KiwiRail

Local Network Instructions:

L1.1 Pukekohe - Waitākere

Publication date 03 Dec, 2024

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1. General Instructions

Heat Sheets

The Daily Heat Sheets for Te Rapa to Whangārei can be found here.

1.1 Bulletins

Terminals must be supplied with all bulletins for the areas shown:

Terminal	All Bulletins Affecting:
Te Rapa	• Auckland - Te Rapa • Mission Bush Branch • Rotowaro Branch
Westfield	• North Auckland Line • Te Rapa - Auckland (both routes) • ECMT • Kinleith Branch • Manukau Branch • Mission Bush Branch • Onehunga Branch
Whangarei	• North Auckland Line

Rail Personnel at Te Rapa, Westfield and Whangarei terminals receiving such information must:

- ensure it is posted on the bulletin boards for all Operators and that Operators of trains in continuous shift operation are advised of the information directly.
- when instructed by the Train Controller, must not allow trains to be dispatched until the speed restrictions, bulletins or critical information is received by the respective Operators.

Operators between journeys must check for updated information found:

- on the bulletin board, or
- in the copier (when an OIC / Supervisor is not in attendance) - copies are required to be made.

1.1.1 Metro Operations Terminals

Must provide Wi-Fi connection for all bulletins in company approved electronic devices for the areas shown:

Terminal	All Bulletins affecting
• Pukekohe • Papakura • Wiri • Strand • Henderson	• Pukekohe – Auckland (both routes) • Westfield – Waitākere • Manukau Branch • Onehunga Branch

Metro Operations Wiri Ops Controller on receiving such electronic information must ensure that all new electronic bulletins are uploaded to the AOR SharePoint central database to enable Metro Operators to sync and update individual company approved electronic devices.

Local Metro Operations terminals instructions apply in the event of a Wi-Fi outage or device fault and back-up devices and / or paper bulletins.

1.1.2 Metro Operations – Waitematā (Britomart), Newmarket and Papakura Platforms

Changes to bulletins or speed restriction information for operators in continuous service.

Train Control or Network Access Planning (whoever makes the change) will transmit the bulletins or speed restriction information by email or phone to:

- Metro Operations, Papakura Operations Supervisor
- Service Coordinator, AOR Operations Centre, Waitematā (Britomart) Station.

When instructed by the Train Controller, personnel receiving the bulletins or speed restriction information will:

- update the bulletin board
- distribute to all Operators of trains in continuous service (Operator works their next service without leaving the platform), until such time that all affected Operators are notified.

If any service departs Waitematā (Britomart), Newmarket or Papakura and an Operator in continuous service has not been advised, the Train Controller must be contacted.

Operators not in continuous service must check for updated information found:

- on the bulletin board
- on company approved electronic devices

NOTE
The Waitematā (Britomart) and Newmarket Station bulletin boards will only display the changes that have occurred on the current day.

1.2 Automatic Signalling

Automatic signalling working operates on the:

- North Island Main Trunk, between Pukekohe and Auckland Station
- Auckland - Newmarket Line
- North Auckland Line, between Westfield and Waitākere
- Manukau Branch Line
- Mission Bush Branch Line
- Onehunga Branch Line

Interlocked stations remotely controlled by Train Control:		
Pukekohe	Paerata	Mission Bush
Papakura	Wiri	Manukau
Westfield	Sylvia Park	Tamaki
Auckland	Newmarket	Penrose
Te Papapa	Onehunga	Mt Eden
Morningside	New Lynn	Avondale
Henderson	Swanson	Waitākere

1.2.1 Switch Locks

Glenbrook

1.3 Lockout Zones (TS05)

Lockout Zone diagrams can be found here (KiwiRail SharePoint site).

1.4 Non-Illuminated Route Indicators

In some circumstances Route Indicators will not illuminate, e.g., when low speed signals are displayed or if failed.

Provided the signal concerned is showing a proceed indication, Operators may proceed with caution in accordance with the fixed signals displayed.

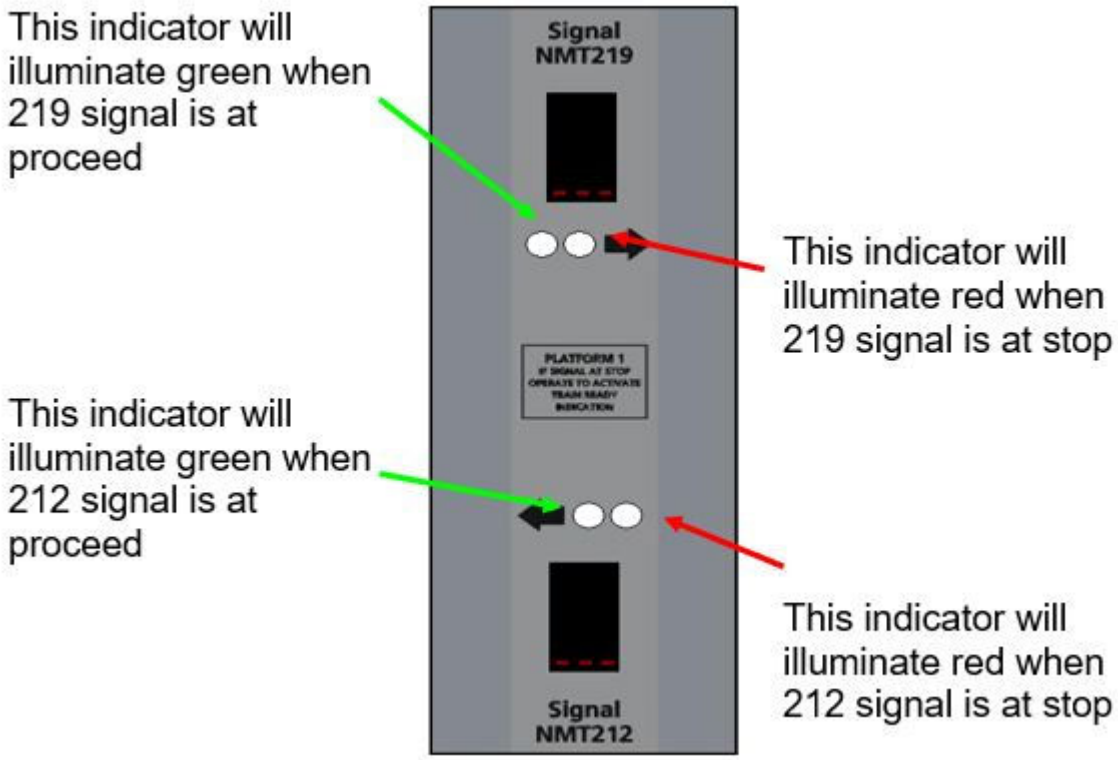
1.5 Train Ready to Start Panels

Train Ready to Start panels are provided on platforms to display the indication of the respective platform starting or directing signal. These indications are provided for the train crew to identify that the respective signal is at proceed before giving right of way.

The Train Ready to Start panels are also fitted with a proximity card reader that when activated will provide a “Train Ready” indication to the Signaller.

If a train is ready to depart and the respective starting or directing signal is not at proceed, a member of the train crew must activate the “Train Ready” control for the applicable signal.

Figure 1. Example of Train Ready to Start panel



Location of Train Ready to Start panels are shown on S&I diagrams

1.6 Level Crossings Near Station Platforms

To avoid excessive operation of alarms at level crossings, when a train approaches the crossing, the automatic alarms will not start until the train has been standing at the station platform for a short period*. The signal will not clear until the barriers on the level crossing are down.

When a train is not scheduled to stop at the station, the Train Controller can set the signal to clear in advance of the train’s arrival.

* Time period delay does not apply at New Lynn.

The Train Ready to Start panel is required to be activated before the signal will clear.

Station	Signal(s)	Direction	Level Crossings
Kingsland	707 / 709	Down trains	George Street
Morningside	807 / 809	Down trains	Morningside Drive
	804 / 806	Up trains	Morningside Drive
Baldwin Ave	L141	Down trains	Rossgrove Terrace and Asquith Avenue
	L144	Up trains	Baldwin Avenue Ped
Mt Albert	L154	Up trains	Woodward Road
Avondale	901 / 905	Down trains	Crayford Street Ped
	L174	Up trains	St Judes Street and Chalmers Street
New Lynn*	1005 / 1007	Down trains	Portage Road
Fruitvale Road	L209	Down trains	Fruitvale Road
Glen Eden	L224	Up trains	Glenview Road
Sunnyvale	L247	Down trains	Sherrybrooke Place
	L250	Up trains	Bruce McLaren Road
Henderson	1108 / 1110	Up trains	Corbans Ped
Sturges Road	L279	Down trains	Mt Lebanon Lane
	L282	Up trains	Sturges Road Ped
Ranui	L295	Down trains	Metcalfe Road
Swanson	1308 / 1310	Up trains	Christian Road
Penrose	317	Down trains	O'Rorke Road
Te Papapa	H021	Down trains	Captain Springs Road and Church Street
	404	Up trains	Mays Road
Homai	M6555	Down trains	Pedestrian
Te Mahia	M6521	Down trains	Spartan Road
	M6522	Up trains	Pedestrian
Takanini	M6505	Down trains	Pedestrian
	M6508	Up trains	Manuroa Road

1.7 Repositioning of Metro Passenger Movements

The following repositioning movements are authorised to use provisions of **SO02 Rule 5. Setting Back in Block Section Authority** #4 applies when at the following station platforms.

Station Platform	Line	Repositioning movements	Signal for movement
NIMT			
Middlemore	Up Main	Down train returning in the Up direction	1604
	Down Main	Down train returning in the Up direction	1606
Homai	Up Main	Down train returning in the Up direction #	2004
	Down Main	Down train returning in the Up direction	2006
Glen Innes	Down Main	Up train returning in Down direction	501
Panmure	Up Main	Down train returning in the Up direction	504
	Down Main	Down train returning in the Up direction	506
NAL			
Grafton	Up Main	Down train returning in the Up direction	702
	Down Main	Down train returning in the Up direction	704
Kingsland	Up Main	Up train returning in the Down direction	705
	Down Main	Up train returning in the Down direction	703
	Up Main	Down train returning in the Up direction	802
	Down Main	Down train returning in the Up direction	806

Station Platform	Line	Repositioning movements	Signal for movement
Avondale	Up Main	Up train returning in Down direction	905
	Down Main	Up train returning in Down direction	901

Must not exceed 10 km/h over Homai North Pedestrian Crossing

1.7.1 Crewing of Empty Metro Services

Empty services operated under Auckland One Rail's Rail Operating Licence may move within all station limits with an Operator only, as directed by the Signaller for:

- repositioning movements
- EMU coupling
- stabling

Movements must only be carried out when:

- both the train radio, and European Train Control System are functioning
- the Operator drives from the leading cab of the movement

1.8 Station Evacuations

The Metro Service Operator holds emergency evacuation plans for each station. At all stations, the Stations Control Centre (SCC) monitors fire alarms and help points for emergencies. Kingsland, New Lynn, Grafton and Panmure stations are also fitted with flashing red emergency evacuation lights viewable from the train.

Upon activation of the emergency alarm, the SCC shall inform the Train Controller of the nature and extent of the emergency according to the information available.

The Train Controller shall advise Operators, via the train radio, of the location (station name / platform) and emergency.

If when arriving at a station location and red flashing emergency evacuation lights are active, Metro Train Operators must not open their train doors. Operators must contact the Train Controller for further instructions.

The Train Controller shall continue to communicate with the SCC to determine the operational situation and whether:

- to continue operating normally
- to bypass (run through) the affected station, or
- suspend all train services in the affected area.

The Train Controller shall advise Operators, via the train radio system, of the operational situation and continue to advise, as required, that the red flashing emergency evacuation lights or fire alarms have been activated at the affected station.

If an in-service train is located at the platform and evacuation of the train is required, Metro train crew in attendance with their own train are required to manage train evacuation onto the platform and then assist passengers to exit from the station to designated assembly areas.

1.9 Routing of Services between Westfield Junction and Auckland Station

Rail services may be routed between Westfield Junction and Auckland Station and vice versa (either route) on the authority of the Train Controller without the issue of a bulletin.

The Operators must all be advised prior to the re-routing taking place.

1.10 Right of Way Mirrors

6 Passenger Car Service Only

Right of way mirrors have been installed at the western ends of Baldwin Ave and Fruitvale Rd platforms and at both ends of Meadowbank platform to assist the Train Manager of down train services to view full length of train while carrying out "All door close procedure".

It is essential that services stop at designated stopping marks to allow the Train Manager to stand in the designated platform area to observe all clear in both directions through either line of sight or mirror observations.

If the Train Manager is unable to sight the mirror, the train must be walked to confirm all doors are shut, before giving right of way.

Damage to mirrors is to be reported by crews to Waitematā (Britomart) CCR.

1.11 Dispatch of Services from Originating Station Platforms

After establishing the train crew are in the correct positions for departure, the Train Manager must position themselves for a clear view of the whole service, and:

- will operate the Train Ready to Start button; up to 2 minutes ahead of departure time, where available
- if the applicable platform signal is at proceed, will commence Door Close procedures up to 30 seconds prior to departure time, and
- hold the local door open until 10 seconds prior to departure time.

When the Metro Services Operator qualified rail personnel are in attendance for platform operations, they will advise any delays to the Train Manager, to enable the Train Manager to adjust the commence to close doors procedure for:

- departing trains waiting for a proceed signal after departure time.
- Special Event plans are in operation.

The Train Manager must not close the local door or give Right-of-way to the driver until the applicable starting signal or signal repeater indicator displays a proceed indication.

GR08 General Responsibilities, 5.1 Duties of Train Crew is modified accordingly.

1.11.1 Newmarket

Metro services to Waitematā (Britomart) can depart up to 2 minutes ahead of scheduled time if another service to Waitematā (Britomart) is at / or approaching a platform at Newmarket.

1.12 Splitting and Coupling of EMUs

The planned splitting and coupling of EMU consists may be undertaken at terminus (end of run) platforms only.

The Train Controller must:

- be advised in advance by the Metro Services Operator of the rolling stock plan
- be verbally advised by the Operator prior to uncoupling for any splitting of a consist at platforms
- be verbally advised by the Operator when any EMU coupling has been completed at platforms
- direct all emergency working situations, such as breakdowns or incident recovery

Waitematā (Britomart): For coupling purposes, prior to clearing a low speed indication onto an occupied platform at Waitematā (Britomart), the Train Controller must receive verbal confirmation from the Metro Services Operator that the EMU sets intended to be coupled, do not exceed the maximum platform capacity.

Coupling and uncoupling may be undertaken while passengers are still onboard. The Train Manager must:

- announce a coupling movement prior to undertaking
- walk through the unit and advise passengers prior to the movement if the PA system is not functioning

1.13 European Train Control System (ETCS)

The European Train Control System (ETCS) is a signalling, control, and train protection system. It consists of components installed trackside, and on the train to send and receive information about a permitted movement authority i.e., speed, distance, and signal / track status ahead.

ETCS trackside equipment is installed on all home, departure, main unit directing, and intermediate signals between Papakura and Swanson (all lines inclusive). Protection is also offered on the Papakura south back shunt.

The onboard ETCS equipment performs the following basic functions:

- provides movement authorities up to the next red signal and warns the Operator when approaching the end of the movement authority
- provides advance notice of changes to track conditions; gradients, and distances to changes of track speed
- applies the emergency brake on a train at the appropriate time so that it stops before a point of collision / danger
- ensures train speed complies with permanent track speed and train type restrictions (excluding TSRs)

1.13.1 Requirements for Operational ETCS

All MPUs fitted with fully commissioned ETCS in-cab equipment must have ETCS operating in “Level 1 Mode” before running on any main line between Papakura and Swanson (all lines inclusive). This clause does not apply to engineering / mechanical test trains.

When setting the train consist in the ETCS journey start screen, Operators must ensure the correct consist length / size is entered. Failure to do so will create a hazard of ETCS allowing the train to increase speed before the rear is clear of the applicable speed restricted area.

Operators must follow and comply with all current ETCS onboard initialising and operating instructions issued by the relevant train operating company.

NOTE

- The use of ETCS operating in Level 0, 2, or 3 is prohibited.
- The use of ETCS operating in “non-leading” mode is prohibited.

1.13.2 Passing Signals at Stop or ‘A’ Light

Before passing over the balise group for a signal at Stop (after obtaining authority in accordance with the relevant rules), or with an ‘A’ light illuminated, ETCS “Override” mode must be selected. This mode will be effective for 180 seconds or for 50m (whichever is the shorter) to allow the train to pass the signal without emergency brake activation.

1.13.3 Passing All Trains Stop Boards

Before passing an All Trains Stop Board, ETCS “Shunting Mode” must be selected. This will prevent an end-of-movement-authority emergency brake activation.

1.13.4 Restricted Use of Shunting Mode

Trains must not enter or operate on any main line in ETCS “Shunting Mode” unless authorised by the Train Controller in accordance with local instructions.

1.13.5 Signals Reverted to Stop

In addition to the requirements of **SO01 Responding to Signals, 3.3 Changing Signal Indications**, in the event a signal is reverted to stop while an ETCS fitted train is within the two signal sections immediately before that signal, an ETCS fitted train may continue to have an in-cab movement authority beyond the reverted signal (if the train passes the reverted signal, the emergency brake will activate).

- The Train Controller must promptly advise the Operator of the approaching train before a signal is reverted (or as soon after a reversion as possible if the signal has already reverted).
- The Operator, when the train next stops (at the next Station or Signal), must place ETCS in “Shunting Mode” immediately followed by “Start Mission”. This will cancel the previous movement authority.

1.13.6 Temporary Speed Restrictions (TSRs)

The ETCS system will not indicate or enforce temporary speed restrictions. Operators must take extra care to continue to note and obey any temporary speed restrictions on the network.

1.13.7 ETCS Emergency Brake Application

Operators must advise the Train Controller immediately upon any ETCS emergency brake activation, including relaying the details of any error or other cab display message that is available to the Operators staff.

- Exception for EMUs at ATSBs:
  - Wiri Depot north end and south end exchange ATSB – must advise Wiri Depot Movements Controller (DMC).
  - Henderson Arrival Road ATSB – for arriving trains self-authorisation to reset.

The Train Controller or Wiri Depot Movements Controller must determine if the activation is due to a SPAD or some other fault. If the activation is not caused by a SPAD A, the train may be authorised to continue by the appropriate authority.

Train faults must be reported in the Rail Operating Company’s rolling stock defect book, and the Operator shall notify CCR of the defect.

1.13.8 Failure of Trackside Balise Group

Operators must report to the Train Controller:

- any “Lost Communication …” or “Data Consistency ...” text messages received on the DMI
- any suspected movement authority shorter than what should match the signal aspect last passed

In addition, the Operator must submit a Mis.346 form in accordance with **SO04 Defective Signals, 4.1 Reporting Imperfectly Displayed Signals**.

The Train Controller must report:

- all instances of “Lost Communication…”, and
- suspected short movement authority faults

to a Signal Maintenance Representative through KiwiRail Operations Support with reference to the suspected signal number.

When the Train Controller becomes aware of a possible defective trackside balise, the related signal should be kept at Stop for each ETCS fitted train until that train has been advised (verbally or by issue of a condition on the Speed Restriction Report) of the failed balise and instructed to enter “Override” mode at the signal.

Operators of trains advised of a failed balise should enter “Override” mode at the signal before passing it at proceed to avoid an emergency brake application.

NOTE
Advice of failed balises will normally be notified in the conditions section of speed restriction advice with the following wording in the comments:

“[Signal Number] Balise failed ETCS trains use override to pass signal”

1.13.9 Defective ETCS – In Depot or Stabling Siding

MPUs fitted with ETCS must not operate Auckland Metro passenger trains if their ETCS system is defective or isolated.

If failure occurs prior to entering service, the MPU must not enter service until repaired or alternate rolling stock must be obtained.

Empty trains with defective ETCS in the leading cab are permitted to make one trip from a stabling siding to the EMU Maintenance Facility for repair with ETCS isolated, not exceeding Restricted Speed.

1.13.10 Defective ETCS – While in Service

This clause does not apply to the following in-cab fault messages:

- “Lost Communication LEU-Balise”,
- “Lost Communication LEU-Westrace”,
- “Brakes Applied Due to Data Consistency Within Balise Group”,
- “Maintenance Required”, or
- “Odometry Failure”

NOTE
If “Maintenance Required”, or “Odometry Failure” is shown on the DMI, this should be noted in the Rail Operating Company’s rolling stock defect book for immediate investigation once the train returns to the depot. In addition, the Operator shall notify the CCR of the defect.

Operators must:

- immediately advise the Train Controller
- attempt to reset ETCS
- record the defect and actions taken in the rolling stock defect book
- advise the Train Controller that the ETCS has been isolated
- De-train customers at the first available platform, however, should special circumstances exist, i.e., this is the last service of the day or there are exceptional weather conditions then the Service

Performance Leader (of the Metro Services Operator) may exercise discretion in authorising the running to a more suitable station/platform.

NOTE

Before authorising running beyond the first available platform, the Service Performance Leader must take into account the following considerations:

- only stations with long enough platforms to accommodate the train shall be used
- the station must have suitable facilities in bad weather i.e., platform shelters and adequate access for road transport
- customers can remain on board the stationary service at a station if circumstances dictate, while suitable arrangements are made and that a responsible Metro Services Operator employee is provided with the ability to communicate with the Train Controller and the Service Performance Leader.

- run the service empty to the nearest depot / stabling yard

If the service is being driven back to the depot / stabling yard from the cab with the defective ETCS equipment the Operator must:

- take extra care when looking out and observing signals
- not exceed Restricted Speed.

Train Controller Actions:

- Trains with defective ETCS must alight all passengers at the first available platform unless special circumstances exist (refer Operator's actions).
- The train must then run empty to the nearest Mechanical Maintenance Depot for repair.

Defective ETCS - Failure while in service:			
	Leading end	**Trailing end**	**Both ends**
Action Required	• Proceed at Restricted Speed to next interlocked station. • Service is terminated and returns empty to depot / stabling yard for repairs or replacement. • Passengers are to be de-trained at the first available platform.	• Proceed at Normal Speed to destination. • Service is terminated and returns empty to nearest depot / stabling yard for repairs or replacement	• Proceed at Restricted Speed to next interlocked station. • Service is terminated and returns empty to depot / stabling yard for repairs or replacement. • Passengers are to be de-trained at the first available platform.

1.14 Track Inspections on AOR Services

A Track Inspector or Traction Field staff requesting to travel in the cab of a Metro Services Operator service with an Operator of less than 12 months main line certification or "At Risk" must:

- exhibit a valid cab pass
- only be permitted access to the cab for urgent inspections i.e., adverse weather & urgent defects
- conduct a pre-trip briefing with the Operator to identify the specific issue and requirements of the inspection (i.e., location by km, a reduction of speed, requirement to stop etc.),
- follow correct cab pass rules and protocol

The Operator must always maintain their attention on the operation of the train and ensure they do not become distracted by the presence of the inspector. If the inspector causes undue distraction, they must be instructed to leave the driver's cab.

1.15 EMU Overrun of Platform

When a train conveying passengers overruns a platform, the Operator must not bypass the "Correct Side Door Enable (CSDE)" to release the doors, and passengers are to be carried over to the next scheduled platform stop.

Operators:

- must advise the Train Controller of the overrun
- must advise train crew and passengers of altered arrangements in accordance with **TO11 Passenger Train Operations, 8. Overrunning or Stopping Short**
- may proceed to the next station in accordance with the Rail Operating Rules and Procedures

Train Controllers:

- must contact the Metro Operator's Service Manager to provide details of the overrun.

1.16 Shunting Trains and Light Locomotives

The area, hours, and work of shunting trains will be arranged and advised by the duly authorised Person in Charge. Work required by the Access Provider is authorised by the duly authorised Person in Charge in conjunction with the Train Controller. Shunting trains and light locomotives may run as arranged by duly authorised Person in Charge within their respective area and as directed by the Train Controller.

1.16.1 Crewing

When shunting trains and light locomotives are running under ATC conditions, the Train Controller must be advised.

The Train Controller must endorse the Train Control diagram alongside the plot line for the intended movement.

1.16.2 Maximum Speed

Main line shunting services conveying express freight wagons only may travel at express freight speed. Should there be non-express wagons on the train, then the Train Controller is to be advised the speed of the train will only be at freight train speed.

1.16.3 Westfield to Whangarei Services

The leading locomotive on each ATC train must have an ATC radio test before entering the Westfield to Helensville area.

1.17 Radio Communication Auckland Metro Area

Metro Services Radios

Once a radio transmission has been completed on a manually selected channel the selector switch must be returned to the automatic / scan mode.

Main Line Locomotives

If channel 1 is unavailable, Operators on main line locomotives that wish to contact a Metro service, may be required to pass on messages either though the Train Controller or request the Train Controller to ask the Metro services concerned to set their radio to channel 1 to receive a transmission.

Radio Link failure with Train Control

Should the radio link in the Auckland Metro Area fail, Metro services can continue with their current crewing levels.

- On the North Island Main Trunk and the North Auckland Line between Westfield and Newmarket and the Auckland - Newmarket Line use cellular telephone communications
- On the North Auckland Line between Newmarket and Waitākere, the Train Manager's mobile phone is to be used to communicate with the Train Control Centre
- Metro Service Operators must check that the Train Manager has a mobile phone before departing Auckland.

1.17.1 Secondary Radio System

Motorola Digital radios in all AM class EMU cabs are normally turned off but must be used by the Operator for the following train operating purposes:

Wiri Depot Channel for the purpose of communicating train movements and other safe working instructions between the Wiri Depot Movements Controller and Rail Personnel.

Fleet Channel for the purpose of communicating train faults and rectification messages between the Operator, the EMU Rolling Stock Representative and AOR Operations Centre.

On the Controlled Network the Operator, must first advise the Train Controller before attempting to determine the fault.

Communication with the Train Controller must always take precedence over communication with the Rolling Stock Representative.

If the Operator is unable to determine the fault within 2 minutes of coming to a stop, the Rolling Stock Representative must be contacted using the digital radio (Secondary Radio System). The Operator should continue to monitor any calls from the Train Controller during this process and keep the Train Controller updated about recovery progress.

Area	Channel	Call Sign
Wiri Depot Movements Controller	Wiri Depot	Wiri “Ops”
Rolling Stock Representative on call Technician	Train Fleet	CAF “Tech”

1.18 Axle Counters

Automatic Signalling uses continuous track-circuiting and/or axle counters to:

- detect the presence of rail traffic
- prevent following and opposing rail traffic entering occupied sections of track
- provide advanced warning of the status of the next signal.

If an axle counter track section still indicates occupied after a train has exited the section, it will be necessary to undertake an axle counter reset.

1.18.1 Reset Requirements

For most instances, the reset process will require a cooperative reset between the Train Controller and an Operator.

When a track section is showing ‘occupied’ after the passage of a train:

The Train Controller must:

- confirm that the last signalled train movement has left the section complete
- confirm that the track indicates as occupied and displays ‘red’ on the panel
- initiate a ‘reset’ in accordance with Local Signalling Instructions

- contact the Operator of the next movement and instruct that a ‘sweep’ is to take place
- set the route and authorise the movement
  - Usually by ‘R’ light, ‘A’ light or Low Speed Signal Aspect or verbal authority for Starting signals

The Operator must:

- proceed at Restricted Speed, being prepared to find and stop short of an obstruction, a displaced rail, or defective level crossing warning equipment
- confirm to the Train Controller when clear and complete of the section to which the signal applies These actions will normally restore the axle counter to the unoccupied state.

1.18.2 Failure of Reset Process

If the ‘sweep’ movement fails to reset the track section to the unoccupied state:

- a Signals Maintenance Representative must be in attendance
- The Train Controller must confirm that the last signalled train movement is clear and complete of the affected section
  - This will indicate a fault that will require a co-operative reset between the Train Controller and Signal Maintenance Representative.
- The Train Controller may then authorise the Signals Maintenance Representative to operate the reset button

1.18.3 Hi-Rail Vehicles Movements

Hi-Rail vehicle movements may only on / off track at road level crossings clear of the axle counter heads, where specified on S&I Diagrams or in non-interlocked areas.

On / off tracking at other locations within axle counter areas is prohibited

NOTE

Hi-Rail vehicle (less than 2000kg, i.e., LIV’s) movements may only occur, when a Signals Maintenance Representative is in attendance to reset axle counters.

The Train Controller must confirm that a Signals Maintenance Representative is in attendance to reset axle counters before authorising the movement(s).

Reason: Risk of Axle Counter Interference.

The Train Controller must:

Follow the procedures in the Local Signalling Instructions for application of protection / blocking.

1.18.4 Track Evaluation Car EM80 or NDT Test Car (Speno) When Testing

The movement of track evaluation car EM80 or NDT Test Car when testing, must only occur when a Signals Maintenance Representative is in attendance or Infrastructure personnel are in attendance to reset axle counters.

Reason: Risk of Axle Counter Interference.

1.19 Detonator Protection for Disabled Trains

For all lines and branches between Swanson and Papakura inclusive.

Should a train become disabled and require assistance from a relief rail vehicle which will approach from the rear, detonator protection may not be required, if:

- the disabled train is on the 'normal' main. That is, prior to disablement the train was travelling in the direction for which the line is principally signalled for. (NOTE: As the future NIMT West Main in the Auckland Metro Network is signalled fully for bi-directional running, the 'normal' main will relate to the direction the block control was set as the time of disablement), and
- the relief rail vehicle is approaching from the same direction of travel as the disabled train, and
- there are no other hazards or situations that would necessitate the use of detonator protection

RP16 Disabled Train Recovery is modified accordingly.

Detonator protection must still be applied to protect the rear of disabled trains when:

- the disabled train was travelling in the opposite direction for which the line is principally signalled for prior to becoming disabled, or
- emergency or environmental situations necessitate their use, for example:
  - protecting an adjacent line
  - poor visibility caused by fog, rain, or any adverse weather
  - degraded radio functionality, or
  - The Operator Disabled Train or Operator Relief Train determines detonator protection is necessary

1.20 Maximum Speeds

1.20.1 Maximum Speed of Motive Power and Rolling Stock

Motive Power Type	Speed km/h
EMU ETCS	110
EMU (ETCS isolated)	40
DC, DFB, DFT, DH, DXB, DXC, DXR and EF	100
DL	80

Referring to tables below:

- Electric Multiple Units (EMU) with non-operational ETCS must not exceed 40 km/h, AND must observe any lower speed as per EMU
- Electric Multiple Units (EMU ETCS) with operational ETCS must not exceed the maximum speed displayed on the DMI screen or as per ETCS EMU.

1.20.2 North Auckland Line

Portion of Line	Kilometres per hour				
	ETCS EMU	EMU	P	Exp F	F
Westfield–Newmarket 204/206 Signal	**90**	**80**	**80**	**70**	**55**
EXCEPT					
Down trains through Diamond with NIMT	60	60	60	60	..
Past all platforms for Concrete Sleeper Layer	..	..	..	..	15
Past Penrose Platform for FE wagons	..	..	..	55	..
Over bridges No.8 at 4.8 km and No.10 at 5.09 km between Ellerslie and Greenlane for OM wagons	..	..	..	50	50
Newmarket 204/206 – 211/207 signal	**70**	**70**	**70**	**70**	**55**
EXCEPT					
Up trains departing 212 signal to clear of 213 signal	25	25	25	25	25

Portion of Line	Kilometres per hour				
Up trains departing 210 signal to clear of 209 signal	25	25	25	25	25
Through Down Directing Link between 209 and 205 signal	25	25	25	25	25
Through Up Directing Link between 203 and 213 signals	25	25	25	25	25
Past all platforms for Concrete Sleeper Layer	..	..	..	..	15
Newmarket 211/207 signals – Morningside (13.3 km New North Overbridge)	70	70	70	70	50
Past Morningside Down Main platform for JP wagons	..	..	..	15	15
Morningside (13.3 km New North Overbridge) - Fruitvale Ave (21.70 km between Fruitvale and Glen Eden)	**80**	**80**	**80**	**80**	**50**
Past all platforms Baldwin Avenue - Henderson for Concrete Sleeper Layer	..	..	..	..	15
Fruitvale Ave (21.70 km between Fruitvale and Glen Eden) - Swanson (32 km)	**90**	**90**	**90**	**80**	**50**
Through No.1350 turnout Swanson	40	40	40	40	40
Swanson (32 km) - Waitākere	**..**	**40**	**40**	**40**	**40**
Up trains through No.1370 turnout Swanson	..	40	40	40	40
For Concrete Sleeper Layer	..	..	..	15	15

Temporary Reduction of Line Speed - Pending track repairs and reinstatement work following storm damage, the line speed between 1303AC Down Home signal Swanson and 8LABC Down Home signal Waitākere has been reduced to 25 km/h.

Speed boards have not been erected. **TO10 Network Line Speeds, 5. Temporary Speed Restrictions** is modified accordingly.

1.20.3 Auckland – Newmarket Line

Portion of Line	Kilometres per hour				
	ETCS EMU	**EMU**	**P**	**ExpF**	**F**
Quay Park Junction (Nos 34/36 signals) to 0 km at Newmarket Down main (UP and DOWN direction) to 251pts and Up main (Up direction) to 260pts	**90**	**60**	**60**	**60**	**55**
Quay Park Junction (Nos 34/36 signals) to 0 km at Newmarket Up main (DOWN direction) to 260pts	**60**	**60**	**60**	**60**	**55**
EXCEPT					
At Quay Park Junction between Nos 34/36 signals and Bridge 7 ([x] Freight trains routed via Strand)	30	25	25	25[x]	25[x]
Containers on UK type wagons Down line only	..	..	..	25	25
Down Trains through turnout to North Auckland Line at Newmarket	25	25	25	25	25

1.20.4 Onehunga Branch

Portion of Line	Kilometres per hour		
	ETCS EMU	**EMU P**	**F**
Penrose – Mays Road	**90**	**60**	**55**
Mays Road – Onehunga	**60**	**60**	**55**
EXCEPT			
Penrose between No.373 points and No.375A points	30	25	25
Penrose between No. 375A points and O'Rorke Rd Level Crossing at 0.59 km	25	25	25

1.20.5 North Island Main Trunk

Portion of Line	Kilometres per hour				
	ETCS EMU	EMU	Exp P	Exp F	F
DOWN TRAINS					
Auckland–Westfield	**100**	**100**	**100**	**80**	**55**
EXCEPT					
At Auckland From Waitematā (Britomart) Station Platforms	25	25	25	..	..
From 50 Signals to clear of 35A points Up and Down direction	70	40	40	..	..
Through Tunnel 19 for TSF containers on HKK, IA, IAB, IAC, IH type and UK type wagons	..	..	..	15	15
Through Tunnel 19 for USQ wagons conveying 2.9m containers and TSD containers	..	..	..	25	25
Through new turnout 1589 on Up Main between Westfield Junction and Sylvia Park	60	60	60	60	..
Panmure–Westfield					
Through turnouts at Junction with North Auckland Line at 666.01 km	40	40	40	40	40
Westfield–Pukekohe	**110**	**110**	**100**	**80**	**55**
EXCEPT					
CIMW Site between 649.400 km and 649.600 km **Constant Speed** required over site	..	..	..	70	..
Between 2508ABC Up Directing signal and 2505ABC / 2507ABC Down Directing signals at Pukekohe	40	40	40	40	40
Westfield–Paerata					
From 8L Mission Bush Junction, through crossover from Down to Up Main and through turnout to Branch Main (clear 9 points)	..	..	..	50	50

Portion of Line	Kilometres per hour				
	ETCS EMU	EMU	Exp P	Exp F	F
UP TRAINS					
Pukekohe–Westfield	**110**	**110**	**100**	**80**	**55**
From 2505BI / 2507BI Banner signals to 2508ABC Up Directing signal at Pukekohe	40	40	40	40	40
EXCEPT					
Pukekohe–Paerata					
From 2R through turnout along Link Road to junction with Branch Main (clear 11 points)	..	..	..	50	50
Paerata–Otahuhu					
Up trains from 2253B points to 2216 signal (Papakura)	40	40	40	40	40
Westfield–Auckland	**100**	**100**	**100**	**80**	**55**
EXCEPT					
Through turnouts at Junction with North Auckland Line at 666.01 km	40	40	40	40	40
Through new turnout 1589 on Up Main between Westfield Junction and Sylvia Park	60	60	60	60	..
Through Tunnel 19 for 2.9m containers on USQ wagons TSF containers on HKK, IA, IAB, IAC, IH type and UK type wagons	..	..	..	25	25
At Auckland					
From The Strand Overbridge to 33 points	40	40	40	..	..
From 33 points to 42 signal Up and Down direction	70	40	40	..	..
then to Waitematā (Britomart) Station Platform	25	25	25	..	..

1.20.6 Manukau Branch

Portion of Line	Kilometres per hour		
	ETCS EMU	EMU	P
Wiri Junction – Manukau	**70**	**70**	**70**
EXCEPT			
Up trains from 1812 signal and through the junction turnouts with NIMT	40	40	40
Down trains through the junction turnouts from the NIMT until clear of 1855 or 1861 points	40	40	40
Up trains departing Manukau Platform to 1902 or 1904 signal	25	25	25
Down trains from 1902 or 1904 signal to Manukau Platform	25	25	25

1.20.7 Mission Bush Branch

Portion of Line	Kilometres per hour		
	Exp P	Exp F	F
Paerata – Mission Bush	**70**	**70**	**55**
EXCEPT			
DOWN TRAINS			
From 0.13 km to 0.90 km	50	50	50
From 9.00 km to 9.50 km	60	60	..
UP TRAINS			
From 9.50 km to 9.00 km	40	40	40
From 1.60 km through 11 points to Link Road and through crossover to Down Main NIMT (clear 3 points)	40	40	40
From 1.60 km through 11 points to Branch Main and through points to Up Main NIMT (clear 9 points)	40	40	40

1.21 Whistle Boards

Track Meterage		Locations at or Between	Warning for
For “Down” trains km	**For “Up” trains km**	..	..
..	34.84	Swanson and Waitākere	Private level crossing
649.10	649.08	Walters Road between Takanini and Papakura	Increasing use of level crossing from local development
..	Ex link siding between 67 points and 68 signal	Strand	Pedestrian crossing south end of platform 1
..	Ex Newmarket Line between 74 points and 28 signal	Strand	Pedestrian crossing south end of platform 1
..	Passenger services departing must sound the horn before moving	Strand Platform 1	Proximity of pedestrian crossing

1.22 Recovery of Metro Passenger Trains

Table 1. Recovery Options for Disabled AM Trains

	Disabled Vehicle		
	Single AM	Double AM	Other*

Assisting Vehicle	**Single AM**	Yes	No	No
	Double AM	Yes	Yes	No
	Other*	Yes	Yes	N/A

***Other**: A locomotive (travelling light), freight train, shunt or long distance locomotive hauled passenger train.

IMPORTANT
When a diesel locomotive is directed by Train Control to assist a Metro passenger train, the Locomotive Engineer of the Metro train is responsible for coupling and all brake set-up and testing on the vehicle being assisted. The Locomotive Engineer of the Metro train will certify verbally to the relief Locomotive Engineer when the consist is ready and safe to be moved.

NOTE
The procedure for “Defective ETCS while in service” must also be applied as detailed in ETCS bulletin instructions.

Detailed instructions (for example, vehicle numbers, mechanical couplings, electrical couplings, brake setup etc) are detailed in the Transdev EMU (AM) Recovery Procedures.

1.23 AM Class EMU Testing

All AM Class EMUs will be operated by Auckland One Rail.

1.23.1 Operation of Test Trains

AM Class EMUs may operate on the main line for mechanical and ETCS testing as notified by Daily Information Bulletin.

Mechanical test trains may consist up to a maximum of six coupled EMU sets only under power and when operating in excess of two coupled EMU’s this must be specifically included in the Daily Information Bulletin.

EMU mechanical test trains may operate amongst all scheduled services as directed by Train Control in compliance with the restrictions herein.

ETCS test trains will only operate after scheduled services are complete in the test area, and testing must be complete before scheduled services recommence.

When the ETCS test trains are testing new signals or interlocking, the test results must be confirmed by a KiwiRail Signals Engineer and ETCS Test Engineer before they are certified for normal operations.

EMU test trains will be numbered with the prefix TT.

1.23.2 Neutral Section Management

The following procedure must be applied by all AM Class trains when transiting the Westfield – Penrose and Orakei – Auckland Neutral Sections when ETCS is not in Full Supervision mode:

1. The Master Controller must be placed into neutral position and the VCB's (circuit breakers) opened by the Operator prior to passing the neutral section commencement board.
2. The EMU must coast through neutral section using the designated trackside marker points denoting start and finish locations.

1.23.3 Wheel Flange Lubrication System Testing

Wheel flange lubrication testing shall only be undertaken when authorised by bulletin that must determine the track inspection requirements and mitigation of wheel slide risk to other trains.

1.23.4 Low Adhesion Brake Tests

Low Adhesion Brake details must be included in the appropriate Daily Information Bulletin. This entry must detail the track cleaning procedures and post braking verification.

1.23.5 ETCS SPAD Testing

Periodic testing of the ETCS system on each new EMU involving passing signals at danger is authorised to occur under the following conditions and using the procedure below:

The Operator of the test train must advise the Train Controller in advance of departing the Wiri Depot of all ETCS SPAD test requirements and locations.

Each ETCS test train must be under the supervision of an approved Test Train Officer who will be responsible for directing and supervising the Operator in the safe conduct of each test.

Passing Signal without Stopping - The Train Controller may verbally authorise ETCS test trains to pass the signals listed in the table below at stop without the train stopping at the signal concerned, in accordance with associated safeguards listed. The Operator must request a separate authority for each occasion this is required. Rules **SO01 Responding to Signals, 4.3 Authorising Passing of Signals at Stop**, **SO02 Automatic Signalling Rules, 6. Passing Intermediate Signals at Stop** and **8. Interlocked Stations** are modified accordingly.

Stopping at Signal – For driver training and ETCS testing, the Train Controller may verbally authorise test trains to pass a signal at stop once the train has stopped at the signal concerned. **SO01 Responding to Signals, 4.3 Authorising Passing of Signals at Stop** is modified accordingly.

NOTE

ETCS test trains must not set back to repeat any test without the correct authority from the Train Controller to reverse direction (verbal or SWA-01 authority within a section)

Table 2. Signals that may be passed at stop for ETCS testing

Signal to be passed at stop without stopping:	Safeguards required before authorisation from the Train Controller:
1638 Up Directing Signal Westfield	Section beyond 1638 signal must be clear, and 1504 signal must be at proceed. Note: Test trains may set back in accordance with **SO02 Automatic Signalling Rules,8. Interlocked Stations**
M6616 Up Intermediate between Papatoetoe and Middlemore	Section beyond M6616 must be clear and signals 1604ABC and 1642ABC must be at proceed.
M6606 Up Intermediate at Papatoetoe	Section beyond M6606 must be clear and Signal M6616 must be at proceed.
M6598 Up Intermediate between Puhinui and Papatoetoe	Section beyond M6598 must be clear and Signal M6606 must be at proceed.
M6621 Down Intermediate at Middlemore	Section beyond M6621 must be clear and Signal M6613 must be at proceed.

Signal to be passed at stop without stopping:	Safeguards required before authorisation from the Train Controller:
M6603 Down Intermediate at Papatoetoe	Section beyond M6603 must be clear and Signal 1803ABC must be at proceed.
M6776 Up Intermediate at Orakei	Section beyond M6776 must be clear and Signals M6784 and Auckland 128 must be at proceed.
M6783 Down Intermediate between Auckland and Orakei	Section beyond M6783 must be clear and Signals M6773 and M6761 must be at proceed.
M6536 Up Intermediate at Manurewa	Section beyond M6536 signal must be clear and signal M6546 must be at proceed.
M6543 Down Intermediate between Homai and Manurewa	Section beyond M6543 signal must be clear and signal M6533 must be at proceed.

1.23.6 Test Trains Changing Direction

SO02 Automatic Signalling Rules, 5. Setting Back in a Block Section Authority applies to all EMU test trains provided the train is standing at the respective home signal in rear to return.

2. Level Crossings

2.1 Automatic Alarms

Standard flashing lights and bells are installed except where indicated.

Symbol	Meaning
A	Bell signals operate during restricted hours
B	Barrier arms also provided
C	Fitted with strobe lights
D	Fitted with Level Crossing Predictor
E	Bell signals and signs worded “TRAIN COMING” operates when a train is approaching
G	Pedestrian automatic gates also provided
M	Manual Control instructions on following pages.
O	Equipped with control panel to switch alarms off
P	When a power failure occurs and Points Indicators have been illuminated or a signal cleared for a movement, these level crossing alarms will continue to operate for up to four minutes before cancelling. Under these conditions the Operator should approach the crossing with caution even if the alarms are operating.
R	Fitted with Remote Control for Hi-Rail vehicles
S	Fitted with special level crossing manual control panel
T	Fitted with remote manual control and barrier raise from Train Control
X	Enlarged white side lights.

Unless otherwise stated, level crossing alarms will start and cancel automatically for the passage of trains.

In signalled areas the alarms will operate in conjunction with the signals leading over them. If it is necessary to pass a signal at Stop, all or some of the alarms in the section ahead may not operate correctly. In several cases as specified by S&I Diagram, alarms will operate in conjunction with signals controlled by a local panel. Pressing the “Clear” button will initiate the alarms and after a short delay the signal will clear. Pressing the “Stop” button will restore the signals to Stop and after a time delay the alarms will stop.

Crossings fitted with Level Crossing Predictors do not have a fixed starting point; rather the warning time for the automatic alarms is computed from the speed of the approaching train. Therefore, through movements approaching the crossing should not accelerate but maintain a constant speed after passing a point approximately 500 metres from the crossing. If a movement stops on the approach to the crossing, provided it is not within 15 metres of the crossing, the alarms will cancel. When the movement restarts, the alarms will also restart automatically but the warning time may be reduced. The Operator must observe that the alarms are operating before proceeding over the crossing.

To avoid excessive operation of alarms when shunting, or for non-automatic operation, manual controls consisting of “Start” and “Cancel” buttons are provided as shown below. Alarms started manually will cancel automatically when the train clears the crossing unless otherwise stated. Once the alarms have been manually cancelled all subsequent operations must be manually operated until the train leaves the area. Under manual control the Operator must check the alarms are operating before proceeding onto the crossing. Where barrier arms are provided the Operator must wait until the barriers are fully down before proceeding onto the crossing.

When manually cancelled or cancelled automatically after the train has passed over the crossing, if the train remains in the track-circuit controlled area for a prolonged period the alarms may reactivate and should be manually re-cancelled.

Manual controls must not be used to cancel alarms operating due to fault conditions.

Pedestrian crossings which have “O” feature can have the alarms turned off, with “Normal” and “OFF” facility, for work that needs to be carried out in the vicinity of these pedestrian crossings and may be interfered with axle counter tracks or track circuits.

When the key switch in the control box is switched to the "OFF" position, the signals protecting the relevant crossing will be fixed at Stop and a manual indication will be illuminated on the Train Control panel to advise the Train Controller the pedestrian crossing alarms have been turned off.

The Train Controller is to be informed when the work is completed, and the control box restored to “Normal”.

2.2 North Auckland Line

Km	Features	Crossing	Locations at or between
1.42	B S	Church Street East	Westfield and Penrose
11.37	B G S	George Street	Mt Eden and Kingsland
12.80	B S	Morningside Drive	Morningside
14.03	B G S	Asquith Avenue	Morningside and Baldwin Avenue
14.13	B G S	Rossgrove Terrace	Baldwin Avenue
14.34	G O	Baldwin Avenue Pedestrian	Baldwin Avenue
15.80	B G S	Woodward Road	Mt Albert and Avondale
17.13	G O	Crayford Street Pedestrian	Mt Albert and Avondale
17.40	B G S P	St Jude Street	Avondale
17.64	B G S	Chalmers Street	Avondale and New Lynn
18.23	B G S	St George’s Road	Avondale and New Lynn
18.88	B G S	Portage Road	Avondale and New Lynn
20.94	B G S	Fruitvale Road	Fruitvale Road
22.43	B G S	Glenview Road	Glen Eden
24.20	B G S	Sherrybrooke Place	Glen Eden and Sunnyvale

Km	Features	Crossing	Locations at or between
25.55	B G S	Bruce McLaren Road	Sunnyvale and Henderson
27.37	B G S	Mt Lebanon Lane	Henderson and Sturges Road
28.08	G O	Sturges Road Pedestrian	Sturges Road
29.50	B G S	Metcalfe Road	Ranui
29.75	G O	Ranui Pedestrian	Ranui and Swanson
31.39	O	O'Neils Road Pedestrian	Ranui and Swanson
32.36	B S	Christian Road	Swanson

2.3 Auckland – Newmarket Line

Km	Feature	Crossing	Locations at or between
-	-	-	-

2.4 Onehunga Branch

Km	Feature	Crossing	Locations at or between
0.59	B S	O'Rorke Road	Penrose
1.03	B S	Maurice Road	Penrose
1.89	B S	Mays Road	Penrose and Te Papapa
2.13	B G S	Capt. Springs Road	Te Papapa and Onehunga
2.23	B S	Church Street	Te Papapa and Onehunga
2.77	B S	Alfred Street	Te Papapa and Onehunga
2.98	B S	Victoria Street	Te Papapa and Onehunga
3.38	B S	Galway Street	Onehunga

2.5 North Island Main Trunk

Km	Feature	Crossing	Locations at or between
632.95	A E T	Tuhimata Road Pedestrian	Paerata
633.57	A B S T	Crown Road	Paerata
643.36	B S T	Sutton Road	Drury Junction
644.60	B S T	Opaheke Road	Drury Junction and Papakura
645.53	B S	Boundary Road	Papakura
649.19	B G S	Walters Road	Papakura and Takanini
650.38	B G S	Taka Street	Papakura and Takanini
650.57	G O	Takanini Pedestrian Up and Down Mains	Takanini
650.89	B G S	Manuroa Road	Takanini and Te Mahia
651.46	B G S	Spartan Road	Takanini and Te Mahia
652.32	E G O	Te Mahia Pedestrian Up and Down Mains	Te Mahia
655.62	O	Homai Pedestrian South	Homai
655.77	O	Homai Pedestrian North	Homai
672.53	E O	Glen Innes Pedestrian (South)	Glen Innes Up Main
672.72	G O	Glen Innes Pedestrian (North)	Glen Innes Down Main

2.6 Mission Bush Branch

Km	Feature	Crossing	Locations at or between
2.00		Heights Road	Paerata and Patumahoe

Km	Feature	Crossing	Locations at or between
6.51		Patumahoe Road	Paerata and Patumahoe
10.01		Pilgrims Road	Patumahoe and Glenbrook
10.97		Somerville Road	Patumahoe and Glenbrook
11.59	M	Glenbrook Station Road	Patumahoe and Glenbrook

2.7 Otahuhu (Pacific Steel Siding)

Km	Feature	Crossing	Locations at or between
Refer Yard Diagram			
Otahuhu Pacific Steel Private Siding	B M	Toll Savill Drive: Road level crossing with pedestrian crossing	Toll entrance from Savill Drive adjacent to Pacific Steel Gate Siding 6
Otahuhu Fletcher Building Private Siding			

2.8 Alarms with Manual Control

2.8.1 Glenbrook Station Road, Glenbrook

Manual control is available for Up trains adjacent to LWLB switch lock and on the platform. There may be a short time delay in the alarms cancelling when the “Cancel” button is first pressed.

2.8.2 Toll Savill Drive, Otahuhu

The Toll Savill Drive road and pedestrian crossing is equipped with half-arm barriers and 2 indicators displaying a steady red light to protect each side of the crossing.

The pedestrian crossing is fitted with flashing lights and bells and operates with but cancels independently of the road crossing.

Normal approach to Pacific Steel Siding:

The alarms will operate automatically for movements into Pacific Steel, and automatically cancel.

The alarms are activated when passing the “ALARMS START HERE” board and the red light on indicator X1R will extinguish and display a white “T” light after the barriers are detected down and the Pacific Steel gate is detected fully open.

IMPORTANT
If X1R is displaying a red light after the crossing has activated and the barriers are detected down, Operators must check the gate is fully open before proceeding over the crossing.

Shunting movements into and out of Pacific Steel Siding:

If required to set back into Pacific Steel after coming out for wagon pulling & placement, Pushbutton 1 will start the alarms if a train is standing on the approach to X1R indicator, clear of the crossing.

When Pushbutton 1 START is pressed, the alarms will start, provided the barriers have been up for a minimum of 10s.

The red light on indicator X1R will extinguish and display a white “T” light when the barriers are detected down and the Pacific Steel gate is detected fully open.

If the shunt does not proceed past indicator X1R, pressing the CANCEL button will cancel the alarms.

Exiting Pacific Steel:

Movements exiting Pacific Steel require push button operation to start the level crossing.

When Pushbutton 2 START is pressed the alarms will start.

If the movement has not proceeded past indicator X1L, or after shunting onto the road and setting back into Pacific Steel, pressing CANCEL will cancel the alarms,

The red light on indicator X1L will extinguish and display a white “T” light when the barriers are detected down and the Pacific Steel gate is detected fully open.

IMPORTANT

If X1L is displaying a red light when the crossing is activated and the barriers are down, Operators must check the gate is fully open before proceeding over the level crossing.

NOTE

The sliding gate is under the control of Pacific Steel and contact instructions between Westfield Operations and Pacific Steel for opening and closing the gate remain unaffected by the level crossing operation.

3. Standing Room for Wagons

3.1 North Auckland Line

Locations	Standing Room metres	Description of Siding
Penrose	208	West Siding between 315 and 316 signals
Westfield	181	Loop
Southdown	600	No.1 Arrival Road
	623	No.2 Arrival Road
Morningside	160	Siding 1
	160	Siding 2
Henderson Storage Siding	645	Siding 283m Main line to stabling area 225m (Storage Road) clear of stabling yard entry turnout to end of siding (Storage Road for Train Control use, i.e., for storage of MTMV, defective vehicles, etc.)
Swanson	237	Up Main, between 1307 and 1308 signals
	237	Down Main, between 1305 and 1310 signals
Waitākere	615	Loop

3.2 Onehunga Branch

Locations	Standing Room metres	Description of Siding
Onehunga	95	Platform
Te Papapa	98	Siding

3.3 North Island Main Trunk

Locations	Standing Room metres	Description of Siding
Sylvia Park	263	Siding
Tamaki	548	Siding
Papakura	720	Down Main
	210	P1
	199	P2
	223	P3
	123	P4

3.4 Mission Bush Branch

Locations	Standing Room metres	Description of Siding
Glenbrook	218	Siding
Mission Bush	447	No.1 Arrival, Departure
	393	No.2 Arrival, Departure

3.5 Manukau Branch

Locations	Standing Room metres	Description of Siding
Manukau	155	Platforms

4. Clearances

4.1 Sidings and Structures

The following sidings and structures are not to standard height and/or side clearance. Exercise extra care when working in these localities. Yard clearances are advised with the Workplace Safety Plan.

Rolling stock must not be shunted past, or through any structure without first ensuring that clearances are adequate.

An asterisk (*) alongside the name of the line or siding indicates that the distance shown in the column "Side Clearance from Centre Line of Track" is the distance between the centre lines of the two tracks and is substandard.

4.2 North Auckland Line

Location	Siding or Line	Structure	Height above rail level mm	Side clearance from centre line of track mm	Remarks and rolling stock prohibited from passing structure
Westfield	Down Main		..	3570	
Penrose	Down Main Line	Platform	480	1630	
	Down Main and siding*		..	3700	
Ellerslie	Up Main Line	Platform	590	1330	
Greenlane	Down Main Line	Platform	515	1340	
Remuera	Up Main Line	Veranda	3397	1670	
	Down Main Line	Veranda	3177	1660	
Morningside	Up Main Line	Platform	560	1360	
	Down Main Line	Platform	620	1355	
Waitākere	Main and Loop*		..	3610	

4.3 North Island Main Trunk

Location	Siding or line	Structure	Height above rail level mm	Side clearance from centre line of track mm	Remarks and rolling stock prohibited from passing structure
Papakura	Up Main and Loop*		..	3740	
Otahuhu	West Yard 1 and 2*		..	3380	
	Down Main and Siding*		..	3870	
Tamaki	Down Main and Siding*		..	3540	
Auckland	Platform Roads	Platforms			Vehicles not authorised to run into Waitematā (Britomart) area temporarily specified in the Waitematā (Britomart) Operating Instructions

5. Radio Channels

5.1 Auckland Metro

Area	Channel	Call Sign
Newmarket - Waitākere (includes station limits Newmarket)	8	Auckland West
Auckland - Newmarket Auckland - Westfield (includes Auckland Station Limits) Waitematā (Britomart) Tunnel	7	Auckland East
Newmarket - Westfield (includes station limits Westfield) Onehunga Branch	6	Auckland Central
Otahuhu – Pukekohe Manukau and Mission Bush Branch	3	Auckland South

NOTE

Channel 3 coverage is continuous from Waitākere to Pukekohe for emergency calls.

All channels are continuously monitored and recorded by the Train Control Centre

5.2 Special ASP Train Control Radio Channels

Area	Channel	Call Sign
Auckland Station Limits	ASP 0	Auckland East
Westfield Station Limits	ASP 11	Auckland Central

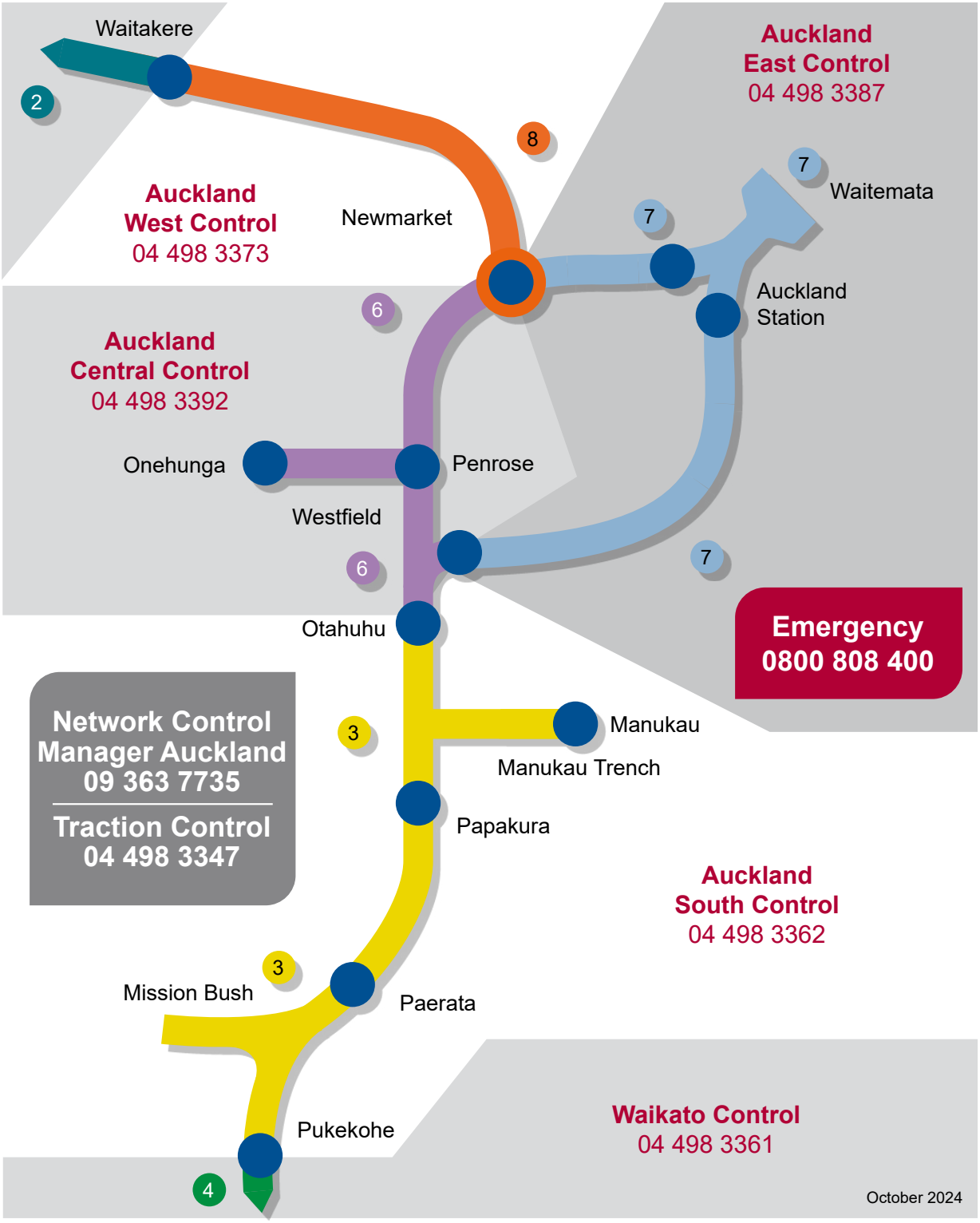
5.3 Metro Operators Radio Channels

Area	Channel	Call Sign
Wiri Depot Movements Controller	Wiri Depot	Wiri Ops
On-Call EMU maintenance	Train Fleet	CAF Tech

5.4 Snake Diagram

KiwiRail

Auckland Train Control Radio & Telephone Map



6. Auckland Electrified Area

IMPORTANT
All parts of the Auckland Suburban electric traction overhead equipment must be treated as live at all times

Electrified area is:

- NIMT from Pukekohe to Britomart (both inclusive)
- NAL from Westfield to Swanson (both inclusive)
- Newmarket Line
- Manukau Branch
- Onehunga Branch

Emergency Freephone Line

For all overhead emergencies, contact Train Control Emergency Line 0800 808 400

Traction Control may contact Transpower for an emergency isolation at supply:

From: The southern limits of electrification - 628.389 km NIMT (Pukekohe Station Limits)	**To:** 681.75 km NIMT (Britomart including all platforms) Includes • Manukau Branch • Southdown Branch
From: 0.0 km NAL (Westfield Junction)	**To:** The northern limits of electrification - 32.63 km NAL (station limits Swanson) Hamilton Traction Substation Includes: • Newmarket Branch • Onehunga Branch
Transpower Otahuhu Regional Control Centre Ph. (09) 274 8736 Fax. (09) 274 4020	

6.1 Damaged Overhead

In addition to reporting overhead line equipment (OLE) that is damaged, broken, loose, or any excessive flashing under **GR07 Overhead Line Equipment, 5. Damaged OLE**, all rail personnel must also immediately advise the Train Controller if they observe any:

- objects on or close to the OLE, or
- unusual sagging or movement of the OLE, or
- unusual noises coming from the OLE, or
- arcing when travelling through a neutral section.

All reports of excessive arcing (including any arcing through a neutral section) must be notified to the Train Controller who must call out Traction field staff immediately.

Trains should be stopped if they will be affected by the damage or further damage will be caused to the OLE by train movements.

6.2 Cut-Off of Overhead

The cut-off of overhead power is arranged by Traction Control. Before power is cut off, Traction Control must obtain permission from the Train Controller and from the OIC at Henderson and / or Wiri Yards when the cut-off affects these locations. Before giving permission, the Train Controller and / or the Yard OIC must ensure electric trains are either clear of the affected area, stabled or advised of the power loss (in the case of switching).

NOTE
Planned power isolations should not be delayed for Depot EMU cleaning activities.

6.2.1 Planned Work

Usually for planned work on the main line, crossing loop or interlocked areas, the area affected by the power cut-off will be advised on an Information or Special Bulletin.

In instances where short notice is given of a power cut-off and it is not practical to use a bulletin, then the cut-off can be authorised on an EF25A which is to be completed by Traction Control and the Train Controller.

In non-interlocked, yard, and depot areas, the EF25A authority will be used and issued to the Person in Charge for the area, who will be responsible for advising those concerned.

6.2.2 Unplanned / Emergency Situations

When the overhead power is required to be cut-off in unplanned or emergency situations, this will be communicated on an EF25A depending on the area affected.

WARNING
During the period of overhead power is cut off between the points specified on the bulletin or EF25A, the movement of electric services with pantographs raised from the "live" area to the "dead" area is prohibited.

6.2.3 Switching

An EF25A is not required for switching operations, for section of overhead where the power is not intended to remain off.

6.4 Advice of Power Failure

When the power fails, Traction Control will advise the Train Controller as soon as possible of the extent and duration of the failure.

Train Controllers will inform the Operators of trains affected.

When it is necessary to isolate power, Traction Control must advise the Train Controller who will inform the Operators affected that there will be a momentary loss of power while switching procedures are carried out.

6.5 Recovery of EMUs Stalled in a Neutral Section

6.5.1 Safety Instructions

Operators must:

- not allow any pantograph to transit the insulated section (central 10 metres) of a neutral section with the VCB closed as it is likely to draw an arc that will earth and cause a supply trip-out and / or damage
- either exit on the non-track side of the train where footing is safe, or exercise care and cross the opposite line clear of approaching trains to a line-side position of safety to observe pantographs
- report all stallings to the Train Controller who must call out Traction field staff to inspect for damage.

6.5.2 Recovery Procedure

Any train stalled within ‘Neutral Section Begins’ and ‘Neutral Section Ends’ signs must be recovered either by coasting downhill or assisted by a relief train.

6.5.3 EMU Stalled

If the train is on a flat grade, request a relief train from the Train Controller.

If the train can coast in reverse down hill:

- advise the Train Controller
- change ends and activate cab
- complete and read back SWA to set back
- manually release the Park Brake
- apply Service Brake
- select Coupling Mode to release Holding Brake via the TMS Control Page Common Menu
  - this is required to allow the unit to roll downhill enough to clear the Neutral Section and allow the VCB to be manually closed. Traction is required to automatically release the Holding Brake
- roll well clear of the ‘Neutral Section Begins’ sign
- manually close VCB by the console toggle switch
- deselect the Coupling Mode
- recommence journey

6.6 Onehunga Branch

Only 1 EMU at a time is permitted in the section from Penrose Platform 3 to Onehunga Station. Should an emergency take place that would require additional EMUs to be stabled or located within this section, the Train Controller must notify Traction Control to change feeding arrangements.

Traction Control will arrange for switching of PNR9a and ONE0006 to feed the line from VCB PNR 18 via the NAL Up Main.

During special events, traction resources must be located in the vicinity of the noted switches for effective response.

6.7 Traction Power Supply

If the Auckland electrified network is operating on a single supply feed or in situations where the supply might otherwise be affected, e.g. when operating via a single OLE catenary wire, in the event that two or more EMUs report unexplained overhead power issues and Traction Control detect or determine that the overhead supply may be unstable, Traction Control will then advise the Train Controllers to instruct all drivers of EMUs to select the Low Power Mode button or command, and confirm actuation via the TMS Station page Event List.

When selected, each consist will reduce max traction power demand by 50%. The EMU drivers will need to reselect the Low Power function after each end or driver change.

Operating in Low Power Mode will reduce the EMUs rate of acceleration only, with no other operational effects or restrictions. This instruction is to remain in effect until the OLE section or network is restored to normal operation.

7. Pukekohe - Westfield

7.1 Mission Bush Branch

7.1.1 Mission Bush Private Locomotive

Common territory for KiwiRail and BHP Steel locomotives exists within station limits at Mission Bush. Before authorising movements past the ATS board at the entrance to the sidings and the exit to the arrival and departure roads, the OIC must make sure that the BHP Steel locomotive is standing clear, and the Person in Charge understands what movements are to be made with the train locomotive.

7.1.2 Locking No.7 and No.9 points Mission Bush

To safeguard against conflicting KiwiRail movements while other shunt movements / maintenance work is being carried out in the BHP Steel Mills designated rail work area, additional protection is provided at No.7 & 9 main line points which will be isolated and locked in normal.

The crank handle, will be locked at a BHP Steel Mills location as set out in the KiwiRail / BHP Steel Mills Joint Operating Plan.

Method of operation:

OIC Mission Bush must request and obtain permission from the Train Controller.

The Train Controller must:

- place No.7 & 9 points to normal
- apply signal blocking to No.7 & 9 points and
- endorse the Train Control diagram
- the Train Controller must then authorise the OIC Mission Bush to isolate No.7 & 9 points in normal and remove the crank handle to the BHP Steel Mills secure location
- OIC Mission Bush must confirm to the Train Controller that No.7 & 9 points are secured in normal and the crank handle is secured

IMPORTANT
The Train Controller must not authorise any rail movements within station limits Mission Bush until the BHP Steel Mill has restored the crank handle to the correct position.

When movements have finished, the OIC Mission Bush must:

- Advise the crank handle has been restored to the correct location and signal blocking applied to No.7 & 9 points is no longer required.

The Train Controller must:

- Update the Train Control diagram and remove the signal blocking on No.7 & 9 points.

Signalling of Trains when Rail Personnel are Not on Duty:

- The Train Controller may berth trains up to 8LABC Down Home signal, at Mission Bush only when KiwiRail personnel are not in attendance.

KiwiRail personnel at Mission Bush:

The last rostered person must advise the Train Controller before they depart who then must endorse the Train Control diagram. The first rostered person must advise the Train Controller on their arrival to commence duty.

Hi-Rail movements to and from Mission Bush:

- All Hi-Rail movements must on / off track at No.1 or No.2 Arrival and Departure Roads.

7.1.3 IP Trains

IP trains that exceed 18-tonne axle load between 11.0 to 9.5 km and 1.5 to 0.7 km must follow these instructions.

Descending these grades, the braking method for train handling is maintaining braking, with the following restrictions:

- The maximum speed descending must not exceed 50 km/h.
- Releasing speed 20 km/h.

If dynamic braking is unavailable, serial braking must be used descending these grades, with the following restrictions:

- The maximum speed at the top of the gradient is 30 km/h.
- The maximum speed descending is 40 km/h.
- Releasing speed - Stopped (bunched).

Locomotive Engineers must tell the Train Controller before departing Mission Bush if dynamic braking is unavailable and serial braking will be used.

Only DL locomotive classes may convey IP wagons with an axle load exceeding 18 tonnes.

Refer **Operating Procedures Mission Bush Branch – Steep Grades Job Aid 7 – Issue 1.**

NOTE

Only Rail Personnel trained and certified in operating procedures **Mission Bush Branch Steep Grades** are permitted to convey IP wagons with an axle load exceeding 18 tonne.

7.1.4 Glenbrook Vintage Railway (GVR)

The Glenbrook Vintage Railway (GVR) siding is off the main line at Glenbrook and is controlled by switch locks. The siding is common territory for KiwiRail and GVR locomotives. Before carrying out shunting operations the Train Crew must ensure that the GVR locomotive is clear of the siding and that the points are set from the GVR main line towards the GVR station and are secured by a GVR padlock.

Operating Arrangements for Points

The siding end points of LWLB switch lock are fitted with a high column switch stand and an electric lock. When the switch lock mechanism is released this in turn electrically releases the high column switch stand points which remain released for as long as the switch lock is released. Both sets of points must be operated separately.

Due to rusty rail conditions and the possibility that the warning devices at Glenbrook Station Road level crossing will not operate correctly, the speed of all trains exiting and entering Glenbrook through LWLB switch lock must not exceed 10 km/h.

7.1.5 Failure 2417 Departure Signal Paerata

To assist loaded trains when 2417 Departure signal has failed:

The Train Controller is authorised to use the following procedure:

Operator

1. Stop the loaded train short of 2402ABC / 2404ABC Paerata

2. Confirm when stopped short of 2402ABC / 2404ABC Paerata

Train Controller

3. Set the route for the proposed movement*

4. Clear 2402ABC / 2404ABC signal

5. If unable to clear 2402ABC / 2404ABC signal*, authorise the passing of 2402ABC / 2404ABC signal

6. Issue a Safe Working Authority to the Operator of the loaded train for 2417 Departure signal

* If any points failures, points need to be isolated and correctly set for the route required.

SO01 Responding to Signals, 4.3 Authorising Passing of Signals at Stop is modified accordingly.

7.1.6 Setting Back

Trains that have stalled or stopped climbing the grade on the ‘Link Road’ or ‘Main Branch’ between:

- 2402ABC / 2404ABC Up Home signals (via Link Road) to 1.0 km Mission Bush Branch, or
- 2409ABC / 2411ABC Down Directing signals (via Branch Main) to 1.0 km on Mission Bush Branch.

must not set back / change direction.

NOTE

Train recovery must be by:

- light locomotive(s) only from either Mission Bush, or
- light locomotive(s) or a lightly loaded service (max load 500 tonne) from Paerata.

Work Trains:

The above instruction also applies to the operation of work trains. Any planned work involving ballast plough-out or rail recovery operations must be restricted to locomotive leading and descending the grade only.

NOTE

Work trains may set back / change direction when pushing back up the grade only.

7.2 Drury

7.2.1 Track Monitoring Equipment #1

As part of the SH1 motorway work at Drury, track monitoring equipment (Sencieve Tri-Axial Sensors) will be installed to measure various types of track movement to provide data for the project team.

The sensors will be progressively installed and remain in place until the end of 2025.

Location:

The sensors will be installed at 2 metre spacings on the outer sleepers of both the up and down mains between the 641.400 km and 641.700 km between Drury Sth Junction and Drury Junction.

Hazard:

When working or walking in the rail corridor within this location, care must be taken to avoid tripping, hitting or damaging the sensors.

Please report any cases of damage or impact to Steve Crump – 021 272-9993

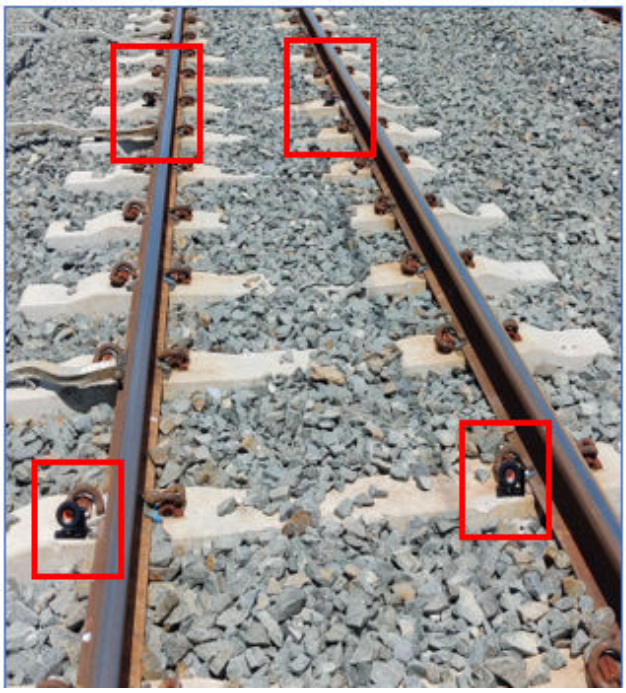
7.2.2 Track Monitoring Equipment #2

As part of the Waihoehoe Road Upgrade project, survey monitoring prisms are to be installed to monitor various types of track movement to provide data for the project team The prisms are comprised of a glass prismatic target (25mm dia.) mounted to an L-shaped bracket that are fixed on the structure to be monitored. The prisms will be monitored automatically by a survey total station attached to nearby OLE mast.

The devices will remain in place until the end of the construction period (approximately end of 2028).

Location:

The survey monitoring prisms will be installed at 4 metre spacings on the sleepers adjacent to the rail on both the up and down mains between the 642.250 km and 642.500 km, near bridge 328.



Hazards:

When working or walking in the rail corridor within this location, care must be taken to avoid tripping, hitting or damaging the prisms.

Please report any cases of damage or impact to Carl Olsen – 021 675 518

7.3 Papakura

Metro Operators, Papakura Operations Supervisor, OIC Papakura (VOIC) (located at the Station) will be on duty weekdays, during the hours of suburban passenger trains at Papakura.

Vehicles from scheduled services may be left unattended on the following tracks:

- Platform 4
- West Main (Platform 3)
- West Loop (Platform 2)
- Platform 1 (Up Main) only AM class EMUs with operational ETCS.

Unplanned requirements to leave vehicles unattended on the above tracks must be authorised by the Signaller.

TO01 Train Movements, 10. Securing Motive Power Units and **TO08 Shunting, 7.3 Standing at Stations** are modified accordingly.

7.3.1 Stabling Facility

The Stabling Facility consists of two sidings (Stabling Roads No.1 and 2) on the east side of Papakura station.

Metro Operations use the Stabling Facility for suburban passenger trains to be stabled and cleaned.

- The Person In Charge of Servicing (PICS) is located in the Stabling Facility (when in attendance, the beacon will be flashing)
- Other maintenance and servicing may be carried out as required by VOIC, who is responsible for the facility.

The depot limits are between 2227 and 2224 / 2228 signals within the controlled network. Suitably qualified servicing personnel may move rail vehicles within these limits.

The central 300 metres of the two sidings is surrounded by security fencing, with security gates across the tracks at each end that are **not** interlocked with signals.

Operators entering or departing these roads must ensure the gates are open and be prepared to stop short of any gate that is closed or foul.

The Metro Operators Joint Site Operating Plan applies to the fenced areas between 2221 / 2223 and 2224 / 2228 signals.

a. **Berthing arrangements**

The Train Controller will berth trains as per the timetabled berthing plan

The Train Controller must advise the VOIC of any alterations that affect customer platforms or stabling order

b. **Authorisation of movements within, entering or departing the Stabling Area Limits**

Movements entering or departing the stabling area are under the control of the Train Controller, and the following local instructions apply:

When the warning beacon is flashing, this indicates servicing activities are being controlled by the PICS:

- the Operator entering the stabling facility must stop the movement at a point immediately prior to first fuel dispenser approached. From this point all movements will be directed by the PICS
- the Operator moving within or departing the stabling facility, must contact PICS (before moving) and come to a clear understanding as to the movement to take place, and then contact the Train Controller.

The PICS can be contacted on channel 1.

When the warning beacon is not flashing:

- an Operator entering is to stable and shut down the service on the road as authorised by the Train Controller, ensuring that the movement stops short of any hazard
- an Operator requiring to either move within, or depart the area, must carry out the safety checks and then obtain authority from the Train Controller before moving.

The Operator of a departing movement must visually establish that the security gates are open.

NOTE
Movements within the Papakura stabling facility area must be operated from the leading cab.

c. **Stabling area Safety Checks before moving within, entering, or departing**

The Safety Check requires personnel to look for the following hazards:

- flashing beacon - servicing personnel are in attendance
- signs erected on or near the track - indicate that workers are, or may be working on or near the rail vehicles

- collars or signs in the cab - indicate that workers are or may be working on or near the rail vehicles
- hoses in fuel tanks or persons at fuelling points - indicate that fuelling is occurring
- derailers, danger stop discs, warning signs
- other rail vehicles moving within the stabling area

Operators are responsible for ascertaining whether the PICS are in attendance before boarding a service.

WARNING

If there are warning signs or indications, the movement must not proceed until the person in charge of the work:

- has been located,
- has cleared all persons to a safe position, and
- has removed the signs, or
- completed the fuelling..

Horn

Must be sounded prior to moving the rail vehicle.

Speed

The speed of all movements within the stabling area must:

- Enable the Operator to stop short of any obstruction, within half the distance of clear line that is visible ahead.
- Not exceed 10 km/h.

WARNING

Substandard Clearance Hazard South end fuel dispenser pit between 1 & 2 roads.

d. **Working by Non-Loco Running Personnel within the stabling area**

Prior to entering stabling area:

- cleaning contractors
- Rolling Stock Maintenance Representatives, and
- Infrastructure personnel

must advise the VOIC and PICS (if servicing is being undertaken) of their presence and confirm protection arrangements in accordance with the Metro Operator’s Joint Site Operating Plan.

TS10 Individual Train Detection does not apply within the stabling area.

e. **Operation of Security Gates**

Gates are not interlocked to the signalling system.

Operators must ensure security gates are open, prior to passing through this area.

Outward opening Security gates are manually operated by VOIC.

During normal operating hours, the train gates at the north and south ends will be secured in the open position by the VOIC who will advise the Train Controller when the gates are opened and closed. When the gates are closed, they will be locked using a chain and 100 padlock.

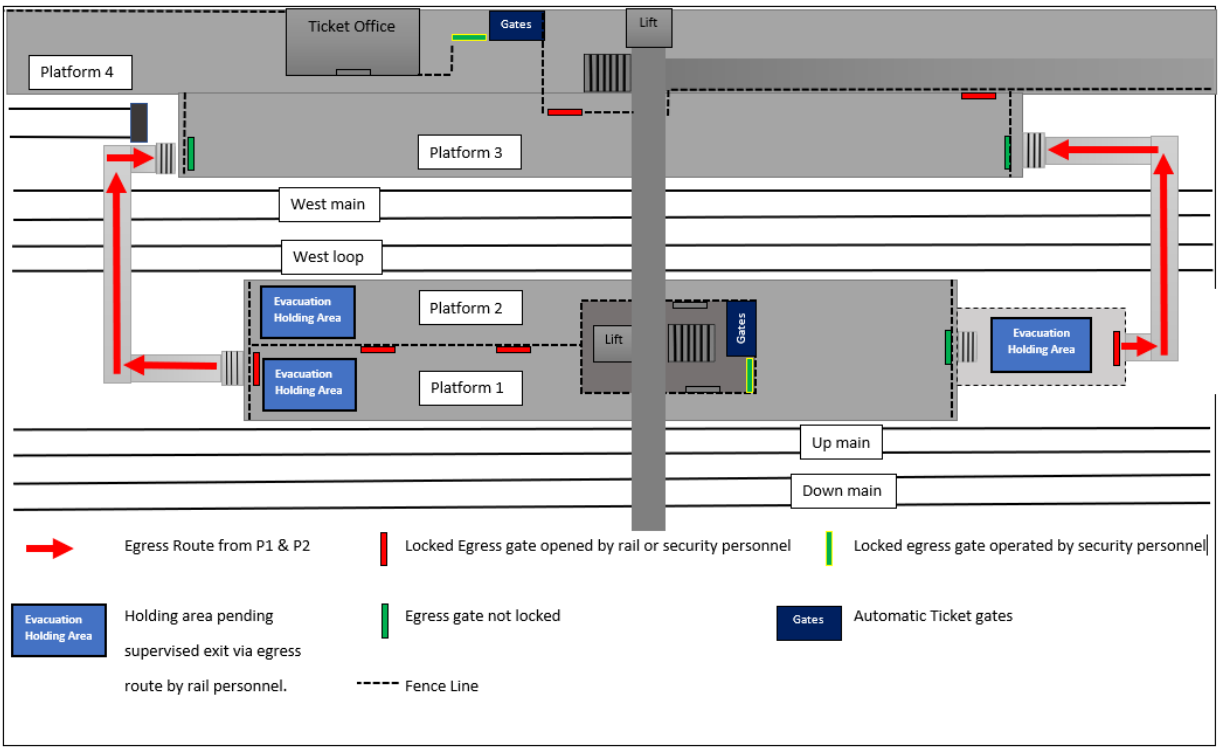
7.3.2 Fire Evacuation Crossing

For Platform 1 and 2, the fire evacuation egress is at the northern and southern ends of the platforms and is designed to be used as an alternative evacuation route, should the centre station stairs not be passable.

The north end of Platform 1 and 2 has a fenced Evacuation Holding Area located at track level.

The south end of platform 1 and 2 has two (2) Evacuation Holding Areas located at platform level.

The evacuation holding areas offer a safe location for evacuating passengers to move away from any train or station fire or other emergency, pending arrival of an authorised person.



The evacuation holding areas have the capacity to house passengers clear of the station platforms and buildings. Locked gates prevent passengers moving out of the evacuation holding areas onto the railway tracks. If evacuation out of the holding areas is required, the locked egress gates will need to be unlocked and opened by an authorised person.

Once authorised by the Train Controller the lock can be unlocked by:

- Fire and Emergency NZ using a 197 key.
- Rail Personnel using a 100 key (i.e. Metro Operators Duty Papakura Operations Supervisor, Train Manager, or Locomotive Engineer.

NOTE
Unlocking and opening of the gates can only occur once the Train Controller has been contacted and it has been confirmed that rail services through Papakura have been stopped.

Should it be necessary to unlock the gates in an emergency, the authorised person shall:

- contact the Train Controller on the emergency telephone number
- advise the Train Controller of their location and the nature of the emergency
- request the Train Controller stops all rail traffic through Papakura Station
- on confirmation from the Train Controller that all traffic has been stopped, proceed with unlocking and opening the locked egress gate
- ensure passengers stay on the formed egress pathway
- advise the Train Controller that the locked egress gate has been unlocked and that passengers are occupying the tracks
- advise the Train Controller once passengers are clear of the tracks and the egress gates are closed and locked.

This procedure is displayed on the egress gates at the north and south ends of platforms 1 and 2.

Cross platform locked egress gates located towards the centre and southern end of platforms 1 and 2 are pin pad code operated by rail or security personnel.

7.4 Takanini

7.4.1 CIMW Site

A coupled in-motion weighbridge is installed on the Down Main at 649.50 km. Fault conditions are alerted to the Train Controller and broadcast locally by radio on Channel 1.

Operators hearing a warning message must:

- obey any message instructions to reduced speed or stop, and
- must immediately contact the Train Controller for further instructions.

7.5 Wiri

7.5.1 Wiri Sidings

Only one shunting service may work in the siding at a time. The Shunter in Charge must ensure the air brake operates throughout all wagons hauled or propelled to, or from the siding. When movements are propelled, the movement must be piloted.

Vehicles must not be left unattended in the siding except as required during shunting operations.

Only one shunting service may work in the private siding at a time. The Shunter in Charge must ensure that the air brake operates throughout all wagons hauled or propelled to or from the siding. When movements are propelled, the movement must be piloted.

Operators of all trains signalled into the sidings must ensure that the hand points applicable to the route required are correctly set before passing over them.

South and North EMU Exchange roads are limited to maximum speed of 25 km/h

7.5.2 EMU Depot

All Trains Stop Boards are erected at the rear of 1816 and 2025 signals protecting entry to the EMU Depot Yard.

Operators must obtain permission for movements to pass the All Trains Stop Boards, from:

- Metro Operators Depot Control – Attended 24 hours, 7 Days on 09 354 1454

All track occupancies within Wiri Depot limits must be authorised by the contact above.

7.5.3 Depot Platform

Wiri Depot Platform is for the operational use of authorised rail personnel only.

Entry to or exit from trains will only be through the EMU leading door (behind Operator's cab) using local control.

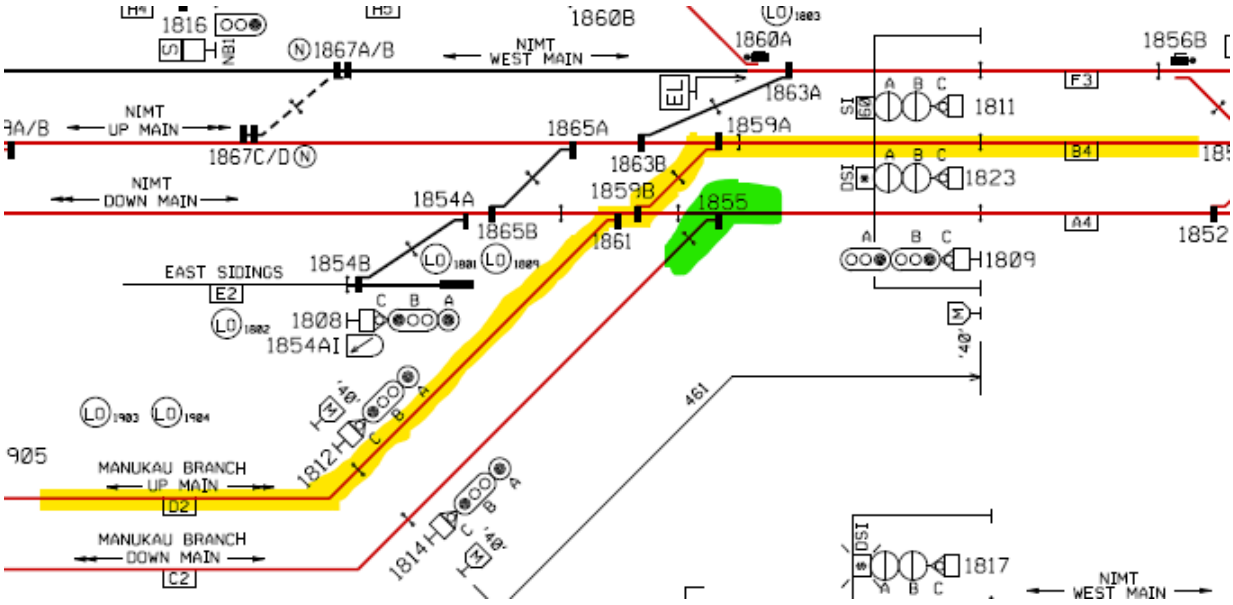
NOTE
The Operator must not operate the Door release.

Unplanned stopping at the platform must be notified to the Train Controller in advance.

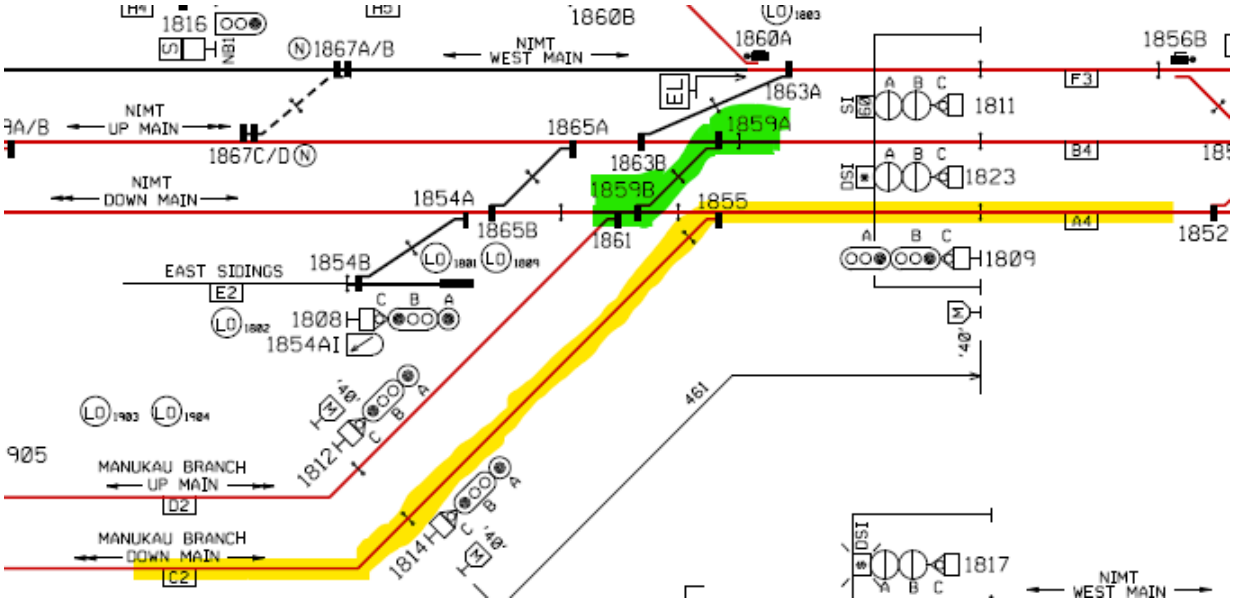
Access to this platform is controlled by the Wiri EMU Depot. Ph. 09 354 1454

7.5.4 Signalling Restrictions

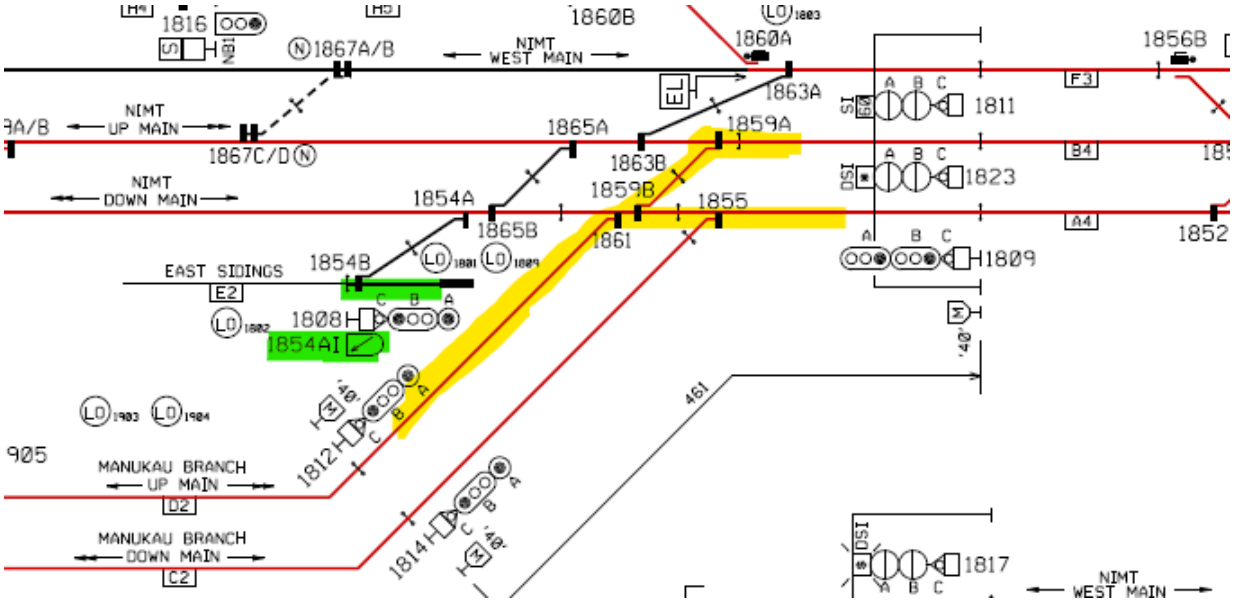
If travelling in both directions on the route indicated below between NIMT Up Main and MNK Up Main via 1859 and 1861 reverse and LZ 1809 is in reverse, then 1855 points must be in reverse.



If travelling in both directions on the route indicated below between NIMT Down Main and MNK Down Main via 1855 reverse and LZ 1801 is in reverse, then 1859 points must be in reverse.



All routes via 1861 points will be restricted to low speed if the section between 1854AI and buffer stop is down without 1854AI cleared.



Flashing Indications unique to 1811ABC Down Directing from F3

F	East Siding
D	NIMT Down Main (Primary)
D (Flashing)	NIMT Down Main (Non-Electrified)
U	NIMT Up Main (Primary)
U (Flashing)	NIMT Up Main (Non-Electrified)
W	NIMT West Main
Y	Yard (North EMU Exchange)

IMPORTANT
To mitigate the risk of a runaway past 1808 signal fouling Manukau Branch, 1854AI must only be cleared when required for shunt movements, the arrow indicator should not be left in the cleared position.

7.5.5 Manukau Branch
The Manukau Branch and station platforms are within station limits Wiri.

EMUs are authorised to remain stabled unattended on the main lines at Manukau station platforms, provided the vehicles are secured in accordance with the regulations applicable.

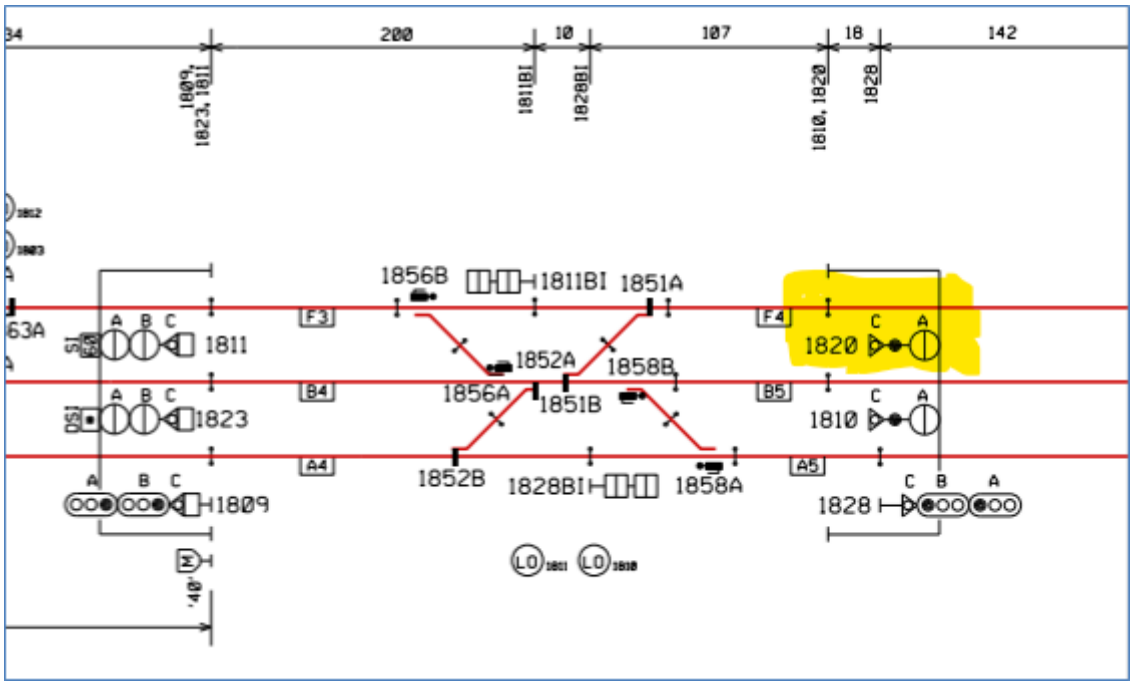
TO01 Train Movements, 10. Securing Motive Power Units and **TO08 Shunting, 7.3 Standing at Stations** are modified accordingly.

7.5.6 1820AC Up Directing Signal fixed at Stop
Referring to S&I No.3459 (sheet 2) for Wiri

Following several SPAD's on 1810AC Up Directing signal on the NIMT Up Main, it has been identified sighting issues have been a factor between 1810AC and 1820AC signals.

Until a long term resolution has been agreed and arranged, and to remove the current sighting issues, the normal speed indication on 1820AC signal on the NIMT West Main will be fixed at Stop.

The Low speed indication on 1820AC signal is still operational.



7.6 Puhinui

7.6.1 Fire Evacuation Crossing
For the up and down platforms at Puhinui, an emergency egress crossing is available for use if the normal exit via the concourse is not passable.

The south end of the platform has a fenced Safety Refuge that offers a safe area for evacuating passengers during any fire or emergency.

The safe refuge area is equipped with locked gates that can be opened after the Train Controller confirms that rail traffic is stopped.

Customers can then be taken across the down main along the formed pathway to the assembly point, clear of the platforms and trains.

The gates are unlocked and opened by:

- FENZ using a 197 key.
- Rail Personnel using a 100 key.

IMPORTANT
Unlocking and opening of the rail refuge egress gates can only occur once the Train Controller has been contacted and CONFIRMED that rail services have been stopped.

Should it be necessary to unlock and open the rail gates in an emergency, the authorised person must**:**

- contact the Train Controller on the emergency number
- advise the Train Controller of their location and the nature of the emergency
- request that all rail traffic is stopped in both directions
- upon confirmation from the Train Controller that all rail traffic has been stopped, proceed with the unlocking and opening of the locked Egress Gate
- ensure that passengers stay on the fenced / formed pathway.
- advise the Train Controller that passengers are occupying the tracks
- advise the Train Controller once all passengers are clear of the tracks and the Egress Gates are closed and locked

For a reminder of this process, this procedure is displayed on the egress gates of the Safety Refuge compound.

7.7 Otahuhu Triangle

There are All Trains Stop boards protecting entry into the Straight Leg and North Siding of the Otahuhu triangle.

Board to Enter	Location of board
North Siding	At 1620 signal on Road J2
Straight Leg	At 1616 signal on Road F2
Entering Rail Weld Siding	At siding entry on Road H3

Before passing any of these boards, the Operator must ensure there are no conflicting movements. Rail movements must be piloted by the Operator or Shunter concerned into each siding.

7.7.1 Straight Leg

Rail movements from Container Specialists siding or Coda siding must not pass a special notice board located 50m before 1616 signal unless the Operator has called the Train Controller for permission to approach 1616 signal.

Reason: To protect movements that have been signalled into the straight leg from Otahuhu / Westfield area.

7.7.2 Otahuhu Siding

The speed of all rail vehicles when passing over the turnouts inside the main gates in Otahuhu Siding must not exceed 10 km/h

The Otahuhu Siding is connected to the North siding and to the west leg of the triangle.

Rail vehicles from this siding must not pass the notice boards located 50m before 1620 signal until the Operator has called the Train Controller for permission to approach 1620 signal.

7.8 Otahuhu - Westfield

7.8.1 Speed on Otahuhu - Westfield Connecting Line

(West Sidings to and including No.3 and No.4 Roads)

Speed of all movements on the connecting line must not exceed 15 km/h or walking pace when rail personnel are riding on rail vehicles. The airbrake must be in operation throughout all rail vehicles.

7.8.2 Derailers Otahuhu West Sidings Road 5

Derailers are provided on Road 5 to protect stored wagons from runaway.

When wagons are left unattended on this road, the derailers must be closed.

7.8.3 Westfield Marshalling Yard

Trains Entering

Trains entering Westfield Marshalling Yard will do so as instructed by the Westfield Local Terminal instructions.

Departing Trains

Trains departing Westfield Marshalling Yard will do so as instructed by the Westfield Local Terminal instructions. Operators of departing trains must advise the Auckland Central Control when they are ready to depart.

7.8.4 All Train Stop Boards

Located between 123 and 124 points for movements exiting north end connection 1 and 2 departures must ensure that hand points are checked and correctly set before passing the ATS board.

7.8.5 Depot Road Westfield unavailable for Movements

Alternative routes via

- South end - South Arrival / Departure Roads or
- North End - 1, 2 or 3 North End Connection Roads,

The Signaller will contact the Westfield Yard Remote Control Operator to advise that changed berthing arrangements will be necessary due to the Depot Roads being unavailable.

The Remote Control Operator must arrange for the General Duties Person to pilot all movements through Westfield yard territory.

7.8.6 Piloting Trains

There are All Trains Stop boards on roads leading into Westfield Marshalling Yard.

All Trains Stop Board for	Located
No.1 North End Connection Road:	In line with 1516 signal No.2 North End Connection Road

All Trains Stop Board for	Located
No.2 North End Connection Road:	Opposite 1516 signal on No.2 North End Connection Road.
No. 3 North End Connection Road	Next to 1514 Signal
Causeway 1 between Westfield Marshalling Yard and Southdown Yard:	On causeway next to 1520 Signal
Causeway 2 between Westfield Marshalling Yard and Southdown Yard:	On causeway next to 1544 Signal
South Arrival / Departure Road from Otahuhu:	Next to 1615 signal
Otahuhu - Westfield 3 Road	Next to 1617 Signal

Rail movements must be piloted past these boards by the Operator or Shunter concerned in accordance with Terminal Local Instructions.

NOTE
All Trains Stop Board next to 1619 Signal to Depot connection is passed in accordance with the Joint Operating Plan Westfield Locomotive Depot.

7.8.7 Automatic Operating of Signalling

The following signals will automatically clear once a train is detected by an approach axle counter and timer, and the route is free and clear for the movement. The approaching movement will normally need to stop before the signal will automatically clear.

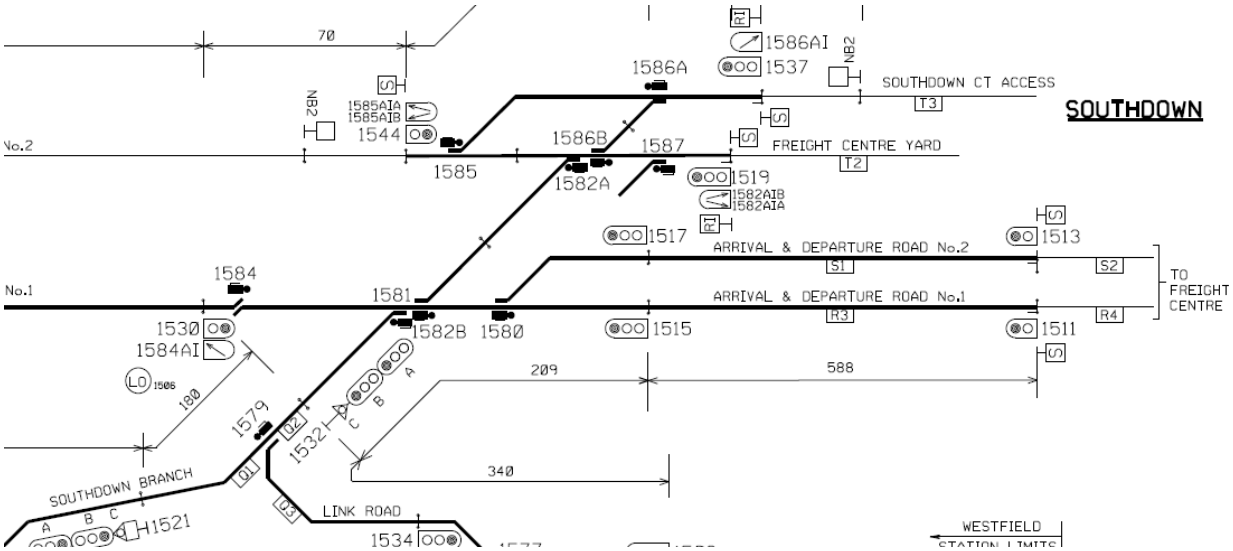
NOTE
Movements departing Southdown CT Access to the Branch or Link road must pass the board identifying the Auto Signal Claim point for detection of an approaching train, but wait until 1537 signal is at proceed, before proceeding through the route.

Signal	Route
1519 Signal	From Southdown Freight Centre to Causeway 1
1520 Signal	From Causeway 1 to Southdown Freight Centre Yard
1537 Signal	From Southdown CT Access and Yard to Causeway 2
1544 Signal	From Causeway 2 to Southdown CT Access

7.8.8 Otahuhu / Westfield Yards

Additional instructions for working in the Otahuhu Westfield yards are included in the Westfield and Auckland Terminal area Local Instructions and Operating Procedures.

Rail movements that pass 1530 signal in the facing direction must not reverse direction without permission of the Signaller as 1584 points may be in the derailing position.



Shunting movements, after passing 1615, 1520 or 1519 signals may reverse direction without permission of the signaller provided the movement has not completely passed the signal concerned. **TO01 Train Movements, 8.10 Fouling of Lines within Station Limits** is modified accordingly.

7.8.9 Southdown Yard

Signalling Trains

There are All Trains Stop boards as follows:

All Trains Stop Board for	Located
Arrival and Departure Road No.1	Next to No.1511 Signal
Arrival and Departure Road No.2	Next to No.1513 Signal
Entry to Southdown Yard	Next to No.1519 Signal

Trains must not pass these boards unless authorised by the Remote Control Operator in charge Southdown Yard.

The Signaller must obtain permission of the Remote Control Operator in charge of the Southdown yard before authorising any movement past 1532 signal.

Wagons left unattended

Wagons that have been secured may be left on Southdown Yard Arrival and Departure Roads No's 1 and 2 with the permission of the Signaller.

7.8.10 Speed of Down Trains on West Main

Down trains on the West Main are authorised to travel up to 60 km/h once the rear of the train is clear of 1613 signal provided the movement has been signalled onto the Up or Down main line with 1643 signal at proceed.

Network Signals, Indicators and Boards Manual 3.8.5 Resuming Line Speed Proceeding to the Main Line and **3.8.6 Colour Light Shunting Signals** are modified accordingly.

7.8.11 Centre Main EMU Turnback

For the purpose of EMU repositioning, a turnback walkway and associated EMU train stop marks have been located between signals 1640 and 1607 on the centre main. This walkway should only be used by train crew changing ends between intermediate cabs when a train is present and stationary. This is due to limited clearance between the fence and centre main.

7.8.12 Stabling of Unattended EMUs Otahuhu

AM class EMUs with operational ETCS on scheduled services may be left unattended on all platforms for crew changes / personal needs breaks.

Unplanned requirements to leave vehicles unattended on the above tracks must be authorised by the Train Controller.

TO01 Train Movements, 10. Securing Motive Power Units and **TO08 Shunting, 7.3 Standing at Stations** are modified accordingly.

7.8.13 Emergency Evacuation Plan Otahuhu

The Metro Service Operator holds an emergency evacuation plan for the main station buildings / overbridge and for the platform areas.

The Metro Service Operator will advise the Train Controller of emergency alarm activations and evacuations notified by the monitoring systems and Chief Fire Warden.

The primary evacuation egress to designated assembly points is via the main station entrance to Walmsley Rd or via the bridge walkway to Titi / Kaka Streets.

For platforms 1 & 2, the primary evacuation egress is via the footbridges to either the main level 1 overbridge or platform 3.

A holding area is located at the north end of platform 1 & 2 and is designed to be used if the station footbridges and main station buildings are not passable.

For platform 3, the primary evacuation egress is via the automatic ticket gate exit or via emergency egress gates located at the far north and south end. All electronically operated gates will automatically release in the event of a fire alarm activation, some gates may need to be manually pushed open.

Metro operations train crew in attendance with their own train are required to manage train evacuations onto the platform and then assist passengers to exit from the station to the assembly areas. Train crew must then report to the Chief Fire warden located at the main station entrance.

8. Westfield - Auckland

8.1 Sylvia Park

Sylvia Park station limits are only on the Down Main line (between Tamaki and Westfield) and are provided for the operation of Carbine Road Siding.

8.1.1 Shunting Siding

When Rail Personnel are unable to see 606 Signal, due to their view being obstructed, the Train Controller may confirm to the Operator if the signal is at proceed or stop.

When a shunting service is required to make up a train on the Down Main line, permission must be obtained from the Train Controller.

The wagons must be adequately secured while standing on the main line waiting for the remainder of the train to be connected.

8.2 Tamaki

8.2.1 Wagons left on Siding Road

The Train Controller can authorise wagons / empty passenger services to be left unattended on the Sidings road for up to 24 hours, provided they are properly secured so that they will not move.

8.3 Glen Innes - Meadowbank

8.3.1 Construction Activity

A bridge is being constructed at the 675.77 km between Glen Innes and Meadowbank as part of the NZTA shared pathway project.

Major construction activity will be undertaken on the Up main side of the line behind construction barriers and hoardings.

8.4 Tunnel Radio System

8.4.1 Testing Purewa Tunnel Radio System

Shortly after entering this tunnel the Operator must "Base Call" the Train Controller and note that an acknowledge “lock on” is received (indicated by the flashing lamp becoming steady). The Operator should then obtain a verbal acknowledgement from the Train Controller that the base call was received on the tunnel system indication in Train Control.

Tuesday and Friday	**Tested by first train of the day, or as directed by the Train Controller.**

8.4.2 Operation of UHF Handheld Radio

If problems are experienced contacting the Train Controller on Channel 4 while using the UHF handheld radio with the crossband link activated, the Operators must use Channel 2.

8.5 Auckland Station

8.5.1 Waitematā (Britomart) Station

L1.2 Local Network instructions contains all the instructions for operating in the Waitematā (Britomart) Station area.

8.5.2 Yard Vehicle Crossing

To enable access to the above roads leased to Link Alliance, a temporary yard crossing will be established off Tamaki Drive.

The yard crossing will be protected with gates which must be closed and locked when the crossing is not in use.

The Westfield Team Leader must be advised prior to the gates being open and the crossing used by vehicles.

8.5.3 Route Restriction 20A / 20B Points

Due to engineering / geometry restraints, rail vehicles must only be permitted to travel through 20 points in reverse when 19 points are also in reverse.

8.5.4 Piloting in the Port Yard

When shunting personnel are not available, the piloting of locomotives and shunting services in the Auckland Port yard may be performed by locomotive running personnel.

8.6 The Strand

8.6.1 Freight Trains

Freight trains (including light locomotives) are permitted to run between Auckland and Newmarket through the Strand area of Auckland Station Platform 1 and 2, (H4 and J1 roads) limits.

Speed restriction: maximum speed of 25 km/h.

The following exceptions apply:

- JT wagons are prohibited.

8.6.2 Vehicles left Unattended

Rail vehicles may be left unattended at the Strand provided that:

- the vehicles are secured with sufficient hand brakes to prevent movement in accordance with the securing procedure in **Rail Operating Code Section 5.1 Shunting Procedures, 2.6 Procedures for Securing Rail Vehicles**, and
- chocks are fitted if any vehicles are standing on a grade.

The train crew must advise the Train Controller of the number of hand brakes applied and chocks fitted (if required) before leaving the rail vehicles unattended. The Train Controller must record this information on the train control diagram.

TO01 Train Movements, 10. Securing Motive Power Units and **TO08 Shunting, 7.3 Standing at Stations** are modified accordingly.

8.6.3 Stabling Facility

The Strand Facility consists of three stabling roads which are located at the old Strand station platforms. The stabling roads are numbered Platform 2 and Stabling No. 4 & 5, and the limits are between 72 and 73 points.

The Stabling Facility is operated by the Metro Operator’s personnel for suburban passenger trains to be stabled and cleaned.

Other maintenance and servicing also may be carried out as required by Metro Operators.

The three sidings are surrounded by electrified security fencing, with electrically operated gates across the tracks at each end.

See the Metro Operator's Site Plan for Health and Safety information and Environment Systems.

Stabling area safety checks before moving into, departing or within

Movements within the Strand stabling facility area must always be operated from the leading cab. No other method is permitted.

The safety check requires Operators to look for the following hazards:

- signs erected on or near the track, indicating that rail personnel are or may be working on, or near the train
- security gates are open for the intended movement
- collars or signs in the cab, indicating that rail personnel are or may be working on, or near the train
- danger stop signals, warning signs
- another rail vehicle moving within the stabling area
- derailers are in the open (running) setting

If there are such signs or indications, the movement must not proceed until the Person in Charge of the work has been located, has cleared all rail personnel to a safe place and signs have been removed.

Derailers

Manual derailers have been installed on Roads 4 and 5 for the purpose of providing runaway and unauthorised rail vehicle movement protection during planned events when Metro passenger services are operating from platform 2. The derailers are normally secured in the open (running) setting and only set to derail by an RPO when passenger services are scheduled to berth on Platform 2.

NOTE

- Derailers are only required to be closed when rail vehicles are stabled on roads 4 and/or 5
- When set in either the closed (derail) or open (running) setting, derailers must always be left locked and secured with an AS or PS padlock

Derailers

Horn

Must be sounded, prior to the rail vehicle moving.

Speed

The speed of the movement within the stabling area must be able to stop short of any obstruction within half the distance of clear line that is visible ahead, **not exceeding 10 km/h**.

Movements approaching stabling roads 4 & 5 drivers cab access steps and buffer stops must not exceed 5 km/h.

Control of movements into or out of stabling area Limits

Shunting movements into or out of the stabling area are under the control of the Train Controller, and the following local instructions apply:

- the Operator entering is to stable and shut down service on road as signalled by the Train Controller in consultation with the OIC Strand or operating plan
- the Operator requiring to only move within the area must carry out the safety checks and must not move before contacting the Train Controller
- Operators departing the stabling area, after completing safety checks must establish that the derailers are in the open (running) setting prior to requesting a signal from the Train Controller to depart the siding. Operators must not move until permission has been obtained from the Train Controller

Rail Personnel working within the stabling area (not Operators)

Prior to entering the stabling area, all Rail Personnel (including KiwiRail infrastructure personnel and cleaning contractors) must:

- advise the OIC of their presence and

- confirm protection arrangements in accordance with the local site plan and Rail Operating Rules:

  - **TO07 Working on Rail Vehicles, 6. Warning Sign** is modified, Metro Operators “Not to be moved" board
  - **TS06 Blocking**
  - **TS08 Working Within Non-Interlocked Areas** (with use of Danger Stop Signals)

Operation of Security Gates

Sliding rail vehicle access security gates are remotely interlocked with the signalling and are normally operated by the Train Controller.

Signals are interlocked with the gates and will not clear unless the gates are detected as fully open (in either automatic or manual control mode).

The gates have manual control available, and a key is held by the Strand OIC. Permission must be obtained from the Train Controller to place the gates in manual control. When the gates are in manual control, the OIC will arrange for them to be opened and closed as required by the Train Controller.

NOTE
There is no indication to the Train Controller when gates are in manual control, but gate position will always be indicated.

The gate interlocking is not fail-safe; therefore, all train movements must visually check the gates are fully open and safe to pass at all times. A Danger Stop Signal attached to each gate will indicate that the gate is closed.

After remaining open for 5 minutes, the gates will flash on the Train Controllers signal panel as a security warning. In this event the Strand OIC should be advised.

8.6.4 Rolling Stock Restrictions

Runaway rail vehicle protection towards the Type B Sand Drags is provided during planned metro service passenger operations on Platform 2 where public access behind the end of track is required.

The following rail vehicles are permitted to stable on roads 4 & 5 with blocking / derailers applied:

- AM Class EMU

8.6.5 Strand Platforms

Berthing / departing of passenger trains on Platform 1, must not exceed 10km/h over ‘Z’ and ‘Y’ level crossings until the front of the train is clear of the crossing, refer Figure 1.

Trains berthed on Platforms 1 or 2 must not commence a movement towards signals 66 or 68 unless a proceed indication is displayed or with authorisation from the Train Controller

Strand Platform 1 may be used to assist with passenger movements during planned events by all Operators.

Platform 2 may be used by the Metro Services Operator to assist with planned passenger movements during Waitematā (Britomart) closures.

Access to Platform 2:

Crossing ‘Y’ will be the normal access for passenger operation on Platform 2. Prior to using Platform 2 the following applies:

- a track occupancy in accordance with Track Safety Rules is required for 73 points blocked in normal (to block stabling roads 4 & 5)
- a track occupancy in accordance with Track Safety Rules is required between 26 / 28 signals and 19 points are in normal (to protect ‘Y’ pedestrian crossing)
- a verbal certificate that derailers are locked in the closed (derail) position must be provided to the Train Controller for stabling roads occupied by rail vehicles

Completion of Platform 2 use:

- a verbal certificate that all derailers are locked in the open (running) position must be provided to the Train Controller

NOTE

- Crossing ‘Z’ can only be opened by suitably qualified Rail Personnel for operational access, or to undertake an emergency evacuation after signal blocking has been applied by the Train Controller.
- Crossing ‘X’ is an alternate emergency egress route from Platform 2 that can only be used when Waitematā (Britomart) is closed and access via Strand Platform 1 is unavailable. Signal blocking must be applied by the Train Controller before use.

Emergency alternative to Waitematā (Britomart), Strand Platforms 1 and 2 may be used to assist when arranged by the Metro Operator’s, Service Operator, and:

- crossing keepers are in attendance for each crossing being used (they must be ITD qualified or Train Crew)
- signal blocking has been obtained from the Train Controller for all crossings to be used
- ‘X’ is only to be used when Waitematā (Britomart) is closed.

Emergency Evacuation Plan

The Metro Service Operator holds an emergency evacuation plan for The Strand. Security or rail operating personnel will advise the Train Controller of any emergency situation that requires a full station evacuation.

From Platform 1, the primary evacuation egress is through the main platform exits to the assembly point located at The Strand Road (Near bus stops).

From Platform 2, the primary evacuation egress is via crossing ‘Y’ to Platform 1. If access to crossing ‘Y’ is blocked / obstructed, emergency egress via crossing ‘Z’ can be used by the following procedure:

- a locked pedestrian gate at the ‘Z’ crossing end of platform 2 prevents passenger’s egressing via the crossing before signal blocking has been applied by the Train Controller

- if evacuation to Platform 1 is required, the locked egress gate must only be unlocked and opened by an authorised person after permission is gained from the Train Controller and all trains from Platforms 1 and 2 have been stopped

Should it be necessary to unlock the gates in an emergency, the authorised person must:

- contact the Train Controller on the emergency telephone number 0800 808 400, advising the Train Controller of their location and the nature of the emergency
- request the Train Controller to stop all rail movements through Platforms 1 and 2 at The Strand
- proceed with unlocking and opening the locked egress gate once confirmation has been received from the Train Controller that all rail movements have stopped, and emergency protection has been applied
- ensure passengers stay on the formed egress pathway until clear of the railway corridor and continue to assist passengers to exit the station via the platform exits
- advise the Train Controller that the locked egress gates have been unlocked and that passengers are occupying the tracks
- advise the Train Controller once passengers are clear of the tracks and ‘Z’ crossing, and that the egress gates are closed and locked

This procedure is displayed on the locked gate for reference.

The egress gate locks are linked by common chain and locks, either locks can be unlocked by:

- FENZ using a 197 key.
- Rail Personnel using a 100 key

Gates:

All access gates can be opened with 100 key padlocks.

When not in use all gates must be kept closed.

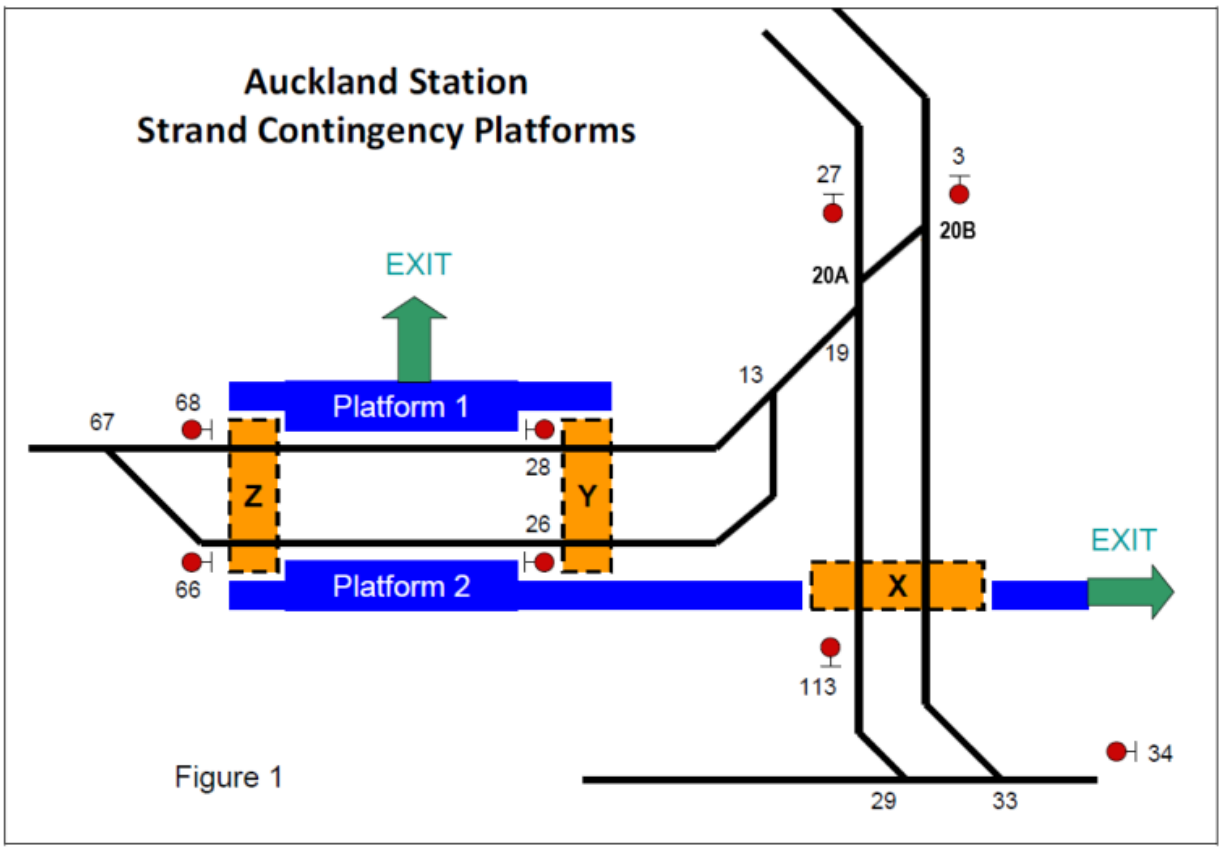


Figure 1

Crossing	Exiting from Platform 2
'Z'	P2 to P1 Xing at Orakei end
'Y'	P2 to P1 Xing at Newmarket end
'X'	Spark Xing over Newmarket Branch to Beach Road

8.7 Auckland Port

8.7.1 Hours of Operation

The Port Rail Grid can be worked by KiwiRail services from 0400 hours on a Monday to 1700 hours on a Saturday. Except for between 1700 hours and 2000 hours each day.

8.7.2 Rail Grid Access

From 2300 hours to 1700 hours (the next day), the Rail Operator in charge of the movement must get verbal permission from Port Rail Grid personnel on (09) 309 1331 to access the Port Rail Grid.

From 0400 hours to 1700 hours Monday and 2000 hours to 2300 hours Monday to Friday, KiwiRail services may enter the Port Rail Grid without verbal permission.

The movement must travel cautiously and be able to stop short of any obstruction, which may include container handling equipment working on or near the lines.

All KiwiRail Personnel who enter the Port Rail Grid must carry their KiwiRail Identification Card, which must be presented if requested by Port Security personnel.

8.7.3 Operation of Port Rail Grid Gates

The Rail Operator can open Port Rail Grid gates by swiping their access card against the reader at either end of the rail tunnel.

Indicators are provided at each end of the tunnel to show if the gates are open or closed. A green light indicates the gates are open, and a red light indicates that the gates are closed.

If the gates do not open after the access card has been swiped, the Rail Operator will call Port Security on (09) 309 1390, who will arrange for the gates to be opened.

Movements must not enter the rail tunnel when a gate closed indication (red light) is showing unless authorised by Port Security or Port Rail Grid personnel.

A sensor is provided to stop the gates from closing while a movement passes. The gates will close automatically once the movement has cleared the gate area.

Should a rail movement entering or exiting the rail grid require setting back, the Rail Operator must first make sure that the gates are open for the movement.

Access cards will be a personal issue to regular Port Rail Operators. The KiwiRail Manager will hold a spare card at Westfield, who will also keep a register of cards issued. Signed receipts will be kept on file.

8.7.4 KiwiRail Personnel on the Port Rail Grid

Rail Operators who work the Port Rail Grid will receive a site induction from Ports of Auckland. The KiwiRail Manager at Westfield will keep a list of all inducted Rail Personnel.

Locomotive Engineers will not need a formal induction provided they always remain on the locomotive when on the rail grid.

In the case of an emergency, Axis Intermodal Personnel will guide the Locomotive Engineer (and any authorised passengers on the locomotive) to the appropriate muster area or remain with them while off the locomotive.

Passengers on the locomotive must hold a cab pass. The Rail Operator must tell Port Rail Grid Personnel that additional persons are on the locomotive before the rail movement arrives.

8.7.5 Auckland Port Yard

Port Roads East 2, 3 and 4 have been leased to Link Alliance.

The points levers for these roads have been removed and the points leading to the roads have been spiked to prevent entry.

9. Westfield - Waitākere

9.1 DH Locomotives Running Long Hood Leading

DH locomotives are permitted to run long hood leading under the following conditions:

- between Westfield and Penrose only
- must travel in the Up direction on the Up main only (not permitted to use bi-directional running on the wrong main in long hood)
- must not exceed Restricted Speed

9.2 Newmarket

9.2.1 Prevention of Runaway from Platform 4

No runaway protection is installed at 214 Signal.

IMPORTANT

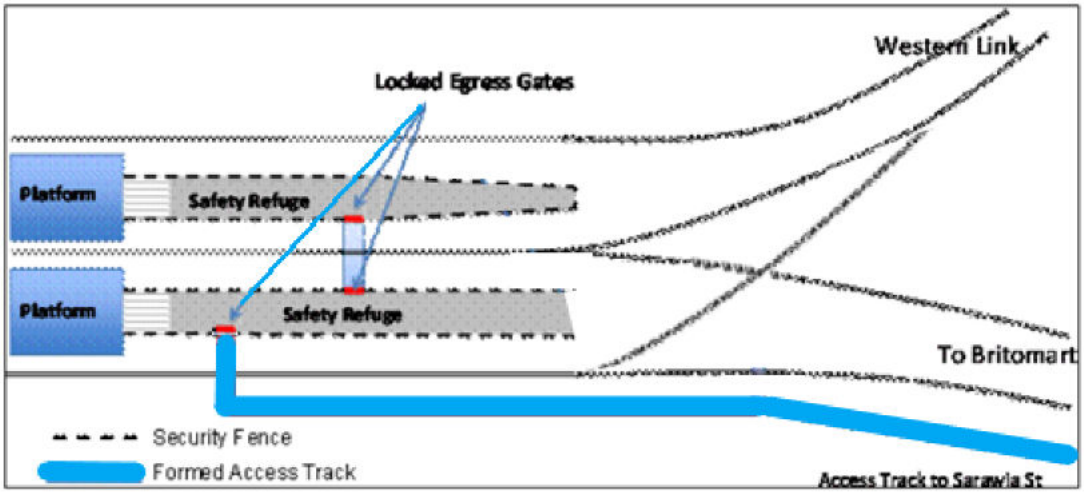
To prevent vehicles running away, the cab of any train standing on Platform 4 must not be vacated unless a member of the train crew is positioned on the train and able to activate the emergency brake for the duration a cab is unattended.

Exception: EMUs with operational ETCS.

9.2.2 Fire Alarm Evacuation Plan

The Auckland Metro Service Operator holds an emergency evacuation plan for the station concourse on level one and for the platform area below and will advise the Train Controller of fire alarm activations and evacuations notified by the monitoring systems and Chief Fire Warden.

For all platforms, the primary evacuation egress is through the station concourse to Broadway via Remuera Road. The safety refuges at the Auckland end of each platform are designed to be used if the station concourse is not passable.



The safety refuges offer a safe area for evacuating passengers to move away and stand clear from any train or station fire, or other emergency near the station platforms and buildings. Locked gates prevent

passengers moving out of the safety refuge area onto the railway tracks. If evacuation out of the refuge areas is required, the locked egress gates must only be unlocked and opened by an authorised person.

The egress gate locks are linked by common chain and locks and once authorised by the Train Controller, either locks can be unlocked by:

- FENZ using a 197 key
- Rail Personnel using a 100 key i.e., Metro Operators RIC or Train Crew.

Unlocking and opening of the gates can only occur once the Train Controller has been contacted and it has been confirmed that rail movements through Newmarket have been stopped.

Should it be necessary to unlock the gates in an emergency, the authorised person must:

- contact the Train Controller on the emergency telephone number
- advise the Train Controller of their location and the nature of the emergency
- request the Train Controller stops all rail movements through Newmarket Station
- proceed with unlocking and opening the locked egress gate on confirmation from the Train Controller that all traffic has been stopped, and operate the egress pathway manual light switch if required
- ensure passengers stay on the formed egress pathway until clear of the railway corridor at Laxon Terrace (by old Sarawia St level crossing).
- advise the Train Controller that the locked egress gate have been unlocked and that passengers are occupying the tracks
- advise the Train Controller once passengers are clear of the tracks at Laxon Terrace entrance and the egress gates are closed and locked

This procedure is displayed on the gates of the safety refuge compound.

9.3 Mt Eden - Morningside

9.3.1 Mt Eden

For CRL construction work and until further notice, Mt Eden station and exits are closed. Trains will not stop at this station.

Major CRL construction activity will be undertaken on both sides of the line behind construction barriers, hoardings, and crib wall structures.

NOTE
Limited clearance exists at several locations within the rail corridor due to the proximity of the barriers / hoardings from the track.

9.3.2 Morningside

EMUs are authorised to remain stabled unattended in the sidings at Morningside, provided the vehicles are secured in accordance with the regulations applicable.

TO01 Train Movements, 10. Securing Motive Power Units is modified accordingly.

9.4 New Lynn

To reduce the amount of fumes within the station, all diesel-hauled trains that stop at New Lynn station must not accelerate away from the platform in a power notch higher than notch 4.

9.5 Henderson

Connected to the Henderson Arrival/Departure Road are the Henderson Stabling Facility and Storage Road.

A "Stabling Area Begins" board is erected at the entrance to the Stabling Facility and Storage Road from the Arrival / Departure Roads. Any movements to pass this board to enter the Stabling Facility or Storage Road will be in accordance with the Henderson Stabling Facility Joint Operating Plan.

NOTE
Movements departing the Henderson Stabling Facility or the Storage Road when passing the auto signal claim point board send a request for 1112 signal to be placed at proceed.

1112 signal will not clear when:

- the Arrival / Departure Road between 1112 and 1114 signals is occupied, or
- the Signaller has applied protection, or
- an opposing movement has been signalled into the Arrival / Departure Road.

9.6 Swanson

9.6.1 O'Neil's Road Pedestrian Crossing

To avoid obstructing O'Neil's Road pedestrian crossing, trains exceeding 150m in length should only be signalled past 1302 / 1110 signals when the next signal for the movement, 1304 or 1306 signals can be cleared.

9.6.2 Stabling of Unattended EMUs

AM class EMUs with operational ETCS on scheduled services may be left unattended at Platform No.1 and 2 for crew changes / personal needs breaks.

Unplanned requirements to leave vehicles unattended on the above lines must be authorised by the Signaller.

TO01 Train Movements, 10. Securing Motive Power Units and **TO08 Shunting, 7.3 Standing at Stations** are modified accordingly.

9.7 Waitākere Tunnel

9.7.1 Testing of Tunnel Radio System

Shortly after entering this tunnel the Operator must "Base Call" the Train Controller and note that an acknowledge "lock on" is received (indicated by the flashing lamp becoming steady). The Operator should then obtain a verbal acknowledgement from the Train Controller that the base call was received on the tunnel system indication in Train Control.

Tuesday and Friday	**Tested by 129 or, if this does not run, a train as arranged by the Train Controller.**

The "lock on" of a base call is sufficient to confirm that the tunnel radio system is operational.

Train Controller must note the results of the test on the Train Control diagram.

9.8 Waitākere

9.8.1 Derusting Loop

Due to the build-up of rust, at least one train per day (Monday to Friday) must be routed via the loop at Waitākere.

Because of infrequent use of No.3 and No.7 points to the loop, the following safeguard procedure will apply for these points.

Before movements are signalled over No.3 and / or No.7 points to the loop, it must be ensured that there are no conflicting movements until the movement is clear of the points and they are locked in reverse. Signal blocking must be applied to any signal leading to the affected points.

9.8.2 8RA / 8RB Up Starting signals

Before placing these signals at proceed, the Auckland West Train Controller must confirm with the NAL Train Controller that the movement has an active Track Warrant.

9.9 Rusty Rail Conditions - Swanson to Waitākere

Until a certificate is received from the Signals Maintenance Representative, rusty rail conditions shall apply to all services travelling between Swanson and Waitākere, in accordance with **SO05 Faulty Track Circuits Operations, 4.3 Rusty Rail.**

As a consequence of the rusty rail conditions, the speed of movements over Christian Road level crossing at 32.36 km (within station limits Swanson) must not exceed 10 km/h in the down direction only. Once on the level crossing the rail movement may resume normal line speed.

Speed boards have not been erected. **TO10 Network Line Speeds, 5. Temporary Speed Restrictions** is modified accordingly.

10. Auckland - Newmarket

10.1 Parnell Tunnel

10.1.1 Testing of Tunnel Radio System

Shortly after entering this tunnel the Operator must “Base Call” the Train Controller and note that an acknowledge “lock on” is received (indicated by the flashing lamp becoming steady). The Operator should then obtain a verbal acknowledgement from the Train Controller that the base call was received on the tunnel system indication in Train Control.

Tuesday and Friday	**Tested by first train of the day or as directed by the Train Controller.**

The “lock on” of a base call is sufficient to confirm that the tunnel radio system is operational.

The Train Controller must note the results of the test on the Train Control diagram.

10.2 Slip Warning System

A slip warning system comprising of wireless tile sensors, cameras and a monitoring system has been installed at the southern end of Tunnel 1 (Parnell Tunnel).

Alert Levels and Actions

Yellow Alert Level

- Tilt sensor tilts exceeded 5mm movement – any direction
  - system notifies the KiwiRail Engineering team and local Network Services team
- The asset must be visually inspected as soon as practicable, within 12 hours.

Red Alert Level

- Tilt sensor tilts exceeded 10mm movement – any direction
  - system sends an alarm to the Train Control signalling screen, and
  - sends an email to Operations Support and the Network Control Manager
- The Train Controller must stop all trains from entering the affected area until the slip site has been visually inspected, and clearance has been given for trains to resume.

10.3 Te Huia Throttle Restriction

Throttle:

When Te Huia consists are being driven from the SRV cab in push mode, the locomotive throttle must not be used above Notch 4 in either direction approaching and while traversing the curve spanning from the 2.775 km to 2.885 km Newmarket Line.

This is to avoid the risk of the rear carriage derailing under excess push forces.

Maximum Length:

When being driven from the SRV cab in push mode the consist must not exceed four carriages.

(Length restriction does not apply if being hauled by locomotive)

11. Signalling and Interlocking

11.1 North Island Main Trunk

Te Waihorotiu - Karangahape

The current S&I Diagram is No.3444.

Auckland Station

The current S&I Diagram is No.3443.

Tamaki

The current S&I Diagram is No.3406.

Amendments:

- 571 and 572 points have been removed and replaced with straight rail.
- 512ABR Up Departure from Sidings signal has been turned away from the track and buffer stop placed before the signal.

Westfield

The current S&I Diagram is No.3452.

Amendments:

Sheet 1 (Otahuhu):

- No.1662 points have been removed, route to No.3 Road only
- No.1664 points have been removed

Wiri

The current S&I Diagram is No.3459.

Wiri EMU Depot

The current S&I Diagram is No.3320.

Papakura

The current S&I Diagram is No.3463.

Drury

The current S&I Diagram is No.3465.

Paerata

The current S&I Diagram is No.3462.

Mission Bush

The current S&I Diagram is No.3392.

Pukekohe

The current S&I Diagram is No.3461.

11.2 North Auckland Line

Penrose

The current S&I Diagram is No.3195.

Amendments:

- Penrose Platform 3 Onehunga Branch Line –
- Move 317 signal 40 metres towards O'Rorke Road
- Move 320 signal 15 metres towards NAL Up Main
- Change meterages "301, 137, 150" to "261, 192, 135"
- 371A / B turnout has been removed and replaced with straight rail

Newmarket

The current S&I Diagram is No.3449.

Maungawhau (Mt Eden) - Morningside

The current S&I Diagram is No.3445.

Avondale.

The current S&I Diagram is No.3136.

Amendments:

- Delete Lloyd Avenue Pedestrian at 14.90 km between Baldwin Avenue and Mt Albert

New Lynn

The current S&I Diagram is No.3137.

Amendment:

- ETCS approach speed for Signal 1005AR, change from 15 to 25 km/h

Henderson.

The current S&I Diagram is No.3138.

Amendments:

- Red lines introduced to show where electrified trains can operate
- ETCS Approach Speeds added
- 1101 signal moved 33m towards Mt Lebanon Lane amend measurements
- Delete Corbans Pedestrian at 27.13 km

Henderson EMU Depot.

The current S&I Diagram is No.3153.

Swanson – Waitākere.

The current S&I Diagram is No.3139.

11.3 Onehunga Branch

Onehunga - Te Papapa

The current S&I diagram is No. 3112.

Amendment:

- Add 15 km/h ETCS Approach speed to 405 Signal (Down Departure from Main) and 406 Signal (Up Departure from Main) at Te Papapa
- 452B and 471A main line points at Te Papapa have been removed and replaced with straight rail

12. Signalling and Interlocking Out of Use

Points at the following stations or sidings are bolted in normal and secured with a PS padlock pending removal.

If it is necessary to shunt any of these sidings the KiwiRail Network Area Manager, or their deputy, must be in attendance. Unless otherwise stated the permission of the Train Control Officer must be obtained. The Officer from whom permission to unlock the points was obtained must be advised when the points are again padlocked.

Penrose

- No.371A/B points have been secured in the normal position and are unavailable for use.

Newmarket

- 214ABC Up Directing from B2 signal, the Route Indicator display on this signal is not in service until the new route from the Down main (platform 4) towards Grafton on the NAL is commissioned.
- No.266 and No.267 points have been clamped and PS bolted in reverse pending track certification.

Waitākere

Switch lock WL1A has been secured in normal pending repairs.

Tamaki

- No.555 and No.557 hand points on the siding at Tamaki have been spiked in normal and are not available for use.
- No.571A/B and 572A/B points have been secured in the normal position pending repairs.

Auckland

Sheet 1:

- No.107A points have been secured in the normal position and are unavailable for use.

Sheet 3 – To prevent movements to the incomplete The Strand Stabling No.3 Road, the following signalling and interlocking arrangements will apply:

- 64 Up Shunt signal will be fixed at Stop.
- No.61 motor points will be disconnected from power and isolator lever and hand operations levers will be secured in the motor and normal settings respectively and locked with a “Signals Security” padlock. If it is necessary to open these points, both Signals and Track Maintenance Representatives for the area must be in attendance.
- Permission must be obtained from the Train Controller before the points are unlocked and again when the points are padlocked.
- ETCS is not commissioned on this road.

