

## STATEMENT of HERITAGE IMPACT

**Proposal:** Adaptive re-use of the former Tank Annex building 22 to provide a storage facility with building and site conservation works to suit Transport Heritage NSW



*The South Elevation of the Tank Annex*



*View of the interior including the original Crane LC591*

**Client: Transport Heritage NSW**

David Scobie Architects Pty Ltd  
Architects & Heritage Consultants

### Document Control Table

Reference	Version	Author	Check
March 2021	Drafts A, B	██████	██████
September 2021	C: Final	██████	

## Executive Summary

David Scobie was engaged by Transport Heritage NSW to assist in the design process for the adaptive re-use of the former Tank Annex – Building 22 within the Chullora Railway Workshops site. The proposed conservation works will be constructed as the first stage of a comprehensive programme known as the Heritage Hub Project for the adaptive re-use of the site for Transport Heritage NSW. The works are minor development within the Infrastructure SEPP in view of the tree removal and construction of a section of road for the Fire Brigade access. The site is not listed on the State Heritage Register although parts of the site are ascribed with State level significance in various heritage assessments. The Tank Annex – Building 22 is described as having historic, representative, technological and aesthetic significance and is graded as High. A referral is to be made to the NSW Heritage Office for comment in view of the levels of significance.

The purpose of the heritage impact assessment is to identify and assess the known and potential heritage values of the site, consisting of the Tank Annex – building 22 and environs and the potential impacts of the proposal on these values. Design advice has been provided to the structural and services engineers and incorporated within the proposal. The proposal is for a suite of works of related to the removal of the most recent generation of railway structures for the provision of a level single floor suitable for the storage of heritage items including railway rolling stock and loose elements associated with these items. Works to the structure include the maintenance of the external cladding, windows, roofing and stormwater goods sufficient to provide a weatherproof envelope with increased environmental performance. The final assessment provides appropriate mitigation, interpretation and management strategies related to the works for all the identified heritage values within the project area.

A detailed historical context of the site has been established through the CMP and the associated Heritage inventories and provides a basis for the significance assessment of the elements within the Railway Workshops site. The report has benefited from the comprehensive studies covering the heritage significance completed by Austral Archaeology Pty Ltd with the 2012 Conservation Management Plan (CMP).

Detailed site Inspections have been undertaken by David Scobie and colleagues in the period May 2020 through to February 2021. David was accompanied by [REDACTED] Senior Heritage Specialist and [REDACTED] Heritage Specialist from Sydney Trains Heritage during a joint visit in June 2020.

The following management strategy is recommended to mitigate the impact of the Proposal on the heritage significance of the former Tank Annex – Building 22 and environs.

1. As no known or predicted archaeological research potential is identified to date within the impacted sections of the site affected by the proposal, based on the results of this assessment, no archaeological monitoring or mitigation is recommended. For unexpected finds, refer item 8.
2. The direct impacts of the works are limited to the demolition of one external toilet block, the removal of one tree, the removal of two skillion extensions to the western end of the north elevation of the shed and the removal of the existing concrete hobs and demountable contemporary structures above the slab level within the shed. The requirement to store heritage rolling stock requires the provision of a series of roller doors to the east elevation. The recommendations provided within the Heritage Impact Statement for mitigating the changes are fabric restoration and should be implemented and are illustrated on the proposal documents.

3. Mitigation for the single tree loss on the northern side of the building will include making good the staff recreational landscape using a low maintenance eucalyptus mulched soft landscaped treatment to the northern and traditional recreational landscape.
4. The provision of the new louvres within the external walls on the South Elevation will remove elements of original glazing to a 32 sq.m area. Two options have been considered and a third selected as appropriate for the task and with an acceptable heritage impact. Mitigation for this change will be the conservation and restoration of the associated original steel framed glazing where this has been damaged by erection of later cladding and access doors. The removed windows will be retained and utilised in the restoration process.
5. All material indicated for removal will be inspected by the Heritage Consultant on ground level prior to disposal. Items of significance such as hardware, signs, steel framed windows, rain heads and services devices such as switches are to be retained for interpretation.
6. The provision of replacement roof glazing is required for the green ‘alsynite fibreglass’ sheeting dating from the 1970s which has reached the end of a useful life. The grey tinted twin wall polycarbonate sheeting for alternate sheets is regarded as being a sympathetic material which will produce the appropriate internal and external character. Alternate vertical roof-light sheeting will be replaced with insulated galvanised steel cladding to improve the environmental performance of the envelope.
7. The large skillion extension from the 1970s on the North elevation will be adapted to provide facilities for the specialist conservation staff from THNSW maintaining and inspecting the heritage collection.
8. A site induction should be provided to all staff and project sub-contractors in order that they are aware of their responsibilities under the provisions of the NSW Heritage Act & the Burra Charter. This would include, in the unlikely event that any unknown historical relics are uncovered during proposed works that the Project Manager must be immediately contacted and all works in the vicinity of the objects/relics must cease. The area where objects or relics uncovered would be protected until a qualified archaeologist is contacted by the Project Manager and can inspect and assess the area to determine its significance (if required).
9. In the event that the construction of the road extension on the northern side of the building should reveal artefacts, then the Sydney Trains Procedure for Unexpected Finds, shall be followed.
10. In the event that any suspected human remains are uncovered during the minor excavation and construction of the northern access road works, all works in the vicinity of the remains must cease immediately and the Project Manager must be immediately notified and the area secured. The Project Manager will contact the NSW Police (if required). If these remains are deemed to require archaeological investigation by the NSW Police or NSW Coroner, then OEH (Contact OEH’s Enviroline 131 555) must be notified for further assessment and management. No works should continue until OEH (or other determining authority such as Department of Planning and Environment) provide written notification to proceed in this scenario.

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## 1 Introduction

### ***Brief***

████████████████████ of Transport Heritage NSW commissioned the Heritage Impact Statement for the Conservation and Adaptive re-use works, in October 2020. The purpose is to assist in the design process for the proposed alterations to the property and to prepare a Heritage Impact Statement suitable for submission to the NSW Heritage Division of the Office of Environment and Heritage and Byron Shire Council. The Heritage Impact Statement accompanies an Application for Development under the ISEPP Rail Transport

### ***Documentation***

The report provides a Statement of Significance for the property based on the Heritage significance issues raised within the Heritage Register listing relative to the property. A Heritage Impact Statement is provided. While the site is not listed on the State Heritage Register, aspects of the site have been identified as having state level significance and hence the Report has investigated and dealt with those issues in relation to their significance at that level. There are no impacts on the elements identified as having Exceptional significance.

### ***Author***

David Scobie has prepared the report for David Scobie Architects Pty Ltd.

### ***References***

The report is based on the following drawings

#### Architecture

- H01 Heritage significance: Floor Plan
- H02 Heritage significance: Elevation
- H03 Heritage significance: Elevation
- H04 Heritage significance: Elevation
- H05 Heritage significance: Elevation
- 100 Existing Floor Plan
- 101 Proposed Roof Plan
- 102 Proposed Site Plan
- 103 Proposed Rolling Stock Plan and Egress Layout
- 104 Proposed Sleepers and pallet storage layout
- 105 Existing East Elevation & Section CC & Photo record
- 106 Proposed North
- 107 Proposed South
- 108 Existing West Elevation & Section DD & Photo record
- 109 Section BB & Photo record
- 110 Section AA & Photo record
- 111 Section BB
- 112 Proposed East Elevation: Demolition and New works
- 113 Proposed North Elevation: Demolition and New works
- 114 Proposed South Elevation: Demolition and New works

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### Chullora Railway Workshops – Heritage Hub Project: Adaptive re-use for Tank Annex-Building 22 for Transport Heritage NSW

- 115 Proposed West Elevation: Demolition and New works
- 120 Roof Plan: Proposed works
- 601 Northern entrance & Storage

#### Structure: Mott MacDonald

- Structural repairs – Sheet 1: Wall bracing
- Structural repairs – Sheet 2: Column corrosion
- Structural repairs – Sheet 2: Column corrosion
- Structural repairs – Sheet 2: Column corrosion
- Structural repairs – Sheet 3: Column corrosion & Buckled element
- Structural repairs – Sheet 4: Concrete slab repair
- Structural repairs – Sheet 5: Roof bracing & pit cover
- Structural repairs – Sheet 6: New topping slab & Sleeper arrangement
- Structural repairs – Sheet 7: Pit infill
- Structural repairs – Sheet 8: Demolish concrete slab and protruding bolts in slab

#### Services: Erbas

- E000 Electrical Services: Cover sheet, Legend & Symbols
- E100 Electrical Services: Power layout
- E200 Electrical Services: Lighting layout
  
- H000 Hydraulic Services: Cover sheet, Legend & Symbols
- H100 Hydraulic Services: Fire hydrant & Hose reel layout
- Hydraulic Services: FH layout for check valve at Worth Street
- H200 Hydraulic Services: Detail sheet
- H001 Hydraulic Services: Site Location Plan
  
- F000 Fire Services: Cover sheet, Legend & Symbols
- F100 Fire Services: Smoke Detection Layout
  
- M000 Mechanical Services: Cover sheet, Legend & Symbols
- M100 Mechanical Services: HVAC Layout

#### BCA Logic

##### Egress Layout

Procedures and practices are as recommended in the document '*Statements of Heritage Impact*' from the NSW Heritage Manual, Heritage Office and Department of Urban Affairs and Planning, 1996.

The report follows the methodology illustrated in '*The Conservation Plan*', J.S. Kerr, Sydney, National Trust of Australia (NSW), 1996. Definitions and procedures are as presented in the Australia ICOMOS Guidelines to the Burra Charter-Cultural Significance and Conservation Policy.

## **Definitions**

The definitions used in the report are those presented in Article 1 of The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (The Burra Charter).

**Place** means site, area, building or other work, group of buildings or other works, together with associated contents and surrounds.

**Cultural significance** means aesthetic, historic, scientific or social value for past, present or future generations.

**Fabric** means all the physical material of the place.

**Conservation** means all the processes of looking after a place so as to retain its cultural significance. It includes maintenance and may according to circumstance include preservation, restoration, reconstruction and adaptation and will be commonly a combination of more than one of these.

**Maintenance** means the continuous protective care of the fabric, contents and setting of a place, and is to be distinguished from repair. Repair involves restoration or reconstruction and it should be treated accordingly.

**Preservation** means maintaining the fabric of a place in its existing state and retarding deterioration.

**Restoration** means returning the fabric of a place to a known earlier state and is distinguished by the introduction of materials (new or old) into the fabric. This is not to be confused with either recreation or conjectural reconstruction, which are outside the scope of the Charter.

**Adaptation** means modifying a place to suit proposed compatible uses.

**Compatible uses** mean a use which involves no change to the culturally significant fabric, changes which are substantially reversible, or changes which require a minimal impact.”

## 2 Statutory Instruments

### 2.1 Heritage Listings

The Chullora Railway Workshops site is historically important and many of the buildings and associated settings have played an active role in the history of rail operations in Sydney. Chullora was the location for the development of the early Workshops in the 1920's for the Sydney railways, which includes some of the first Boiler rooms in the City. Buildings such as the 'Igloo' were also locations for World War Two Operations and Logistics while the Tank Annex was erected for the manufacture of Tanks and later adapted for railway uses.

As a result, the majority of the site is covered by a Heritage Curtilage that has been nominated by Sydney Trains.

State Heritage Items are those that have been listed on the NSW State Heritage Register by the NSW Heritage Council, in accordance with the NSW *Heritage Act 1977*. Items listed on the State Heritage Register are those that are considered to be significant to the whole of NSW. The "Pressure Tunnel and Shafts", which run along the length of the Sydney Water Corridor, is listed as a State Heritage Item. According to Section 57 of the *Heritage Act 1977*, any works that will affect this property will require consultation and approval from the Heritage Council.

"Chullora Railway Workshops" have not been listed on the State Heritage Register; however, the railway workshops are listed as a heritage item under s.170 of the *Heritage Act 1977*. The Chullora Railway Workshops s.170 item consists of a collection of buildings within the core precinct of the Site. The heritage significance of each building and landscape feature has been identified, with those having 'Exceptional' or 'High' heritage significance having both individual importance as well as to the precinct as a whole. Features rated as 'Moderate' are considered to have little individual significance, but are important to the overall character and history of the precinct.

The Heritage Council has developed criteria to assist in establishing whether an item is state significant. It is noted that those buildings within the Site listed as having either 'Exceptional', 'High' or 'Moderate' heritage significance fulfil this criterion. This indicates that the "Chullora Railway Workshops" item may have the potential to be of State significance.

Works for the purpose of railway or rail infrastructure facilities are permitted without consent under the ISEPP, including the alteration or relocation of a State heritage item. Works for any other purpose would require a development application, including a referral to the Heritage Council.

The development is also to be assessed in accordance with clauses 78-82 of Division 15: Railways and rail infrastructure facilities of the State Environmental Planning Policy (Infrastructure) 2007 (ISEPP).

For the purposes of the proposed works, Transport for NSW and THNSW includes Sydney Trains and therefore Sydney Trains is considered to be a rail authority under ISEPP.

The proposed works and the proposed impacts on the heritage significance of the Railway Site may be determined as involving minimal impact on the heritage significance of the site and hence justify the works as exempt in accordance with clauses 82 of the ISEPP, as follows:



## 2.2 Exempt development

Development for any of the following purposes is exempt development if it is carried out by or on behalf of a public authority, is in connection with a railway or rail infrastructure facilities and complies with clause 20, involves no greater disturbance to the ground or vegetation than necessary, and does not result in an increase in stormwater drainage or run-off from the site concerned:

- (a) investigation (including geotechnical and other testing, surveying and sampling) at, above or below the surface of the ground;
- (b) routine maintenance (including removal of graffiti or debris, repair or replacement of lighting, mechanical systems, electrical equipment or air monitoring equipment and replacement of screening of overhead bridges);
- (c) emergency works to protect railway infrastructure facilities, the environment or the public;
- (d) maintenance, repair or replacement of identification, directional or safety signs that does not involve a change in their location or size;
- (e) maintenance of existing access roads;
- (f) slope stability works that are required for safety reasons;
- (g) erection and maintenance of safety barriers;
- (h) construction, maintenance or realignment of security fencing with a height of not more than 3.2m above ground level (existing);
- (i) reconstruction, maintenance or repair of culverts or drains that is required because of flood damage or high storm-water flows;
- (j) upgrading or maintenance of landscaping, or vegetation management, that:
  - (i) does not involve construction works, and
  - (ii) involves the replacement (if any) of existing materials with similar materials only;
- (k) installation, maintenance or replacement of temporary structures or signs, being structures or signs associated with alternative transport arrangements necessitated by rail track work or railway maintenance and that are removed as soon as practicable.

## 2.3 Heritage Items

For the works to be completed as exempt development, they must meet all the provisions outlined under clause 20 of ISEPP. Clause 20€ in particular, states that the development:

*If it is likely to affect a State or local Heritage item or a conservation area, must involve no more than minimal impact on the heritage significance of the item or area*

As such, for the proposed works to be carried out as exempt development, it must be evident that the works would have no more than a minimal impact on the heritage significance of the heritage items.

As such, a Heritage Impact Assessment (SoHI) would need to be completed to determine whether the proposal would have more than a minimal impact. If the works are considered to have only a minimal impact, the works would be considered as development requiring an REF. If the works would have greater than a minimal impact, then the proposed works would be considered as an activity under the EP&A Act.

Sydney Trains maintains a Heritage and Conservation Register in accordance with s.170 of the Heritage Act 1977. The Heritage and Conservation Register identifies properties, infrastructure and assets that are owned or managed by Sydney Trains, which have been identified as having heritage significance. There are 5 items on the Chullora site that are listed in the s.170 register. These items are:

- Chullora Railway Workshops
- Ckf 27469 – Flat Wagon

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- Locomotive, Diesel Shunting 7301
- Nvmf2939 – Bogie Guard's Van
- RailCorp Moveable Heritage Collection.

Sydney Trains would need to take into account the heritage significance of these items during the consideration of any development of the Site. These items are not affected by the proposed works at the Tank Annex

Though works to a s.170 Heritage listed item do not require approval from the Heritage Council, s.170A of the Heritage Act 1977 requires written notification of not less than 14 days to the Heritage Council before any of the following:

- Removal of any item from its register under s.170;
- Transfer of ownership of any item entered in its register; or
- Ceasing to occupy or demolish any place, building or work entered in its register.

It is noted that at any point, the Heritage Council may list an item on Site as having State heritage significance on the State Heritage Register. This however will require consultation with Sydney Trains and the local community.

As the project will include some minor demolition of the S170 listed structures, the project will be referred to Heritage NSW (NSW Heritage Office) for review and comment.

In relation to archaeology, the CMP finds that there is little likelihood of pre-railway period – pre-1920, archaeology to be found on the site. Given the successive changes from the tank era to the train period, the level of potential on the site is low. There is to be shallow excavation on the northern side of the structure required to connect the fire access road. This work may reveal evidence of previous uses including concrete slab foundations from the 'pill box' type air-raid shelters. It is understood that these were located on the southern side of the adjoining Workshop building. There were other minor structures evident in the 1943 aerial and these were removed for the landscaped areas and adjoining toilet blocks. The Sydney Train Unexpected Finds Procedure will be in operation should the work reveal any historical archaeological evidence.

Listing details: - The subject site is marked in **BOLD text**

<b>Chullora Railway Workshops</b>	Lot 1 in DP 883526 – The Site. Consist of two separate curtilages, as defined within the maps in <b>Figure 1</b> . Curtilage 1 (north) includes the following buildings/features: Boiler Shop Power House Boiler Shop Annex First Aid Building Tube Store Locomotives Stores Building (Igloo) Boiler Shop East Garden Bowling Green Curtilage 2 (south) includes the following buildings/features: Locomotive Workshop Aircraft Annex (South) Aircraft Annex (East)	Fixed	<b>s.170 Heritage Item</b> listed by Sydney Trains
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## Statement of Heritage Impact

### Chullora Railway Workshops – Heritage Hub Project: Adaptive re-use for Tank Annex-Building 22 for Transport Heritage NSW

#### Tank Annex

Amenities Building  
(formerly Locker Rooms)  
Telephone Exchange  
(former Substation)  
Tumtable  
Weighbridge and Shed  
Load Box & Shed  
Air Raid Shelters  
Air Raid Shelter (by Substation)

#### Tank Ramp

Avenue of Mature Trees  
(Adjacent to Loco Yard)  
Loco Yard  
Amenities Building  
Locomotive Workshop Gardens  
(East and West)

The Chullora Railway Workshops, as defined by the curtilage, are considered to be of significance because the site is the sole surviving specialist workshop of the once expansive former Chullora Railway Workshops.

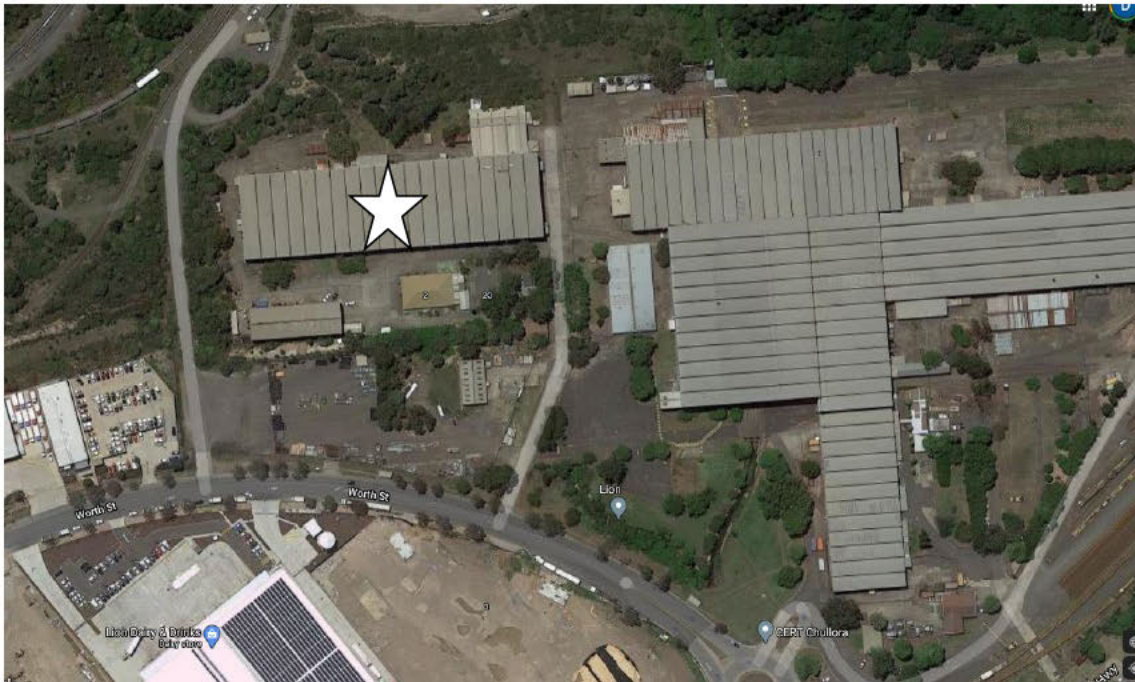
The layout and levels of significance indicated in the CMP 2012 are shown on the following plan.



## 2.4 Planning Approval Pathway

The current Statement of Heritage Impact (SoHI) indicates that the works for Stage one of the Project at the Tank Annex meet the requirements for Exempt development. The consent process will be undertaken through Sydney Trains. The tree removal, will be undertaken through a standard Permit process managed through Sydney Trains. The guidance documents are: Heritage Guidelines – Managing Trees in Heritage Places, Sydney Trains, December 2019/Version 1.0 and Tree Removal at Heritage Places flowchart, Sydney Trains, Version 2.0

## 3 Property Description



**Figure 1** Location Plan, Courtesy Google Maps

The Tank Annex building is located within the Chullora Railway Depot accessed off Worth Street via Gate 2 and the building sited to the west side of the large Workshop.

LOCATION MAP



Location Map of Building 22 Tank Annex  
(as indicated by dark blue shading) within Locomotive Workshop Precinct curtilage,  
Chullora Railway Workshops, Chullora.

**Figure 2**      *The Location of Building 22: The Tank Annex and Listing boundary Plan, Austral Archaeology, Inventory Sheets Part II.*

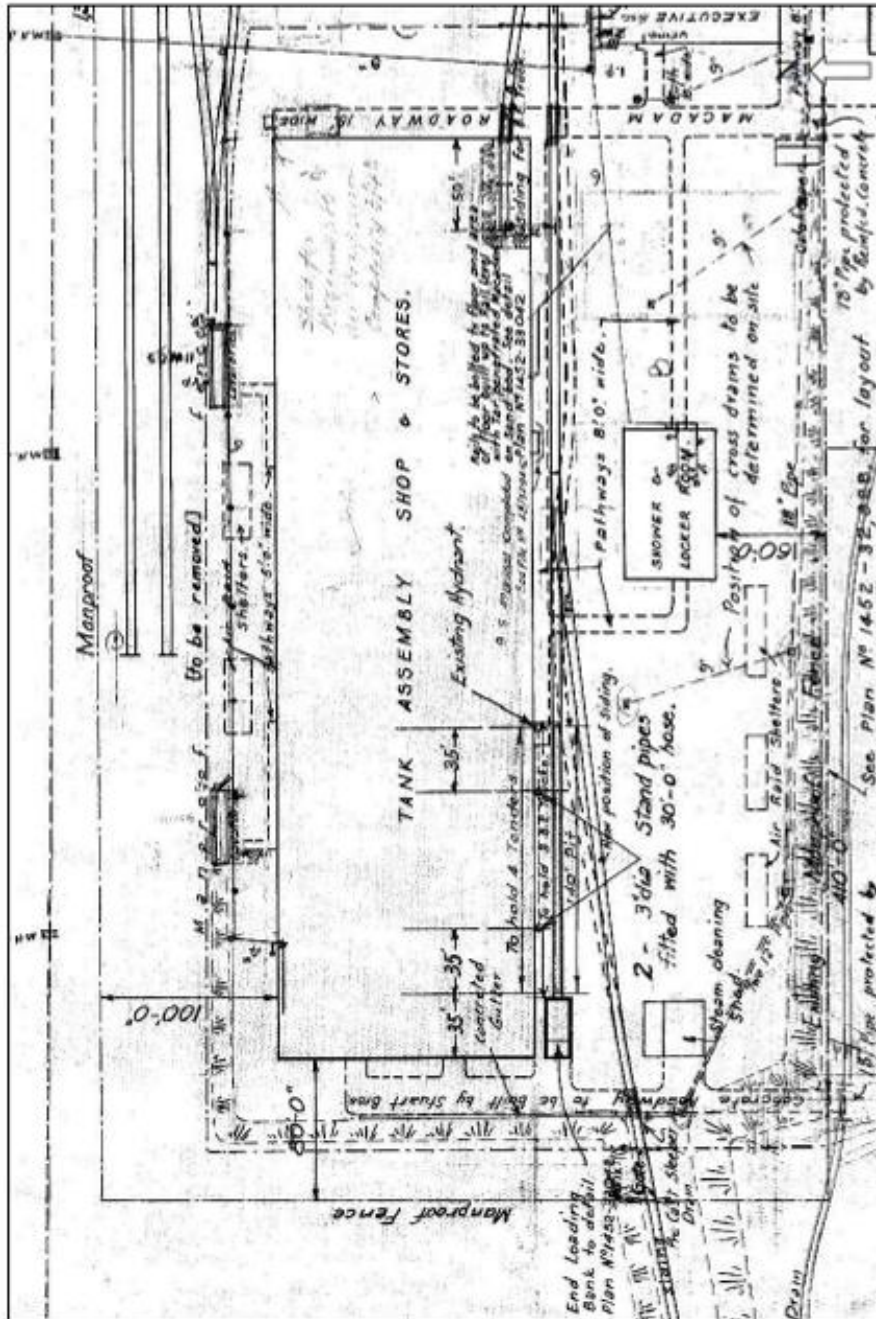


Figure 3: Cropped layout of Tank Assembly Shop and immediate surrounds dated 1942. (Source: RailCorp Planroom Map No 0051440).

Figure 3 Plan from 1942, useful in identifying the original portion of the building

Note that the 1942 drawing refers to the removal of the two air-raid shelters on the north side located close to the building (left of the shed in the above drawing).

## 4 Historical Context

The Eveleigh Workshops had been established in 1885 and railway expansion provided rapid growth and a new facility was envisaged in the Rookwood district from 1913.

Plans were delayed by the First World War however the project commenced in 1920 and was described as the central maintenance facility for the NSW Railways. The primary Locomotive Workshop building opened in 1938.

The Railways had to adapt quickly to the disruption to land transportation after the outbreak of war in 1939. Goods traffic expanded resulting in increased construction on railway lines within NSW (Longworth 2009: 40). The decision to utilise railway workshops for the development of the aircraft industry with Richmond and Chullora chosen as the main assembly centres was made at a conference held in Sydney in March 1939 (The Canberra Times 25 March 1939) and defence activities began at the current Chullora Railway Workshops in 1940 upon the completion of the first stage of the Aircraft Annex (Sydney Morning Herald 26 March 1940; Longworth 2009: 40).

The initial area of allocated workspace grew from 3,483.9 square metres (37,500 square feet) in 1940 to 13,833.3 square metres (148,900 square feet) in 1944 (see Figure 2.5) with an increase in staff from 38 men to 2000 men and women employed in aircraft production (Meyer 1996: 30; Longworth 2009: 40; The Brisbane Courier-Mail & Cairns Post 14 December 1939).

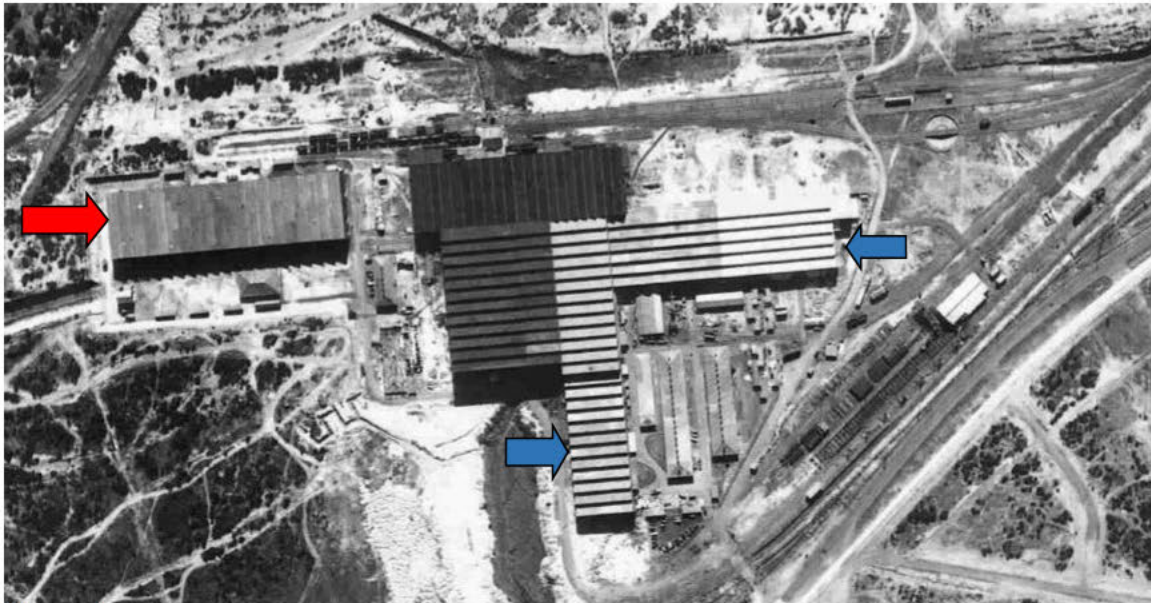


Figure 4

Aerial Photograph dated 1943 showing the Tank Annex (indicated by red arrow) and the addition of the Aircraft Annex (as indicated by blue arrows) to the east and the south of the Locomotive Workshop as well as associated buildings and air raid shelters. (Source: RTA).

### The Tank Annex

Constructed in 1941-1942 the building was designed and built by Stuart Brothers Pty Ltd Builders of Camperdown as a large two bay structure for tank assembly. An agreement between the Munitions Department and the NSW State Government in 1941, resulted in the Railway Department being appointed the major contractor for the assembly of the Australian Cruiser Tank Mark I. The works at the current Chullora Railway Workshops were to include the manufacture of some parts of the tanks as well as the overall assembly. The Tank Annex was organised by

sections to cover the varying aspects of tank assembly such as planning, production control and scheduling, supply, tooling, stores and inspection. The number of staff increased from 31 in June 1942 to 211 by March 1943. The machining and manufacturing of tank parts was also undertaken in the Chullora Electric Car Workshops while the machining of tank components was included in works in the Locomotive Workshop.

After 1943, the Ministry of Munitions focused on the production of Mark III tanks with the first tank completed at the current Chullora Railway Workshops by June 1943. When production ceased for the Cruiser tanks, further works included the modification of General Lee tanks for Australian requirements and new cupola turrets were manufactured and assembled for the English Matilda tanks. In addition to works undertaken on the tanks, the workshops also executed the machining of the front bogie brackets for the Bren Carriers armoured personnel vehicles. Other works undertaken at the current Chullora Railway Workshops under the direction of the Ministry of Munitions included the forging of suspension arms, hubs, flanged bushes, sleeves and the hydraulic recuperators for artillery guns.

### **Post War Period**

When peace was declared after the war, the Tank Annex was converted to the Tender Shop in 1945 for construction, maintenance and repair of tenders for steam locomotive engines. By November 1945 additional washing facilities at the Tender Shop were added. One of the bays located in the Tender Shop was converted for the use of boiler repairs in February 1947. Additional tracks were provided in 1948 and two 10-ton electric overhead travelling cranes and runways were installed in the western Erecting Shop.

The building was converted into a Diesel Locomotive Repair Shop in the late 1950s with the building divided into two bays. One of the bays was utilised for the maintenance and repair of diesel electric locomotive bogies. The other bay was in use as the electrical repair section for the maintenance and repair of traction and auxiliary motors, control panels and other locomotive electrical gear located in area on the north side of the shed and a separate area for the repair of diesel engines on the southern side.

The building was thereafter converted to the Bogie and Electrical Workshop with equipment including four ovens, two armature banding lathes and two armature balancing machines. A vacuum impregnation plant was installed during 1979. All aspects of electrical repair to the electric and diesel-electric locomotives were undertaken in the workshop followed by the conversion of the building to the Electrical Maintenance Centre (EMC) in 1986-87 as the EMC became an independent entity from the Locomotive Workshop. The main works undertaken in the EMC included the overhaul and repair of locomotive traction motors, generators, and control equipment for XPTs and 81 and 46 Class locomotives. Other works included servicing locomotive control cab appliances, various auxiliary motors, and items of switch gear.

A new Bogie and Electrical Workshop Store was constructed in 1974 to the south west of the Bogie and Electrical Workshop. Further restructuring of the four maintenance centres was undertaken in 1996 to 1997 that included the re-amalgamating of the four centres into two maintenance workshops:

LMC/EMC and the BMC/DEMC. In 1998 there were further changes made, with the two remaining Chullora Fleet Maintenance Workshops reduced to one workshop organisation (BMC/DEMC/LMC) and the EMC reassigned to an RSA/Transfield joint venture. From 2012, the Electrical Maintenance Centre (EMC) became utilised by a private operator under a lease agreement.

Source: Longworth (2009: 53-55, 74, 112, 114, 129); Davies 2001; Myer (1996: 34).



## 5 Analysis of Significance

### 5.1 Physical condition



**Figure 5** View of the South Elevation



**Figure 6** The significant tank ramp at the South west corner. Areas of the window band have sustained various alterations including removal for doors and air-conditioners. Some areas have simply been sheeted over.



**Figure 7** View of the West Elevation. The elevation is a patchwork of alterations and minor additions completed from the 1950s with the introduction of diesel electric maintenance tasks. The bottom level of the sheeting has suffered from collision damage and rust in contact with the slab surrounds.



**Figure 8** View of the western end of the North elevation. The original galvanised iron sheet cladding and steel framed windows are generally intact and retain their significance. The rain heads have been replaced. The bottom level of the sheeting has suffered from collision damage and rust in contact with the slab surrounds. The steel framed windows are affected to various degrees by rust and have sustained damaged glass panes and many replacement panes.



**Figure 9** View of the skillion roofed extensions to the Tank Annex. These timber framed structures were built with wire screened open bases to accommodate diesel electric maintenance works introduced in the late 1950s. The timber frames have rotted and the structures are not capable of certification. It is proposed that these be removed to accommodate the access.



**Figure 10** View of the first and larger tree to the western part on the North side which will be retained and protected. The missing section of roadway will be constructed north of the tree.



**Figure 11** View of the second tree in the vicinity of the shed. This tree is in poor condition and is to be removed for the required access road and for improved clearance to the main Electricity supply cabling overhead. The tree has been severely and unevenly pruned on several occasions to provide clearance for the main electrical overhead line entry to the building.



**Figure 12** View of the eastern end of the North elevation within the open skillion extension. The alterations and addition of the large skillion extension were part of changes in the 1980s to accommodate the Electrical Maintenance Centre. The damaged walls and windows are to be restored to conserve and secure the building envelope.



**Figure 13** View of the second toilet block – to be retained subject to approval from the NSW Fire Brigade for the required access road



**Figure 14** Part of the East elevation with significant embedded track. Tracks to be retained and doors to be replaced for rolling stock access. The extension from the late 1980s over the northern door is to be removed to return the elevation to the original alignment.

**Description**

Building 22: The Tank Annex, is a two bay structure with a fabricated steel frame, corrugated iron cladding and a saw tooth roof of colorbond sheeting and 'alsynite' roof-light sheeting to the eastern faces of the saw-tooth roofing. It was originally constructed for the assembly of the Cruiser Tanks in 1941/42. It formed part of a substantial defence establishment and the adjoining Workshops were used for aircraft assembly.

Each bay of the steel framed building measures 152 metres x 21 metres (500 x 70 feet). A concrete tank loading ramp remains outside the south west corner of the building. An extensive cutting through the sloped landscaped embankment to the south west of the building was known as the Tank Cutting. The building was subsequently used after the war for a steam locomotive tender workshop, then a diesel loco repair shop in the late 1950s, then a bogie and electrical workshop and then electrical maintenance centre.

All internal equipment related to its wartime use has been removed. The majority of the equipment related to the later railway use has been removed. A large horizontal boring machine marked "Richards" was probably manufactured by Kearns Richards of Broadheath, Altrincham, and Cheshire, UK after 1952 and is reputed to be the only old piece of machinery remaining. This is a heavy duty table type horizontal boring mill and likely relates to its use as a post-war workshop. The item was in place in 2012 but is not within the building and the location is unknown.



Figure 15

An older style 25 ton electric crane remains (LC591) in the southern bay while all other cranes have been replaced with modern DEMAG cranes. A clock relating to the State Rail Authority period of use also remains suspended from the roof structure.

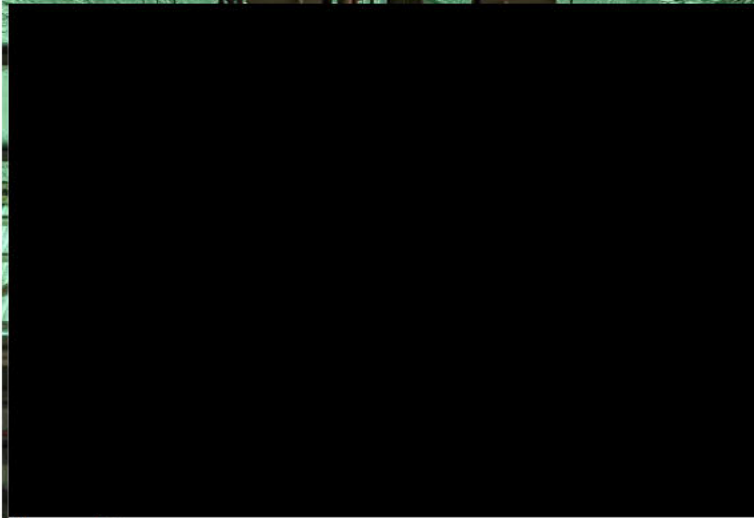


Figure 16 [Redacted]

The signs previously identified as having significance are no longer within the building and their location is unknown.

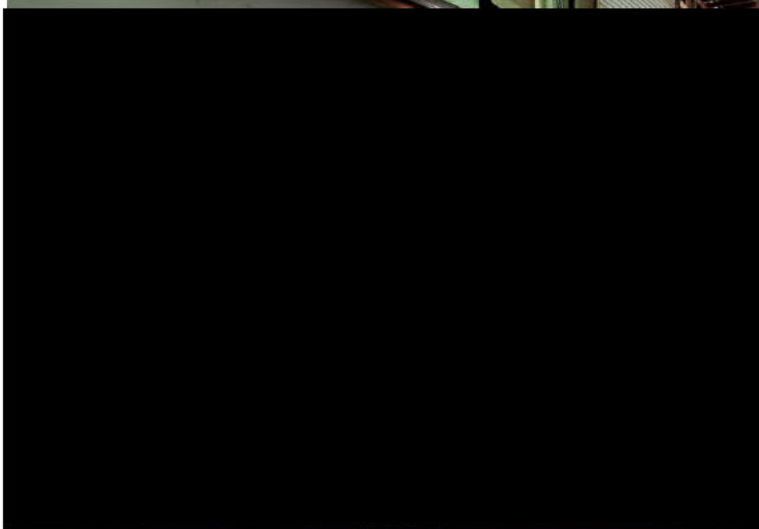


Figure 17 [Redacted]

**Movable heritage**

- Two safety signs previously identified are no longer on site;
- The former SRA Clock remains within the central area and suspended from the roof structure. It is to be retained in-situ and protected during the works;
- The internal trolley previously identified is no longer in the building;
- The 25 ton electric crane (LC591) remains within the roof structure at the eastern end of the building. It is to be retained in-situ and protected during the works;
- The Richards horizontal boring mill machine is no longer within the building;
- The electrical switching & control panel remains at the western end of the building. While the CMP did not recognise the switching & control panel as having heritage significance,

the current assessment rates this element as worthy of retention. It is to be retained in-situ and protected during the works

### **Modifications**

Additional washing and two brick toilet blocks and facilities were added in November 1945. Rearrangement of overhead travelling cranes was done in 1945. One of the bays was converted for boiler repairs in February 1947. Additional tracks were provided in 1948 and two 10-ton electric overhead travelling cranes and runways installed in the western Erecting Shop.

Modifications to the building in late 1950s when it was converted to a diesel locomotive repair shop. These included two skillion roofed extensions on the north elevation.

Further modifications were undertaken in the 1970s when the building was converted to the Bogie and Electrical Workshop. The extensions on the north side were modified and additions made. A vacuum impregnation plant was installed during 1979. Two large external flues on the west elevation were added during this period.

The building was again modified in 1986-87 when the workshop was converted to the Electrical Maintenance Centre (EMC). The large skillion roofed open ended extension at the north eastern corner was erected during this era.

## **5.2 Statement of Cultural Heritage Significance**

The Tank Annex is considered to have heritage significance due to its historic use during World War II for the assembly and production of parts for the Cruiser Tanks and armoured vehicles. It is of historical significance for its demonstration of wartime building techniques. The Tank Annex is also of representative significance as an example of an industrial workshop from the World War II period. The building is an important example of a large-scale 20th Century industrial structure. The Tank Annex contributes to the aesthetic significance of the industrial landscape at the current Chullora Railway Workshops and demonstrates the expansion of the site during the early to mid-1940s. The Tank Annex is of technological significance as it represents innovation shown during World War II to produce tanks during times of material shortages. Its subsequent adaptation to railway purposes after the war is also technologically significant.

A grading of significance is provided as High. This is below Exceptional and above Moderate.

The following table has been provided within the Austral Archaeology CMP volume 2- Part II



SIGNIFICANCE OF FABRIC	
FABRIC	SIGNIFICANCE GRADING
External and internal structural fabric	HIGH
SRA Clock	MODERATE
Old Safety Signs	MODERATE
Richards heavy duty table type horizontal boring mill	HIGH
Internal railway trolley	HIGH
Older style 25 ton electric crane remains (LC591)	MODERATE
Sections of floors and surrounds with extant railway tracks	HIGH

RECOMMENDATIONS
<p>It is recommended that:</p> <ul style="list-style-type: none"> <li>a) any leaks in the building be rectified so it is weatherproof,</li> <li>b) a condition assessment be undertaken,</li> <li>c) a schedule of regular maintenance be prepared,</li> <li>d) conservation and remedial works identified in maintenance programme be undertaken,</li> <li>e) any proposed changes to layout or significant fabric for works that would not fall under a Standard or Site Specific Exemption be assessed by way of a Statement of Heritage Impact,</li> <li>f) an Archival Recording should be undertaken when planning significant changes to the building.</li> </ul>

Refer to the Assessment for responses to each of the specific Recommendations.

### Conservation Policies

Item specific Conservation Policies have been proposed within the Austral Archaeology Report, 2012. An assessment of the impacts of the works described within the Proposal against these Policies is provided within the following section.

## 6 Heritage Impact Statement

### 6.1 Development Proposal

The intention is the retention of the existing building structure for the storage of heritage rolling stock and associated components and the perimeter circulation layout improved for Code compliant fire brigade access and the provision of staff facilities within the northern attached section.

Future projects associated with the site and Tank Annex are the conservation and adaptation of the adjoining office building to the south for Administration, the conservation of the workshops to the east for similar rail related tasks and conservation of the Aircraft annex for storage of small scale heritage items.

David Scobie Architects have reviewed the historic documentation, assessed the site and prepared the drawing identifying the heritage significance of the site and fabric.

The practice has then prepared the architectural documentation, and guided the team of Consultants for the associated documentation for mechanical and electrical services, structure, hydraulics, fire and building control reviewed the drawing illustrating the proposed alterations to the Tank Annex.

## Statement of Heritage Impact

Chullora Railway Workshops – Heritage Hub Project: Adaptive re-use for Tank Annex-Building 22 for Transport Heritage NSW

The works proposed are listed as follows:

<b>Portion of work</b>
Establish site with signs, fencing, sediment control, parking etc
Demolition of above slab elements
Demolish two skillion roofed extensions to North Elevation
Hazmat Clean floor, 2m wall and 2.4m windows & Slab Protection
Roof rainwater goods to be replaced
Roof saw-tooth cladding and rooflight cladding - replacements
Replace rooflight cladding to north-east skillion
Repair roof sheeting damage and replacement
Replace gutters, downpipes and rain heads for Tank annex, north staff annex and northern skillion
Install roof ladders and industrial walkway mesh in gutters
Install roof access safety restraint system for gutter/roof access
Repair and replace roof flashings
Install roof ventilators
Install ventilation system to south elevation
Repair and replace damaged wall cladding
Install missing wall cladding
Install steel flashing to damaged wall cladding base at perimeter
Repair/replace metal awning above windows
Repair and conserve steel framed windows including broken glazing
Repair timber windows to West Elevation
Reinstate missing structural elements to main structure
Prepare structure to east end for new door openings
Remove internal and external lighting and redundant services
Repair and replace doors and roller shutters
Remove slab protection and clean for internal works
Prepare and paint external walls
Prepare and infill pits to main floor slab
Replace damaged floor slab areas
Install concrete topping to northern staff facility
Install internal insulation
Prepare northern skillion and fit-out staff facility
Prepare damaged steelwork to structural engineering spec.
Prepare and paint steelwork
Demolish western toilet block on north side, hobs and one tree to northern perimeter
Construct extension of the northern concrete road for fire brigade access
Install steel rail vehicle barrier to south side of building
Install wall and door to enclose store within northern skillion
Upgrade fire hydrants and fire hose reels

<b>Portion of work</b>
Install hydraulic services
Install electrical & mechanical boards and reticulation
Install replacement internal and external lighting
Install VESDA fire system
Install external security lights
Install perimeter edge to retain levelling material
Install levelling base over slab and steel plates
Install ramps and floor marking for internal egress route, roadway and northern store windows
Supply and install racking system to locations shown on drawings
Install signs including Information, Safety, Emergency and Exit
Install temporary bracing and wall opening
Reinstate bracing and cladding and remove temporary bracing
Install rolling stock phase 1 by others
Remove temporary fencing and other items and make good the site
Install security system

## ***6.2 The impacts of the works on heritage significance***

## Statement of Heritage Impact

### Chullora Railway Workshops – Heritage Hub Project: Adaptive re-use for Tank Annex-Building 22 for Transport Heritage NSW

Portion of work	Heritage Impact	Mitigation
Establish site with signs, fencing, sediment control, parking etc	Temporary works with no permanent impact	All works to be reversible with impacts capable of reinstatement
Demolition of above slab elements	Loss of machinery bases	An archival photographic record to supplement the existing records in the CMP
Hazmat Clean floor, 2m wall and 2.4m windows & Slab Protection	Temporary works with no permanent impact	The change will enhance the significance allowing for adaptive re-use
Demolish two skillion roofed extensions to North Elevation	The two additions will remove original fabric. The level of significance of the fabric is low as it relates to the second period of modifications to the shed for Diesel electric works. The timber framing fabric is not capable of conservation and would require full renewal. There is no bunding to the spaces with site stormwater entering the building.	A photographic archive record to the standard will retain the evidence of the structures sufficient to indicate their significance.  Retain the undamaged sheet metal cladding for re-use on the walls where appropriate.
Roof rainwater goods	Loss of original fabric where damaged beyond restoration	Remove the rain heads to ground level for review. If an original is capable of salvage, retain for interpretation.  Design and material of the replacement rainwater heads to be like for like
Roof saw-tooth cladding and rooflight cladding - replacements	The alsynite material has a low level of significance and the brittle nature indicates that it has reached the end of a useful life. Retention would provide a hazard to the interior and contents of the shed.	The replacement material is translucent and similar to the existing function and sympathetic with the character of the roofing system.
Replace rooflight cladding to north-east skillion	Loss of rooflight glazing required to improve the thermal and illumination conditions for storage	The replacement material is similar to the roof/soffit and sympathetic
Repair roof sheeting damage and replacement	The roof sheeting is not original	The change will enhance the significance allowing for adaptive re-use
Replace gutters, downpipes and rain heads for Tank annex, north staff annex and northern skillion	Loss of original and existing fabric. The gutters, downpipes and rain heads have rusted and reached the end of a useful life. Retention would provide a hazard to the interiors and contents.	The change will be like for like to respect the original and enhance the significance allowing for adaptive re-use and safety for the interiors and contents.
Install roof ladders and industrial walkway mesh in gutters	Visual impact to the North Elevation. Safe access for maintenance is required for Code and workplace safety compliance.	The design and materials will be lightweight and visually recessive. The new installations will be located on the northern and western sides of the building to reduce the potential for them to provide a visual distraction.
Install roof access safety restraint system for gutter/roof access	No impact	None required as the elements are at the roof level.
Repair and replace roof flashings	Flashings generally not original	Replacement flashings will be more

## Statement of Heritage Impact

### Chullora Railway Workshops – Heritage Hub Project: Adaptive re-use for Tank Annex-Building 22 for Transport Heritage NSW

Portion of work	Heritage Impact	Mitigation
		sympathetic than 1970 replacements and material and colour matched to the cladding.
Install roof ventilators for extraction.	Required for improved thermal and humidity conditions: Minimal visual impact	The fans will have marginal internal visibility. They are located on the northern side of the roofscape where there is less visibility to the main building.
Install ventilation system to south elevation to provide air intake - cross ventilation to provide for smoke ventilation in the event of fire, to provide for standard ventilation of the workplace, to reduce the humidity to a level suitable for the rolling stock storage and conservation and to provide ventilation in the event of a build-up of hazardous gases	The first option was to locate the louvres at the base of the wall and replace the wall cladding. The second option was to modify the existing steel framed windows in a fixed open position. The selected option is to replace a series of steel framed windows to the required area. Minimal visual impact through matching material and colour.	The design, metal material and colour will use sympathetic and details and Shale Grey colour to match the exterior. The steel framed windows to be removed will be utilised as part of the retained stock of components for the restoration of the existing windows.
Repair and replace damaged wall cladding	Required to weatherproof and secure the building envelope and to improve thermal and humidity conditions: Minimal visual impact	Match the material and colour like for like
Install missing wall cladding	Required to weatherproof and secure the building envelope and to improve thermal and humidity conditions: Minimal visual impact	Match the material and colour like for like
Install steel flashing to damaged wall cladding base at perimeter	An original poorly designed detail with cladding embedded in concrete leading to rust	Match the material and colour like for like
Repair/replace metal awning above windows	A later detail from the late 1970s which has failed	Restoration and like for like replacement as required
Repair and conserve steel framed windows including broken glazing	Conservation and restoration works to enhance original fabric	Conservation work and like for like works, materials and colour
Repair timber windows to West Elevation	Conservation and restoration works to enhance original fabric	Conservation work and like for like works, materials and colour
Reinstate missing structural elements to main structure	Conservation and restoration works to enhance original fabric	Conservation work and like for like works, materials and colour
Prepare structure to east end for new door openings	Loss of original fabric required to adapt for new use	Sympathetic structure, materials and details
Remove internal and external lighting and redundant services	Loss of fabric and services with low level of significance. No loss of original service and fabric such as bus-bars to be retained	Works required to install contemporary services to current standards for new storage use
Repair and replace doors and roller shutters	Loss of fabric with low level of significance from late 1970s	Works required to install contemporary services to current standards for new storage use and egress Code
Remove slab protection and clean for internal works	Works to enhance heritage significance and support new use	No mitigation required

Statement of Heritage Impact

Chullora Railway Workshops – Heritage Hub Project: Adaptive re-use for Tank Annex-Building 22 for Transport Heritage NSW

Portion of work	Heritage Impact	Mitigation
Prepare and paint external walls	Conservation and restoration works to enhance original fabric and extend life-span	Sympathetic materials and colour – Shale Grey as paint scrape of the existing reveals original galvanised iron. Shale Grey will best interpret the original corrugated galvanised iron colour.
Prepare and infill pits to main floor slab	Conservation and restoration works to enhance original fabric and support the new use	Concrete infills to match existing slab
Replace damaged floor slab areas	Reinstatement works to later 1970s changes to enhance original fabric from Tank era and support the new use	Concrete infills to match existing slab
Install concrete topping to northern staff facility	Works to support new use of area related to later 1970s skillion annex	None required
Install internal thermal insulation to roof	Required to improve thermal and humidity conditions: Minimal visual impact	Match the material and colour like for like
Prepare northern skillion and fit-out staff facility	Works to support new use of area related to later 1970s skillion annex	Sympathetic materials and details provided
Prepare damaged steelwork to structural engineering spec.	Works to extend lifespan of structure and reduce maintenance intervals	Sympathetic materials, finishes, colour and details provided
Prepare and paint steelwork	Works to extend lifespan of structure and reduce maintenance intervals	Sympathetic materials, finishes, colour and details provided
Demolish the western brick toilet block on the north side of the shed, hobs and tree to northern perimeter.	Loss of one of two similar toilet blocks from the 1970s. The brick toilet blocks are items with a low level of significance. They replaced the originals when the building was adapted for the railway users in 1947. Works are required to provide for a compliant Fire Brigade circulation access route.	The Sydney Trains Tree Management Guidelines will be utilised for the tree removal. Provide a photographic archival record of toilet block and associated elements to be demolished. Making good to soft and hard landscape with sympathetic materials and details similar to existing. Secure and protect the remaining toilet block for conservation.
Construct northern concrete road for fire brigade access	Works required to provide Fire Brigade circulation access route will replace an area of lawn utilised in the 1980s for staff recreation. The Sydney Trains Unexpected Finds Procedure will be utilised during the works should remnants from the previous Air Raid shelters be revealed.	Provide tree protection measures for the major existing tree to be retained. Make good to the remaining spaces each side of the route with a mulched low maintenance treatment and surround to protect the canopy zone of the retained tree.
Install steel rail vehicle barrier to south side of building	Works required to protect original fabric, previously damaged by vehicle traffic.	Use of traditional railway materials and details in the barrier
Install wall and door to enclose store within northern skillion	Existing has no heritage value or significance	None required
Upgrade fire hydrants and fire hose reels	Works required for Code compliance. Existing fire safety items have low level of significance	Sympathetic products, materials, finishes, colour and details provided
Install hydraulic services	Works required for Code compliance. Existing	Sympathetic products, materials, finishes,

Statement of Heritage Impact

Chullora Railway Workshops – Heritage Hub Project: Adaptive re-use for Tank Annex-Building 22 for Transport Heritage NSW

Portion of work	Heritage Impact	Mitigation
	fire safety items have low level of significance	colour and details provided
Install electrical & mechanical boards and reticulation	Works required for Code compliance and to suit/enable new use. Existing items have low level of significance.	Sympathetic products, materials, finishes, colour and details provided. Main electrical test panel is to be retained
Install replacement internal and external lighting	Existing lighting from the 1990s has no significance	Sympathetic products, materials, colour and details provided.
Install VESDA fire system	Works required for Code compliance and to suit/enable new use. VESDA option is less invasive than sprinkler system	Sympathetic products, materials, colour and details provided.
Install external security lights	Replace existing highway lights from the 1970s	Sympathetic products, materials, colour and details provided.
Install perimeter edge on internal concrete slab to retain levelling material	Required to level floor and distribute load across uneven concrete slab	Sympathetic products, materials, colour and details provided.
Install levelling compacted road-base over slab and steel plates	Required to level floor and distribute load across uneven concrete slab	Sympathetic materials, colour and details provided.
Install ramps and floor marking for internal egress route, roadway and northern store windows	Works required for Code compliance and to suit/enable new use.	Sympathetic industrial product, materials, colour and details provided.
Supply and install racking system to locations shown on drawings	System to support new use	Reversible industrial steel system in suitable materials and colour
Install signs including Information, Safety, Emergency and Exit	Works required for Code compliance and to suit/enable new use.	Sympathetic industrial product, materials, colour and details provided.
Install temporary bracing and wall openings for East Elevation	Works required for Code compliance and to suit/enable new use.	Sympathetic industrial product, materials, colour and details provided.
Reinstate bracing and cladding and remove temporary bracing	Works required for Code compliance and to suit/enable new use to install the heritage rolling stock.	Sympathetic industrial product, materials, colour and details provided.
Install rolling stock phase 1 by others	Consistent with new use	The use complements the heritage significance of the site and building.
Remove temporary fencing and other items and make good the site	None	Make good any damage to match like for like
Install security system	Required to extend the life-span of the facility and support the heritage significance of the site	Use of minimal scaled materials and details and colour matched units, fixings and conduit

## 7 Standard Heritage Questionnaire

### 7.1 *The following aspects of the proposal respect or enhance the heritage significance of the site, for the following reasons:*

- The works have been designed to limit the removal of original material from the site and the Tank Annex building.
- The works are sympathetic with the character of the existing Tank Annex building and environs.
- The works allow for the adaptation of the Tank Annex for an appropriate use – storage of heritage rolling stock associated with the NSW Railway.
- The materials, details and colours restore previous types of these elements and enhance the heritage character of both the Tank and railway periods.

### 7.2 *The following aspects of the proposal could detrimentally impact on the heritage significance of the site;*

- The loss of the concrete hob structures which provided support bases for heavy machines above the concrete slab floor removes fabric related to the railway period of use and significance.
- The reduction in rooflighting alters the character of the Tank Annex interior.
- The introduction of external louvres in the South Elevation removes original fabric in the form of several steel windows and alters the character.
- The loss of the minor skillion roofed enclosures attached to the north elevation will remove elements related to the adaptations completed in the 1950s to allow for the use of the building as a diesel locomotive repair shop.
- The loss of the lawn landscape area on the north side removes natural elements from the location related to the later railway uses of outdoor recreation.

### 7.3 *The following sympathetic solutions have been considered and discounted for the following reasons:*

- The retention of above slab structures would reduce the storage capacity of the Tank Annex as the rolling stock requires a uniformly level base for the track layout. Bases outside the track layout will not be removed.
- As the daylight is at odds with the museum function of the store, a major reduction in daylight is considered essential. Acceptance by the Client and Museum management that some daylight would be acceptable has resulted in the retention of a retention of a proportion of the daylighting function. The mitigation of the daylight is the use of a twin wall translucent product with a grey tint. A one third proportion of functional rooflighting is retained to respect the significant character and function. The form of the saw tooth roof profile is retained and hence the character and functions are capable of interpretation.
- The use of louvres is appropriate in preference to additional opening windows. A version of an open fixed steel frame window with mesh screening was considered but discounted due to difficulty in adapting the existing original windows or fabricating new windows to a design.
- Retention of the skillion roofed northern extensions would require their reconstruction due to the decayed condition of their timber frames which have been exposed by the open nature of the structures.



#### **7.4 *The following measures have been taken to mitigate the negative impacts***

- Traditional materials and details sympathetic with the tank and railway history and uses have been interpreted as part of the design and selection of materials, details and colour scheme for the building elevations including the external cladding, steel framed windows and replacement roller shutters to the East Elevation.
- The provision of a set of interpretive panels relating the history and significance of the Tank Annex will form part of the second stage of the project when the Administration building is conserved and adapted.
- New elements required for the provision of compliance with various standards and regulations will be sympathetic to the style and period, located so as to be unobtrusive and in colours to allow the original fabric and detail to remain visually dominant.
- Three movable elements of significance, including the clock, crane and electrical board will be retained and protected.
- The steel framed windows on the South Elevation are of a high level of significance and currently in poor condition and these prominent elements will be restored so as to remain operational and appropriate in detail and colour.
- A standard photographic archival record of the building consistent with the NSW Heritage Office Guidelines will provide a suitable record of the building and in particular the elements to be removed.

#### **7.5 *Heritage advice has been obtained***

- Heritage advice has been obtained from the Heritage Officers within Sydney Trains and the appointed Heritage Consultant, David Scobie
- The advice and recommendations have been adopted and reflected in the proposal drawings.
- The project documentation will be referred to the NSW Heritage Office, consistent with the Policies for items of State significance listed on the s170 Heritage Register.

#### **7.6 *How is the impact of the new development on the heritage significance of the Railway precinct & Tank Annex to be minimized?***

- The new works are to be distinguished using contemporary materials and details which are sympathetic in detail, colour and character to the industrial origins of the Tank Annex building;
- All items with established levels of heritage significance and which are extant, are to be retained and conserved on site;
- Site inductions related to the heritage significance of the site and structures will be undertaken by all personnel involved with the project.

## **8 Questions in relation to the Railway infrastructure ISEPP**

The following assessment is provided in relation to clauses 20 & 78-82 of Division 15: Railways and rail infrastructure facilities of the State Environmental Planning Policy (Infrastructure) 2007 (ISEPP).

The proposed works are development for the purpose of upgrading the building to provide a weatherproof store for heritage rolling stock and the upgrading of services for compliance with

Statutory Codes and Regulations. The works include restoration of existing fabric and reinstatement of missing known fabric and construction of new sympathetic works.

The works are assessed using the EnviroCARD system as minor development. They are to be carried out by or on behalf of Transport Heritage NSW with Sydney Trains for Transport NSW - a public authority, are in connection with the railway facilities.

## Division 15 Railways

### Subdivision 1 Railways and rail infrastructure facilities

#### 78 Definitions

(1) In this Division—

**ARTC** means Australian Rail Track Corporation Ltd (ACN 081 455 754).

**ARTC arrangement** means a lease, licence agreement or other arrangement under Part 8A of the *Transport Administration Act 1988*.

**freight** includes livestock, containers, liquids, materials, plant and equipment, vehicles and vessels.

**Interim Metro Corridor** means land shown on a rail corridors map as—

- (a) CBD Metro (Zone A—Above Ground Including Cut & Cover Tunnel), or
- (b) CBD Metro (Zone B—Tunnel), or
- (c) CBD Metro Station Extent.

**interim rail corridor** means the Interim Metro Corridor, the Interim Rail Link Corridor or the Interim Sydney Metro West Corridor.

**Interim Rail Link Corridor** means land shown on a rail corridors map as—

- (a) CBD Rail Link (Zone B—Tunnel), or
- (b), (c) (Repealed)

**Interim Sydney Metro West Corridor** means land shown on a rail corridors map as Sydney Metro West Tunnel.

**major development** has the same meaning it has in Part 4 of the *City of Sydney Act 1988*.

**prescribed zone** means any of the following land use zones or a land use zone that is equivalent to any of those zones—

- (a) IN1 General Industrial,
- (b) IN2 Light Industrial,
- (c) IN3 Heavy Industrial,
- (d) SP1 Special Activities,
- (e) SP2 Infrastructure.

**rail authority** for a rail corridor means—

- (a) in relation to a rail corridor that is vested in or owned by ARTC or is the subject of an ARTC arrangement—ARTC, and
- (b) in relation to any other rail corridor—Transport for NSW.

- **Sydney Trains is consistent with Transport for NSW as a rail authority**

**rail corridor** means land—

- (a) that is owned, leased, managed or controlled by a public authority for the purpose of a railway or rail infrastructure facilities, or
  - **Chullora Railway Workshops is a railway corridor**
- (b) that is zoned under an environmental planning instrument predominantly or solely for development for the purpose of a railway or rail infrastructure facilities, or
- (c) in respect of which the Minister has granted approval under Part 3A or Division 5.2 or (before its repeal) Division 4 of Part 5 of the Act, or consent under Part 4 of the Act, for the carrying out of development (or for a concept plan for a project comprising or including development) for the purpose of a railway or rail infrastructure facilities.

**Note—**

Copies of the Minister's approvals are available on the website of the Department of Planning and Environment.

*rail corridors map* means the maps marked as follows and held in the head office of the Department of Planning and Environment—

- (a) *State Environmental Planning Policy (Infrastructure) 2007—Interim Rail Corridor—CBD Rail Link & CBD Metro*,
- (b) *State Environmental Planning Policy (Infrastructure) 2007—Interim Rail Corridor—Sydney Metro West*.

*rail infrastructure facilities* include—

- (a) railway tracks, associated track structures, cuttings, drainage systems, fences, tunnels, ventilation shafts, emergency accessways, bridges, embankments, level crossings and roads, pedestrian and cycleway facilities, and
- (b) signalling, train control, communication and security systems, and
- (c) power supply (including overhead power supply) systems, and
- (d) railway stations, station platforms and areas in a station complex that commuters use to get access to the platforms, and
- (e) public amenities for commuters, and
- (f) associated public transport facilities for railway stations, and
- (g) facilities for the assembly, maintenance and stabling of rolling stock, and
- (g1) facilities for the dismantling and stabling of rolling stock taken out of service, and

- **The site includes alteration works to accommodate rolling stock taken out of service**

- (h) refuelling depots, garages, maintenance facilities and storage facilities that are for the purposes of a railway, and
- (i) railway workers' facilities, and
- (j) rail freight terminals, sidings and freight intermodal facilities, and
- (k) buildings for or related to railway purposes, but do not include buildings or works that are for residential, retail or business purposes and unrelated to railway purposes.

*RailCorp* means Rail Corporation New South Wales constituted under the *Transport Administration Act 1988*.

- (2) A reference in this Division to rail infrastructure facilities includes a reference to any facilities, buildings, works or infrastructure related to light rail purposes.

### **81 Development permitted with consent**

- (1) Development for any of the following purposes, being development that is not development of a kind referred to in clause 79, may be carried out by any person with consent on land in a prescribed zone—
  - (a) rail freight terminals, rail freight sidings or rail freight intermodal facilities,
  - (b) any of the following in a rail corridor if the development is carried out wholly or partly above a railway station—
    - (i) residential accommodation,
    - (ii) tourist and visitor accommodation,
    - (iii) retail premises,
    - (iv) business premises,
  - (c) retail or business premises in a railway complex, including the following such premises that are—
    - (i) below a railway complex but above ground (for example, at Circular Quay),
    - (ii) in areas of the railway complex used by commuters to gain access to station platforms,
  - (c1) retail or business premises in a transport interchange (other than an at-grade transport interchange) if the premises are located on the ground floor of the interchange or have street frontage,
  - (c2) retail or business premises in a car park intended for use by commuters (other than an at-grade car park) if the premises are located on the ground floor of the car park or have street frontage,
  - (d) car parks that are intended to be used by commuters but that are not owned, leased, managed or controlled by a public authority,

- (e) bus interchanges that are integrated or associated with railway stations but that are not owned, leased, managed or controlled by a public authority.
- (2) Nothing in this clause requires a public authority to obtain consent for development that is permitted without consent by clause 79.

## 9 Impacts & mitigation measures: CMP Conservation Policies

The following commentary describes the impacts of the proposed use and works upon the heritage significance of the Tank Annex and in particular, the Conservation Policies specified within the CMP for the site.

22.1 All of the internal and external structural fabric from all phases of development of the building including the walls, saw tooth roof and sections of floors with extant railway tracks are significant and must be retained. Policies 1 and 20 refer.

- *The majority of the significant fabric will be retained. The fabric to be removed is essential for achieving the brief and has been fully considered during the heritage impact assessment process.*
- *External fabric being removed:*
  - *32m2 of external steel framed windows on the southern wall is to be replaced for ventilation to ensure temperature and humidity control, BCA compliance for the ventilation of the workplace and smoke control. The replacement louvres are sympathetic materials and detailed to interpret the cladding layout*
  - *The 'alsynite' roof-light cladding is a contemporary replacement for an unknown original material – probably patent glazing and the replacement cladding and translucent sheeting is sympathetic and not visually prominent*
  - *The gutters, rain heads and downpipes have reached the end of a useful life and require replacement to achieve Recommendation (a) for a weatherproof envelope. The rain heads are understood to have been replaced in the 1980s however they will be reviewed on site when removed. Any which appear to be original will be reviewed and one which is the most intact will be retained on site for interpretive purposes.*
  - *The cladding and doors to the East elevation are to be removed to provide access for the heritage rolling stock. The replacement steel cladding and doors are sympathetic to the original materials and the design. The colour proposed for the replacement roller shutters has been selected from the standard colour range used by the Australian Army for tank camouflage on the Cruiser tanks assembled in the building. This provides an appropriate interpretation for this use.*
  - *The two skillion roofed extensions on the North Elevation are to be removed to secure the building envelope and improve perimeter access. They are related to the post War use and occupancy by the Railway and therefore have a lower level of significance. The timber framed structures have rotted and are not capable of restoration and certification. There is no reasonable option for their removal given the need for Code compliance. The photographic record will capture their existence and provide an appropriate record.*

22.2 Movable heritage such as the old safety signs, old SRA clock, internal trolley on railway tracks, 25 ton electric crane (LC591) and the Richards horizontal boring mill should be retained in situ. Policy 36 refers.

- *None of the existing movable heritage items are affected by the changes*

- *One movable item considered to have significance and not previously identified is the western electrical control and switch panel. This item is to be retained and protected.*

22.3 Continued use of the building for industrial use is encouraged. Changes for other uses should be carefully considered against the reuse policies. Policies 6, 7, 8, 9 and 23 refer.

- *The use of the building is to be the storage of heritage rolling stock and related small items*

22.4 The relationship of the Tank Annex to surrounding heritage items such as the Tank Ramp (F41), Tank Cutting (F42), Locomotive Workshop (20) and Aircraft Annex (21.1 and 21.2) must be maintained. The embedded railway line running along the south side of the Tank Annex and linking to the west side of the Locomotive Workshop should be retained. Policy 13 refers.

- *The relationship between the Tank Annex, the former Ablutions and Administration building to the south and the Railway Workshop to the east is to be retained and maintained.*
- *The former Administration building will be adapted and conserved as part of the next stage of the project.*
- *The embedded railway lines in the vicinity of the Tank Annex and linking the area to the east with the workshop are to be retained in-situ.*

22.5 The setting of the Tank Annex must be retained. This includes the surrounding hard paved surfaces in interstitial areas (including those with embedded railway tracks) and identified gardens. Policy 13 refers.

- *The setting of the Tank annex is generally to be retained including the highly significant tank ramp to the south west corner of the building and the embedded tracks to the south and east will also be retained in-situ;*
- *One eucalypt tree is to be removed in order to construct the new roadway. The tree has been previously damaged by pruning to secure the passage of the main electrical lines entering the site and building. The appropriate Sydney Trains procedure for tree removals in heritage places will be used to manage the process;*
- *Changes include reducing the landscaped area to the north to accommodate the Fire Brigade access road while the gardens to the south east will be enhanced in the second Stage when the former Ablutions building is adapted to provide an Office Administration facility.*

22.6 The building would be suitable for interpretation. Policy 35 refers.

- *Interpretation in terms of devices such as panels will be provided as part of Stage 2 as noted above.*
- *No public access will be provided to the interior of the Tank Annex.*
- *Interpretation will be possible to the southern elevation and landscaped gardens south east of the building.*

## 10 Responses to the CMP Recommendations

It is recommended that:

a) any leaks in the building be rectified so it is weatherproof,

- ***The external envelope is to be restored in order that the building will be weatherproof***

- b) a condition assessment be undertaken,
  - ***A condition assessment has been undertaken and is provided within the architectural documentation: Drawings 110 – Plan, 105 – Elevations, 108 – Elevations, 109 – Section, 110 - Section***
- c) a schedule of regular maintenance be prepared,
  - ***A cyclic maintenance schedule has been prepared and is included as Appendix A***
- d) conservation and remedial works identified in maintenance programme be undertaken,
  - ***Conservation and remedial works have been identified in the scope of works and illustrated on the documentation***
- e) any proposed changes to layout or significant fabric for works that would not fall under a Standard or Site Specific Exemption be assessed by way of a Statement of Heritage Impact,
  - ***The Statement of Heritage Impact covers the full scope of works for the Tank annex***
- f) an Archival Recording should be undertaken when planning significant changes to the building.
  - ***An archival recording, consistent with the standard prescribed by the NSW Heritage Office, will be completed for the Tank Annex building and site prior to the commencement of works***

## 11 Recommendations

The proposal is consistent with the requirements and guidelines of the Rail infrastructure ISEPP, the Guidelines within the Clauses 20 & 78-82 and best practice in relation to matters of Heritage impacts & mitigation measures and is therefore recommended for approval, subject to the modifications being acceptable.

The following management recommendations have been formulated after consideration of all the available information and have been prepared in accordance with the relevant legislation.

### **Recommendation 1**

The proposed works to the Tank Annex – Building 22 at the Chullora Railway Workshops Precinct would be appropriate on heritage grounds provided Recommendations 2-6 below are followed.

### **Recommendation 2**

A photographic archival record consistent with the Guidelines prepared by the NSW Heritage Office, should be prepared prior to the commencement of the works.

### **Recommendation 3**

The proposal includes partial demolition of a place which is listed on the s170 Heritage Register and assessed as having state level significance. It is therefore to be referred to the NSW Heritage Office for consideration.

### **Recommendation 4**

Competent direction and supervision should be maintained at all stages of the design development and construction, and any changes should be implemented by people with appropriate knowledge and skills appropriate to the task.

### **Recommendation 5**

All relevant staff, contractors and subcontractors should be made aware of their statutory obligations for heritage under the *Heritage Act 1977* and best practice outlined in the *Burra Charter* (1999), which should be implemented as a heritage induction.

### **Recommendation 6**

The Heritage Consultant will attend and conduct the heritage Induction and will assist in providing physical tags to all the items with heritage significance which are to be retained, decontaminated and incorporated into the works.

### **Recommendation 7**

Heritage advice is to be provided for outstanding matters including paint scrapes for determining final colour schemes, electrical fittings and fixtures, external cladding & flashing details and the modification of services for the fitting out of Code compliant safety, egress and fire related services

## Appendix A Cyclic Maintenance schedule

The maintenance schedule provides guidelines for the ongoing maintenance of the store building and its setting, and includes preventative, corrective and emergency maintenance as defined in Section A.1. The maintenance works specified in Section A.4 are based on the NSW Heritage Office *Maintenance Series* of publications available online through the NSW Office of Environment and Heritage website.

Guidance for determining what is considered standard maintenance is also provided in the NSW Heritage Office publications *How to Carry Out Work on Heritage Buildings and Sites* and *Minimum Standards of Maintenance and Repair*.<sup>1</sup>

Further sources of information on repairs and maintenance are given in the bibliography and on the NSW Office of Environment and Heritage website.

Specific conservation guides were also prepared by the former Office of Rail Heritage for rail heritage places, and include the following:

- Access to heritage railway stations.
- Railway bridges.
- Railway fences.
- Railway station platform furnishings.
- Railway gardens.
- Maintenance and repairs.
- Painting heritage station buildings.
- Railway station platforms.
- Railway conservation reports and resources.

The maintenance schedule should be checked and updated annually, to ensure its continuing relevance and thorough coverage of the store and its setting.

### A.1 Maintenance definitions

Maintenance is defined by the *Burra Charter* as 'the continuous protective care of a place, and its setting'.<sup>2</sup> Regular maintenance is cost effective in the long term because it facilitates the early identification and treatment of issues, which can avoid the need for later major and expensive repair works.

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<sup>1</sup> NSW Heritage Office, *How to Carry Out Work on Heritage Buildings and Sites*, Parramatta, 1995, <https://www.environment.nsw.gov.au/Heritage/publications/>, accessed 25 July 2019; NSW Heritage Office, *Minimum Standards of Maintenance and Repair*, Parramatta, 1999, <https://www.environment.nsw.gov.au/Heritage/publications/>, accessed 17 March 2020.

<sup>2</sup> Australia ICOMOS, *Burra Charter*, article 1.5, p. 2.



Maintenance can be categorised as follows:

Preventative maintenance

Preventative maintenance is recurring work undertaken to prevent predictable deterioration and building element failure, such as cleaning gutters. Preventative maintenance should aim to maintain the fabric in a stable condition over the long term.

Corrective maintenance

Corrective maintenance is work that is required to return an element to a stable condition, and should be carried out to elements that are deteriorating in order to rectify their poor condition and conserve their significance. Where funding is not currently available for corrective maintenance, preventative maintenance should be carried out to stabilise the element's condition and prevent further deterioration. Corrective maintenance should be planned in accordance with the funding strategy recommended under Policy 24.

Emergency maintenance

Emergency maintenance is work that is unpredictable and is necessary to be undertaken immediately for reasons of disaster recovery, health and safety requirements, or to prevent rapid deterioration of the element.

*A.2 Inspections of buildings and grounds*

Systematic inspections should be undertaken annually to determine the repairs or maintenance required and their priority for each year, using the maintenance cycle (Section A.3) and maintenance plan and schedule (Section A.4). A typical inspection would cover the structure internally and externally, and each built element identified in Appendix 4. In addition to the annual inspection, the place should be inspected immediately following extreme weather events.

The first priority of the inspection should be to look for common problems like leaking roofs/guttering/rain heads/downpipes, stormwater/sewer drainage problems, paint decay, evidence of vapours, evidence of excessive dust or evidence of termites, which can lead to serious damage if left untreated. The second priority is the inspection of secondary elements, finishes and fixed items as noted within the maintenance plan and schedule (Section A.4).

For effective management of the Tank Annex building and environs of the site, managers and contractors should have access to the following information:

- Plans, showing location of all elements, services and construction details (including the original building plan and the measured drawings);
- Age and condition of the building;
- Building services such as water and electricity;
- Maintenance requirements;
- Names and contact details of those responsible for maintenance;
- Dimensions of the building;
- Sydney Trains/PCBU requirements;
- Heritage listing – Sydney Trains;
- Hazmat Reports on the building and site;

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- Reports on the building, including this conservation management plan; and
- Details of previous conservation works.

A.3 Maintenance cycle

The following maintenance cycle derives from the priority of repairs, maintenance or inspection based on the condition of each building element and it's grading of significance, as described in Annexure 4. In the following table:

- Secondary maintenance and inspection are required annually;
- Secondary repairs are required within 6 to 12 months;
- Priority maintenance and inspection are required within 3 months; and
- Priority repairs are required immediately.

		HERITAGE SIGNIFICANCE				
		Intrusive 1	Low 2	Moderate 3	High 4	Exceptional 5
CONDITION	Very Good 1	2	3	4	5	6
	Good 2	3	4	5	6	7
	Fair 3	4	5	6	7	8
	Poor 4	5	6	7	8	9
	Very Poor 5	6	7	8	9	10
Key:		<input type="checkbox"/> Secondary maintenance/inspection	<input type="checkbox"/> Secondary repairs	<input type="checkbox"/> Priority maintenance/inspection	<input type="checkbox"/> Priority repairs	

*A.4 Maintenance plan and schedule*

The following maintenance plan and schedule can be used for preventative and corrective maintenance for each building element identified in Appendix 4. As part of the planned maintenance schedule, take the condition and grading of significance for each element (whether forming part of a structure or an individual building element), and use the table in Section A.3 to determine the priority of the required maintenance. The priority level and resultant maintenance cycle period are noted by the colour of the relevant square. The cycle period should be incorporated into the annual maintenance cycle, and into the maintenance budget in accordance with Policy 24 in Section 8.2.4.

**Roof covering**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Galvanised iron  Eaves	Inspect for and secure any loose or lifting sheet ends and laps, to ensure no water ingress. Inspect for and secure any damaged metal, and ensure that gutter & rain head overflow issues are corrected.	Clean gutters and downpipes. Refix loose gutters and downpipes. Repair leaks. Repair or replace damaged gutters and downpipes with like for like, if beyond repair.	7	20-40
Flashings and cappings	Inspect for loose or raised fixings to metal cappings, lifted, slipped and deformed items from wind damage. Inspect for lifting caused by wind. Remove rubbish, pigeon nests, droppings and leaves. Inspect the roof vents for missing or damaged details at the vent, flashing junction and mesh to the exhaust areas. Avoid: Combining dissimilar materials and metals that will react with each other. Laying, resting on or testing membranes with sharp objects that can puncture them. Replacing original roof sheeting unnecessarily. Light gauge flashings that are susceptible to wind damage and lift. Use only traditional rolled form flashings and details. Use only colorbond or	As above for metalwork using traditional galvanised iron (or steel as current).	12 Months	5

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	galvanised steel of heritage material, weight and profile as required (Fielders or similar).			
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**Roof drainage**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Copper	Inspect for deformed, bent or squashed gutters from ladders, and for gutters that are over-strapped.	As above.	7	70+
Steel fascias	Inspect for rust stains around downpipe outlets internal/external, corners, beneath tree overhangs and downpipe offsets and shoes. Ensure gutter does not collect and pond. Inspect fascias for changes in condition, in particular where ends are exposed.	Treat rust with anti-corrosive paint.  Replace deteriorated elements with like for like, where beyond repair.	2  2	10+  10+
Generally	Inspect gutter and downpipe joints for cracks. Are there drips to the underside? Are there loose or missing brackets to gutters and downpipes? Utilise and inspect safety access systems, ladders and walkways Check if gutters are sagging and water falls to outlets. Ensure leaf guards to outlets, rainwater heads and sumps sit correctly, and are clear of debris. Growth, moss or stains surrounding downpipes can indicate blockages. Look for downpipes that are squashed or damaged and restrict water flow. Check if downpipes are connected to the stormwater system, and if so, whether joints are sound. Check that stormwater drains are not blocked. Check whether birds are nesting on downpipe offsets and polluting the building, or whether bird proofing, if installed, is adequate and	Clear gutters (including guards if installed), sumps and rainwater heads of leaves and rubbish each autumn, trim all adjacent trees to eliminate overhanging.	2 months  2 months  3 months	3 months

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	<p>sound. Avoid: Combining dissimilar materials that will react with each other. Hosing leaves and debris into downpipe outlets. Placing ladders or leaning objects on to steel gutters. The defects identified in the 7th year inspection should be rectified prior to painting, if programmed for the same year.</p>			
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**Eaves**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Generally	<p>Inspect for holes from former service pipes and roof vents where birds can nest, and for surface stains to fascia and soffit that indicate roof or and gutter failure. Check the traditional ventilation holes. Inspect for paint failure and or decay to linings. This can indicate roof covering failure. Identify cobwebs and wasp, bee or hornet nests for safe removal. The defects identified in the 7<sup>th</sup> year inspection should be rectified prior to painting, if programmed for the same year.</p>	<p>Repair or replace damaged materials on a like for like basis.  Replace damaged bird mesh on a like for like basis, where beyond repair.</p>	<p>1  7  1</p>	

**Fabric**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Concrete hobs, foundations and surrounds	<p>Inspect for loose, fretted, broken or missing joints and bricks. Check if the brickwork is crumbling or has surface salts; this can indicate a moisture problem. Check that ant caps are sound and their shape is performing. Replace where not extant or damaged beyond repair or restoration. Has an appropriate mortar</p>	<p>Remove nominal 20mm of joint and repoint with lime based mortar or similar to existing.</p>	5	40-75

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	been used in joints? If brickwork has been painted in recent times, consider removal to reinstate the original finish and character.			
Generally	Inspect areas for grime, growth from joints, bird excretion and graffiti. Is there any sign of termite infestation in known locations including perimeter and landscape?  Avoid: Building up garden beds, grass and material generally washed or eroded against building elements or over damp proof courses.		4-12 months	

**Structure**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Timber	Are timber windows and minor framing members secure and true?	Provide additional traditional fixings as required, while retaining original.	7	
Steel	Any signs of rust or paint loss	Locate moisture source and repair	7	
Steel junctions	Any signs of distortion or loose fixings	Review for signs of settlement	7	

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**Joinery**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Windows	Inspect for loose or damaged frames, decayed stiles at sill level, weathered sills, sashes that bind. Inspect for loose or decayed sash joints and broken or cracked glass or putty. Check internal faces around windows for stains that can indicate failed flashing.	Adjust and rehang as required. Refix loose elements; tighten screws and traditional fixings.  Replace, seal or repair minor defects or missing elements to match the original.	2	10-15
Steel windows	Inspect for rust and loss of paint finish, putty and broken glass panes. Check internal faces around windows for stains that can indicate failed flashing. Check for distortion and not closing due to dirt	Clean and ensure operational sashes.  Repair by specialist as required	5	25
Doors	Inspect for loose jambs; decay at the threshold or damage from locks being forced. Is the threshold secure, decayed, excessively worn or broken? Are mouldings or stops secure, and does the door operate satisfactorily? Are door joints, mouldings missing or damaged? Is the glass broken or cracked? Is the hardware operational - do catches catch, locks lock? Is the furniture secure, missing or defective? Check if the door requires a stop to prevent damage to the door or walls when opened.	As above. Maintain traditional and original hardware; where contemporary security is required, provide sympathetic elements and maintain the original in place as non-operable.	2	10-15
Exhaust flue vents and fans	The vents should be restored and missing elements reinstated as part of the works.	As above for metal elements.	2	
Ceilings and lighting	Inspect roof vents and wall louvres for damage and repair to match original.		2	
Generally	Inspect the suspension and electrical conduits to monitor the fixings. Check whether any other building hardware operates properly, or is loose, inadequate or damaged.		5	
			2	

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	<p>Avoid: Restricting passages and exits with stored items. Replacing with hardware not in keeping with the building. Removing original hardware. Install new adjacent.</p> <p>Note: The defects identified in the 7th year inspection should be rectified prior to painting, if programmed for the same year.</p>			
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**Painting**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Windows	Inspect for paint deterioration and weathering.	Repair, prepare, prime and paint. Use colours based on evidence and documentation	3	
Sills	Particularly attend to the northern and southern elevations. Review the sills for loss of paint and cracking.	Replace sills where damaged beyond repair.	3	
Doors and frames	Inspect for paint deterioration, failure or damage and grime generally.	As above for repair and restoration.	3	
Corrugated wall cladding	Check end and side laps for rust leading to deterioration of the paint finish	As above for repair and restoration.	7	
Generally	Inspect all metal cladding and flashings for joints lifting, putty coming away from fixings, cracking paint, blisters or fading of colours. Stains can indicate a moisture problem.  Avoid: Painting surfaces never intended for painting, such as face brick footings. Inappropriate colours. Installing glass that does not match the existing, when carrying out glazing repairs. Excessive exposure to lead-based paint.		7	10-15

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**Services**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Stormwater	Inspect for dish drains, gratings large and small and sumps blocked with rubbish, leaves and earth kicked up by traffic and stormwater erosion.	Regularly clean the perimeter concrete apron and road surfaces to provide suitable levels for surface water run-off, and then provide repair as required where settlement or damage has occurred to produce a wearing surface laid to fall.	1-3	20-25
Water	Inspect taps in the vicinity for drips and ease of operation. Are taps and surface-run pipes secured to walls or supports? Look for wet areas within the property grounds and gardens during dry periods - this can indicate a broken pipe.	Repair or replace on a like for like basis.	2	20-25
Electricity	Check if lamps are blown or the fittings damaged, and if fittings are well secured to the ceilings via the metalwork above. Are light fittings stable and undamaged? Ensure there are no conflicts within the ceiling space between electrical conduit and light fittings. Ensure that there are no conflicts between the suspended lights, VESDA and associated services and reticulation. Avoid: Straining pendant light fittings. Installing conduits on external walls.	Arrange inspection by a qualified electrician.	1  10	
VESDA	Ensure that fire services elements are operational and not in conflict with rolling stock	Arrange inspection by a qualified fire services technician.	1	TBC
Security	Ensure that security services elements are operational and not in conflict with rolling stock	Arrange inspection by a qualified security services technician.	1	TBC

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**External works**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Hardstand and vehicle area near the southern and northern elevations	Inspect for broken services. Are there areas ponding, or does surface water fall to pits satisfactorily? Check for any loose roadbase that could be hazardous to pedestrians, vehicles and the building. If considered necessary, install additional rail bollards to reduce the risk of collision damage.	As above for weed removal and surface water drainage.	1	10-20
		Ensure that appropriate barriers are in place to protect walls and services from vehicle access	1	20-25
Landscape: hard and soft	Avoid: Planting trees near building where the tree canopy could overhang the roof and/or the roots could undermine the footings. Note: The defects identified in the 7th year inspection should be rectified prior to painting, if programmed for the same year.	Undertake regular weeding, pruning and lawn maintenance. Remove overhanging tree branches and root intrusions.  Ensure that appropriate barriers are in place to protect walls and services from vehicle access	7	10-15

**Urgent and critical maintenance**

Building elements	Inspection particulars	Works	When (years)	Life expectancy (years)
Fire and security hazards	Check vegetation to the perimeter, rubbish adjoining and beneath the building, and materials that could create a fire hazard.  Check for flammable liquids and materials stored internally.  Check the building services such as electricity, cabling conduit, overhead wiring and lighting.  Check that a lightning conductor is present, sound and attached.	Trim existing retained trees and vegetation. Eliminate all planting with an overhanging canopy to keep the roof area clear.	1	
		Provide a portable fire extinguisher onsite in a visible location, and provide instructions on use to volunteer staff.		
		Ensure night lighting is active.		
		All incidental damage should be repaired as soon as possible.		
Generally	Blocked or broken stormwater lines and sumps that require clearing or repair.	Clean and clear all defects.	1	10

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	<p>Hazards at the steps and entrances for general safe and secure access. Clearing of blocked gutters and downpipes.</p> <p>Damaged or defective light fittings and switches. Failed lamps.</p> <p>Storm damage to grounds or building fabric. Vandalism or break and enter damage to windows and doors.</p> <p>Broken or defective locks and latches.</p> <p>Cautions: Identify responsibility for repair costs.</p> <p>Check that all signs – branding, safety, hazard and information are sound, legible and current for their intention.</p>	<p>Eliminate all possible access and safety hazards.</p> <p>Replace like for like electrical items.</p> <p>Provide temporary measures following a photo survey and notification of any claimable damage and repair costs to insurer.</p> <p>Replace locks and latches as necessary.</p> <p>Maintain permanent security measures.</p> <p>Replace damaged and out of currency signs with replacements which are fully branded and coordinated</p>		
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## **Appendix B Unexpected Finds Procedure, Sydney Trains**



## UNEXPECTED ARCHAEOLOGICAL FINDS System Procedure

### Purpose

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The unexpected archaeological finds procedure provides a consistent approach on how to proceed in the event of uncovering an unexpected archaeological find during Sydney Trains activities.

Sydney Trains will achieve this by;

- consistently applying a stop works protocol when an unexpected find is uncovered;
- seeking technical advice from an archaeologist to identify the unexpected find;
- ensuring the heritage regulator is notified in a timely manner, when required;
- understanding how to proceed if additional heritage assessment / investigation works and approvals are required;
- ensuring that the find is appropriately recorded; and
- re-commencing project works when appropriate to do so.

### Scope

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This procedure is intended for all Sydney Trains staff and their contractors responsible for the delivery of Sydney Trains works/activities. This procedure applies to the discovery of any unexpected archaeological find (usually during excavation activities), where Sydney Trains does not already have specific approval to disturb that find.

Unexpected archaeological finds are any buried archaeological remains that have not been identified and assessed during the project planning phase. Despite undertaking the appropriate level of investigation, unexpected archaeological finds may still be uncovered during Sydney Trains excavation works. Unexpected archaeological finds are:

- non-Aboriginal (historic) works or relics,
- Aboriginal objects; and
- skeletal remains.

The relevant legislation that applies to unexpected archaeological finds is summarised in Appendix D.

Specifically this procedure provides direction on when to stop work, how to obtain technical archaeological advice and ensure the find is recorded consistently. It also includes how to satisfy Sydney Trains regulator notification obligations under the *Heritage Act 1977 (NSW)*, *National Parks and Wildlife Act 1974 (NSW)*, *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)* and the *Coroner's Act 2009 (NSW)*.

UNCONTROLLED WHEN PRINTED



## **Appendix C Tree Removal at Heritage Places Flowchart V2, Sydney Trains**



## Tree Removal at Heritage Places Flowchart of Heritage Assessment and Approval Processes

(Note: This guideline does not address Aboriginal culturally modified trees. Refer Aboriginal Heritage Due Diligence Code of Practice.)

