

Proposed Notice of Requirement Boundary and Consent Design

17 July 2023

This pack is for ALR officials

These slides contain confidential information, which is the subject of future ALR Ltd Board and Sponsors' decisions. They are provided on a strictly confidential basis.

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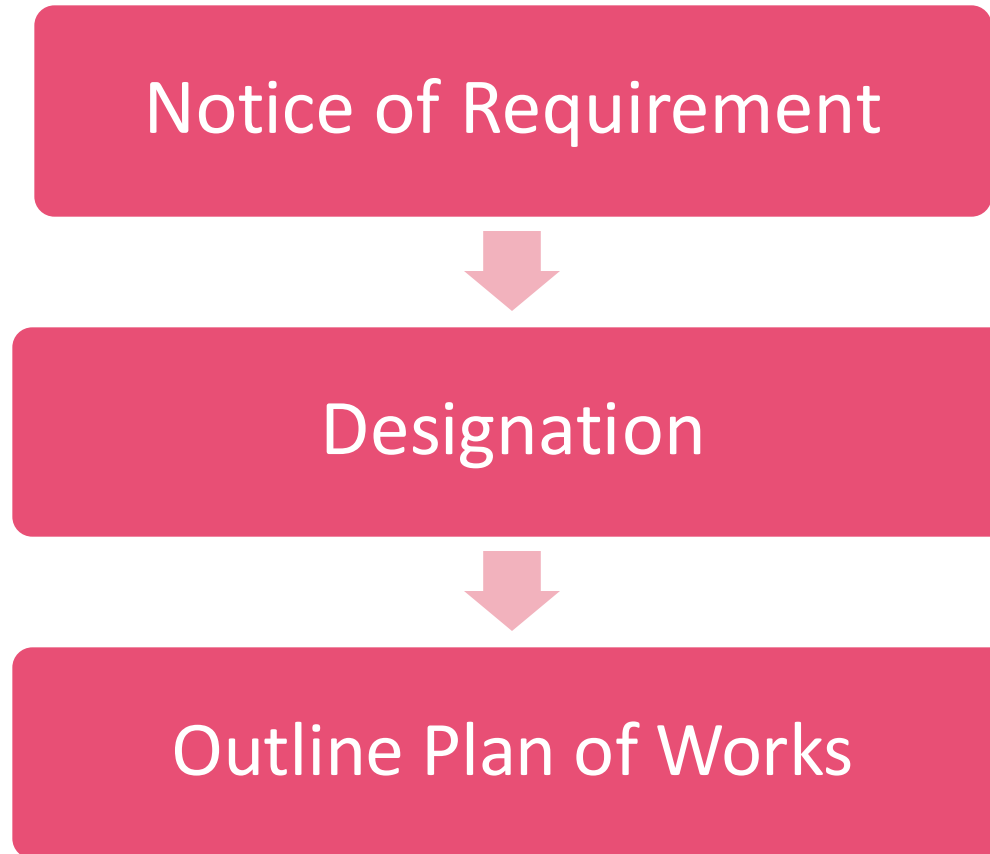
Tiriti Partnership

Communications Strategy

Proposed Notice of Requirement Boundary and key design

Questions forum

Statutory Process for securing ALR transport corridor



What is a Designation?

- A provision in the Auckland Unitary Plan that applies to a specific area of land and authorises a project to occur on that land – i.e for the construction of ALR.
- Authorises the land-use, but regional consents are still required.
- Protects designated land from inappropriate use by others (s176 RMA).
- Enables the requiring authority to acquire the property needed to construct the project. This process occurs under the Public Works.
- The process for designating land is undertaken through a Notice of Requirement (NOR) process .
- ALR NOR is for the transport infrastructure.
- Wider urban development is covered by other interventions

Effect of a Notice of Requirement

- A NOR has immediate legal protection on the land it applies to upon lodgement.
- No one may undertake works within land subject to a Notice of Requirement without prior approval of ALR Ltd (s178 RMA).
- Development above tunnelled sections of light rail is provided for.
- NOR boundary provides some flexibility for alignment to shift slightly if unknown conditions are encountered.
- NOR boundary does not provide for twin tunnel typology.

NOR Consent Design

- Approximately 10% design of final detailed design for construction
- Used to inform footprint for construction, operation and maintenance.
- Key bulk and location information (i.e. tunnelled, viaduct, trench sections)
- Informs an assessment of envelope of effects (i.e. noise, visual, transport network, etc)
- 30 boreholes have been undertaken to inform consent design. A further 32 boreholes proposed later in 2023 around stations and coastal areas to inform further design.

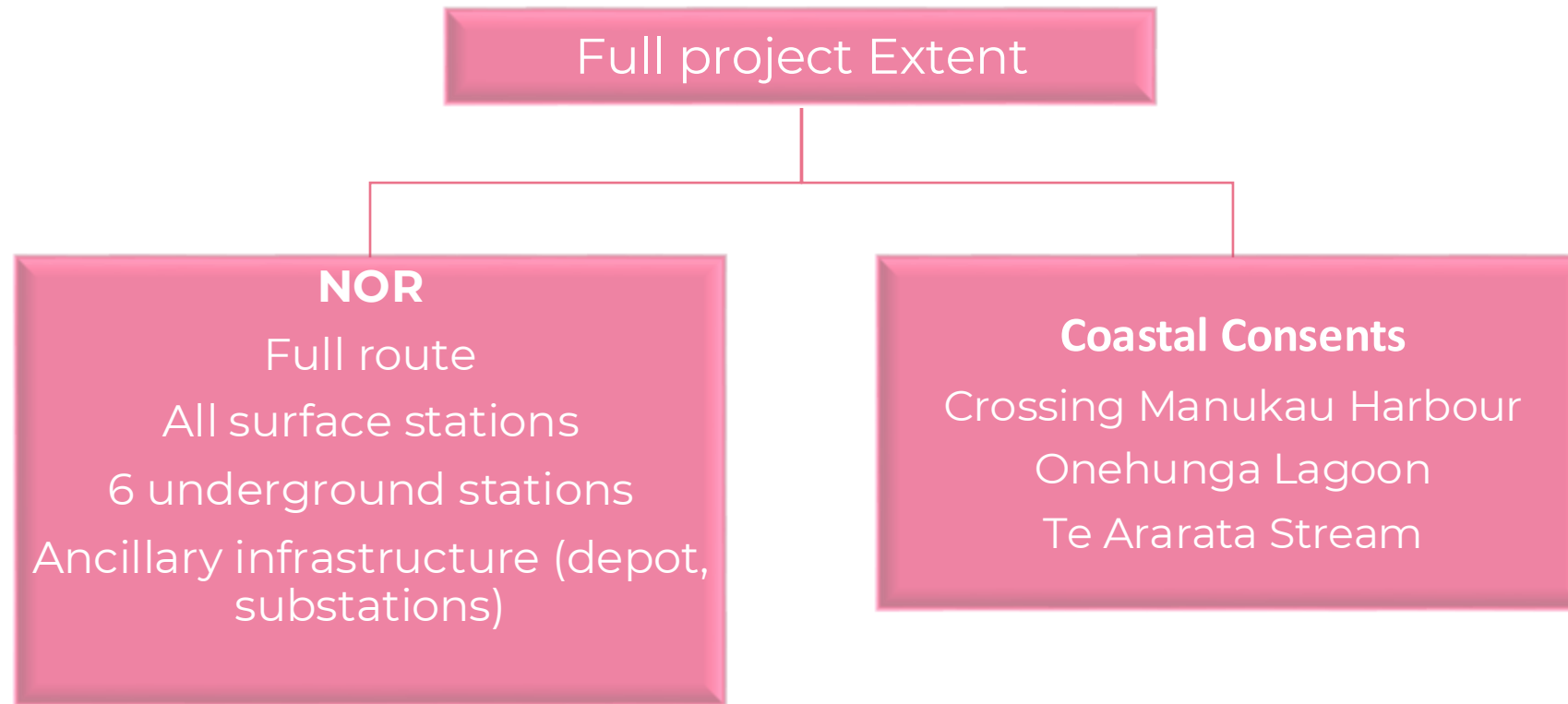
Outline Plan of Works

Detailed design is undertaken closer to construction time.

Detailed design is provided to Auckland Council and assessed as part of the Outline Plan of Works process (s176A RMA).

Outline Plans must be submitted by ALR Ltd to Auckland Council. It provides the opportunity for Council to request changes prior to construction.

Consenting strategy



Agreement underway with Auckland International Airport for ALR to be provided for by AIAL under their designation.

ALR within Airport Designation

Airport Designation allows Auckland Airport to provide for public transport facilities. Their Designation condition also requires Airport to provide a corridor for ALR.

Mass rapid transit corridors

30. AIAL shall provide and protect mass rapid transit corridors (meaning dedicated land corridors within which mass rapid transit will be located) within the Auckland Airport Precinct. The corridors shall connect:

- a. A point in the vicinity of SH20A on the northern boundary of the Auckland Airport Precinct (to connect to the future City Centre to Māngere mass rapid transit route); and
- b. A point in the vicinity of Puhinui Road / SH20B on the eastern boundary of the Auckland Airport Precinct (to connect to the future Airport to Botany mass rapid transit route)

with the integrated Airport terminal and the Auckland Airport business precinct (at a minimum).

The mass rapid transit corridors shall be set back a minimum of 20 metres from Mean High Water Springs except for the approaches to the Pūkaki Creek.

Consenting pathway

Notification of the NOR and Coastal consents at the same time.

Direct Referral to the Environment Court

- NOR
- Coastal Consents

To be heard together via Environment Court

Other:

- All other regional consents to be determined in 2024 and 2025

The Transport Notice of Requirement Package

Initial Notices of Requirement package for:

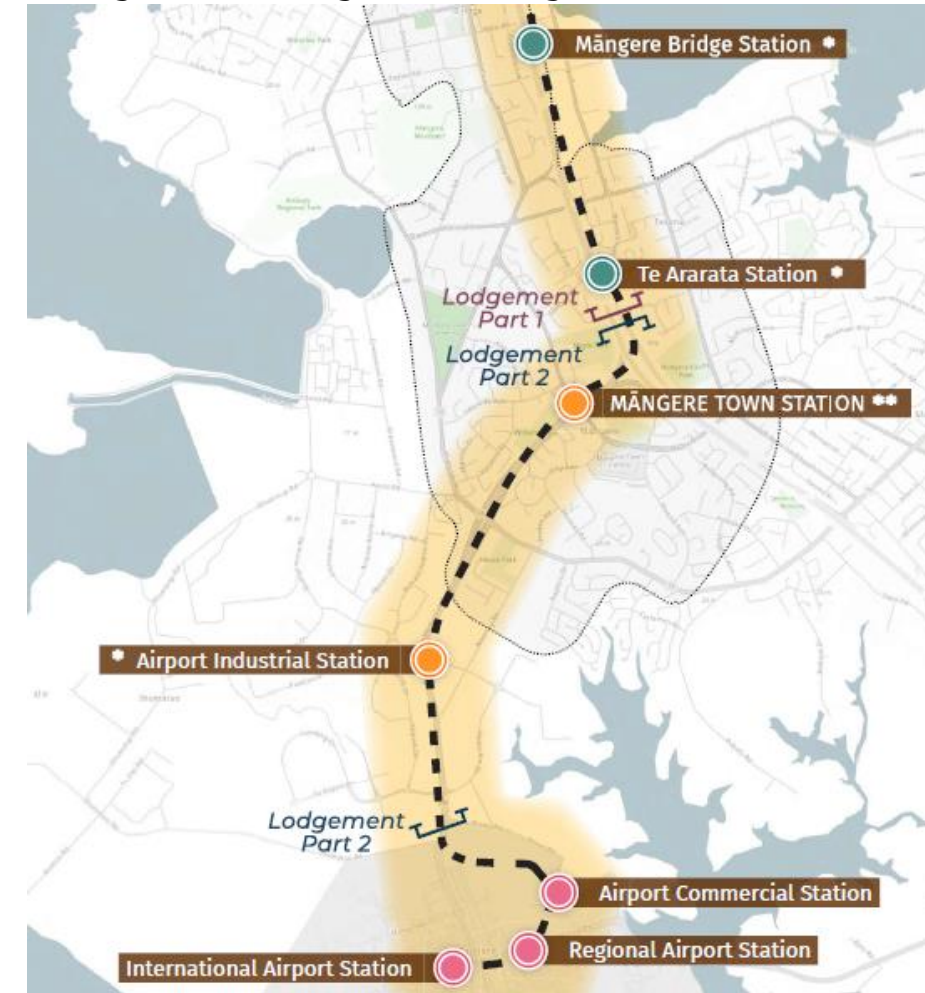
- 11 stations (6 underground)
- Rail alignment between Te Waihorotiu station to Te Ararata Station

Second NoR Package:

- Wesley Station and alignment.
- 2 further stations (Māngere Town Centre and Airport Industrial) and associated surface rail alignment will be lodged later.
- Coastal resource consents for Manukau Harbour Crossing, Onehunga Lagoon and Te Ararata Stream crossing will be lodged later.
- All NORs and coastal resource consents (full route and stations) will be notified at the same time, planned for 2024 Quarter 1.

Agreement underway with Auckland International Airport for light rail to be provided for as Outline Plan by AIAL under their designation for the airport.

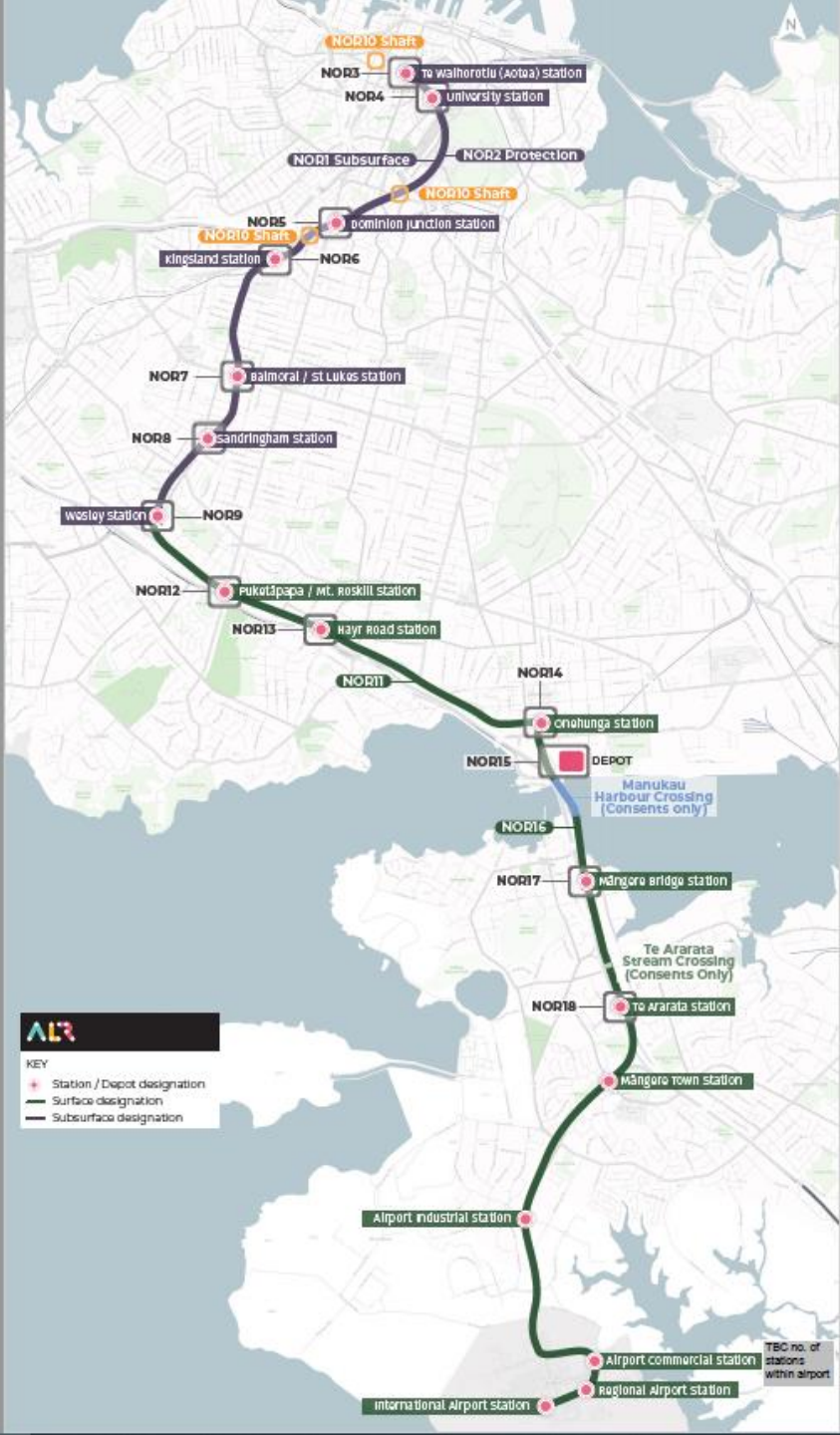
Progressive Lodgement Programme



Proposed NOR Package

NOR	Title	Description
NOR 1	Tunnelled rail	Underground designation for tunnelled rail and all ancillary activities
NOR 2	Tunnel Protection	Located 5m (2m at some locations) from ground surface to top of NOR 1. Protects from activities that may impact upon the tunnel.
NOR 3	Station - Te Waihorotiu	Station with both underground and surface level elements
NOR 4	Station - University	Station with both underground and surface level elements
NOR 5	Station – Dominion Junction	Station with both underground and surface level elements
NOR 6	Station - Kingsland	Station with both underground and surface level elements
NOR 7	Station – Balmoral/St Lukes	Station with both underground and surface level elements
NOR 8	Station - Sandringham	Station with both underground and surface level elements
NOR 9	Station - Wesley	Above ground station
NOR 10	Shafts	Shafts needed for ventilation, emergency egress for tunnelled section
NOR 11	Surface rail – Wesley to Manukau Harbour	Surface rail alignment between Wesley Station to Onehunga Depot.
NOR 12	Station – Puketāpapa /Mt Roskill	Above ground station
NOR 13	Station – Hayr Road	Above ground station
NOR 14	Station – Onehunga	Above ground station
NOR 15	Depot	Railway depot for storage, maintenance and repair
NOR 16	Surface rail – south of Manukau Harbour to Mangere Town Centre	Surface rail alignment between south of Manukau Harbour to north of Mangere Town Centre
NOR 17	Station – Māngere Bridge	Above ground station
NOR 18	Station – Te Ararata Creek	Above ground station
NOR 19	Surface rail – Māngere Town Centre	Surface rail alignment between north and south of Mangere Town Centre
NOR 20	Station - Māngere Town Centre	Above ground station
NOR 21	Surface rail - South of Māngere Town Centre to Airport Industrial	Surface rail alignment from south of Māngere Town Centre to boundary to Airport land
NOR 22	Station - Airport Industrial	Above ground station

Confidential



Mana Whenua Partnership

- Mana Whenua involved at both leadership and kaitiaki level.
- Mana Whenua leadership representation at Sponsor level – Ngarimu Blair, Karen Wilson, and Paul Majurey.
- 15 Mana Whenua groups with interests in project area invited to attend a fortnightly hui.
- Auckland Light Rail Te Rautaki Huanga Māori – Māori Outcomes Strategy for the Project Business Case
- Mana Whenua appointed technical specialists to support Mana Whenua in the NOR and consenting process.

Te Rautaki Huanga Māori 2021

- Te Terewiti ki Tāmaki Makaurau Te Rautaki Huanga Māori 2021 (ALR Māori Outcomes Strategy) outlines the desired Māori Outcomes and ALR commitment to establishing an enduring and genuine relationship with Mana Whenua and Mataawaka in and around the Corridor.
- Te Rautaki was the position from Mana Whenua leadership on ALR and agreed to by Ministers for the IBC.
- It sets clear guidance for how ALR will work with Treaty Partners through the establishment of:
 - Ngā Uara: Values
 - Ngā Mātāpono: Principles for Engagement
 - Ngā Putanga Outcomes for ALR

RMA Part 2 Matters

Various sections of Part 2 of the RMA require the consideration of Māori Values the consideration of these has been embedded in our approach to engagement with Mana Whenua

Section 5 – Purpose refers to “cultural well-being”

- *Active consideration and response to Mana Whenua bottom-lines / constraints and opportunities through all aspects of the project*
- *These will be addressed in the AEE documentation, Mana Whenua Cultural Values Report and Mana Whenua Kaitiaki Engagement Summary Report.*

Section 6(e) – Matters of National Importance - recognise and provide for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga

- *Mana Whenua Constraints identified through the MCA workshops have been mapped to help inform Consent Design and NOR boundaries (e.g. Māori land, Cultural Heritage, Awa, Maunga, Marae, Volcanic Viewshafts etc)*

Section 6(f) – Matters of National Importance – recognise and provide for the protection of historic heritage from inappropriate subdivision, use and development

- *Known sites of significance to Mana Whenua identified in ALR GIS*
- *Unscheduled sites of significance identified through CVA's, Treaty Settlements and partnership with AC Māori Heritage Programme.*

Section 6(g) – Matters of National Importance – recognise and provide for the protection of recognised customary activities

- *Treaty Settlement – Deeds of Settlement and Marine and Coastal Area Claims mapped in ALR GIS and statutory requirements to be met*

RMA Part 2 Matters

Various sections of Part 2 of the RMA require the consideration of Māori Values the consideration of these has been embedded in our approach to engagement with Mana Whenua

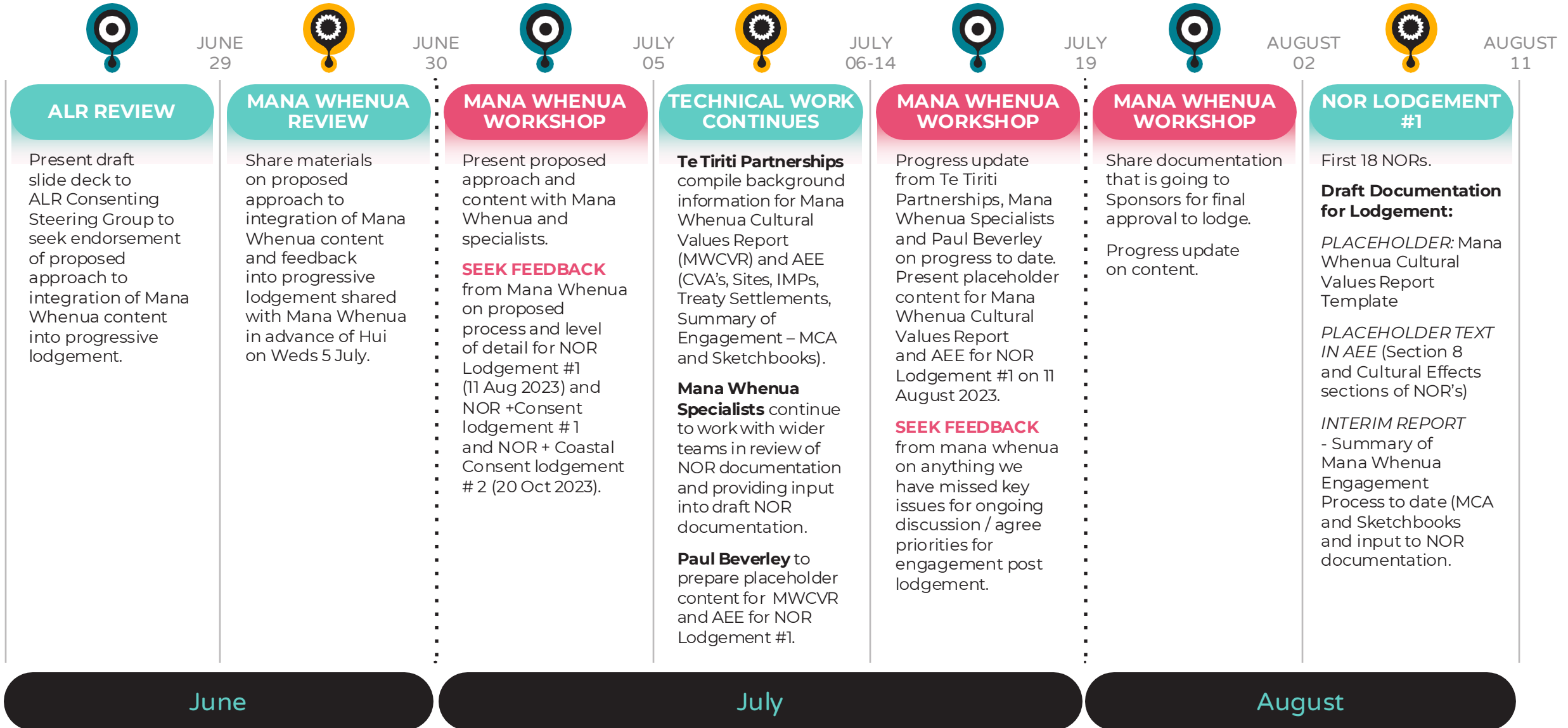
Section 7 – Have particular regard refers to “kaitiakitanga”

- *Mana Whenua Kaitiaki involved in MCA process to determine route and station locations*
- *Mana Whenua and their specialists working in partnership to inform NOR documentation (Consent design, draft conditions)*
- *Mana Whenua Cultural Values Report is being developed to reflect how the Project will respond to matters identified through engagement, CVAs, Iwi Management Plans, Treaty Settlements and other relevant documents*

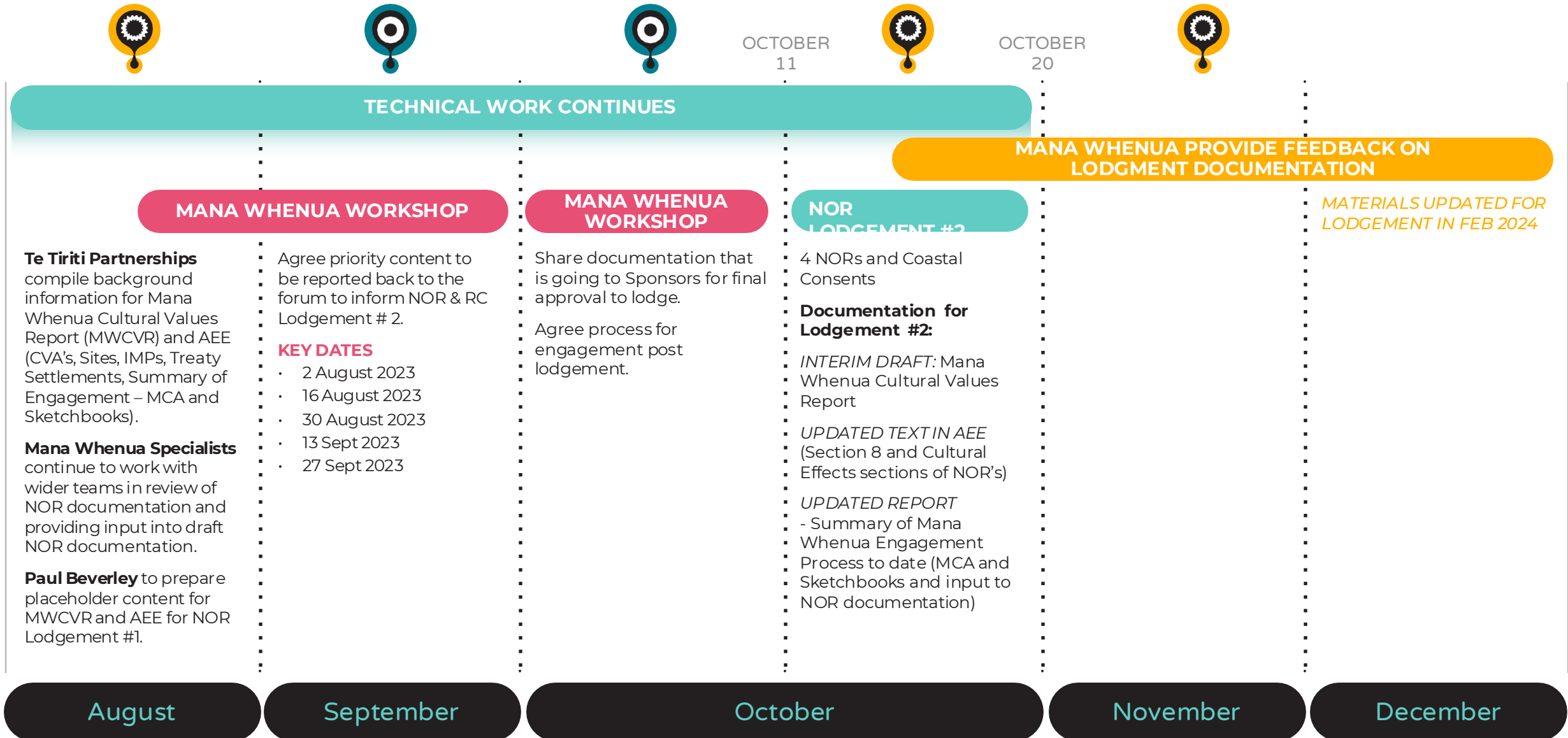
Section 8 – Te Tiriti o Waitangi take into account the principles of Te Tiriti o Waitangi including Rangatiratanga, Partnership, Active Protection, Mutual Benefit and the Right of Development.

- *Mana Whenua involvement at sponsors level*
- *Mana Whenua kaitiaki actively involved in MCA process to determine route and station locations*
- *Mana Whenua constraints mapped and identified as Project Constraints*
- *Wider opportunities for partnerships and development rights being explored as part of wider Business Case and Urban workstreams.*

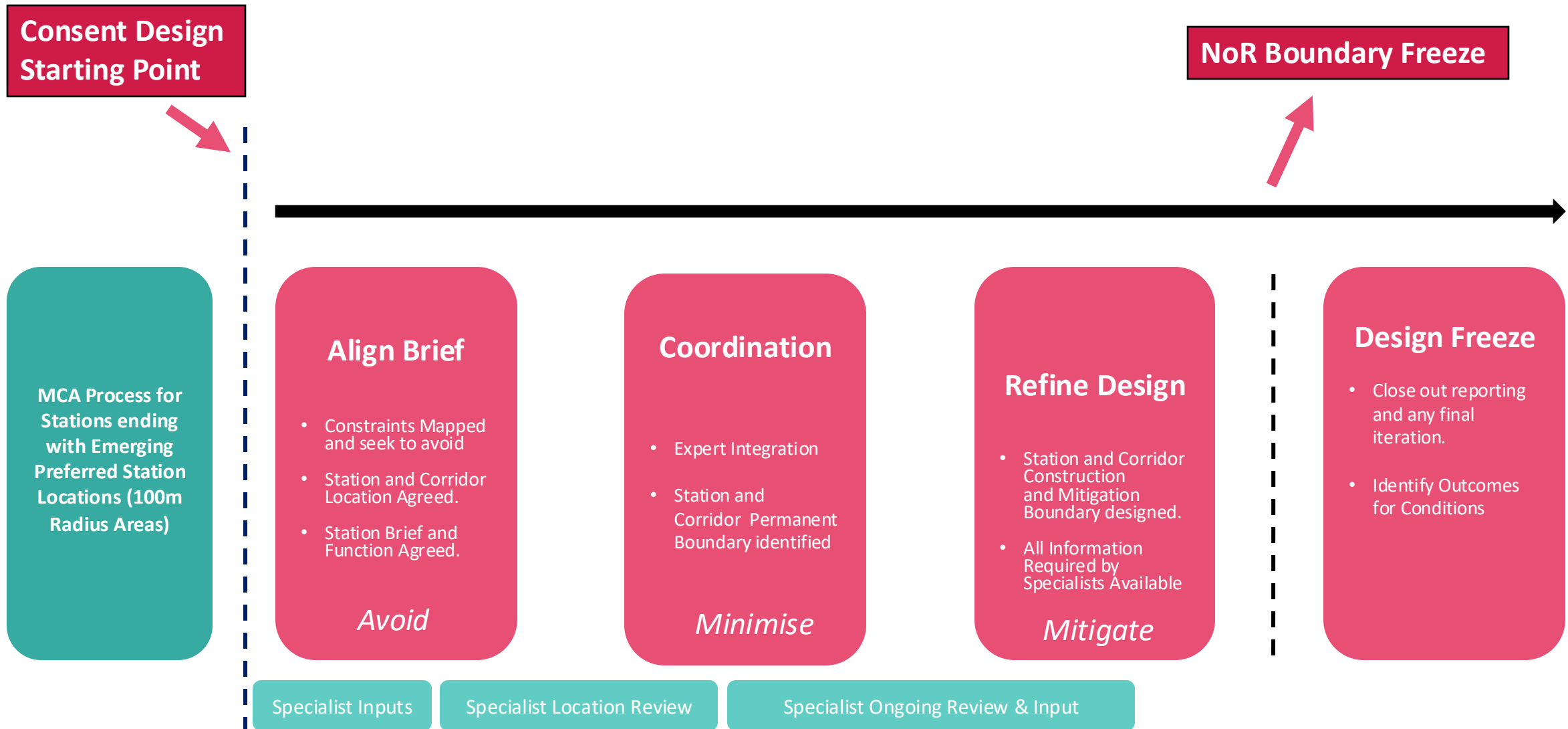
Lead up to Lodgement # 1



Lead up for for NOR and Coastal Consents Lodgement # 2



Constraints-led consent design process



Mana Whenua Constraints Maps

Constraints identified by Mana Whenua through MCA engagement	ALR Response - GIS Layers checked as part of Consent Design Constraints Mapping and included in Consent Design Sketchbooks to inform route and station design
Impact on Maunga and Lava Caves	<ul style="list-style-type: none"> • Outstanding Natural Features Overlay (Auckland Unitary Plan – Operative in Part) • Regional Maunga Viewshafts and Height and Building Sensitive Areas Overlay (Proposed Plan Change) • Locally Significant Volcanic Viewshafts (Auckland Unitary Plan – Operative in Part) • Tāmaki Collective – Cultural Redress (Auckland Council – Te Mātāpuna mō ngā Hapori) • Lava Caves in Auckland (Peter Crossley) • Auckland Volcanic Field (Hayward 2011)
Impact on sites of significance to Mana Whenua	<ul style="list-style-type: none"> • Sites and Places of Significance to Mana Whenua Overlay (Auckland Unitary Plan - Operative in Part) • Heritage New Zealand Listed Site (Auckland Council) • Co-governed and Co-managed Areas (Auckland Council) • Sites and Places of Value to Mana Whenua (Proposed Auckland Unitary Plan)
Impact on Areas of Historic Māori Occupation	<ul style="list-style-type: none"> • Sites and Places of Significance to Mana Whenua Overlay (Auckland Unitary Plan - Operative in Part) • Heritage New Zealand Listed Site (Auckland Council) • Co-governed and Co-managed Areas (Auckland Council) • Sites and Places of Value to Mana Whenua (Proposed Auckland Unitary Plan)
Impact on Taonga Species	<ul style="list-style-type: none"> • Significant Ecological Areas Overlay (Auckland Unitary Plan – Operative in Part)

Mana Whenua Constraints Maps

Constraints identified by Mana Whenua through MCA engagement	ALR Response - GIS Layers checked as part of Consent Design Constraints Mapping and included in Consent Design Sketchbooks to inform route and station design
Impact on Wai	<ul style="list-style-type: none"> • Water Supply Management Areas Overlay (Auckland Unitary Plan – Operative in Part) • Natural Stream Management Areas Overlay (Auckland Unitary Plan – Operative in Part) • High Use Stream Management Areas Overlay (Auckland Unitary Plan – Operative in Part) • Lake Management Areas Overlay (Natural and Urban Lake) (Auckland Unitary Plan – Operative in Part) • Wetland Management Areas Overlay (Auckland Unitary Plan – Operative in Part) • High Use Aquifer Management Areas Overlay (Auckland Unitary Plan – Operative in Part) • Quality Sensitive Aquifer Management Areas Overlay (Auckland Unitary Plan – Operative in Part)
Impact on Moana	<ul style="list-style-type: none"> • Takutai Moana (MCA Claims to Seabed) includes Crown Engagement Application Areas and High Court Application Areas • LINZ NZ Coastline – Mean High Water • DOC Marine Reserves
Impact on Māori Land	<ul style="list-style-type: none"> • Māori Freehold Land • Original Coastline Māngere Bridge Onehunga includes Old Shoreline and Original coastline Māngere Bridge • Māori land dataset 2017 • LINZ NZ Primary Parcels
Impact on Marae and Māori Education Providers	<ul style="list-style-type: none"> • Māori Identity Wellbeing Tangata Whenua (Auckland Council – Auckland Plan 2050) <ul style="list-style-type: none"> • Marae (Mana Whenua_) • Māori Identity Wellbeing Tangata Māori (Auckland Council – Auckland Plan 2050) <ul style="list-style-type: none"> • Community / Mataawaka Marae • Institutional Marae • Taurahere Marae • Māori Education Providers

Treaty Settlement Legislation

The following Treaty Settlements have been mapped and are being considered as part of the MCA process and development of the NOR documentation:

- Ngā Mana Whenua o Tāmaki Makaurau Collective Redress Act 2014
- Ngāi Tai ki Tāmaki Claims Settlement Act 2018
- Ngāti Tamaoho Claims Settlement Act 2018
- Ngāti Whātua ō Kaipara Claims Settlement Act 2013
- Ngāti Whātua Ōrākei Claims Settlement Act 2012
- Te Kawerau ā Maki Claims Settlement Act 2015

The effects of land subject to the following Deeds of Settlement have also been considered as part of the process:

- Ngāti Paoa Claims Settlement Bill 2023 and Deed of Settlement 2021
- Te Ākitai Waiohū Deed of Settlement 2021
- Marutuahu Deed of Settlement 2018

Harbour Settlements

- Treaty settlement negotiations to address the report of the Waitangi Tribunal on the Manukau Claim (“Wai 8”) and other claims relating to the harbours have not been settled.
- Wai 8 is the oldest Waitangi Tribunal claim yet to be settled and provides important context to the project.
- Ngā Mana Whenua o Tāmaki Makaurau Harbours Settlement still pending.
- ALR are working closely with Mana Whenua at a leadership and kaitiaki level to look at how the project should respond.

Mana Whenua Feedback on Design

- Mana Whenua have provided feedback to the draft Consent Design Sketchbooks.
- This is where the relevant design inputs are contained to inform the NOR and Business Case.
- Three documents have been received from Mana Whenua Kaitiaki Technical Advisors to date:
 - Auckland Light Rail – Mana Whenua Technical Advisors Cultural Expectation Statement
 - Te Ākitai Waiohū Technical Advisors - ALR Station Location and Route MCA
 - Te Ākitai Waiohū Technical Advisors - ALR Technical note 2 to inform sketchbooks
- A process has been developed with the Te Tiriti Partnerships team to work through the Mana Whenua feedback on the Consent Design Sketchbooks with the wider package teams.

Mana Whenua bottom lines identified through engagement to date

1. Avoid negative project impacts on whenua, moana, takutai, hau takiwā and ngāhere and surrounding catchments
2. Te Hōpua ā Rangi strongly recognized as a no-go area
3. Protect and enhance Maunga, included related viewshafts, puna (springs), waterways and coastal areas, former pā sites, natural features and other places of significance to mana whenua
4. ALR infrastructure intruding into scheduled Maunga viewshafts and height sensitive areas must be avoided – including on the whenua (land) and moana (CMA).
5. Any tunnelled section must avoid lava caves and subsurface streams and groundwater features
6. Maintain the ability for mana whenua to freely participate in their traditional and cultural practices in engaging with the coastal marine resources of their rohe.
7. Future infrastructure must be cost effective, flexible and adaptable to change and uncertainty to support future generations.

Mana Whenua bottom lines identified through engagement to date

8. Spiritual and cultural concepts recognized by mana whenua in the management of the environment are recognized and actively enhanced and facilitated.
9. Avoid adverse impacts on Māori land and Marae
10. Strong preference for construction commencing at the southern end to support more equitable transport options for those communities
11. Strong preference for a hospital station to support more equitable transport options for communities
12. Strong preference for opportunities for environmental enhancement over and above RMA requirements e.g. Depot and Manukau Harbour

Mana Whenua Engagement Summary Report – Interim Updates

- The ALR response to mana whenua feedback is currently being considered by the Package teams in partnership with Mana Whenua and will be recorded in a separate document and updated progressively as part of the NOR process.
- An Interim Mana Whenua Engagement Summary Report will be submitted for the first lodgment and a further update will be submitted for the second lodgment.
- A further update is anticipated prior to notification to reflect the engagement and ALR responses that occur prior to notification.

Mana Whenua Cultural Values Report

Purpose:

- To acknowledge mana whenua and Te Tiriti
- To acknowledge the relationships and kaitiaki role of mana whenua with te taiao in the project area
- To identify the key context including Treaty settlements, MACA, and RMA and other statutory obligations relating to Te Tiriti and mana whenua
- To acknowledge outstanding matters to be resolved (eg the Manukau Harbour Treaty settlement and MACA processes)
- To acknowledge broader discussions to be had outside of the RMA process (eg Manukau Harbour discussions)
- To acknowledge and record the engagement processes with mana whenua to date
- To record the key themes in mana whenua feedback to date and any specific matters (eg conditions, sites of significance)
- To record the information gathered to date (including information provided by mana whenua, iwi management plans, CVAs, management statements etc)
- To confirm that mana whenua participation and feedback to date reflects a point in the process (but not the end point) and mana whenua are yet to confirm their final views
- To record the agreed process, principles and outcomes for ongoing mana whenua engagement processes which will continue post lodgement

Lodgement-based Communications and Engagement

ALR Sponsor endorsement of NOR lodgment will trigger the following Communications and Engagement activity, including:

1. Pre-engagement with priority stakeholders and Partners (prior to formal announcement)
2. ALR will send letters to affected landowners commencing NOR and property acquisition process at the time of lodgment
3. Public announcement of the NOR lodgment and process
4. Communication of the final route and stations to community and wider Auckland audience.

Context

- To date, engagement has focused on the light rail concept, how it can address key mobility challenges, and how it can enable neighbourhood transformation.
- This next round represents a step change, moving from high level to hyper-local. Real and tangible impacts will trigger more interest, feedback and concern.
- Despite best efforts, this detailed phase holds high risk to social licence and project reputation – which could cause delays to the programme. The engagement timeline coinciding with the general election poses added risk.

What this means for communities

- A truncated design process has not allowed for more robust public participation. The move from 'emerging route and anchor stations' to a detailed corridor will be a surprise to most stakeholders.
- NoR lodgement will illustrate shifts and new aspects to the project. Most specifically, the impacts of grade separation on station design and viaduct alignments. These are likely to be confronting.
- There will not be an opportunity to influence the NoR boundary or the design prior to public notification in early 2024. The process for engagement this year will therefore be to inform/educate only.

New project elements that will be communicated for first time

- Property related impacts/ affects (significant number)
- Design features – metro system, viaducts, new bridge over Manukau Harbour, tunnel typology, station footprints (100 metre platform), depot location
- Station types – underground, viaduct, motorway
- Absence of stations in Wynyard Quarter and Māngere Town Centre
- The lodgement process and how to participate.

Engagement will also spark questions on staging, timeframes, cost, and political implications of upcoming election.

Phase 1 – Pre engagement (min 2 weeks)

- Once endorsement is gained, engagement team will set-up briefings with priority stakeholders
- Focus on:
 - Corridor elected officials (MPs, Councillors and Local Boards – approx. 20 people)
 - Corridor community representatives/ leaders (via our Neighbour Liaison groups – 5 briefings)
 - Auckland wide priority stakeholders (peak bodies, advocates, community orgs – approx. 20)
- Affected landowner letters sent and preparation for direct engagement

Phase 2 – Announcement phase

- Coordinate with any Government desire to make announcement
- Update channels and provide supporting information to priority stakeholders (full update to FAQs and key messages)
- Equip community leaders and elected officials with information and details, including to answer constituents questions
- Property owner engagement to commence
- Media briefings and updates

Phase 3 – Engagement Roadshow (6-8 weeks)

- Implementation of community-based touchpoints to inform, educate and answer questions.
- 2-3 neighbourhood open days and pop-ups in five key communities (up to 15 events)
- Use the mobile hub, partnering with community orgs, and leveraging existing community events

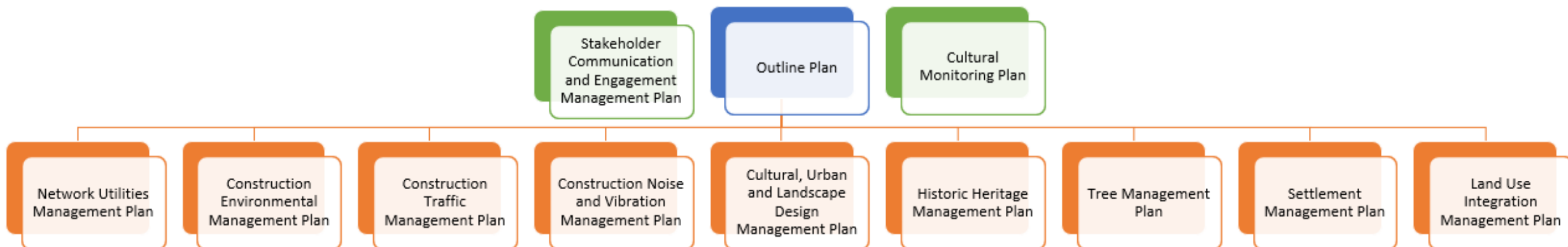
Note/Risk – timing of this engagement will coincide with election period.

Key Environmental Effects

- **Onehunga** - high visual impact and perceived community severance at Onehunga reserve and community.
- **Wesley** – visual impact of viaduct structure and operational noise near residential areas
- **Operational Noise** – defining “new” standard. Anticipate noise wall required for most above ground sections.
- **Manukau Harbour Crossing** – in close proximity to Marine Significant Ecological Area. Require careful construction management and extensive mitigation package.

Draft Conditions Framework

- Outline Plan and Management Plan framework – to be prepared following designation is confirmed (anticipated 2025)



- Consultation with Mana Whenua, Auckland Transport, Kāinga Ora and Eke Panuku
- Consistent with latest Auckland Transport and Waka Kotahi approach

NOR Footprint Extent

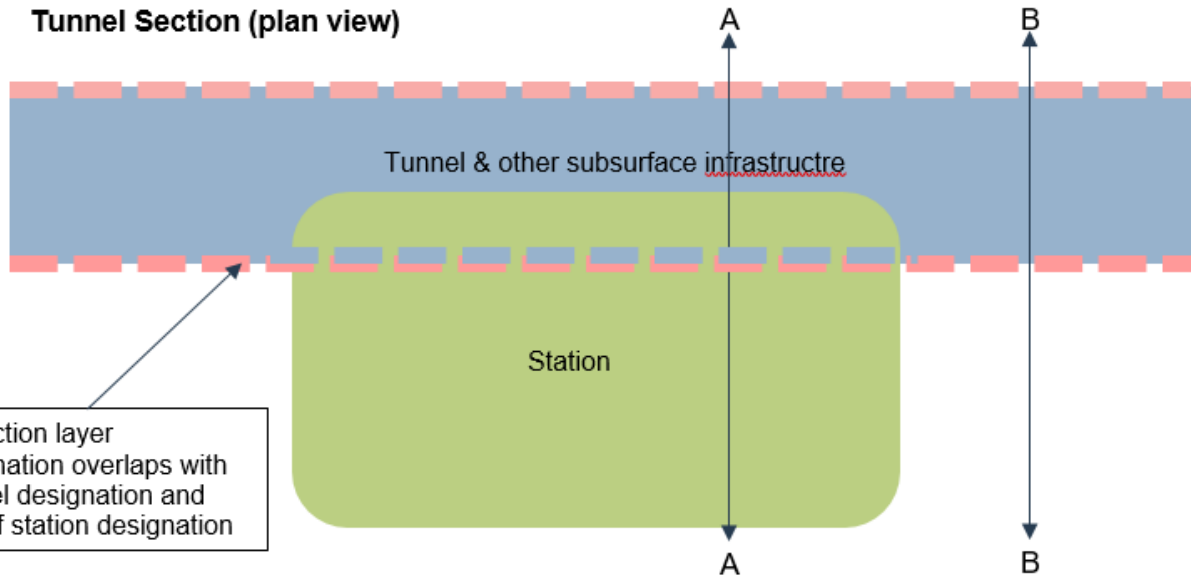
Confidential working draft

NOR Footprint & Consent Design

Proposed Notice of Requirement (NOR) footprint and key design features:

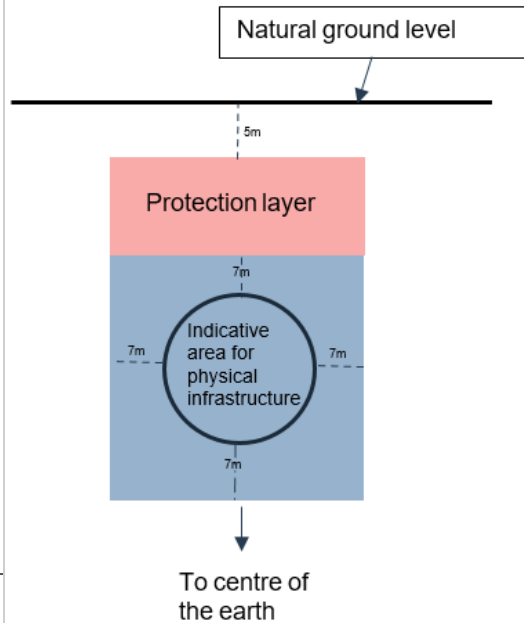
- Station footprints
- Tunnel long section
- Portal location
- Tunnel Boring Machine launch and retrieval sites
- Viaduct locations
- Surface locations
- Manukau Harbour Crossing
- Bus interchange locations
- Cycleway connections
- Key construction methods

Tunnel Section (plan view)



Protection layer designation overlaps with Tunnel designation and part of station designation

Tunnel Section – Cross Section (B-B) view

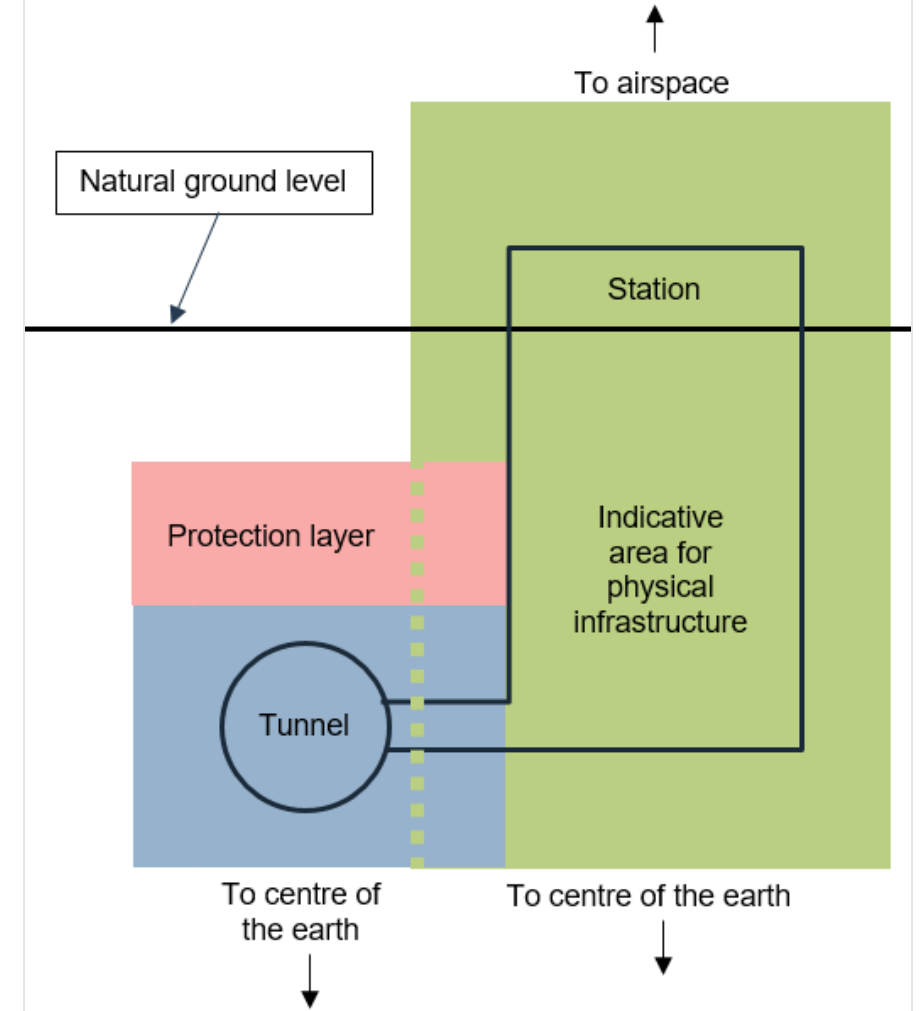


Key

- Tunnel subsurface designation
- Protection layer designation
- Station designation
- Surface track designation
- Depot designation

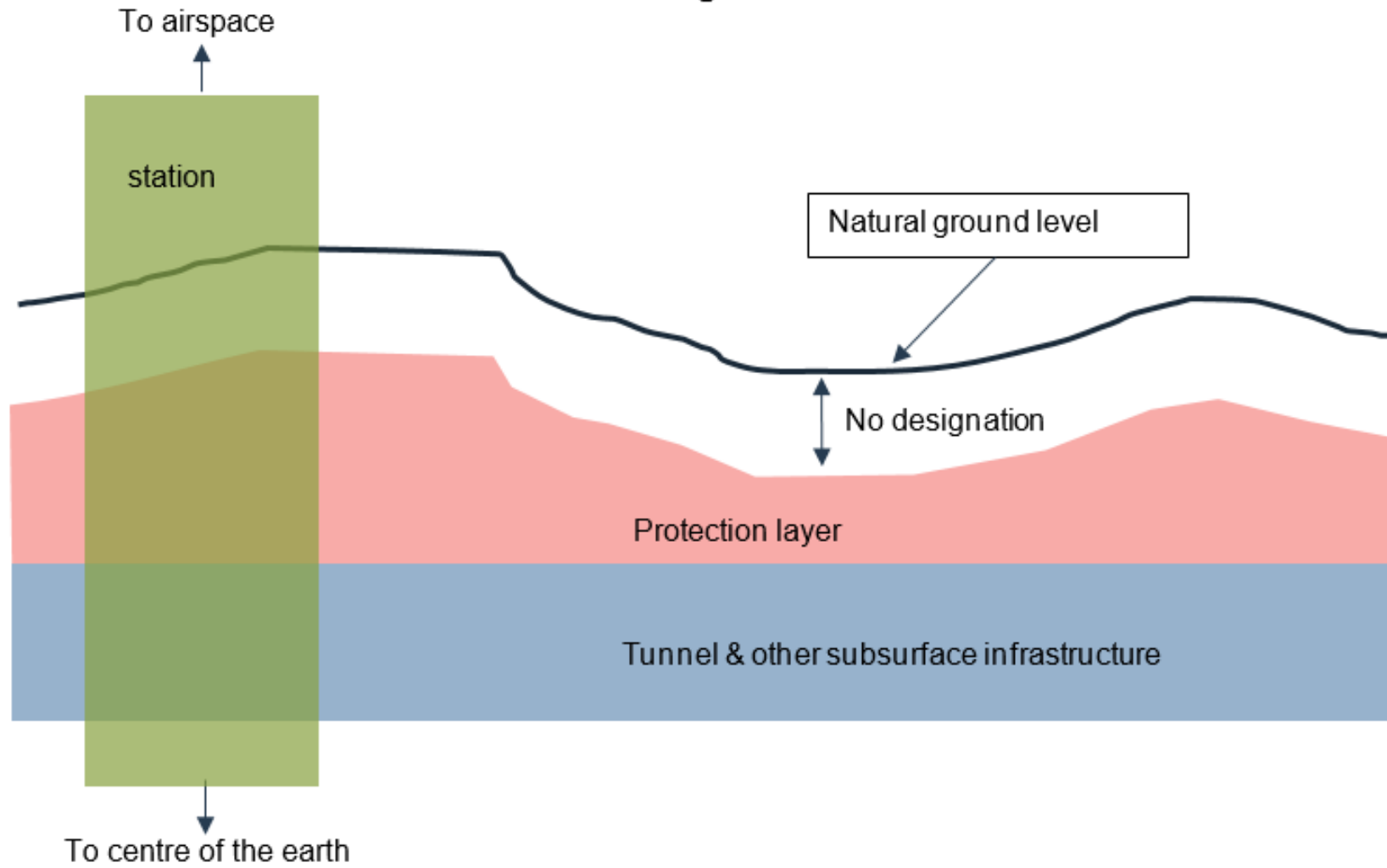
*Construction areas included in all designations

Tunnel Section – Cross Section (A-A) view



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Tunnel Section - Long Section view

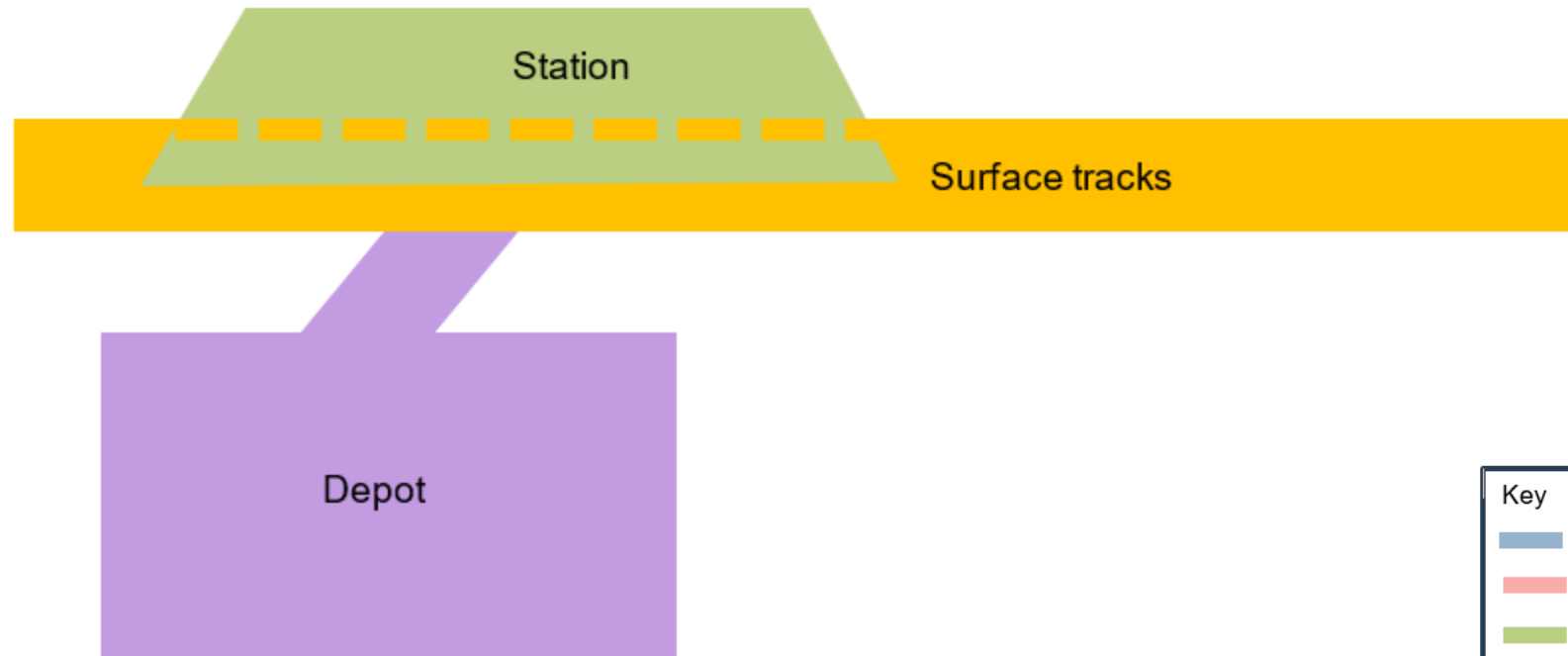


Key

- Tunnel subsurface designation
- Protection layer designation
- Station designation
- Surface track designation
- Depot designation

*Construction areas included in all designations

Surface Section – Plan view



Key

- Tunnel subsurface designation
- Protection layer designation
- Station designation
- Surface track designation
- Depot designation

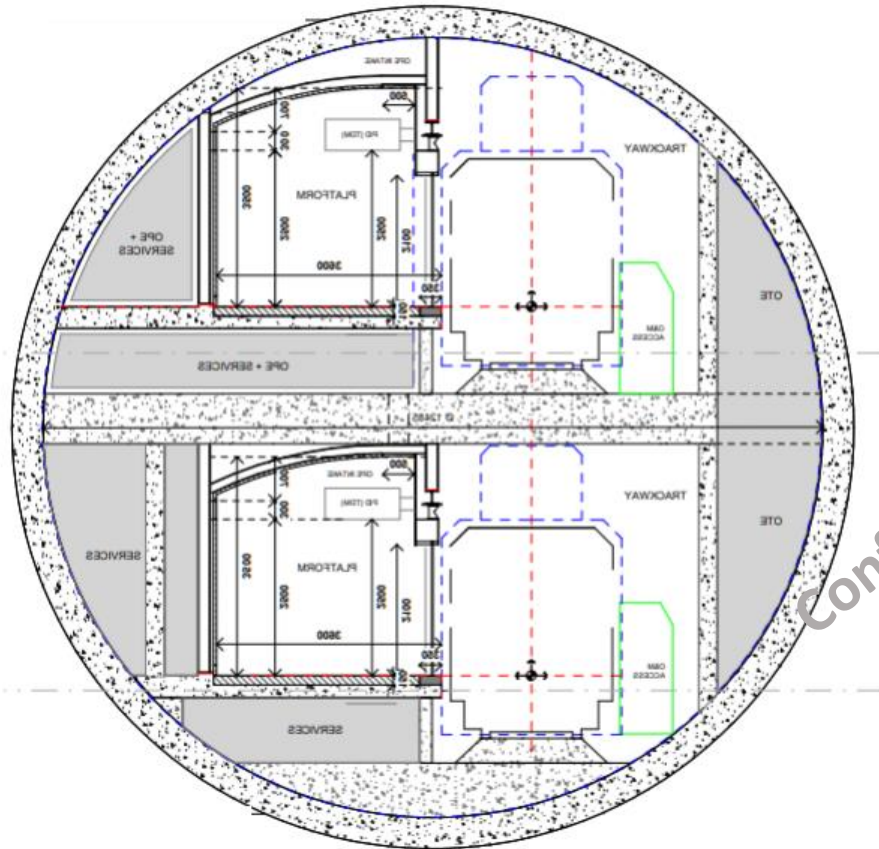
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Te Waihorotiu to Wesley

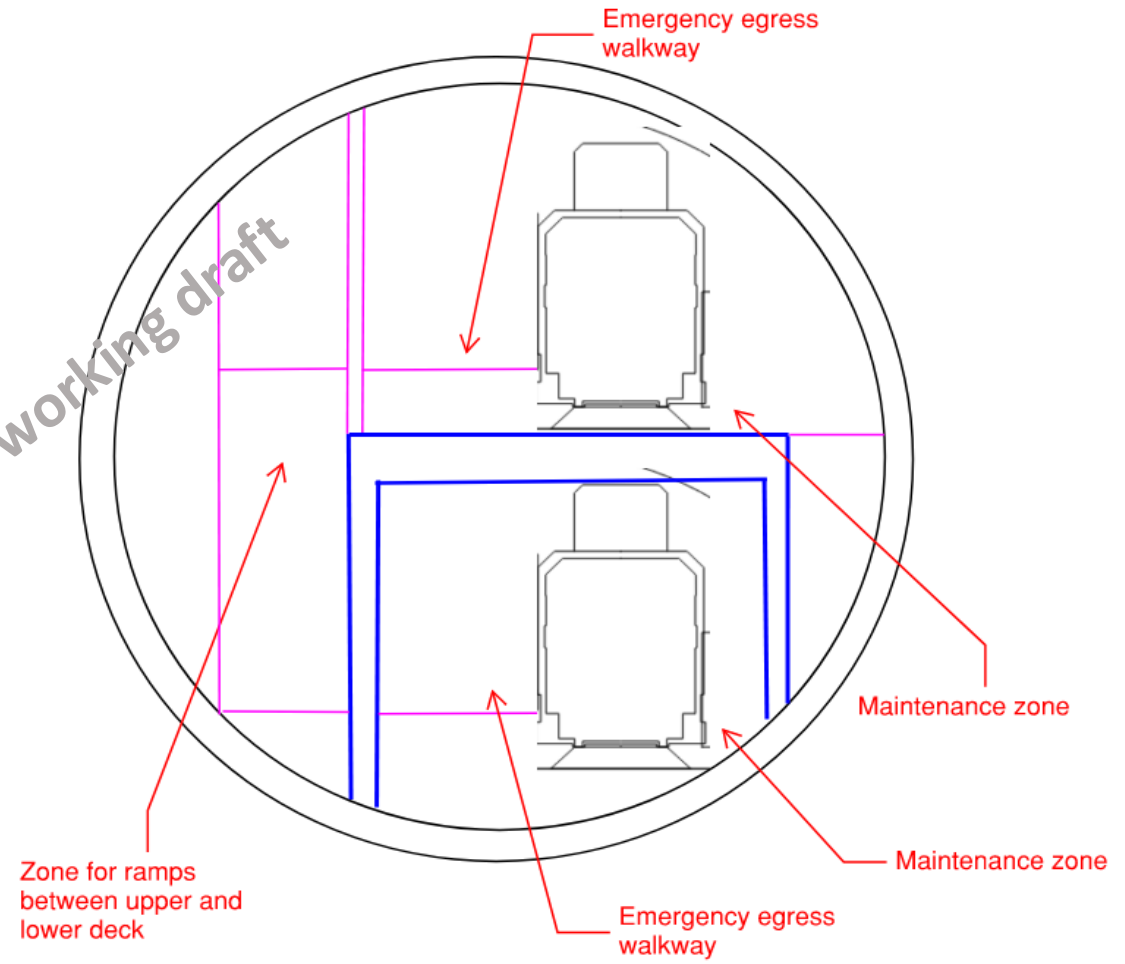
Confidential working draft

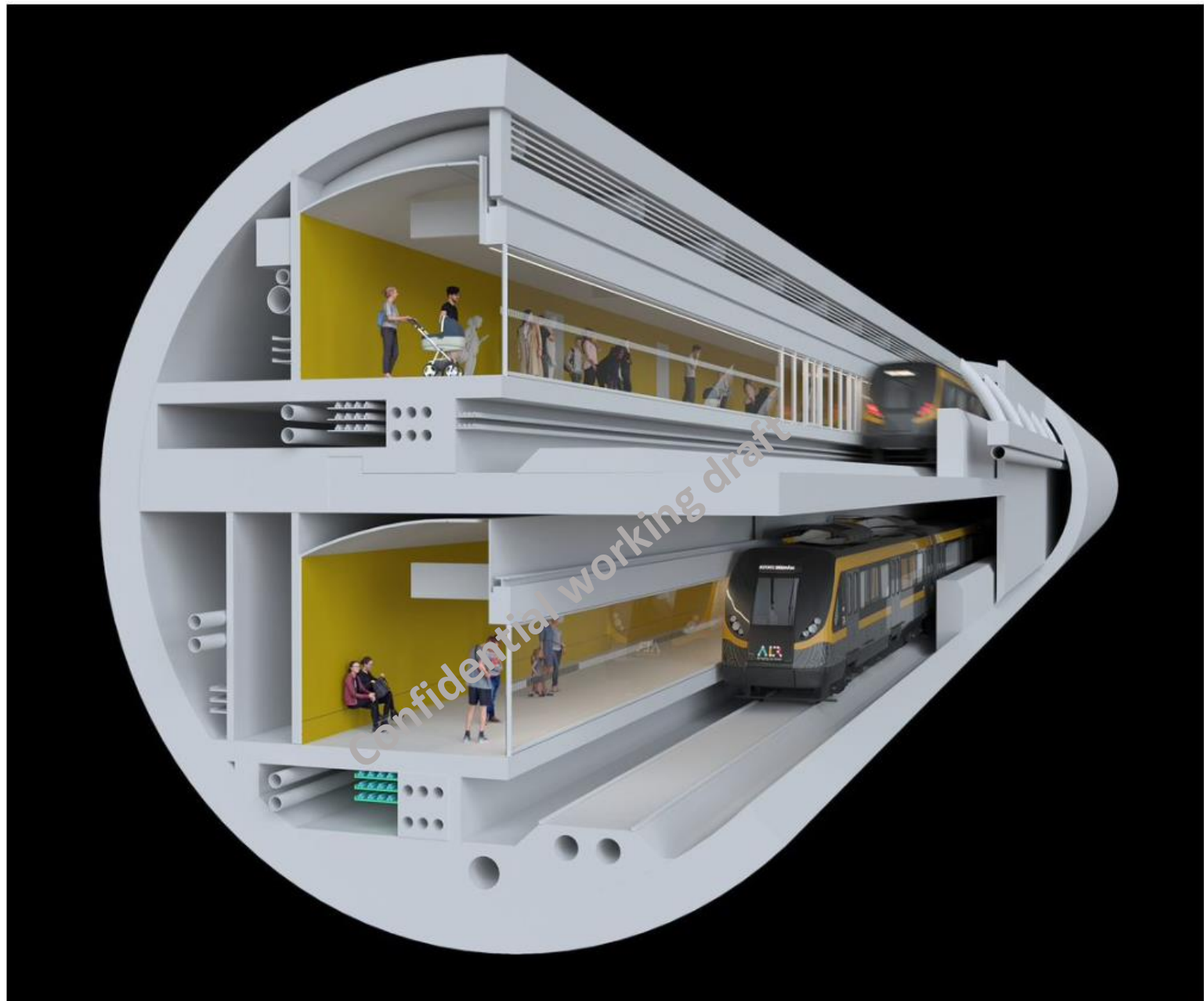
Typical Tunnel Cross Section

AT LOCATION OF STATIONS

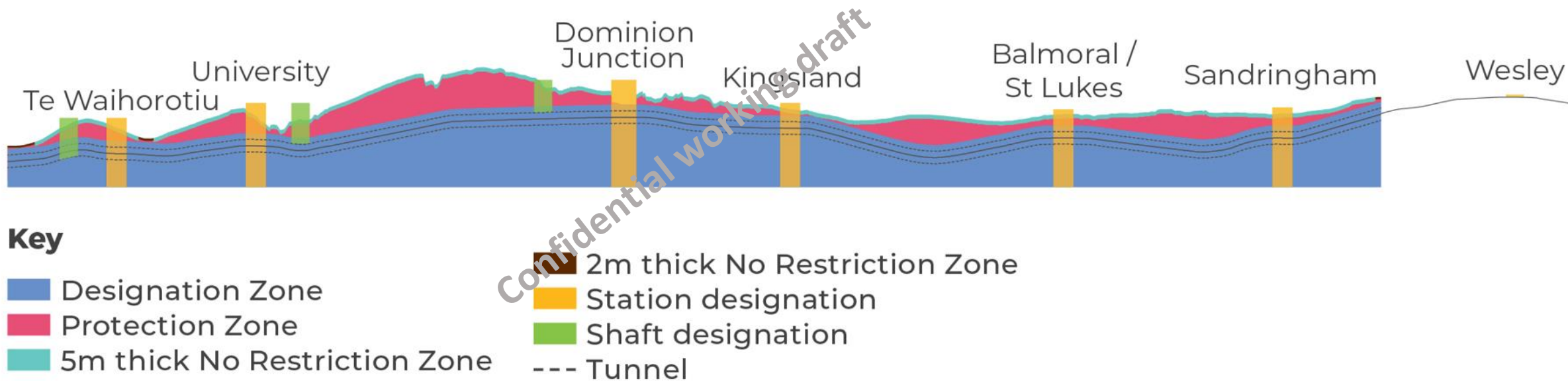


TYPICAL BETWEEN STATIONS



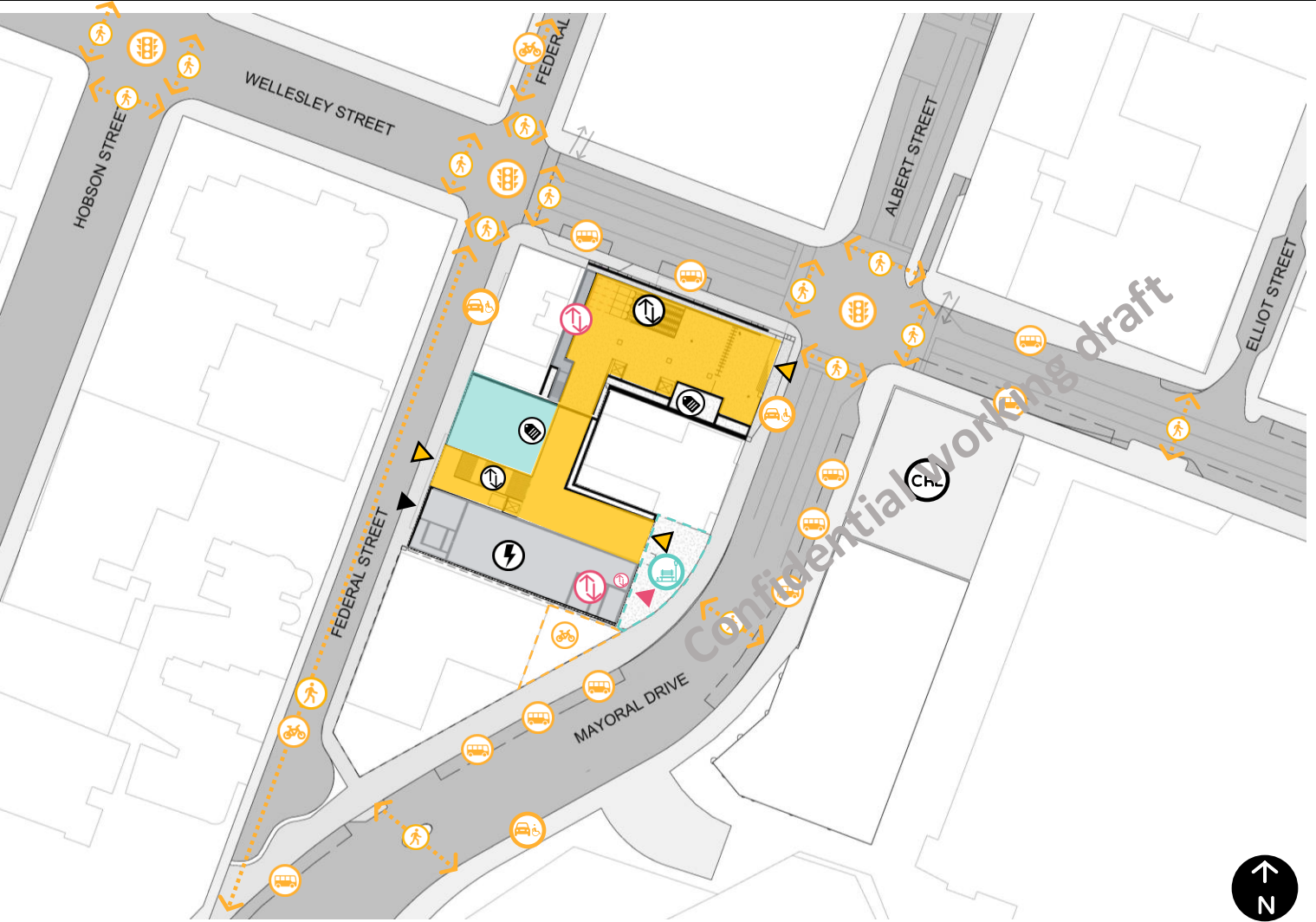


Tunnel Long Section (not to scale)



Te Waihorotiu – Station Configuration

STATION CONFIGURATION DIAGRAM



LEGENDS

- | | | | |
|--|-------------------------|--|--|
| | Platform | | Tickets & Help Point |
| | Vertical Transport | | Passenger Facilities |
| | Interchange | | Fire Egress |
| | Bus stop | | Substation and BOH |
| | Cycle | | Pedestrian |
| | Kiss and Ride | | Public Realm, Landscape and Sustainable Drainage |
| | Signalised intersection | | |
| | Station BoH | | Accessory Commercial |
| | Station Concourse | | |
| | Station Entry Points | | |
| | Station Service Access | | |
| | Fire Service Access | | |
| | Station Service Parking | | |

Te Waihorotiu Station



NORTHERN ENTRANCE FROM MAYORAL DRIVE AND WELLESLEY STREET



EASTERN ENTRANCE FROM MAYORAL DRIVE



WESTERN ENTRANCE FROM FEDERAL STREET

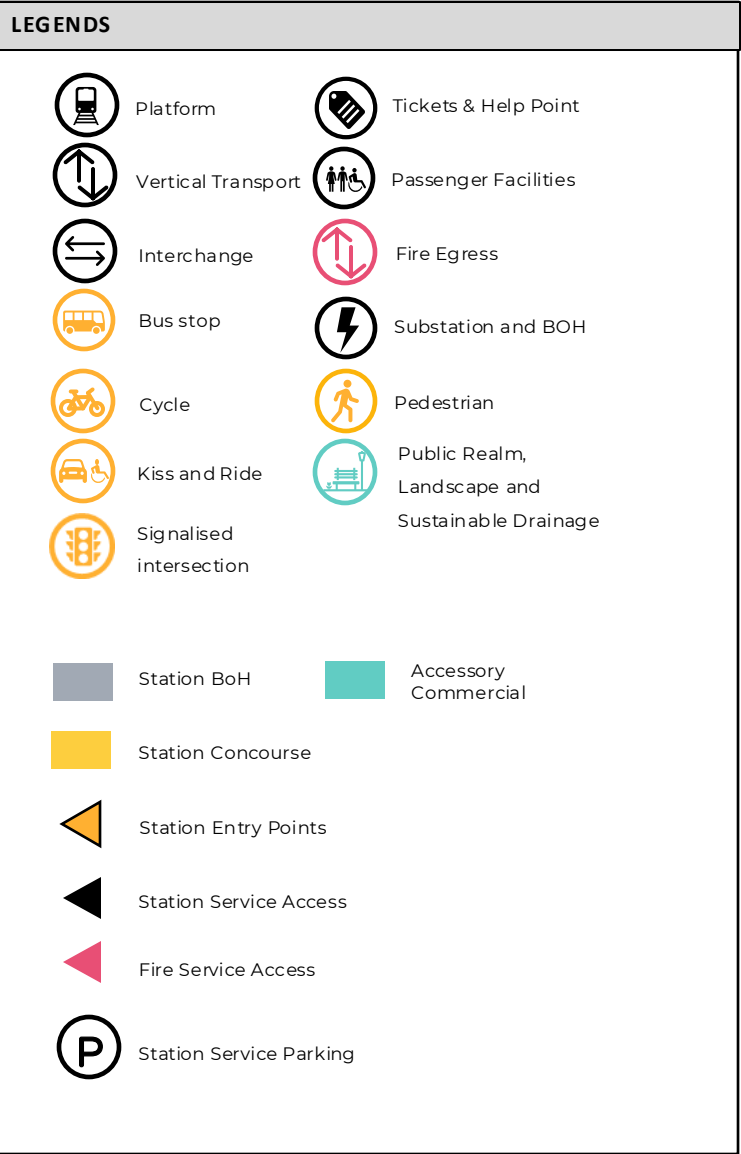
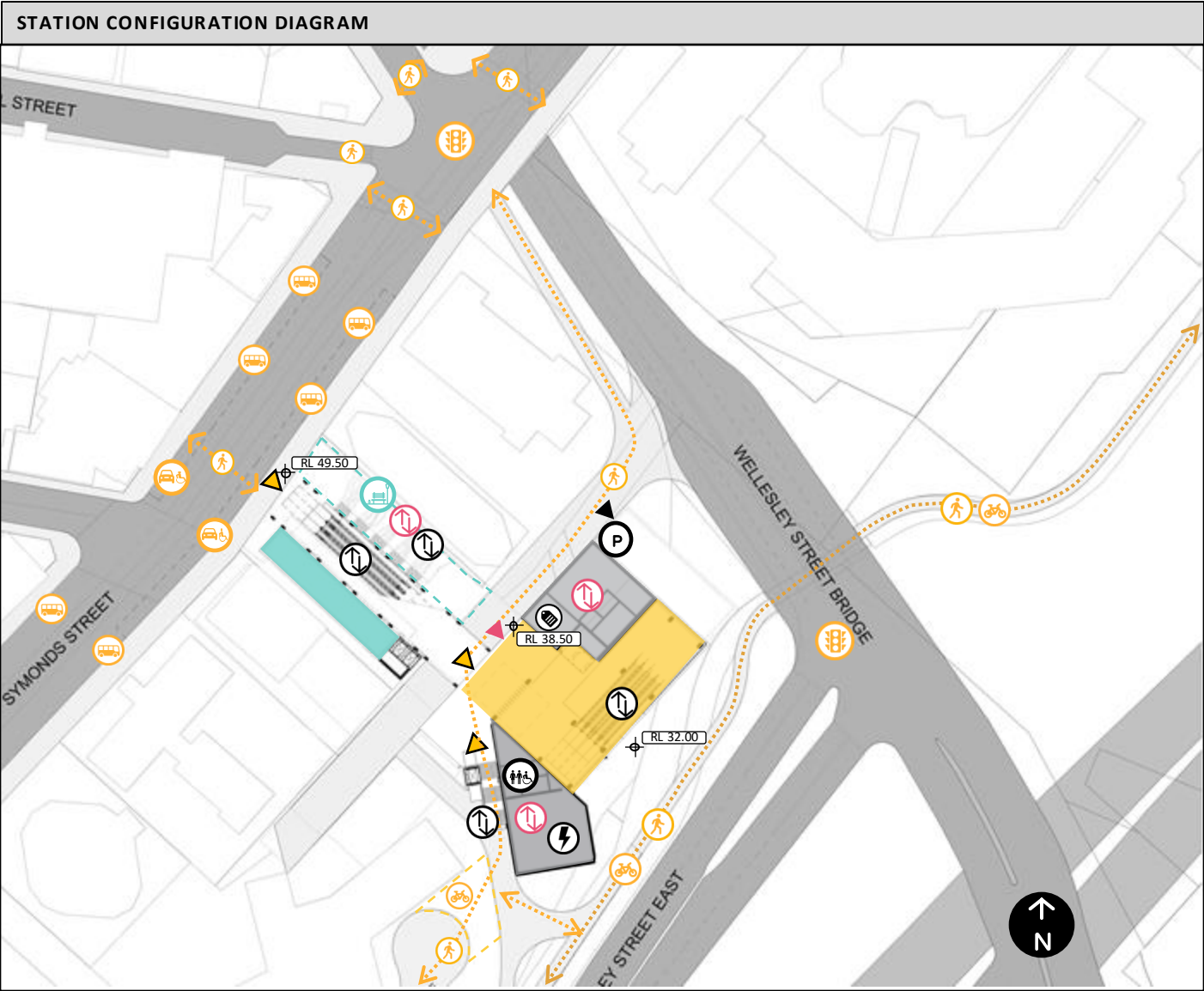


UNPAID CROSS PASSAGE VIEW

Te Waihorotiu Station

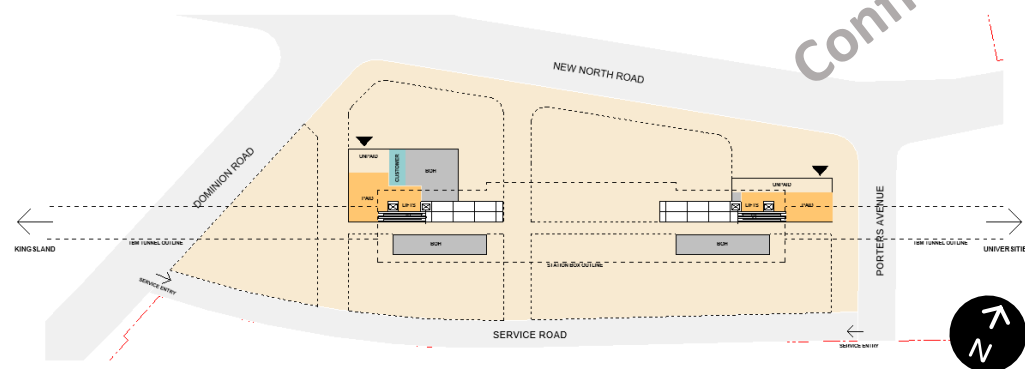
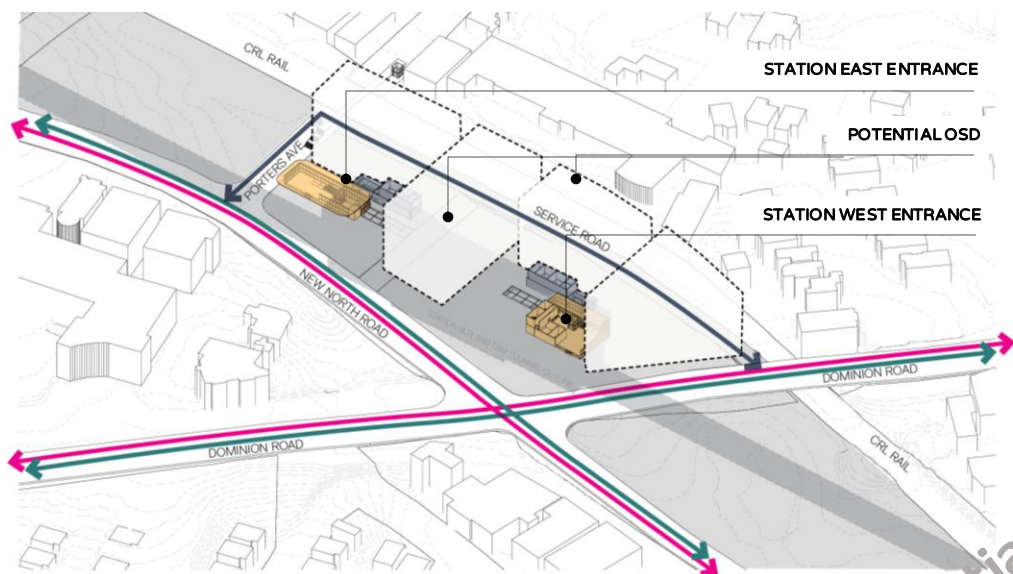


Universities – Station Configuration



Dominion Junction

KEY DIAGRAM



DESIGN WORKSTREAM PERSPECTIVE

- Cut and cover station box located east of Dominion Road parallel to New North Road. Station situated under a plaza with services integrated within OSD lots.
- Two station entrances provided (on the East and West sides) for increased catchment and more direct interchange with Maungawhau (CLR station).

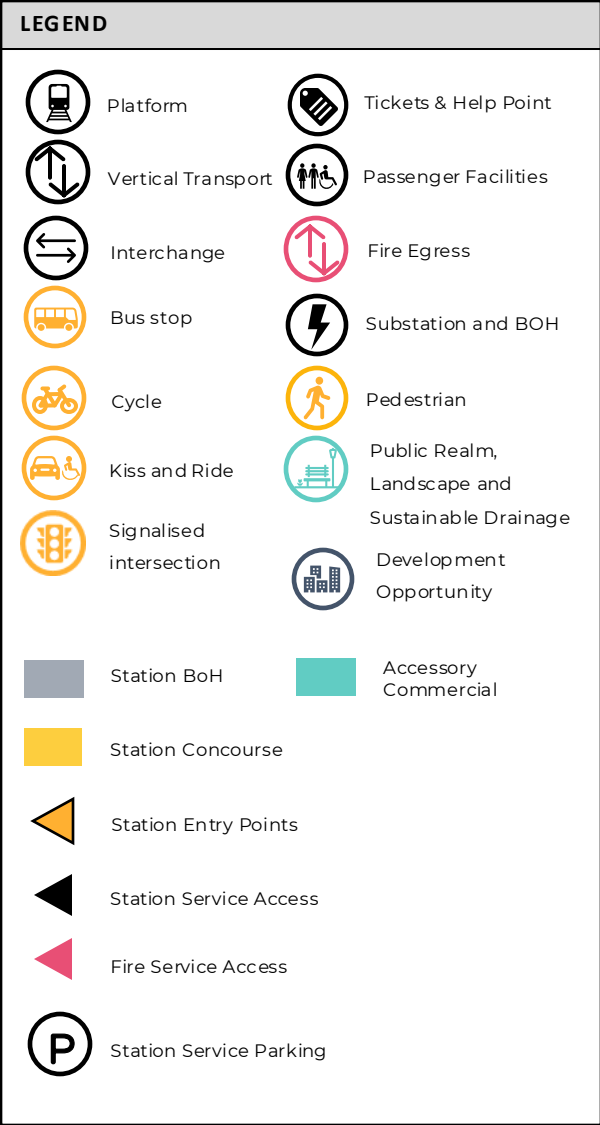
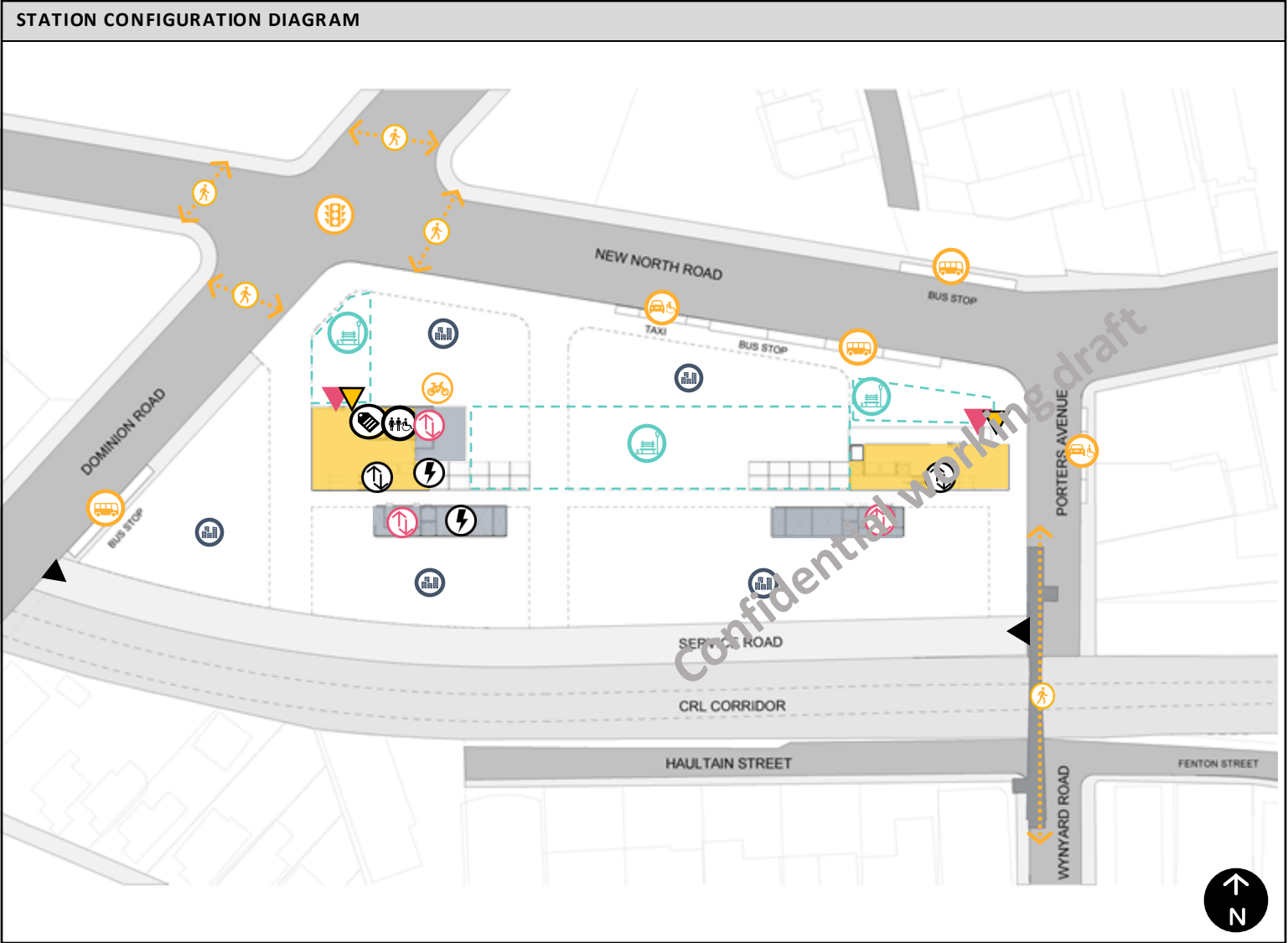
Architectural Drawing Set can be found here: [230613_DJ Station Drawing Set_WIP.pdf](#)

KEY ATTRIBUTES

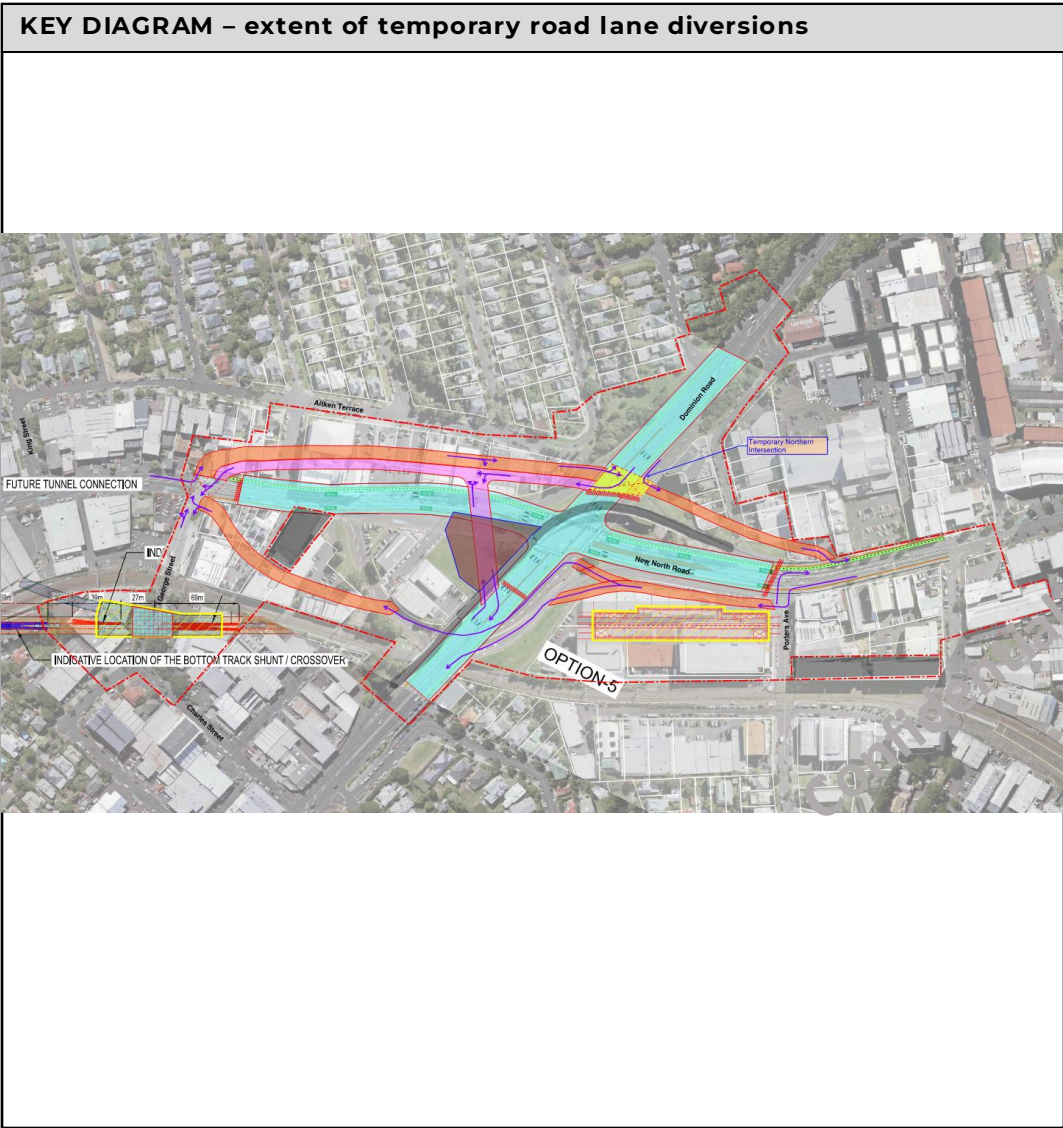
- Stacked platforms in cut and cover box
- 140m long, 20-24m wide cut and cover box, top down construction
- Services access from laneway on south side
- Connection to new pedestrian bridge over heavy rail on Wynyard Road
- Western entry level tying in with Dominion Road RL
- New North Road and Dominion Road assumed as a level junction (flyover removed)
- Opportunity to realign New North Road for optimised development opportunity

◀ Station Entry	→ Fire Egress Route	Primary pedestrian entry
▶ Station Service Primary Access	→ Active modes connections	Concourse unpaid
◀ Station Service Secondary Access	→ Bus Connectivity	Concourse paid + Platform
	→ Service access road	BOH (including staff facilities + fire egress)
	→ Heritage Buildings	Intermodal precinct link
	→ ALR TUNNEL	Commercial & Retail Facilities

Dominion Junction – Station Configuration



Dominion Junction– Methodology for Road Interchange Replacement



CONSTRUCTABILITY WORKSTREAM PERSPECTIVE

The Dominion Road/ New North Road interchange is proposed to be removed and replaced with a new at-grade signalised intersection.

There will be a reduced level of traffic service during construction to provide adequate space for;

- Demolition of the existing overpass and bridges.
- Temporary traffic lane alignments.
- Construction of the new level interchange.

Walking and cycling access will be maintained to at least the current level of service.

To mitigate these traffic impacts, additional land is required outside of the permanent works boundary to provide space for temporary traffic lane relocations (sidetracking). The NOR boundary has allowed for the proposed design layout and this construction staging space required to maintain traffic flows during construction.

Temporary live traffic lanes can be shuffled across existing and temporary carriageways to provide staged work zones around each sequential construction area.

Some stages potentially require full closure of traffic lane(s) for specific works to be completed safely and efficiently. In these cases, the timing and duration of the works will be coordinated with the Road Controlling Authority to minimise disruption to the public. Examples of this include;

- Night works closures (activities which can be completed in a single shift).
- Weekend/holiday closures (activities lasting several days). This may be required during some stages of the flyover demolition process.

Dominion Junction Station



GF STATION EAST ENTRANCE (PORTERS AVE)



B3 MAIN ESCALATOR TO PLATFORMS

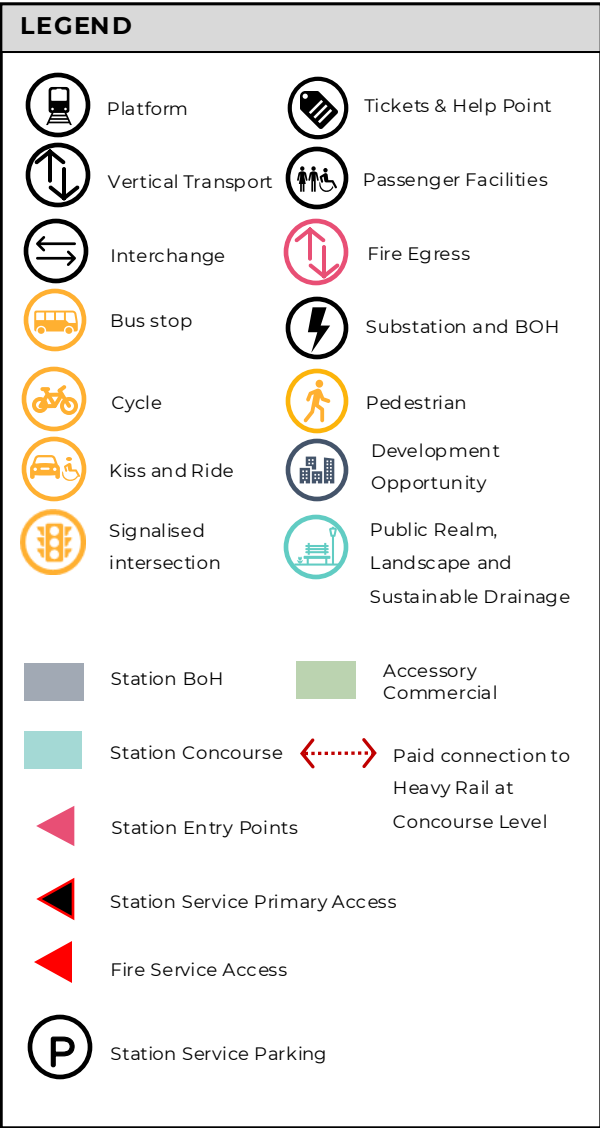
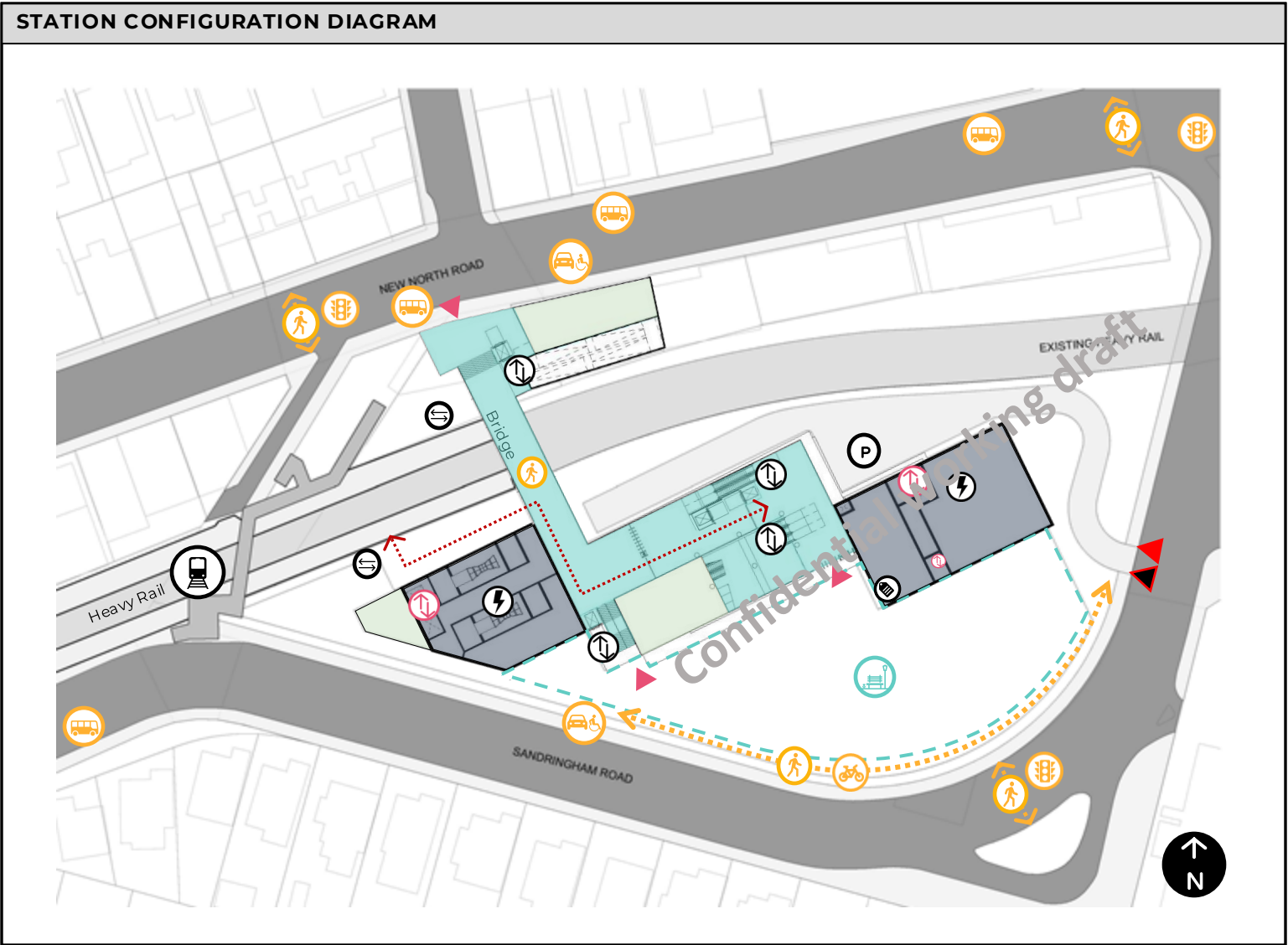


B5 LOWER PLATFORM



B4 UPPER PLATFORM

Kingsland – Station Configuration



PACKAGE # 2

Kingsland Station



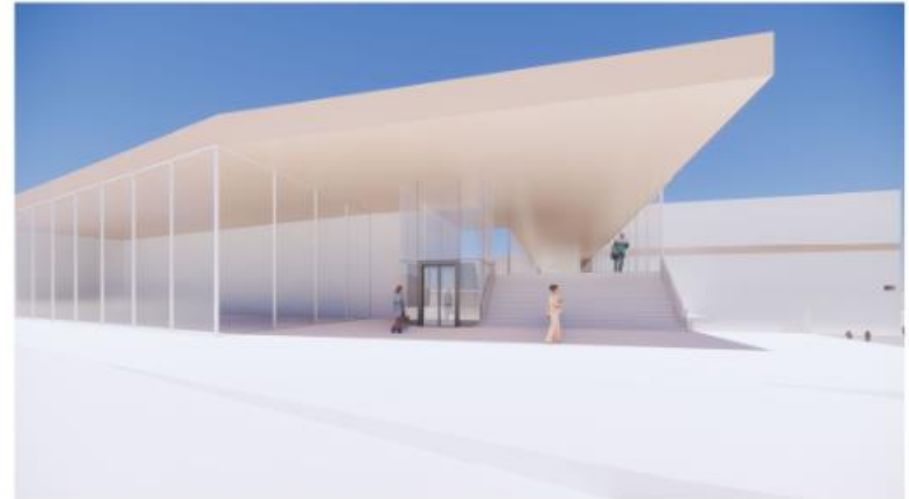
BIRD'S EYE VIEW FROM SANDRINGHAM ROAD



SOUTHERN ENTRANCE FROM SANDRINGHAM ROAD

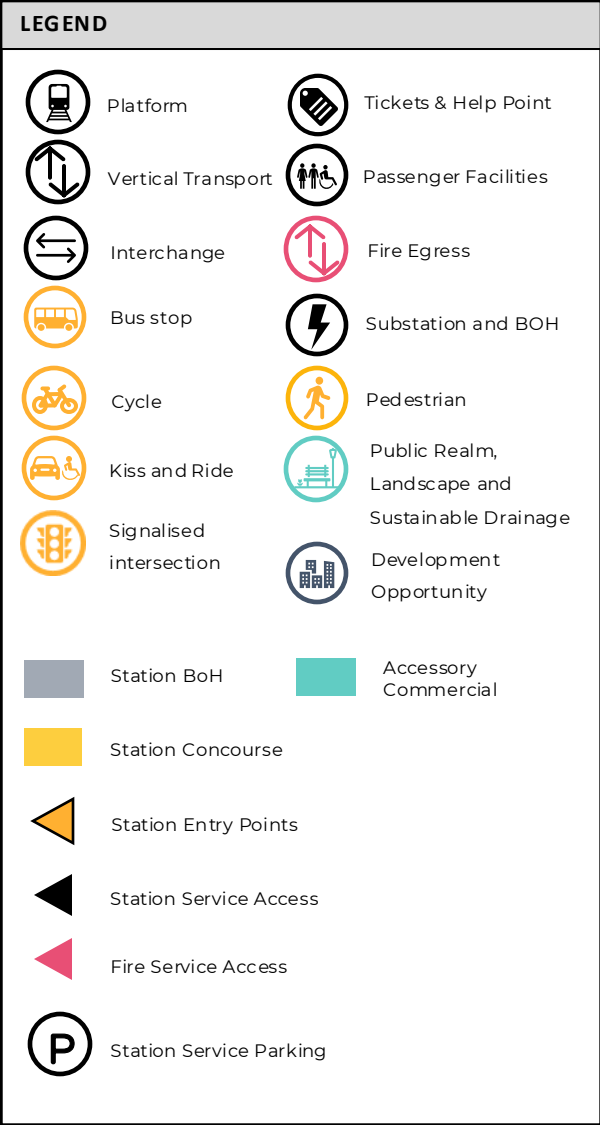
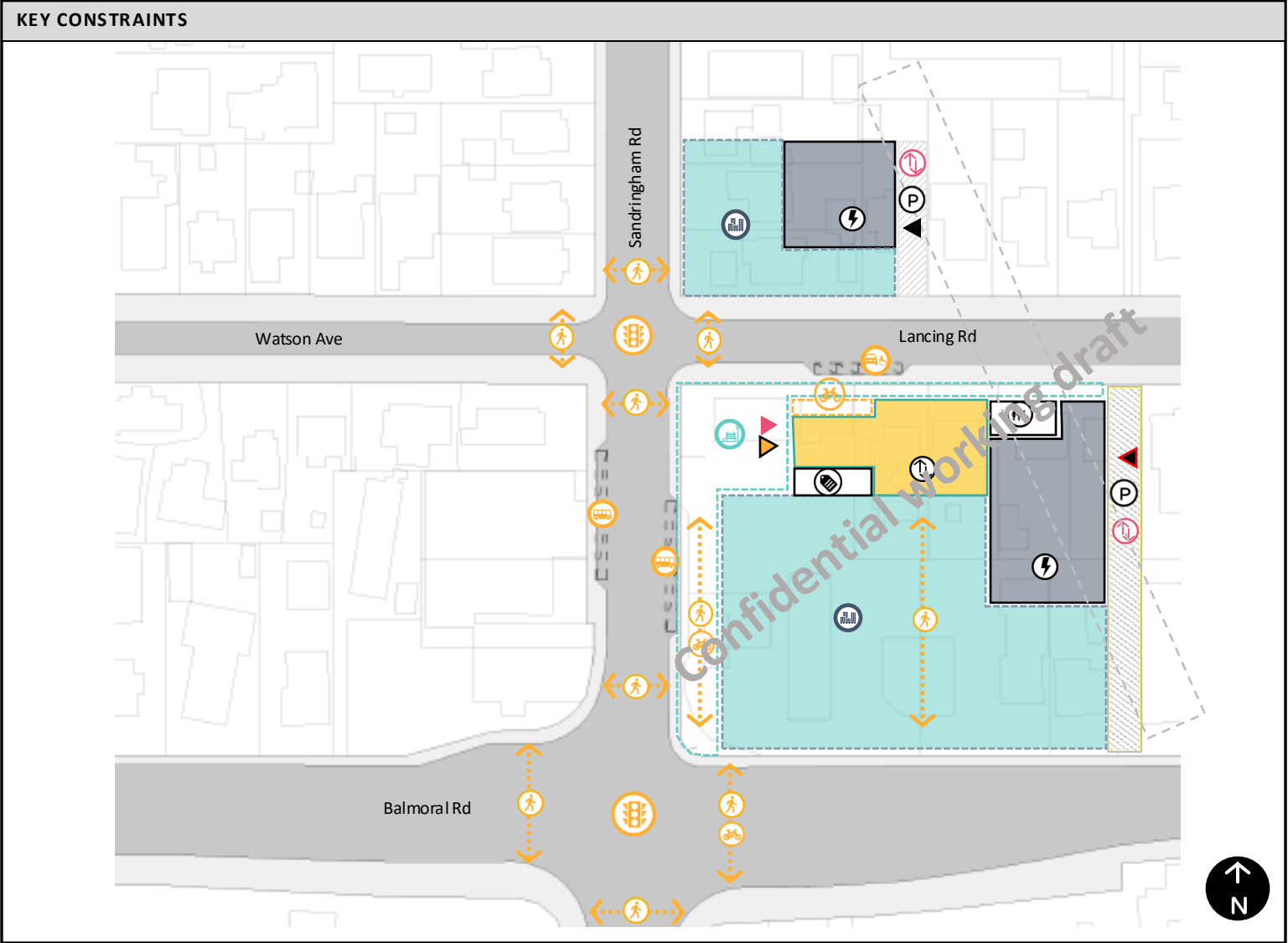


ENTRANCE VIEW AT PAID CONCOURSE



NORTHERN ENTRANCE FROM NEW NORTH ROAD

Balmoral /St Lukes – Station Configuration

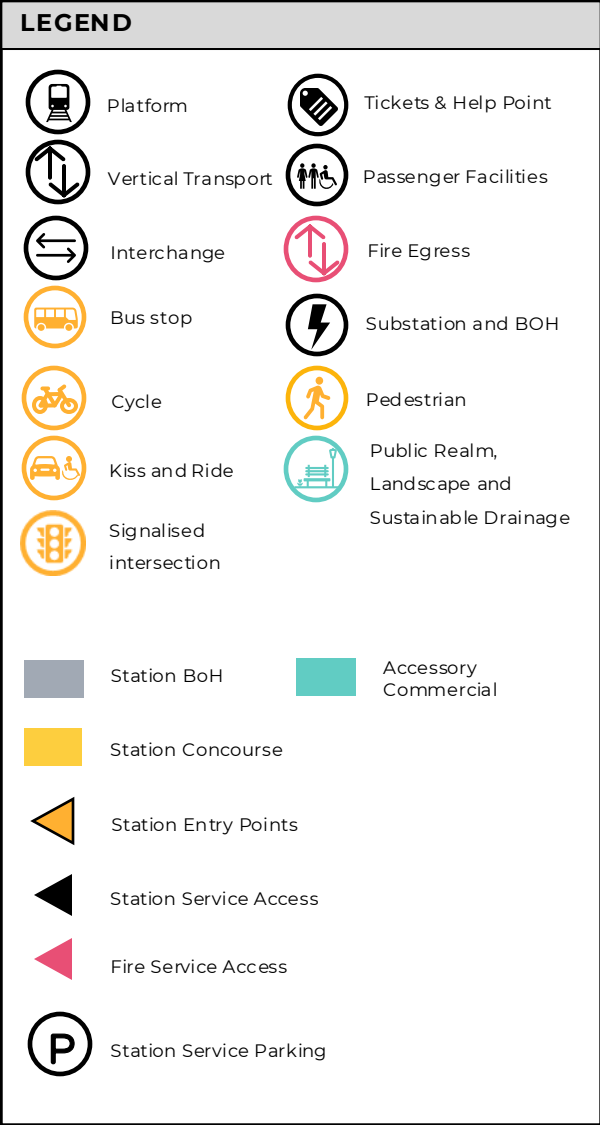
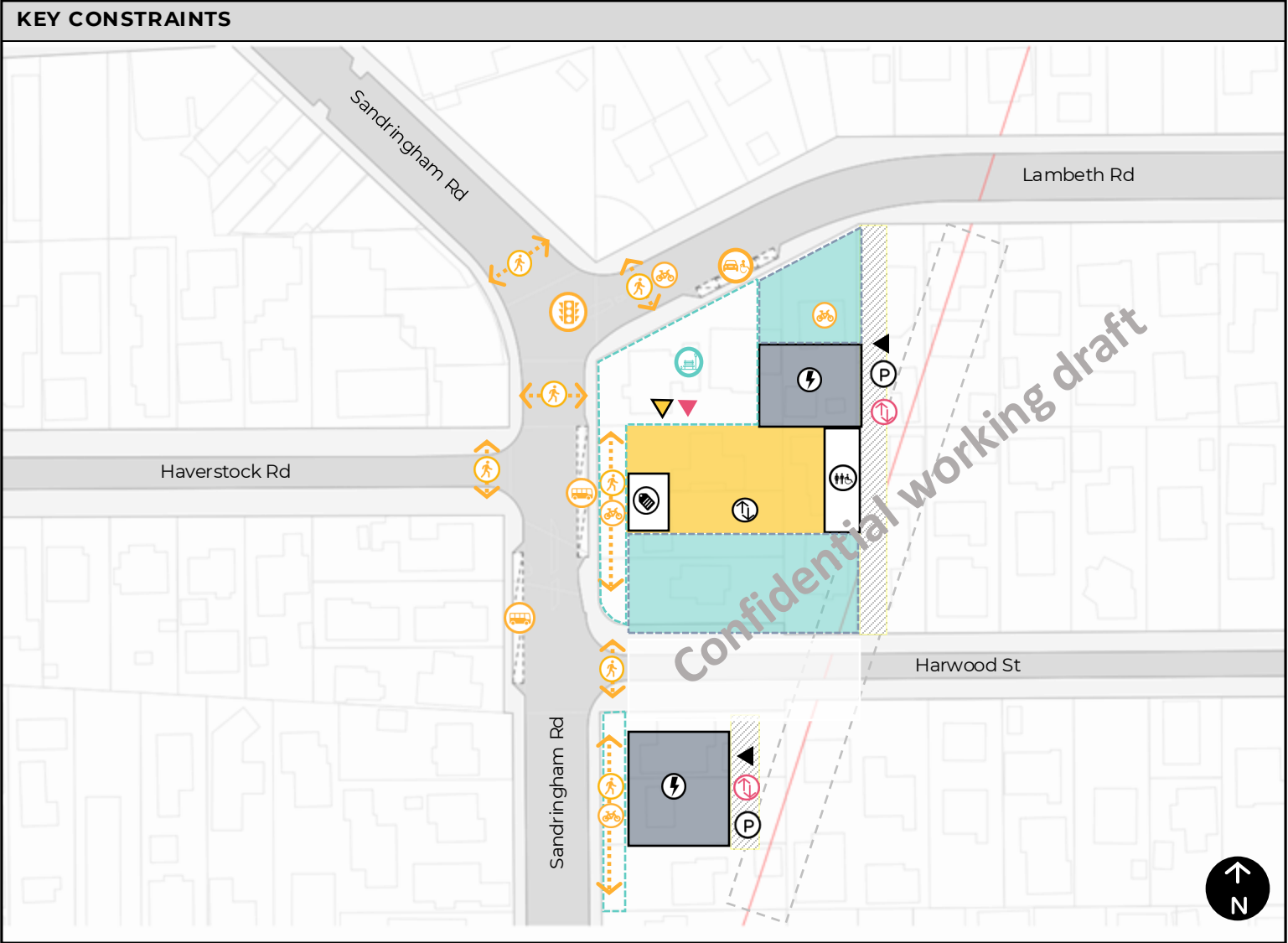


Balmoral / St Lukes Station



Confidential working draft

Sandringham South – Station Configuration



Sandringham South Station



GF STATION ENTRANCE FROM NORTH OF SANDRINGHAM ROAD



B1 MAIN ESCALATOR TO GF CONCOURSE



B4 UPPER PLATFORM CONCOURSE

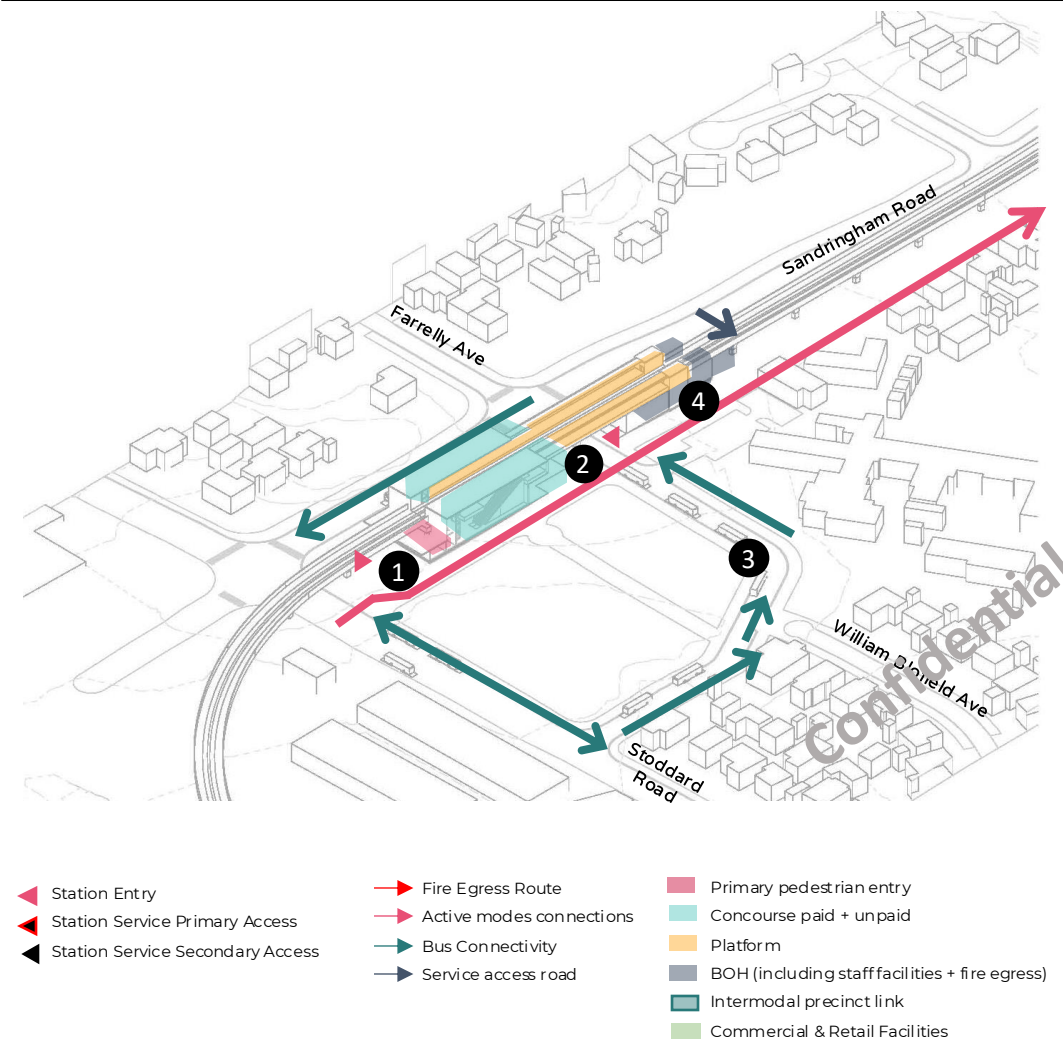


B5 LOWER PLATFORM CONCOURSE

Confidential working draft

Wesley Station

KEY DIAGRAM



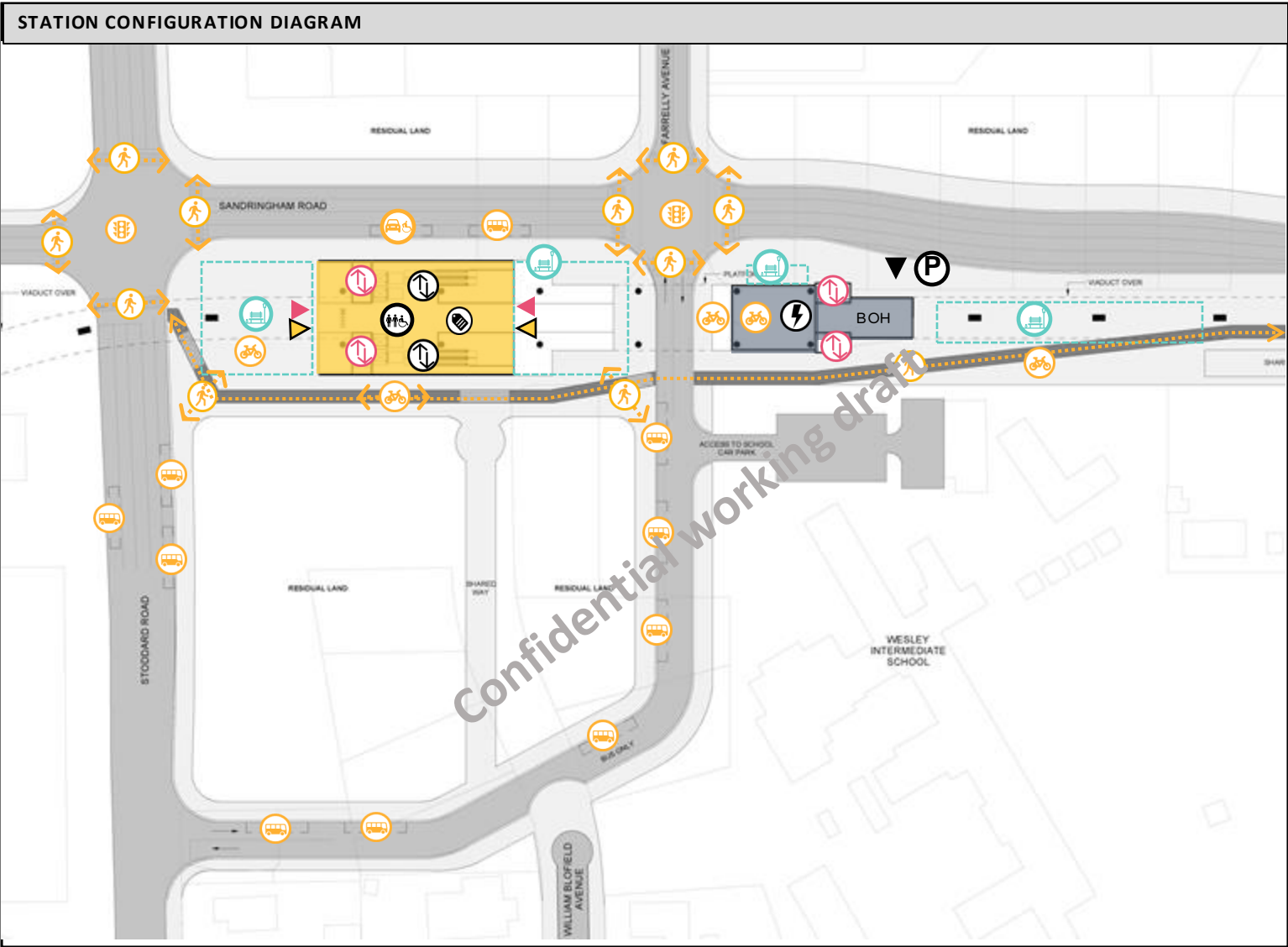
DESIGN WORKSTREAM PERSPECTIVE

- Wesley station will be an elevated station with side platforms.
- Station is designed to accommodate passenger movements between the ALR and bus interchange
- Opportunity to incorporate bicycle parking underneath the viaduct
- Opportunity to activate ground plane by incorporating retail underneath the viaduct along Sandringham Rd
- New Sandringham Road alignment shifted west with more generous footpaths, cycle lane and landscaping
- New bus link road proposed off Stoddard Road, exiting to Sandringham Road underneath the viaduct.
- New pedestrian connection from Farrelly Ave to the Intermediate School creates opportunity of linking with the new town center
- New forecourt facing Stoddard Road

KEY ATTRIBUTES

- A large pedestrianised station forecourt at the southern end of the station adjacent to Sandringham and Stoddard Roads intersection will accommodate high patronage numbers assumed for morning peak time and will deliver an active civic space serving new town center and planned future employment area.
- Integrated pedestrian connection extending Farrelly Ave and linking residential area with the Intermediate School precinct through a secondary station entry.
- New bus link road for bus drop off and layover bays accessed from Stoddard Rd exiting to Sandringham Road underneath the station.
- With a busy active transport interchange forecast for Wesley, there is a high demand for a generous long and short-term bike parking. Storage zone allocated immediately north of the station utilises space underneath the viaduct and provides convenient connection to ALR.

Wesley – Station Configuration

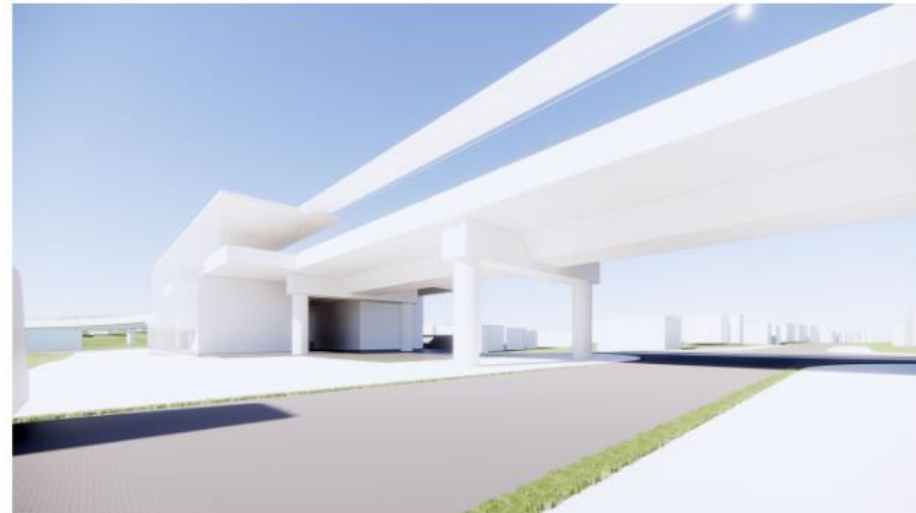
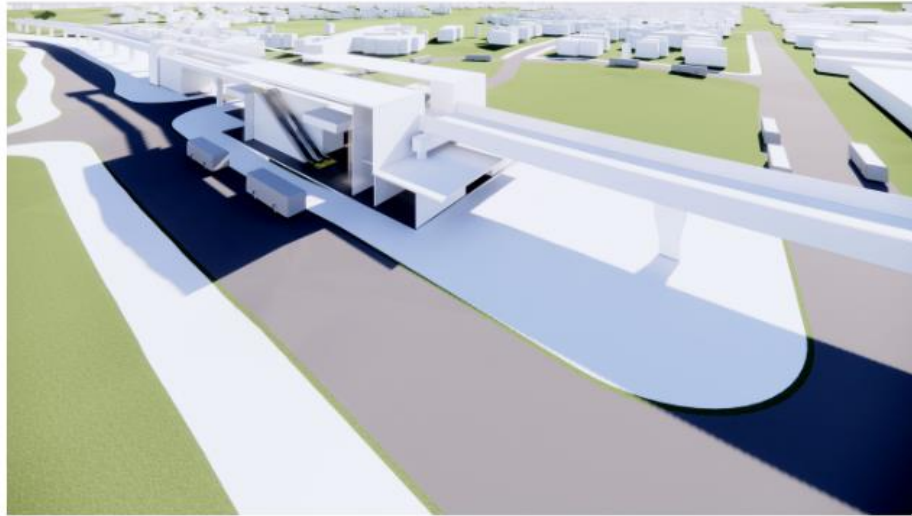


LEGEND

	Platform		Tickets & Help Point
	Vertical Transport		Passenger Facilities
	Interchange		Fire Egress
	Bus stop		Substation and BOH
	Cycle		Pedestrian
	Kiss and Ride		Public Realm, Landscape and Sustainable Drainage
	Signalised intersection		
	Station BoH		Accessory Commercial
	Station Concourse		
	Station Entry Points		
	Station Service Access		
	Fire Service Access		
	Station Service Parking		

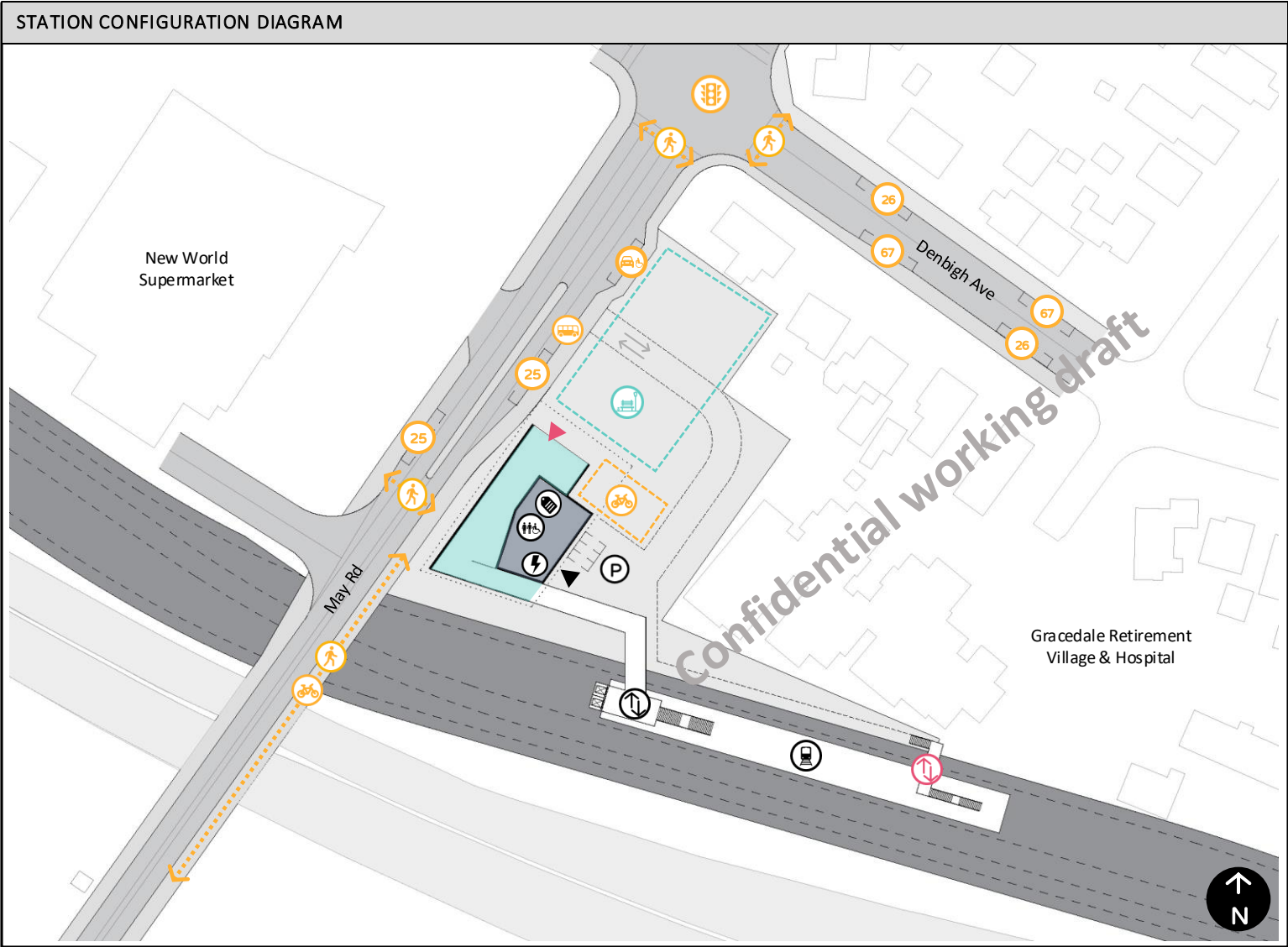
PACKAGE # 2

Wesley Station

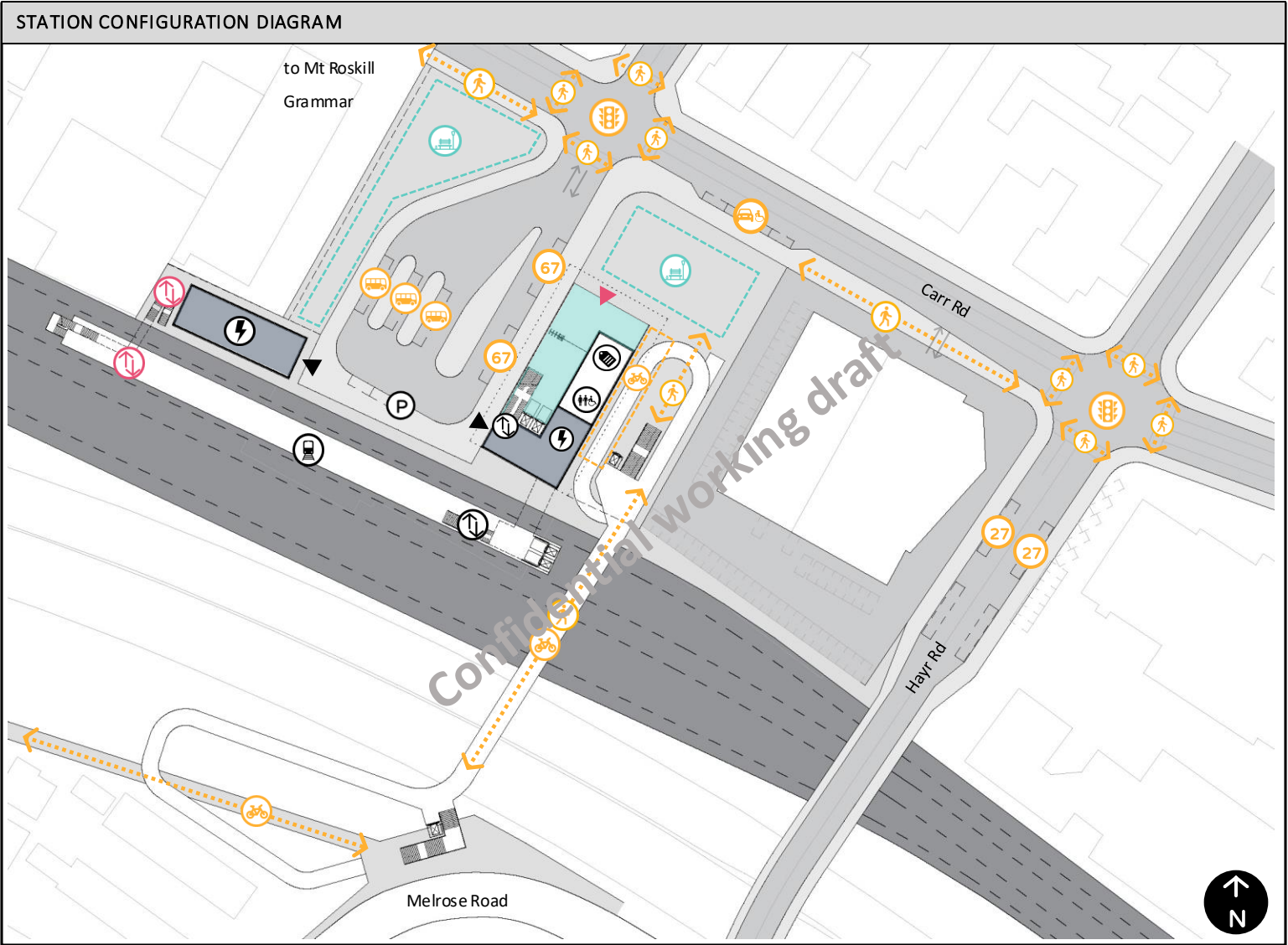


Wesley to Manukau Harbour

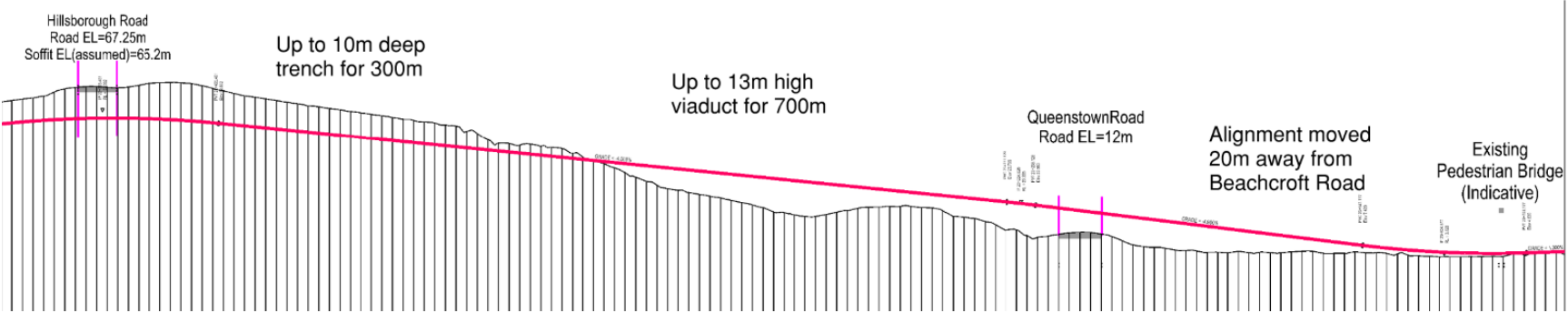
Puketāpapa/ Mt Roskill Station– Station Configuration



Hayr Rd– Station Configuration



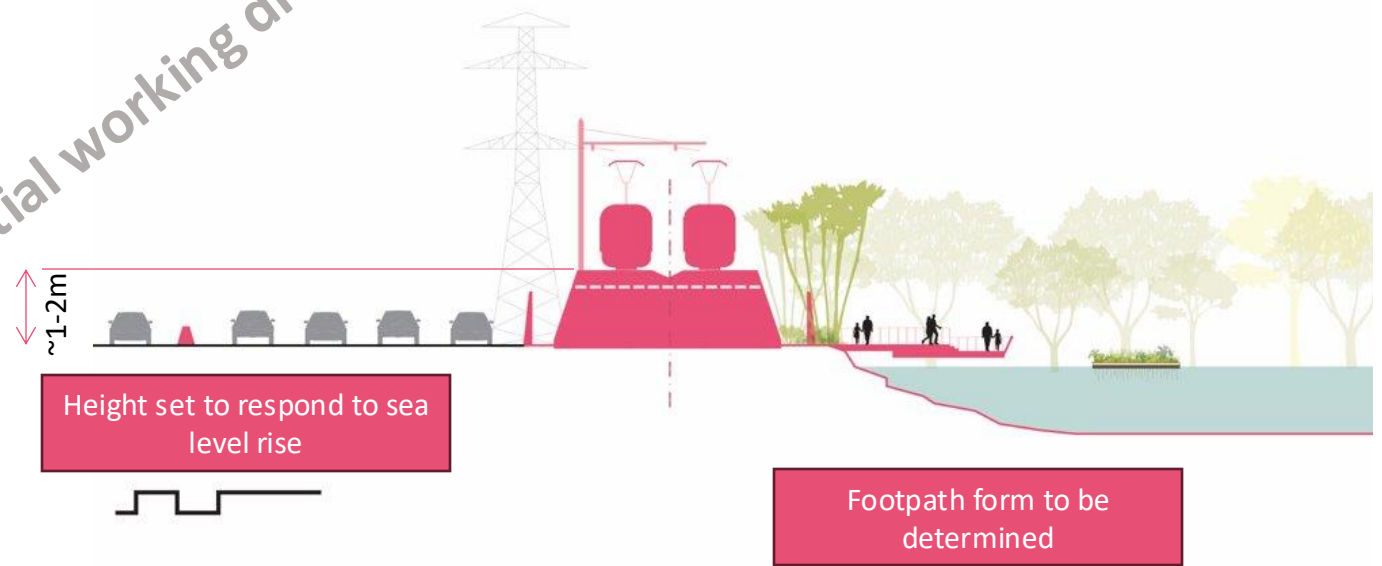
Alignment between Hillsborough Road and Queenstown Road



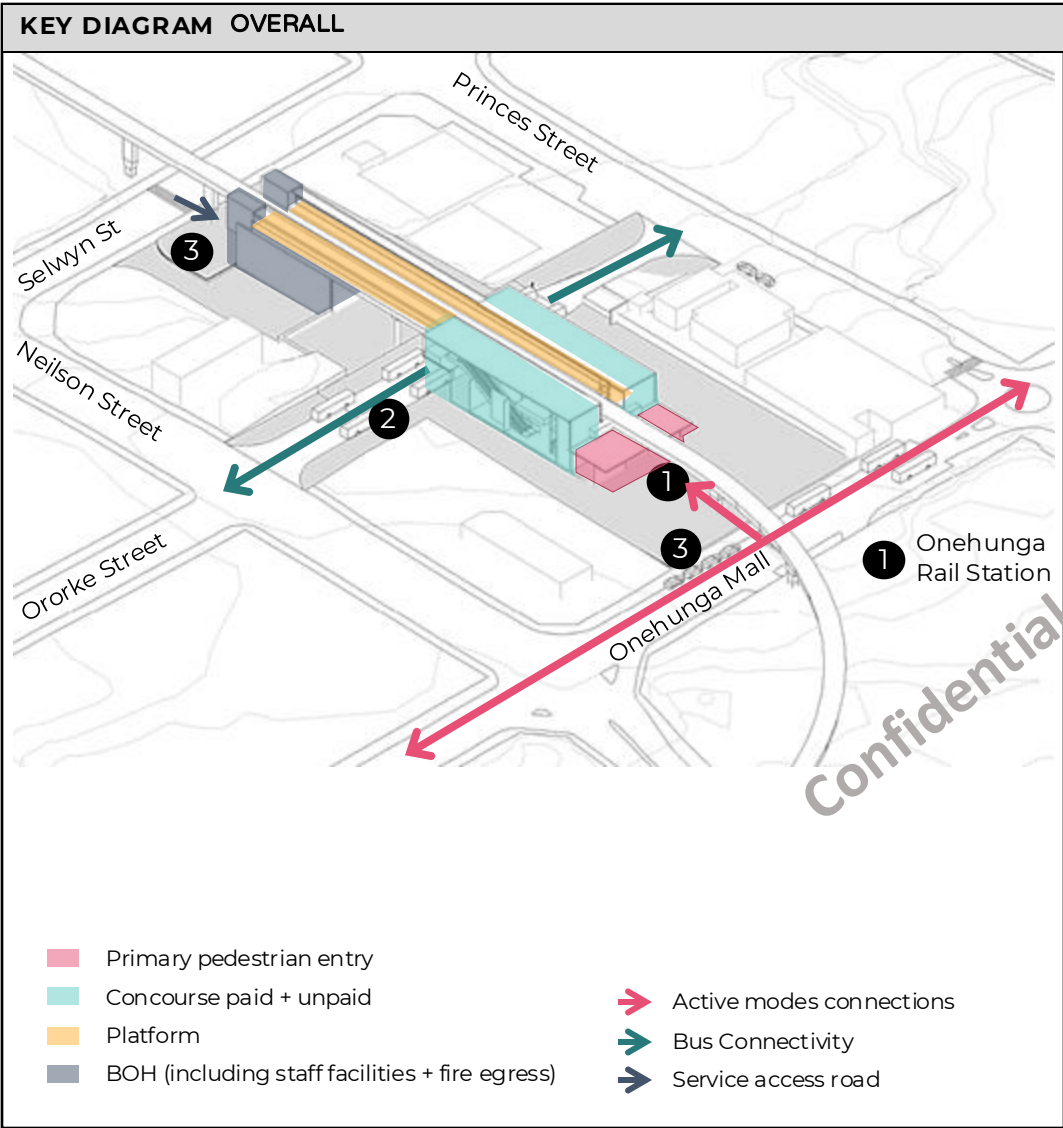
Te Tauranga / Onehunga Lagoon



Confidential working draft



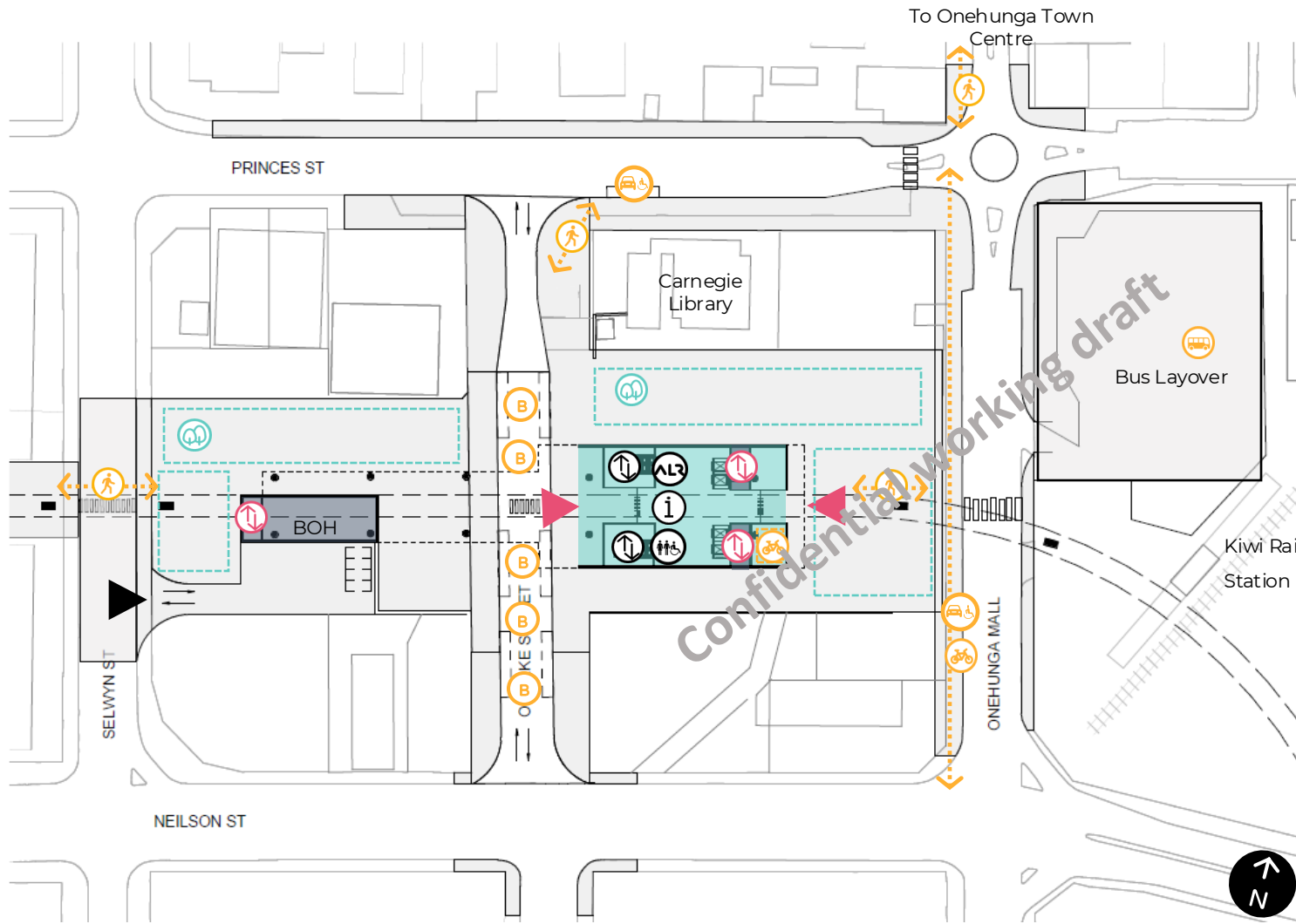
Onehunga Station



DESIGN WORKSTREAM PERSPECTIVE	
<ul style="list-style-type: none">Elevated station with side platformsStation is located to connect with Onehunga Mall and enable an interchange with Heavy Rail. The midblock alignment avoids the Cat A listed Carnegie Library.The station/ platform is parallel to Princes Street, before the alignment turns at Onehunga Mall towards the Mangere Bridge.The mid-block position supports development along surrounding street frontages which will assist in minimizing the bulk and visual impact of the station building from the streetThe main entrance to the station is from Onehunga Mall. A secondary entrance is provided from Ororke StreetOpportunity to create active modes connections beneath the viaduct.Opportunity to create a bus interchange along Ororke Street, subject to further engagement with ATOpportunity to integrate the bowling green site and historic wall into the new station public realmThe station location has no overlap with Mana Whenua site, cultural significant areas and flooding zone.	
KEY ATTRIBUTES	
1	A large pedestrianized station forecourt will deliver a generous and activated civic space fronting Onehunga Mall, and across the road from Onehunga Rail Station. Allocate drop-zone for shared micromobility and future proof space for secure covered cycle parking near entrance.
2	Ororke Street to be regraded and connected between Princes and Ororke Street. The primary function of the new street will be for bus drop-off to accommodate the large number of buses required for an interchange station.
3	The ground plane is generally configured to have publicly accessible spaces to the east of Ororke Street, and back of house areas/ services to the west of Ororke Street. This supports the intent of the precinct masterplan where the majority of activated public spaces are located to the east of the site

Onehunga Station - Station Configuration

STATION CONFIGURATION DIAGRAM



LEGEND



Outstanding Design Items:

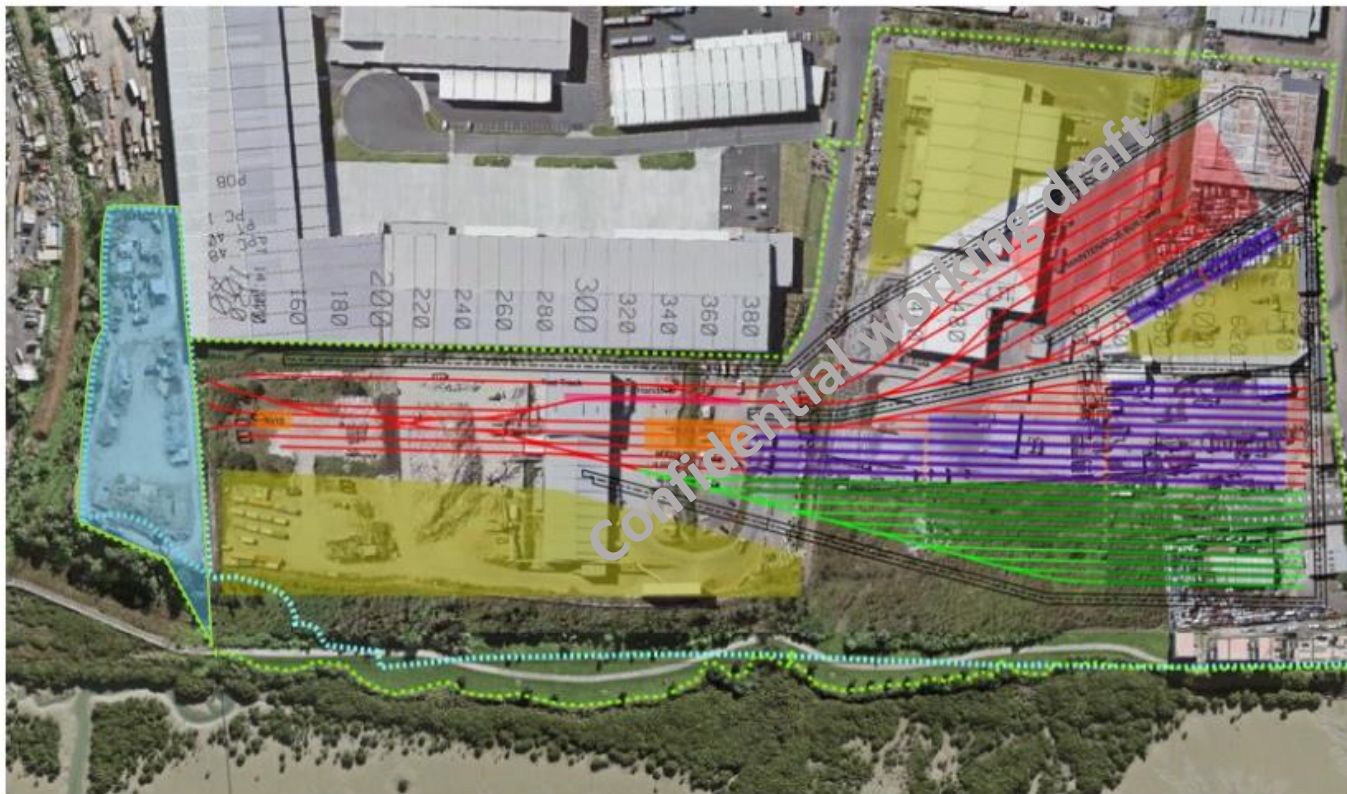
- Integration of the heritage listed bluestone wall and bowling green

Onehunga Station



Depot

DEPOT PERMANENT WORKS AND CONSTRUCTION BOUNDARY



LEGEND

Legend

- ■ ■ Depot Boundary – Permanent (WIP – southern line to be amended in line with site treatment design)
- Depot Boundary (WIP – area on hold pending MHX crossing / associated mainline alignment decision)
- ■ ■ Depot Boundary – incl Construction (WIP – southern line to be amended in line with site survey)

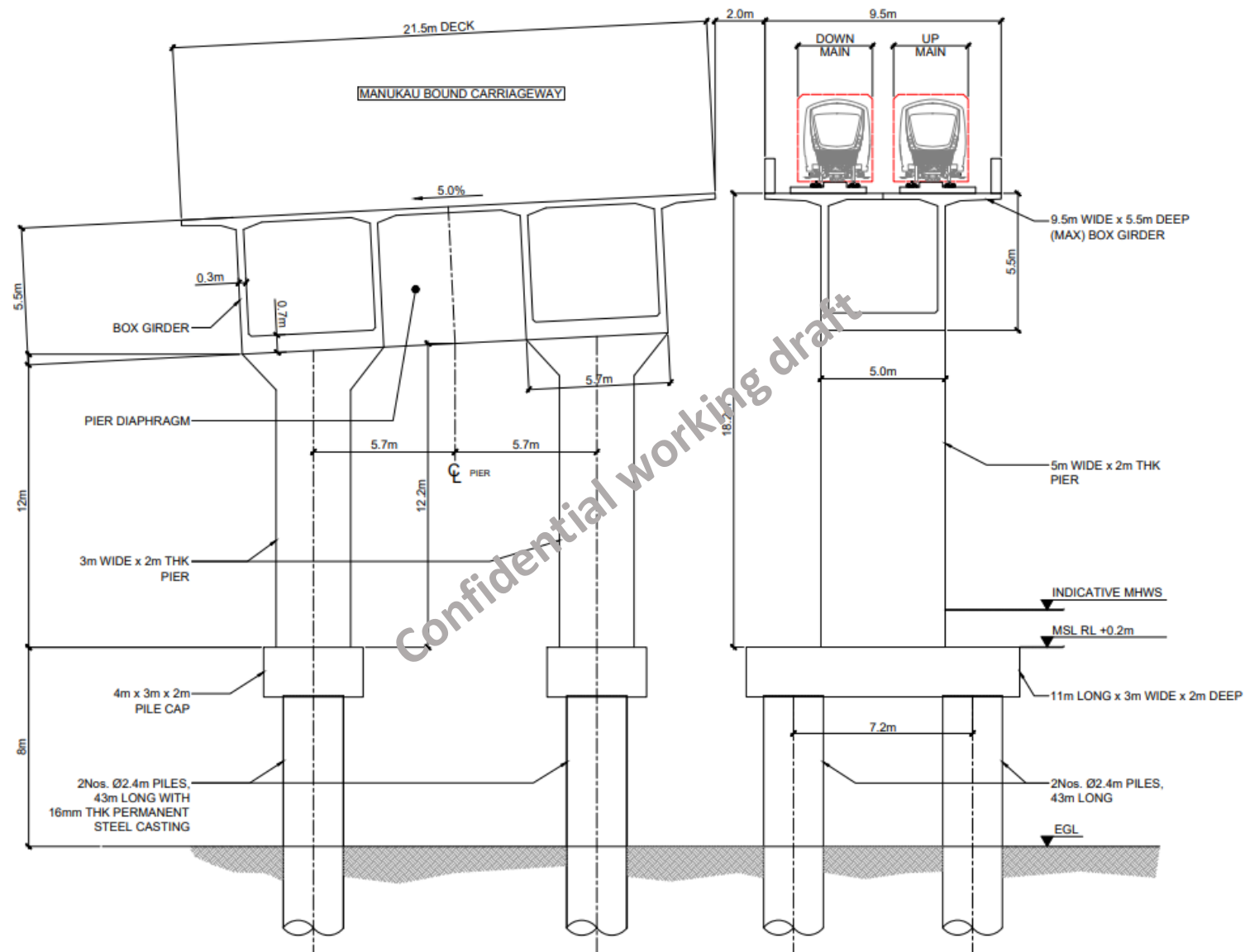
Manukau Harbour Crossing

Manukau Harbour Crossing

Confidential working draft



Indicative Cross Section



Shown a structurally sound option, however there are different types of bridge forms and pier configurations that are possible for a new structure.

Viewpoint 1:

View looking North from above
Ngā Hau Māngere Bridge



Viewpoint 2:

View looking North West from
Māngere Inlet towards Te Hopua a
Rangi



Viewpoint 3: View looking North over Te Hopua a Rangi

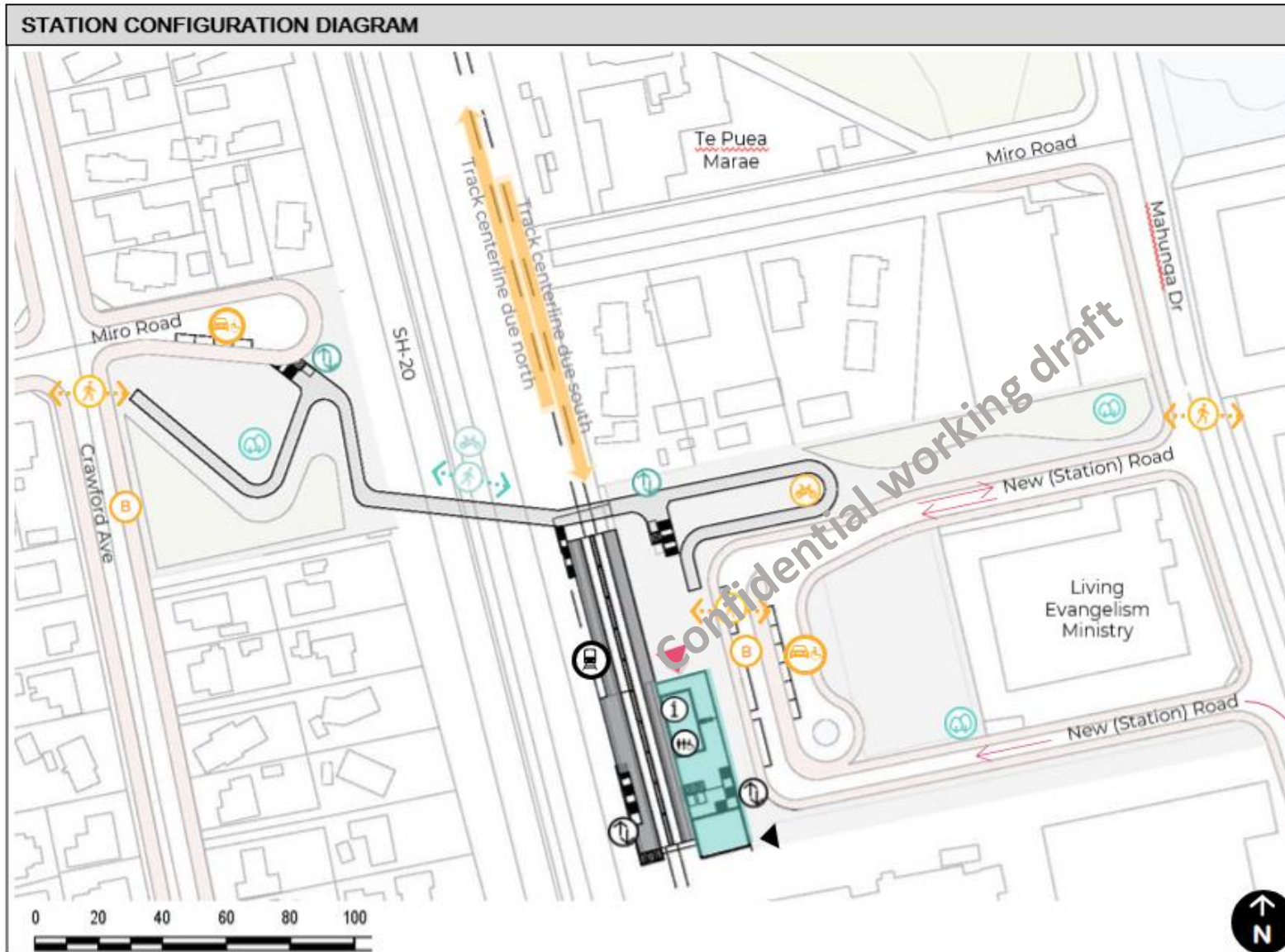


Viewpoint 4: View looking North above SH20



Māngere Bridge to Te Ararata

Māngere Bridge– Station Configuration



Station Layout considerations :

- Side Platform with egress to south end and underpass and elevators (end loaded) from north end
- Station building with gateline, agent kiosk, BOH plant, public amenities and vertical transport connecting platform underpass
- Cycle parking and secure storage
- Pedestrian/cycle overbridge ramp
- New station access provision to include cycle path , bus bays and kiss & ride bays

Pedestrian/cycle bridge considerations:

- Sight lines from approach road to pedestrian bridge allowing for passive surveillance.
- Overbridge width 5m. Cross section in appendix.
- Vertical transportation components ie stairs, ramp and lift on either side of bridge
- Ramp width 4m with maximum 1:20 gradient. ~120 linear meters of ramp (excluding landings) for 6m height change
- Minimum 5m radius curves following Denmark benchmark for cycle paths
- 5m offset from Maori land, where applicable

Māngere Bridge Station



Te Ararata – Station Configuration

