLACED IN ACCORDANCE WITH PTA SPECIFICATIONS 8880-450-069. WHERE EXISTING INFRASTRUCTURE IS PRESENT ON SITE, FOUNDATION SPACINGS TO BE ADJUSTED TO AVOID CLASHES.



1:100 (A1) / 1:200 (A3)

PRELIMINARY DESIGN

INTERNAL REVIEW	
REV	15.12.22 ISSUED FOR DETAILED DESIGN
ORIG SIZE	0 10 20 30 40 50 100mm
A1	AT ORIGINAL PLOT SIZE



METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

CAD DRAWING PATHNAME: AutodesK Docs\AAU-30103874-Midland Station\12-B-99-C10006.rvt

REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG20

VERTICAL: AHD71

DESIGNED H. STOJEVSKI

DRAWN D. THOTA

CHECKED R. WAN

APPROVED C. FEWTELL

DATE 15/12/2022



MIDLAND STATION (SCALE ST)

GENERAL ARRANGEMENT - FENCING

LAYOUT PLAN

CH 00000 TO CH 00000 - SHEET 11 OF 11

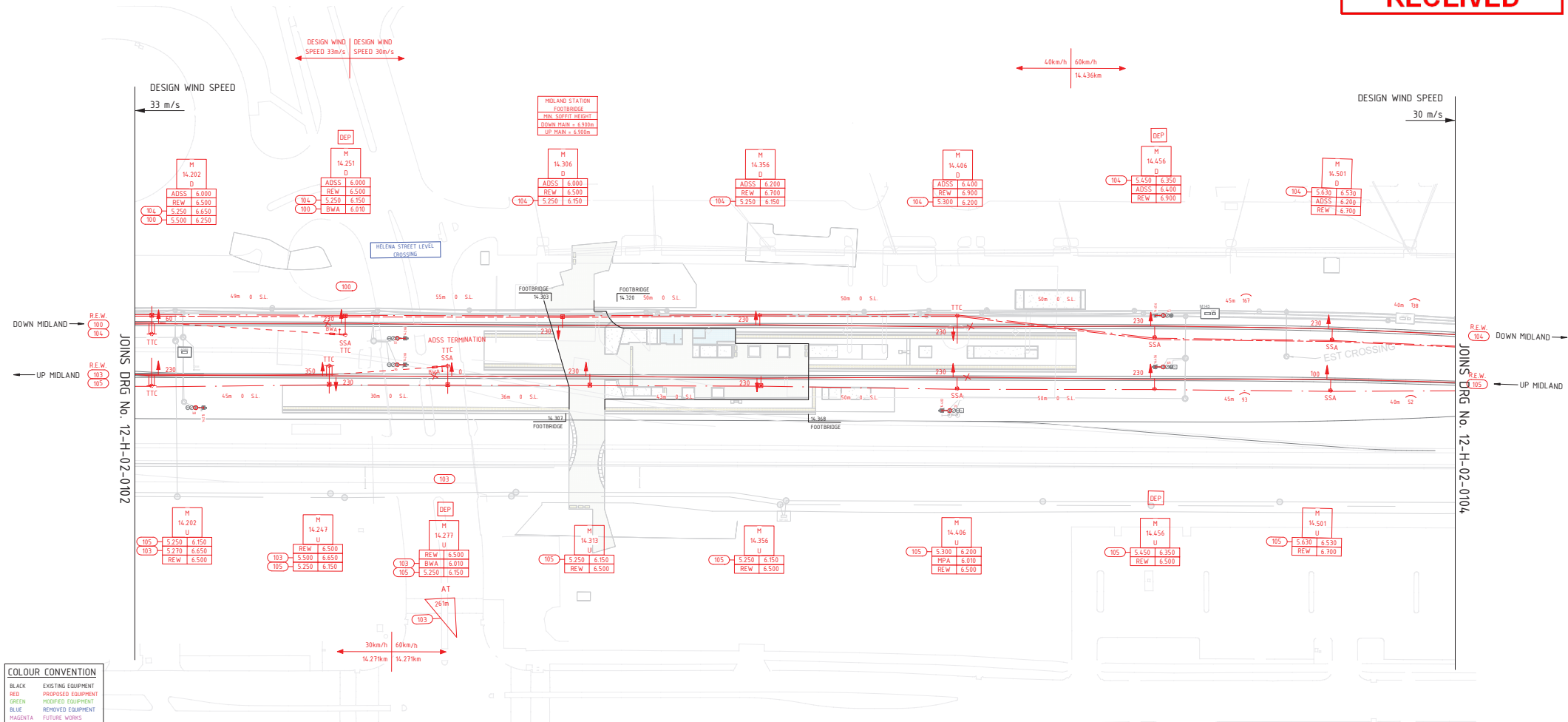
PTA Drawing No: 12-C-13-0346

142

Rev: A

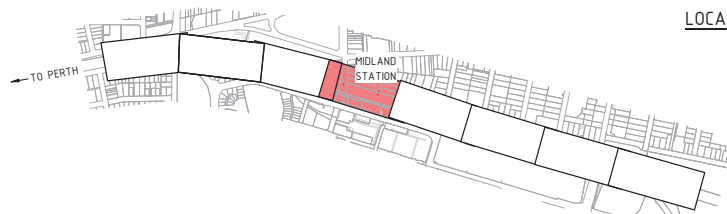
10 February 2023

RECEIVED



COLOUR CONVENTION	
BLACK	EXISTING EQUIPMENT
RED	PROPOSED EQUIPMENT
GREEN	PROPOSED EQUIPMENT
BLUE	REMOVED EQUIPMENT
MAGENTA	FUTURE WORKS

LOCALITY PLAN



CONDUCTOR TYPES & PARTICULARS				
TYPE	DETAILS	TENSIONS	WIRE RUN	COMMENT
CATENARY WIRE	7/3.75mm HD Cu	11kN A.T.		NOT FOR FUTURE USE
CATENARY WIRE	19/2.30mm HD Cu	11kN A.T.	100,103,104,105	
CONTACT / CONTENARY WIRE	107mm ² HD Cu	11kN A.T.		NOT FOR FUTURE USE
CONTACT / CONTENARY WIRE	107mm ² CuSn	11kN A.T.	100,103,104,105	
RETURN EARTH WIRE / RC	19/3.25mm AAC	3.49kN @ 25°C	-	
EARTH WIRE	19/3.25mm AAC	3.49kN @ 25°C	-	
EARTH WIRE	7/3.40mm AAC	2.81kN @ 25°C	-	
ADSS	96 CORE	1.078kN @ 25°C	-	

NOTES:

- DRAWING TO BE PRINTED IN COLOUR.
- CHAINAGES SHOWN IN KILOMETRES AND SPAN LENGTHS ARE IN METRES.
- AREA CLASSIFICATION IS CONSIDERED POLLUTED ENVIRONMENT AS PER PTA COP 8190-800-001.

1500 (A1) / 1:1000 (A3) 0 5m 10 15 20 25 30 35 40 45 50 55 60 65 70 75

REFERENCE DESIGN

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REV	1	11/08/22	1	1	1	1
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

CAD DRAWING PATHNAME: Autodesks Docs\\AAU-30103874-Midland Station\\12-B-99-0H0001.rvt



REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG2020

VERTICAL: AHD71

DESIGNED N.KAUR

DRAWN E.ROCHE

CHECKED R.TAYLOR

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION

OVERHEAD LAYOUT PLAN

MIDLAND LINE

14.202 km TO 14.501 km

PTA Drawing No:

12-H-02-0103

143

Rev: A



NOTES:

1. DRAWING TO BE PRINTED IN COLOUR.
2. CHAINAGES SHOWN IN KILOMETRES AND SPAN LENGTHS ARE IN METRES.
3. AREA CLASSIFICATION IS CONSIDERED POLLUTED ENVIRONMENT AS PER PTA COP 8190-800-001.



REFERENCE DESIGN



**MIDLAND
JUNCTION**
ALLIANCE

A	11/08/22	ISSUED FOR REVIEW	NK	ER	RT	CF
REVIEW DATE	METRONET East (Midland) - CONFIDENTIAL		RC Meeting - 15 May 2023 - Confidential			

ORIG SIZE
A1
 0 10 20 30 40 50 100mm
 AT ORIGINAL PLOT SIZE

CAD DRAWING PATHNAME Autodesk Docs://AAU-30103874-Midland Station/12-B-99-OH0001.rvt

REFERENCES

SCALE

1:500 (10A1)

DATUM

HORIZONTAL: PCG2020

DESIGNED N KAIIR

DRAWN E.ROCHE

CHECKED	R.TAYLOR
---------	----------

0 | APPROVED



Government of Western Australia
Public Transport Authority

MIDLAND STATION

OVERHEAD LAYOUT PLAN

MIDLAND LINE

14.501 km TO 14.793 km

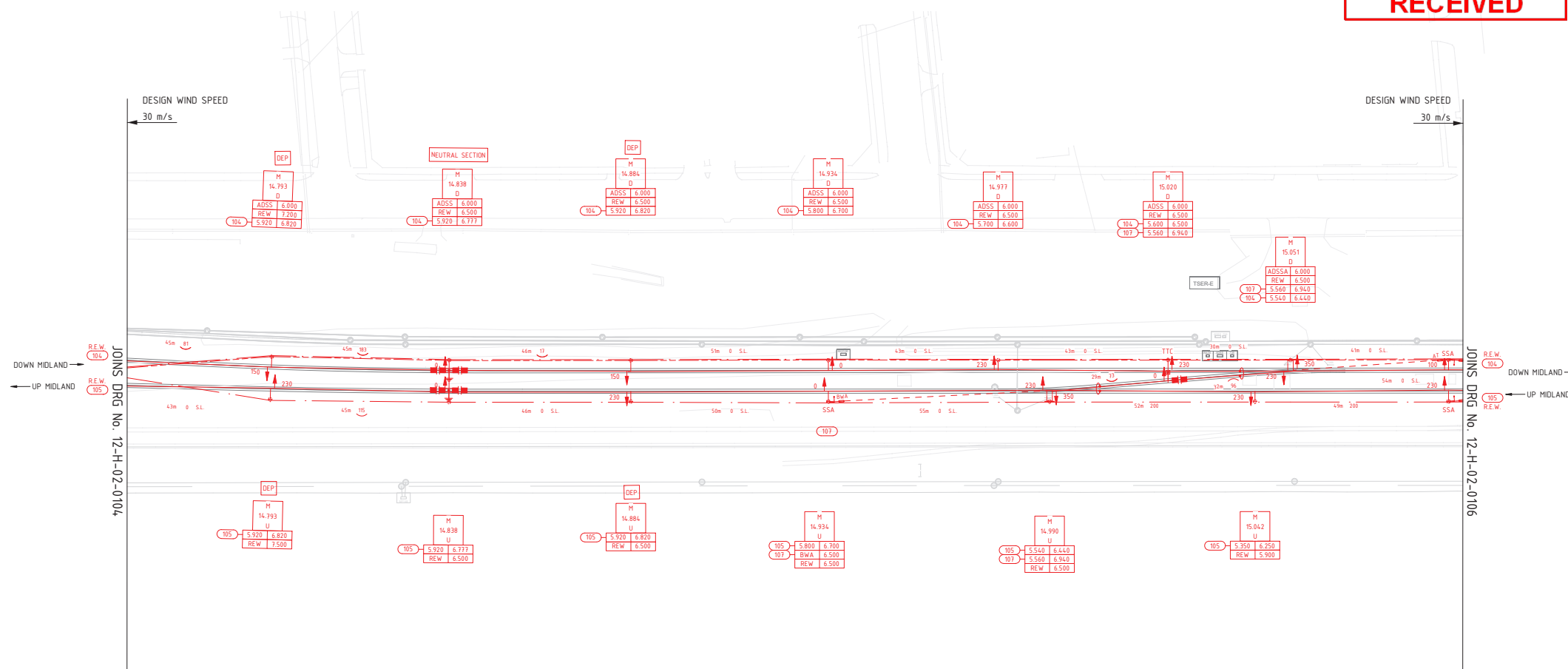
PTA Drawing No:	12-H-02-0104
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144

Rev: A

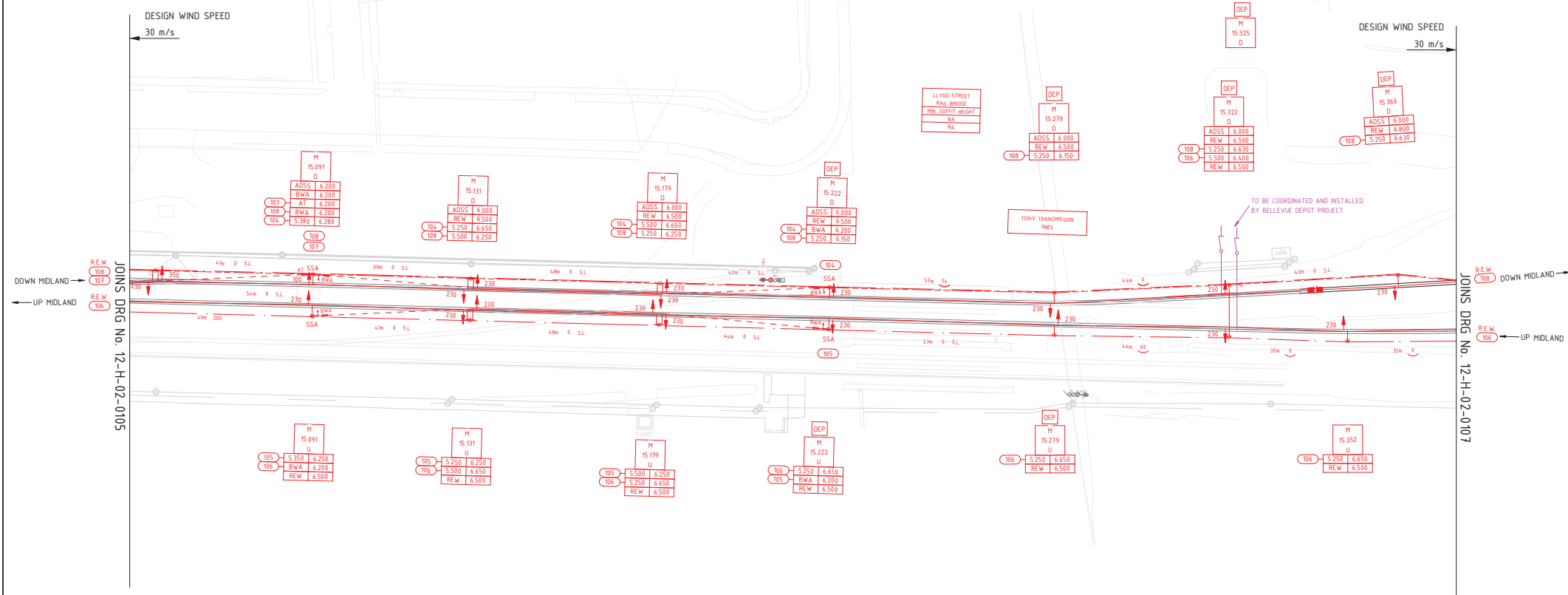
10 February 2023

RECEIVED



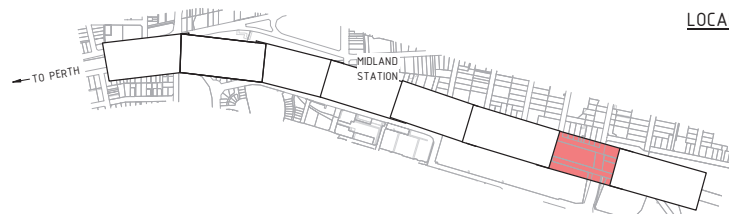
10 February 2023

RECEIVED



COLOUR CONVENTION	
BLACK	EXISTING EQUIPMENT
RED	PROPOSED EQUIPMENT
GREEN	PROPOSED EQUIPMENT
BLUE	REMOVED EQUIPMENT
MAGENTA	FUTURE WORKS

LOCALITY PLAN



CONDUCTOR TYPES & PARTICULARS				
TYPE	DETAILS	TENSIONS	WIRE RUN	COMMENT
CATENARY WIRE	7/3.75mm HD Cu	11kN A.T.		NOT FOR FUTURE USE
CATENARY WIRE	19/2.30mm HD Cu	11kN A.T.	104,105,106,107,108	
CONTACT / CONTENARY WIRE	107mm ² HD Cu	11kN A.T.		NOT FOR FUTURE USE
CONTACT / CONTENARY WIRE	107mm ² CuSn	11kN A.T.	104,105,106,107,108	
RETURN EARTH WIRE / RC	19/3.25mm AAC	3.49kN @ 25°C	-	
EARTH WIRE	19/3.25mm AAC	3.49kN @ 25°C	-	
EARTH WIRE	7/3.40mm AAC	2.81kN @ 25°C	-	
ADSS	96 CORE	1.078kN @ 25°C	-	

NOTES:

- DRAWING TO BE PRINTED IN COLOUR.
- CHAINAGES SHOWN IN KILOMETRES AND SPAN LENGTHS ARE IN METRES.
- AREA CLASSIFICATION IS CONSIDERED POLLUTED ENVIRONMENT AS PER PTA COP 8190-800-001.

1500 (A1) / 1:1000 (A3) 0 5m 10 15 20 25 30 35 40 45 50 55 60 65 70 75

REFERENCE DESIGN

A	11/08/22	ISSUED FOR REVIEW	NK	ER	BT	CF
REV	1	11/08/22	1	1	1	1
ORIG SIZE	A1	0 10 20 30 40 50 100mm	AT ORIGINAL PLOT SIZE			

Metronet East (Midland) LRC Meeting - 15 May 2023 Confidential

CAD DRAWING PATHNAME: Autodesk Docs//AAU-30103874-Midland Station/12-B-99-0H0001.rvt



REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG2020

VERTICAL: AHD71

DESIGNED N.KAUR

DRAWN E.ROCHE

CHECKED R.TAYLOR

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION

OVERHEAD LAYOUT PLAN

MIDLAND LINE

15.051 km TO 15.366 km

PTA Drawing No:

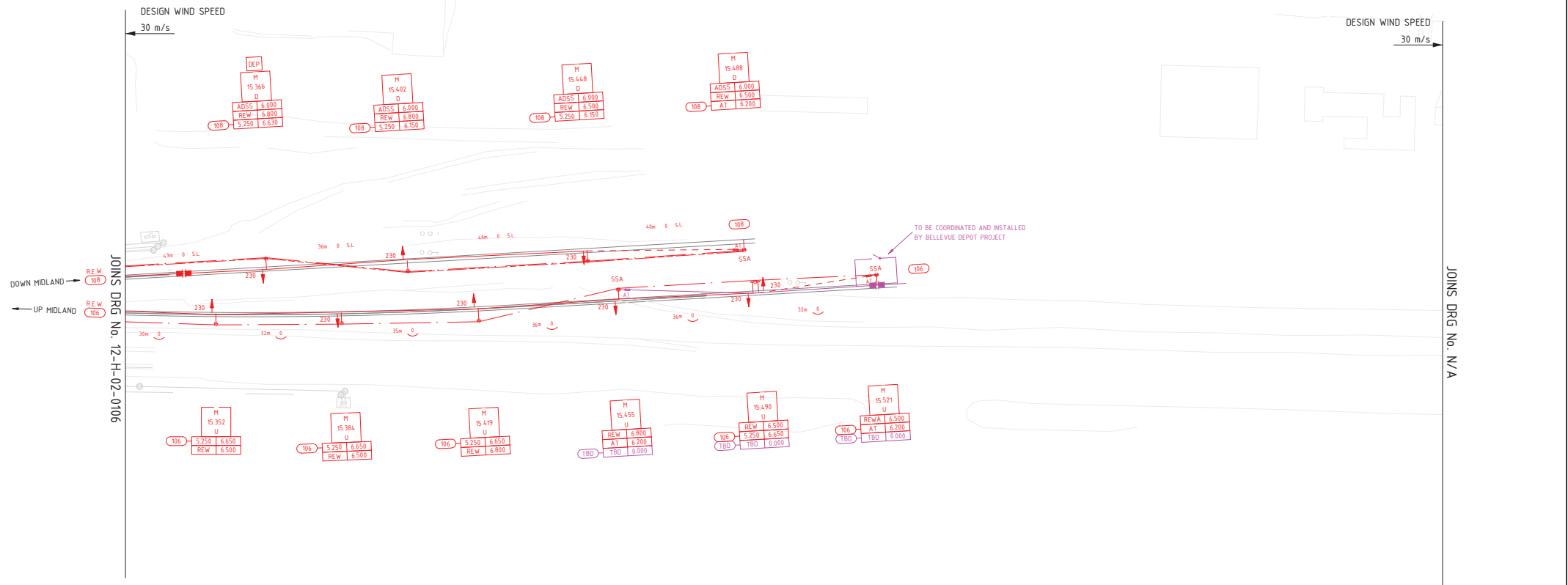
12-H-02-0106

146

Rev: A

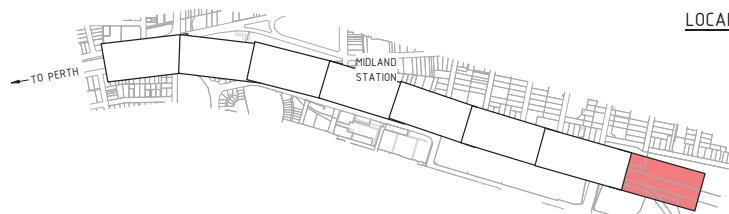
10 February 2023

RECEIVED



COLOUR CONVENTION	
BLACK	EXISTING EQUIPMENT
RED	PROPOSED EQUIPMENT
GREEN	PROPOSED EQUIPMENT
BLUE	REMOVED EQUIPMENT
MAGENTA	FUTURE WORKS

LOCALITY PLAN



CONDUCTOR TYPES & PARTICULARS				
TYPE	DETAILS	TENSIONS	WIRE RUN	COMMENT
CATENARY WIRE	7/3.75mm HD Cu	11kN A.T.		
CATENARY WIRE	19/2.30mm HD Cu	11kN A.T.	106,108	
CONTACT / CONTENARY WIRE	107mm ² HD Cu	11kN A.T.		
CONTACT / CONTENARY WIRE	107mm ² CuSn	11kN A.T.	106,108	
RETURN EARTH WIRE / RC	19/3.25mm AAC	3.49kN @ 25°C		
EARTH WIRE	19/3.25mm AAC	3.49kN @ 25°C	-	-
EARTH WIRE	7/3.40mm AAC	2.81kN @ 25°C	-	-
ADSS	96 CORE	1.078kN @ 25°C		

NOTES:

- DRAWING TO BE PRINTED IN COLOUR.
- CHAINAGES SHOWN IN KILOMETRES AND SPAN LENGTHS ARE IN METRES.
- AREA CLASSIFICATION IS CONSIDERED POLLUTED ENVIRONMENT AS PER PTA COP 8190-800-001.



1500 (A1) / 1:1000 (A3) 0 5m 10 15 20 25 30 35 40 45 50 55 60 65 70 75

REFERENCE DESIGN

A	11/08/22	ISSUED FOR REVIEW	NK	ER	BT	CF
REV	1	15/05/23	CONFIDENTIAL			
ORIG SIZE	A1	0 10 20 30 40 50 100mm				
AT ORIGINAL PLOT SIZE						

METRONET East (Midland) LRC Meeting - 15 May 2023 - Confidential

CAD DRAWING PATHNAME: Autodesks Docs\\AAU-30103874-Midland Station\\12-B-99-0H0001.rvt



REFERENCES

SCALE

1:500 (@A1)

DATUM

HORIZONTAL: PCG2020

VERTICAL: AHD71

DESIGNED N.KAUR

DRAWN E.ROCHE

CHECKED R.TAYLOR

APPROVED

DATE

Government of Western Australia
Public Transport Authority

MIDLAND STATION

OVERHEAD LAYOUT PLAN

MIDLAND LINE

15.352 km TO 15.523 km

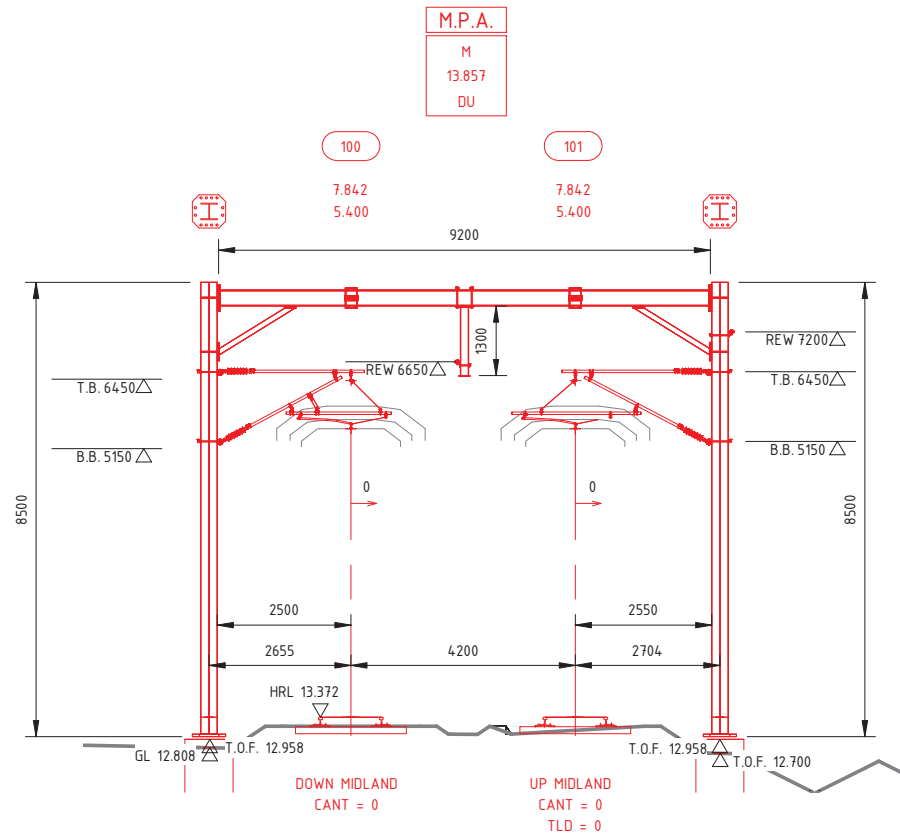
PTA Drawing No:

12-H-02-0107

147

Rev: A

ALLOCATION No	QTY	C	STRUCTURE DESCRIPTION
040/225/085	1		MPA PORTAL 310UC137 (NOTE 9)
217/041/092	1		300SHS BOOM FOR MPA PORTAL(NOTE 9)
076/621/213	1		DROP TUBE 150SHS6 (NOTE 9)
070/232/001	1		DV BRACKET FOR ADJ. BOOM END
199/491/001	2		PORTAL MID POINT ANCHOR FIXING
199/566/018	1		EW SUPPORT BRACKET
199/566/012	1		EW SUPPORT BRACKET
199/664/001	1		STRUCTURE NUMBER PLATE
015/004/001	1		TRACK DATA PLATE
WIRE RUN 100			
199/652/019	2		WRAP AROUND MAST BRACKETS
199/401/009	1		CANTILEVER SUPPORT FRAME
199/451/004	1		REGISTRATION - PULL OFF
199/531/001	4		CURRENT CARRING DROPPER
199/530/002	2		Z - DROPPER
WIRE RUN 101			
199/652/019	2		WRAP AROUND MAST BRACKETS
199/401/009	1		CANTILEVER SUPPORT FRAME
199/453/001	1		REGISTRATION - PUSH OFF
199/531/001	4		CURRENT CARRING DROPPER
199/530/002	2		Z - DROPPER



NOTES:

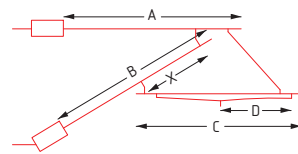
- DRAWINGS TO BE PRINTED IN COLOUR.
- STRUCTURES ARE DRAWING FACING INCREASING CHAINAGE.
- STRUCTURES ID IS REFERENCES WITH MIDLAND DOWN MAIN CHAINAGE.
- HIGH RAIL LEVEL (HRL) AND CONDUCTOR HEIGHTS ARE SHOWN IN METERS. ALL OTHER DIMENSIONS ARE IN MILLIMETRES EXCEPT WHERE NOTED OTHERWISE.
- CONTACT WIRE HEIGHT AND CATENARY WIRE HEIGHT ARE MEASURED PERPENDICULAR TO THE PLANE OF RAIL. ALL OTHER WIRE HEIGHTS MEASURED VERTICALLY FROM HRL.
- FOUNDATION DETAILS ARE PROVIDED IN THE FOUNDATION SCHEDULE.
- DROPPER DETAILS ARE PROVIDED IN DROPPER SCHEDULE.
- PANTOGRAPH GAUGE DEVELOPED FROM DRAWING 00-R-00-61565.

METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

RECEIVED

DESIGN CANTILEVER TUBE LENGTHS (mm)				
WIRE RUN	100	101		
(A) TOP TUBE	2137	2184		
(B) STRUT TUBE	2068	2050		
(C) REGISTRATION TUBE	1855	2413		
(D) REGISTRATION ARM	1000	1000		
(V) 'X' DIMENSION	1409	1409		
(X)				
(Y)				



COLOUR CONVENTION

BLACK	EXISTING EQUIPMENT
RED	PROPOSED EQUIPMENT
GREEN	MODIFIED EQUIPMENT
BLUE	REMOVED EQUIPMENT
MAGENTA	FUTURE WORKS

REFERENCE DESIGN

Government of Western Australia Public Transport Authority	MIDLAND STATION
OVERHEAD LINE EQUIPMENT	
MIDLAND LINE	
TYPICAL CROSS SECTION - MPA PORTAL	149
PTA Drawing No: 12-H-07-0732	Rev: A

METRONET East (Midland) JRC Meeting - 15 May 2023 - Confidential

A3

CAD DRAWING PATHNAME Autodesk Docs://AAU-30103874-Midland Station/12-B-99-OH0001.rvt



REFERENCES

SCALE

1 : 100

DATUM
HORIZONTAL: PCG2020
VERTICAL: AHD71

DESIGNED N.KAUR
DRAWN E.ROCHE
CHECKED R.TAYLOR
APPROVED Approver
DATE

Vault Template Revised Date : 26th November 2019 10:30am

ALLOCATION No	QTY	C	STRUCTURE DESCRIPTION
040/221/077	1		TTC ASSEMBLY WITH 250SHS BOOM
217/031/088	1		300SHS TTC MAST
076/621/217	1		DROP TUBE 150SHS6 (NOTE 9)
076/621/225	1		DROP TUBE 150SHS6 (NOTE 9)
070/232/001	2		DV BRACKET FOR ADJ. BOOM END
199/486/010	1		FIXED END TERMINATION
199/489/001	1		ANCHOR BRACKETS
199/901/004	1		BALANCE WEIGHT ARRANGEMENT
173/218/001	1		BWA ANTI-CLIMBING GUARD
199/566/005	1		EW SUPPORT BRACKET
199/566/012	1		EW SUPPORT BRACKET
199/933/001	1		ADSS SUPPORT BRACKET
199/664/001	1		STRUCTURE NUMBER PLATE
015/004/001	1		TRACK DATA PLATE

WIRE RUN 101	
499/632/005	1
199/652/016	2
199/531/001	3

B.W.A.
S.S.A.
M
14.015
D

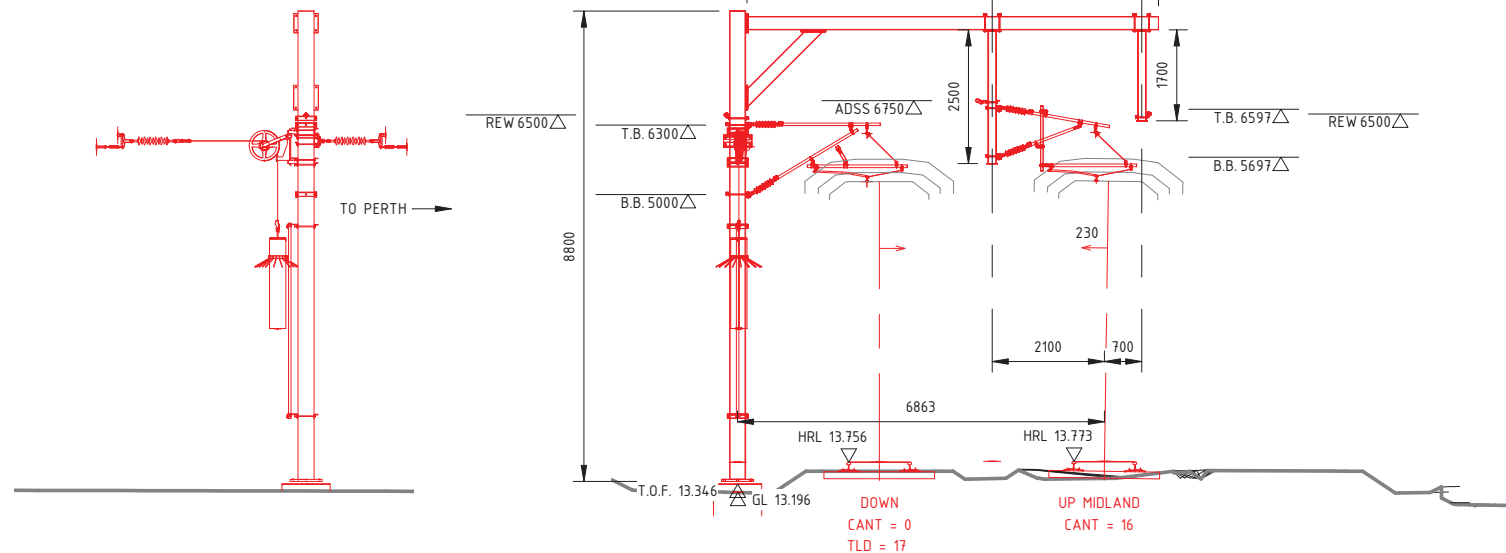
WIRE RUN 100	
199/652/013	2
199/401/009	1
199/451/004	1
199/531/001	3

- NOTES:**
- DRAWINGS TO BE PRINTED IN COLOUR.
 - STRUCTURES ARE DRAWING FACING INCREASING CHAINAGE.
 - STRUCTURES ID IS REFERENCES WITH MIDLAND DOWN MAIN CHAINAGE.
 - HIGH RAIL LEVEL (HRL) AND CONDUCTOR HEIGHTS ARE SHOWN IN METERS. ALL OTHER DIMENSIONS ARE IN MILLIMETRES EXCEPT WHERE NOTED OTHERWISE.
 - CONTACT WIRE HEIGHT AND CATENARY WIRE HEIGHT ARE MEASURED PERPENDICULAR TO THE PLANE OF RAIL. ALL OTHER WIRE HEIGHTS MEASURED VERTICALLY FROM HRL.
 - FOUNDATION DETAILS ARE PROVIDED IN THE FOUNDATION SCHEDULE.
 - DROPPER DETAILS ARE PROVIDED IN DROPPER SCHEDULE.
 - PANTOGRAPH GAUGE DEVELOPED FROM DRAWING 00-R-00-61565.
 - PTA SYSTEM DESIGN HAS BEEN DEVELOPED BY THE NEWEST PROJECT

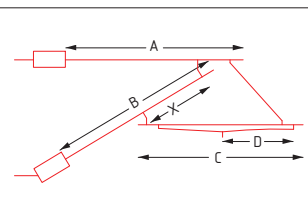
METROPOLITAN REDEVELOPMENT
AUTHORITY

10 February 2023

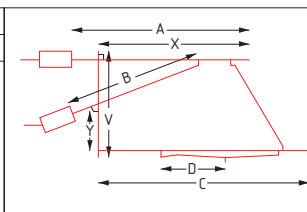
RECEIVED



DESIGN CANTILEVER TUBE LENGTHS (mm)	
WIRE RUN	100
(A) TOP TUBE	1904
(B) STRUT TUBE	1810
(C) REGISTRATION TUBE	1867
(D) REGISTRATION ARM	1000
(V) 'X' DIMENSION	14.09
(X)	
(Y)	



DESIGN CANTILEVER TUBE LENGTHS (mm)	
WIRE RUN	101
(A) TOP TUBE	1534
(B) STRUT TUBE	1011
(C) REGISTRATION TUBE	1652
(D) REGISTRATION ARM	900
(V) VERTICAL TUBE x 2	1209
(X)	1284
(Y)	353



COLOUR CONVENTION

BLACK	EXISTING EQUIPMENT
RED	PROPOSED EQUIPMENT
GREEN	MODIFIED EQUIPMENT
BLUE	REMOVED EQUIPMENT
MAGENTA	FUTURE WORKS

REFERENCE DESIGN

Government of Western Australia Public Transport Authority	MIDLAND STATION
OVERHEAD LINE EQUIPMENT	
MIDLAND LINE	
TYPICAL CROSS SECTION - SSA TTC	150
PTA Drawing No: 12-H-07-0733	Rev: A

METRONET East (Midland) JRC Meeting - 15 May 2023 - Confidential

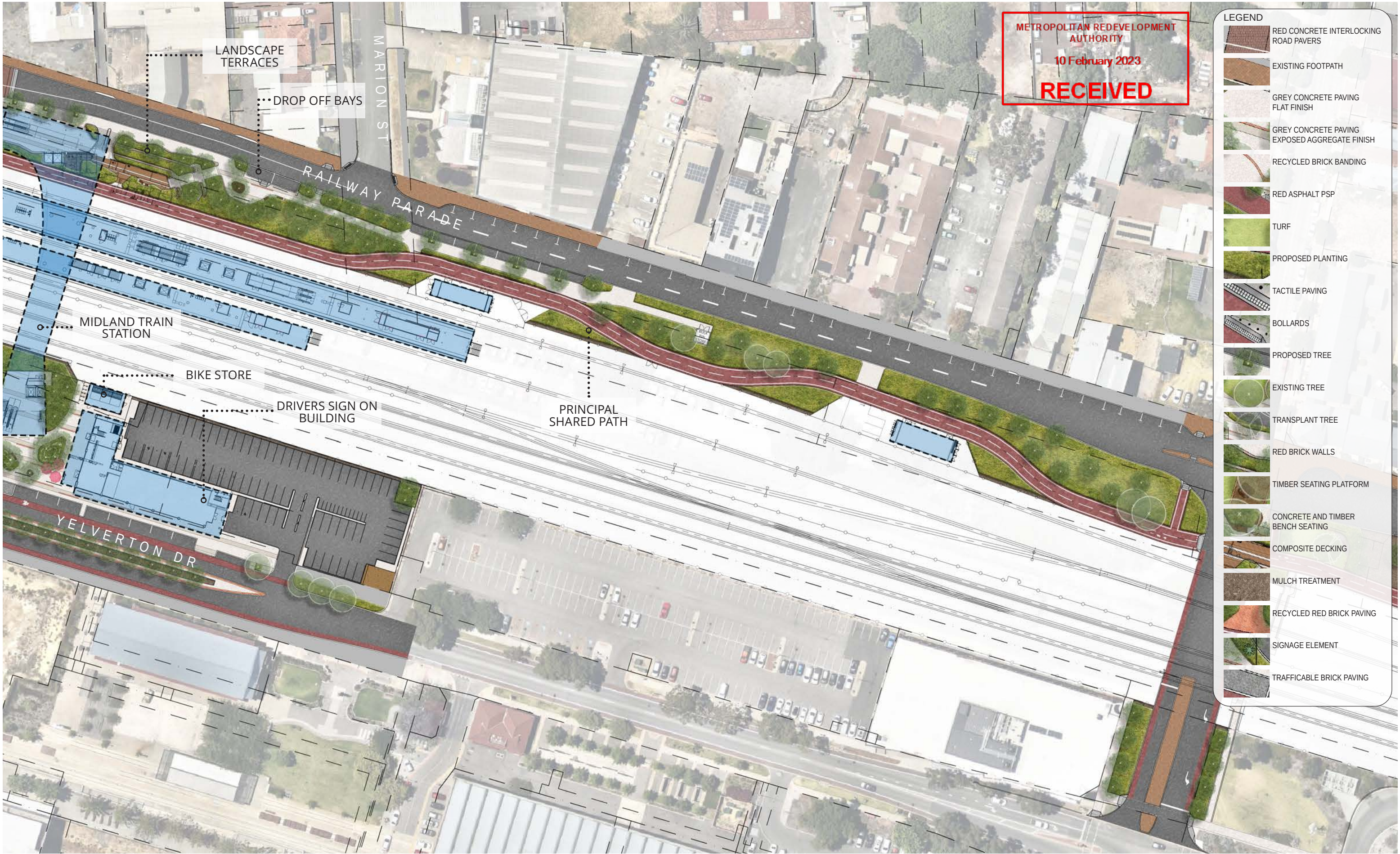
CAD DRAWING PATHNAME Autodesks Docs://AAU-30103874-Midland Station/12-B-99-OH0001.rvt

Vault Template Revised Date : 26th November 2019 10:30am





- LEGEND**
- RED CONCRETE INTERLOCKING ROAD PAVERS
 - EXISTING FOOTPATH
 - GREY CONCRETE PAVING FLAT FINISH
 - GREY CONCRETE PAVING EXPOSED AGGREGATE FINISH
 - RECYCLED BRICK BANDING
 - RED ASPHALT PSP
 - TURF
 - PROPOSED PLANTING
 - TACTILE PAVING
 - BOLLARDS
 - PROPOSED TREE
 - EXISTING TREE
 - TRANSPLANT TREE
 - RED BRICK WALLS
 - TIMBER SEATING PLATFORM
 - CONCRETE AND TIMBER BENCH SEATING
 - COMPOSITE DECKING
 - MULCH TREATMENT
 - RECYCLED RED BRICK PAVING
 - SIGNAGE ELEMENT
 - TRAFFICABLE BRICK PAVING





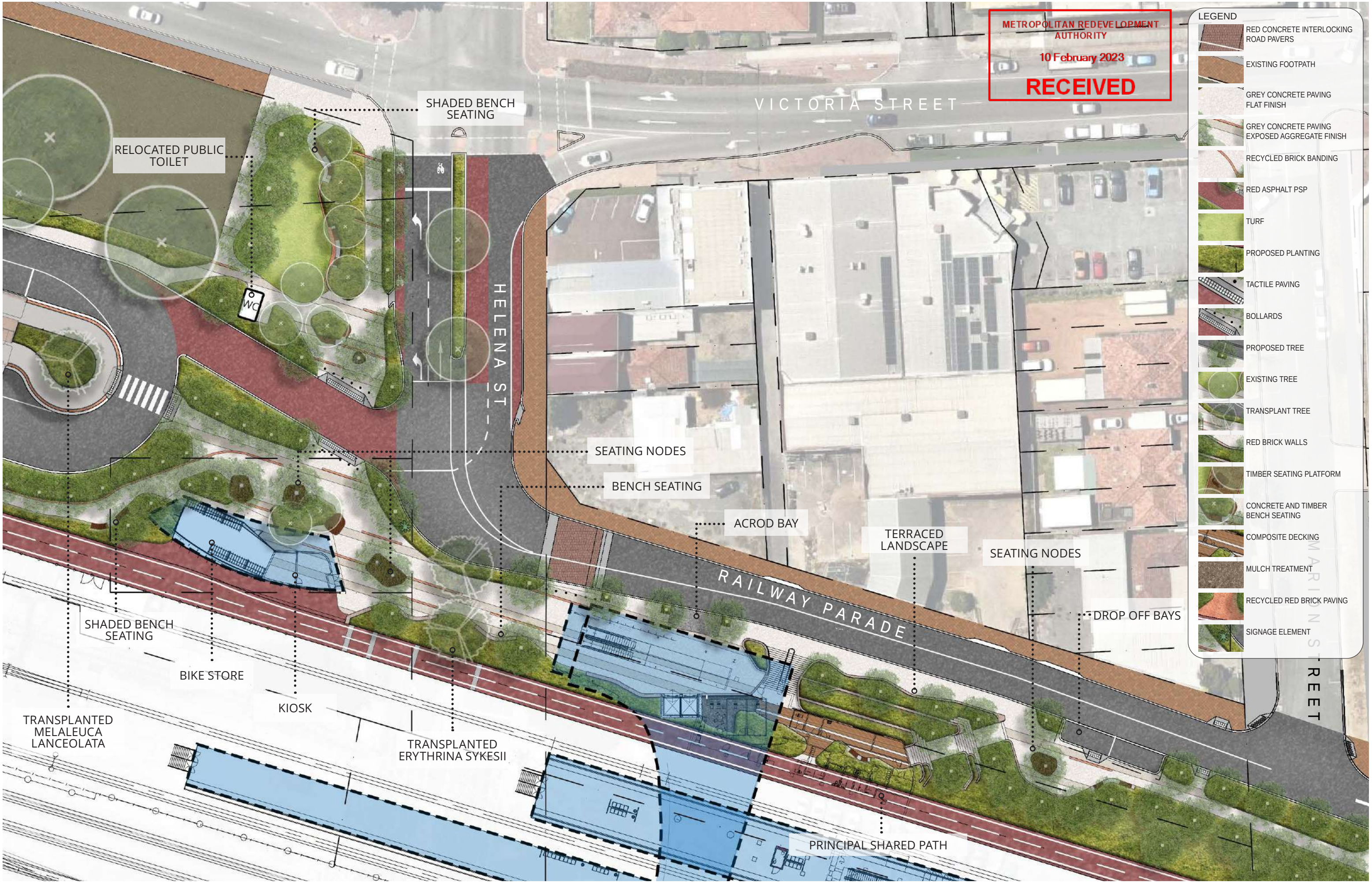


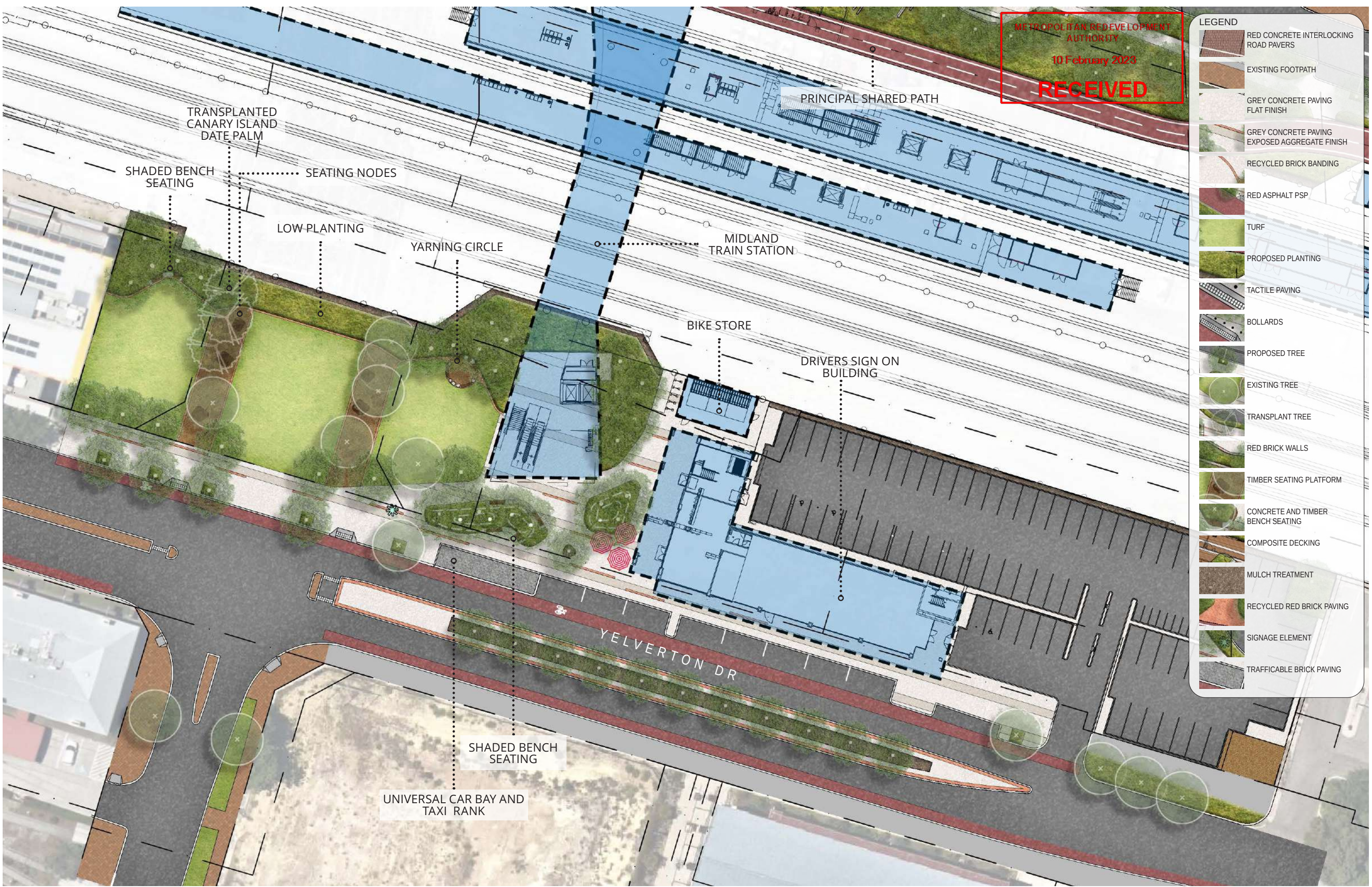
METROPOLITAN REDEVELOPMENT
AUTHORITY

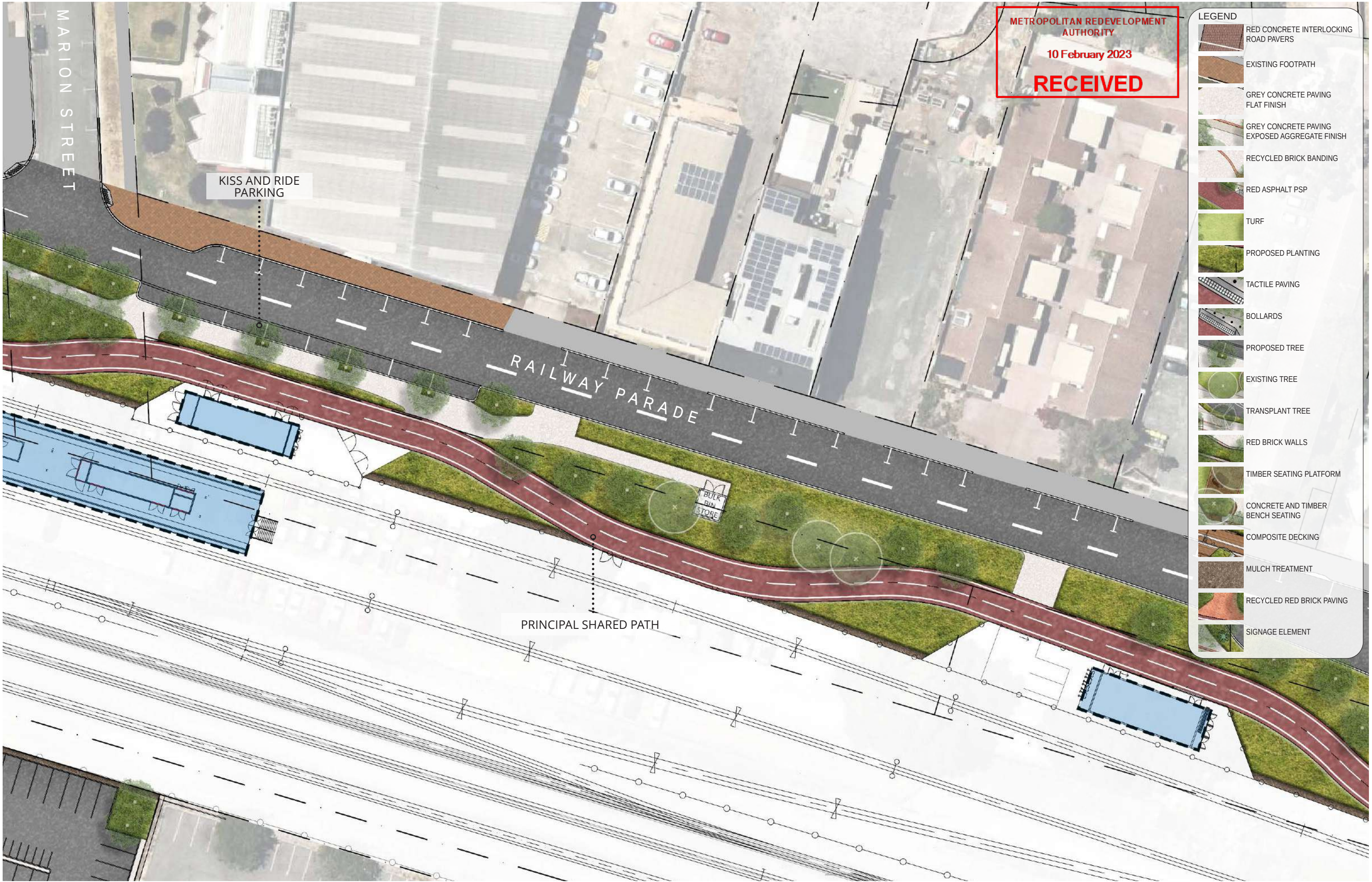
10 February 2023

RECEIVED

- LEGEND
- RED CONCRETE INTERLOCKING ROAD PAVERS
 - EXISTING FOOTPATH
 - GREY CONCRETE PAVING FLAT FINISH
 - GREY CONCRETE PAVING EXPOSED AGGREGATE FINISH
 - RECYCLED BRICK BANDING
 - RED ASPHALT PSP
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 - CONCRETE AND TIMBER BENCH SEATING
 - COMPOSITE DECKING
 - MULCH TREATMENT
 - RECYCLED RED BRICK PAVING
 - SIGNAGE ELEMENT

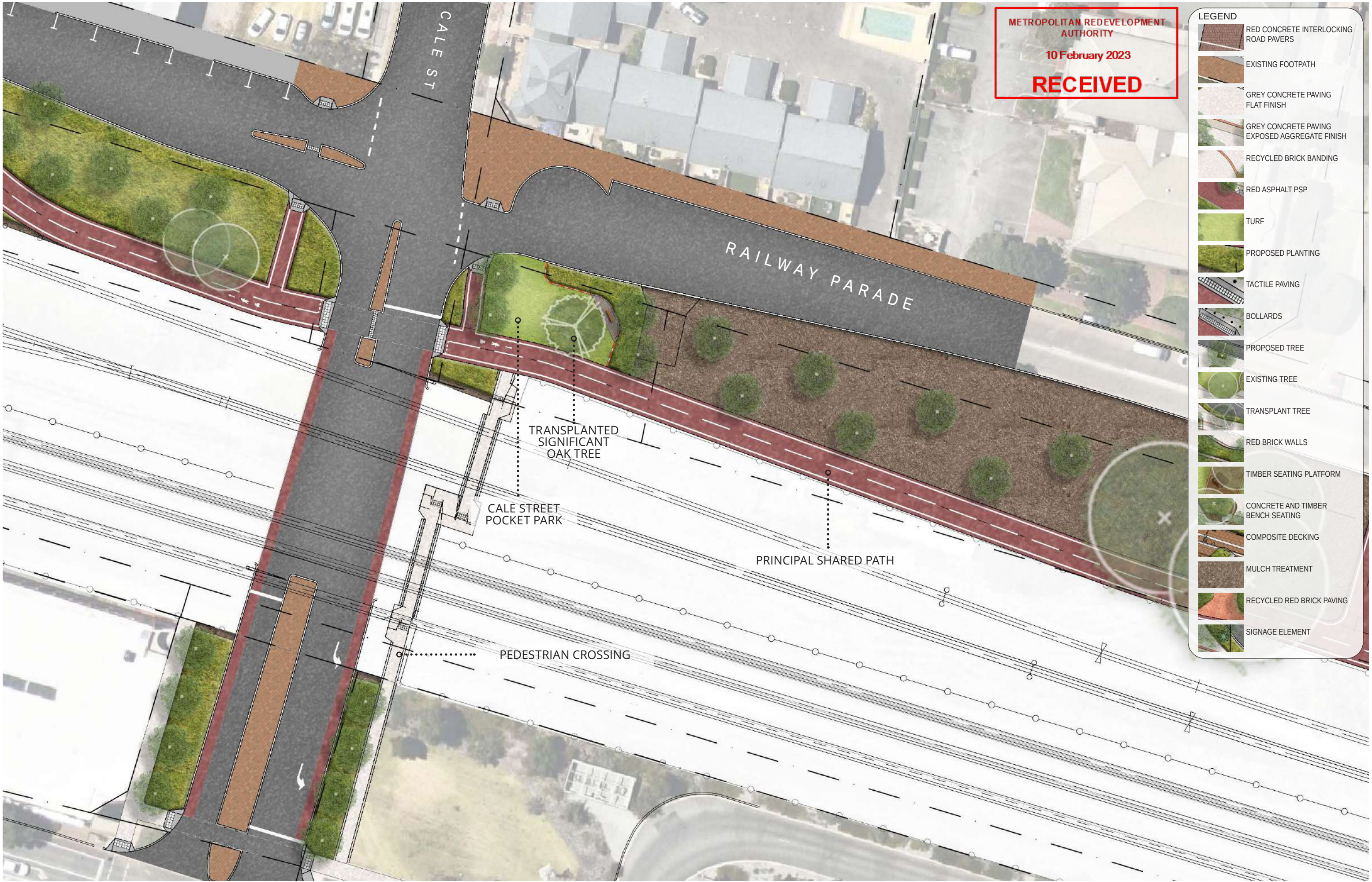






METROPOLITAN REDEVELOPMENT
AUTHORITY
10 February 2023
RECEIVED

- LEGEND
- RED CONCRETE INTERLOCKING ROAD PAVERS
 - EXISTING FOOTPATH
 - GREY CONCRETE PAVING FLAT FINISH
 - GREY CONCRETE PAVING EXPOSED AGGREGATE FINISH
 - RECYCLED BRICK BANDING
 - RED ASPHALT PSP
 - TURF
 - PROPOSED PLANTING
 - TACTILE PAVING
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 - PROPOSED TREE
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 - CONCRETE AND TIMBER BENCH SEATING
 - COMPOSITE DECKING
 - MULCH TREATMENT
 - RECYCLED RED BRICK PAVING
 - SIGNAGE ELEMENT



METROPOLITAN REDEVELOPMENT
AUTHORITY
10 February 2023
RECEIVED

- LEGEND
- RED CONCRETE INTERLOCKING ROAD PAVERS
 - EXISTING FOOTPATH
 - GREY CONCRETE PAVING FLAT FINISH
 - GREY CONCRETE PAVING EXPOSED AGGREGATE FINISH
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 - CONCRETE AND TIMBER BENCH SEATING
 - COMPOSITE DECKING
 - MULCH TREATMENT
 - RECYCLED RED BRICK PAVING
 - SIGNAGE ELEMENT



- LEGEND
- RED CONCRETE INTERLOCKING ROAD PAVERS
 - GREY CONCRETE PAVING FLAT FINISH
 - GREY CONCRETE PAVING EXPOSED AGGREGATE FINISH
 - RECYCLED BRICK BANDING
 - RED ASPHALT PSP
 - TURF
 - PROPOSED PLANTING
 - TACTILE PAVING
 - BOLLARDS
 - PROPOSED TREE
 - EXISTING TREE
 - TRANSPLANT TREE
 - RED BRICK WALLS
 - TIMBER SEATING PLATFORM
 - CONCRETE AND TIMBER BENCH SEATING
 - COMPOSITE DECKING
 - MULCH TREATMENT
 - RECYCLED RED BRICK PAVING
 - SIGNAGE ELEMENT



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- LEGEND
- RED CONCRETE INTERLOCKING ROAD PAVERS
 - GREY CONCRETE PAVING FLAT FINISH
 - GREY CONCRETE PAVING EXPOSED AGGREGATE FINISH
 - RECYCLED BRICK BANDING
 - RED ASPHALT PSP
 - TURF
 - PROPOSED PLANTING
 - TACTILE PAVING
 - BOLLARDS
 - PROPOSED TREE
 - EXISTING TREE
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 - RECYCLED RED BRICK PAVING
 - SIGNAGE ELEMENT

Midland Station – Detailed Design MSCP – CPTED Assessment

Project Name:	Midland Station (Cale Street)
Project Number:	PTA 200131
Document ID:	MSC-MJA-AR-RPT-00005
Author:	S. Hensworth
Reviewer:	Nathan Richardson
Approver:	Craig Wright
Status:	Draft Issue (Design Development)
Revision:	C (Detailed Design (MSCP) CPTED Assessment)

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Details of Revision Amendments and Terminology Document Control

The Discipline Lead is responsible for updating this plan to reflect changes as required.

Amendments

Any revisions or amendments must be approved by the Design Manager.

Revision Details

Revision	Details
A	Draft Issue for Reference Design CPTED Assessment
B	Final Issue of Reference Design CPTED Assessment
C	Detailed Design (MSCP) CPTED Assessment

Terms and Definitions

Term	Meaning
CPTED	Crime Prevention Through Environmental Design is a physical design-based approach to deterring crime and unwanted behaviour.

Abbreviations and Acronyms

Abbreviation/Acronym	Definition
BAS	Building Access Systems
CCTV	Closed Circuit Television
CoS	City of Swan
CPTED	Crime Prevention Through Environmental Design
CRA	Crime Risk Assessment
EACS	Electronic Access Control System
ICA	International CPTED Association
IDS	Intruder Detection System
IRSAD	Index of Relative Socio-Economic Advantage and Disadvantage
LGA	Local Government Authority
MJA	Midland Junction Alliance
MSCP	Multi Storey Car Park
PTA	Public Transport Authority
SCG	Security Consulting Group
SEIFA	Socio-Economic Indexes for Areas

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Part A: Report Overview

1. INTRODUCTION

1.0. Project Background

The Midland Station (Cale Street) (MSCS) Project will have a new home bringing it closer to the heart of the Midland Town Centre. The new station location will improve connections to Midland Gate Shopping Centre and Midland Health Campus, while maintaining the railway's central role to enhance work opportunities and community life in the area.

The project supports Midland's status as a Strategic Metropolitan Centre and strongly aligns with the program of urban renewal, being led by Development WA, to transform Midland into a contemporary urban centre. At the commencement of passenger services, the new Midland Station is expected to have 3,300 daily boarding's, growing to 3,700 in 2031.

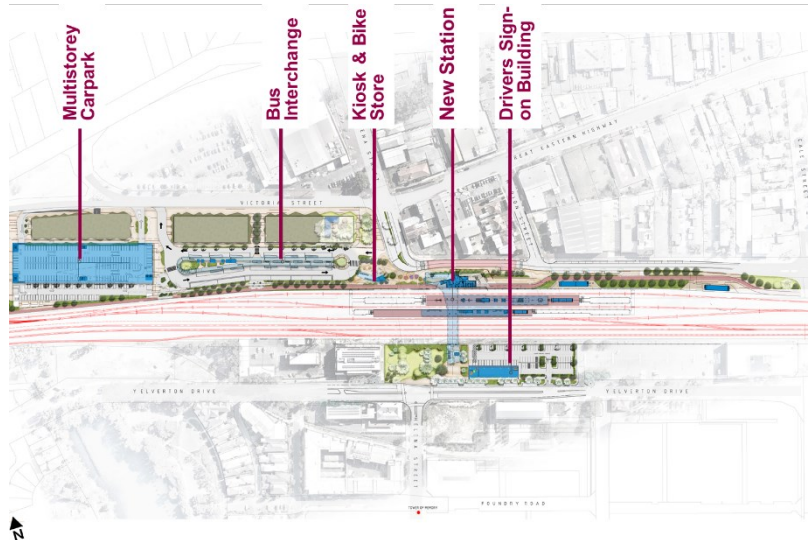


Figure 1 New Midland Station

1.1. Scope of Design

The scope of the MSCS Project is to design and deliver a brand-new Station and replace the ageing station infrastructure with a modern facility that can meet future demand and will include:

- relocating Midland Station to the east of its existing location and demolition of the existing Midland Station building.
- new 12-stand bus interchange and multi-storey car park with more than 600 bays at the location of the former Midland Station.
- Cale Street level crossing by extending the existing Cale Street south to Yelverton Drive.
- closing Helena Street level crossing to create new public spaces and safe connections between the bus interchange and station.
- a 24/7 publicly accessible pedestrian overpass to connect the north and south sides of the rail corridor and provide access to all platforms during station operations.
- more than 1km shared path along the northern side of the rail corridor, connecting to the existing cycle network at Morrison Road and Lloyd Street; and
- 1.7km of new dual track connecting into the new Bellevue Depot.

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1.2. Scope of CPTED Package

Security Consulting Group (SCG) was engaged by Midland Junction Alliance (MJA) to undertake Crime Prevention Through Environmental Design (CPTED) Assessment Reports at key design stages for the new Midland Station, including:

- Reference Design Stage.
- Design Development Stage.
- Detailed Design Stage.

This report details the Design Development Stage, CPTED review, which includes:

- Background on Crime Prevention Through Environmental Design (CPTED).
- Review of the Design Development Stage information package provided by MJA for review.
- Outcome of discussion with MJA and PTA regarding specific CPTED requirements for this review stage (completed at Reference Design Stage).
- Crime Assessment of the local Midland area, including observations from a site inspection to assess local crime indicators (completed at Reference Design Stage).
- Review of the specific scope areas from a CPTED perspective.
- Recommendations for CPTED enhancements to be incorporated in the subsequent stages of design by the design team.

The scope area for the Midland Station CPTED Assessment includes the highlighted areas below, including:

- Rail Reserve.
- Station surrounds.
- Hard landscape.
- Station.
- Landscaping.
- Lighting systems.

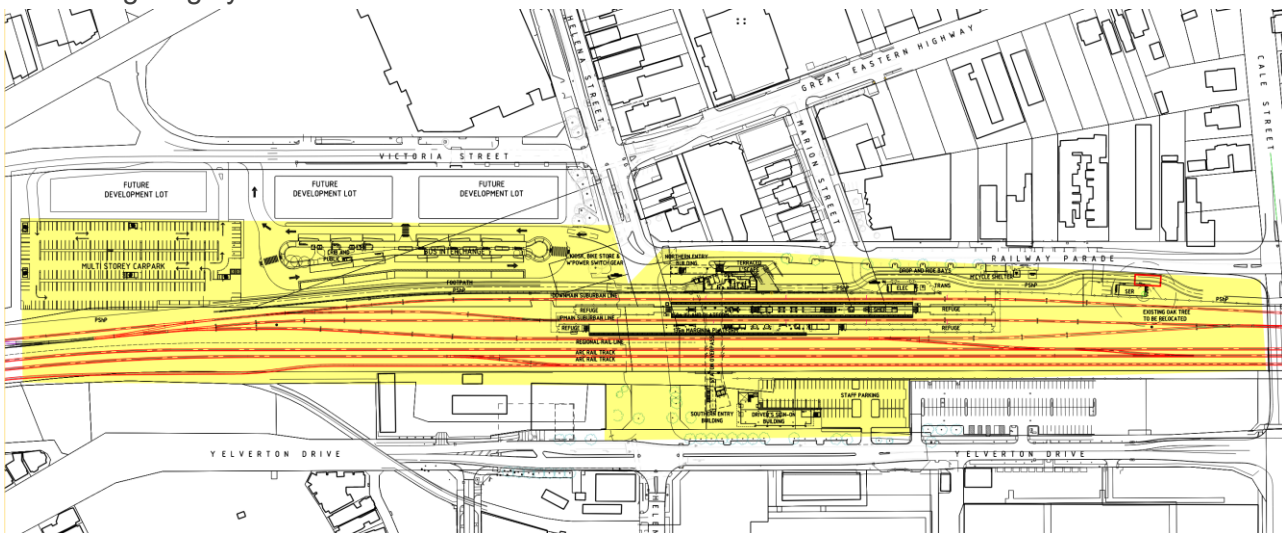


Figure 2 Design Development Stage CPTED Assessment Scope Area

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2. CPTED BACKGROUND

Crime Prevention Through Environmental Design (CPTED, pronounced “sep-ted”) is a strategy aimed at increasing the level of risk perceived by would-be-offenders of crime, that they will be seen, challenged or caught. This increases the potential for a would-be-offender to decide not to commit to a crime act. It simultaneously seeks to lower the risk perceived by legitimate users of the space who feel safer due to positive CPTED characteristics being present. This encourages use of space by legitimate users, who further contribute to safety perception by becoming available witnesses to offences, which also assists in deterring would-be-offenders.

The fundamental principles of CPTED include:

1. Natural Surveillance. This maximises the ability for people to see clearly around them and throughout the area so they can more effectively manage their own risk and feel safer that there are no hidden threats. Conversely, this deters offenders as they generally prefer to not be seen. Natural Surveillance by capable guardians also reduces the reliance on formal surveillance (i.e. CCTV).
2. Natural Access Control. This uses the design of a space to limit access to only those authorized to use the space for legitimate purposes. It is also used to “funnel” pedestrian traffic through safer areas with good Natural Surveillance.
3. Territorial Reinforcement. This uses strong indicators of boundary, definition and transition of space from public to semi-private to private space, and clear signs of ownership of space. This assists in portraying that a space is valued, and likely to be defended, which assists in deterring offenders.
4. Management and Target Hardening. This is management of a space to further support that the space is valued and reduces the “pay-off” for offenders, by demonstrating that their acts will have little impact on the space. It also seeks to design-out vulnerabilities to avoid expensive repair work or addition of retrospective security measures.

2.1. CPTED Practitioner

The following section provides background on the author of this CPTED Assessment Report.

Simon Hensworth is a Senior Security Consultant and CPTED Professional at Security Consulting Group (SCG). Simon has a Bachelor of Science in Security Science from Edith Cowan University and has been involved in the security consultancy industry for over 20 years. Simon holds a WA Security Consultants License, as required by WA legislation for those who “*advise on security matters*”.

In 2006, Simon was certified by the International CPTED Association (ICA), as an ICA Certified CPTED Practitioner (ICCP – Advanced). Simon has been required to re-certify with the ICA every 3 years, demonstrating continued CPTED works for the community. Simon is currently an ICA certified CPTED Professional (Advanced), one of only 15 worldwide. Over his career, Simon has provided CPTED services for many clients Australia-wide who own and/or operate major facilities or infrastructure. Simon has developed CPTED and Designing Out Crime content for the WA Office of Crime Prevention, who jointly prepared the 2006 Designing Out Crime Planning Guidelines with the Western Australian Planning Commission. He has also developed CPTED Guidelines for LGAs including the City of Rockingham and has been published many times in Australian Journals on the subject of CPTED.

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3. REVIEW OF DESIGN DEVELOPMENT PACKAGE

This second CPTED assessment report was completed at the completion of the Design Development Stage, so that the completed Design Development design could be reviewed from a CPTED perspective, and any risks or opportunities noted could be factored into the subsequent stages of design.

SCG reviewed the Design Development model provided by MJA and our observations are included in Section 6 of this report.

4. SPECIFIC MJA AND PTA CPTED REQUIREMENTS

During the initial CPTED workshop with the MJA design team on 13/06/22, the team identified a number of PTA Specifications and standard documents which included reference to PTA CPTED requirements.

SCG reviewed the PTA specifications to assess specific CPTED elements required by the PTA so these could be considered during the initial CPTED assessment.

The following PTA standards were provided to SCG by MJA for review:

Document Title	Document Number	CPTED Content
Project Scope of Works and Technical Criteria (SWTC)		Summarised below
Specification – Station Functional Planning & Urban Design	8803-000-008 (1.0)	Summarised below
Specification – Station and Buildings Landscape Architecture	8803-000-009 (1.0)	Summarised below
Urban Station Security Initiatives for CCTV Design	8803-900-002_2.01	None
Specification – Buildings and Station Structures	8880-450-059 (1.0)	None

The sections below summarise the CPTED content within the PTA specifications, and assesses the current design status compliance using a traffic light assessment system:

CPTED Criteria Status:

-  Criteria appears to be largely met:
-  Criteria has potential for improvement (or yet to be finalised in design):
-  Criteria appears not to be met:

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4.1. Scope of Works and Technical Criteria

This SWTC included the following specific CPTED requirements (additional to what is required of the PTA standards discussed in later sections):

- 23.2.2-12 The station overpass shall provide unobstructed views to, from, through and within the overpass to support crime prevention through environmental design (CPTED) principles, and to avoid the overpass being experienced as an enclosed extension of the station entry.
- 10.7.1-9 Pruning shall be undertaken to trees and shrubs to adhere to CPTED principles. Trees must be pruned clear (minimum of 1000mm) of all lights and CCTVs. Trees and shrubs must be pruned clear (minimum of 1000mm) of all signage and structures.
- 11.6-1-4 The NOP shall provide lighting to address all operational and security issues at the site in accordance with CPTED principles and the outcomes of the NOP's emergency and security risk assessments (i.e. HAZID and HAZOP risk workshops, etc.). Typically 30 to 50 percent of the general lighting should be used as security lighting depending on the type and size of the buildings and infrastructure being secured. This will require every second or third luminaire to be circuited from the security lighting circuit.
- Increased security lighting levels must be provided in the immediate vicinity of operationally sensitive and high security risk areas such as pedestrian crossings, ticketing machines, entrances to areas (such as to car parks), muster points, emergency egress walkways and stairs and the like.

4.1.1. Summary Table and Current Compliance

The following table summarises the CPTED requirement from the SWTC:

SWTC	TRAFFIC LIGHT assessment	Comments
The station overpass shall provide unobstructed views to, from, through and within the overpass to support CPTED principles and to avoid the overpass being experienced as a enclosed extension of the station entry.		Further CPTED review to be conducted in next design stage.
Pruning shall be undertaken to trees and shrubs to adhere to CPTED principles.	N/A	Operational issue.
The NOP shall provide lighting to address all operational and security issues at site in accordance with CPTED principles and the outcomes of the NOP's emergency and security risk assessments.		Lighting design lux levels to be reviewed in following stage (Design Development).

4.2. Station Functional Planning & Urban Design (8803-000-008)

This standard included the following CPTED requirements:

3.4 Personal Safety

Crime Prevention through Environment Design (CPTED) principles must be applied in the design of stations and station precincts. The design shall provide safe and secure travel paths with high levels of activation and passive surveillance of public spaces.

- o. Ensure all pedestrian spaces are well lit and designed as non-threatening open spaces with good linkages and sightlines from surrounding areas, using CPTED design principles; and
- follow CPTED principles, ensuring good sight lines and surveillance levels;

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- g. address CPTED design principles and design for personal safety, including ensuring clear sightlines for pedestrian movements through car parks, exclusion of hidden (un-surveilled) areas and provision for CCTV coverage;

Station planning shall also ensure obvious routes and minimal travel distances are achieved, which are free from obstructions, have good sightlines and avoid dead ends and hiding places and incorporate CPTED principles.

- f. support CPTED principles and enhance passive surveillance and perceived passenger and public levels of safety;

4.2.1. Summary Table and Current Compliance

The following table summarises the CPTED requirement from Station Functional Planning & Urban Design (8803-000-008):

Station Functional Planning & Urban Design (8803-000-008)	TRAFFIC LIGHT assessment	Comments
Provide safe and secure travel paths with high levels of activation and passive surveillance.	●	Further design required to assess.
Ensure pedestrian spaces are: - Well lit. - Designed as non-threatening open spaces. - With good linkages and sightlines from surrounding areas.	● ● ●	Lighting to be further designed. Proposed lighting lux level plans to be reviewed in next design stage.
Follow CPTED principles, ensuring good sightlines and surveillance levels.	●	CCTV yet to be designed.
Design for personal safety including: - Ensuring clear sightlines for pedestrian movements through car parks - Exclusion of hidden (un-surveyed) areas - Provision of CCTV coverage	● ● ●	Further design required to assess. Further design required to assess. CCTV yet to be designed.
Avoid dead ends and hiding places.	●	Further design required to assess.
Support CPTED principles and enhance passive surveillance and perceived public levels of safety.	●	Further design required to assess.

4.3. Station and Buildings Landscape Architecture (8803-000-009)

This standard included the following CPTED requirements:

- f. Ensure the design is consistent with Crime Prevention Through Environmental Design (CPTED) principles without hampering lighting levels due to over growth;
- l. Utilise low-growing native planting combined with tree planting to ensure CPTED principles and passive surveillance is maintained;

4.3.1. Summary Table and Current Compliance

The following table summarises the CPTED requirement from Station and Buildings Landscape Architecture (8803-000-009):

Station and Buildings Landscape Architecture (8803-000-009)	TRAFFIC LIGHT assessment	Comments
Ensure the design is consistent with CPTED principles without hampering lighting levels due to overgrowth.	●	Lighting yet to be designed and coordinated with planting.
Utilise low-growing native planting combined with tree planting to ensure CPTED principles and passive surveillance is maintained.	●	Further design required to assess.

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5. SITE INSPECTION AND CRIME ASSESSMENT

5.1. Site Inspection

SCG conducted a site inspection of the new Midland Station site and surrounds on 06/07/22 (at the Reference Design Stage) to review the local built environment to assess local crime indicators which may impact CPTED opportunities or challenges.

SCG's observations from the site inspection are included in Section 6 of this report.

5.2. Demographics (Socio-Economic Data)

SCG conducted an assessment of socio-economic data for the area that the new station is located within, and surrounding areas, to assist in determining potential for crime to affect the new station site and its patrons.

The following socio-economic data was sourced from:

<https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2033.0.55.001~2016~Main%20Features~1RSAD%20Interactive%20Map~16>

2033.0.55.001 - Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia, 2016

The initial map below is a close-up of the new station location (circled in yellow) and its immediate surrounds. This station sits within a large area which is classified as “most disadvantaged” from a socio-economic perspective. Generally, when overlayed with crime statistic maps which are available in other states, SCG note that “most disadvantaged” areas typically suffer higher crime incident numbers, than those classified on the “most advantaged” end of the socio-economic scale.

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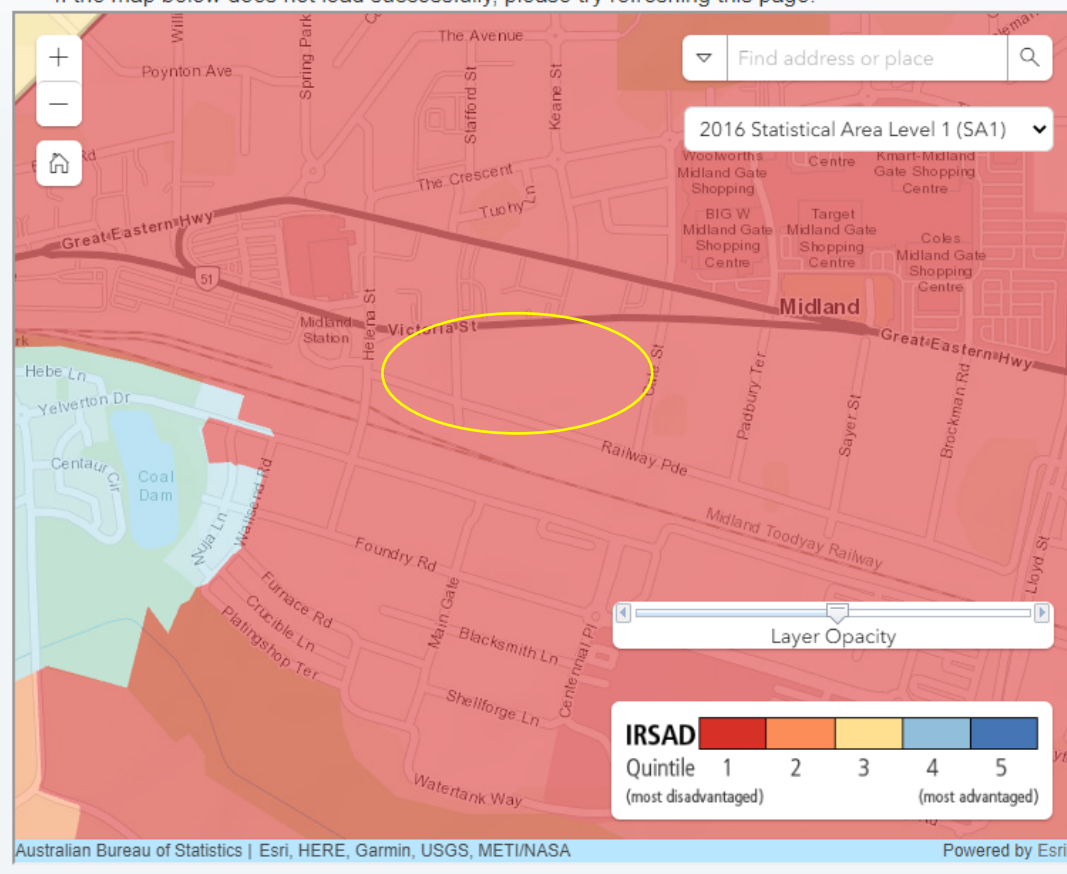
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IRSAD INTERACTIVE MAP

Use the map below to display information on the distribution of the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) SEIFA scores by one of the 5 geographies available.

The search bar at the top of the map can be used to locate a town or postcode. Alternatively, you can use the zoom function to navigate to the location you are interested in and then click on the area for more information.

- If the map below does not load successfully, please try refreshing this page.



The second map below indicates a wider area to enable an assessment of adjoining areas with varying socio-economic classifications. It is noted from this wider map that the station location is reasonably close to adjoining areas which are classified as being mid-to-high advantaged areas. It is noted also that these adjoining areas would be serviced by other stations (Woodbridge Station indicated in green and East Guildford Station indicated in red).

IRSAD INTERACTIVE MAP

Use the map below to display information on the distribution of the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) SEIFA scores by one of the 5 geographies available.

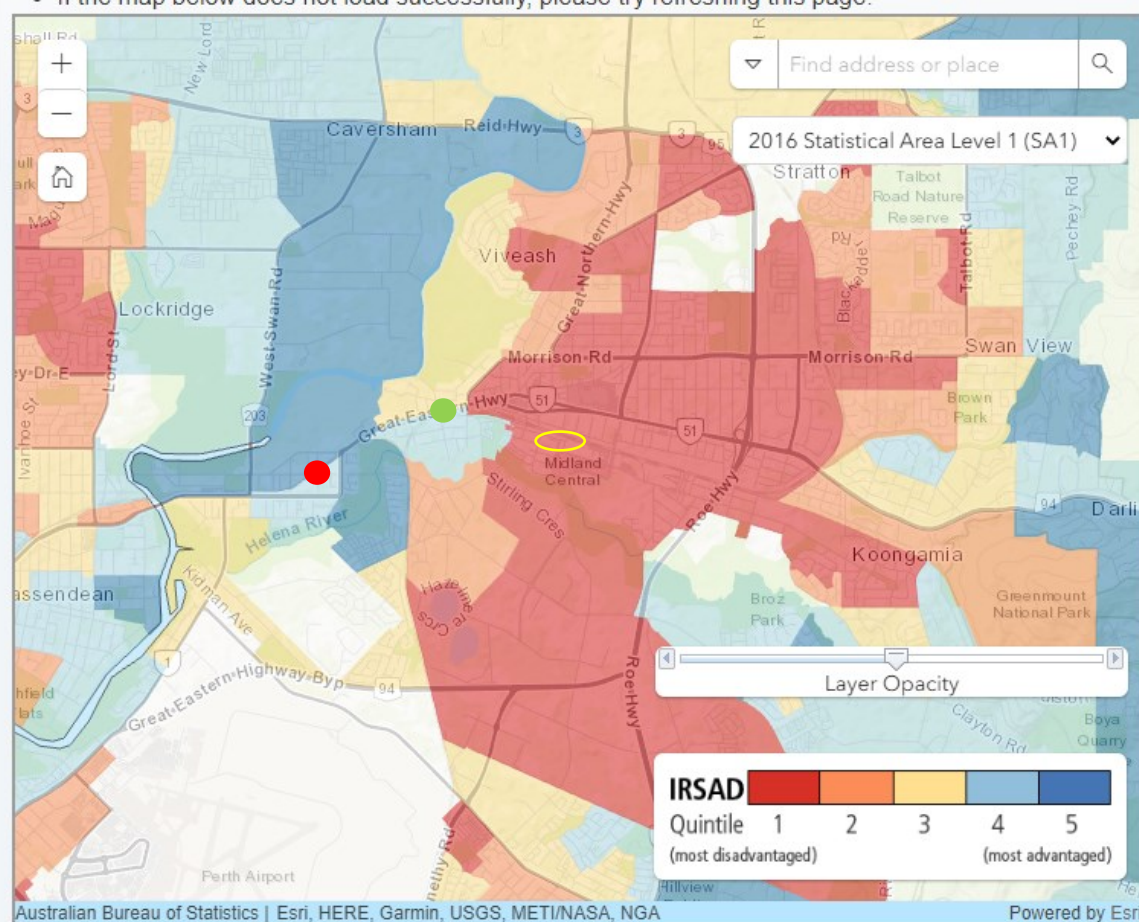
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The search bar at the top of the map can be used to locate a town or postcode. Alternatively, you can use the zoom function to navigate to the location you are interested in and then click on the area for more information.

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5.3. Crime Assessment

SCG reviewed the following WA Police crime statistics for the suburb of Midland to assess potential for crime or unwanted behaviour at the new Midland Station site.

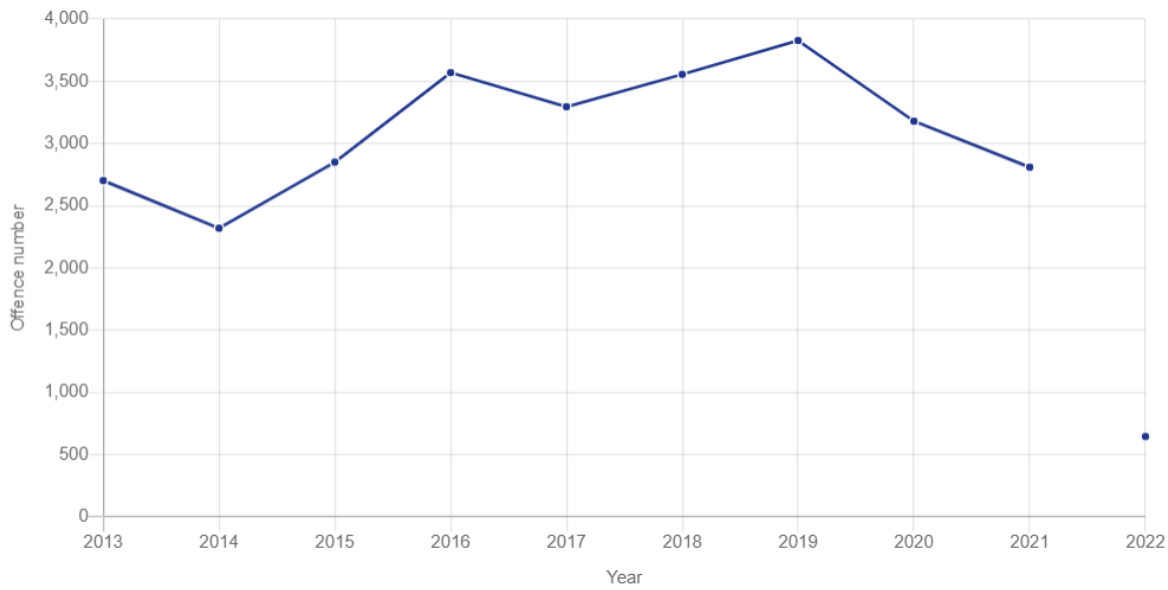
Crime statistics were sourced from the WA Police Force Online Crime Statistics webpage:

<https://www.police.wa.gov.au/crime/crimestatistics#/>

The statistics show that over the past 8 years, the suburb of Midland has experienced a total of between 2900 and 3600 recorded crime incidents per year.

Within the past 8 years, total crime incident numbers peaked in the 2019 at 3827 recorded incidents and have since continued a downward trend with a total of 2809 incidents last year (2021).

Midland Offences per Calendar Year



Type of Offence	2013	2014	2015	2016	2017	2018	2019	2020	2021	*YTD 2022
Homicide	-	1	-	2	-	-	1	-	-	-
Sexual Offences	36	15	31	28	26	33	60	67	50	8
Assault (Family)	85	92	170	192	191	176	196	223	158	49
Assault (Non-Family)	139	142	151	202	174	200	233	196	196	50
Threatening Behaviour (Family)	2	6	23	28	27	15	34	36	28	17
Threatening Behaviour (Non-Family)	28	32	43	59	67	70	73	56	61	10
Deprivation of Liberty	4	-	2	1	3	-	5	2	1	2
Robbery	34	16	19	13	16	24	21	23	25	1
Dwelling Burglary	101	99	145	238	217	213	164	120	101	8
Non-Dwelling Burglary	94	80	76	64	77	87	82	50	74	24
Stealing of Motor Vehicle	57	53	54	63	47	38	65	28	37	5
Stealing	1,312	989	1,245	1,553	1,381	1,399	1,622	1,167	1,171	262
Property Damage	407	275	388	467	406	416	389	330	305	82
Arson	13	16	8	11	11	10	9	12	5	6
Drug Offences	70	118	217	295	262	395	319	268	172	28
Graffiti	63	32	29	23	17	25	12	29	10	5
Fraud & Related Offences	191	299	186	243	298	390	425	437	359	70
Breach of Violence Restraint Order	66	54	63	87	75	64	117	135	56	19
Total of Selected Offences	2,702	2,319	2,850	3,569	3,295	3,555	3,827	3,179	2,809	646

Notes:

* Year To Date

- Crime statistics are extracted quarterly from the WA Police Force Incident Management System.

- Crime statistics are provisional and subject to change.

Of the above crime incident types, it is considered that the following categories could be applicable to a public transport facility such as the new Midland Station site:

- Homicide (0 incidents in past 12 months).
- Sexual offences (50 incidents in past 12 months).

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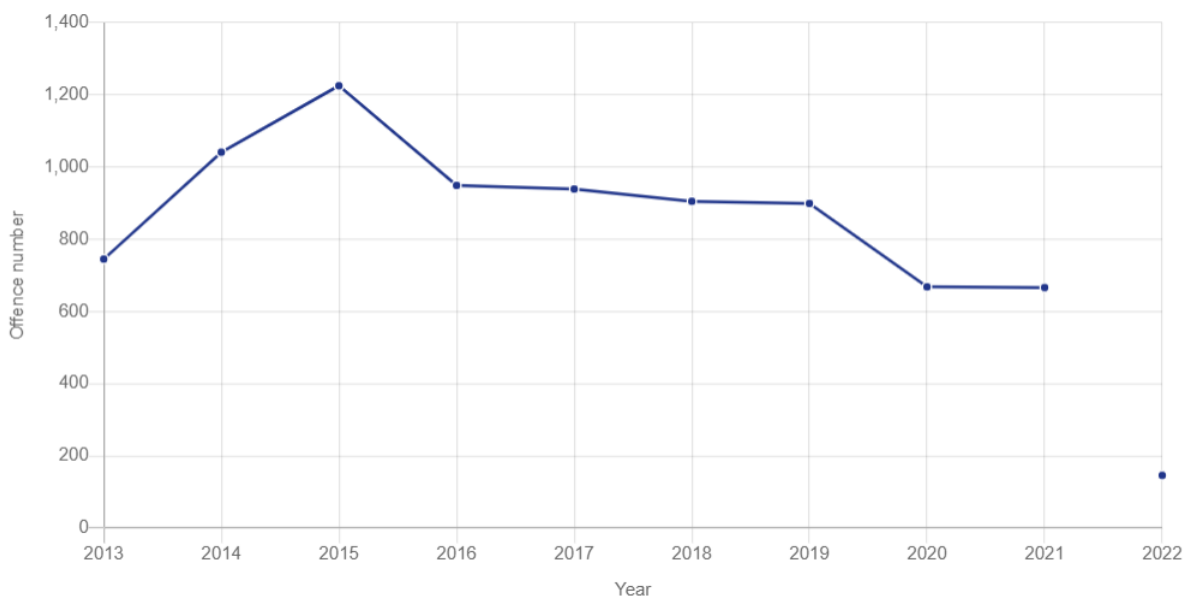
- Assault (non-family) (196 incidents in past 12 months).
- Threatening Behaviour (non-family) (61 incidents in past 12 months).
- Deprivation of Liberty (1 incidents in past 12 months).
- Robbery (25 incidents in past 12 months).
- Burglary (non-dwelling) (74 incidents in past 12 months).
- Stealing of Motor Vehicle (37 incidents in past 12 months).
- Stealing (1,171 incidents in past 12 months).
- Property Damage (305 incidents in past 12 months).
- Arson (5 incidents in past 12 months).
- Drug Offences (172 incidents in past 12 months).
- Graffiti (10 incidents in past 12 months).

5.4. Comparison

The total annual crime incidents in Midland for the previous 8 years (averaging between 2900 and 3600 per year) appear high when compared with the total incidents experienced during the same time period in nearby surrounding suburbs:

- Swan View (averaging between 650 to 1200 per year).
- Stratton (averaging between 350 to 500 per year).
- Guildford (averaging between 250 to 450 per year).
- Caversham (averaging between 300 to 600 per year).

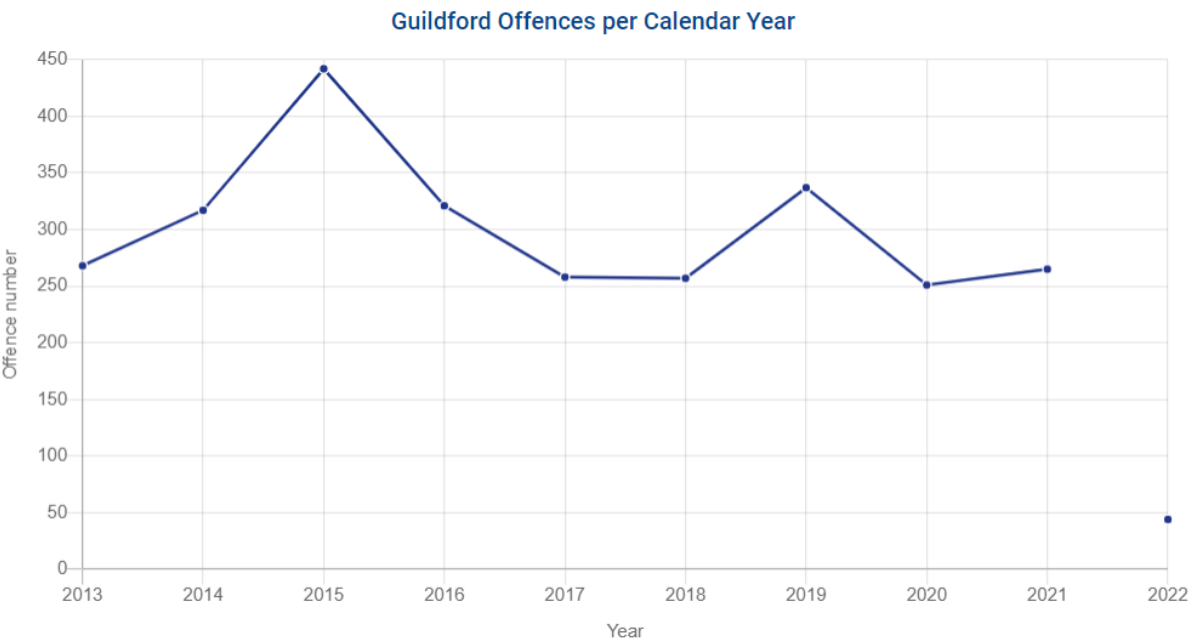
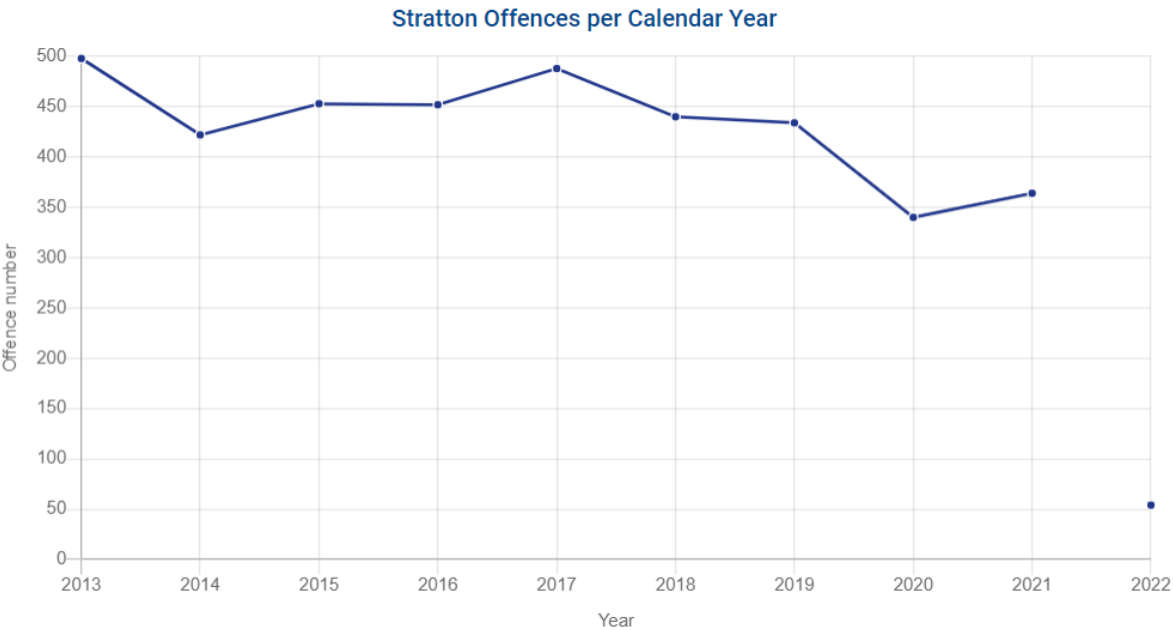
Swan View Offences per Calendar Year



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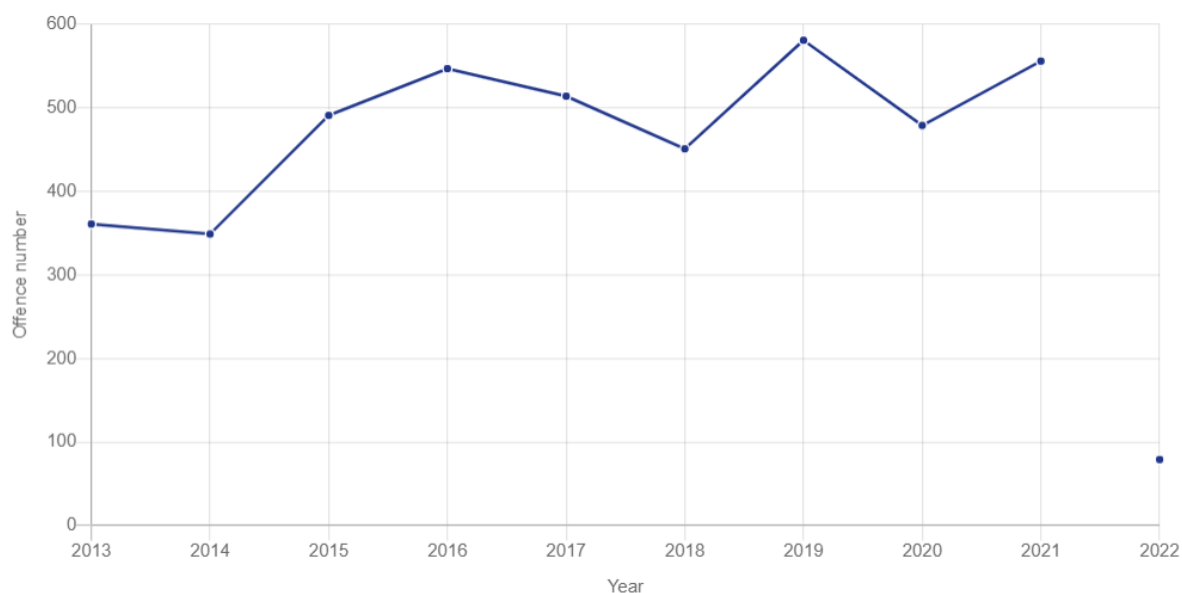
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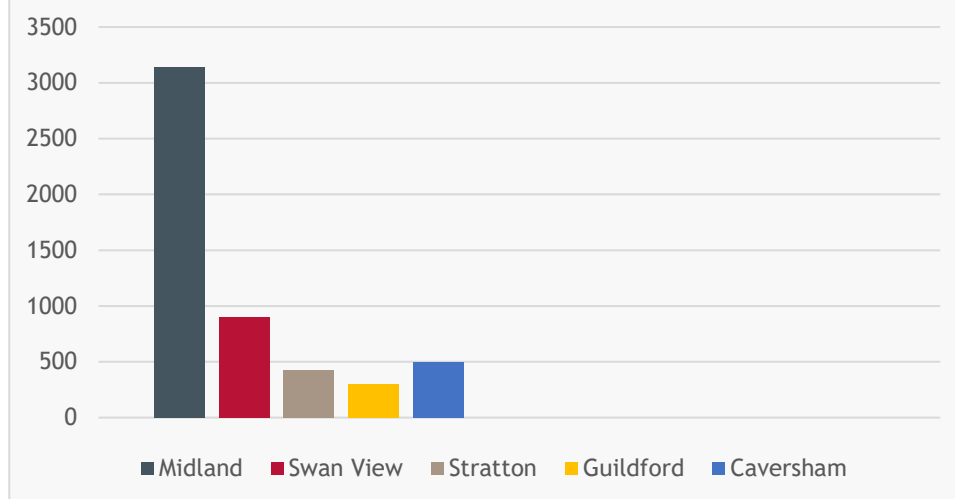


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Caversham Offences per Calendar Year



Average Annual Crime Incidents



When compared to average crime incident numbers in other suburbs that also include train intersection locations, Midland crime incident figures are on the lower scale.

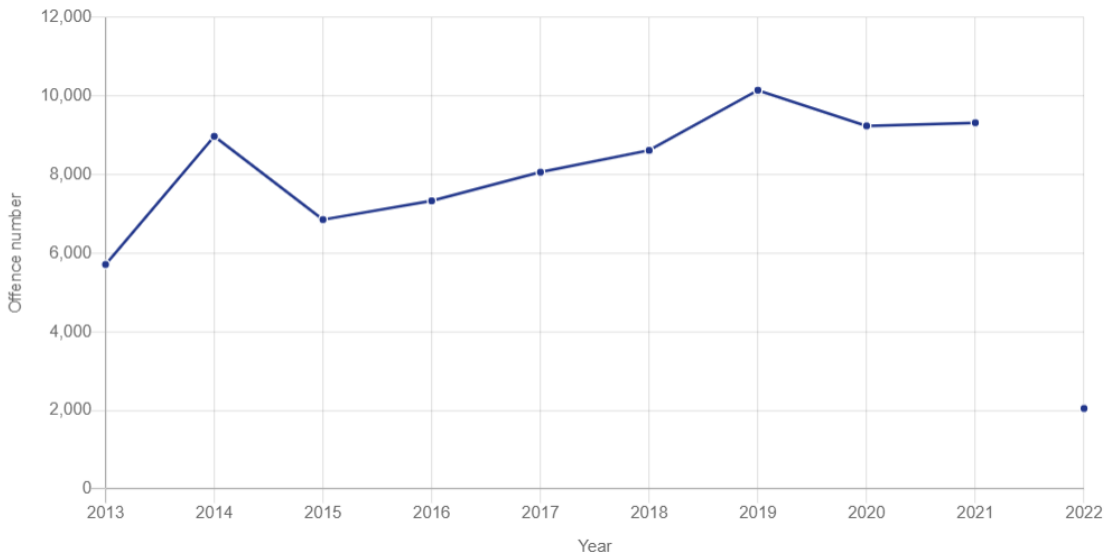
- Perth (averaging between 6,000 to 10,000 per year).
- Armadale (averaging between 3,500 to 5,000 per year).
- Midland (averaging between 2900 and 3600 per year).

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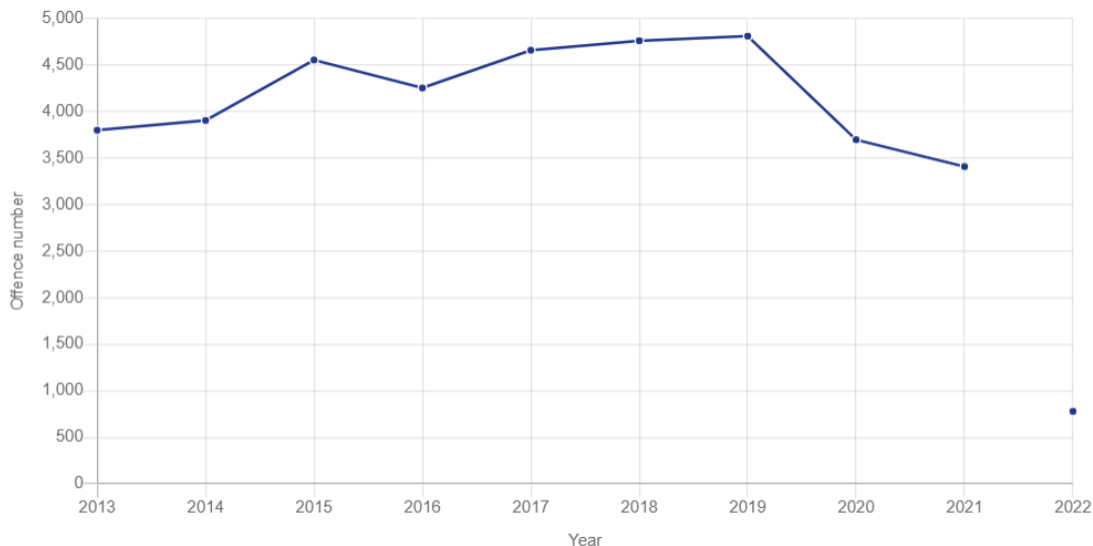
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Perth Offences per Calendar Year



Armadale Offences per Calendar Year



5.5. Crime Risk Assessment

Based on the incident types and frequency of incidents noted above, and the observations from our site inspection of the area SCG considers the following incident types should be considered as a part of CPTED considerations for the new Midland Station.

- Homicide (0 incidents in past 12 months).
- Sexual offences (50 incidents in past 12 months).
- Assault (non-family) (196 incidents in past 12 months).
- Threatening Behaviour (non-family) (61 incidents in past 12 months).
- Deprivation of Liberty (1 incidents in past 12 months).
- Robbery (25 incidents in past 12 months).
- Burglary (non-dwelling) (74 incidents in past 12 months).
- Stealing of Motor Vehicle (37 incidents in past 12 months).
- Stealing (1,171 incidents in past 12 months).

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- Property Damage (305 incidents in past 12 months).
- Arson (5 incidents in past 12 months).
- Drug Offences (172 incidents in past 12 months).
- Graffiti (10 incidents in past 12 months).

5.5.1. Crime Risk Assessment Matix

For the purposes of the Crime Risk Assessment (CRA) SCG have used the following PTA risk criteria. Note that whilst this criteria is labelled as “superseded”, we were informed by the MJA team that this is the current criteria available form PTA.

LIKELIHOOD TABLE				
Level	Likelihood	Description	Indicative Frequency	Time Based
5	Almost Certain	The event or consequence is expected to occur in most circumstances	>90% of times when performing a task/activity	More than once per month
4	Likely	The event or consequence will probably occur in most circumstances	51 – 90% of times when performing a task/activity	More than once per year
3	Possible	The event or consequence might occur at some time	11 – 50% of times when performing a task/activity	Once every 1 – 10 years
2	Unlikely	The event or consequence could occur at some time	0.1 – 10% of times when performing a task/activity	Once every 10 – 50 years
1	Rare	The event or consequence may occur only in exceptional circumstances	<0.1% of times when performing a task/activity	Less than once every 50 years*

* NB: Risks that are rated as likelihood category ‘rare’ may be expected to occur significantly less frequently than less than once every 50 years such as those relating to engineering principles and/or tolerances. Where this is the case it must be clearly indicated in the risk register, an appropriate treatment action plan undertaken accordingly, and additional quantitative risk analysis where required or appropriate

RISK ASSESSMENT MATRIX						
Consequence Likelihood		Insignificant	Minor	Moderate	Major	Catastrophic
		1	2	3	4	5
Almost Certain	5	Low 5	High 10	High 15	Very High 20	Very High 25
Likely	4	Low 4	Medium 8	High 12	Very High 16	Very High 20
Possible	3	Low 3	Low 6	Medium 9	High 12	High 15
Unlikely	2	Low 2	Low 4	Low 6	Medium 8	High 10
Rare	1	Low 1	Low 2	Low 3	Low 4	Medium 7

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Control Rating	Description
Adequate	The control design and operation meets the control objective; these controls are relevant, documented and apply appropriate good practice.
Inadequate	Neither the control design nor operation is meeting the control objective. These controls may be relevant but improvements to the control design and operation are required to meet the control objective or implementations of alternative controls are required.

CONSEQUENCE REFERENCE TABLE								
Level	Title	Health & Safety	Transport Services	Financial	Reputation & Trust (Political, Stakeholders and Community)	Business/Project Operations	Environmental	Legal & Compliance
5	CATASTROPHIC	Multiple fatalities	- Critical service infrastructure and/or systems are not operational and cannot be rectified. - Severe impact to customers e.g. severe drop in patronage or severe level of congestion.	- Greater of: - Greater than \$30M; or - Deviation from project budget > 30%	- Severe adverse community impacts and condemnation. - Extreme negative media attention. - Consistent ongoing community loss of confidence and trust in Agency capabilities and intentions. - Government intervention.	- Activities ceased. - More than 50% variation in KPI or objective. - Multiple critical programs or projects cannot be delivered.	- Severe uncontained hazardous impact. - Requiring long-term treatment and monitoring. - Severe residual effect on local ecological communities, animal and plant populations it contains, and environmental and heritage values of the area.	- Severe non-compliance with legislation and/or regulation. - Severe contract or other legal breach. - Criminal charges, penalties and/or loss of accreditation. - Class action or other litigation against the Agency.
4	MAJOR	Single fatality or substantial injuries or severe permanent disablement	- A number of critical services and/or systems are cancelled/unavailable, with extensive rectification required before resumption of services. - Non-critical service infrastructure is not operational and cannot be rectified. - Substantial impact to customers e.g. substantial drop in patronage or substantial level of congestion.	- Greater of: \$10M - \$30M; or - Deviation from project budget between 20-30%	- Substantial and prolonged community impact and dissatisfaction publicly expressed. - Consistent negative media attention. - Criticism and loss of confidence/ trust by community and Stakeholders in Agency processes and capability. - Ministerial intervention.	- Substantial delays to activities. 25% to 50% variation in KPI or objective. - One or more critical programs or projects cannot be delivered.	- Substantial hazardous impact. - Rectified in the long-term. - Substantial residual effect on local ecological communities, animal and plant populations it contains, and environmental and heritage values of the area.	- Substantial non-compliance with legislation and/or regulation. - Substantial contract or other legal breach. - Termination of process or imposed penalties. - Substantial litigation against the Agency.
3	MODERATE	Medical treatment required or Lost time injury or Restricted work injury	- One or a number of services and/or systems, including critical services, are unavailable for an extended length of time. - Medium impact to customers e.g. complaints and medium drop in patronage or medium level of congestion.	- Greater of: \$1M - \$10M; or - Deviation from project budget between +10-20%	- Sectional community impacts and concerns publicly expressed. - Increased negative media attention. - Loss of confidence and trust by community and Stakeholders in Agency processes and capability. - Ministerial concern.	- Medium delays to business activities. 10% - 25% variation in KPI or objective. - One or more projects is significantly impaired.	- Uncontained impact. - Rectified in short-medium term. - Medium term residual effect on local ecological communities, animal and plant populations it contains, and environmental and heritage values of the area.	- Non-compliance/s with regulation and/or probity infringements, which may result in some processes repeated. - Contract or other legal breach which may result in costs/delays to the Agency. - Legal action probable.
2	MINOR	First aid treatment required	- One or a number of services and/or systems are unavailable or operating with restrictions but can be resumed within acceptable timeframes. - Short term impact to customers e.g. short term drop in patronage or isolated congestion.	- Greater of: \$100,000 - \$1M; or - Deviation from project budget between +5-10%	- Local community impacts and concerns. - Occasional once off negative media attention. - Trust issues raised.	- Short-term delays to business activities. 5% to 10% variation in KPI or objective.	- Contained low impact. - Rectified with standard treatment. - Short-term residual effect on local ecological communities, animal and plant populations it contains, and environmental and heritage values of the area.	- Complex legal/ non-compliance issue to be addressed. - Legal action and/or public liability claim possible. - Disciplinary action.
1	INSIGNIFICANT	No treatment required	- Service infrastructure receives minimal damage, minimal rectification required. Services and/or systems only temporarily unavailable or remain operational. - Minimal impact to customers e.g. minimal drop in patronage or minimal level of congestion.	- Greater of: - Less than \$100,000; or - Deviation from project budget within ± 5%	- Isolated local community or individual's issue-based concerns. - Low profile media attention.	- Minimal delays to business activities. - Up to 5% variation in KPI or objective.	- Minimal impact to isolated area. - Simple or no treatment required. - No lasting effect on local ecological communities, animal and plant populations it contains, and environmental and heritage values of the area.	- Guidance required for legal/ compliance issues managed through routine procedures. - Legal action unlikely.

5.5.2. Crime Risk Assessment Register

The table below outlines the consolidated list of crime types that have occurred in the scope area over the past 12 months, and qualitative assessment of each crime type's likelihood of occurring, and relevant consequences if/when they occur.

Incident Type	Likelihood	Consequence	Risk Level
Homicide (0 incidents in past 12 months)	Unlikely	Major	Medium
Sexual offences (50 incidents in past 12 months)	Possible	Moderate	Medium
Assault (non-family) (196 incidents in past 12 months)	Likely	Moderate	High
Threatening Behaviour (non-family) (61 incidents in past 12 months)	Likely	Minor	Medium
Deprivation of Liberty (1 incidents in past 12 months)	Unlikely	Minor	Low
Robbery (25 incidents in past 12 months)	Possible	Minor	Low
Burglary (non-dwelling) (74 incidents in past 12 months)	Possible	Minor	Low
Stealing of Motor Vehicle (37 incidents in past 12 months)	Possible	Minor	Low
Stealing (1,171 incidents in past 12 months)	Almost Certain	Minor	High
Property Damage (305 incidents in past 12 months)	Likely	Minor	Medium
Arson (5 incidents in past 12 months)	Possible	Moderate	Medium



Drug Offences (172 incidents in past 12 months)	Likely	Minor	Medium
Graffiti (10 incidents in past 12 months)	Almost Certain	Minor	High

The final list of crime types above was considered during the CPTED assessment, so that relevant vulnerabilities and CPTED strategies could be considered as a part of recommendations.

5.5.3. Potential targets for crime

The following table links the identified crime types above with the Midland Station facilities that may be impacted:

Incident Type	Relevant Facilities
Sexual offences (50 incidents in past 12 months)	- Car park - Toilets
Assault (non-family) (196 incidents in past 12 months)	All
Threatening Behaviour (non-family) (61 incidents in past 12 months)	All
Deprivation of Liberty (1 incidents in past 12 months)	- Car park - Toilets
Robbery (25 incidents in past 12 months)	- All - Ticket machines
Burglary (non-dwelling) (74 incidents in past 12 months)	Driver facilities/office
Stealing of Motor Vehicle (37 incidents in past 12 months)	Car parks
Stealing (1,171 incidents in past 12 months)	Driver facilities/office
Property Damage (305 incidents in past 12 months)	All
Arson (5 incidents in past 12 months)	- Car park - Toilets - Driver facilities/office - Elec/comms rooms
Drug Offences (172 incidents in past 12 months)	- Car park - Toilets
Graffiti (10 incidents in past 12 months)	All

6. CPTED ASSESSMENT

6.1. Security

It should be noted that CPTED is one strategy that contributes toward the overall security arrangements for a site. PTA use a number of procedural, physical and electronic security treatments to support the security of their sites, and these other security arrangements should be taken into consideration when assessing the appropriateness of CPTED within the overall security strategy. The following list provides an overview of the broader security measures that will be incorporated into the Midland Station design (including the car park and bus interchange), based on PTA security standards:

CCTV:

- 95% CCTV coverage of overpass.
- 95% CCTV coverage of platform passenger safe zones.
- Identification level CCTV coverage inside lifts, lift landings, stairs and escalators.
- 360-degree (hemispheric camera) CCTV coverage of bike shelters.
- 95% CCTV coverage of all station public areas to height of 2m.
- Kiss and Ride CCTV coverage.
- SER camera coverage.
- Track section and feeder station cameras.
- Car park fixed general CCTV coverage (supported by PTZ).
- CCTV coverage of all floors within multi-storey car park.
- CCTV general coverage of bus interchange (supported by PTZ).

Access control and Intruder Detection:

- Building Access Control Systems (BAS) and intruder detection (IDS) for all infrastructure buildings/cabinet IDS.
- BAS used on all staff facilities.
- Prevent access to toilets during high-risk times (platforms closed late night).

Signage:

- CCTV warning signage.
- HV warning signage.
- Public warning signage (report suspicious behaviour).

Duress:

- Duress buttons available to staff in all staff facilities.
- Emergency help telephones under CCTV surveillance for station and interchange.

Other:

- PA warning system.
- PTA cyber security.
- PTA standard CPTED treatments.
- Transit guards on site.

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6.2. Assessment

The following sections make observations against the CPTED principles: Natural Surveillance, Natural Access Control, Territorial Reinforcement, and Management and Target Hardening identified by SCG during the:

- Re-assessment of previous observations from the Reference Design CPTED review.
- Assessment of potential new CPTED issues/opportunities observed in the Design Development A Stage design.

6.2.1. Natural Surveillance Observations

SCG noted the following observations regarding Natural Surveillance.

6.2.1.1. Natural Surveillance

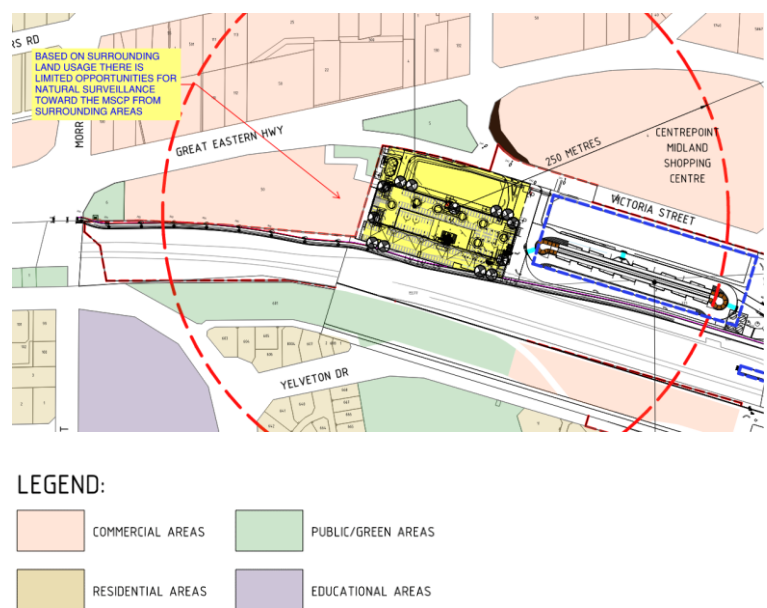
Artwork within the detailed design package of the MSCP indicates a good selection of permeable vegetation which maintains good Natural Surveillance.



Based on surrounding land usage there is limited opportunities for Natural Surveillance toward the MSCP from surrounding populated areas.

This places more importance on formal surveillance of the MSCP (CCTV and guard patrols).

Natural Surveillance of the MSCP design however should be maximised to assist pedestrians and users of the MSCP.

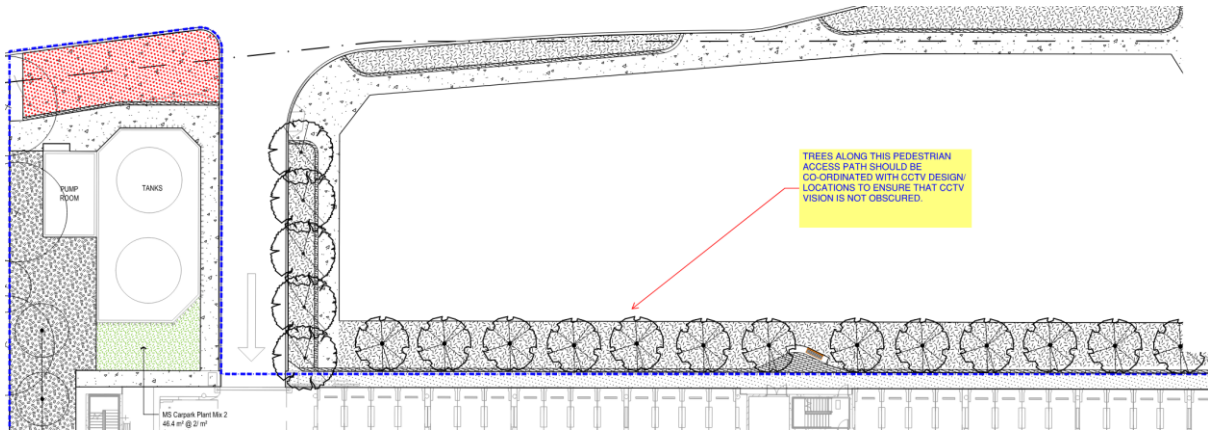


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Trees along this pedestrian access path should be co-ordinated with CCTV design/ locations to ensure that CCTV vision is not obscured.



The 3D model indicates good natural surveillance opportunities around and into the multi-level car park from the surrounding areas.

As the design progresses, natural surveillance should be maximised as far as practical to assist pedestrians to see into the car park before they enter, and to enable activity inside the car park to be seen from outside, to assist in deterring crime and unwanted behaviours.

Refer to section 5.5.3 for the specific crime types likely to occur in the car park/s.



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The cycle/pedestrian path that runs through the public realm assists in activating the southern perimeter of the car park and bus interchange to encourage available witnesses to activity.

Vegetation indicated in the Reference Design 3D images appears positive for minimising hiding places and in maintaining passive surveillance.



The Reference Design 3D model indicates good natural surveillance throughout the bus interchange.

Most activity is concentrated in long straight access ways which assists in enabling pedestrians/commuters to see well ahead of them as they move through the space, so they assess personal safety/security.

Tree types and locations will need to be coordinated with the CCTV and lighting designs to ensure that trees do not obscure surveillance or lighting through the bus interchange.



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As the design has evolved, consideration has been given to earlier CPTED input, to consolidate the solid structures throughout the bus interchange. This provides the benefits of the larger gaps between structures, that are less likely to be used as opportune hiding places for offenders (when compared to many narrow gaps between structures).

Earlier design:



The Reference Design 3D model indicates compliance with the PTA's Stations and Buildings Landscape Architecture 8803-000-009, showing low-growing native planting to assist in maintaining passive surveillance.



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The Reference Design 3D model indicates that the pedestrian spaces are designed as non-threatening, open spaces with good linkages to surrounding areas and clear sightlines, in line with the PTA's Station Functional Planning and Urban Design specification.

The open design of the new station appears to enable pedestrians/commuters to view into the station structure and the platforms as they approach the station, to assist them to manage personal safety before committing to entering the station.



The Reference Design 3D model indicates that whilst there is some level change on the north side of the new station, that this is subtle and does not hamper sightlines or natural surveillance.

The proximity of the cycle path to the station enables passive surveillance from the adjacent external areas of the station surrounds.



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It was noted during the site inspection (refer Section 6.2.2 of this report) that there is an alleyway on the north side of the new station site, which may appear threatening to some pedestrians/commuters, as it has significant levels of graffiti.

This alley may also be an opportune loitering area for offenders to survey activity around the station, or an opportune escape path following an incident.

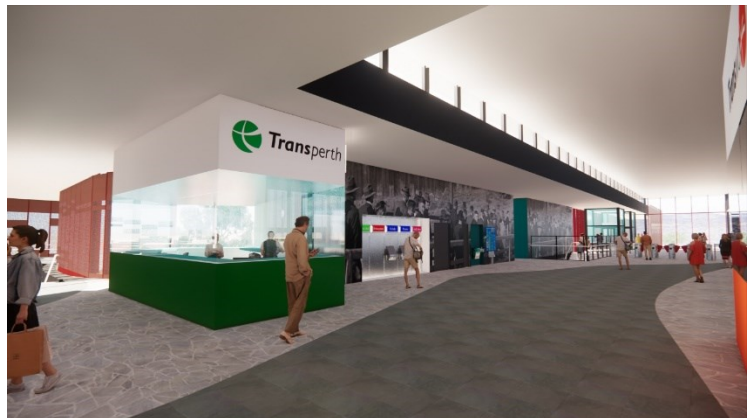
The Reference Design 3D model indicates that there are multiple opportune locations where CCTV and lighting could be mounted on the station structure to focus on this area.

Supporting CCTV warning signage could also be considered to assist in deterring crime or unwanted behaviour.



The Reference Design 3D model indicates that the internal upper level of the station is open with good visibility throughout.

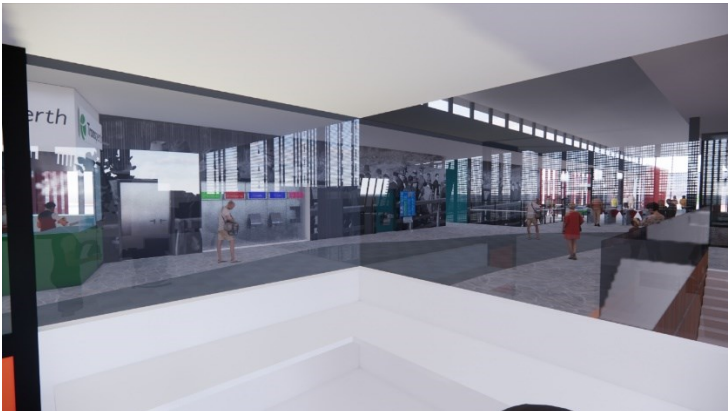
The location of the PTA office enables natural surveillance in all directions of the upper level, inside and outside.



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The Reference Design 3D model indicates good sightlines along the station platforms, with supporting natural surveillance from the upper areas of the pedestrian crossing.



Strategies should be included in subsequent stages of design to assist in mitigating vandalism and graffiti to infrastructure buildings on the platforms.



This may consider either designing-out large canvases using textured surfaces, broken up using architectural design, or vegetation (i.e. vertical gardens).



Consideration should also be given to the use of materials that facilitate ease of graffiti removal or use anti-graffiti coatings to assist in image maintenance.

The Reference Design 3D model indicates good natural surveillance from the station platforms to the upper internal levels of the overpass.

Commuters will be able to verify activity on the platforms from the surrounding approaches or the upper-level crossing before proceeding to the platform.

It should also be noted that once a commuter is at the extremity of a platform, they are



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visible to potential offenders from surrounding areas, and they have no way to egress the station except back past potentially oncoming offenders. Consideration should be given to 24/7 security patrols and emergency call points covering the ends of the platforms.



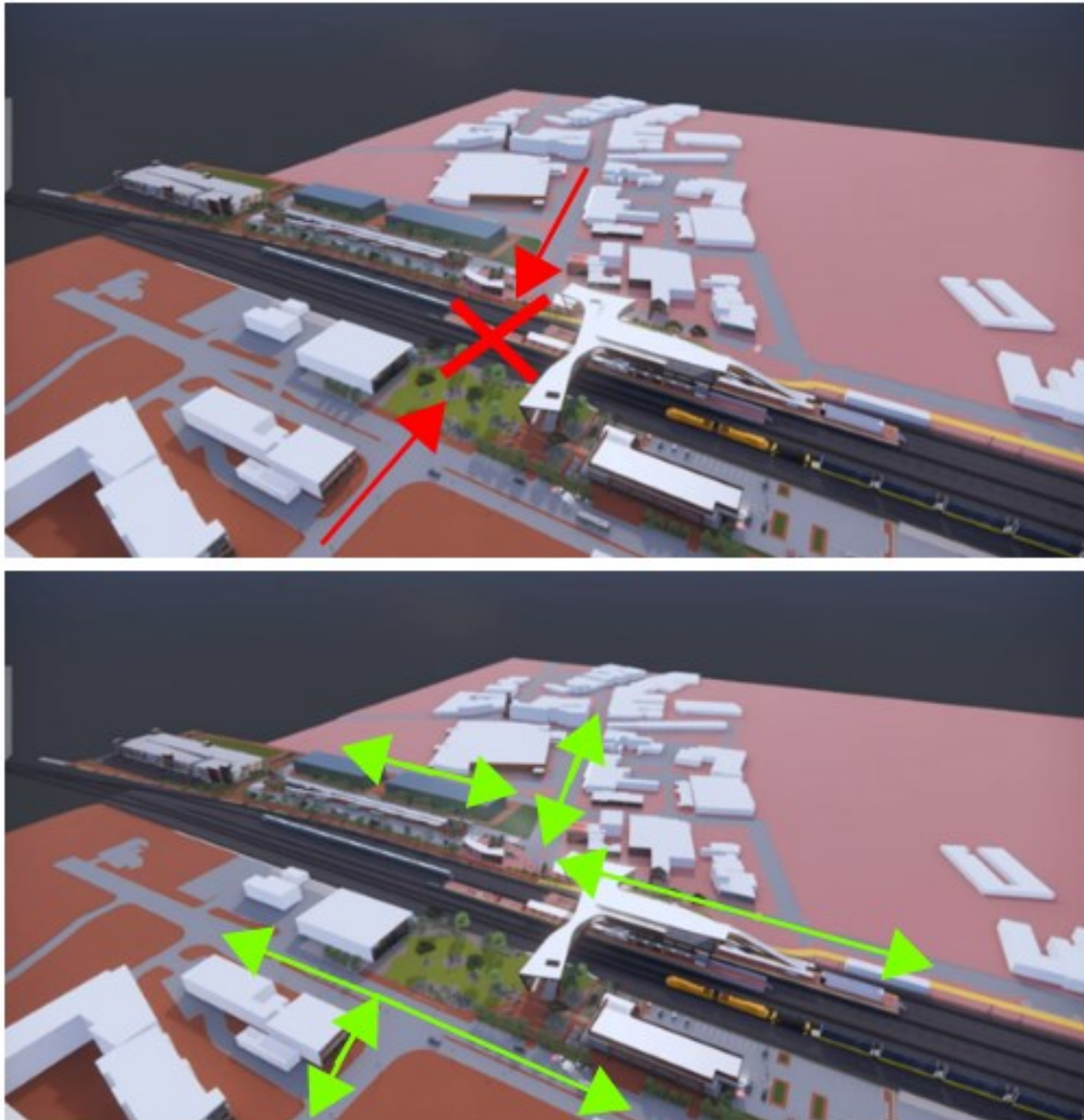
The removal of the level crossing at Helena Street also removes the natural surveillance that currently exists from the vehicle that pass through.

However, there is an opportunity to bring additional natural surveillance from passing vehicles if traffic as it is re-routed to cross at Morrison Street and Cale Street. This re-routed traffic may provide improved natural surveillance, as it will run horizontally in closer proximity to the station, rather than intersect it at one location only.

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Note below:

First image: the proximity of the existing available natural surveillance from Helena Road toward the existing Midland Station (station location in red rectangle).

Second image: the closer proximity of the available natural surveillance from re-routed traffic toward the new Midland Station location (new station location in green rectangle).

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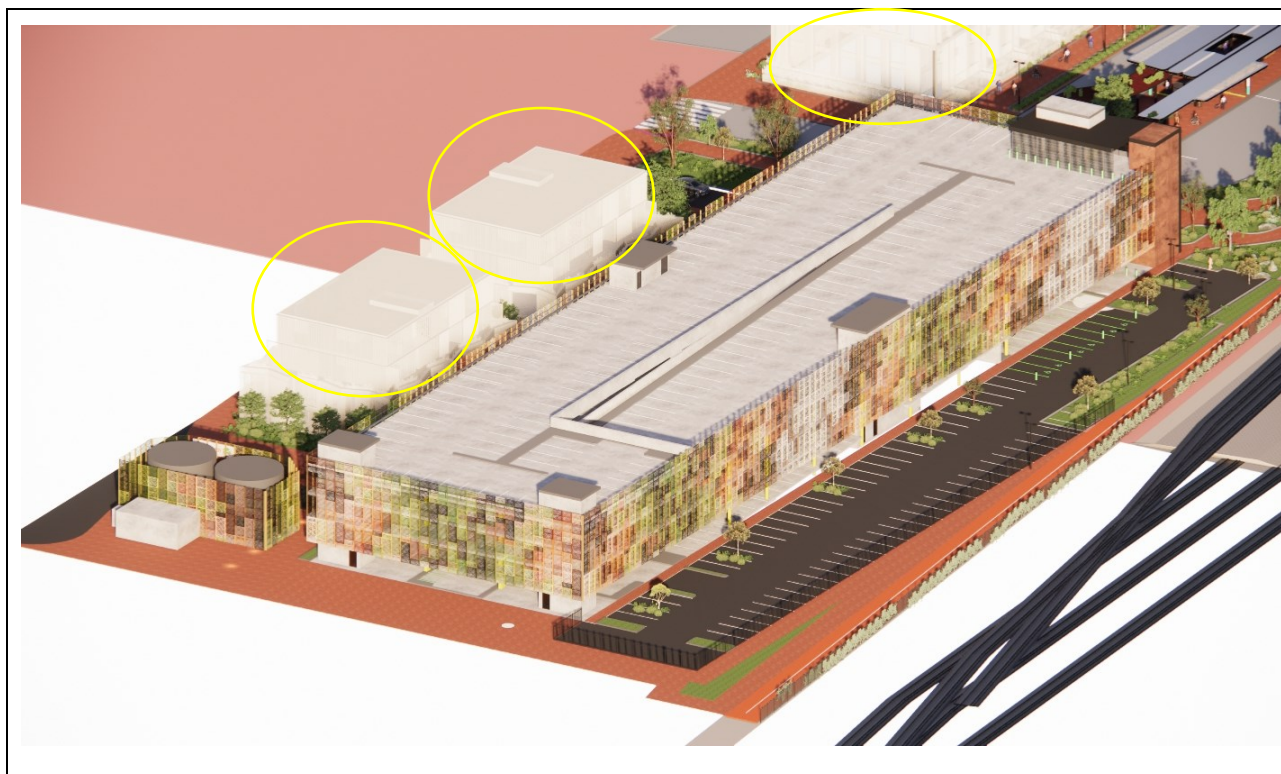


Conversely, the existing carpark and bus interchange currently has Natural Surveillance from passing traffic along Victoria Street. The new car park and bus interchange will not have these Natural Surveillance opportunities once the future buildings are built along Victoria Street.

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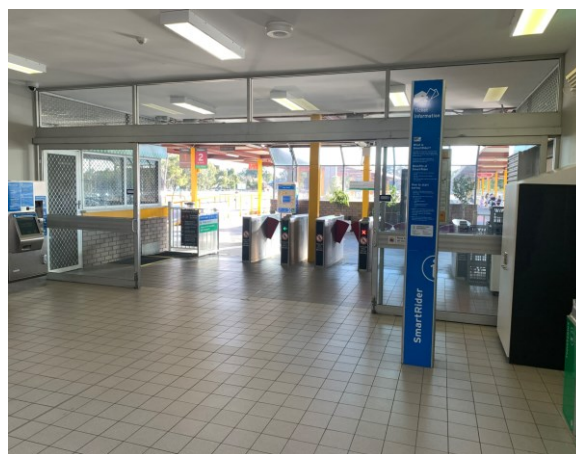
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Whilst the existing Midland Station has limited natural surveillance from surrounding areas, once a commuter is within the station, the open/flat layout enables good sightlines.

The new station appears to provide better opportunities for natural surveillance on the platforms.



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During the site inspection, a range of photos were taken from the vantage point of the future platform location.

Photos were taken in an anticlockwise direction to assist in assessing the potential for natural surveillance directed toward the new station location from surrounding areas and buildings.

It was noted that there is significant opportunity to introduce new activity generators, new businesses, and other facilities to increase activation of the area.

Whilst this sits outside the scope of the new station project, SCG recommend that the City of Swan consider opportunities to further activate the surrounding area.



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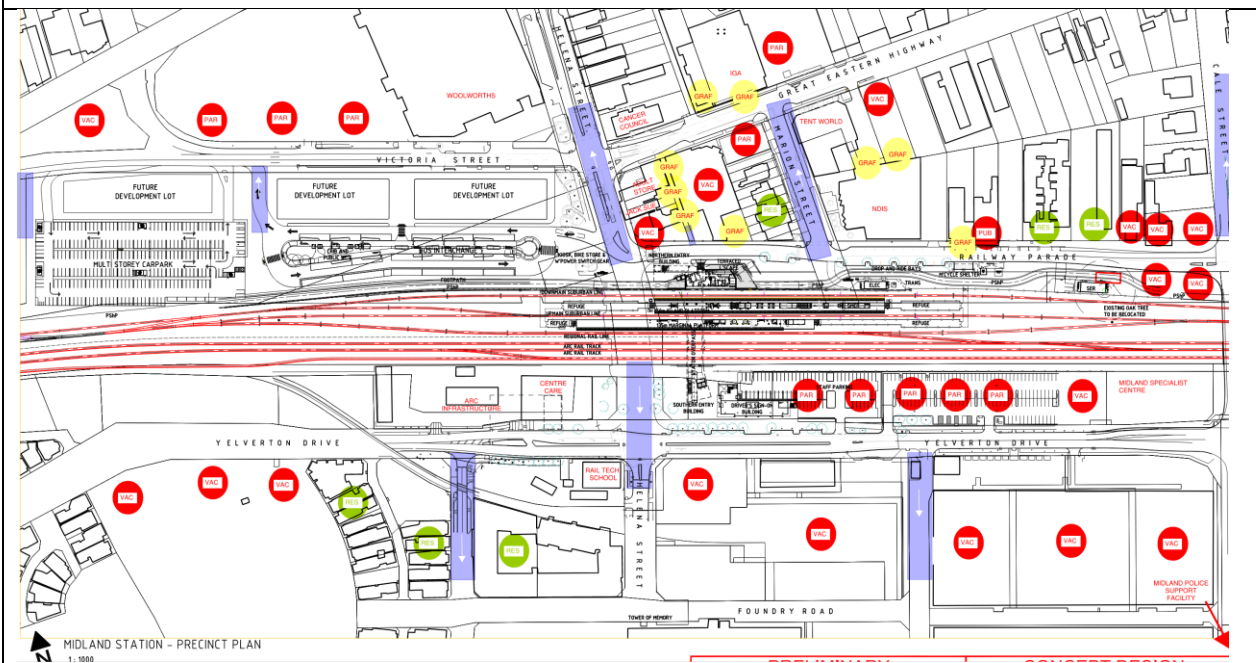
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The following plan includes symbols which have been plotted to represent the pre-development status of the surrounding area:

- Parking facilities (low opportunities for providing natural surveillance toward the site) 
- Vacant lots (low opportunities for providing natural surveillance toward the site) 
- Residential lots (some opportunities for providing natural surveillance toward the site) 
- Areas with higher graffiti (indicator of local crime) 

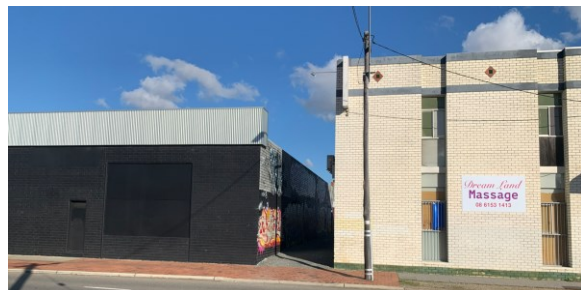
It is noted that the current surrounding facilities offer limited opportunities for Natural Surveillance toward the site. This places more importance on the site including formal surveillance (CCTV, including monitoring support for the PTA's operations centre), and activation to maintain a source of available witnesses to deter crime and unwanted behaviour.



During the site inspection it was noted that the surrounding area has a strong theme of large blank walls.

We expect this may be due to local potential for vandalism (eg. breaking windows), theft (break and enter) or graffiti (ease of painting over graffiti).

Unfortunately, these large blank walls do not support positive CPTED (Natural Surveillance or Territorial Reinforcement) and may contribute to a negative safety perception of the area.



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Seeing as the surrounding area provides less positive CPTED to support safety and security of the new station, more emphasis should be given to formal surveillance (CCTV and station guards) factored into the subsequent stages of design and site operations.



The immediate area surrounding the station has a number of vacant buildings or lots, which detract from supporting natural surveillance and activation of the area.

As previously noted, it is recommended that the City of Swan explore opportunities to further activate the surrounding area.



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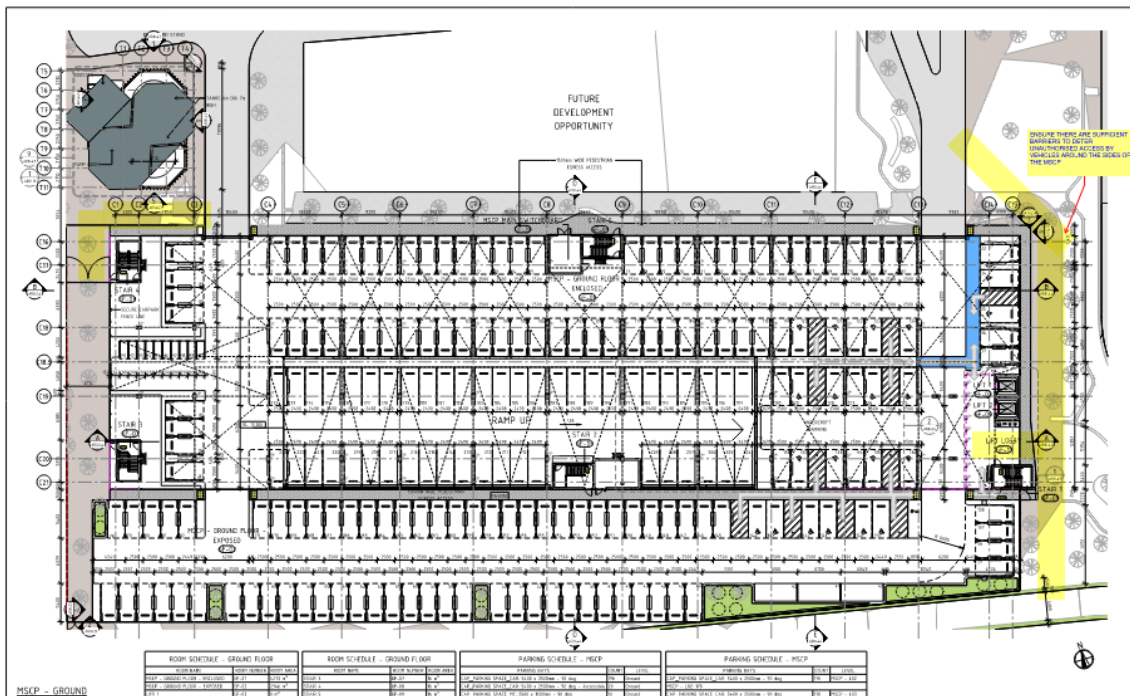
6.2.2. Natural Access Control Observations

The following section outlines SCG's observations regarding Natural Access Control.

As a 24/7 operational public facility, the scope area needs to remain open and accessible to fulfill its intended purpose. Some observations have been made however, regarding the Natural Access Control characteristics of the site, and potential considerations and opportunities.

6.2.2.1. Natural Access Control

Ensure there are sufficient barriers to deter unauthorised access by vehicles around the sides of the MSCP (areas highlighted in yellow). If vehicles can move around the sides of the MSCP they could enter the MSCP via the rear entries (i.e. to engage in hoon behaviour) or attempt to access the pedestrian pathway to the south.

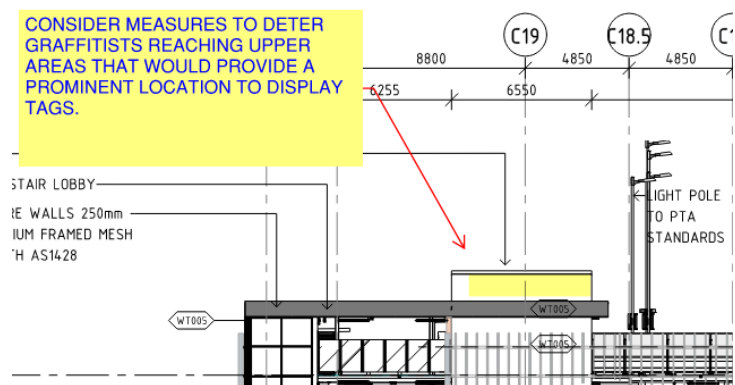
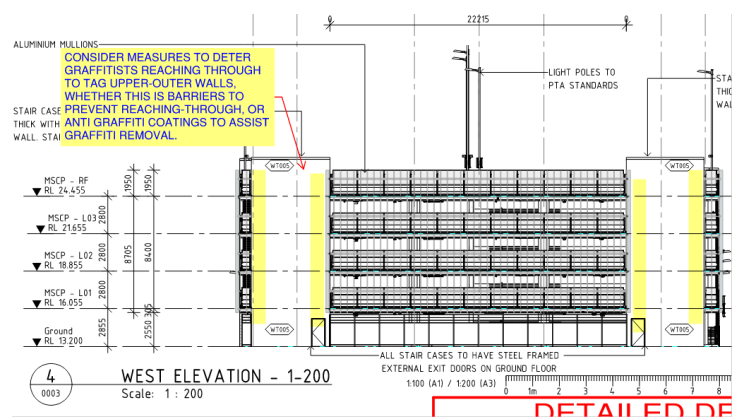


Architectural section drawing of a building facade. The drawing shows a multi-story building with a grid of windows. A roof overhang is shown above the ground floor, with labels "ROOF COVERAGE OVER LIFT/STAIR LOBBY" and "LIFT OVERRUN". Dimensions are provided: 1000, 2500, 3300, and 9989. Circled labels "C15" and "C14" are at the top. A yellow callout box contains the text: "NEED TO ENSURE THERE ARE NO CLIMBING AIDS TO ENABLE PERSONS TO GAIN ACCESS TO HIGH LOCATIONS FOR GRAFFITI OR AS A JUMPING POINT." Red arrows point from the callout box to the roof edge and a vertical pipe.

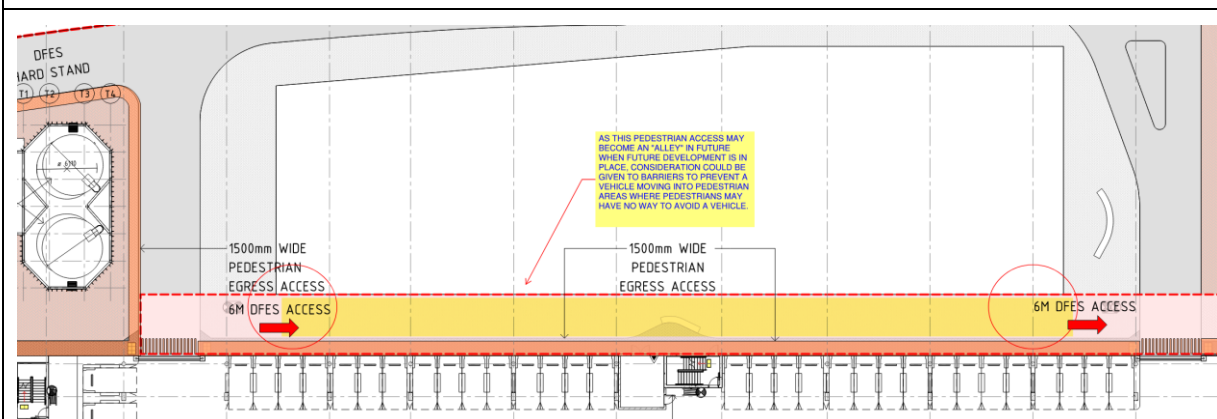
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Consider measures to deter graffitiists reaching through to tag upper-outer walls, whether this is barriers to prevent reaching-through, or anti-graffiti coatings to assist graffiti removal.

Consider measures to deter graffitiists reaching upper areas that would provide a prominent location to display tags.



As this pedestrian access may become an "alley" in future when future development is in place, consideration could be given to barriers to prevent a vehicle moving into pedestrian areas where pedestrians may have no way to avoid a vehicle.

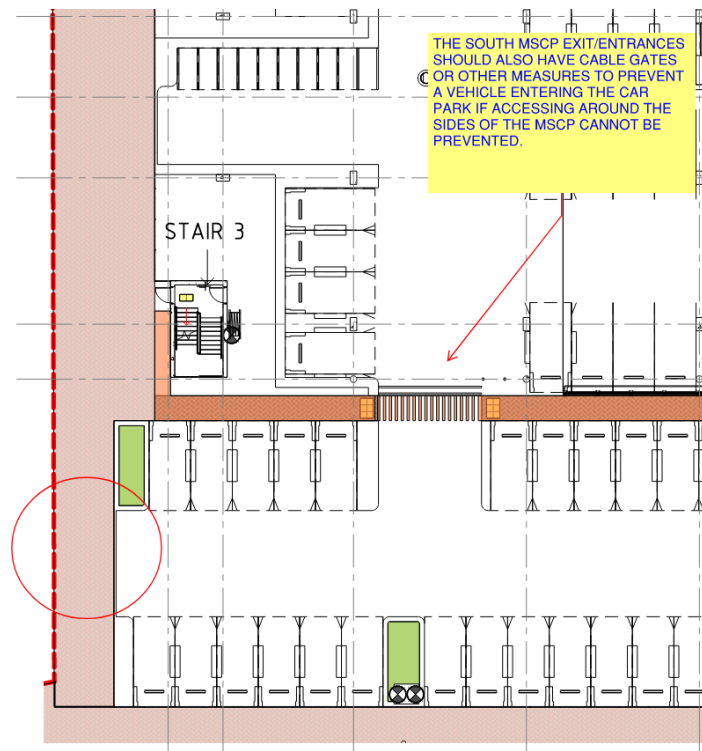


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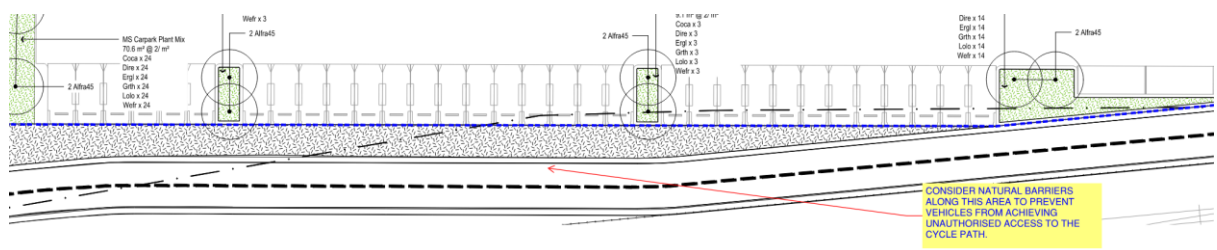
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The south MSCP exit/entrances should also have cable gates or other measures to prevent a vehicle entering the car park if accessing around the sides of the MSCP cannot be prevented.



Consider Natural Barriers along this area to prevent vehicles from achieving unauthorised access to the cycle path.



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There is an alleyway on the north side of the new station site, which may appear threatening to some pedestrians/commuters, as it has significant levels of graffiti.

This alley may also be an opportune loitering area for offenders to survey activity around the station, or an opportune escape path following an incident.

It appears that this alley may provide rear access to some of the adjacent buildings, and so fencing off this alley on the station side may not be possible.

As noted earlier in this report, the Reference Design 3D model indicates that there are multiple opportune locations where CCTV and lighting could be mounted on the station structure to focus on this area to assist in deterring loitering or misuse of this alley.

Lighting to be provided to enable commuters in the station to see activity or whether there is anyone in this alley prior to them leaving the station.



The design of the overpass naturally funnels pedestrians and commuters (as well as would-be-offenders) through a designated and focussed access path.

This provides opportunities to post strategic security-rated signage to assist in deterring crime and unwanted behaviour, and CCTV to ensure that all individuals are captured on recorded video by CCTV, to assist in post incident analysis.



As the design has evolved, consideration was given to designing out potential for offenders to climb structures to gain unauthorised access, for example, earlier designs enabled opportunities to climb some structures (refer images below).

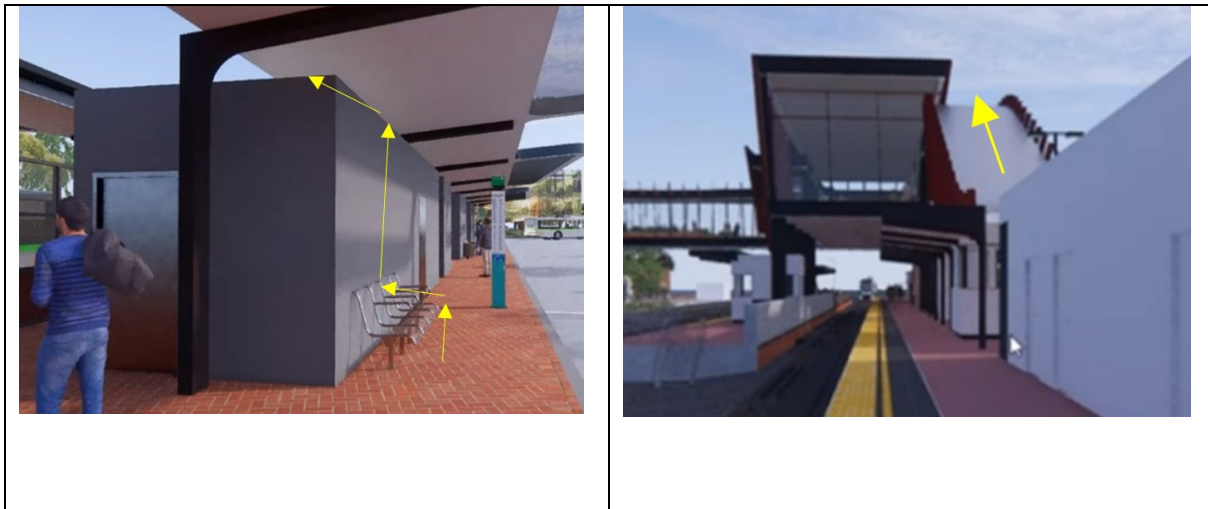
As the design progresses further, the selection of materials, and spacings between design elements should be assessed so as to avoid the creation of any "natural ladders".



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The Reference Design 3D imagery of the south side of the station overpass indicates a lack of natural barriers to assist pedestrians to detect or avoid a hostile vehicle attack (HVA).

A vehicle could mount the curb either accidentally, or intentionally to target pedestrians (or crowd), without any obstacles to deter an attack.

Hostile Vehicle Mitigation could be incorporated as CPTED style decorative or architectural features such as planters, benches and art installations that enhance the environment, whilst also managing HVA risks.

As the design has evolved, barriers have been introduced to some areas (refer second and third images).

A Hostile Vehicle Assessment (HVA) could be considered to assist in determining the most cost-effective method for mitigating VaW risks.



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The Reference Design of the multi-level car park indicates that it is 24/7 accessible to pedestrians and vehicles.

Consideration should be given to design elements to assist in deterring hooning, such as vehicle calming measures to slow traffic and prevent dangerous driving attempts such as “doughnuts” etc.



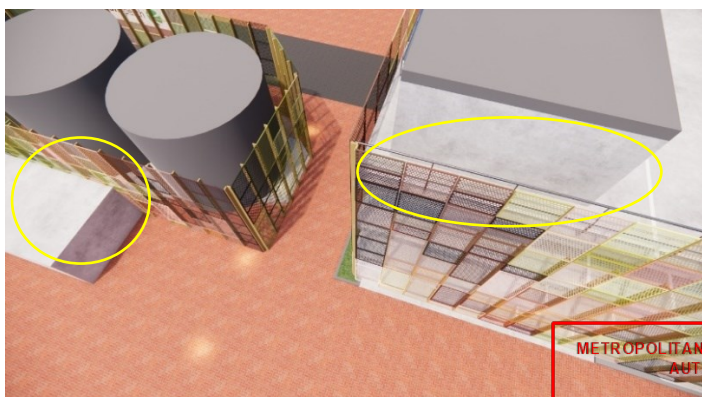
There are a number of opportune locations where homeless persons may seek to shelter. Consideration should be given to measures to deter misuse of facilities, such as signage to minimise excuses, and to provide contact details for reporting concerns.

Opportune shelter areas should be added to security patrol standard operating procedures, and if hotspot areas persist, additional treatments could be considered such as sounders (eg. *mosquito anti-loitering devices*) to prevent loitering/sleeping at night.



Consideration should be given to minimising potential access to infrastructure and potential hiding places.

Screening around the tanks behind the car park appears to support natural surveillance of any activity inside and could be constructed of a material that cannot be climbed.



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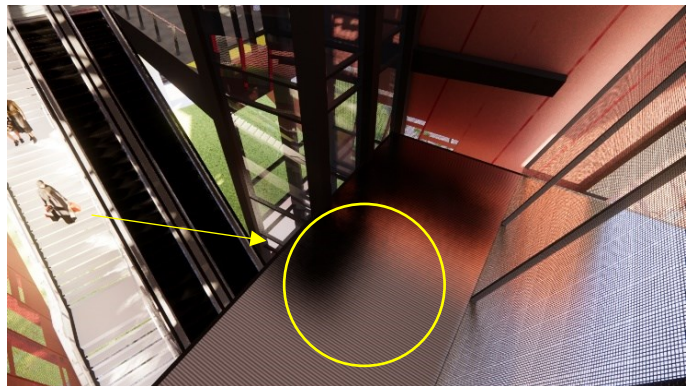
There appears to be a structure next to the tank compound which may assist climbing into the compound.

The spaces indicated behind the rooms at the top of the car park could be minimised to prevent access (and creating of a hiding place).



Some design elements appear to support the bypassing of the perimeter fencing. SCG recommend that potential climbing aids be spaced sufficiently away from fencing to prevent climbing as far as practical.

Consideration should be given to how offenders may misuse the facilities, such as throwing rubbish on top of these covered areas as they travel down the stairs.



The travel path between the car park and train station is approximately 350m in length. This provides offenders with a large window of opportunity to survey and intercept pedestrians walking this path.

The bike path also provides opportunities for offenders to access/egress the area via bicycle or



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motorcycle, with limited risk of being followed by security/police.

It is recommended that the path be well illuminated and include CCTV coverage (including PTZ coverage) to deter misuse by enabling identification of offenders (or offender's vehicles) for post incident analysis.

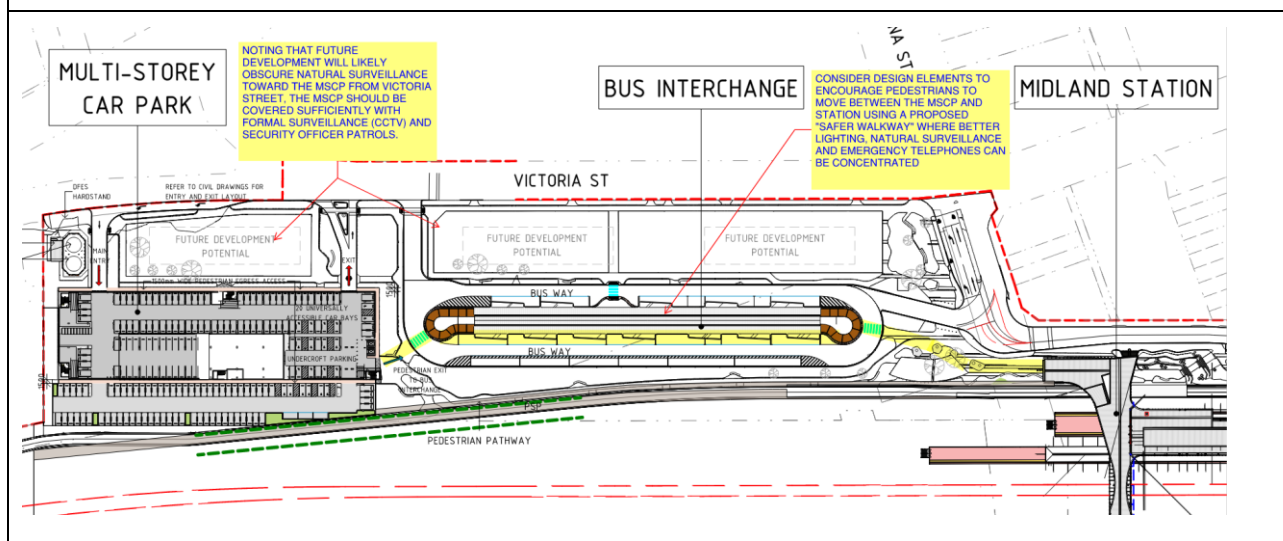
Consideration should also be given to encouraging pedestrians to move through the bus interchange rather than along the bike path, where there will be better CCTV coverage, transit guards and emergency telephones for support.

6.2.3. Territorial Reinforcement Observations

The following section outlines SCG's observations regarding Territorial Reinforcement.

Noting that future development will likely obscure Natural Surveillance toward the MSCP from Victoria Street, the MSCP should be covered sufficiently with formal surveillance (CCTV) and security officer patrols.

Consider design elements to encourage pedestrians to move between the MSCP and station using a proposed "safer walkway" where better lighting, Natural Surveillance and emergency telephones can be concentrated.



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6.2.3.1. Territorial Reinforcement

The existing site has some good examples of security-related signage.

SCG recommend that signage be posted to assist in deterring unwanted behaviours and assist stakeholder management by providing information to the public to assist.

This may include:

- Contact numbers to report graffiti.
- Contact numbers to report crime.

It is recommended that strong indicators of ownership (artwork, warning signage, etc), be used to assist in communicating what behaviours are not permitted, and a strong message that the site is valued and will be defended.



CCTV used throughout the station, bus interchange and car park should be overt, and its deterrent capability enhanced by the use of CCTV warning signage.

This will assist in facilitating the perception by would-be-offenders that the car park is valued and will be defended.



SCG recommend that random Security Patrols be conducted throughout the scope area to assist in deterring crime and unwanted behaviour, reduce the fear of crime and to collect intelligence on potential crime occurring in the area.

This may include:

- Overt patrolling of the station, bus interchange.
- Car park patrol (drive-through).
- Checks of car park roof and stairwells.
- Recording of any signs of graffiti, vandalism or unwanted behaviours.
- Testing of emergency call points.
- Report any faulty lighting.
- Sighting CCTV cameras to assess potential tampering or vandalism.



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SCG recommends that the design of new facilities, such as benches, lighting poles, etc maintain use of robust materials and anti-graffiti coatings to assist in minimising damage from vandalism.

Vegetation should also be managed to ensure that it does not overgrow and become opportunistic hiding places or start to affect lighting or sightlines.



During the site visit it was noted that there were multiple signs of graffiti throughout the surrounding area of the station.

Graffiti can contribute to a negative safety perception.

Proactive graffiti management planning for the station should include canvas reduction (either by breaking up smooth surfaces with architectural features, or growing vegetation in front of potential canvases).

Any spaces which may still be vulnerable to graffiti should be considered for anti-graffiti materials or coatings, to facilitate swift removal.

Any graffiti or vandalism that occurs in future should be swiftly actioned to demonstrate that the site is valued, and to reduce the incentive to re-offend.



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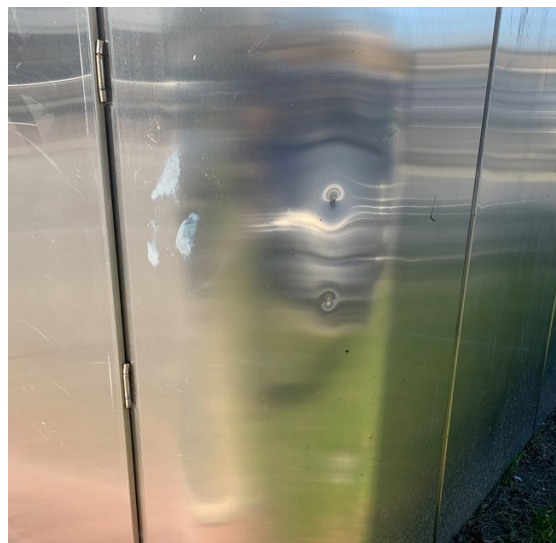
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During the site inspection numerous indicators of vandalism were noted in the surrounding area of the station.

Vandalism should be considered when selecting materials for the new station design to assist in minimising opportunities for damage to surfaces and minimise ongoing maintenance.



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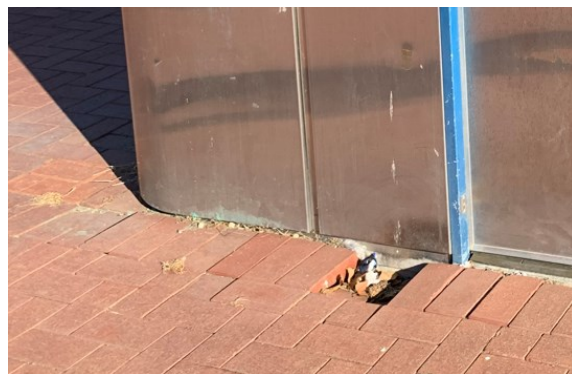
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During the site inspection numerous articles were noted which could be used to support crime or unwanted behaviour.

Star pickets or loose bricks/pavers could be used to support break and entering, assault, or car theft.

This should be considered when selecting materials for the new station design to assist in minimising opportunities for crime and unwanted behaviour.



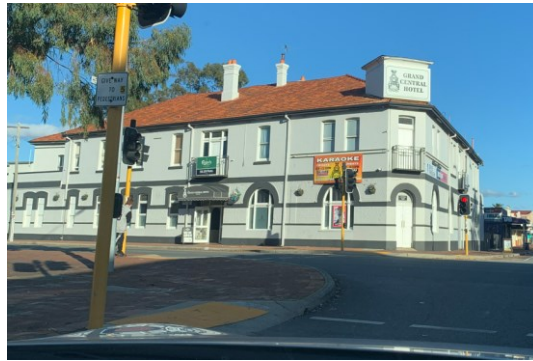
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During the site inspection it was noted that there are two bars and three bottle shops within a short distance from the new station location.

This may increase the potential for there to be alcohol affected individuals in the general area, which may contribute to the likelihood of some crime and unwanted behaviour types occurring in or around the site (i.e. assault or threatening behaviour).



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It was noted that the public toilets adjacent to the new station location were of robust construction and automated to assist in deterring loitering or misuse of these facilities.

This strategy should be considered within the design of the new station, to prevent toilets from being used by homeless persons or places to take drugs etc.



Whilst arson is considered as “possible”, the impact of arson if it were to occur within the station could be moderate/high. SCG recommend that suitable robust rubbish disposal facilities be provided and a rubbish removal regime that minimises potential for rubbish to become refuse, or become fuel to start fires etc.



Sections of the car park building envelope and infrastructure buildings around the station are flat and uniformly coloured and may attract graffiti.

Some areas are within reach of ground-level and others may be accessed if offenders can achieve unauthorised access the roof of the car park. Higher locations may be attractive targets for graffiti as they would be highly visible to passers-by.

The selection of materials for these areas should consider the ease of maintenance (graffiti removal), and/or consider colours or



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surfaces that assist in breaking up large canvasses or use of anti-graffiti coatings.



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7. COMPETING DESIGN CHALLENGES

The design and layout of facilities for the new Midland train station, bus interchange and multi-storey car park incorporate a number of scope and planning considerations and challenges, including:

- Objectives of the project as outlines in the SWTC.
- Available space allocated for each facility.
- The number of patrons each facility is catering for.
- The lots surrounding the new facilities which are allotted for other purposes.
- The tie-in of the new facilities' locations to the rail network.

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The current design of facilities has been developed as a best-fit to meet the above challenges and in some cases these best-fit designs may compete with CPTED principles.

Examples include:

- The lots allocated for future development along Victoria Street may in future block available Natural Surveillance from traffic along Victoria Street, toward the bus interchange and car park.
- The distance between the car park and train station requires some commuters to walk a reasonable distance which may deter some users or offer opportunities for criminals.

It is noted that whilst the above could clash with CPTED objectives, they also have potential to positively contribute to CPTED for the site in future, such as:

- If the future development includes facilities which will assist in activating the surrounding area, or in providing additional Natural Surveillance toward the bus interchange and car park.
- If the future development lots could be spaced to maintain some Natural Surveillance from Victoria Street.

It is acknowledged that:

- The future development facility types/designs are unknown at the time of this CPTED Assessment.
- That CPTED is only one of many considerations that need to be factored into the design of the new facilities.

We therefore recommend:

- As far as practical, CPTED be incorporated into the design of the new station, bus interchange and car park and associated public realm.
- As far as practical, CPTED be considered as a part of the selection and design of future development in the adjacent and surrounding areas.
- That additional security measures be considered to manage specific security risks where it is considered that PTA's standard security treatments, and incorporated CPTED treatments are unable to suitably manage identified security risks (Note: a separate Security Risk Assessment

report is being developed for the project which aims to identify potential additional security treatments required).

- That ongoing security risk assessment of these areas are conducted to assess changes in risk context and risk environment, and the performance of security and CPTED measures.
- That Social CPTED strategies such as social cohesion, social connectivity, community culture and threshold capacity be facilitated by the City of Swan as the site is developed and established to contribute to the deterrence of crime.

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8. SUMMARY AND RECOMMENDATIONS

The following sections summarise our observations of the positive CPTED design elements noted within the Design Development Stage, and opportunities for enhancing CPTED in subsequent design stages.

7.1. Positive CPTED Observations

SCG note that the Design Development Stage includes many positive CPTED design elements, including:

CPTED Principle	Positive Design Element
Natural Surveillance	- DD artwork for the MSCP indicates good selection of vegetation which maintains good Natural Surveillance. - The Reference Design 3D model indicates good natural surveillance opportunities around and into the multi-level car park from the surrounding areas. - The cycle/pedestrian path that runs through the public realm assists in activating the southern perimeter of the car park and bus interchange to encourage available witnesses to activity. - Vegetation indicated in the Reference Design 3D images appears positive for minimising hiding places and in maintaining passive surveillance. - The Reference Design 3D model indicates good natural surveillance throughout the bus interchange. - The Reference Design 3D model indicates compliance with the PTA's Stations and Buildings Landscape Architecture 8803-000-009, showing low-growing native planting to assist in maintaining passive surveillance. - The Reference Design 3D model indicates that the pedestrian spaces are designed as non-threatening, open spaces with good linkages to surrounding areas and clear sightlines, in line with the PTA's Station Functional Planning and Urban Design specification. - The open design of the new station appears to enable pedestrians/commuters to view into the station structure and the platforms as they approach the station, to assist them to manage personal safety before committing to entering the station. - The Reference Design 3D model indicates that whilst there is some level change on the north side of the new station, that this is subtle and does not hamper sightlines or natural surveillance. - The proximity of the cycle path to the station enables passive surveillance from the adjacent external areas of the station surrounds. - The Reference Design 3D model indicates that the internal upper level of the station is open with good visibility throughout. - The location of the PTA office enables natural surveillance in all directions of the upper level. - The Reference Design 3D model indicates good sightlines along the station platforms, with supporting natural surveillance from the upper areas of the pedestrian crossing. - The Reference Design 3D model indicates good natural surveillance from the station platforms to the upper internal levels of the overpass. Commuters will be able to verify activity on the platforms from the surrounding approaches or the upper-level crossing before proceeding to the platform.

CPTED Principle	Positive Design Element
Natural Access Control	- As the design has evolved during the Reference Design stage, consideration was given to designing out potential for offenders to climb structures to gain unauthorised access. - As the design has evolved during the Reference Design stage, barriers have been introduced to some areas on the northern side of the overpass. - The Reference Design of the multi-level car park indicates that it is 24/7 accessible to pedestrians and vehicles. Consideration should be given to design elements to assist in deterring hooning, such as vehicle calming measures to slow traffic and prevent dangerous driving attempts such as “doughnuts” etc. - There are a number of opportune locations where homeless persons may seek to shelter. Consideration should be given to measures to deter misuse of facilities, such as signage to minimise excuses, and to provide contact details for reporting concerns. - The spaces indicated behind the rooms at the top of the car park could be minimised to prevent access (and creating of a hiding place). - Some design elements appear to support the bypassing of the perimeter fencing. SCG recommend that potential climbing aids be spaced sufficiently away from fencing to prevent climbing as far as practical. - The travel path between the car park and train station is approximately 350m in length. This provides offenders with a large window of opportunity to survey and intercept pedestrians walking this path. It is recommended that the path be well illuminated and include CCTV coverage (including PTZ coverage) to deter misuse by enabling identification of offenders (or offender’s vehicles) for post incident analysis. Consideration should also be given to encouraging pedestrians to move through the bus interchange rather than along the bike path, where there will be better CCTV coverage, transit guards and emergency telephones for support.
Territorial Reinforcement	No observations.
Management and Target Hardening	No observations.

7.2. Opportunities for Enhancing CPTED

The following table outlines opportunities for enhancing CPTED strategies in subsequent stages of design.

CPTED Principle	Recommendations
Natural Surveillance	- Based on surrounding land usage there is limited opportunities for Natural Surveillance toward the MSCP from surrounding areas. - This places more importance on formal surveillance of the MSCP (CCTV and guard patrols). - Natural Surveillance of the MSCP design however should be maximised to assist pedestrians and users of the MSCP. - Trees along the MSCP pedestrian access path should be co-ordinated with CCTV design/ locations to ensure that CCTV vision is not obscured.

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CPTED Principle	Recommendations
	• Tree types and locations will need to be coordinated with the CCTV and lighting designs to ensure that trees do not obscure surveillance or lighting through the bus interchange. • The Reference Design 3D model indicates that there are multiple opportune locations where CCTV and lighting could be mounted on the station structure to focus on the alley adjacent to the north side of the new station. • There is an opportunity to bring additional natural surveillance from passing vehicles if traffic as it is re-routed to cross at Morrison Street and Cale Street. This re-routed traffic may provide improved natural surveillance, as it will run horizontally in closer proximity to the station, rather than intersect it at one location only. • The existing Midland train station carpark and bus interchange currently has Natural Surveillance from passing traffic along Victoria Street. The new car park and bus interchange will not have these Natural Surveillance opportunities once the future buildings are built along Victoria Street. If this is unable to be enhanced via CPTED, additional supporting security measures should be considered (CCTV, emergency telephones, security guards). • The current facilities surrounding the new station location offer limited opportunities for Natural Surveillance toward the site. This places more importance on the site including formal surveillance (CCTV, including monitoring support for the PTA's operations centre), and activation to maintain a source of available witnesses to crime and unwanted behaviour. There is significant opportunity to introduce new activity generators, new businesses, and other facilities to increase activation of the areas surrounding the new car park, bus interchange and train station. As this will take time to achieve, consideration must be given to enhancing security of the area in the interim.
Natural Access Control	• Ensure there are sufficient barriers to deter unauthorised access by vehicles around the sides of the MSCP (areas highlighted in yellow). If vehicles can bypass the MSCP they could enter the MSCP via the rear entries or attempt to access the pedestrian pathway to the south. • Traffic calming measures are positive for deterring hooning. Could also consider locating these at the entry points and adjacent to stair well points. • Need to ensure that vehicles cannot weave through the MSCP to gain access to the cycle path. • Need to ensure there are no climbing aids to enable persons to gain access to high locations in the MSCP for graffiti or as a jumping point. • Consider measures to deter graffitiists reaching through to tag upper-outer walls of the MSCP, whether this is barriers to prevent reaching-through, or anti-graffiti coatings to assist graffiti removal. • Consider measures to deter graffitiists reaching upper areas of the MSCP that would provide a prominent location to display tags. • The pedestrian access to the north of the MSCP may become an "alley" in future when future development is in place, consideration could be given to barriers to prevent a vehicle moving into pedestrian areas where pedestrians may have no way to avoid a vehicle. • Consider Natural Barriers along the south of the MSCP area to prevent vehicles from achieving unauthorised access to the cycle path. • It should also be noted that once a commuter is at the extremity of a platform, they are visible to potential offenders from surrounding areas, and they have no way to egress the station except back past potentially oncoming offenders. Consideration

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CPTED Principle	Recommendations
	should be given to 24/7 security patrols and emergency call points covering the ends of the platforms. - The design of the overpass naturally funnels pedestrians and commuters (as well as would-be-offenders) through a designated and focussed access path. This provides opportunities to post strategic security-rated signage to assist in deterring crime and unwanted behaviour, and CCTV to ensure that all individuals are captured on recorded video by CCTV, to assist in post incident analysis. - As the design progresses further, the selection of materials, and spacings between design elements should be assessed so as to avoid the creation of any "natural ladders". - The Reference Design 3D imagery of the south side of the station overpass indicates a lack of natural barriers to assist pedestrians to detect or avoid a hostile vehicle attack (HVA). Hostile Vehicle Mitigation could be incorporated as CPTED style decorative or architectural features such as planters, benches and art installations that enhance the environment, whilst also managing HVA risks. A Hostile Vehicle Assessment (HVA) could be considered to assist in determining the most cost-effective method for mitigating VaW risks.
Territorial Reinforcement	- Noting that future development will likely obscure Natural Surveillance toward the MSCP from Victoria Street, the MSCP should be covered sufficiently with formal surveillance (CCTV) and security officer patrols. - Consider design elements to encourage pedestrians to move between the MSCP and station using a proposed "safer walkway" where better lighting, Natural Surveillance and emergency telephones can be concentrated. - The existing site has some good examples of security-related signage. It is recommended that strong indicators of ownership (artwork, warning signage, etc), be used to assist in communicating what behaviours are not permitted, and a strong message that the site is valued and will be defended. - CCTV used throughout the station, bus interchange and car park should be overt, and its deterrent capability enhanced by the use of CCTV warning signage. This will assist in facilitating the perception by would-be-offenders that the car park is valued and will be defended. - SCG recommend that random Security Patrols be conducted throughout the scope area to assist in deterring crime and unwanted behaviour, reduce the fear of crime and to collect intelligence on potential crime occurring in the area.
Management and Target Hardening	- All controls for the tanks adjacent to the MSCP should be secured in lockable enclosures or consider other measures to prevent vandalism. Ensure that infrastructure does not provide climbing aids to assist individuals to climb the perimeter fence. - The vertical transport general notes for the MSCP detail some good crime prevention strategies, such as CCTV in lift cars, internal materials in lift cars being rated against vandalism, and anti-graffiti film to internals of lift cars, glazed walls etc. - Strategies should be included in subsequent stages of design to assist in mitigating vandalism and graffiti to infrastructure buildings on the platforms. Consideration should also be given to the use of materials that facilitate ease of graffiti removal or use anti-graffiti coatings to assist in image maintenance. - SCG recommends that the design of new facilities, such as benches, lighting poles, etc maintain use of robust materials and anti-graffiti coatings to assist in minimising damage from vandalism.

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CPTED Principle	Recommendations
	- Proactive graffiti management planning for the station and related facilities should include canvas reduction (either by breaking up smooth surfaces with architectural features, or growing vegetation in front of potential canvases). - Vandalism should be considered when selecting materials for the new station design to assist in minimising opportunities for damage to surfaces and minimise ongoing maintenance. - Materials selection should consider the avoidance of items such as pickets or loose bricks/pavers could be used to support break and entering, assault, or car theft. - SCG recommend that suitable robust rubbish disposal facilities be provided and a rubbish removal regime that minimises potential for rubbish to become refuse, or become fuel to start fires etc.

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Our Ref: 20-534
MRA Ref: MRA-14003 and MRA-14028 (A2613393)

4 April 2023

DevelopmentWA
Locked Bag 5
Perth Business Centre
Perth WA 6849

Attn: Simon Lenton – Manager Planning

Dear Simon,

NEW MIDLAND STATION – RESPONSE TO LRC COMMENTS MADE ON BRIEFING PRESENTATION 7 MARCH 2023

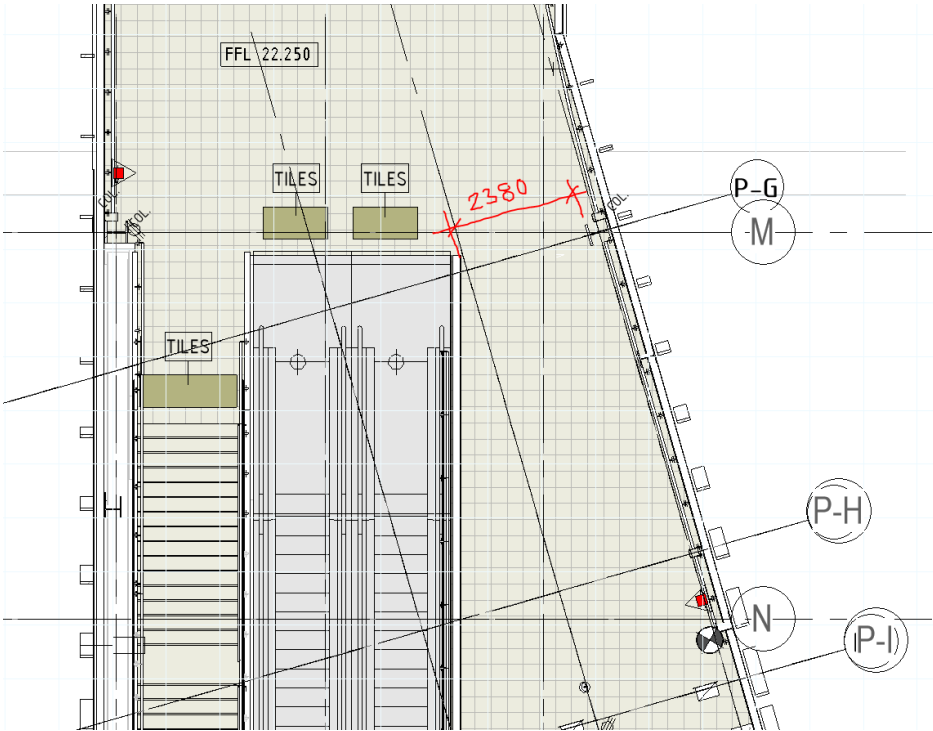
On behalf of the Midland Junction Alliance (MJA), **element** is pleased to submit this letter in response to the request for additional information stemming from the comments made by DevelopmentWA's Land Redevelopment Committee (LRC) during the briefing presentation provided on 7 March 2023.

The following table provides a detailed response to the seven comments made by the LRC and also includes references to the relevant part of the supporting Development Application (DA) submissions that provide information on these matters.

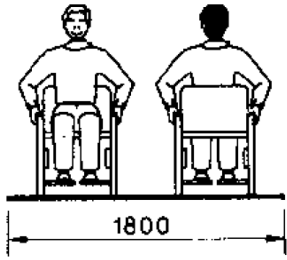
Table 1: Response to LRC Comments 7 March 2023

LRC Comment	Response
Potential design options to break down the considerable mass of the multi-storey car park;	DA2 Reference – Page 33 and Appendix E. The design of the Multi-Storey Car Park (MSCP) has undergone significant design changes since its initial design concept, and a number of these changes have stemmed from feedback received by the State Design Review Panel as part of the three (3) reviews undertaken to date. A high level overview of the design process for the MSCP is shown in Appendix A, which is supported by an explanation of the facade design and materiality proposed, along with the selected colours that are inspired by Noongar country, which were reviewed and supported by the Metronet Noongar Reference Group and local Aboriginal Elders. <i>Refer to Appendix A – Design Development MSCP</i> The design of the MSCP façade is considered to propose an appropriate design response, with an articulated façade assisting to break up the overall bulk and scale to the surrounding area. Areas of landscape planting also surround the building, including a landscape strip running the length of the northern façade. Species incorporated within these plantings will grow to partly conceal and/or further break up the buildings bulk.

NEW MIDLAND STATION – RESPONSE TO LRC COMMENTS MADE ON BRIEFING PRESENTATION 7 MARCH 2023

The single-sided activation resulting from the Principle Shared Path being located directly adjacent to the rail corridor;	The Department of Transport's document, <i>Planning and Designing for Bike Riding in Western Australia - Shared and Separated Paths</i>, provides guidance on the planning and design of shared and separated paths to enable safe and efficient movements of bicycle riders of all ages and abilities. The document outlines a number of locations where shared and separated paths are suitable, and this includes being parallel to linear transport corridors such as major roads or railways. Alternative PShP alignments were not considered in significant detail as a number of safety issues would have been introduced to the precinct from an increased number of conflicting points between pedestrians, cyclists and vehicles. The proposed alignment is considered appropriate, and will provide a level of activation to the northern side of the railway with a number of different users accessing the infrastructure, and passing through the northern station entry in a safe and efficient manner where cyclists are separated from pedestrians.
The lift and escalator location of the Train Station building creating a pinch point affecting passenger circulation;	Appropriate sized spaces are provided within the station building to ensure passenger circulation occurs efficiently. A clear width of 2,380mm is provided between the edge of the escalator and overpass wall (as noted on plan view of overpass included in Snip below).  This clear width is compliant with the Scope of Works and Technical Criteria (SWTC) that accompanies the Project and provides a circulation space that accommodates the following; 1. A circulation width that has been confirmed by the MJA Pedestrian Modelling consultant as meeting PTA's requirement for a minimum <u>Fruin Level of Service (LOS) "C"</u> including for forecast patronage up to 2051. 2. A circulation width that exceeds the combined clear width of 2 escalators. 3. A circulation width that exceeds the PTA's requirement for minimum handrail clearance of the pedestrian stairs of 1.8m. 4. A circulation width that exceeds the 1,800mm minimum clear width to allow two wheelchairs to pass comfortably as outlined in <u>Australian Standard AS1428.2 – Design for Access and mobility</u>, as shown below.

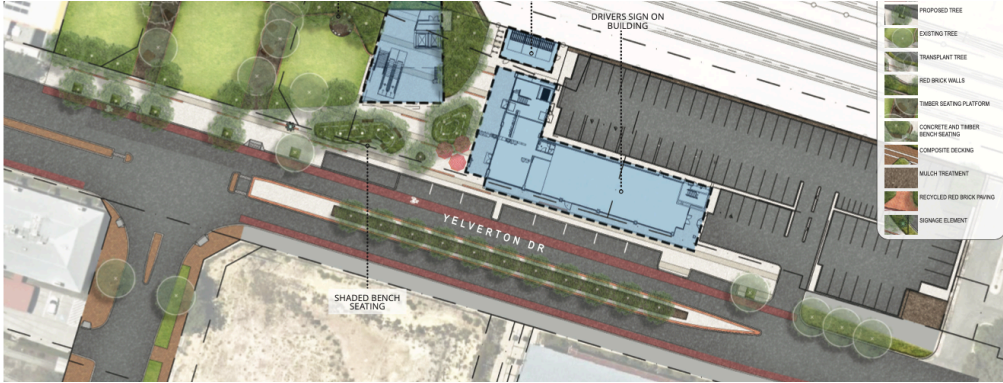
NEW MIDLAND STATION – RESPONSE TO LRC COMMENTS MADE ON BRIEFING PRESENTATION 7 MARCH 2023

	 (d) To allow two wheelchairs to pass comfortably, a clear width of 1800 mm is required
Crime Prevention Through Environmental Design considerations for the PSP and the pocket parks;	DA2 Reference – Pages 40/41, and Appendix D (Section 1.2.3) Crime Prevention Through Environmental Design (CPTED) has been considered in significant detail by MJA, including the Project CPTED Practitioner from Security Consulting Group (SCG). More broadly, the station building has been designed to be open to maintain sightlines and enable passive surveillance opportunities to the surrounding areas of open space and the PShP. The landscape design carefully balances the need for tree canopy with low lying vegetation to maintain passive surveillance and sightlines of the pocket parks and PShP. A summary of the CPTED approach being taken for this Project is included within the DA report, and includes a summary of the CPTED assessment undertaken by SCG. In respect to CPTED considerations for the PShP and pocket parks, the CPTED assessment made the following observations with respect to natural surveillance incorporated within the design: The Reference Design 3D model indicates that whilst there is some level change on the north side of the new station, that this is subtle and does not hamper sightlines or natural surveillance. The proximity of the cycle path to the station enables passive surveillance from the adjacent external areas of the station surrounds.  The Reference Design 3D model indicates compliance with the PTA's Stations and Buildings Landscape Architecture 8803-000-009, showing low-growing native planting to assist in maintaining passive surveillance.  In addition to CPTED measures incorporated within the Project and as highlighted above, PTA utilise a number of procedural, physical and electronic security arrangements across its sites. The following broader security measures will be incorporated within the Project to supplement the design measures and improve the overall safety and security for all users: <u>Closed Circuit Television (CCTV):</u> • 95% CCTV coverage of overpass. • 95% CCTV coverage of platform passenger safe zones. • Identification level CCTV coverage inside lifts, lift landings, stairs and escalators.

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	• 360-degree (hemispheric camera) CCTV coverage of bike shelters. • 95% CCTV coverage of all station public areas to height of 2m. • Kiss and Ride CCTV coverage. • SER camera coverage. • Track section and feeder station cameras. • Car park fixed general CCTV coverage (supported by Pan,Tilt and Zoom (PTZ) cameras. • CCTV coverage of all floors within multi-storey car park. • CCTV general coverage of bus interchange (supported by PTZ). <u>Access Control and Intruder Detection:</u> • Building Access Control Systems (BAS) and Intruder Detection System (IDS) for all infrastructure buildings/cabinet IDS. • BAS used on all staff facilities. • Prevent access to toilets during high-risk times (platforms closed late night). <u>Signage:</u> • CCTV warning signage. • High Voltage (HV) warning signage. • Public warning signage (report suspicious behaviour). <u>Duress:</u> • Duress buttons available to staff in all staff facilities. • Emergency help telephones under CCTV surveillance for station and interchange. <u>Other:</u> • Public Address (PA) warning system. • PTA cyber security. • PTA standard CPTED treatments. • Transit guards on site.
The need to balance functionality of fencing for security purposes with amenity impacts;	DA2 Reference – Appendix A – Development Plans A suite of drawings provided within Appendix A of the DA report sets out the type and location of fencing proposed as part of the Project. A combination of fencing materials are proposed across the Project area to control access and ensure the operational safety of PTA infrastructure, staff and the community. Garrison style fencing is proposed in areas where higher volumes of pedestrians are accessing the station, associated buildings and public spaces, with chainlink style fencing being proposed at other locations.
The pedestrian link between the station and hospital to the south of the station, noting that this was outside the scope of the application but would benefit from improved definition; and	Existing pedestrian connections already exist on both sides of Yelverton Drive and connect directly to the hospital. The existing footpaths are clearly defined and existing street trees along Yelverton Drive assist to improve pedestrian amenity along this connection. The existing pedestrian footpath is shown in the image below, which is proposed to be retained as part of this application.  Above: View looking east, showing existing pedestrian footpath connection to St John of God Midland Hospital.

NEW MIDLAND STATION – RESPONSE TO LRC COMMENTS MADE ON BRIEFING PRESENTATION 7 MARCH 2023

	There are minimal changes proposed to the existing pedestrian connections to the immediate south of the southern station entry, which will connect into the pedestrian connections shown in the image above. An excerpt of the landscaping plan below shows the continuous pedestrian connection that is proposed to be retained, and enhanced where applicable with proposed hard and soft landscaping treatments. A handful of existing street trees immediately south of the proposed Drivers Sign-On building are required to be removed to accommodate a number of on-street car parking bays and a slightly realigned Yelverton Drive. However, the Drivers Sign-On building will comprise an awning over the footpath to provide a comfortable pedestrian experience in all weather conditions and additional trees will be planted within the Yelverton Drive median strip to offset the loss of trees.  Above: Landscape plan showing existing footpath on northern side of Yelverton Drive, with proposed landscape improvements.
Landscaping, including the need for functional pocket parks and appropriate, mature species selection.	DA2 Reference – Pages 37, 45 and Appendix C A variety of gathering spaces are provided throughout the precinct. Smaller seating nodes are provided as rest stops along key pedestrian links to the station. More urban meeting and waiting areas are located around the kiosk and station forecourts through timber seating platforms and retaining walls at seating heights offering numerous and varied seating options throughout. Larger gathering locations include softer landscape areas in the southern Helena Street pocket park and northern pocket park on the corner of Victoria and Helena Street. Both areas contain existing mature trees providing shaded areas for longer periods of rest. Within the southern forecourt pocket park, a yarning circle is incorporated within the design and endorsed by the Metronet Noongar Reference Group. The pocket park at Cale Street integrates a number of heritage elements into the landscape, exploring opportunities to reuse timbers from the original platform, which remain in place, repurposing them in the form of bench seating and existing steel rails as edging separating turf and garden beds. The significant oak tree located at the entrance of the old station will be transplanted to the Cale Street pocket park strengthening the north - south link across the rail at this location but also continue the historical narrative of the old station. There has been a key focus on tree retention across the site evident through the amount of trees proposed to be retained particularly within key areas of the public realm. An arborist has undertaken an assessment and recommendation of the trees that are suitable for transplant that were unable to be retained in their existing location. A total of 8 significant trees within the site are proposed to be transplanted offering shade and amenity to prominent locations within the public realm. The provision of planting in public areas and streetscapes serves to provide character, shade, interest, habitat and a point of reference in major streets or feature locations. The locations of planting and types of vegetation include: Predominantly native species are to be nominated throughout the site with low initial and ongoing water use and also providing food & habitat as the landscape grows

NEW MIDLAND STATION – RESPONSE TO LRC COMMENTS MADE ON BRIEFING PRESENTATION 7 MARCH 2023

	and establishes. • Trees with uplifted canopies and low groundcover planting allowing clear views through the site for wayfinding and best practice CPTED principles. • Reed and sedge planting to drainage swales. • The proposed mix of species will provide a variation of character and define feature points. • The selection and placement of species considers adjacent elements so as to limit future maintenance and public health and safety issues. It promotes the survival and health of the existing vegetation while also providing ongoing social and visual benefits. It is intended that local species shall be used where suitable to maximise local habitat advantage and minimise water dependence. Soil amendments will be used in order to reduce leaching and increase soil moisture holding capacity. All garden beds will be mulched to reduce water loss through evaporation. Plant palettes have been presented to the Metronet Noongar Reference Group at previous workshops and supported. The Noongar Reference Group requested the inclusion of Sheoak, Paperbark and Christmas trees which have since been accommodated in the revised palette. The planting design incorporates six season planting subtly throughout the landscape rather than designated planting beds for visual interest throughout the year. A mixture of planting sizes are being installed to create an instant landscape, whilst also balancing the cost with smaller planting sizes to ensure a large extent of the project area is provided with landscape at an appropriate planting density. More advanced tree stock (500L-1500L) along with a range of retained existing and transplant trees are concentrated around key areas of the public realm including the station forecourt and pocket parks. A gradual decrease in plant and tree sizing is proposed through to the outer edges of the project where there is expected lower volumes of pedestrian traffic and intensity. Use of 45L trees and tubestock winter shrub planting is proposed to these outer areas to achieve high levels of successful establishment without reliance of irrigation.
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We trust that the additional information outlined in the table above and enclosed provides the LRC with further insight on these particular matters and outlines the significant detail that MJA has gone to in considering the overall design of the Project.

Should you have any queries or require clarification on the above matter, please do not hesitate to contact Josh Scrutton or the undersigned on 9289 8300.

Yours sincerely,

element



Lewis Shugar

Associate – Planning

Appendix A – Design Development MSCP

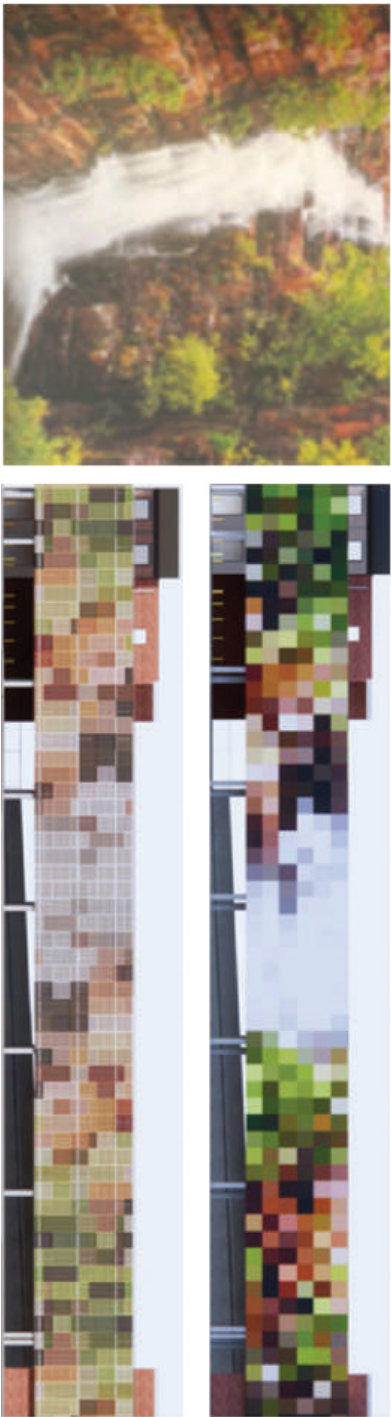


MULTI-STOREY CAR PARK

Multi-Storey Carpark Design Development



GEN 1



GEN 2

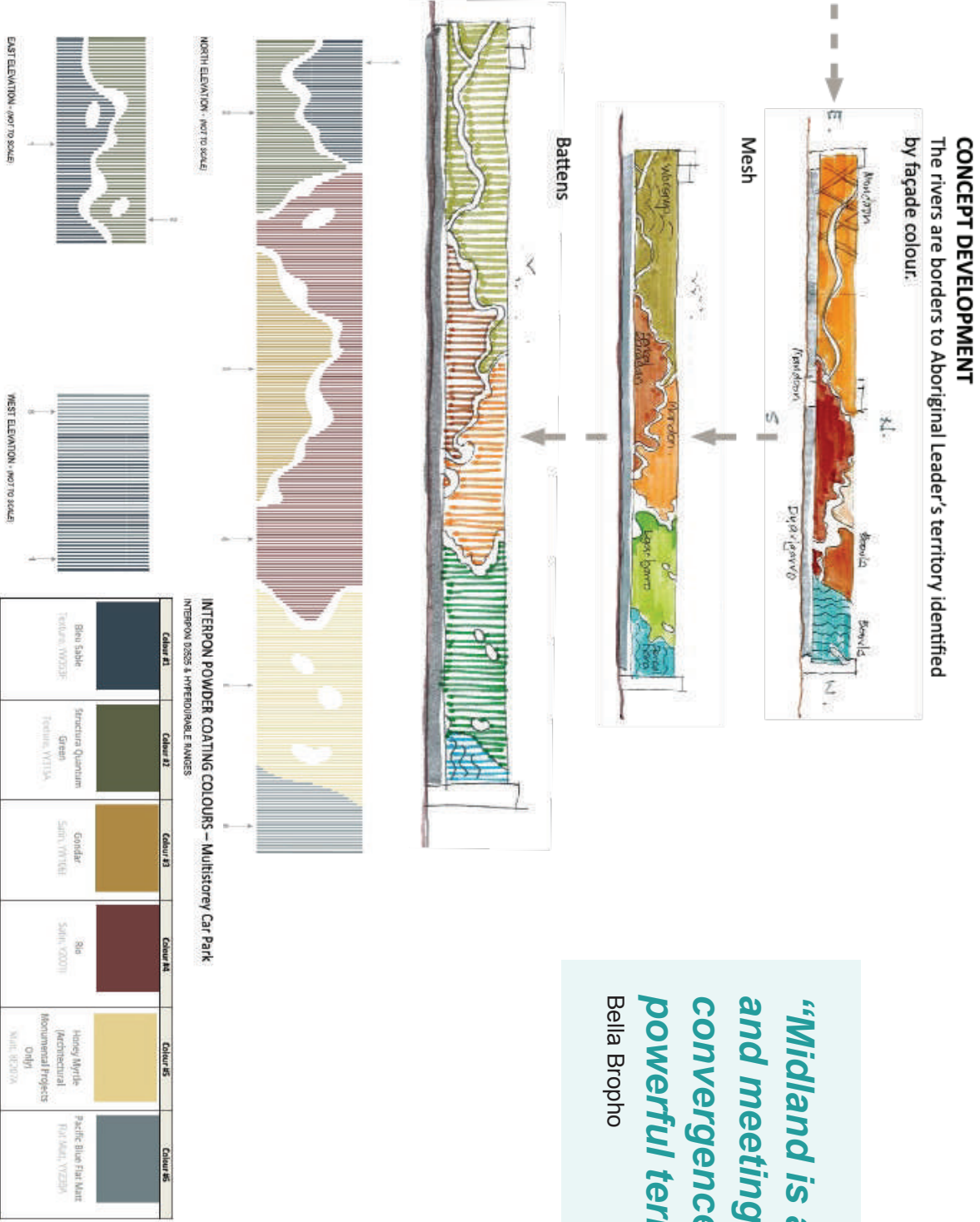
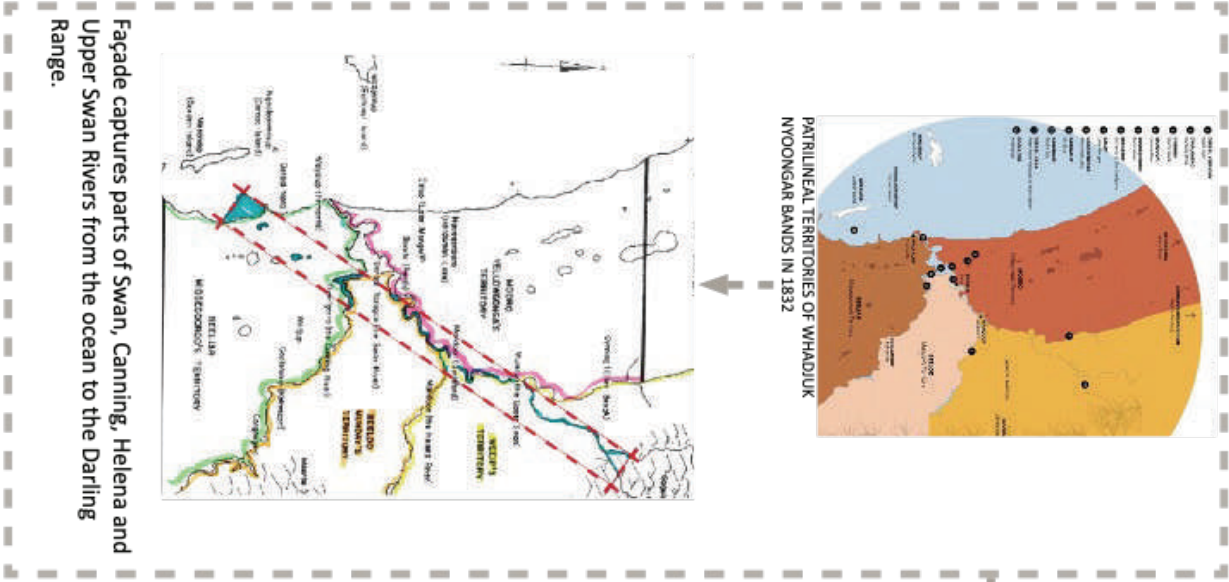


GEN 3

GEN 4



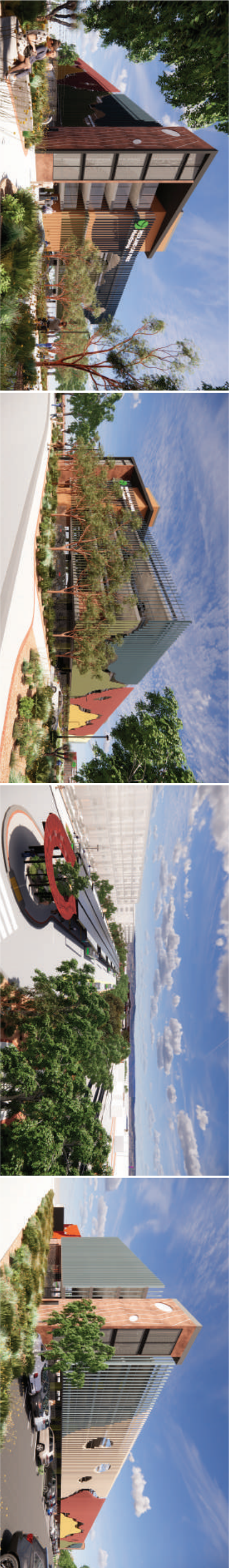
Multi-Storey Carpark GEN 4



“Midland is a mecca
and meeting place. It's a
convergence of key and
powerful territories.”
Bella Bropho

Multi-Storey Carpark

Design Response to Place Themes



CONFLUENCE AND GATEWAY	PRODUCTIVE & ENDURING	CROSSING THE TRACKS	WHADJUK BOODJA - MANDJANUP
• The western gateway to the transport hub, anchoring the new precinct into the wider Midland area. • A prominent landmark in the precinct activated at night with feature lighting. • Defines the beginning and end of the passengers' journey with a celebration of Country in colour and interpretation. • Informed by the confluence of rivers and territories.	• Highly visible canvas on approach to Midland from the west. • Elevational treatment designed to reflect Noongar country in colour and articulation. • Landmark building celebrating Noongar culture and territories.	• East facing balconies at lift lobbies of the MSCP provide a visual connection across the precinct over the bus station to the train station and drivers' sign-on building. • Visible sightlines to the MSCP through the public realm support wayfinding and pedestrian movement through the precinct.	• Open, east facing lift-lobbies provide visual Connection to Country with view of the Darling Range and station precinct. • Coloured aluminium blade facade inspired by Noongar country, embracing confluence of views. • Open ended mesh clad corner stair cores provide view over Aboriginal territories disassembled in facades.

Multi-Storey Carpark

Design Development



SOUTH EAST

- East façade emulates Upper Swan, Weeip's Territory.
- North and South façades play on the convergence of the Canning, Swan, Helena and Avon rivers from the ocean to Darling Range. Façade colour defines territories of: Weeip, Yellagonga, Munday and Midgegooroo.
- West façade interpretation informed by the ocean wraps to north and south.
- Stair cores to the west façade articulated with the landing clad in Crimsafe for enhanced CPTED, ventilation and view to north and south.
- Trees added to southern car park.
- Two additional shade structures with seats along pedestrian pathway between station and MSCP.
- Water fountain provided within landscape edge to MSCP and Kiosk.
- Interpretation to pathways added with print of native fauna to the area prior to colonisation.



NORTH EAST



SOUTH WEST

Note: Some trees have been hidden in the views so the building is not obscured in the image.

Multi-Storey Carpark

Design Development



MOVING FORWARD

Cultural design collaboration to inform:

1. Façade territory colours.
2. Cultural interpretation along the footpath.
3. Colour and cultural naming of floors to identify with façade's colours.
4. Colour and opportunity to stair and lift cores.
5. Feature lighting to be developed, e.g. up-lighting of carpark from level 1 to create a floating façade.

SOUTH EAST



NORTH EAST



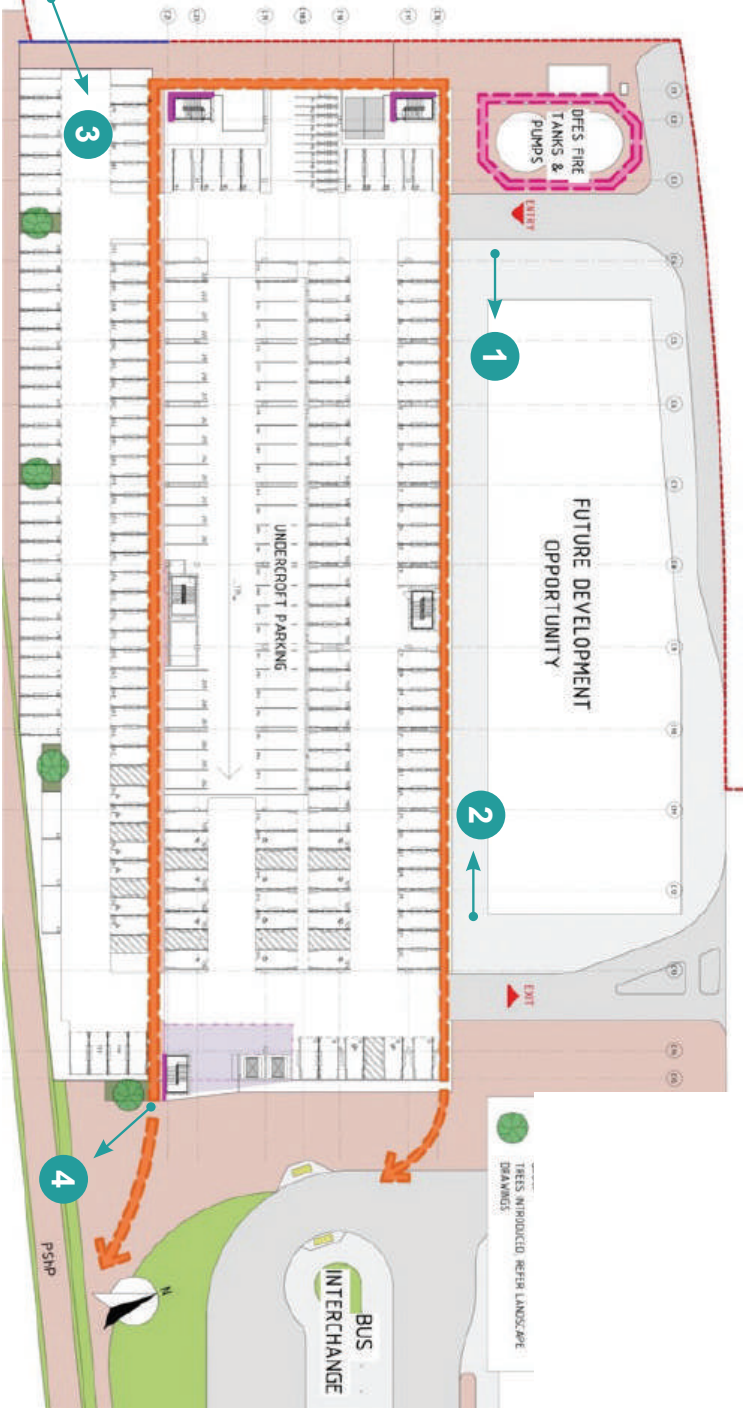
SOUTH WEST



Note: Some trees have been hidden in the views so the building is not obscured in the image.

Multi-Storey Carpark

Future Cultural Collaboration



Landscaping indicative only. Subject to development of adjacent site by others.



Landscaping indicative only. Subject to development of adjacent site by others.



Multi-Storey Car Park

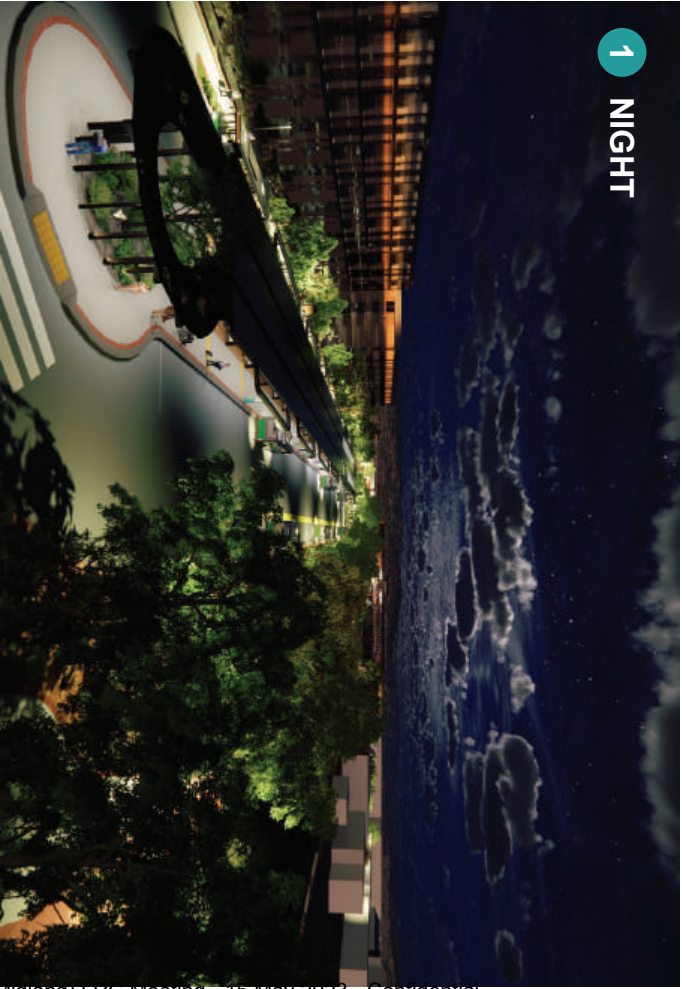
Typical Floor Plan

- Western pedestrian crossing to Bus Interchange clearly visible from MSCP.
- View across precinct to rail station.
- Pedestrian access routes clearly identified.



LEGEND

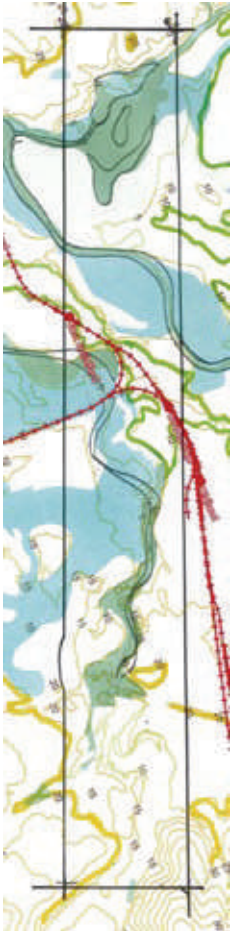
- Stair core collaborative design approach with Noongar reference group.



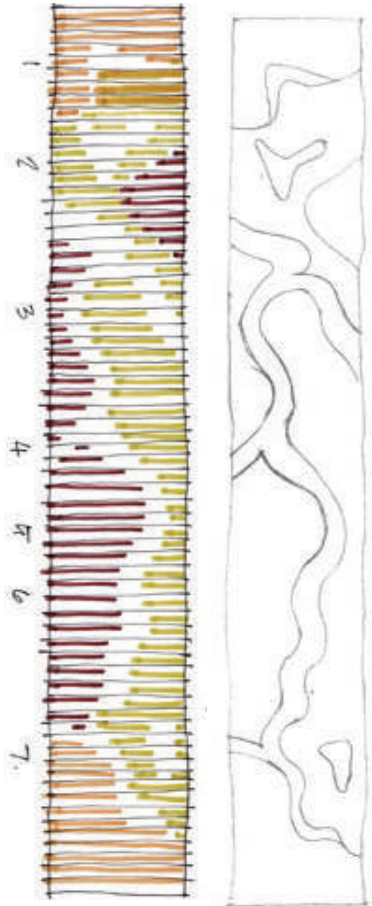
Multi-Storey Car Park Fire Tanks and Pumps



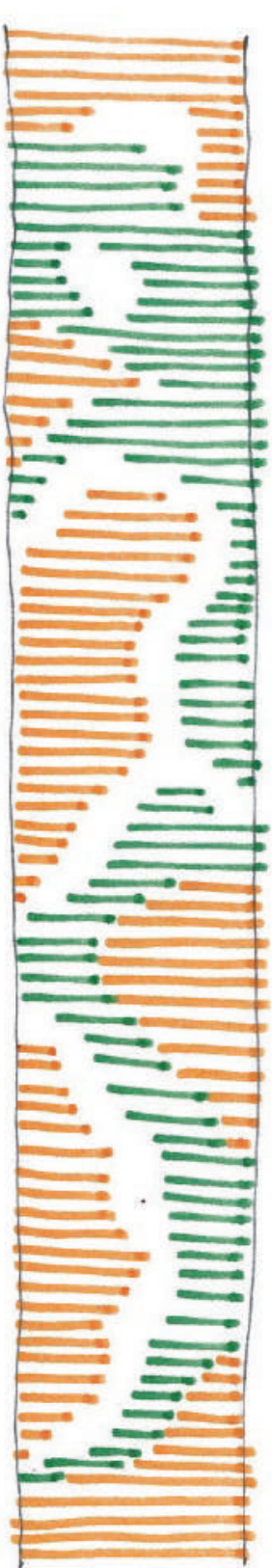
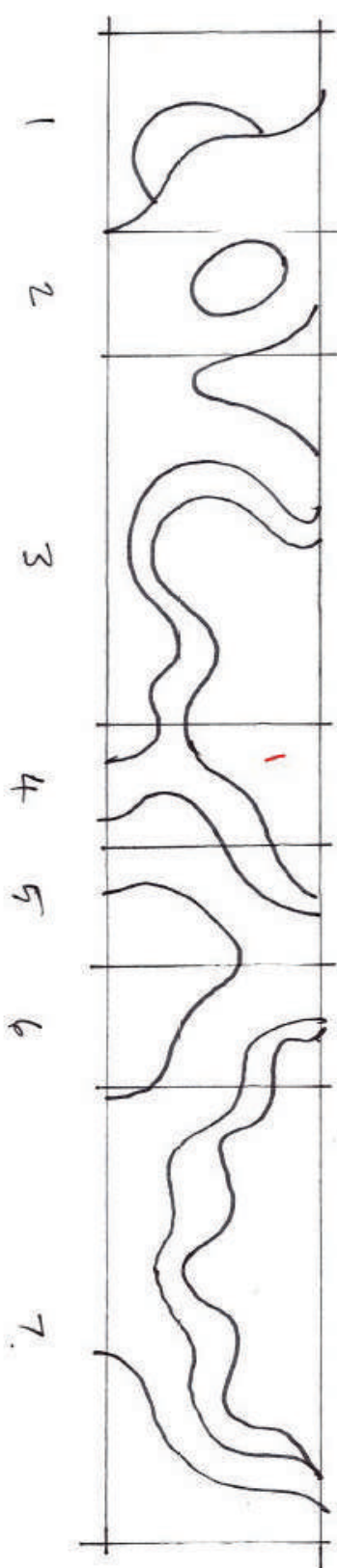
CONCEPT DEVELOPMENT



Façade captures a part of topography around Midland



Initial Concept – Interprets outlines of the topography. This has limited success due to its complication.



Current Concept – Simplifies the topography outlines with 2 colours.



VIEW FROM SOUTH EAST



VIEW FROM NORTH EAST - NIGHT

Multi-Storey Car Park

CPTED Assessment



Façade design assists pedestrians to see into the car park before they enter, and to deter criminal and anti-social behaviour.

1. Natural Surveillance

2. Natural Access Control

Fire tanks & pumps façade cannot be climbed.
The car park is closed after hours.
Speed humps are prefinished and positioned to control speed within car park.



CPTED

CCTV used throughout the car park assists in supporting territorial definition and deterring offenders.

3. Territorial Reinforcement

4. Management & Target Hardening

Car park building envelope treated with texture and/or non-uniform colour as a deterrent to vandalism and graffiti.



Buildings and Public Realm Treatments Recommended Conditions and Advice Notes

CONDITIONS:

1. The development is to be undertaken in accordance with the approved plans and documents attached to this approval, details of which are to be provided at working drawings stage, to the satisfaction of DevelopmentWA prior to commencement of construction / works / operation. The approved plans and documents of development are listed as follows:

Plan / Document Name	Ref.	Date Received
<i>Midland Station</i>		
Locality and Site Plan	12-A-99-AR0002	05 April 2023
Site Plan North	12-A-99-AR0003	10 February 2023
Part Site Plan Central	12-A-99-AR0004	10 February 2023
Part Site Plan South	12-A-99-AR0005	10 February 2023
Part Site Plan East	12-A-99-AR0006	10 February 2023
Concourse Plan Overall	12-A-99-AR0007	10 February 2023
Concourse Plan (Northern)	12-A-99-AR0008	10 February 2023
Concourse Plan (Southern)	12-A-99-AR0009	10 February 2023
Part Platform Plan	12-A-99-AR0010	10 February 2023
Part Platform Plan	12-A-99-AR0011	10 February 2023
Part Platform Plan	12-A-99-AR0012	10 February 2023
Part Platform Plan	12-A-99-AR0013	10 February 2023
Northern Entry Building – Ground floor plan	12-A-99-AR0018	10 February 2023
Southern Entry Building – ground floor plan	12-A-99-AR0019	10 February 2023
Northern Entry Building – Terrace Plan	12-A-99-AR0023	10 February 2023
Roof Plan – Lower Overall	12-A-99-AR0040	10 February 2023
Roof Plan - Upper Overall	12-A-99-AR0041	10 February 2023
Elevations – Station Overall – North South	12-A-99-AR0050	10 February 2023
Elevations – Station Overall – East West	12-A-99-AR0051	10 February 2023
Elevations – Northern Entry Building – North & South Elevation	12-A-99-AR0052	10 February 2023
Kiosk and Northern Bike Store – General Arrangement Plan	12-A-99-AR0220	10 February 2023
Kiosk and Northern Bike Store – Roof Plan	12-A-99-AR0221	10 February 2023
Kiosk and Northern Bike Store – External Elevations	12-A-99-AR0223	10 February 2023
SER Building – General Arrangement Plan	12-A-99-AR0240	10 February 2023
SER Building – Roof Plan	12-A-99-AR0241	10 February 2023
Main Electrical Room Building	12-A-99-AR0250	10 February 2023
Main Electrical Room Building	12-A-99-AR0251	10 February 2023
Drop and Ride Bays Shelter Plan	12-A-99-AR0280	10 February 2023
Bin Store – GA Plan, Elevations and Section	12-A-99-AR0290	10 February 2023
<i>Bus Interchange</i>		
Locality Plan General Arrangement Plan	12-A-99-AR0301	10 February 2023
Site Plan	12-A-99-AR0302	05 April 2023
Bus Interchange – General Arrangement Plan	12-A-99-AR0303	10 February 2023
Bus Interchange – Roof Plan	12-A-99-AR0304	10 February 2023
Elevations East and West	12-A-99-AR0313	10 February 2023
Elevation North (East)	12-A-99-AR0314	10 February 2023
Elevation North (West)	12-A-99-AR0315	10 February 2023
Elevation South (East)	12-A-99-AR0316	10 February 2023

Elevation South (West)	12-A-99-AR0317	10 February 2023
Public & PTA Amenities Plan Layout West	12-A-99-AR0327	10 February 2023
Public & PTA Amenities Plan Layout East	12-A-99-AR0328	10 February 2023

Midland MSCP

Existing Easement Plan	12-A-99-AR0401	10 February 2023
Locality Plan General Arrangement Plan	12-A-99-AR0402	10 February 2023
Site Plan	12-A-99-AR0403	05 April 2023
Ground Floor Plan	12-A-99-AR0404	05 April 2023
First Floor Plan	12-A-99-AR0405	10 February 2023
Second Floor Plan	12-A-99-AR0406	10 February 2023
Third Floor Plan	12-A-99-AR0407	10 February 2023
Fourth Floor Plan	12-A-99-AR0408	10 February 2023
Roof Plan	12-A-99-AR0409	10 February 2023
Ground Floor Plan – General Arrangement – Sheet 1 of 4	12-A-99-AR0410	10 February 2023
Ground Floor Plan – General Arrangement – Sheet 2 of 4	12-A-99-AR0411	10 February 2023
Ground Floor Plan – General Arrangement – Sheet 3 of 4	12-A-99-AR0412	10 February 2023
Ground Floor Plan – General Arrangement – Sheet 4 of 4	12-A-99-AR0413	10 February 2023
First Floor Plan – General Arrangement – Sheet 1 of 2	12-A-99-AR0414	10 February 2023
First Floor Plan – General Arrangement – Sheet 2 of 2	12-A-99-AR0415	10 February 2023
Second Floor Plan – General Arrangement – Sheet 1 of 2	12-A-99-AR0416	10 February 2023
Second Floor Plan – General Arrangement – Sheet 2 of 2	12-A-99-AR0417	10 February 2023
Third Floor Plan – General Arrangement – Sheet 1 of 2	12-A-99-AR0418	10 February 2023
Third Floor Plan – General Arrangement – Sheet 2 of 2	12-A-99-AR0419	10 February 2023
Fourth Floor Plan – General Arrangement – Sheet 1 of 2	12-A-99-AR0420	10 February 2023
Fourth Floor Plan – General Arrangement – Sheet 2 of 2	12-A-99-AR0421	10 February 2023
Roof Plan – General Arrangement Part Plan	12-A-99-AR0422	10 February 2023
Elevations – Overall	12-A-99-AR0439	10 February 2023
Elevations – Sheet 1 of 4	12-A-99-AR0440	10 February 2023
Elevations – Sheet 3 of 4	12-A-99-AR0442	10 February 2023
Elevations – Sheet 4 of 4	12-A-99-AR0443	10 February 2023
Façade Schedule	12-A-99-AR0454	10 February 2023
Façade Elevations – Sheet 1 of 3	12-A-99-AR0455	10 February 2023
Façade Elevations – Sheet 2 of 3	12-A-99-AR0456	10 February 2023
Façade Elevations – Sheet 3 of 3	12-A-99-AR0457	10 February 2023

Driver Sign on Building

Locality Plan General Arrangement Plan	12-A-99-AR0501	10 February 2023
Site Plan	12-A-99-AR0502	05 April 2023
Carpark Plan	12-A-99-AR0503	10 February 2023
Ground Floor Plan - Overall	12-A-99-AR0504	10 February 2023
Ground Floor Plan – Set out Plan	12-A-99-AR0505	10 February 2023
Ground Floor Plan - East	12-A-99-AR0506	10 February 2023
Ground Floor Plan - West	12-A-99-AR0507	10 February 2023
First Floor Plan – Overall	12-A-99-AR0508	10 February 2023
First Floor Plan – Set out Plan	12-A-99-AR0509	10 February 2023

First Floor Plan - East	12-A-99-AR0510	10 February 2023
First Floor Plan - West	12-A-99-AR0511	10 February 2023
Roof Plan	12-A-99-AR0518	10 February 2023
Elevations East and West	12-A-99-AR0519	10 February 2023
Elevations North and South	12-A-99-AR0520	10 February 2023
Cross Sections	12-A-99-AR0523	10 February 2023
<i>Standard Trackwork Details</i>		
Stowage Yards and Passenger Mains	00-C-04-0042	10 February 2023
Security Fencing – Typical Details		
Fencing Detail Plan 1	00-C-04-0111	10 February 2023
Fencing Detail Plan 2	00-C-04-0112	10 February 2023
<i>General Arrangement - Fencing</i>		
Fencing Overall Plan	12-C-13-0335	10 February 2023
Layout Plan CH13650 To CH 13815 – Sheet 1 of 11	12-C-13-0336	10 February 2023
Layout CH13830 To CH14010 – Sheet 2 of 11	12-C-13-0337	10 February 2023
Layout CH14025 To CH14205 – Sheet 3 of 11	12-C-13-0338	10 February 2023
Layout CH14220 To CH14400– Sheet 4 of 11	12-C-13-0339	10 February 2023
Layout CH14415 To CH14595– Sheet 5 of 11	12-C-13-0340	10 February 2023
Layout CH14610 To CH14790– Sheet 6 of 11	12-C-13-0341	10 February 2023
Layout CH14805 To CH14985– Sheet 7 of 11	12-C-13-0342	10 February 2023
Layout CH15000 To CH15180– Sheet 8 of 11	12-C-13-0343	10 February 2023
Layout CH15195 To CH145330– Sheet 9 of 11	12-C-13-0344	10 February 2023
Layout CH00000 To CH00000– Sheet 10 of 11	12-C-13-0345	10 February 2023
Layout CH00000 To CH00000– Sheet 11 of 11	12-C-13-0346	10 February 2023
Midland Station Precinct Concept Plan – sheet 1 of 10	PTA02 Rev B	10 February 2023
Midland Station Precinct Concept Plan – Western Extent sheet 2 of 10	PTA02 Rev B	10 February 2023
Midland Station Precinct Concept Plan – Eastern Project Extent – sheet 3 of 10	PTA02 Rev B	10 February 2023
Midland Station Precinct Concept Plan– sheet 4 of 10	PTA02 Rev B	10 February 2023
Midland Station Precinct Concept Plan– sheet 5 of 10	PTA02 Rev B	10 February 2023
Midland Station Precinct Concept Plan– sheet 6 of 10	PTA02 Rev B	10 February 2023
Midland Station Precinct Concept Plan– sheet 7 of 10	PTA02 Rev B	10 February 2023
Midland Station Precinct Concept Plan– sheet 8 of 10	PTA02 Rev B	10 February 2023
Midland Station Precinct Concept Plan– sheet 9 of 10	PTA02 Rev B	10 February 2023
Midland Station Precinct Concept Plan– sheet 10 of 10	PTA02 Rev B	10 February 2023

2. Plans, elevations and specifications detailing high quality materials, finishes and colours for the development, (including "colour swatches" or material samples), including signage, are to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA.
3. Evidence that the project has been registered with the Green Building Council of Australia which demonstrates that the proposal has been designed to achieve a minimum 4 Star Green Star rating in accordance with Development Policy 1 Green Buildings, is provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA. (Refer to Advice Note c)
4. A report and certification from the Green Building Council of Australia is to be provided within 12 months of practical completion, confirming that the building has achieved the minimum 4 Star Green Star 'As-Built' rating, to the satisfaction of DevelopmentWA.
5. A Waste Management Plan, demonstrating that bin collection and waste management services for all components of the development can be adequately provided for, and managed, within the development site, is to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA in consultation with the City of Swan. (Refer to Advice Note d)
6. An Acoustic and Vibration Attenuation Report and certification from a qualified acoustic consultant, confirming that the design and construction of the building will achieve an appropriate level of sound and vibration attenuation in accordance with Development Policy 3 – Sound and Vibration Attenuation and SPP5.4, is to be provided prior to planning condition clearance (working drawings stage) with the recommendations of the Report being implemented thereafter to the satisfaction of DevelopmentWA in consultation with the City of Swan. (Refer to Advice Note e)
7. Public art is to be provided in accordance with Development Policy 4 - Providing Public Art, details of which are to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA, in consultation with the City of Swan. (Refer to Advice Note f)
8. A Signage Strategy, detailing the proposed location and size of all external signage consistent with Development Policy 6 – Signage, is to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA. (Refer to Advice Note g)
9. A Lighting Strategy, detailing lighting of the building exterior and ground floor public areas to enhance building features, amenity and security, is to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA. (Refer to Advice Note h)
10. All fencing and gates abutting the public realm are to be of a high quality design, compatible with the design, character, materials and colour scheme of the existing/proposed building, are to remain visually permeable, details of which are to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA. (Refer to Advice Note i)

11. A dilapidation survey of the footpaths, kerbs, roads, buildings and open space areas within the immediate locality surrounding the site is to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA in consultation with the City of Swan. Any damage caused to the footpaths, kerbs, roads, buildings and open space areas is to be made good at the applicant's expense, prior to occupation of the development. (Refer to Advice Note j)
12. A Universal Access Statement for the ground floor public areas and building entries shall be prepared by a suitably qualified person, and is to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA. (Refer to Advice Note k).
13. A Detailed Stormwater and Drainage Management Plan is to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA in consultation with the City of Swan. (Refer to Advice Note l)
14. All service areas, service related hardware and piped or wired services (such as car park gates, plant areas, fire booster cabinets, service meters, exhaust systems and air-conditioning units) are to be designed as an integral component of the development or screened from public view, to minimise any detrimental impact on the architectural quality of the building and the public realm, details of which are to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA. (Refer to Advice Note m)
15. Bicycle parking and end of trip facilities are to be provided on-site in accordance with the Midland Design Guidelines, details of which are to be submitted prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA. (refer to Advice Note n)
16. A Construction Management Plan is to be submitted prior to planning condition clearance (working drawings stage), prior to the commencement of works, to the satisfaction of DevelopmentWA in consultation with the City of Swan. (Refer to Advice note o)
17. An updated Transport Impact Assessment is to be submitted prior to planning condition clearance (working drawings stage), with recommendations of the final Transport Impact Assessment being implemented to the satisfaction of DevelopmentWA in consultation with Main Roads Western Australia and the City of Swan. (Refer to Advice note p)
18. All vehicle parking, access and circulation areas are to be sealed, kerbed, drained and line marled in accordance with the approved plan to the satisfaction of DevelopmentWA.
19. A Detailed Landscaping Plan detailing both "soft" and "hard" landscape elements and the associated maintenance strategy is to be submitted prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA in consultation with City of Swan. (Refer to Advice Note q)
20. A Detailed Parking Plan is to be submitted for all onsite and on street parking demonstrating compliance with AS/NZ 2890.5; AS 2890.1 and AS/NZ 2890.6 (as amended) and detail time limited parking (and associated signage). The approved Detailed Parking Plan is to be implemented, and thereafter maintained to the satisfaction of DevelopmentWA in consultation with the City of Swan.

21. A Heritage Interpretation Plan is to be prepared by a suitably experienced heritage professional and submitted at working drawings stage to the satisfaction of DevelopmentWA in consultation with the Department of Planning, Lands and Heritage. (Refer Advice Note r)
22. Revised plans are to be submitted prior to planning condition clearance (working drawing stage) addressing the State Design Review Panel comments made in the State Design Review Panel Final Report for WAPC - METRONET Midland Station DR3 (November 2022) in relation to the simplification of the architectural treatment of the Driver's Sign On building to be more in keeping with the adjacent heritage context of the location, to the satisfaction of DevelopmentWA in consultation with the Government Architect and the City of Swan. (Refer Advice Note s)
23. Redundant crossovers are to be removed and the verge, kerb and footpath (where relevant) be reinstated prior to occupation of the development to the satisfaction of DevelopmentWA in consultation with the City of Swan.
24. The development must be substantially commenced within four (4) years from the date of this approval, to the satisfaction of DevelopmentWA. Where an approval has so lapsed, no development shall be carried out without the further approval of DevelopmentWA having first been sought and obtained. (Refer to Advice Note x)

ADVICE NOTES:

- a) A covering letter, the final working drawings and a material samples board are to be submitted to DevelopmentWA prior to an application being made to the City of Swan for a building permit and must be cleared prior to the commencement of works on site. Working drawings are to comply with all of the above conditions and any variations from the approved drawings are required to be clearly identified.

In accordance with Section 62(3) of the *Metropolitan Redevelopment Authority Act 2011* no works are to be undertaken prior to obtaining development approval or in contravention of any condition to which the approval is subject.

Upon satisfactory assessment of the working drawings, DevelopmentWA will provide a clearance letter and copies of the plans to the City of Swan to enable building permit assessment.

- b) A building permit application is required to be submitted to the City of Swan and approved prior to the commencement of any works on site and should include a Construction Management Plan detailing how construction works will be managed to minimise impact on the surrounding community, including but not limited to the following:
 - Public safety and site security;
 - Hours of operation;
 - Dust management;
 - Noise management;
 - Waste and material disposal;
 - Traffic management plans for the various phases of the construction;
 - Parking arrangements for contractors and sub-contractors;
 - Delivery and access arrangements;
 - The storage of materials and equipment on site (no storage of materials within the public realm will be permitted);

- Bonding and remediation arrangements; and
 - Any other matters likely to impact upon the surrounding properties or public realm.
- c) With regard to Condition 3, in achieving the minimum 4 Star Green Star rating the development should be designed to comply with the Redevelopment Area Objective of Environmental Integrity, by including ecologically sustainable design, resource efficiency, recycling, renewable energy and protection of local ecology and microclimate. In particular, the design, construction and operation/management of the building and associated areas of open space should demonstrate a 'whole of site' approach to sustainable design and address, as a minimum:
- methodologies to reduce operational and embodied carbon;
 - water efficiency;
 - strategies and methodology to minimise potable water usage through rain water capture and reuse and/or water recycling;
 - energy efficiency and energy efficient fixtures and appliances; and
 - a naturally comfortable indoor environment, including access to natural light and ventilation as well as thermal comfort levels.
- d) With regard to Condition 5, the Waste Management Plan is to ensure all waste collections occur within the development site, for all components of the development. The Waste management Plan is to include adequate loading, storage, vehicle manoeuvring and general maintenance of waste infrastructure. The Waste Management Plan should also demonstrate how noise, odour and general nuisance will be minimised.
- e) With regard to Condition 6, the Acoustic and Vibration Report should be informed by the Noise and Vibration Management Plan prepared for the development by SLR Consulting (Reference MSC-MJA-NV-RPT-00002) dated 10 February 2023, and identify the location, extent and impact of all noise and vibration sources and confirm that the design of the building will achieve an appropriate level of attenuation in accordance with Development Policy 3 – Sound and Vibration Attenuation and SPP5.4. In particular, the report should address:
- Potential noise and vibration impacts from adjacent uses including traffic, with the modelling inputs to use a 20-year forecasting of noise, comprising on-site noise measurements, traffic volumes, heavy vehicle percentage, vehicle speeds and road surface; and
 - Mechanical service systems (such as exhaust systems and air-conditioning) selection, design and location to prevent emitted noise levels from exceeding the relevant decibel levels as provided by the *Environmental Protection (Noise) Regulations 1997*.
- f) With regard to Condition 7, the provision of public art is to be in accordance with Development Policy 4 – Providing Public Art, with a minimum contribution, either as public art or cash-in-lieu, of \$2.25 million based on the development value of \$200 million.
- g) With regard to Condition 8, the Signage Strategy should provide an indicative plan of all proposed signage (including wayfinding signage) outlining the locations and dimensions demonstrating that such signage will be complementary to the architectural design. Consideration shall be given to the integration of wayfinding signage to and from the public accessible facilities, with

a view to enhance overall legibility across the site and maximise the community benefits.

Development Policy 6 – Signage requires signage to demonstrate restraint in scale, size and collective amount of signage installed, in order to minimise visual clutter, protect amenity, and support a safe, attractive and legible public realm.

- h) With regard to Condition 9, the Lighting Strategy should:
- include plans which illustrate how the building will be illuminated to highlight architectural elements and provide a safe and attractive built form environment at night; and
 - be designed to comply with Australian Standard 1158 (Public Lighting Code) and Australian Standard 4282 (Control of the Effects of Outdoor Lighting) in order to ensure that any nuisance light to adjoining properties and to passing vehicular traffic are controlled to an acceptable level.
- i) With regards to Condition 10, fencing is to be installed in accordance with Development Policy 5 – Additional Structures and should demonstrate the following:
- i. are well designed, installed in a professional manner and constructed from durable, quality materials that are compatible with the building and locality;
 - ii. designed and located to ensure there is no detrimental impacts on the amenity enjoyed by adjoining places or neighbours; and
 - iii. Modified to remove all portions of barbed wire fencing.
- j) With regard to Condition 11, works that impact any portion of the building listed under the Midland Redevelopment Area Heritage Inventory and the State Heritage Register, footpaths, kerbs, roads, adjacent buildings and open space areas within the immediate locality shall be undertaken in a manner which does not irreparably damage any original or significant heritage fabric, details of which is to be submitted prior to planning condition clearance.
- Should works inadvertently cause damage to the significant heritage fabric of the building, the works should immediately cease until such time the construction methodology is reconsidered to avoid further damage.
- k) With regard to Condition 12, the development should comply with the requirements of Part D3 of the Building Code of Australia (Access for People with Disabilities) and Australian Standard 1428.1 and the Disability Discrimination Act 1992. The Universal Access report should include particular consideration of the publicly accessible communal areas, the access/egress from the carpark and pedestrian pathways on the site.
- l) With regard to Condition 13, the Stormwater and Drainage Management Plan should demonstrate that stormwater from all roofed and paved areas shall be collected and contained on site. Stormwater must not affect or be allowed to flow onto or into any other property or road reserve.
- m) With regard to Condition 14, services and service related infrastructure includes but is not limited to all piped and wired services, car parking areas and associated ventilation, roof plant / plant areas, bin storage areas, service meters and related infrastructure, fire booster cabinets, exhaust systems, air-conditioning units, antennae and satellite dishes.

Fire booster hydrants and service meter boxes should be designed, located, oriented and finished to minimise any visual impact on the adjacent streetscape and maximise visual interaction between the development and the street. The applicant is advised to liaise with service authorities to rationalise and consolidate service infrastructure, where possible.

- n) With regard to Condition 15:
 - i. the bicycle parking areas and end of trip facilities should comply with Australian Standard 2890.3 and be designed in accordance with Austroads Guide to Traffic Engineering Practice Part 14 – Bicycles; and
 - ii. Signage shall be clearly displayed noting end of trip facilities provided for drivers

- o) With regard to Condition 16, the Construction Management Plan should include detail of the following:
 - i. a staging plan detailing the coordination of the delivery of the development and the surrounding public realm;
 - ii. site huts and staff amenities;
 - iii. high quality fencing / hoarding used to secure the site and associated signage;
 - iv. work hours;
 - v. truck routes, layover areas and site access plan;
 - vi. parking arrangements for contractors and subcontractors;
 - vii. noise and vibration management;
 - viii. control of sand, dust and erosion;
 - ix. dewatering and storm water management;
 - x. materials delivery, storage and collection and waste management;
 - xi. protection of street trees during the construction process;
 - xii. any road, footpath or cycle path closures, associated impacts on traffic, pedestrian and cyclist movement and alternate paths of travel;
 - xiii. demonstrate how construction works will be managed to minimise impacts on the public realm and nearby commercial and residential areas;
 - xiv. a Consultation Plan, which identifies how stakeholders and affected landowners will be notified of any construction impacts including details of complaint resolution procedures;
 - xv. procedure for addressing unexpected finds (contamination, unexploded ordinances, etc.); and
 - xvi. other matters likely to impact on surrounding locality.

- p) With regard to Condition 17, the revised Transport Impact Assessment is to take into consideration the following:
 - i. Local road, intersection, footpath and cycle infrastructure upgrades required in response to increased local traffic volumes;
 - ii. Changes in the nature of vehicles utilising the local road network in the vicinity of the development site;
 - iii. Impact the development will have in the following intersections:
 - a. Intersection of Cale Street and Victoria Street;
 - b. Intersection of Cale Street and Great Eastern Highway;
 - c. The Crescent (in proximity to Helena Street and Great Eastern Highway);
 - d. The existing vehicle turning lane over Lot 5 (No. 309) Great Eastern Highway in proximity to the entry to the multi-deck carpark entry; and
 - e. Installation, extension, upgrade and/or realignment footpath and cycle networks; including but not limited to Cale Street, Railway Parade, Victoria Street

- q) With regard to Condition 19, the Landscape Plan is to provide details of the following:
- i. planting, tree and turf selections, including suitability to Perth's climate;
 - ii. shade planting for car parking areas at a rate of one tree per 4 bays;
 - iii. specified plant numbers, species, location, size and time of planting;
 - iv. paving selections;
 - v. irrigation/reticulation details and watering management;
 - vi. maintenance schedule and responsibilities;
 - vii. layout, function and integration of communal open spaces within the development to ensure they are useable;
 - viii. street furniture; and
 - ix. details of any shade structures.

The applicant is advised to liaise with the City of Swan to ensure the integration of paving materials and landscaping between the public and private realm and the consideration of ongoing maintenance requirements.

The removal of exiting mature vegetation as a result of the demolition works should be accounted for and compensated by comparable replacement plantings within the new Midland Station project area. This should be articulated within a Landscape Plan accompanying the principal subsequent development application for the new Midland Station.

- r) With regard to Condition 21, the Heritage Interpretation Plan should outline a long-term strategy to ensure ongoing interpretation of the significance of the place, and should detail, amongst other matters:
- i. assessment of significant site, buildings, collection or object(s) to be interpreted;
 - ii. the use of traditional colour schemes;
 - iii. interpretive signage and/or panels;
 - iv. exhibition/display of historic photographs and/or other material artefacts that have provenance to the place and to the story;
 - v. retention and highlighting of authentic furniture and fittings as well as other related moveable heritage items or contemporary interpretations of these elements; and
 - vi. any other mechanisms as determined by DevelopmentWA in consultation with the Department of Planning, Lands and Heritage (DPLH).

The definition of a suitably experienced heritage professional means having the heritage knowledge, skills and expertise to prepare a Heritage Interpretation Plan.

For further information, please contact the DPLH on (08) 6551 8002.

- s) With regard to Condition 22, the architectural detailing should be carefully reconsidered to ensure the design across the elevations are consolidated and strengthened, and should include the following:
- i. The implementation of common design language across the facades;
 - ii. The materiality and design themes should be strengthened to demonstrate an enhanced response to the heritage character of the existing streetscape;
 - iii. The inclusion of patterns in the design elements, repetition and scale with clearly defined horizontal elements; and
 - iv. The awning on the southern elevation of the building is to be extended to provide shade and weather protection for pedestrians.

- t) The applicant is advised to liaise with Western Power prior to undertaking any

works near Western Power assets.

- u) Works are to be undertaken in accordance with an approved Sediment and Erosion Control Plan. The plan –
 - i. should be submitted to the Department of Biodiversity, Conservation and Attractions for approval at least 30 days prior to commencement of works;
 - ii. is to describe how the authorised works will be appropriately managed and implemented to minimise the risk of drainage, erosion and sedimentation on nearby water bodies, stormwater system and/or reserves during the work; and
 - iii. No dewatering effluent is to enter the River, either directly or indirectly (via the stormwater system), unless approved by the Department of Biodiversity, Conservation and Attractions
- v) In relation to works near ATCO assets the following is advised:
 - i. The proposed areas fall within the WAPC Draft Development Control 4.3 Trigger Distance for ATCO Infrastructure. Any sensitive land use or high density community use developments within this Trigger Distance of a High Pressure Gas Pipeline requires further consultation with ATCO prior to preliminary designs being finalised;
 - ii. The proposed future development may require additional safety measures to be considered, identified and in place for the high pressure gas pipeline risk mitigation;
 - iii. Anyone proposing to carry out construction or excavation works within 15 metres of Critical Asset Infrastructure must contact 'Before You Dig Australia' to determine the location of buried gas infrastructure. Refer to ATCO document AGA-O&M-PR24- Additional Information for Working Around Gas Infrastructure <https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html>;
 - iv. All works occurring within 15 metres of Critical Asset Infrastructure must undergo ATCO Engineering Assessment to determine if additional safety measures are required and must comply with ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&M-PR24 Risk mitigation and asset protection measures may be necessary. Notification for the works must be submitted to ATCO via the [online web portal](#);
 - v. Future construction and any proposed access roads across the ATCO Critical Asset gas mains (including proposed roads and road upgrades) need to be managed in accordance with the ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&M-PR24 <https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html>; and
 - vi. Any proposed relocation of ATCO infrastructure must undergo ATCO Engineering Assessment and any subsequent costs of such relocation works must be borne by the proponent.
- w) Records indicate Telstra assets are located within the area of the proposal. A Dial Before You Dig Australia assessment should be undertaken for a detailed site plan, in addition to engagement of a Telstra Accredited Plant Locator (APL) to determine the exact location of the assets. Once identified, Telstra assets shall be relocated or re-aligned to ensure they are no longer impacted.
- x) Should the development not be substantially commenced within the period

specified, the approval shall no longer be valid and no development shall be undertaken without further approval of DevelopmentWA having first been sought.

Forward Works**Recommended Conditions and Advice Notes****CONDITIONS:**

1. The development is to be undertaken in accordance with the approved plans and documents attached to this approval, details of which are to be provided at working drawings stage, to the satisfaction of DevelopmentWA, prior to commencement of construction/works/operation. The approved plans and documents of development are listed as follows:

Plan / Document Name	Ref.	Date Received
Overall Precinct	MSCS-MJA-CI-SKT-024	16/12/2022
Multistorey Car Park & Bus Interchange Earthworks Plan and Section	MSCS-MJA-CI-SKT-025	16/12/2022
Midland Station and Driver Sign on Building Earthworks Plan and Section	MSCS-MJA-CI-SKT-026	16/12/2022
Civil Roads Plan	MSCS-MJA-CI-SKT-027	16/12/2022
Earthworks Plan and Section	MSCS-MJA-CI-SKT-028	16/12/2022
Multi Storey Car Park and Bus Interchange Drainage Pipework	MSCS-MJA-CI-SKT-029	16/12/2022
Drainage Pipeworks	MSCS-MJA-CI-SKT-030	16/12/2022
Utility Services	MSCS-MJA-CI-SKT-031	16/12/2022
Water Corporation Network	MSCS-MJA-CI-SKT-033	16/12/2022
Existing Trees	MSCS-MJA-CI-SKT-034	16/12/2022
Cale Street Crossing	MSCS-MJA-CI-SKT-037	16/12/2022

2. Prior to commencement of development works, investigation for soil and groundwater contamination is to be carried out at the subject site to determine if remediation is required. If required, remediation, including validation of remediation, of any contamination identified shall be completed prior to completion of development works at the subject site to the satisfaction of DevelopmentWA on advice from the Department of Water and Environmental Regulation, to ensure that the site is suitable for the proposed use. Investigations and remediation are to be carried out in compliance with the *Contaminated Sites Act 2003* and current Department of Water and Environmental Regulation contaminated sites guidelines. (Refer to Advice Note d)
3. A dilapidation survey of the footpaths, kerbs, roads, buildings and open space areas within the immediate locality surrounding the site is to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA in consultation with the City of Swan. Any damage caused to the footpaths, kerbs, roads, buildings and open space areas is to be made good at the applicant's expense, prior to occupation of the development. (Refer to Advice Note i)
4. A Construction and Demolition Management Plan is to be submitted prior to planning condition clearance (working drawings stage), prior to the commencement of works, to the satisfaction of DevelopmentWA in consultation with the City of Swan. (Refer to Advice note j)

5. A Detailed Stormwater and Drainage Management Plan is to be provided prior to planning condition clearance (working drawings stage) to the satisfaction of DevelopmentWA in consultation with the City of Swan. (Refer to Advice Note k)
6. A Tree Protection Plan, detailing protection of mature trees within and immediately adjacent to the site during construction and demolition, is to be provided prior to the commencement of any demolition works to the satisfaction of the MRA, in consultation with the City of Swan. (refer to Advice Note l)
7. The development must be substantially commenced within four (4) years from the date of this approval, to the satisfaction of the DevelopmentWA. Where an approval has so lapsed, no development shall be carried out without the further approval of DevelopmentWA having first been sought and obtained. (Refer to Advice Note m)

ADVICE NOTES:

- a) A covering letter, the final working drawings and a material samples board are to be submitted to DevelopmentWA prior to an application being made to the City of Swan for a building permit and must be cleared prior to the commencement of works on site. Working drawings are to comply with all of the above conditions and any variations from the approved drawings are required to be clearly identified.

In accordance with Section 62(3) of the *Metropolitan Redevelopment Authority Act 2011* no works are to be undertaken prior to obtaining development approval or in contravention of any condition to which the approval is subject.

Upon satisfactory assessment of the working drawings, DevelopmentWA will provide a clearance letter and copies of the plans to the City of Swan.

- b) All construction works within the road reserve including drainage infrastructure, service adjustment, crossovers, landscaping and footpath placement or reinstatement, must be built and maintained in accordance with the specifications of the City of Swan. Failure to do so may result in these works being removed and reinstated at the developer's expense.
- c) Works that impact any portion of the building listed under the Midland Redevelopment Area Heritage Inventory and the State Heritage Register, footpaths, kerbs, roads, adjacent buildings and open space areas within the immediate locality shall be undertaken in a manner which does not irreparably damage any original or significant heritage fabric, details of which is to be submitted prior to planning condition clearance.

Should works inadvertently cause damage to the significant heritage fabric of the building, the works should immediately cease until such time the construction methodology is reconsidered to avoid further damage.

- d) In accordance with regulation 31(1)(c) of the Contaminated Sites Regulations 2006, a mandatory auditor's report, prepared by an accredited contaminated sites auditor, will need to be submitted to the Department of Water and Environmental Regulation as evidence of compliance.
- e) Works are to be undertaken in accordance with an approved Sediment and Erosion Control Plan. The plan –
- i. should be submitted to the Department of Biodiversity, Conservation and Attractions for approval at least 30 days prior to commencement of works;
 - ii. is to describe how the authorised works will be appropriately managed and implemented to minimise the risk of drainage, erosion and sedimentation on nearby water bodies, stormwater system and/or reserves during the work; and
 - iii. No dewatering effluent is to enter the River, either directly or indirectly (via the stormwater system), unless approved by the Department of Biodiversity, Conservation and Attractions
- f) With regard to works near ATCO assets the following is advised:
- i. The proposed areas fall within the WAPC Draft Development Control 4.3 Trigger Distance for ATCO Infrastructure. Any sensitive land use or high density community use developments within this Trigger Distance of a

- High Pressure Gas Pipeline requires further consultation with ATCO prior to preliminary designs being finalised;
- ii. The proposed future development may require additional safety measures to be considered, identified and in place for the high pressure gas pipeline risk mitigation;
 - iii. Anyone proposing to carry out construction or excavation works within 15 metres of Critical Asset Infrastructure must contact 'Before You Dig Australia' to determine the location of buried gas infrastructure. Refer to ATCO document AGA-O&M-PR24- Additional Information for Working Around Gas Infrastructure <https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html>;
 - iv. All works occurring within 15 metres of Critical Asset Infrastructure must undergo ATCO Engineering Assessment to determine if additional safety measures are required and must comply with ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&M-PR24 Risk mitigation and asset protection measures may be necessary. Notification for the works must be submitted to ATCO via the [online web portal](#);
 - v. Future construction and any proposed access roads across the ATCO Critical Asset gas mains (including proposed roads and road upgrades) need to be managed in accordance with the ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&M-PR24 <https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html>; and
 - vi. Any proposed relocation of ATCO infrastructure must undergo ATCO Engineering Assessment and any subsequent costs of such relocation works must be borne by the proponent.
- g) Records indicate Telstra assets are located within the area of the proposal. A Dial Before You Dig Australia assessment should be undertaken for a detailed site plan, in addition to engagement of a Telstra Accredited Plant Locator (APL) to determine the exact location of the assets. Once identified, Telstra assets shall be relocated or re-aligned to ensure they are no longer impacted.
- h) The applicant is advised to liaise with Western Power prior to undertaking any works near Western Power assets.
- i) With regard to Condition 3, works that impact any portion of the building listed under the Midland Redevelopment Area Heritage Inventory and the State Heritage Register, footpaths, kerbs, roads, adjacent buildings and open space areas within the immediate locality shall be undertaken in a manner which does not irreparably damage any original or significant heritage fabric, details of which is to be submitted prior to planning condition clearance.

Should works inadvertently cause damage to the significant heritage fabric of the building, the works should immediately cease until such time the construction methodology is reconsidered to avoid further damage.

- j) With regard to Condition 4, the Construction Management Plan should include details of the following:
- i. a staging plan detailing the coordination of the delivery of the development and the surrounding public realm;
 - ii. site huts and staff amenities;
 - iii. high quality fencing / hoarding used to secure the site and associated signage;

- iv. work hours;
 - v. truck routes, layover areas and site access plan;
 - vi. parking arrangements for contractors and subcontractors;
 - vii. noise and vibration management;
 - viii. control of sand, dust and erosion;
 - ix. dewatering and storm water management;
 - x. materials delivery, storage and collection and waste management;
 - xi. protection of street trees during the construction process;
 - xii. any road, footpath or cycle path closures, associated impacts on traffic, pedestrian and cyclist movement and alternate paths of travel;
 - xiii. demonstrate how construction works will be managed to minimise impacts in the public realm and nearby commercial and residential areas;
 - xiv. a Consultation Plan, which identifies how stakeholders and affected landowners will be notified of any construction impacts including details of complaint resolution procedures;
 - xv. procedure for addressing unexpected finds (contamination, unexploded ordnances, etc.);
 - xvi. other matters likely to impact on surrounding locality; and
 - xvii details of demolition methodology, safety procedures and staging of works to minimise impacts on surrounding land owners, occupants and concurrent development,
- k) With regard to Condition 5 , the Stormwater and Drainage Management Plan should demonstrate that stormwater from all roofed and paved areas shall be collected and contained on site. Stormwater must not affect or be allowed to flow onto or into any other property or road reserve.
- l) With regard to Condition 6, the Tree Protection Plan should be developed in consultation with DevelopmentWa and the City of Swan and include details of the following:
- i. Appropriate tree protection and management measures to ensure successful planting and a high possibility of successful tree retention/ relocation as per the approved plans;
 - ii. Tree relocation and protection measures and procedures;
 - iii. Tree Protection Zones;
 - iv. Fencing;
 - v. Signage;
 - vi. The impact of construction and installation of above and below ground services;
 - vii. Pruning and ongoing maintenance; and
 - viii. The location of Tree protection zones are to be clearly demonstrated on construction, demolition, service and landscape drawings.
 - ix. An arborist report detailing the potential for retention of trees marked No. 30, 85, 87, 131, 196, 197, 213, and 131 on the approved plans.
 - x. tree preservation zones to protect retained trees during demolition, with a minimum clearance of 2m from the tree root system, or to the maximum extent possible where roots extend below structures or hard stand areas to be demolished;
 - xi. any required irrigation of trees during the demolition phase; and
 - xii. monitoring and management of any other potential demolition impacts
- m) Should the development not be substantially commenced within the period specified, the approval shall no longer be valid and no development shall be undertaken without further approval of DevelopmentWA having first been sought.

Midland Station Stakeholder Comments – DA1, DA2

Stakeholder	Comment	DevWA Response
City of Swan	DA 1 Comments The City notes that the demolitions works proposed under the application are: • Demolition of the existing PTA storage compound on Railway Parade inclusive of removal of three trees; • Demolition of the Arc Loop including sleepers, ballast and rail track; • Partial demolition of the existing Midland Station northern platform and associated footpath, ramps and fencing; and • Installation of new stairs for egress from the balance of northern platform. The City has no objection to these works. It recommends however that the removal of exiting mature vegetation as a result of these works be accounted for and compensated by comparable replacement plantings within the new station project area. This should be articulated within a Landscape Plan accompanying the principal subsequent development application for the station. It is the City's position of preference that the new train station be located further eastwards towards the Midland public and private hospital and that parking for the station be accommodated though a multi deck carpark built over the top of the bus interchange facility. City recommend the application of several standard conditions to any approvals issued to the application relating to: • Construction Management Considerations; • Services relocations; • Drainage; • Development Staging; and • Tree Management;	Support for demolition works is noted. <i>Mature Trees</i> The application includes a comprehensive study by a qualified arborist and demonstrates a commitment to retaining or relocating existing trees wherever possible. Of the existing trees, 286 are being retained or relocated and 78 are identified for removal (with 8 subject to further investigation). In addition, the landscaping plans submitted for the project include extensive (approx. 450) new tree plantings which significantly offsets the loss of trees and demonstrates an outcome consistent with the planning framework. A condition is included on the approval documentation requiring the submission of a Tree Protection Plan. In accordance with this condition, ongoing consultation with City will occur at the detailed design phase of the project in relation to the 8 trees that are subject to further investigation of their potential to be retained, pending construction works related to services relocation, road construction requirements and footpath construction. <i>Station Location</i> The City's preferred location is noted. However, in addition to several Public Transport Authority technical and operational design considerations, the following factors restrict relocation of the station further eastwards: • The minimum required separation distance from a train station and a level crossing results in the station infrastructure not being able to be located directly adjacent to the Cale Street level crossing and Midland Public Hospital as identified; • The Helena St/Railway Ave location is on an existing principle pedestrian/cycle network linking the Redevelopment Area with the greater City of Swan Town Centre, past the heritage precinct that includes the Town Hall, through to the Midland Oval development site. • The incorporation of separate access points to Helena Street, with both buses and private vehicles accessing

		the Multi Storey parking, would result in excessively wide, or multiple, vehicle access points for pedestrians and cyclists to navigate safely; and • Having a mixture of large vehicles (busses) and small vehicles (cars) accessing one facility would result in potential safety issues for domestic vehicle drivers accessing the parking facility; Further, the multi-storey carpark and bus interchange land uses have different floorplate requirements. It would be complex to design infrastructure that effectively and safely accommodates both land uses in the same locations. In particular, structural columns required for the car park would need to avoid bus circulation routes, which would increase the overall car park footprint. All conditions recommended by the City have been incorporated into the Recommended Conditions where relevant.
	<u>DA2 Comments</u> The City of Swan's position remains that: 1) It is the City's position of preference that the new train station be located further eastwards towards the Midland public and private hospital; and 2) Parking for the station be accommodated through a multi deck carpark built over the top of the bus interchange facility. Supportive of the notion of a new train station recommend the application of a number of conditions to any approvals issued to the applications relating to: • Construction Management Considerations; • Drainage; • Landscaping and Tree Retention; • Noise Management; • Minor Design Amendments; • Waste Management; • Lighting; • Signage; • Vehicle Parking; and • Traffic and Transport. <i>Traffic and Transport – Amended TIA</i> The City requests the following condition in relation to traffic and transport: • An updated Transport Impact Assessment being submitted to, and approved by DevelopmentWA in consultation with the City of Swan detailing local road,	1) As noted above. Relocation of the station further east is restricted by a number of factors. 2) As noted above. The complexities associated with combining the car park and bus interchange are significant. The City's high level support for the new station facility is noted. The conditions requested by the City are predominantly standard conditions and have been included on the Recommended Conditions where appropriate. A condition requiring the submission of an amended Transport Impact Assessment (TIA) is included on the Recommended Conditions and is discussed below. <i>Traffic and Transport – Amended TIA</i> The TIA submitted with the application provides appropriate analysis of the impact the development will have on the roads and transport infrastructure directly abutting the development site. A condition is recommended requiring an updated TIA to address any changes to the transport infrastructure that may arise during the detailed design phase of the development process.

	intersection, footpath and cycle infrastructure upgrades required in response to increased local traffic volumes; changes in the nature of vehicles utilising networks; and access arrangements for the development approved. An updated Transport Impact Assessment must include, but not be limited to, assessment and recommendations on the impact the approved development will have on the following: - Intersection of Cale Street and Victoria Street; - Intersection of Cale Street and Great Eastern Highway; - The Crescent (in proximity to Helena Street and Great Eastern Highway); - The existing vehicle turning lane over Lot 5 (No. 309) Great Eastern Highway in proximity to the entry to the multi-deck carpark entry; and - Installation, extension, upgrade and/or realignment footpath and cycle networks; including but not limited to Cale Street, Railway Parade, Victoria Street.	The major intersections referred to by the City are under the control of MRWA. MRWA provided a comment of support for the scope of the submitted TIA and advised that the major intersections of the locality formed part of a wider infrastructure study being completed by MRWA. Advice has been included with the recommended condition to encourage further collaboration between the applicant, MRWA and the City, taking into consideration the City's requested updates to the TIA at that point in time.
Department of Biodiversity, Conservation and Attractions (DBCA)	DA1 Comments The proposal is being processed pursuant to Clause 30A(2)b(ii) of the Metropolitan Region Scheme, as the proposed development is likely to affect waters in the Swan Canning Development Control Area (DCA). DBCA has no objections to the proposal, subject to the following conditions: Conditions - Works are to be undertaken in accordance with an approved Sediment and Erosion Control Plan. Advice to Applicant - The Sediment and Erosion Plan: - should be submitted to the Department of Biodiversity, Conservation and Attractions for approval at least 30 days prior to commencement of works; and - is to describe how the authorised works will be appropriately managed and implemented to minimise the risk of drainage, erosion and sedimentation on nearby water bodies, stormwater system and/or reserves during the work.	Noted. As the Sediment plan is to be submitted directly to DBCA, the requested condition has been provided as an Advice Note on Recommended Conditions.
	DA2 Comments Application is supported subject to conditions and advice notes: - Development is to be undertaken in accordance with an approved Stormwater Management Plan to the satisfaction of the Department of Biodiversity, Conservation and Attractions. - No dewatering effluent is to enter the River, either directly or indirectly (via the stormwater system), unless approved by the Department of Biodiversity, Conservation and Attractions. - Development is to be undertaken in accordance with an approved Sediment and Erosion Control Plan.	Noted. Conditions recommended by DBCA have been incorporated into the Recommended Conditions where relevant.
Department of Water and	DA1 Comments As per the requirements under section 58(6)(b) of the <i>Contaminated Sites Act 2003</i> (CS Act), advice is required as to the suitability of the land for the proposed works. The	Noted.

Environmental Regulation (DWER)	department understands that the proposed development comprises the construction of the new Midland Station complex (Mandanup), which includes a new station, bus interchange, a multi-storey car park, ground parking areas, passenger drop off areas and landscaping. This application (DA1 A) is for the demolition of the existing Public Transport Authority (PTA) storage compound with associated tree removal, demolition of the existing northern rail platform and demolition of a portion of disused rail track infrastructure (known as Arc Loop) Recommendations The proposed demolition works, rail track removal and tree removal works have a potential to disturb potentially contaminated soils within the subject area, including soil that may be impacted by asbestos. It is understood that the works will be carried out in accordance with a Soil Contamination Management Sub-Plan. It is advised that works on Lot 6 on Diagram 44086 should additionally be carried out in accordance with the SMP titled 'Site Management Plan, Midland Train Station, Lots 6, 123 and 373 Victoria Road, Midland'. The department cannot comment on the suitability of the site for the proposed development as a whole given the uncertainties associated with the contamination status of Lot 50 on Diagram 4883. The department therefore recommends that the following contamination condition and advice note are applied to any approval granted by DevelopmentWA: <u>Requested Conditions:</u> a) Prior to commencement of development works, investigation for soil and groundwater contamination is to be carried out at the subject site to determine if remediation is required. b) If required, remediation, including validation of remediation, of any contamination identified shall be completed prior to completion of development works at the subject site to the satisfaction of DevelopmentWA on advice from the Department of Water and Environmental Regulation, to ensure that the site is suitable for the proposed use. <u>Requested Advice Notes:</u> In relation to Condition [X] and in accordance with regulation 31(1)(c) of the Contaminated Sites Regulations 2006, a mandatory auditor's report, prepared by an accredited contaminated sites auditor, will need to be submitted to the Department of Water and Environmental Regulation as evidence of compliance with Condition [X].	Conditions recommended by DWER have been incorporated into the Recommended Conditions where relevant. As the recommended condition relates to ground disturbing works, the condition and advice note will be included on the approval collateral for DA1 (Forward Works) Development Application, which is where the ground disturbing works will occur. .
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	The site is not located within an area that is mapped as having a risk of encountering acid sulphate soils. The department therefore advises that no specific comment is required in relation to acid sulphate soil management during development.	
	DA2 Comments Works on Lot 15603 and Lot 32 should additionally be carried out in accordance with a Construction Environmental Management Plan (CEMP) during development to document management of environmental aspects including processes for managing materials which may be stained or odorous (if encountered) or any Asbestos Containing Materials in soils in line with Department of Health requirements. Works on Lot 500 on Plan 66298 should be carried out in accordance with the SCRMP titled 'Subsurface Constraints Register and Management Plan Helena East Precinct Former Midland Railway Workshops (Strategen Environmental, March 2019)'. Application supported on the basis that contamination conditions are applied to any approval granted: a) Prior to commencement of development works, investigation for soil and groundwater contamination is to be carried out at the subject site to determine if remediation is required. b) If required, remediation, including validation of remediation, of any contamination identified shall be completed prior to completion of construction works at the subject site to the satisfaction of the DevelopmentWA on advice from the Department of Water and Environmental Regulation, to ensure that the site is suitable for the proposed use. Investigations and remediation are to be carried out in compliance with the Contaminated Sites Act 2003 and current Department of Water and Environmental Regulation contaminated sites guidelines. (Department of Water and Environmental Regulation	Noted. Conditions recommended by DWER have been incorporated into the Recommended Conditions where relevant.
Department of Health (DoH)	DA1 Comments No response received	N/A
	DA2 Comments Department of Health provides no objection to the proposal subject to the following: a) All new development shall be connected to the water corporation's main sewer; and b) Landscaped areas being irrigated with recycled water or grey water. Each option is required to be approved by DoH with a recycled water quality management plan. Further information also required to be submitted to address: 1. A specific site and soil evaluation (SSE) report 2. Additional requirements may be required to meet the <i>Health (Treatment of Sewage and Disposal of Effluent and Liquid Wastes) Regulations 1974</i>, to	Noted. Conditions recommended by the DoH have been incorporated into the Recommended Conditions where relevant.

	ensure minimum setbacks are met from natural water bodies such as creeks and streams or areas of high water tables; 3. Wastewater treatment plant to be engineer Certified as specified on the DOH website 4. A formal application for the onsite wastewater treatment system/disposal area. 5. Separate recycled water quality management plan (RWQMP) to be submitted to the department in accordance with the "Application Process for approval of a recycling water scheme" 6. Scaled plans detailing the proposed building envelopes, land application area/s and exclusion zones are required for the proposal; 7. If onsite wastewater is proposed, it is recommended that Lot 32 and Lot 172 Railway Parade are amalgamated; 8. Consideration and management of nuisances such as odours, noise and vibration in relation to the location of the wastewater treatment plant and disposal areas to accommodation or sensitive land users; Advice should be sought from WorkSafe Division, Department of Mines, Industry Regulation and Safety (DMIRS) regarding compliance with asbestos related work provisions under the Work Health and Safety (General) Regulations 2022 (WHS Regulations) and whether such asbestos related work is permitted.	
Main Roads Western Australia (MRWA)	<u>DA1 Comments</u> No response received	N/A
	<u>DA2 Comments</u> Main Roads provide no objections to the application subject to conditions and advice notes being imposed: <u>Conditions</u> 1. Prior to the submission of a demolition permit, a Traffic Management Plan must be submitted and approved by Main Roads. The Traffic Management Plan must detail how traffic shall be managed at all times and must be implemented and maintained throughout the duration of the demolition. 2. Prior to the issue of the building permit, the applicant is to submit a preliminary intersection design (15% concept) for the proposed turn pocket from Victoria Street into the proposed Multi Storey Carpark, to the satisfaction of Main Roads Western Australia. 3. The Applicant must liaise with Main Roads in relation to all proposals for signalised intersections along Great Eastern Highway. Approvals for signals at the intersection of Helena Street, the Multi Storey Carpark exit and the Bus Station exit must follow the formal approvals process under Main Road Traffic Signal Assessment Policy (TSAP).	Support is Noted. Conditions recommended by MRWA have been incorporated into the Recommended Conditions where relevant. The recommended condition which requires a Construction and Demolition Management Plan, encompasses the traffic management plan request by MRWA for demolition.

	4. The applicant is required to submit an Application form to undertake works within the road reserve prior to undertaking any works within the road reserve. Application forms and supporting information about the procedure can be found on the Main Roads website > Technical & Commercial > Working on Roads. <u>Advice</u> Proposed signalised intersections along Great Eastern Highway will be subject to the formal approvals process under Main Road Traffic Signal Assessment Policy (TSAP). Details of the policy can be found here. Further design requirements may be required as part of the TSAP process.	
Optus	No response received	N/A
Western Power	Did not provide a specific response on the development applications. Western Power (WP) had advised they will not provide comment on a proposal if it is not lodged as an application for assessment with WP.	An Advice Note is recommended for inclusion on the Recommended Conditions reminding the applicant liaise with WP prior to progressing works.
ATCO Gas	<u>DA1, DA2 Comments</u> ATCO Gas Australia (ATCO) has no objection to the proposed application, based on the information and plan provided. <u>Recommended Advice Note:</u> ATCO instruction: 1. The proposed areas fall within the WAPC Draft Development Control 4.3 Trigger Distance for ATCO Infrastructure. Any sensitive land use or high density community use developments within this Trigger Distance of a High Pressure Gas Pipeline requires further consultation with ATCO prior to preliminary designs being finalised. Please consider the WAPC's draft DC4.3 and also the site; PlanWA for development planning. 2. ATCO identifies that the proposed future development may require additional safety measures to be considered, identified and in place for the high pressure gas pipeline risk mitigation. 3. Anyone proposing to carry out construction or excavation works within 15 metres of Critical Asset Infrastructure must contact 'Before You Dig Australia' to determine the location of buried gas infrastructure. Refer to ATCO document AGA-O&M-PR24- 4. All works occurring within 15 metres of Critical Asset Infrastructure must undergo ATCO Engineering Assessment to determine if additional safety measures are required. Risk mitigation and asset protection measures may be necessary. 5. All works occurring within 15 metres of Critical Asset Infrastructure must comply with the ATCO document 6. Future construction and any proposed access roads across the ATCO Critical Asset gas mains (including proposed roads and road upgrades) need to be managed in accordance with the ATCO document 7. Anyone proposing to carry out construction or excavation works must contact 'Before You Dig Australia' (www.byda.com.au) to determine the location of buried gas infrastructure. Refer to ATCO document AGA-O&M-PR24-	Noted Conditions recommended by ATCO have been incorporated into the Recommended Conditions where relevant.

	8. Any proposed relocation of ATCO infrastructure must undergo ATCO Engineering Assessment and any subsequent costs of such relocation works must be borne by the proponent.	
Department of Transport (DoT)	<u>DA1 Comments</u> The Urban Mobility (UM) division of DoT has reviewed the submitted documents and advises that we support the proposed development.	Support is Noted.
	<u>DA2 Comments</u> Support the proposed development in-principle subject to the preparation and implementation of appropriate traffic management plan. Recommended condition: A Traffic Management Plan is to be provided to the satisfaction Development WA in consultation with PTA, MRWA, the City of Swan, and the Department of Transport, prior to commencement of development	Support is Noted. Conditions recommended by DoT have been incorporated into the Recommended Conditions where relevant.
Department of Planning, Lands and Heritage (DPLH)	<u>DA1 Comments</u> DPLH on behalf of the Heritage Council of WA advises that the proposal, in accordance with the plans submitted, is supported.	Support is Noted.
	<u>DA2 Comments</u> DPLH on behalf of the Heritage Council of WA advises: - The proposal does not affect any heritage elements and will not negatively impact the heritage significance of Midland Railway Workshops. - Application is supported subject to conditions requiring: <i>Dilapidation surveys and vibration monitoring shall be undertaken of all heritage buildings within Midland Railway Workshops that are potentially affected by vibrations associated with construction activities.</i>	Noted. Conditions requiring a dilapidation survey and a noise and vibration report has been included on the Recommended Conditions.
Curtin University – Properties and Facilities Management	<u>DA1 Comments</u> The proposal as set out in the notification of development application is supported in principle, including the proposed new north-south crossing at Cale Street which would create new and improved links / connectivity to the town centre and beyond.	Support is noted.
Telstra	<u>DA1 Comments</u> Telstra records only indicate the approximate location of the Telstra assets and may not be up to date so records should not be relied upon. We suggest that you contact Before You Dig Australia for a detailed site plan (if you haven't already) and engage a Telstra Accredited Plant Locator (APL) to determine the exact location of the assets In the event Telstra's assets require relocation, please engage Telstra's Asset Relocation team to obtain a quote to relocate the assets from the location in question. The relocation of the assets are carried at the cost of the disturber.	Noted. Appropriate Advice notes have been included on the Recommended Conditions.

	As these assets comprise an essential component of the Telstra network, we take this opportunity to highlight Telstra's rights and requirements to ensure that they are understood. The following is stated for your information: 1. As you may be aware, Telstra's existing facilities are grandfathered under the Telecommunications Act 1997 (Cth). Schedule 3 of the Telecommunications Act enables such facilities to legally occupy land in perpetuity for the duration of that facilities' use. 2. Part 1 of Schedule 3 of the Telecommunications Act 1997 (Cth) authorises a carrier to enter land and exercise any of the following powers • inspect the land • install a facility • maintain a facility 3. If you subdivide the land at any time in the future it may become necessary, in the opinion of Telstra to remove, or alter the position of a facility. In these circumstances the carrier may enter the land and do anything necessary or desirable for that purpose. Under clause 53 of Schedule 3 to the Telecommunications Act, the person who proposes to subdivide the land is liable to pay the carrier the reasonable cost of anything reasonably done by the carrier in this regard. 4. There is a requirement that all access to Telstra's network is facilitated by Telstra, via the normal channels available to all customers Australia wide. Tampering with, or interfering with telecommunications infrastructure or a facility owned or operated by a carrier (being Telstra) is an offence under the Criminal Code Act 1995 (Cth). 5. Individuals owe Telstra a duty of care that must be observed when working in the vicinity of Telstra's communication plant or assets. If Telstra's facilities are damaged as a result of any property development or any interference with such facilities, the person will be liable.	
	DA2 Comments Telstra assets are identified within the subject areas of works and it is recommended a Dial before you Dig Australia assessment be undertaken, if not already, and engage a Telstra Accredited Plant Locator (APL) to determine the exact location of the assets	Noted. Advice recommended by Telstra has been incorporated into the Recommended Conditions where relevant.
Water Corporation	DA1 Comments Water Reticulated water is currently available to the subject area. All water main extensions, if required for the development site, must be laid within the existing and proposed road reserves, on the correct alignment and in accordance with the Utility Providers Code of Practice.	Noted. Conditions recommended by the Water Corp have been incorporated into the Recommended Conditions where relevant.

	Existing water mains are located within the subject area. Pressured water mains shall not be located in private land and should be located in and protected by reserves (i.e. road reserves) as no development would be allowed in this area. The developer is required to fund the full cost of protecting, relocating or modifying any of the existing infrastructure which may be affected by the above proposal. In accordance with Section 90 of the Water Services Act 2012 whenever development is proposed near Water Corporation assets the applicant/developer/owner needs approval prior to construction. This should be done by submitting an Approval of Works application. Wastewater Reticulated sewerage is currently available to the subject area. All sewer main extensions, if required for the development site, should be laid within the existing and proposed road reserves, on the correct alignment and in accordance with the Utility Providers Code of Practice. It should be noted that existing sewerage mains are located near the subject area. Due consideration will be required when developing in this area. The developer is required to fund the full cost of protecting or modifying any of the existing infrastructure which may be affected by the proposed development. In accordance with Section 90 of the Water Services Act 2012 whenever development is proposed near Water Corporation assets the applicant/developer/owner needs approval prior to construction. General Comments The information provided above is subject to review and may change. If the proposal has not proceeded within the next 6 months, please contact us to confirm that this information is still valid.	
	<u>DA2 Comments</u> Support of the proposal is noted, however the considerations regarding water and waste water are to be noted with further applications: <u>Water</u> • As above for DA 1 <u>Wastewater</u> Existing sewerage mains are located near the subject area. Due consideration will be required when developing. The developer is required to fund the full cost of protecting or modifying any of the existing infrastructure which may be affected by the proposed development. In accordance with Section 90 of the Water Services Act 2012 whenever development is proposed near Water Corporation assets the applicant/developer/owner needs approval prior to construction. This should be done by submitting an Approval of Works application.	Noted. Conditions recommended by Water Corp have been incorporated into the Recommended Conditions where relevant.

Public Comments and Consideration

Summary of Key Issues Raised and Consideration

No.	Issue	Consideration
1.	<u>Location of the Train Station</u> – questions raised as to why the train station isn't being located adjacent to Cale Street, closer to the Midland Public Hospital.	The proposed train station location balances the technical and operational considerations of the Public Transport Authority with achieving a successful Transit Oriented Development precinct that better connects the Midland Town Centre with the station. The location of the train station is also impacted by the following: • The minimum required separation distance from a train station and a level crossing results in the station infrastructure unable to be located directly adjacent to the Cale Street level crossing and Midland Public Hospital; and • The Helena St/Railway Ave location is on an existing principle pedestrian/cycle network linking the Redevelopment Area with the greater City of Swan Town Centre, past the heritage precinct that includes the Town Hall, through to the Midland Oval development site.
2.	<u>Safety concerns</u> – potential for anti-social behaviour in the train station, bus interchange and public realm spaces and general 'safety' concerns.	The application includes the submission of a Crime Prevention Through Environmental Design (CPTED) report, prepared by an appropriately qualified professional, which outlines the measures being administered to ensure patron safety: • The Train Station, Bus Interchange and public realm has been designed to maintain sightlines and enable passive surveillance opportunities to the surrounding areas of open space and the pedestrian network; • The landscape design balances the need for tree canopy with low lying vegetation to maintain passive surveillance and sightlines of the pocket parks and pathways; • The design and operation of the station precinct includes a range of safety and security features including: ○ Closed Circuit Television (CCTV) coverage throughout the facility; ○ Building Access Control Systems to Prevent access to toilets during high-risk times (platforms closed late night); ○ Signage, including CCTV warning signage, High Voltage warning signage and public warning signage encouraging people to report suspicious behaviour; ○ Emergency help telephones under CCTV surveillance for the train station and bus interchange; and ○ Transit guards patrolling on site.

3.	<u>Impacts on the locality during the construction phase</u> – concerns raised on the potential disruptions to businesses located in close proximity to the development site.	To ensure negative impacts on the surrounding areas are minimised during the construction phase, conditions are recommended requiring the submission of Construction and Demolition Management Plans, which: • demonstrate how construction and demolition works will be managed to minimise impacts on the public realm and nearby commercial and residential areas; and • identify how stakeholders and affected landowners will be notified of any construction impacts including details of complaint resolution procedures.
5.	<u>Traffic Impacts and Car Parking</u> – concerns raised over the potential impact the development may have on the local road network and the distance between the Multi Storey Carpark and the Train Station.	The application is supported by a Transport Impact Assessment (TIA) which confirms that the new station facility has been designed to successfully integrate with the surrounding network with minimal impact on network efficiency. The relocation of the station is unlikely to result in a significant re-distribution of vehicle trips around the networks and the road designs have been supported by Main Roads Western Australia and the City of Swan as the road network operators. The separation distance between the multi storey carpark and the train station is approximately 300m, which is well within the 800m walkable catchment from a station as detailed in DPLH Development Control Policy 1.6 - Planning to Support Transit Use and Transit Oriented Development. The development has multiple pedestrian route options, both sheltered and unsheltered linking the multi storey carpark to the train station.
6	<u>Universal Access</u> – questions relating to the provision of all access toilet facilities and parking bays.	The application details the following in relation to universal access: • The multi storey carpark design includes 20 accessible car parking bays on the ground floor with convenient access to the pedestrian entrance/exit points; • The buildings within the station facility include the required provision of accessible toilet facilities; • The Driver's Sign On Building provides three all access carparking bays, one for the ground floor commercial tenancy and two for the first floor office. A condition has been included requiring the submission of a detailed Universal Access Statement demonstrating compliance with Part D3 of the Building Code of Australia (Access for People with Disabilities) and Australian Standard 1428.1 and the <i>Disability Discrimination Act 1992</i> at the designed design phase of the project.

7	<u>Heritage Impacts</u> – the potential impacts on heritage buildings in the vicinity of the development during the construction phase	To ensure there is no damage or negative impacts on existing surrounding properties, including heritage buildings in close proximity to the development site, a dilapidation survey of the footpaths, kerbs, roads, buildings and open space areas within the immediate locality surrounding the development site is required to be prepared and submitted to DevelopmentWA as a condition of planning approval. A condition of approval requiring a noise and vibration management plan has also been included on the approval documentation. The management plan will confirm the actions that will be implemented to minimise any negative impacts resulting from the development on existing development of the locality.
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Public Submissions

No	Location	Support / Objection	Comments Received
1	Yelverton Drive, Midland	Objection	There are limitations in the placing of the station within the available land area and the railway line crossing points we do question the location of the Drivers Sign on Building and the associated landscaped park. In reviewing the location of these facilities they appear to ignore the existing structure of the workshops and the existing Railway Square. Railway Square was designed in the master plan for the Workshops as the town square of the Workshops precinct. The design of the Station pedestrian bridge entry and the location of the Drivers Sign on Building directs the pedestrian flow into the residential portion of the Workshops Precinct and not into the developed landscaped centre of the Workshop's site. It appears an opportunity has been lost where the two created open landscaped spaces could be connected into a meaningful intuitive pedestrian way and place . A suggested solution would be to flip the two facilities so the Drivers Sign on Building is the West and the landscaped park to the east.This would create a large landscaped connector in what will eventually be a hard dense urban setting. It is assumed assumed there will be an increase in vehicle movements along Yelverton Drive once the Cale Street crossing is completed compounding the need for safe pedestrian crossings. Unable to locate any designated pedestrian crossing locations across Yelverton Drive in any of the drawings. It is not clear on the connection of the pedestrian and bicycle path to the Station entry as these are not clearly defined. Request consideration be given to signage directing pedestrians to the health facilities noting the GP Clinic and the Hospital. The station is quite a distance from these facilities and Way Finding signage will be especially important as the exit from the pedestrian overpass and station will place people at Yelverton Drive.

			Very little detail on the proposed Cale Street crossing and the integration of the existing levels and proposed pedestrian movements. This site of the crossing has a large variation in ground levels to both railway, roadway and pedestrian pathways and as adjoining land owners we request that these are considered prior to implementation. Vibration and noise are of concern in the area especially at the proposed Cale Street Crossing. Currently much of the vibration is caused by the heavy haulage Goods trains running through the precinct. Whilst we understand the passage of the Goods trains is not part of the Station development we request consideration be given to reducing the impact of the vibration by the installation of dampening blankets or by other means to reduce vibration impacts (similar to Morrison Road). Proposed vehicle crossing installations should be installed vibration dampening to prevent vehicles generating vibration and noise when crossing the tracks. It would also be helpful to minimise the impact of the noise generated by the bells at the crossing gates.
2	Railway Midland and Sayer midland	Parade, Street,	Objection Traffic and parking issues with the proposed development of the new Midland station along Railway Parade from Padbury Terrace and Brockman Road, Midland. Welcome the landscaping and cycle paths proposed in this development Little consideration of the eastern area of the development which is a health hub for children and their families, many of which have needs such as developmental, intellectual and physical disabilities, and well as potential behavioural problems and other co-existing mental health conditions. The Autism Association, Child Development Clinic and Helping Minds have high numbers of children and families flowing into their services and clinics, occupying the vacant Development WA land across from these services. Engagement with Autism Association advised me that they had written their concerns (around Dec 2022) about parking and safety issues previously to Development WA. Contacted Community and Engagement team/Development WA explicitly stating my concerns regarding closing the unofficial car parking spaces with no future options for public parking will lead inadequate parking facilities, which leads to risky and chaotic parking during peak times. Many of the children attending the above services do not have road safe thinking or behaviours, and the potential for accidental injury by car will increase substantially once the unofficial car park is no longer available. Development WA does not incorporate public car spaces that are not directly related to train station users of the Midland Station Project, but I am aware that this area is also under the authority of Development WA -Redevelopment METRONET East-Midland Project. In the Midland Redevelopment Area Design Guidelines, April 2016 (Chapter 1, Map Figure 1.1), the map clearly identifies a needed parking/ ride space in the eastern area of the station (see number 27 on the map). Why has the New

			Midland Station Development application not incorporated this vital parking space into the design as originally proposed?
3	Railway Midland	Pde, Objection	Concerns during construction for business : • employee concerns of job losses due to impacts of construction • losing customers as people avoid the area • family business loss of income • road blockages & closures • pavement blockages & closures • delivery disruptions • noise • dust • vibrations • damage to heritage listed, Federation building (1901) • power disruptions & outages • internet disruptions & outages • loss of customer parking spaces along Railway Parade • what will happen to alfresco dining area during pathway works on Railway Parade? • how will the Project protect the pub's alfresco dining area on the Railway Parade pathway from dust and noise? • Query: During construction phase, will there be a gateway in the fence on Railway Parade to allow project workers to access businesses adjacent to the project for smoko, lunch, and after work refreshments? <u>Post construction concerns</u> • Car Parking - Advice on how to manage/stop commuter use of the pub's carpark when new fees apply to park in Railway Parade & surrounds • Loitering/public drinking - At and outside the station in Railway Parade. What precautions are being made to avoid a repeat of the well-known, often uncontrolled social issues at the current Midland Station site? Lights and cameras are not active measures (the answer) by the way. Undesirable External Bin Store opposite business premises - <i>"External Bin Store" (Midland Station-DA2-Major-Building-Works, page 35) Provision has been made for an external bin store to the east of the northern station entry building. The bin store has been located away from areas of high pedestrian foot traffic such as the station entry, to avoid waste collection activities impacting on the amenity of station users, and also ensure sightlines across the main station precinct are not prevented</i>'. The bin store is an undesirable facility to be near people/pedestrians. We have a licenced dining area on the street in front of the premises which will be vulnerable to daily southerly winds. Request the waste facility not be placed 10m across the road directly in front of this licenced dining area.
4	Lone Pine Greenmount	Way Support	Fantastic, good work. This is exactly what Midland needs - new cleaned up station with heaps of parking, connecting the hospital with the shopping centre via Cale overpass. Hopefully there will be streetscape improvements all the way down Railway Pde towards Lloyd street.

			Main Roads will need to look at where McDonalds is. Lloyd street is very congested already with turning right has proven a traffic hazard, many accidents have occurred. Either a round-about or something as its very dangerous. I appreciate it is very close to GEH lights, but honestly it's not working and it seriously needs looking into
5	Sayer Street, Midland	Objection	Concern is the population, drunk people, homeless people in this area as well as some of alley way is scary to walk and park around it I am happy for kiosks and all sorts of things but as around there is lots of open space for parking for cars. Is the Multi-Story decked car park payable? If yes, then all cars or people who using train or bus will be park on our street. We don't want a payable machine or any parking sign on our street. Which creates lots of congestion. Opposite the Midland Public and Private Hospital will be great an idea for a footbridge or something.
6	Marion Street, Midland	Question	Query if a disabled toilet included at the new Station?
7	Wildon Street, Bellevue	Question	All indications were that the new station was going in front of Cale Street allowing access to Midland Gate shopping and direct access to the hospital/s. Looks like the new train station is going across the road from the existing location being corner of Helena Street and Railway Pde, is this correct? Would make more sense and be more beneficial to the public to have it near Cale Street. Just sounds more logical to me and everyone I have spoken to in regards to this
8	Moirs Mews, Stratton	Question	Please consider the amount of ACROD or disabled (accessible) parking bays available and their proximity to the train station platform. As a person with a disability who has a limitation on how far I can walk, I am concerned that there are not enough disabled bays allocated, and also that there is a large distance between the multi-level parking and the actual train station itself. There is no mention of the amount of dedicated disabled bays in the MSP, and only 3 accessible bays listed under the drivers sign-on parking. The lack of accessible or disability parking bays is a concern for inclusion of the disabled community in accessing public transport and often the agreed 'compliance number' of accessible bays is woefully inadequate for the needs of our section of the community. I park daily in the current available ACROD bays in order to attend work and I often notice that the bays are full (I believe there are around 7 bays currently). Additional bays can only increase the amount of people with a disability accessing and utilising public transport options and should be considered a long-term benefit to the project
9	Patterson Drive, Middle Swan	Objection	Move the car park to be above the train station. Nobody is going to walk the 250m in the sun or rain. Poor land usage. Build the car park above the tracks which will also shelter the surrounding suburbs from noises

10	Pilbara Cres, Jane Brook	Objection	The design has an industrial feel but does not reflect the history of Midland. There is no link to the heritage of the railway yards and workshop and there is no link to our First Nations history or the Swan Valley. This is our heritage and it should be incorporated into the design so when people visit they get a sense of the history that has made Midland what it is today
11	Cope Street, Midland	Objection	Installing a new level crossing at Cale St goes directly against State Policy which is to replace existing level crossings with grade separations. The multi-story car park and bus terminal must be closer to the station than currently planned
12	Upper Mount Gravatt	Neutral	Suggestions are made on the basis of previously having lived in Perth, and thus having used many interchanges across the Transperth network as a passenger, in addition to extensive experience as a public bus driver across the Perth Metro area. These have allowed the identification of several shortcomings in the proposed design for the bus interchange.
13	Kingsland Avenue, City Beach	Support	The designs are incredible. They are striking, modern, beautiful and will create a landmark city centre for years to come. One major problem- why isn't the rail being grade separated? Why are we bothering to close 2 level crossings and add another when we could just elevate the rail and be done with it? The reason for the closure of Helena Street level crossing and the opening of a new Cale Street level crossing is that it will mean less rail traffic crossing as it will be after the new station. What about when the Midland line is extended to Bellevue? The same problem will resurface. It would be best to elevate the rail, remove Helena Street level crossing, create even more public space, take up less land to allow for more development, and solve all the issues so we don't have to 50 years from now when Midland Station's rebuilding is on the cards again
14	Holmesdale Road, Woodbridge	Objection	Do not support the platform approach being enclosed. Crime in the area is a real concern that you can get attacked or harassed and have no way of exiting.