Appendix A.7.4

Galway Racecourse Tunnel Constructibility Report

A.7.4 Galway Racecourse Tunnel Constructibility Report

ARUP

Galway County Council

N6 Galway City Ring Road

Galway Racecourse Tunnel Constructability Report

Reference: GCOB-4.04.03_30.9.7_A.7.4

Issue 2 | 28 March 2025

Job number 233985-00

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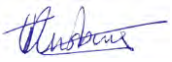
		Signature			
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Issue Document Verification with Document ☑

Contents

Figures

Appendices

1. Introduction

1.1 Site Location

The N6 Galway City Ring Road (N6 GCRR) incorporates the design of a cut and cover tunnel structure, known as the Galway Racecourse Tunnel in the townland of Ballybrit and to the east of Galway city as shown in Figure 1 below. The structure is located to the North East of Galway Racecourse Facilities between the N83 Tuam Road and R339 Monivea Road at Briarhill.

The report has been updated since the 2018 EIAR to reflect the changes to the Project described in Chapter 5 of the updated EIAR. The construction methods for constructing the Galway Racecourse Tunnel remain unchanged. However, the sequence of construction has been updated to reflect the phasing of the overall Project whereby Phase 1 includes the construction of temporary stables and Phase 3 includes the construction of permanent stables as set out in Section 3.2 of this updated report.

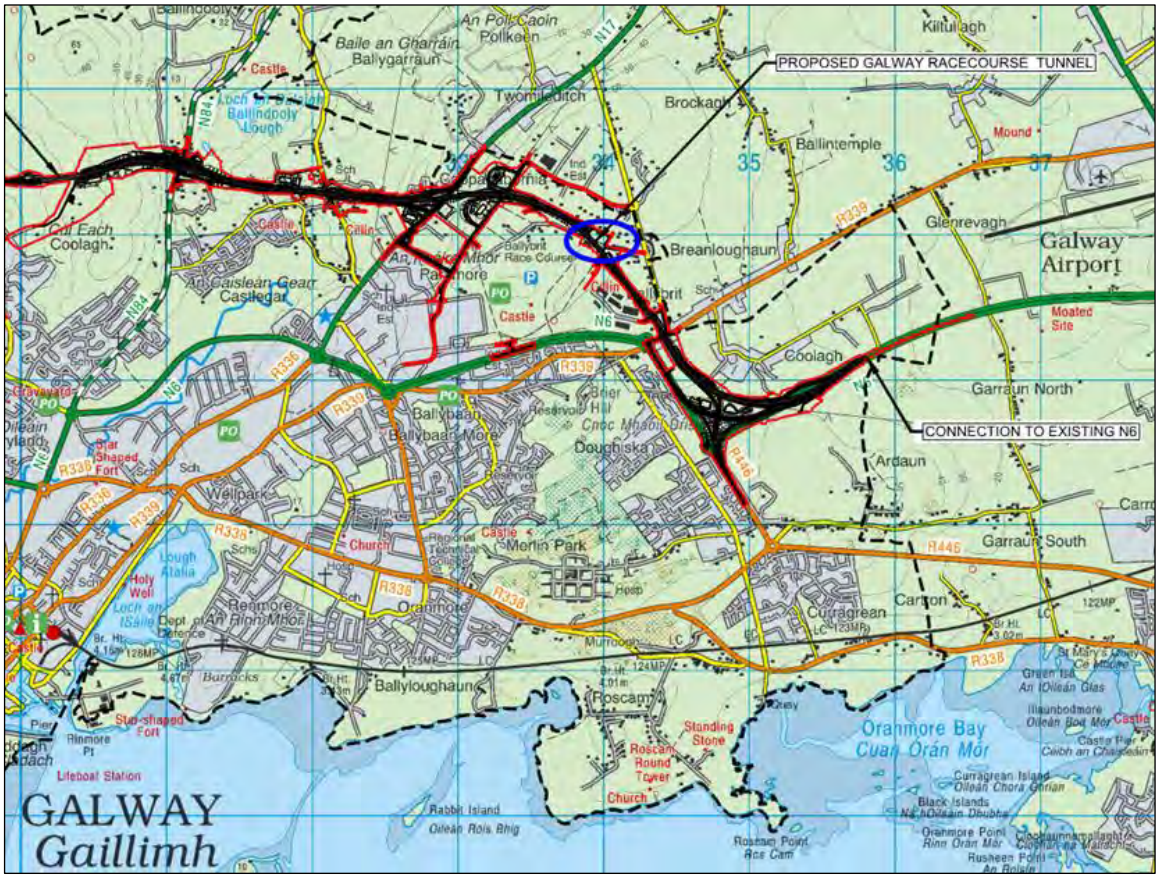

Figure 1 Site Location – Galway Racecourse Tunnel

1.2 Function of the structure

The purpose of the Galway Racecourse Tunnel is as follows:

- Mitigate adverse impacts, namely disruption to operations and functioning on the Galway Racecourse

The proposed mainline passes through the north-eastern corner of Galway Racecourse property and necessitates a cut and cover tunnel at circa Ch. 14+950m, resulting in a tunnel length of approximately 240m.

Within the racecourse landholding the area to the west is not currently highly developed. However, this land is used on race days as car parking, as approximately 150,000 patrons visit the summer festival alone. The open cut is located to the north of the existing racecourse facilities e.g. Grand Stands, Tote Building and entrance buildings. At the eastern side of the landholding, the proposed tunnel is located below the existing

stables and horsebox car park. A plan view of the proposed tunnel is shown on Figure 2 and elevation is shown on Figure 3 below.

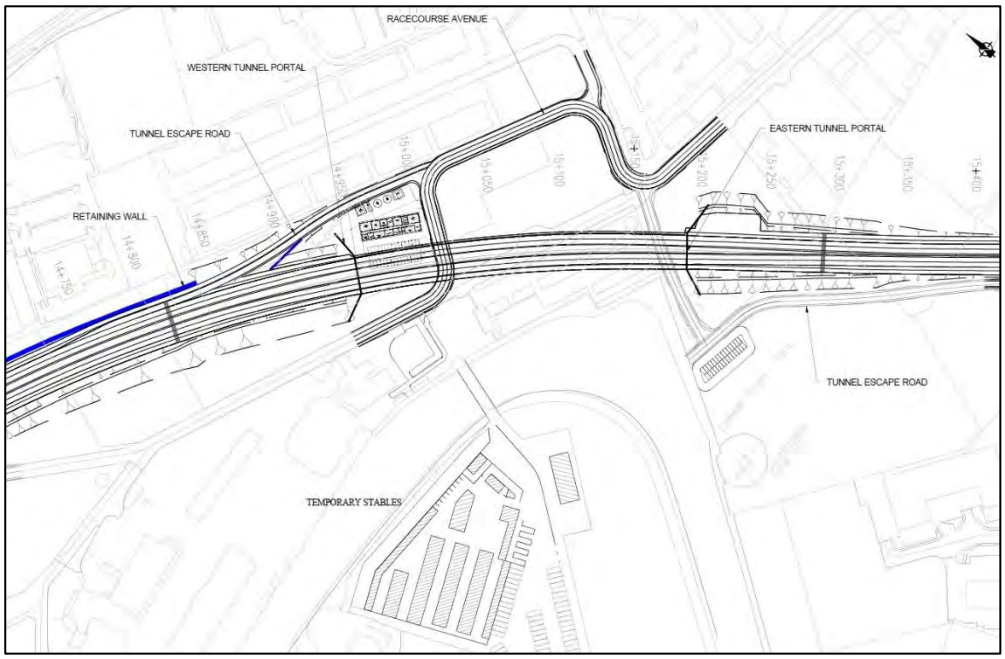

Figure 2 Plan of Galway Racecourse Tunnel

1.3 Scope

Given the location of the structure, its setting and general accessibility to the site, the construction methods are an important aspect to be considered at this stage. The purpose of this report is to describe the proposed method of construction for the tunnel and the measures taken to protect and maintain the accessibility to the Racecourse and its racing facilities (Section 2) and a construction sequence for these works (Section 3). A summary of the findings of this report are outlined in (Section 4).

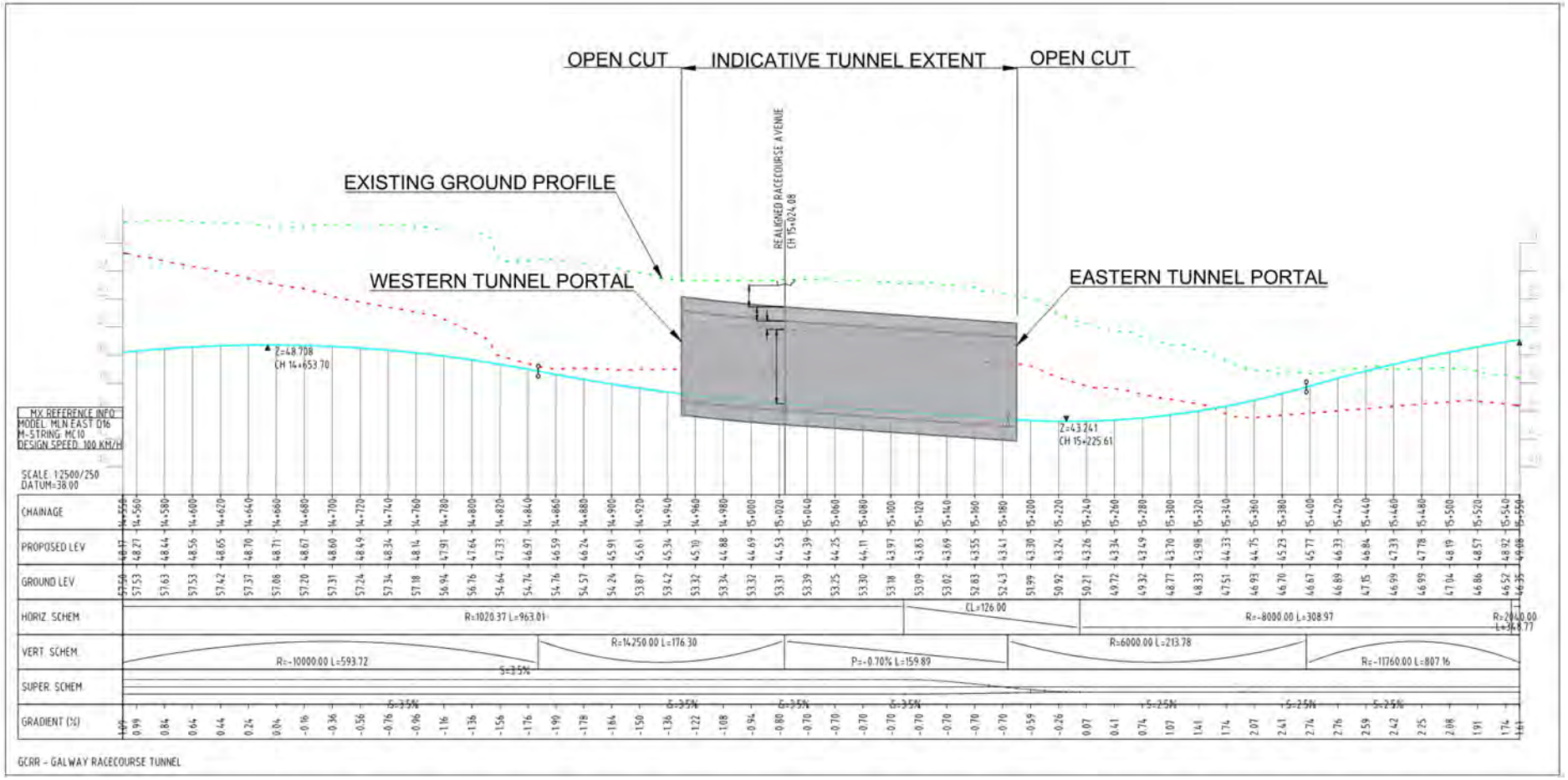

Figure 3 Elevation of Galway Racecourse Tunnel

2. Proposed Construction of Galway Racecourse Tunnel

2.1 General description of proposed structure

The proposed Galway Racecourse Tunnel consists of a 240m twin tube reinforced concrete cut and cover tunnel with central wall. There are two construction methods for this tunnel:

- Twin box construction with all elements constructed using cast in-situ reinforced concrete, as indicated in Figure 4
- Precast concrete box units, which are assembled longitudinally and transversely from discrete precast elements, as shown in Figure 5

For the span lengths at the typical cross-section, reinforced concrete is an efficient solution with low to medium ground cover, which is the case at this structure.

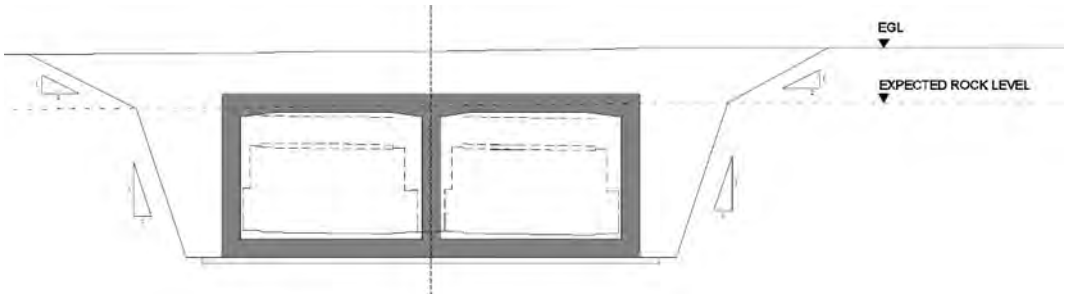

Figure 4 In-situ Reinforced Concrete Box Typical Cross-Section

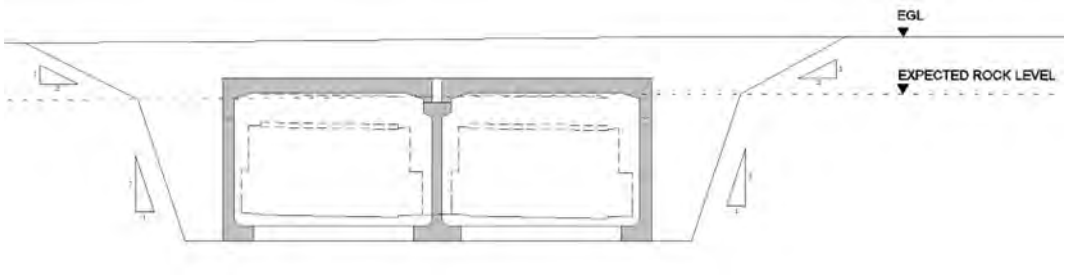

Figure 5 Precast Concrete Box Typical Cross-Section

It is envisaged that the proposed future developments in the immediate vicinity of the Galway Racecourse Tunnel will be relatively low-lying, consisting of buildings such as welfare facilities, parking areas, boundary walls and amenity spaces.

2.2 Ground Conditions

The general ground conditions consist of areas of soft to very stiff cohesive glacial till underlain by limestone. The rock is strong with medium to closely spaced discontinuities and non-intact zones.

The general ground conditions consist of areas of soft to very stiff cohesive glacial till underlain by limestone. The rock is strong with medium to closely spaced discontinuities and non-intact zones.

The construction of the tunnel for both options will require surface excavation of up to 11.3m below existing ground level. The overburden material is anticipated to be very stiff from 3.0m below existing ground level, while rock is anticipated from 5.0m below existing ground level. It is estimated that approximately 25,000m^3

of rock will be excavated. Rock strength testing and fracture index indicate that the rock will require blasting to loosen and extract.

Based on available ground investigation data, rock is anticipated to be above the tunnel formation level for the entire footprint of the tunnel section, thus resulting in rock being the founding strata for the box units.

In the operation stage of the proposed tunnel there are no exposed soil or rock slopes as they are fully enclosed however during construction, soil and rock slopes are exposed in order to construct the tunnel. All permanent soil cuttings shall have a maximum gradient of 1 vertical to 2 horizontal. The acceptable temporary rock slopes will be evaluated based on supplementary ground investigation information prior to construction. Permanent rock cut slopes of 1V:1.5H and 1V:1H are achievable where intact rock with minor discontinuities are encountered.

The excavation process may expose karst features within the construction footprint. As features can extend both vertically and laterally into the surrounding region, any feature encountered shall be fully assessed and isolated prior and during the construction process.

A methodology for the evaluation and treatment of karst features shall be conducted in accordance with the Construction Environmental Management Plan (CEMP) contained in Appendix A.7.5 of the updated EIAR.

Material selected for backfilling and the compaction procedure required for the box units shall be conducted in accordance with guidelines provided in this document and the TII SRW Series 600 Earthworks.

Uncontaminated soil and stone materials which are not suitable for re-use will be disposed of to an appropriate site which is permitted under the Waste Management (Facility Permit and Registration) Regulations 2007 and (Amendment) Regulations 2008, 2014, 2015 to accept soil and stone.

2.3 Waterproofing and Durability

A dense concrete mix will be provided with a low permeability. All in-situ and precast concrete elements shall contain at least 50% Ground-granulated blast-furnace slag (GGBS). All exposed concrete shall be impregnated with hydrophobic pore liner in accordance with the TII Specification for Works.

The structural concrete composition used in the construction of the tunnel units/modules will be designed to be watertight without the benefit of waterproofing systems in its makeup.

Waterproofing provisions will be then be provided to the tunnel structure comprising these structural concrete units/modules. Bridge deck waterproofing is required to the roof slab and the top of the base slab. All buried concrete less than 2m above the design high ground water level will be waterproofed with a proprietary tunnel waterproofing system. Two coats of epoxy resin waterproofing shall be applied on all other buried concrete surfaces not requiring a proprietary bridge deck/tunnel waterproofing.

Figure 6 and Figure 7 below present typical details of tunnel waterproofing systems applicable to both in-situ and precast options.

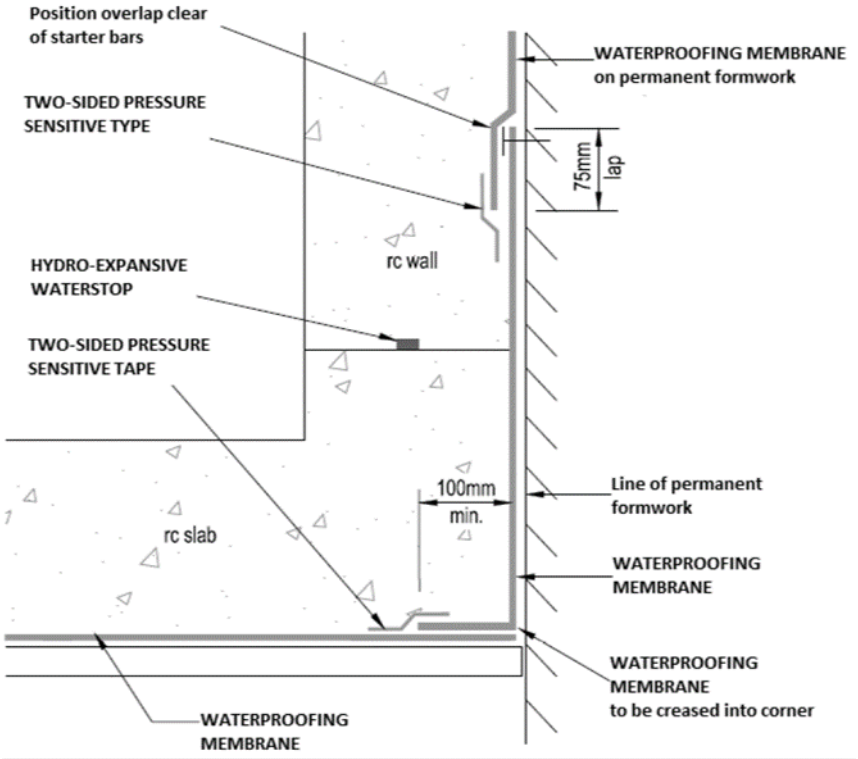

Figure 6 In-situ Concrete Tunnel Waterproofing

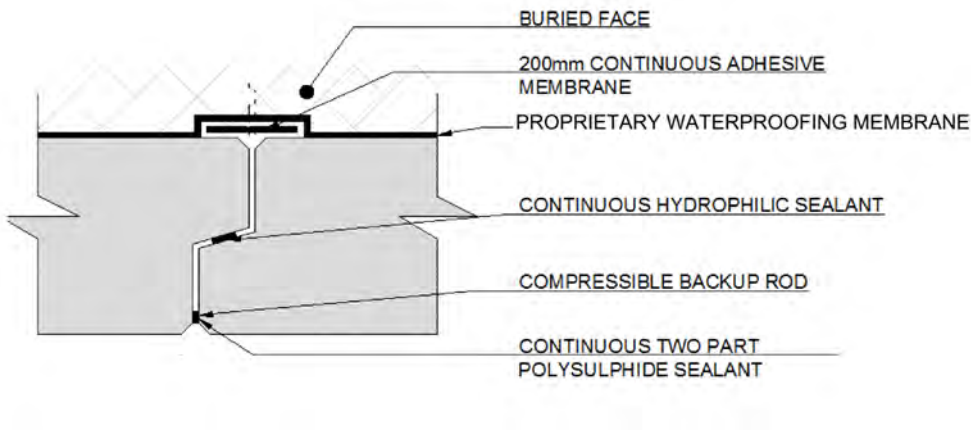

Figure 7 Precast Concrete Tunnel Waterproofing

Two coats of epoxy resin waterproofing shall be applied on all other buried concrete surfaces not requiring a proprietary bridge deck / tunnel waterproofing. Where the tunnel is located below the design groundwater level, the structure will be sealed using a proprietary below ground waterproofing system.

At movement joints within in-situ construction concrete, waterstops are provided, as indicated in Figure 8. In precast construction the detailing is given on Figure 7.

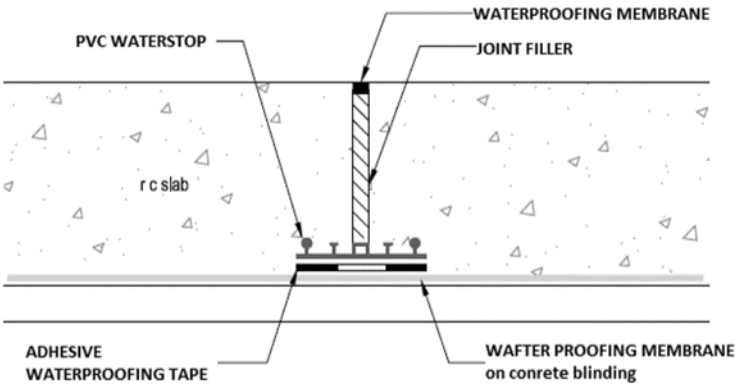

Figure 8 In-situ Concrete Slab Movement Joint

2.4 Inspection and maintenance

The headwalls and wing walls will be inspected from the mainline of the proposed N6 GCRR or from the access road above. The underside of the roof and the exposed portions of the walls can be inspected from beneath.

Waterproofing systems, joints, parapets etc. shall be designed for Working Life Category 2 (replaceable structural parts, up to 50 years design working life).

All other elements of the structure shall be designed for Working Life Category 5 (≥120 years design working life).

2.5 Hydrogeological compatibility with proposed foundation design

The elevated groundwater table in the Briarhill area requires that the base and sides of the tunnel will require waterproofing to a minimum of 2m above the maximum recorded groundwater levels.

Dewatering will be required for the length of the tunnel and also the cuttings on approaches to the portals for both construction options. The initial stages of the construction will require the construction of a carrier drain that links to an infiltration basin to east of the R339 Monivea Road so that any groundwater intersected during construction of the proposed N6 GCRR and runoff from the proposed N6 GCRR during operation can be collected and discharged appropriately.

2.6 Safety during construction

The main traffic access to Galway Racecourse is from Ballybrit Crescent to the north east of the racetrack along Racecourse Avenue. Temporary accesses to racecourse lands are established during race festivals from both the N83 Tuam Road on the west and the existing N6 to the south of the racetrack. During the construction works for the proposed N6 GCRR there will be access and working restrictions throughout some of the racecourse events which are detailed further in Section 3.

Risks associated during the excavation stage are similar for each tunnel construction option. These will require careful consideration during finalisation of the construction programme by the Contractor.

Construction of the in-situ option requires significant amounts of formwork and temporary works during construction, which increases the risk of collapse and risk to site personnel. However, the in-situ option can be constructed safely.

For the installation of precast units/beams, there are a reduced number of operations which can be isolated and easier to identify the locations of workers as units are being put in place. The main risk associated with this will be the positioning of cranes and the large number of movements required for continuous installation of units. However, the in-situ option can be constructed safely.

From a health and safety during construction perspective there is no appreciable preference between the various options. All options can be built in a safe manner with the implementation of the appropriate health and safety measures.

3. Proposed Construction Sequencing

This section of the report outlines the proposed construction sequencing of the Galway Racecourse Tunnel and the measures taken to protect and maintain the accessibility to the Racecourse and its racing facilities, including the construction of temporary and permanent stables and the diversion of existing roads and utilities.

3.1 Main Criteria

Following extensive consultation with the key stakeholder in this area, the Galway Racecourse Committee (GRC), the following are the main criteria considered in the development of the proposed construction sequence and associated programme of works for construction of the proposed Galway Racecourse Tunnel and apply to both construction options:

- An overall scheme construction period of three years is assumed for the N6 GCRR.
- Construction of temporary stables shall be completed in the infield of Galway Racecourse and be fully operational prior to commencement of work on the N6 GCRR project.
- The baseline form of construction is a cut and cover tunnel, which is achieved by excavating from ground level to formation level, constructing reinforced concrete box sections and backfilling to current ground level.
- There are currently four race meetings per year at Galway Racecourse, one in July/August, one in September and two in October. No construction activity is permitted during any of the race meetings. To accommodate preparations for the main Galway Summer Race Festival the racecourse lands are to be fully available to GRC for the months of June and July during construction. GRC advised that the Summer Race Festival starts on the last Monday in July every year and in some cases can run up to the 6 August therefore, no construction is permitted on any event which runs into August. For the smaller race meets in September and October the interface with the construction activities and programming are specified below.
- It is assumed full handover of site for recommencing construction will not begin until after the Summer Race Festival. For the September and October Race Festivals, access to stables, racecourse buildings and parking will be maintained. The day-to-day access to the racecourse is maintained throughout the construction period by means of existing, new or temporary access provisions.
- All temporary access provisions or diversions are to be constructed to the same standard of existing access roads to ensure equivalent level of service is provided.
- Water quality from new wells will be monitored and assessed on an ongoing basis for 12 months prior to, throughout, and for 12 months after the construction period to ensure adequate standards are maintained.
- A secure racecourse boundary is to be maintained at all times both during and after daily construction activity through the provision of temporary or permanent gated access.
- Access for GRC will be maintained via the existing N83 Tuam Road entrance until such time as Parkmore Link Road is in place.
- The successful operation of Galway Racing festivals and day to day business operation is imperative in the view of GRC. Therefore, any potential risk of impediment to racecourse business operations must be mitigated. The construction programme as outlined in Section 3.2 below aims to mitigate this risk.

- Racecourse Avenue is to be used for delivery of material only, all haulage of excavated material from the proposed N6 GCRR is to be along the designated haul routes identified in Chapter 7, Construction Activities of the this updated EIAR and shown on Figures 7.001 to 7.002 in Volume 3 of this updated EIAR.

3.2 Construction Stages

A series of drawings detailing the indicative sequence of construction is contained in Appendix A (Ref. Figures 01 to 09). A summarised commentary of the sequence, to be read in conjunction with the drawings, is as follows:

Phase 1 – All works to cease one month before and during summer festival

- Lands to be fenced off permanently and temporarily as shown. Areas not fenced off within Galway Racecourse landholding remain available to Galway Racecourse unless shown otherwise
- Construct temporary stables, vet, security, storage facilities and groom's pavilion and horsebox parking spaces in the infield of Galway Racecourse
- Construct covered machinery shed in infield of Galway Racecourse
- Construct pre-parade ring and maintenance shed in existing car parking area. Maintenance shed to be constructed at proposed permanent location with access provided for GRC use
- Two new wells to the east of Galway Racecourse stableyard are to be drilled in the horsebox carpark
- Construct new 100,000gallon water storage tank and connect new wells to existing watermain. A pump house to contain well infrastructure is to be constructed adjacent to the new storage tank and wells. Watermain connection to existing track watering facility is to be installed with booster pump provided if required
- All replacement wells are to be tested to ensure adequate yield and water quality are achieved
- Commission water storage tank and pipework to existing track watering system
- Access on the road in the centre of the racecourse between both track crossing points to be to be available on race days

Phase 2 – All works to cease one month before and during summer festival

Phase 2.1

- Lands to be fenced off permanently and temporarily as shown. Areas not fenced off within Galway Racecourse landholding remain available to Galway Racecourse unless shown otherwise
- The proposed City North Business Park Link Road between existing N83 Tuam Road and the proposed Parkmore Link Road is to be constructed in advance of removing the existing private access road to the N83 Tuam Road
- New access points from the Parkmore Link Road to Galway Racecourse will be developed to provide connection and access for parking during festival time. Temporary traffic lights to be installed at the proposed main entrance of the racecourse is to be used during festival time
- Any reconfiguration of the taxi and internal access roads are to be developed as part of Galway Racecourse accommodation works and do not form part of works for the proposed N6 GCRR

- Demolition and site clearance of the existing Brooks hardware building, adjacent partially completed industrial buildings and office blocks completed. A secure permanent boundary wall will be constructed around the new site to tie-in with existing racecourse boundary. Footpaths and lighting to be constructed on realigned Racecourse Avenue
- A precondition survey of the road pavement on Racecourse Avenue Road will be carried out and a structural overlay will be constructed where necessary to cater for increased HGV usage during construction. Access is to be maintained for GRC throughout the works using temporary traffic management
- Watermain, ESB, E-Net and Eircom utilities running along existing Racecourse Avenue Road is to be diverted through the proposed realigned road around the Brooks site. This allows utilities to be accessed for future maintenance as well as creating one crossing point of utilities perpendicular to the tunnel. All realigned services will connect back to existing supply within Galway Racecourse landholding. Note, the electricity supply to the existing office buildings is connected from the toilet block adjacent to entrance building A
- The existing loop road at Ch. 14+550 is to be diverted south and the ESB substation is to be relocated to adjacent field to power relocated telecoms mast
- The Contractor shall facilitate access to and from the existing horsebox carpark via the temporary proposed gate to the south, to the remaining portion of CPO No. 716's lands to the south of the development boundary, in order to facilitate parking and land usage agreements up until alternate access via access road to the graveyard to the south of the proposed N6 GCRR is completed

Phase 2.2

- Demolition and site clearance of existing stableyard
- Construct new permanent Racecourse Avenue and temporary extension for construction access to edge of excavation face. Extend the access road for diversion during construction as excavation allows and provide for temporary diversion of utilities
- Install pipework (watermain and drainage) and service ducting (ESB, telecoms) along route of new permanent Racecourse Avenue
- Excavate to tunnel formation level from the western portal. Extent of excavation is to be limited by proximity to Racecourse Avenue without undermining it
- Existing access along Racecourse Avenue is to be maintained throughout this phase
- The Contractor shall facilitate access to and from the existing horsebox carpark via the temporary proposed gate to the south, to the remaining portion of CPO No. 716's lands to the south of the development boundary, in order to facilitate parking and land usage agreements up until alternate access via access road to the graveyard to the south of the proposed N6 GCRR is completed

Phase 2.3

- Tunnel excavation to extend eastwards towards existing Racecourse Avenue
- Construct and install tunnel segments working from west to east
- Install temporary pipework and service ducting above tunnel structure
- The Contractor shall facilitate access to and from the existing horsebox carpark via the temporary proposed gate to the south, to the remaining portion of CPO No. 716's lands to the south of the development boundary, in order to facilitate parking and land usage agreements up until alternate access via access road to the graveyard to the south of the proposed N6 GCRR is completed

- Continuing tunnel excavation eastwards. Backfill tunnel segments pipework and utility ducts once constructed. Construct and connect temporary diversion of Racecourse Avenue above tunnel and divert racecourse traffic along this route. The temporary access road is to be of a permanent standard and be the full width as per the existing avenue
- Connect temporary diversion of services over tunnel along temporary access road (watermains, drainage, ESB and telecoms)
- Continue tunnel construction and excavation working eastwards
- Finalise construction of western portal and associated earthworks

Phase 2.4

- Backfill and finalise construction of tunnel boxes as proceed with tunnel construction
- Area above tunnel to be backfilled as construction allows
- Excavated area to be fenced off and access prohibited for Summer festival when overlap occurs
- Fence off exclusion zone from western tunnel portal c.50m
- Temporary diversion of Racecourse Avenue will be in service for public traffic access during Summer Festival as required
- Commence eastern tunnel portal excavation and working westwards and eastwards
- Temporary access to water tank and wells is provided from racetrack as shown. There will be no access from Racecourse Avenue to tanks and wells in this phase
- Construct new permanent Racecourse Avenue and install permanent service pipework and ducting. Commission permanent service diversions
- Decommission temporary access road and temporary service connections once permanent Racecourse Avenue and services are in place
- Construct diversion of IDA sewers and public watermain near eastern portal
- Protect and maintain the existing private racecourse foul sewer diversion pipework during excavation for the tunnel.
- Excavation area to be temporarily fenced off if overlaps with the summer festival. The ambulance turntable is to be reinstated

Phase 2.5

- Complete tunnel construction and backfilling over tunnel
- All testing and commissioning of tunnel segments completed
- Site for proposed permanent stables vacated, ground reinstated ready for permanent works

Phase 3

- Reinstate ground for permanent horsebox car park overlay and landscaping over the tunnel
- Construct permanent stableyard, vet, security, storage facilities and groom's pavilion
- Construct and commission parking areas, access roads and landscaping
- Commission permanent stableyard and obtain approval of IHRB of permanent stableyard
- Permanent access to water tank and wells to be constructed and commissioned over tunnel

- Complete tunnel portal and associated earthworks and tie-in with the construction of the mainline of the proposed N6 GCRR
- New permanent stableyard will be ready for operation. Temporary stableyard is to be retained until IHRB approval secured
- All agreed permanent fencing and boundaries walls to be constructed as part of accommodation works. This will include a secure palisade fence along the northern boundary and the proposed stone wall along western boundary adjacent to the Parkmore Link Road

Phase 4

- Temporary stableyard is to be demolished and removed
- Reinstatement of bases of stables as parking bays
- Final landscaping and reinstatement in area of temporary stableyard completed

Phase 5

Operational phase showing fully completed layout.

4. Summary and Conclusions

Given the location and complexity of the proposed Galway Racecourse Tunnel, considerable planning and consultation has been undertaken between the design team and various stakeholders such as the Galway Racecourse Committee to devise an achievable and realistic programme of construction over a three-year period. An advance works programme forms part of this construction sequence which includes, demolition works, utility and road diversions (both temporary and permanent) and temporary stables construction. A temporary stableyard and horsebox carpark will be required for a two-year period to facilitate the construction of the tunnel whilst maintaining operations at Galway Racecourse throughout. Consideration has been given to maximising the progress of construction at each stage whilst maintaining safe access and facilitating ongoing operations at Galway Racecourse throughout, including the summer festivals which cater for up to 150,000 patrons each year.

Appendix A

(Figures 01 to 09)

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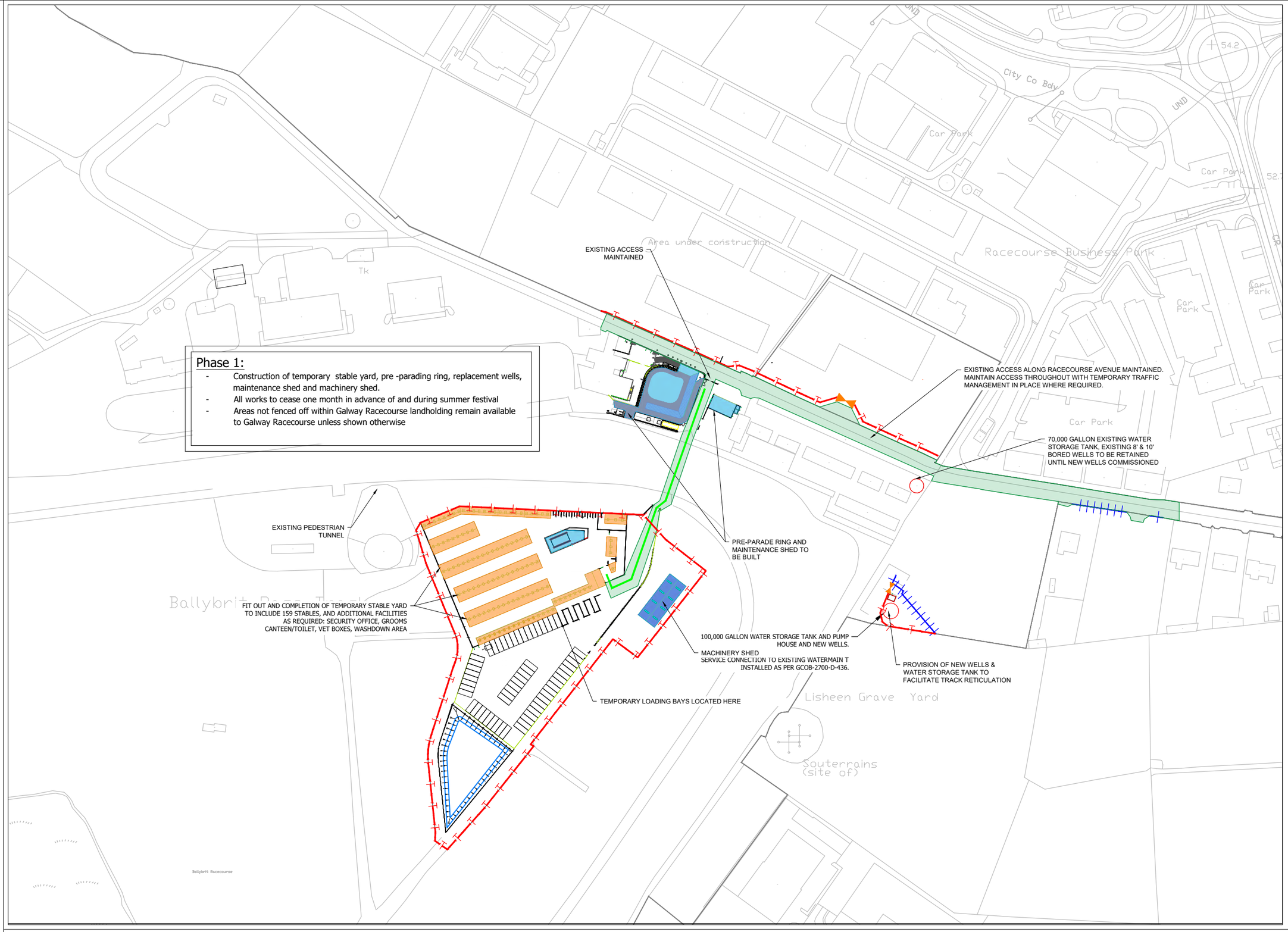

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Job Title: N6 Galway City Ring Road

Scale: 1:2500 @ A3

Date: February 2025

Issue	Date	By	Chkd	Appd
I1	28/02/2025	KJ	TVR	EMcC

Drawing Title: Galway Racecourse Tunnel
Construction Sequence - Phase 1
Appendix A.7.4 Sheet 1 of 9

Drawing Status: **For Information**

Job No	Drawing No	Issue
233985-00	**Figure 01**	**I1**

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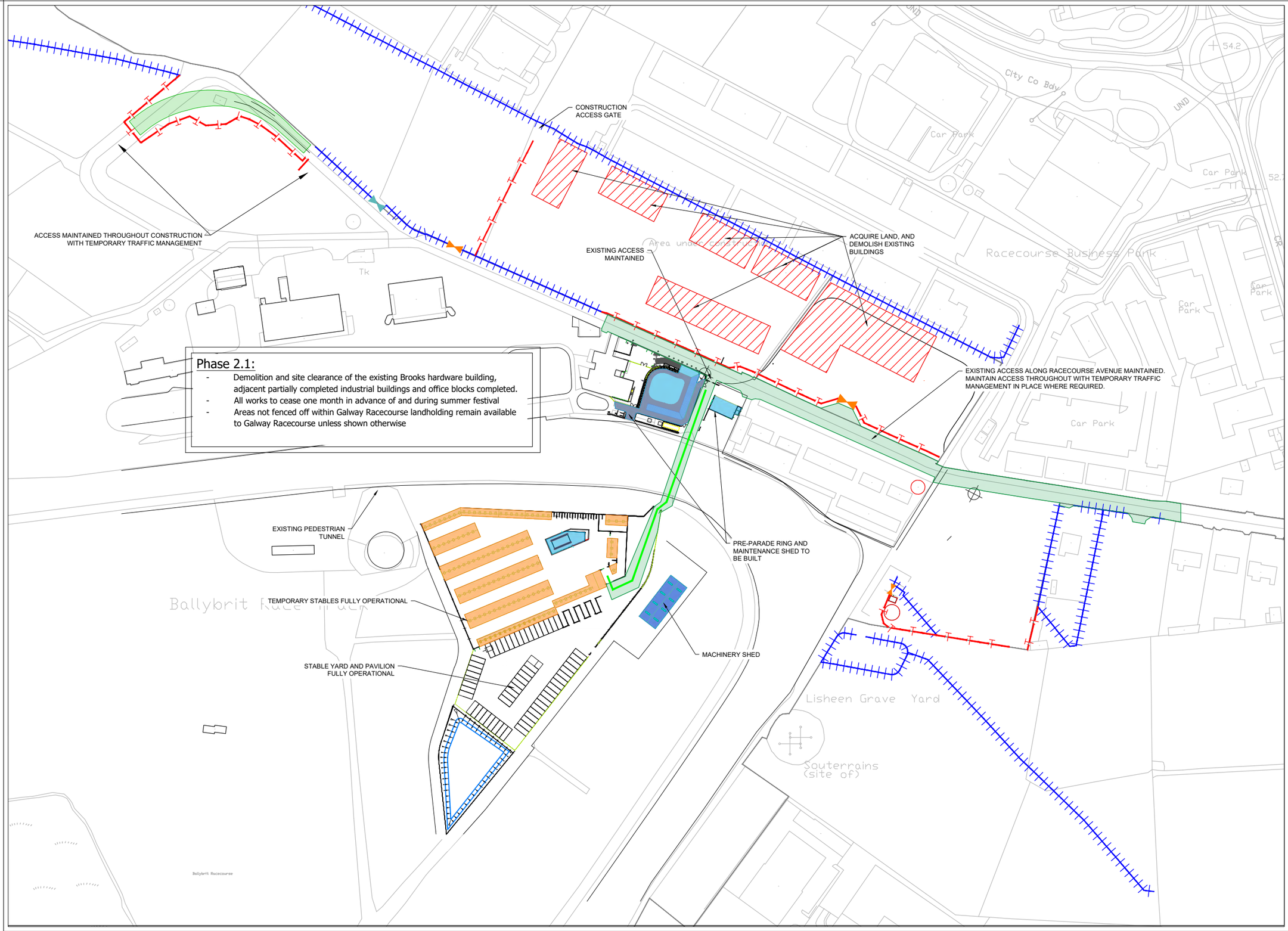

FOR INFORMATION

Legend:

- Proposed Alignment
- Proposed Permanent Fence
- Proposed Temporary Fencing
- Racecourse Access
- Construction Access - Temporarily
- Area to be Excavated
- Existing Services Diversion
- Watertank and Pump House
- Proposed Horsewalk Passage
- Temporary Retaining Wall
- Temporary Building
- Proposed Temporary Gate
- Permanent Building
- Permanent Gate

Clients: An Roinn Iompair Department of Transport; Tionscadal Éireann Project Ireland 2040; N6 Galway City Transport Project; Comhairle Chontae na Gaillimhe Galway County Council; TII

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Issue	Date	By	Chkd	Appd
I1	28/02/2025	KJ	TVR	EMcC

Drawing Title: Galway Racecourse Tunnel Construction Sequence - Phase 2.1 Appendix A.7.4 Sheet 2 of 9

Drawing Status: **For Information**

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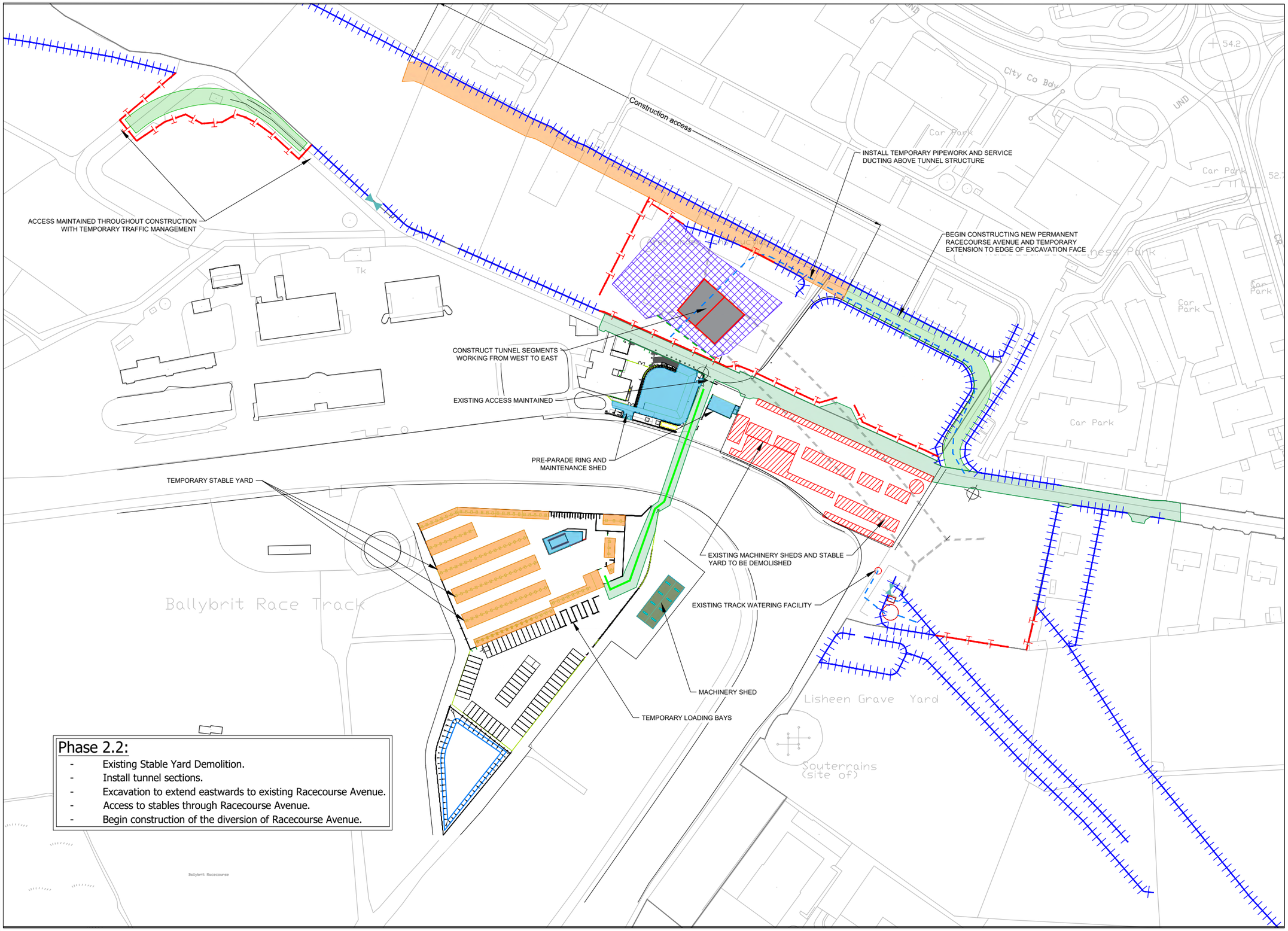

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- Tunnel Segments
- Proposed Horsewalk Passage
- Temporary Retaining Wall
- Temporary Building
- Proposed Temporary Gate
- Permanent Building
- Permanent Gate

Phase 2.2:

- Existing Stable Yard Demolition.
- Install tunnel sections.
- Excavation to extend eastwards to existing Racecourse Avenue.
- Access to stables through Racecourse Avenue.
- Begin construction of the diversion of Racecourse Avenue.

Clients

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Comhairle Chontae na Gaillimhe Galway County Council | TII Transport Infrastructure Ireland

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Issue	Date	By	Chkd	Appd
I1	28/02/2025	KJ	TVR	EMcC

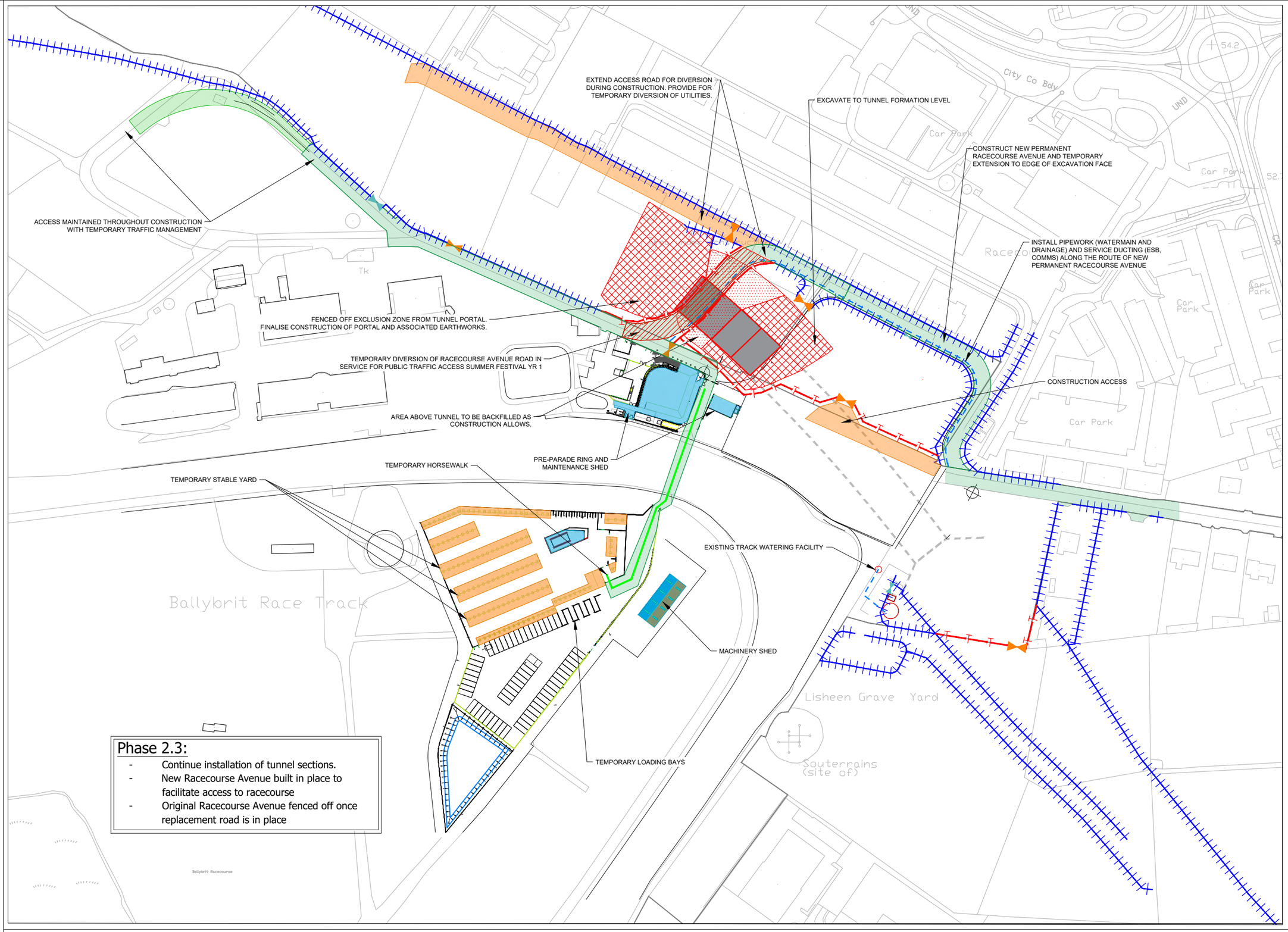
Drawing Title
Galway Racecourse Tunnel
Construction Sequence - Phase 2.2
Appendix A.7.4 Sheet 3 of 9

Drawing Status
For Information

Job No	Drawing No	Issue
233985-00	**Figure 03**	**I1**

Do not scale

A3



Phase 2.3:

- Continue installation of tunnel sections.
- New Racecourse Avenue built in place to facilitate access to racecourse
- Original Racecourse Avenue fenced off once replacement road is in place

FOR INFORMATION

Legend:

- Proposed Alignment
- Proposed Permanent Fence
- Proposed Temporary Fencing
- Racecourse Access
- Construction Access - Temporarily
- Site Clearance/Demolotion
- Backfilled Area
- Temporary Fenced Zone
- Area to be Excavated
- Existing Services Diversion
- Watertank and Pump House
- Tunnel Segments
- Proposed Horsewalk Passage
- Temporary Building
- Proposed Temporary Gate
- Permanent Building
- Permanent Gate

Clients: An Roinn Iompair Department of Transport; Tionscadal Éireann Project Ireland 2040; N6 Galway City Transport Project; Comhairle Chontae na Gaillimhe Galway County Council; TII

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Job Title: N6 Galway City Ring Road

Scale: 1:2500 @ A3

Date: February 2025

Issue	Date	By	Chkd	Appd
I1	28/02/2025	KJ	TVR	EMcC

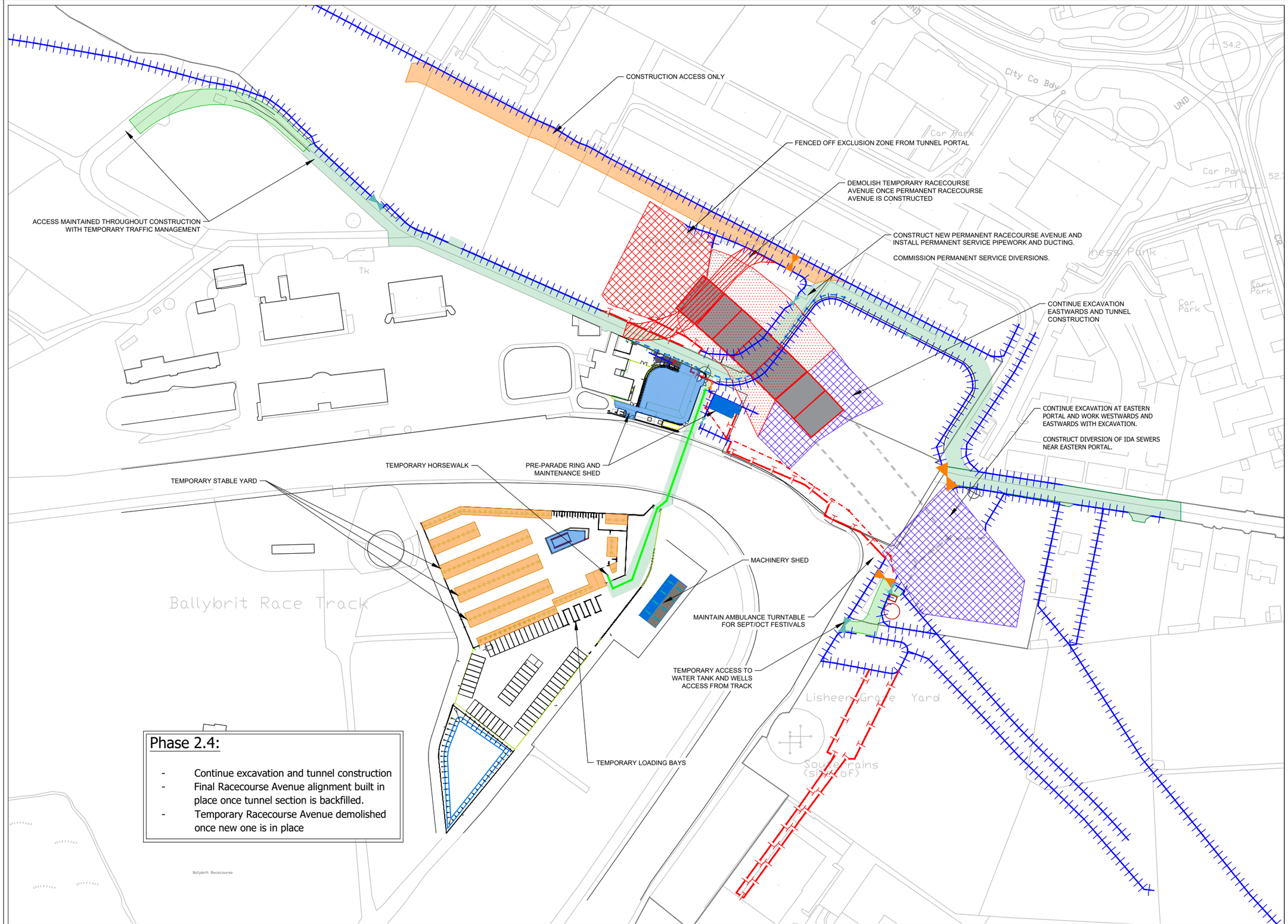
Drawing Title: Galway Racecourse Tunnel Construction Sequence - Phase 2.3
Appendix A.7.4 Sheet 4 of 9

Drawing Status: **For Information**

Job No	Drawing No	Issue
233985-00	**Figure 04**	**I1**

Do not scale

A3



Phase 2.4:

- Continue excavation and tunnel construction
- Final Racecourse Avenue alignment built in place once tunnel section is backfilled.
- Temporary Racecourse Avenue demolished once new one is in place

FOR INFORMATION

Legend:

- Proposed Alignment
- Proposed Permanent Fence
- Proposed Temporary Fencing
- Site Clearance/Demolotion
- Racecourse Access
- Construction Access - Temporarily
- Backfilled Area
- Temporary Fenced Zone
- Existing Services Diversion
- Watertank and Pump House
- Tunnel Segments
- Proposed Horsewalk Passage
- Temporary Building
- Proposed Temporary Gate
- Permanent Building
- Permanent Gate

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Scale: 1:2500 @ A3

Date: February 2025

Issue	Date	By	Chkd	Appd
I1	28/02/2025	KJ	TVR	EMcC

Drawing Title: Galway Racecourse Tunnel Construction Sequence - Phase 2.4
Appendix A.7.4 Sheet 5 of 9

Drawing Status: **For Information**

Job No	Drawing No	Issue
233985-00	Figure 05	I1

Do not scale

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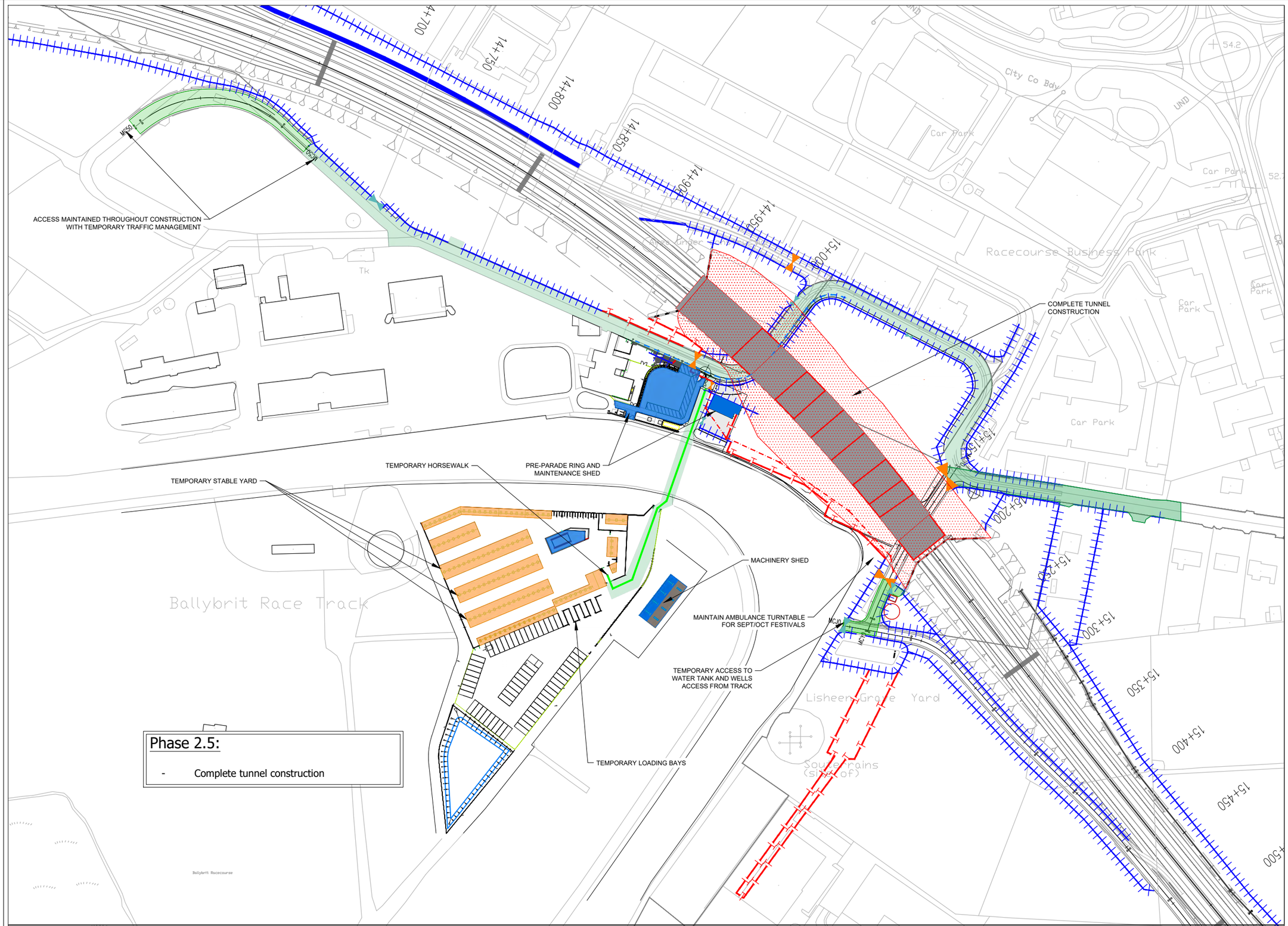

FOR INFORMATION

Legend:

- Proposed Alignment
- Proposed Permanent Fence
- Proposed Temporary Fencing
- Site Clearance/Demolotion
- Racecourse Access
- Construction Access - Temporarily
- Backfilled Area
- Temporary Fenced Zone
- Existing Services Diversion
- Watertank and Pump House
- Tunnel Segments
- Proposed Horsewalk Passage
- Temporary Building
- Proposed Temporary Gate
- Permanent Building
- Permanent Gate

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Scale: 1:2500 @ A3

Date: February 2025

Issue	Date	By	Chkd	Appd
I1	28/02/2025	KJ	TVR	EMcC

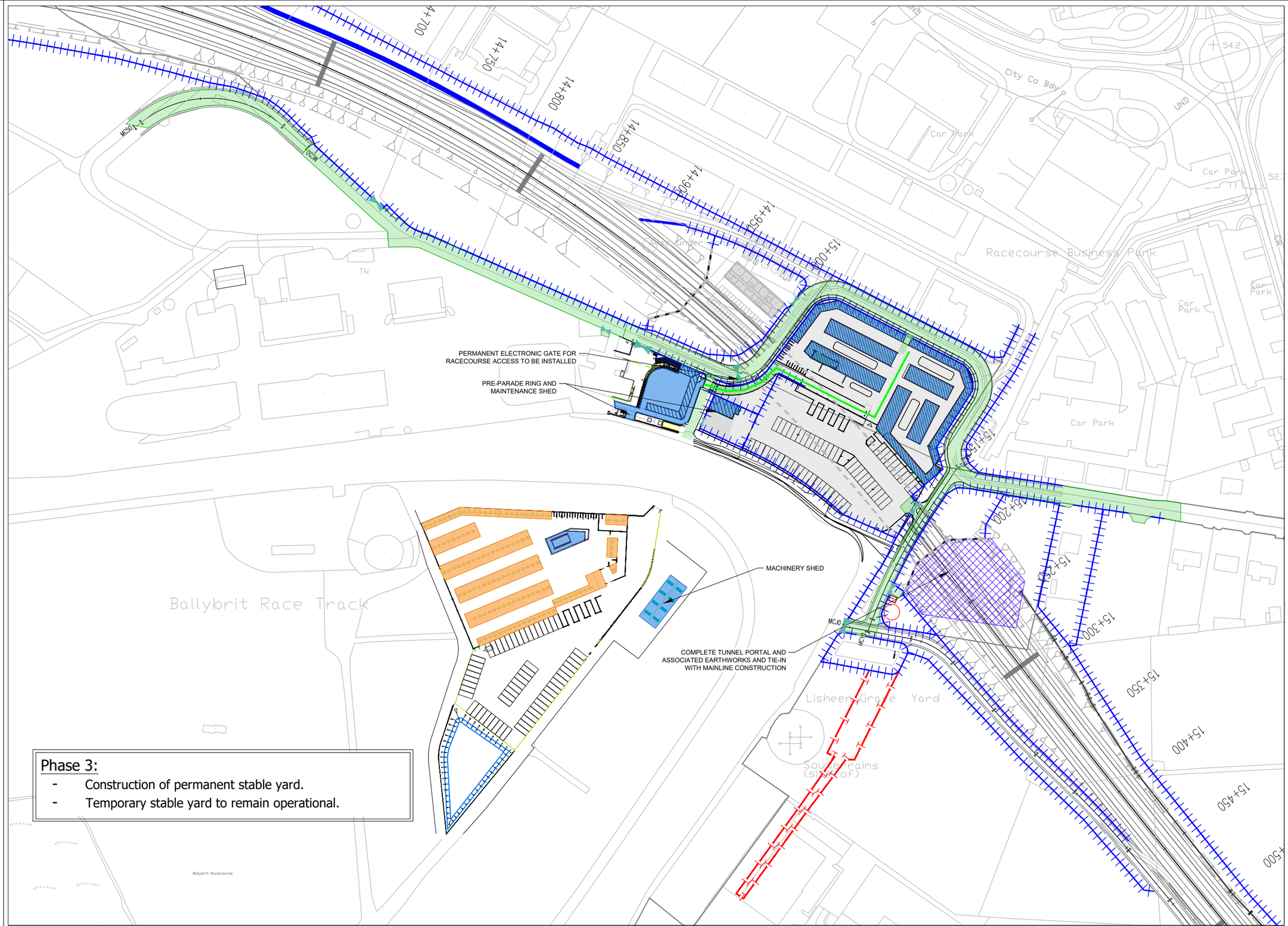
Drawing Title: Galway Racecourse Tunnel Construction Sequence - Phase 2.5
Appendix A.7.4 Sheet 6 of 9

Drawing Status: **For Information**

Job No	Drawing No	Issue
233985-00	Figure 06	I1

Do not scale

A3



Phase 3:

- Construction of permanent stable yard.
- Temporary stable yard to remain operational.

FOR INFORMATION

Legend:

- Proposed Alignment
- Proposed Permanent Fence
- Proposed Temporary Fencing
- Racecourse Access
- Construction Access - Temporarily
- Backfilled Area
- Temporary Fenced Zone
- Area to be Excavated
- Existing Services Diversion
- Proposed Foul Sewer
- Watertank and Pump House
- Tunnel Segments
- Proposed Horsewalk Passage
- Temporary Building
- Proposed Temporary Gate
- Permanent Building
- Permanent Gate

Clients: An Roinn Iompair Department of Transport; Tionscadal Éireann Project Ireland 2040; N6 Galway City Transport Project; Comhairle Chontae na Gaillimhe Galway County Council; TII Transport Infrastructure Ireland

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Job Title: N6 Galway City Ring Road

Scale: 1:2500 @ A3

Date: February 2025

Issue	Date	By	Chkd	Appd
I1	28/02/2025	KJ	TVR	EMcC

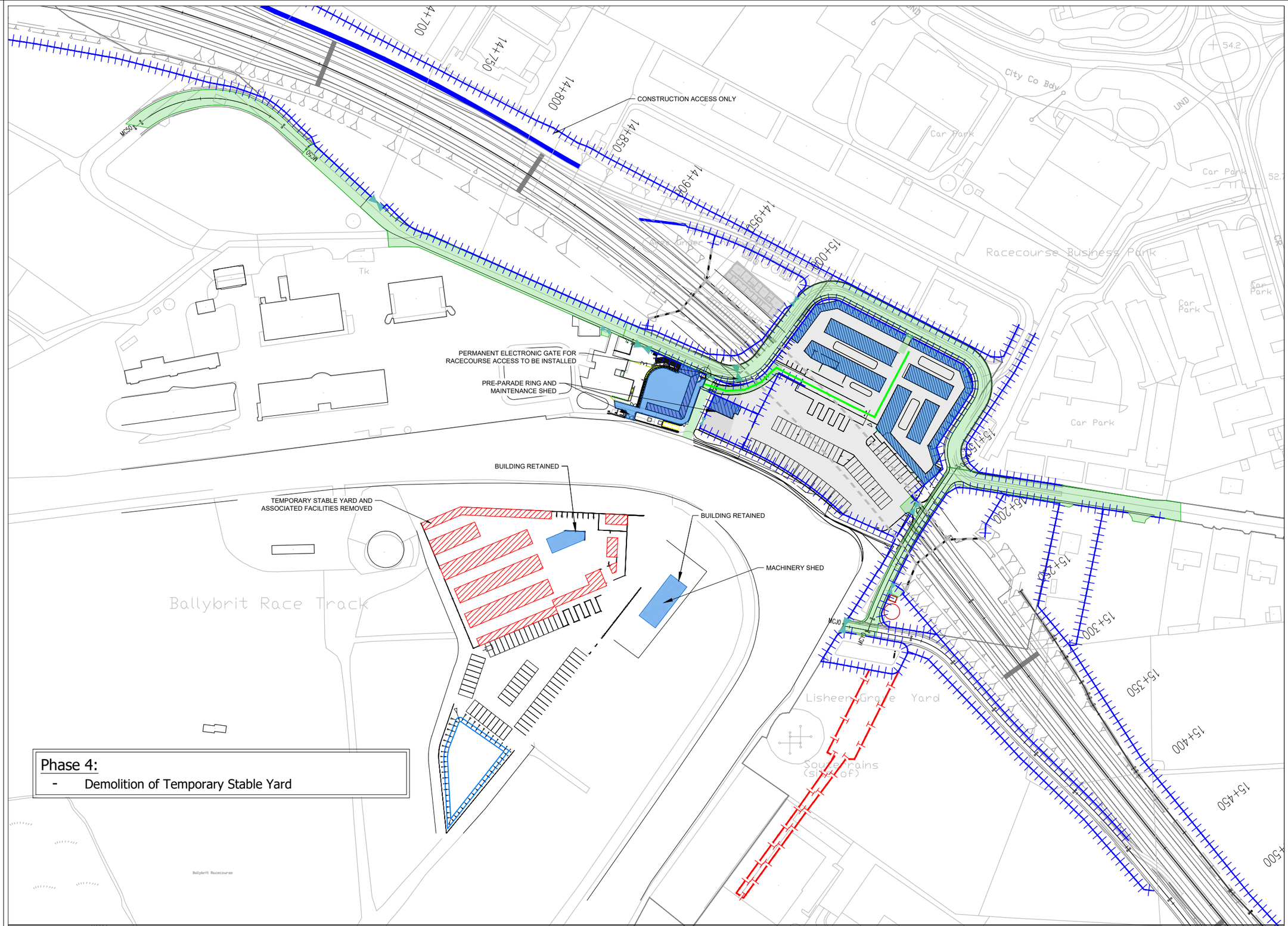
Drawing Title: Galway Racecourse Tunnel Construction Sequence - Phase 3
Appendix A.7.4 Sheet 7 of 9

Drawing Status: **For Information**

Job No	Drawing No	Issue
233985-00	Figure 07	I1

Do not scale

A3



FOR INFORMATION

Legend:

- Proposed Alignment
- Proposed Permanent Fence
- Proposed Temporary Fencing
- Site Clearance/Demolotion
- Racecourse Access
- Construction Access - Temporarily
- Backfilled Area
- Temporary Fenced Zone
- Area to be Excavated
- Existing Services Diversion
- Proposed Foul Sewer
- Watertank and Pump House
- Tunnel Segments
- Proposed Horsewalk Passage
- Permanent Building
- Permanent Gate

Clients: An Roinn Iompair Department of Transport; Tionscadal Éireann Project Ireland 2040; N6 Galway City Transport Project; Comhairle Chontae na Gaillimhe Galway County Council; TII Transport Infrastructure Ireland

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Job Title: N6 Galway City Ring Road

Scale: 1:2500 @ A3

Date: February 2025

Issue	Date	By	Chkd	Appd
I1	28/02/2025	KJ	TVR	EMcC

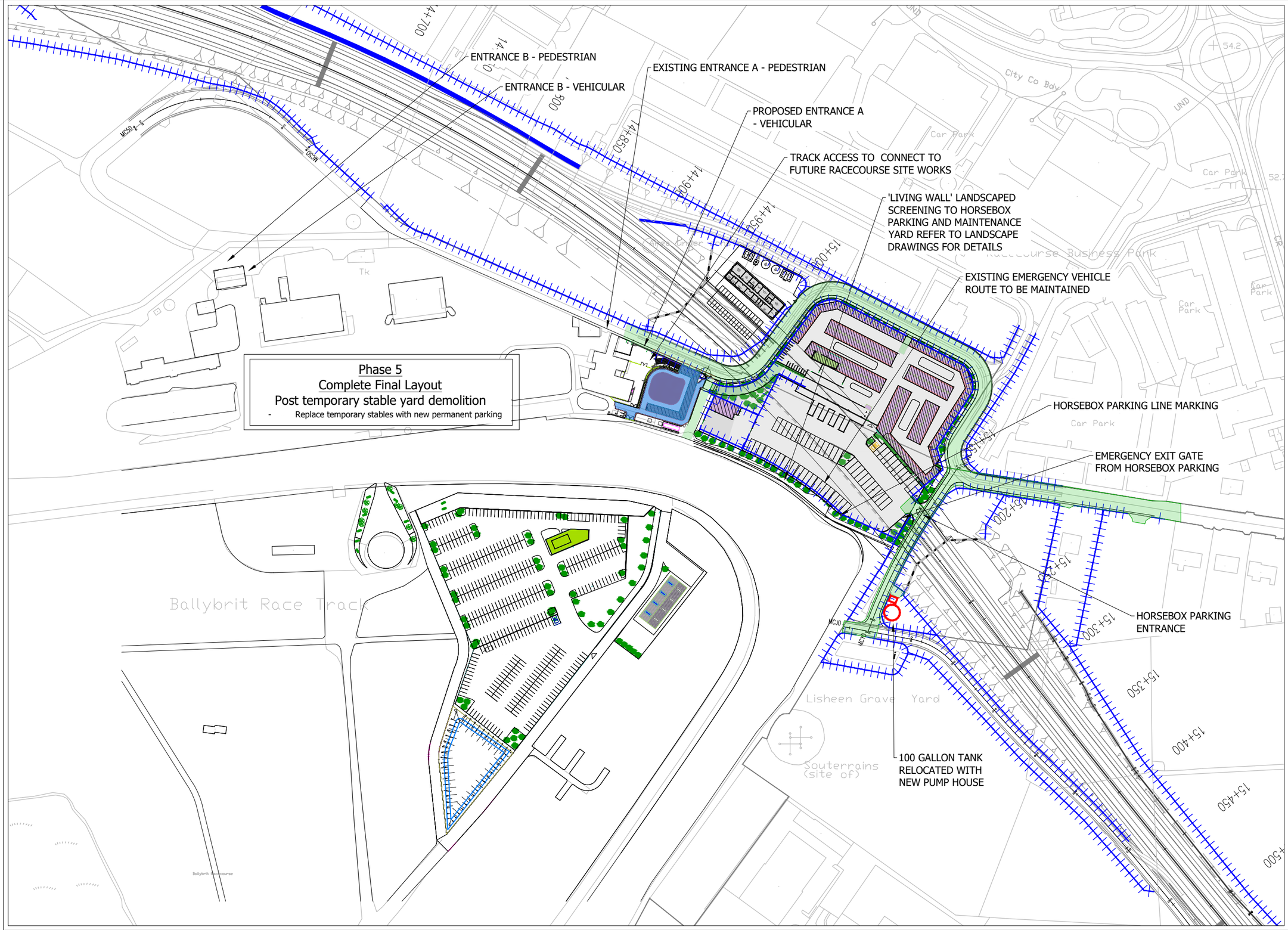
Drawing Title: Galway Racecourse Tunnel Construction Sequence - Phase 4
Appendix A.7.4 Sheet 8 of 9

Drawing Status: **For Information**

Job No	Drawing No	Issue
233985-00	Figure 08	I1

Do not scale

A3



FOR INFORMATION

Legend:

- Proposed Alignment
- Proposed Permanent Fence
- Permanent Building
- Permanent Gate
- Racecourse Access
- Watertank and Pump House

Clients: An Roinn Iompair Department of Transport; Tionscadal Éireann Project Ireland 2040; N6 Galway City Transport Project; Comhairle Chontae na Gaillimhe Galway County Council; TII

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Scale: 1:2500 @ A3

Date: February 2025

Issue	Date	By	Chkd	Appd
I1	28/02/2025	KJ	TVR	EMcC

Drawing Title: Galway Racecourse Tunnel Construction Sequence - Phase 5 Appendix A.7.4 Sheet 9 of 9

Drawing Status: **For Information**

Job No	Drawing No	Issue
233985-00	Figure 09	I1

Do not scale