

Appendix H: Construction Management Plan

METRONET Byford Rail Extension
Construction Management Plan - Byford Station & Precinct

Construction Management Plan

Document details	
Title	Construction Management Plan - Byford Station & Precinct
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00	20/05/2023	Issued for review	Bryan Keeler	Daryl Henderson	Michael Crocetta

Distribution

The master ‘controlled’ plan will be held within the Project Alliance document management system, where it can be accessed by Alliance Project Team (APT) personnel and supply chain partners as required.

Issue, revision and re-issue

This plan is an Alliance sub-plan and is referenced as part of overarching document R30-MET-PLN-CM-000-00001. This plan will be reviewed and updated periodically. Revisions of this plan may also be required in changing circumstances or to implement identified opportunities for improvement.

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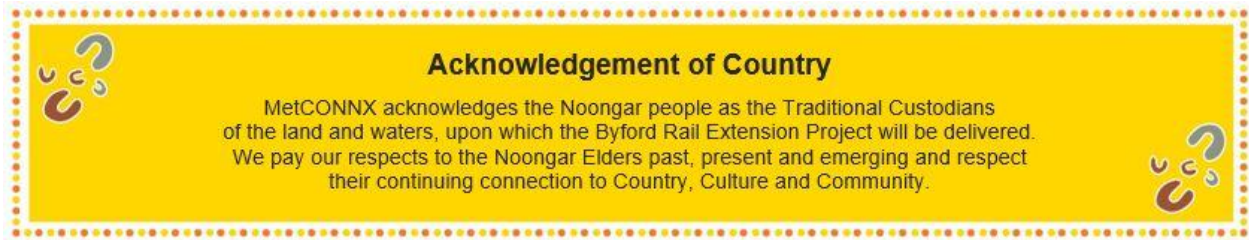
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1. Project overview

1.1 METRONET Vision and Objectives

As one of the largest single investments in Perth’s public transport, METRONET will transform the way the people of Perth commute and connect. It will create jobs and business opportunities and stimulate local communities and economic development to assist communities to thrive. The METRONET vision is for a well-connected Perth with more transport, housing and employment choices. In delivering METRONET, the WA Government has considered peoples’ requirements for work, living and recreation within future urban centres with a train station at the heart.



The objectives are to:

- Support economic growth with better-connected businesses and greater access to jobs
- Deliver infrastructure that promotes easy and accessible travel and lifestyle options
- Create communities that have a sense of belonging and support Perth’s growth and prosperity
- Plan for Perth’s future growth by making the best use of our resources and funding
- Lead a cultural shift in the way government, private sector and industry work together to achieve integrated land use and transport solutions for the future of Perth.

1.2 Byford Rail Extension overview

The Byford Rail Extension (BRE) Project has been identified as an essential component of the METRONET program. The Project will extend the electrified passenger rail service from Armadale to Byford, providing a strong transport connection between these two centres, supporting economic growth and providing greater access to jobs. The Project has been developed in line with policy objectives for highly integrated transport and land use planning.



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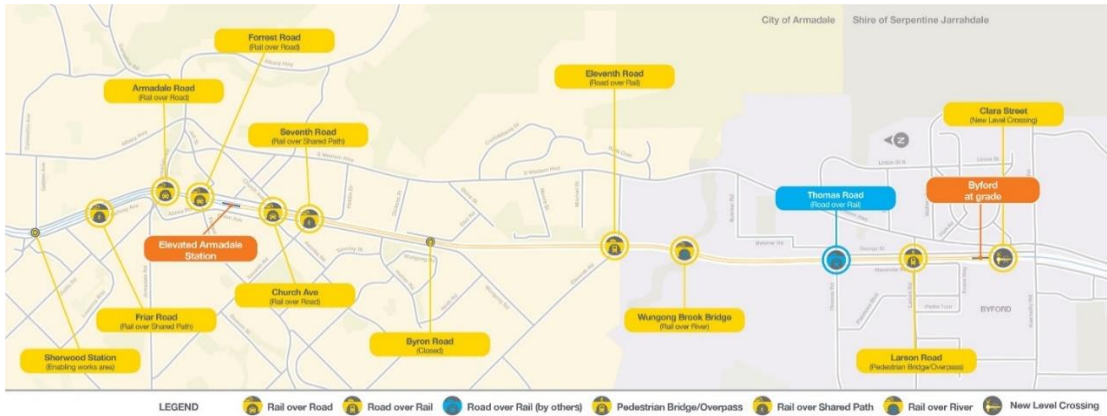


Figure 1: METRONET: Byford Rail Extension Project

1.2.1 Project features

Transport infrastructure works for the BRE Project include:

- Demolition of existing station at Armadale and construction of a new elevated station
- Construction of a new Byford station at grade (Base Case)
- Construction of approximately 8km of dual track narrow gauge electrified passenger railway line extending from Armadale station to the newly created Byford station, with a dedicated platform for the Australind line
- Removal of level crossings between the Byford and Armadale stations
- Construction of PSPs and associated infrastructure (including 'rail over road' and 'road over rail' bridges and roads)
- Parking areas at Armadale and Byford stations
- Bus interchange at Armadale and Byford stations
- Upgrade of local roads surrounding both Armadale and Byford stations.



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scope flythrough

1.2.2 General scope of works

The Project's general scope of works includes designing, procuring, manufacturing, constructing, installing and commissioning all rail infrastructure and ancillary works to support an electrified operational passenger rail between Armadale and Byford Stations. Also, in the case of the Australind train service, tying into the non-electrified rail network south of Byford Station.

The Project activities include all site investigation, design, planning, scheduling, procurement, cost control, approvals, construction, OH&S management, environmental management, quality management, testing and commissioning, Entry Into Service (EIS), training and operational readiness required to tie the rail extension to Byford into the existing rail network including the associated road, utilities and other required works to interface with adjacent works and contracts. This will include bulk earthworks and retaining structures, grade separations, roads, and drainage, the demolition and removal and treatment of waste material and contaminated material resulting from construction of the Works, and temporary works constructed for the purpose of facilitating the Works.

The project scope also includes any new road works, modifications to existing roads and signalised intersections, utilities (diversion, protection, and new installation) and any other ancillary works to enable the BRE Project.

2. Purpose of this Plan

2.1 Expectation and Objectives of the Construction Management Plan – Byford Station & Precinct

The purpose of the Construction Management Plan – Byford Station & Precinct is to describe the construction methodology to be adopted by MetCONNx to facilitate the safe and effective delivery of this works package.

2.2 Terms and Definitions

The terms, abbreviations and acronyms used in this management plan are as defined in Appendix B.

3. Scope of this Plan

The Construction Management Plan will:

- Clearly describe the scope of works to be undertaken Byford Station & Precinct including types of activities, work areas and stages.
- Include as attachments construction related sub-plans (i.e. Construction Staging drawings & Site Management Plan).
- Detail how MetCONNx will manage interactions with surrounding key stakeholders and construct the viaduct structure with the least impact to surrounding stakeholders as possible.
- Determine effective construction staging that will ensure current rail operations and the associated transport facilities' operational requirements are maintained, and impact to these is minimised during construction
- Describe procedures for the management of subcontractors and their plans and work method statements
- Describe the processes to ensure the compatibility of any necessary temporary works with each other and with the Works
- Describe procedures to demobilise activities and the Works, including demobilisation of personnel, plant and equipment and closeout of stakeholder communications
- Address the management of interfaces with all authorities and other contractors including:
 - Communication channels, processes for ensuring efficient information flow, communication protocols and meeting schedules
 - Sequencing and timing of activities with the interfaces, including special programs
 - Programming of works to be conducted during track possessions
 - Roles and responsibilities of personnel and organisations for key aspects of the interface
 - Technical and program requirements
 - Work implications and applicable construction methodologies
 - Review of processes and timetables

4. Temporary Works

All temporary works will follow the MetCONNx Temporary Works Procedure to ensure they are safely identified, designed, erected, inspected, maintained and dismantled. The Temporary Works Coordinators and Project Technical Lead will review the full scope of works to identify the temporary works required to deliver the permanent works. For this scope, it is anticipated the following temporary works will be required:

- Slabs, footings and walls formwork and falsework design.
- Slabs, footings and walls reinforcement prefabrication design.
- Precast elements lifting design, transport load restraint and any applicable propping/support on installation.
- Structural steel installation and applicable propping/support on installation.
- Prefabricated platform buildings.
- Prefabricated liftcores and stair frames.
- Scaffold access towers and handrails.
- Man and Material hoists.
- Crane pad location and bearing pressure design.

- Excavations and ground profiles/batters.

5. Plant, Equipment and Materials

Safety, quality and minimising the environmental impact will all be considered when planning, procuring, evaluating and accepting plant, equipment and material.

5.1 Craneage and General Lifting Requirements

The package Work Packs will stipulate a more in-depth methodology and if cranes are likely to be required. For this scope, it is anticipated the following temporary works will be required:

- Prefabricated formwork, falsework and reinforcement.
- Precast elements.
- Structural steel both single units and prefabricated sections.
- Platform buildings.
- General material lifts.

For any works requiring lifting operations and craneage, MetCONNX will follow Laing O'Rourke's Safety Management System and produce lift studies and plans with an Appointed Person in charge of each lift. Refer to Safety Management Plan (R30-MET-PLN-SA-000-00001) and R30-MET-PLN-CM-000-00001 Construction Management Plan.

6. Interface Management

The objective of the MetCONNX interface management process is to maintain safety and minimise impacts on the operation of road and rail services, the travelling and general public, and other interface parties.

Construction interfaces primarily consist of shared access and haulage routes, program and timing of works by others, Approvals and Possession management. These interfaces will be managed by interface meetings with other parties for the benefit of the program as a whole.

6.1 Interface Coordination and Planning

The Project delivery program and methodology have been developed to minimise actual and potential impacts on interfacing parties.

MetCONNX will continue to develop our detailed construction plans for the construction works in consultation with key stakeholders and will ensure that the construction rationale and intent is effectively communicated and understood. Any residual issues, concerns, timing or access constraints will be accommodated within the final methodology and program.

6.1.1 Public Authorities

Management of the interfaces with public authorities primarily concerns consents/permits and (technical) discussions to attain formal approval. The MetCONNX project team will liaise with the relevant authorities and facilitate approvals, consents, site access and permits throughout the various project stages. They will coordinate these activities including the preliminary discussions and follow-up and track the consent process.

Early discussions with relevant groups are proposed to inform the authority about the planned activities, agree mutually on expectations and the followed execution and timeframe of the approval cycle. Authorities and other stakeholders to be approached by MetCONNX include the following:

- Existing railway system or network operators through the PTA's Client Representative
- Services/utility providers (i.e. Western Power/Telstra)

- Local government authorities
- Local council urban planning authorities
- Office of Environment and Heritage
- Main Roads WA
- General public.

Management of approvals and permits will be undertaken by the relevant Project Technical Lead with reference to the overall Project program. This will minimise the risk of delayed approvals and to the start of the construction phases.

6.1.2 Works Directly Affecting Stakeholders

Works directly affecting stakeholders will be constructed in accordance with the designs and construction plans. We will review our performance regularly with affected parties to ensure we continue to minimise our impact.

Detailed methodology and working hours will be in accordance with Out of Hours Works Permits issued by relevant local Councils. Affected work areas will be reduced through a staged approach, clearly demarcated and fenced. Traffic management plans will be developed to ensure the safety of the affected public and road users and ensure selected plant and equipment is fit for purpose.

6.1.2.1 Construction Noise and Vibration

Construction noise and vibration limits controls and mitigation will be dealt with in the CEMP (R30-MET-PLN-EN-000-00001) and Noise Management Plan. All construction activities will comply with this document. MetCONNX shall select methods of construction and plant to minimise adverse noise and vibration impacts.

MetCONNX will carry out a detailed vibration impact assessment based on the methods of construction, plant selected and prevailing site conditions. Based on the vibration impact assessment, controls and vibration monitoring will be implemented where required.

Following the vibration impact assessment, MetCONNX shall assess the adequacy of any existing condition surveys, and carry out additional condition surveys to ensure that all property that may be impacted by vibration from the Works or Temporary Works has had a condition survey undertaken to establish the existing condition of such property.

Vibration monitoring equipment will meet the requirements of BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites - Vibration; BS 7385-2:1993 Evaluation and Measurement for Vibration in Buildings - to Damage Levels for Groundborne Vibration; and DIN 45669-1:2010 Measurement of Vibration Emission Part 1 Vibration Meters requirements and Tests, as applicable.

6.1.2.2 Community Notification

Residents, businesses, road and path users, and other key stakeholders in close proximity to the demolition works will be notified. Works Notices are the primary form of communication and will include:

- a description of the works,
- their times and duration,
- anticipated impacts and corresponding mitigation strategies, and
- a contact number for more information, including an after-hours contact number for works undertaken outside of standard working hours.

Works Notices will be distributed in accordance with the timeframes below.

Time of works	Type of works	Type of notification	Residents/businesses notified at least		
			5	7	10
			business days prior		
Normal work hours Mon - Sat: 7am to 7pm	Activities causing noise and vibration	Letterbox drop	✓		
Weekend and evening works Mon - Sat: 7am to 10pm Sun or public holidays: 7am to 10pm	Activities causing noise and vibration	Letterbox drop	✓		
Night works Mon - Sun: 10pm - 7am	Activities causing noise and vibration	Letterbox drop, doorknocks and individual meetings as required		✓	
Extended night works Mon - Sun: 10pm - 7am	Activities causing noise and vibration for more than 5 consecutive nights	Letterbox drop, doorknocks and individual meetings as required			✓

In addition to Works Notices

- For road closures and diversions, changes to pedestrian access, carpark closures or changes to public transport operations, we may use additional methods to communicate including Variable Message Signage, Static Signage and wayfinding maps, and advertising in local newspapers and/or Facebook.
- For extended periods of overnight works, we will doorknock to speak to impacted residents individually, advertise on Facebook and provide supporting information such as fact sheets. Group briefings and community information sessions may be used to supplement the above.

Enquiries and complaints will be managed in accordance with *Australian Standard on Customer Satisfaction – Guidelines for Complaints Handling in Organisations ISO 10002:2015*.

7. Dilapidation Survey Works

MetCONNX will complete a full dilapidation survey of the roads, infrastructure and buildings within 100m of the works area in accordance with and as prescribed in the SWTC documentation.

7.1.1 Third Party Property and Public Amenities

Properties located within 100 metres of the construction areas for the project will be offered a pre-condition survey. This is part of our commitment to supporting communities in the project area and minimising any adverse impacts from works.

The Project team is responsible for identifying and recording any third-party property, including public amenities, located within the 100 metre zone and/or that may be affected by the Works.

In cases where third party assets such as reticulation, bores, drainage and garden fixtures that may be temporarily impacted, agreements will be made with the property owner to protect or replace them to an equivalent standard to that existing prior to the commencement of the Works.

7.1.2 Access and Approvals

MetCONNX will obtain permission for site access to all work areas from the relevant stakeholders prior to commencing construction works. All environmental, LGA and rail authority approvals (outside of

what PTA are obtaining) shall be gained prior to construction works commencing on-site. All relevant stakeholders will be kept up to date with progression of and any planned changes to the design or works.

8. Working Hours

Construction works shall generally be between 0700 hours and 1900 hours Monday to Saturday (excluding public holidays).

However, to enhance public safety, minimise disruption to peak hour traffic, and meet the required programme, certain works may be required on a 24/7 basis.

The works will be carried out in accordance with noise control practices set out in Section 4.5 of AS 2436-2010 'Guide to Noise Control on Construction, Demolition and Maintenance Sites' and section 6 of the SWTC.

The Community Engagement Plan details the notice to the PTA's Client Representative for approval before issuing notice to local government authorities (LGA), affected residents and/or businesses of construction works hours and any out of hours applications.

These works will be managed as out-of-hours works applications in accordance with Environmental Protection (Noise) Regulations 1997 WA for the approval of the local government authority, and the PTA's Client Representative.

An Out of Hours Noise and Vibration Plan application will be submitted to the LGA seven days prior to the works being proposed to be undertaken and must include the following:

- Reasons for the work to be completed out of hours
- Proposed noise and/or vibratory activities
- Predictions of noise levels from the site
- Predictions/assurance of vibration levels from site
- Proposed measures to control noise and vibration
- Monitoring of noise and vibration
- Notifications to residents and stakeholders of upcoming out of hours work
- Complaint response procedure.

An Out of Hours Public Notification as part of an Out-of-Hours works application for the predictions of noise will provide an estimation of the potentially impacted premises. Occupants of nearby affected buildings likely to receive noise levels in excess of Assigned Noise Levels defined within Environmental Protection (Noise) Regulations 1997 (WA) must be advised (i.e. letter drop) at least 24 hours prior to work commencing. The notification must provide reasons as to why the work is necessary, reference to the LGA approval and contact details to register complaints.

8.1.1 Target Exceedances and Complaints

Where noise or vibration targets are reached or a complaint regarding nuisance levels are received, MetCONNEX will investigate the cause or potential source. The investigation may include the deployment of monitoring equipment to measure noise or vibration levels to demonstrate compliance or alternatively the modification of the work methodology to reduce noise or vibration impacts. If noise or vibration levels are recorded in excess, the work must be modified to be conducted within allowable limits prior to continuing. Any recorded exceedances shall be provided to the PTA in the monthly environmental report.

9. Byford Station & Precinct Construction Works

9.1 Staging

Detailed Construction staging visuals can be viewed in **Error! Reference source not found.**with typical sequence as follows:

Table 1: Pre-Possession and Possession Works Summary

Pre-Possession Works		Possession Works	
Description	Location	Description	Location
Access Road Construction	P	Removal of Existing Rail Infrastructure	RC
Topsoil Removal & Bulk Earthworks	P	Detailed Excavation & Footing FRP	IP/AP/P
In-Ground Drainage	P	In-Ground Drainage	P
Site Compound & Welfare Facilities	P	In-Ground Services	IP/AP/P
In-Ground Services	P/AP	Precast Panel Installation	IP/AP
Crane Pad Construction	P	Platform Backfill	IP/AP
Detailed Excavation & Footing FRP	AP	Platform Services	IP/AP
Precast Panel Installation	AP	Building Pods	IP/AP
P = Precinct		Structural Steel Canopy & Edge Angle	IP/AP
AP = Australind Platform		Topping Slabs FRP	IP/AP
IP = island Platform		Platform Tiling & Brick Paving	IP/AP
RC = Rail Corridor		Platform Services Fitoff & Completion	IP/AP
		Platform Furniture, Finishes & Completion	IP/AP
		Structural Steel Canopy	P
		Subbase, Basecourse, Primer Seal, Asphalt, Kerbs, Hard and Soft Landscaping	P
		Furniture, Finishes & Completion	IP/AP/P

9.2 Non-Possession Works

Non-possession works will be carried out while the existing Australind line is fully operational. All works will be carried out under the PTA's Working in and Around the PTA Rail Reserve Rules 8103-400-004.

To safely manage construction works within the PTA corridor during the non-possession works there will be several strict controls in place as follows:

- GE fence established 3m from Australind line.
- Site inspection with PTA, Asset Owners, Operator and MetCONNx to discuss methodology
- Methodology approved by the PTA before any work commences
- Plant and equipment inspected prior to site mobilisation
- Trained and competent personnel – all to have experience working adjacent to live rail
- Safe Work Method Statement

Noting and although unlikely, potential remains that plant operations can impede on and over the GE fence, additional controls will be implemented to mitigate such:

- Where possible excavators will work parallel to the GE fence and engage slew restrictors when required, ensuring slew operations are always away from the track.

- Concrete Boom Pumps will operate from the crane pad at a distance so that the boom does not have the potential to extent into the Danger Zone.

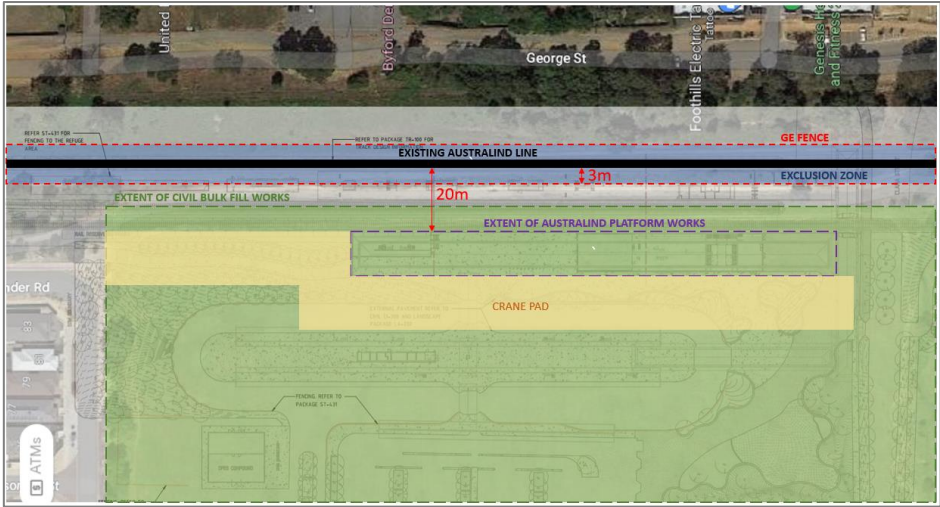


Figure 2: Non-Possession Works Extent Sketch

9.3 Platforms

There are numerous components of platforms and associated buildings across structural, architectural and services installation that are to be constructed; below being deemed major/critical with most influence on programme and sequencing. As design progresses the below will be amended and/or expanded on as required.

9.3.1 Precast Platform Walls

The MetCONNx Byford platform is a flexible solution that is made up of a standardised set of precast elements, as seen below.

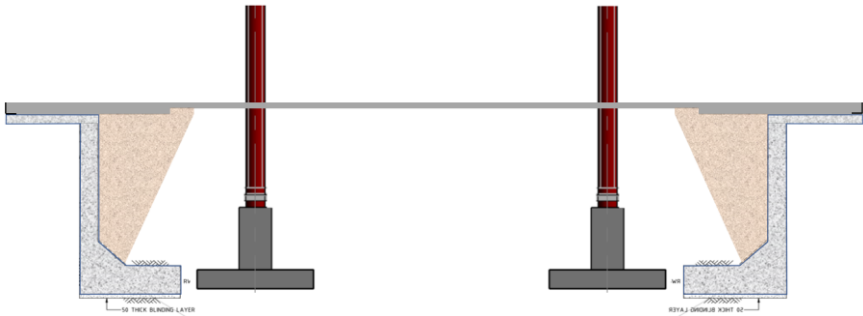


Figure 3: Platform Precast Panels Section Sketch

The solution was developed in line with Laing O'Rourke's innovative Design for Manufacture and Assembly (DfMA) 70:60:30 methodology, which strives to undertake 70% of construction off-site, in order to achieve a 60% improvement in productivity and a 30% improvement in the delivery schedule.

Through early engagement between the design and construction teams, MetCONNx have managed to achieve a solution with 90% precast concrete elements with the following benefits to construction and program certainty:

- Plate and bolt connection removing the need to install temporary falsework or formwork to complete in-situ concrete works thus maintaining consistent surface finish.
- Standard profile and sizes allow flexibility as to the location of install.

- No temporary propping or the like required.

The general methodology for the platform structure will be:

- Ground level will be filled and compacted to underside of precast panel.
- A nominal 50mm blinding will be poured, extending the length of the platform and extending 300mm beyond the face of the panel face and ACO drain. Blinding concrete will be poured from either a boom pump located on the crane pad or directly from the chute of the agi-truck from within the Rail Corridor. Typically pour length of each blinding to be 75m. Plant-on-Plant and People-on-Plant interaction will be managed at all times and correctly delineated per FSR Safety Management System requirements.
- Panel size and weights allow the panels to be delivered without restrictions.
- All panels will be delivered via the site entry and access from Abernethy Road (west of the existing Woolworths and opposite Gordin Way).
- Panels will be delivered on a semi-trailer in a just-in-time fashion to reduce any double handling and/or storage. Panels will be secured in accordance with the Temporary Works design and Load Restraint Guide and to be inspected prior to unstrapping.
- A crane will be located on the crane pad west of the proposed Australind Platform. Final crane type/size/model and final location for each lift will be determined and detailed in the relevant Lift Plan.
- Precast panels will be installed in a north to south sequence, lifting from the delivery truck parked adjacent to the crane on the crane pad. Each panel will be surveyed for alignment and tolerance with necessary adjustment made as required.

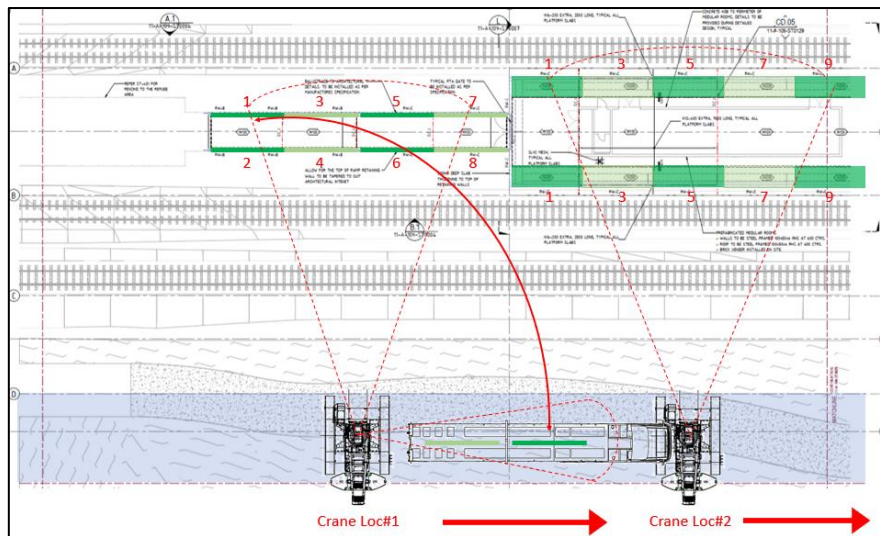


Figure 4: Platform Precast Panel Indicative Installation Sequence Sketch

- Panels are fixed using a plate and bolt connection between each panel. Prior to the application of a waterproofing membrane all panels will be grouted as specified between base and blinding. All panel joints will be sealed using an expandable mastic jointing as specified.

9.3.2 In-Platform Footing and Pedestal Construction

- Footings will be poured in a north to south sequence from a concrete pump located on the existing crane pad.
- All concrete agi trucks will be delivered via the site entry and access from Abernethy Road (west of the existing Woolworths and opposite Gordin Way).

- Formwork will likely be constructed using a combination of traditional plywood and panel systems formwork for the footing's construction.
- Pedestals are likely to be constructed using a single use removable tube.
- In both cases the formwork can be installed insitu or prefabricated and crane lifted into place. To be determined and dictated by site restraints/conditions.
- Formwork shall conform to the requirements of AS 3610 and AS 3610.1
- Reinforcement will either be tied insitu or prefabricated and crane lifted into place. To be determined and dictated by site restraints/conditions.
- Reinforcement used shall comply with the Australian Standards listed below.

Table 2: Reinforcement as per AS 4671

Reinforcement	Specification
Grade D500N Hot Rolled Deformed Steel Reinforcing Bars for Concrete	AS/NZS 4671
Reinforcing Wire	AS/NZS 4671
Reinforcing Fabric/Welded Mesh Grade 500L	AS/NZS 4671

- Bar chairs and spacers used in the Works shall comply with AS/NZS 2425.
- Manufacturers and processors of steel reinforcing materials must hold a valid certificate of approval issued by the Australian Certification Authority for Reinforcing Steels Ltd (ACRS).
- Reinforcement placed in the Works shall be clean and free from all loose rust and mill-scale and all dirt, oil, paint, grease and all other foreign substances that may impair any bond between the concrete and reinforcement.
- The reinforcement shall be secured in position so that it shall not be displaced during the placement of concrete and ensure that there is no disturbance of the reinforcement in concrete that has already been placed.
- Steel reinforcement shall be secured in position by bar chairs and spacers manufactured under factory-controlled conditions from extruded fibre concrete or conventional concrete. Fibres are to be synthetic and non-metallic.

9.3.3 Platform Backfill

Fill material to be stockpiled within close proximity to the work front either within the Precinct or Rail Corridor and transported/backfilled using Front End Loaders (FEL's) and assisted by Excavators positioned adjacent to the platform.

All imported material will be delivered via the site entry and access from Abernethy Road (west of existing Woolworths and opposite Gordin Way) or from within the rail corridor pending location of the stockpile.

All plant movement will be within the confines of the work area only.

Similar to the precast panel installation, the backfill will be in a north to south sequence (pending location of stockpile).

- Fill compaction shall be carried out in uniform layers with layer thickness determined based on material type, plant type and compaction method.
- The maximum fill placement thickness shall be 300mm, unless comprehensive trials are carried out to demonstrate that alternative approaches can meet the design requirements.

- During compaction the moisture content of the fill shall be maintained by drying or with additional moisture. Water spraying equipment shall be capable of distributing water uniformly in controlled quantities and mechanical mixing of the fill may be required for uniform distribution of moisture.
- Compaction testing shall be carried out on the subgrade material at founding level.
- Minimum compaction requirements and frequencies shall be in accordance with below, however, a minimum of 6 samples shall be tested from each Earthworks activity per location.

Table 3: Minimum Compaction Requirements for Earthworks Activities.

Earthworks Activity	Minimum Modified Dry Density Ratio (%)	Minimum testing frequency
Backfilling of grub holes and replacement of unsuitable material	95	One test per 2 layers per 50m ²
Subgrade proof compaction	95	One test per 500m ² to a depth of 600mm.
Embankment fill	95	One test per layer per 500m ²
Fill supporting structures	96	One test per layer per 500m ²
Fill supporting roads, busways and carparks	95	One test per layer per 500m ²
Fill behind structures	96	One test per 2 layers per 50m ²
General fill in landscape areas excluding topsoil	95	One test per layer per 1,500m ²

To reduce the depth of trenching required to install the in-platform services; the platform will be backfilled in two stages. RL between stages to be determined but typically at the halfway height of the panels and above the lowest conduit runs – refer to Figure 8 below.

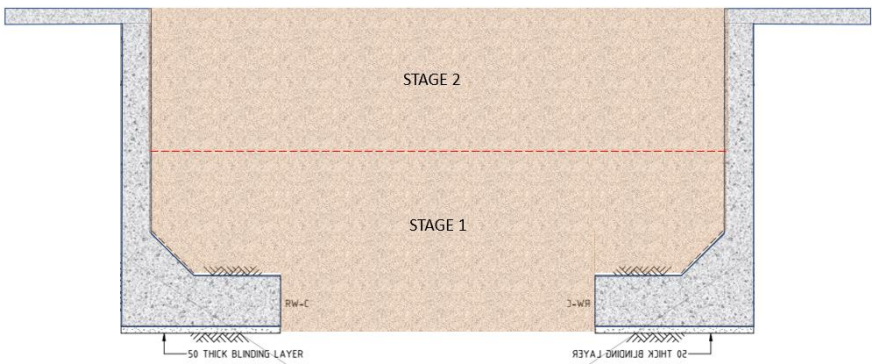


Figure 5: Backfill Staging Sketch

9.3.4 In-Platform Services Installation

Trenching for services conduits and pit excavations typically by small scale excavation (1 or 3.5T) located within the platform. Trenching will occur in a north to south sequence or from lowest point to ensure consistent falls.

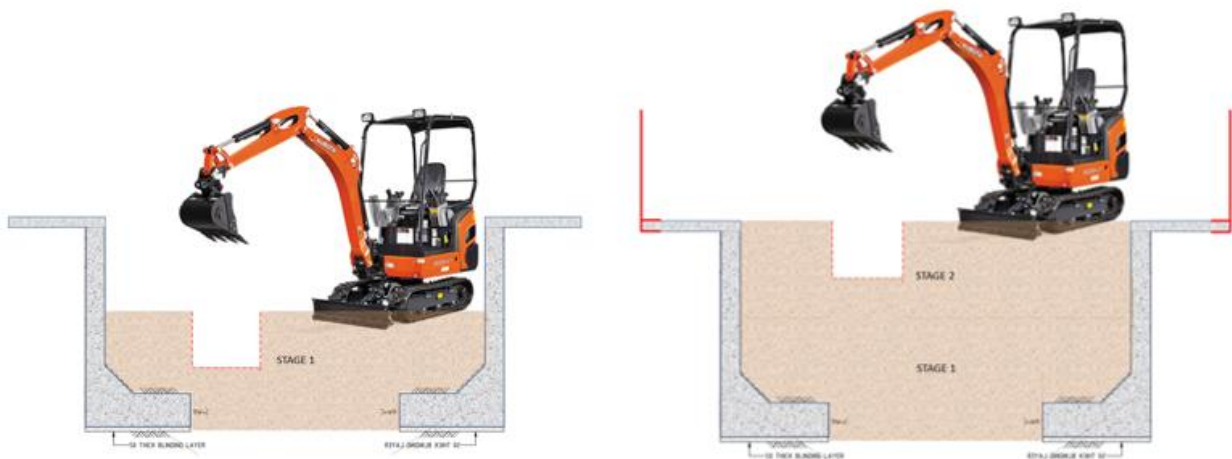


Figure 6: Services Excavation Sketch

Submission of notices including witnessing and hold points requiring attendance by a 'PTA' Representative must comply with 'SWTC' Section 5.0.

A nominal 100mm of bedding sand to be placed prior to laying of conduits.

After laying of conduits, sand embedment must be placed and compacted around the conduits to a minimum height of 150mm above the top of the pipe and/or fittings.

Embedment sand to be coarse, well graded, washed, river (quartz based) sand free of organic matter, soluble salts and other deleterious materials.

Where required, service conduits to have detectable underground marking tape (To AS/NZS 2648.1), placed 250mm (+/- 50mm) above all buried conduits for full length of conduit and covered with circa 100mm sand.

All trenches will be backfilled as soon as possible and on completion of relevant inspections.

Place the trench fill in layers ≤ 150 mm thick and compact to the density, which applies to the location of the trenches to minimise settlement. Compact trench fill to a minimum of 95% of the standard maximum dry density ratio specified in AS 1289.5.4.1 or AS 1289.5.6.1. Compact trench fill in such a manner that the pipes are neither dislodged nor damaged.

Complete the trench filling with topsoil for at least the top 50 mm.

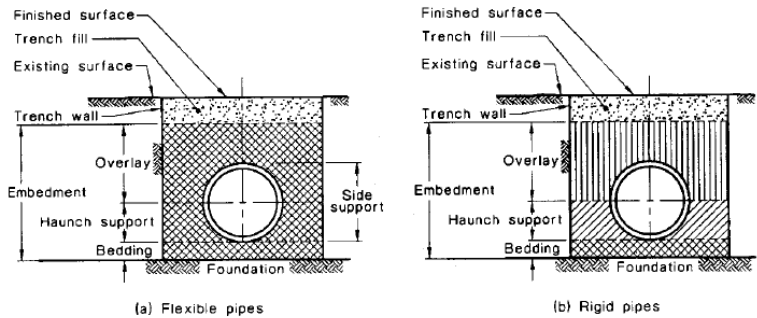


Figure 7: Example of Trenching for Hydraulic Services

9.3.5 Structural Steel Installation

The platform edge angle will be installed in a north-to-south sequence commencing at the ends of each platform.

The general methodology for the structural steel platform edge angle as follows:

- Platform edge angle will be manufactured to same size lengths as platform precast panels to ensure consistent joint locations.
- Edge angle sections are connected to the precast panels using through bolts at pre-determined locations/spacings.
- Edge angle will be installed from within the rail corridor to reduce Working at Heights using a small mobile crane or lifted manually into position pending weights and ground conditions.
- Each edge angle section will be surveyed for alignment and tolerance with necessary adjustment made as required.
- Joints between angle sections likely to be welded and confirmed as design progresses.
- Joints between angle section and precast panels likely to be sealed using an expandable mastic jointing as specified and confirmed as design progresses.

Structural steel columns will be installed individually and connected to HD Bolts cast into the pedestals as follows:

- A crane will be located on the crane pad west of the proposed Australind Platform. Final crane type/size/model and final location for each lift will be determined and detailed in the relevant Lift Plan.
- Steel columns will be installed in a north to south sequence, lifting from the delivery truck parked adjacent to the crane on the crane pad. Each column will be surveyed for alignment and tolerance with necessary adjustment made as required.
- Bolts to be tightened by torque wrench to specified requirements and recorded accordingly. Temporary column supports may be required and be designed/installed in line with Temporary Works procedure and requirements.
- Columns to be grouted at the base as specified.

The canopy roof structure will be prefabricated off site into sections and similar to the precast panels, in line with Laing O'Rourke's innovative Design for Manufacture and Assembly (DfMA) 70:60:30 methodology, which strives to undertake 70% of construction off-site, in order to achieve a 60% improvement in productivity and a 30% improvement in the delivery schedule.

- Canopy sections, similar to the columns, will be delivered on a semi-trailer in a just-in-time fashion to reduce any double handling and/or storage. Canopy sections will be secured in accordance with the Temporary Works design and Load Restraint Guide and to be inspected prior to unstrapping.
- Access to connect the canopy sections to the columns by MEWP with care taken not to place mobile plant and/or persons under suspended loads. MEWP's either placed within the platform or from the corridor pending section to be lifted and other works SIMMOPs.
- Sections will be installed in a north-to-south sequence or as required to integrate into the station buildings.

9.3.6 Buildings

Station and platform buildings are likely to be manufactured off site in a modular format and transported to site.

The solution was developed in line with Laing O'Rourke's innovative Design for Manufacture and Assembly (DfMA) 70:60:30 methodology, which strives to undertake 70% of construction off-site, in order to achieve a 60% improvement in productivity and a 30% improvement in the delivery schedule.

This method of construction was selected to offer:

- Increased construction efficiency and reduction in onsite traffic/delivery movements.

- Increased project safety through reduction in required personnel and duration of high-risk activities.
- Increased Quality Assurance and Management through manufacture in a factory-controlled environment by a specialist contractor.
- Increased potential for sustainability through advantages in thermal and environmental performance.
- Reduction in waste and greater onsite recycling of materials.

Due to the reduced complexity with this methodology the typical sequence is reduced and as follows:

- Building modules will be delivered on a semi-trailer in a just-in-time fashion to reduce any double handling and/or storage. Canopy sections will be secured in accordance with the Temporary Works design and Load Restraint Guide and to be inspected prior to unstrapping.
- Access to connect the building modules by MEWP with care taken not to place mobile plant and/or persons under suspended loads. MEWP's either placed within the platform or from the corridor pending section to be lifted and other works SIMMOPs.
- Where modules are required to be joined then all works are to be from within the module using platform ladders and at no times will any persons be on top.

Buildings will be delivered on a semi-trailer in a just-in-time fashion to reduce any double handling and/or storage. Panels will be secured in accordance with the Temporary Works design and Load Restraint Guide and to be inspected prior to unstrapping.

A crane will be located on the crane pad west of the proposed Australind Platform. Final crane type/size/model and final location for each lift will be determined and detailed in the relevant Lift Plan.

Below table with building that could potentially be fabricated off-site pending further investigation and analysis. Table 4: Off-site Fabricated Buildings

Location	No.	Description
Island Platform	1	SMCR / Driver WC / Mech Cupboard
	2	PSOC
	3	Electrical / Mech Cupboard
	4	CER / PTA Store / Mech Cupboard
Eastern Station Building	1	Cleaner / Female Toilet / Public UAT / Male Toilet / Elctrical Cupboard
	2	CSO
	3	LCR
Western Station Building	1	Sign On/TransWA / Locker / Female Toilet / UAT / Male Toilet / Locker / Mech, Fire & Hyd / PV Battery / MER / Kiosk / Spare Office / Crib / Sore & Bins / TPC / CER / UPS / TF

9.4 Precinct

9.4.1 Clearing, Grubbing and Topsoil Strip

The clearing, grubbing and topsoil strip will take place before the main Shutdown works commence to minimise work scope during the time critical shutdown period. The works will be undertaken with the use of Rail Safeworking to ensure the safety of the operational railway and the construction workers carrying out the works.

MetCONNx's approach is to complete as much scope as we can prior to the Australind Shutdown to minimise the quantum of work during the possession. This will help give some programme certainty around meeting the critical Project completion dates.

The general approach for the clear and grub works will involve:

- Vegetation removed will be transported to a stockpile area and mulched for storage and later re-used upon completion.
- Topsoil will be stripped and stockpiled locally (adjacent to mulched vegetation). The depth of topsoil to be removed is 200mm in the Byford Precinct area.
- Topsoil and areas where excessive material has a high organic content (greater than 100m thick) will be removed and stockpiled for later re-use in landscaping works.
- Topsoil will not be used as general fill material.
- Clearing will be undertaken using a D8 dozer to push the material into stockpile and will be transported to the nominated stockpile locations by an articulated dump truck (ADTs).
- Stockpile locations will be selected to ensure the material is undisturbed until it is required for use to avoid double handling and contamination.
- Environmental requirements will also be considered including the need to avoid dieback areas and the spread of weeds. If needed, separate stockpiles shall be created and tracked to comply with environmental considerations.
- Following the completion of permanent works, it is intended that the stockpile material be used for landscaping to encourage growth of the new vegetation that is planted.

9.4.2 Temporary Access Roads

The temporary access roads used during construction will be built at a permanent road or shared path alignment to reduce the impact to the Threatened Ecological Communities (TEC) areas.

The main access into the precinct works will be via Abernethy Road into the proposed Sansimeon Boulevard. The Clara Street West and Evans Way proposed alignments will also be used as access roads during the construction works as shown in Figure 8.

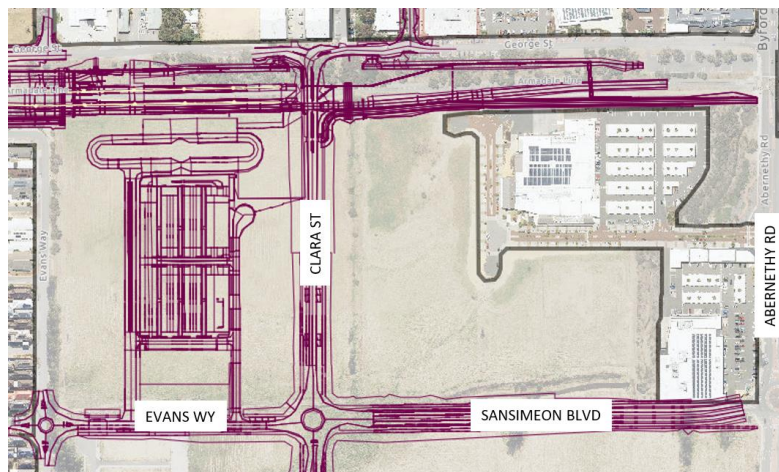


Figure 8: Byford Precinct Access Roads

9.4.3 Earthworks

Following on from the clearing works, the embankment foundation around the precinct area will be compacted to a depth of 150mm to conform to the characteristic dry density ratio as per the project specification.

Fill material will be imported to site from local suppliers using road semi-trailers and tipped into a nominated stockpile. The fill will be placed in layers using a combination of front end loaders, graders,

articulated dump truck and hydrema water cart with each layer conditioned, compacted using pad foot and smooth drum rollers and tested to ensure it meets the required compaction density.

The final layer will be constructed slightly higher than the design subgrade level with the final step to trim the area to the design level. Cut and fill volumes are described in Table 5 and the extent shown in Figure 9.

Table 5: Earthworks and Drainage Cut and Fill Volumes for Byford Precinct

Area	Cut m ³	Fill m ³
Byford Precinct	-1,516	149,731

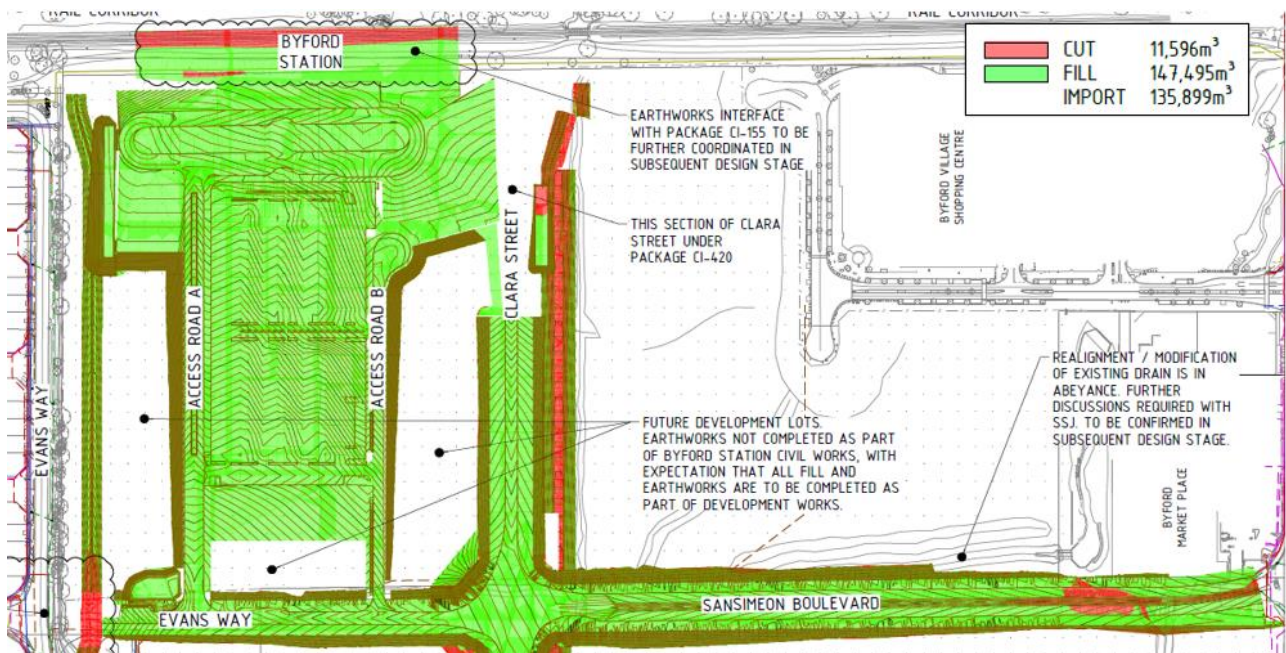


Figure 9: Byford Precinct Cut and Fill

The quality control during the earthworks activities will involve inspections at each stage of the works. Specific testing will be completed at each layer of fill, including compaction and bearing capacity tests in line with the project specifications. The completion of all construction records and sign off of hold points will be managed through FieldView. The Quality Management Plan (R30-MET-PLN-QA-000-00002) contains more detail on how inspections will be managed.

9.4.4 Drainage

The stormwater will be managed by the construction team using a combination of existing drainage networks, establishment of temporary drainage, surface drainage and permanent drainage networks. The temporary drainage design will ensure clean water diversions are in place to prevent off-site water from entering the site where possible.

The sequencing of the construction will be considered to ensure that there is an effective path for stormwater throughout the Project delivery lifecycle to reduce the occurrence of water ponding that can damage the earthworks during construction.

The general methodology for drainage installation will involve the following

- Drainage materials will be procured, delivered, and stored on-site close to the proposed drainage installation works

- Excavation permits will be raised, and potholing of services conducted to confirm depth and location of in ground services
- Surveyors will mark out the drainage route to show the location of the pipes and pits or drainage channels as per the design drawings
- Excavators will mechanically remove soil material and load into earthworks trucks for stockpiling and later use as backfill or disposal as spoil depending on design requirements and soil conditions
- Depending on soil conditions and depth of excavation the drainage trench may require benching, batters or trench shoring to allow safe personnel access into the drainage trench
- The temporary works coordinator and temporary works supervisor will manage the inspections and maintenance of any temporary works that may be required
- When excavated down to design levels, the pits and pipes will be lowered into the excavation
- A bedding layer of fill will be placed to grade before laying the pipes
- Pits and pipes will be connected with correct joints and seals in accordance with the Project specifications and design
- Backfilling of trench with suitable fill material will occur in layers. The backfill will be compacted and tested in accordance with project specifications
- Pit lids will be placed and concreted into position at the correct levels.

9.4.5 In-Ground Services Installation

Similar to 10.3.3 trenching for in-ground services conduits and pit excavations will typically be small scale excavation (1 or 3.5T) depending on required depths. Trenching will be in an east to west sequence away from the station buildings and progressively behind bulk earthworks.

Similar to above:

- Submission of notices including witnessing and hold points requiring attendance by a 'PTA' Representative must comply with 'SWTC' Section 5.0.
- A nominal 100mm of bedding sand to be placed prior to laying of conduits.
- After laying of conduits, sand embedment must be placed and compacted around the conduits to a minimum height of 150mm above the top of the pipe and/or fittings.
- Embedment sand to be coarse, well graded, washed, river (quartz based) sand free of organic matter, soluble salts and other deleterious materials.
- Where required, service conduits to have detectable underground marking tape (To AS/NZS 2648.1), placed 250mm (+/- 50mm) above all buried conduits for full length of conduit and covered with circa 100mm sand.
- All trenches will be backfilled as soon as possible and on completion of relevant inspections.
- Place the trench fill in layers ≤ 150 mm thick and compact to the density, which applies to the location of the trenches to minimise settlement. Compact trench fill to a minimum of 95% of the standard maximum dry density ratio specified in AS 1289.5.4.1 or AS 1289.5.6.1. Compact trench fill in such a manner that the pipes are neither dislodged nor damaged.
- Complete the trench filling with topsoil for at least the top 50 mm.

9.4.6 Roadworks and Pavements

9.4.6.1 Pavement

The pavement construction represents a large scope item in the Byford Precinct and is an important factor on whole of life cost and end user satisfaction. The pavement type that will be largely used in the precinct works is granular pavements with different subbase and basecourse thickness as specified by design.

The subbase for the granular pavement construction will consist of an approved product such as crushed limestone or crushed granite. Trimming will be done using machine control grader or automatic trimming machine depending on the size of the area.

Granular base course will be formed using crushed rock granite. Pavement construction involving granular subbase and crushed rock base course prior to bituminous seal and wearing course is extended to low traffic volume pavement construction.

9.4.6.2 Asphalt

Asphalting is a major work package and required to finish most pavement surfaces. Different thicknesses, layers and grades of asphalt are required depending on the site location and predicted pavement modelling for each area during the design process. The final quantities and specifications of the asphalt will be established after completion and approval of the pavement design by all relevant parties.

Lot sizes for asphalting works will be maximised. The basis for productive and high-quality asphalt pavement will be providing the asphalt subcontractor with the maximum lot size available, reducing the amount of joints and ensuring good productivity.

Hold points in the pavement construction are defined by the Project specifications and quality documentation. Observing the hold points will assure a quality product and minimise NCRs. Paving plans indicating the number and width of runs and joint locations will be prepared and approved before proceeding.

For the manufacture of asphalt, the Project will place a large draw on raw materials for the large quantity of asphalt to be produced in a relatively short timeframe. Aggregate material stockpiles will be maintained to a sufficient surplus to allow for advance testing and to protect the integrity of loader removal operations against contamination. Moisture control and protection from the elements of the raw materials will need to be maintained. Sufficient back up plant(s) will be required to ensure production and quality of the end product.

During asphalt delivery, placement and compaction, each load of asphalt will be tested for temperature prior to dispatch from the plant and tarped to prevent loss of heat, The Material Transfer Vehicle (MTV) must be self-propelled capable of receiving asphalt from delivery trucks, storing mix, heating mix in storage and transferring the mix to the asphalt paver without any contact with the paver. Sufficient compaction plant must be available before the commencement of work to support the paver capacity and the expected placement rate. Methods for effective compaction will be confirmed and include adequate treatment to joints to ensure a smooth finish.

The methodology for the protection of laid asphalt prior to bituminous seal application will state that the impact of exposure for asphalt intermediate layers to rainfall or surface water should be minimised. Before commencement, the Project will be mindful of weather forecasts. During placement of layers, which could happen over multiple shifts, it will be managed through the production and compaction of asphalt to suitable air void requirements (targeting less than 5%).

Environmental controls relevant to asphalt work include a prime application for the sub-base pavement layer. The Project will need to ensure there are no uncontrolled run-offs prior to the placement of asphalt intermediate layers. The location and methodology of cleaning plant will be addressed to ensure excess materials are disposed of in a controlled manner.

9.4.6.3 Kerbs

Modifications to existing access driveways will be completed when carrying out the kerb installation works for the roads and pavements for the new road alignment. All entry treatments will be constructed to an equivalent, or higher standard, to existing conditions.

The BRE Project in the initial design consider a number of barriers and kerbs as listed in Table 8.

Table 6 Kerbs

Area	Kerb type
Clara Street	Semi Mountable Kerb
George Street	Semi Mountable Kerb

9.4.6.4 Electrical, lighting and road signage

Modifications to the existing electrical, lighting and signalling as well as installation of new electrical, lighting and signalling infrastructure throughout the Project will be required. To undertake these works, specialist subcontractors will be engaged with experience in providing installation, upgrade, modification, and reinstatement of infrastructure.

Power supplies will be from the associated Main Roads WA street lighting switchboards or provided as part of the Utilities scope of work.

9.4.7 Modifications to existing private signage will be completed when carrying out the kerb installation works for the roads and pavements for the new road alignment. All signage will be relocated to an equivalent position alongside the new road alignment. All new signage will be supplied and installed to an equivalent, or higher standard, to existing conditions and will be done so in consultation with the owner. Bus Interchange Canopy Installation

The installation of the canopy structure will be in two phases to accommodate the construction of the platforms and subsequent removal of the crane pad.

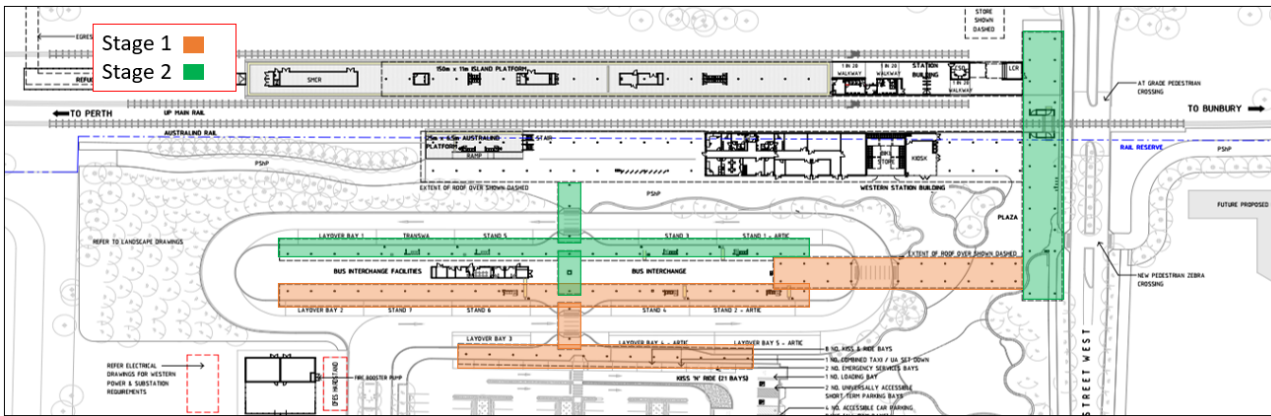


Figure 10: Precinct Canopy Installation Staging Sketch

Concrete footings, pending design and ground constraints, will be poured insitu or precast panels with cast in HD bolts.

Structural steel columns will be installed individually and connected to HD Bolts cast into the pedestals as follows:

- A crane will be located on the crane pad west of the proposed Australind Platform. Final crane type/size/model and final location for each lift will be determined and detailed in the relevant Lift Plan.
- Steel columns will be installed in a north to south sequence, lifting from the delivery truck parked adjacent to the crane on the crane pad. Each column will be surveyed for alignment and tolerance with necessary adjustment made as required.

- Bolts to be tightened by torque wrench to specified requirements and recorded accordingly. Temporary column supports may be required and be designed/installed in line with Temporary Works procedure and requirements.
- Columns to be grouted at the base as specified.

Similar to Point 11.3.5 the canopy roof structure will be prefabricated off site into sections and similar to the precast panels, in line with Laing O'Rourke's innovative Design for Manufacture and Assembly (DfMA) 70:60:30 methodology, which strives to undertake 70% of construction off-site, in order to achieve a 60% improvement in productivity and a 30% improvement in the delivery schedule.

- Canopy sections, similar to the columns, will be delivered on a semi-trailer in a just-in-time fashion to reduce any double handling and/or storage. Canopy sections will be secured in accordance with the Temporary Works design and Load Restraint Guide and to be inspected prior to unstrapping.
- Access to connect the canopy sections to the columns by MEWP with care taken not to place mobile plant and/or persons under suspended loads. MEWP's either placed within the platform or from the corridor pending section to be lifted and other works SIMMOPs.
- Sections will be installed in a north-to-south sequence or as required to integrate into the station buildings.

9.4.8 Bus Interchange Facilities

Similar to section 9.3.6, the Bus Interchange Facilities buildings are likely to be manufactured off site in a modular format and transported to site.

Due to the reduced complexity with this methodology the typical sequence is reduced and as follows:

- Building modules will be delivered on a semi-trailer in a just-in-time fashion to reduce any double handling and/or storage. Canopy sections will be secured in accordance with the Temporary Works design and Load Restraint Guide and to be inspected prior to unstrapping.
- Access to connect the building modules by MEWP with care taken not to place mobile plant and/or persons under suspended loads. MEWP's either placed within the platform or from the corridor pending section to be lifted and other works SIMMOPs.
- Where modules are required to be joined then all works are to be from within the module using platform ladders and at no times will any persons be on top.

Buildings will be delivered on a semi-trailer in a just-in-time fashion to reduce any double handling and/or storage. Panels will be secured in accordance with the Temporary Works design and Load Restraint Guide and to be inspected prior to unstrapping.

A crane will be located on the crane pad west of the proposed Australind Platform. Final crane type/size/model and final location for each lift will be determined and detailed in the relevant Lift Plan.

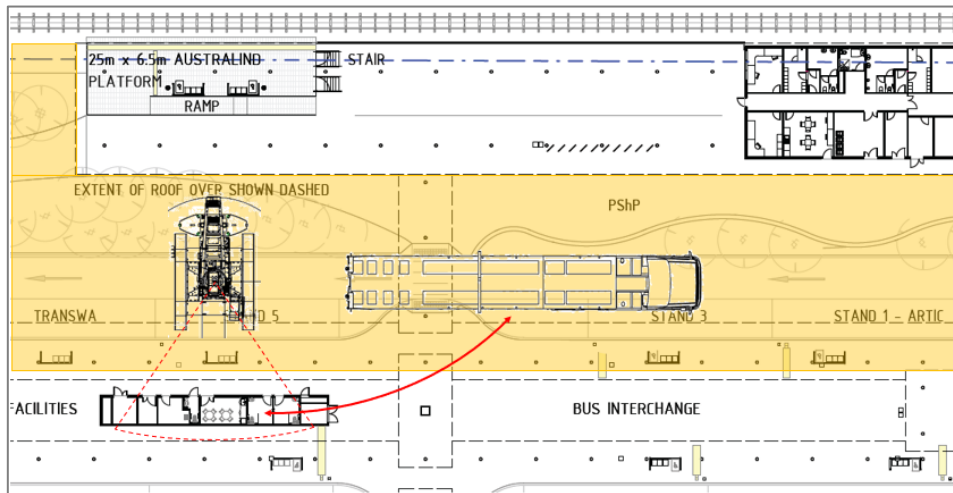


Figure 11: Bus Interchange Installation Sketch

9.4.9 Hard and Soft Landscaping

Rehabilitation, landscaping, and revegetation over the entire site will be installed upon completion of the various pavements and structures around the precinct area, including hard landscaping.

The landscaping must be consistent with the Urban Design elements and must:

- Maximise retention of existing vegetation
- Use native plants and exotic (deciduous trees) to maximise shade and shelter for pedestrians
- Provide a higher quality planting treatment adjacent to the Road and in the roundabouts
- Screen out undesirable visual elements.

Appendix A: Terms and Definitions

The following terms, abbreviations and definitions are used in this plan.

Table 7: Terms and Definitions

Term	Definition
ABCC	Australian Building and Construction Commission
ABS	Australian Bureau of Statistics
AC	alternating current
AD	Alliance Development
ADA	Alliance Development Agreement
ADT	Articulated dump trucks
AHD	Australian Height Datum
AIM	Asset Information Model
AIR	Asset Information Requirement
ALARP	as low as reasonably practicable
ALT	Alliance Leadership Team
AMT	Alliance Management Team
ANM	ambient noise monitors
APC	automated power control
APT	Alliance Project Team, comprising Laing O'Rourke, KBR, Pritchard Francis and the PTA
AS	Australian Standard
AS/NZS	Australian/New Zealand Standard
ASS	Acid Sulphate Soils
AT	Auto-Tensioned
ATCF	Alternate Train Control Facility
BCA	Building Code of Australia
BIM	Building Information Modelling
BM	Bench Marks
BRE	Byford Rail Extension
CAD	computer aided drafting
CEMP	Construction Environmental Management Plan
CER	communications equipment room
DE	Digital Engineering
DEMP	Digital Engineering Management Plan
DfMA	Design for Manufacturing and Assembly
DGS	Digital ground survey
DLP	Defect liability period
DOORS NG	DOORS NG requirements management tool
DTM	digital terrain model
DWER	Department of Water and Environmental Regulation
EIS	Entry into Service

Term	Definition
EPA	Environmental Protection Authority
EPBC	Environmental Protection Biodiversity Conservation Act 1999
FBW	Flash butt welds
FIC	field inspection checklist
FM	Facilities management
FOC	Fibre optic cable
FOPS	Falling object protection system
FSR	Fatal and severe risk
HAZMAT	hazardous material
HR/IR	Human Resources and Industrial Relations
HSE	health, safety and environment
HSEQ	health, safety, environment and quality
IFC	issued for construction
IRC	Inspection release certificate
IRP	Industrial Relations Plan
ITP	Inspection and Test Plan
ITR	Inspection and Testing Report
JSEA	Job safety and environmental analysis
KPI	Key Performance Indicators
Laing O'Rourke	Laing O'Rourke Australia Construction Pty Limited
LGA	Local Government Authority
MCR	Major Cable Route (legacy Definition Main Cable Route)
MFD	Multi-functional devices
MRWA	Main Roads Western Australia
MSE	Mechanically stabilised earth
N&I	Network & Infrastructure a division of the PTA
NBN	National Broadband Network
NCR	Non-Conformance Report
NOPs	Non-Owner Participants, Laing O'Rourke, KBR and Pritchard Francis
NVMP	Noise and Vibration Management Plan
O&M	operations and management
OH&S	Occupational Health and Safety
OLE	Overhead Line Equipment
ONRSR	Office of the National Rail Safety Regulator
PAA	Project Alliance Agreement
PIM	Project information model
PRES	Person responsible for electrical safety
Project	METRONET Byford Rail Extension Project
PShP	Principal shared path

Term	Definition
PTA	Public Transport Authority
R&O	Risk and opportunity
RDS	Room data sheets
RIW	Rail industry worker
RMP	Risk Management Plan
ROPS	Roll over protection system
RRM	MRWA road reference marks
RTO	Rail Transport Operator
SAD	Safe approach distance
SER	Signalling equipment room
SOW	Scope of work
SSM	State survey marks
SWMS	safe work method statement
SWTC	Scope of Works and Technical Criteria
T&C	Testing and Commissioning
TEC	Threatened Ecological Communities
TOC	Total Outturn Cost
TRT	Tracked rail transporter
TWCR	Temporary Works Control Register
UTX	Under track crossing
WBS	work breakdown structure

Appendix B: Initial Plant and Equipment Register

Large plant

Table 8: Large Plant Register

Asset No.	Description	Current Location	Comments
CC009	LR1350-1 - Liebherr 350t Crawler Crane with superlift	Perth	Select
CC010	LR1300 SX - Liebherr 300t Crawler Crane	Perth	Select
CC011	LR1300 SX - Liebherr 300t Crawler Crane	Perth	Select
CC015	CKE2500G-2 - Kobelco 250t Crawler Crane	NSW	Select
MC041	RT880E - Grove 75t Mobile Crane	Perth	Select
MC042	RT765E-2 - Grove 60t Mobile Crane	Perth	Select
MC043	RT765E-2 - Grove 60t Mobile Crane	Perth	Select
CC013	LTR1060 - Liebherr 60t Crawler Crane	Perth	Select
CC014	LTR1060 - Liebherr 60t Crawler Crane	Perth	Select
BOOM036	BOOMLIFT.KNUCKLE.18M. (60FT / Tri-Gauge)	Sydney	Sydney Rail Ops
BOOM037	BOOMLIFT.KNUCKLE.18M (60FT / Tri-Gauge)	Sydney	Sydney Rail Ops
BOOM038	BOOMLIFT.KNUCKLE.18M. (60FT / Tri-Gauge)	Sydney	Sydney Rail Ops
30T EXC 01	30T Non Hi-Rail Excavator in WA	Perth	Select
	LR1300 SX - Liebherr 300t Crawler Crane	Perth	Cross Hire
	LG1750 - Liebherr 750t Mobile Crane	Perth	Cross Hire
	170t Mobile Crane	Perth	Cross Hire
	170t Mobile Crane	Perth	Cross Hire
	170t Mobile Crane	Perth	Cross Hire
	170t Mobile Crane	Perth	Cross Hire
	170t Mobile Crane	Perth	Cross Hire
	100t Mobile Crane	Perth	Cross Hire
	50t Mobile Crane	Perth	Cross Hire
	40t Dumper Trucks	Perth	Cross Hire
	CAT 330Excavators	Perth	Cross Hire
	CAT 320 Excavators	Perth	Cross Hire
	CAT D6 Dozers	Perth	Cross Hire
	CAT 140 Graders	Perth	Cross Hire
	CAT Heavy-Duty Front-End Loaders	Perth	Cross Hire
	18t Sheep's Foot Rollers	Perth	Cross Hire
	19t Smooth Drum Rollers	Perth	Cross Hire
	Telehandlers	Perth	Cross Hire
	Water Carts	Perth	Cross Hire
	Road Sweepers	Perth	Cross Hire
	EWP - Scissor Lifts	Perth	Cross Hire

Appendix C: Staging Diagrams

Table 9: Staging diagrams register

Item	Name
1.	Byford Station Precinct "At Grade"
2.	
3.	

Appendix D: Traffic Management Plan

To be developed.